

Ithkuil: A Philosophical Design for a Hypothetical Language



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Update: [The Ithkuil Grammar Is Now Available in Book Form!](#)

Welcome!

This website presents a comprehensive grammar of a constructed human language, **Ithkuil**. The original version of the language was posted to the Internet in January 2004. A variation on the language called Ilaksh, designed for easier pronunciation was posted in June 2007. These two versions of the language have now been replaced by a new, definitive (and final) version of the language as of July 2011.

For those familiar with the history of artificial language construction, Ithkuil represents a cross between an *a priori philosophical language* and a *logical language*. It is by no means intended to function as a “natural” human language. Ithkuil exists as an exercise in exploring how human languages *could* function, not how human languages *do* function.

While I enjoy the idea of inventing fictional languages which mimic natural languages, it is not enough for me to add simply another language to the thousands that already exist or have existed. For me, the greater goal is to attempt the creation of what human beings, left to their own devices, would never create naturally, but rather only by conscious effort — an idealized language whose aim is the highest possible degree of logic, efficiency, detail, and accuracy in cognitive expression via spoken human language, while minimizing the ambiguity, vagueness, illogic, redundancy, polysemy (multiple meanings) and overall arbitrariness that is seemingly ubiquitous in natural human language. This new version of Ithkuil represents the culmination of over thirty years of personal effort toward creating such a language.

Acknowledgements: I wish to thank all of those who have taken an interest in Ithkuil, including Stanislav Kozlovskiy, whose 2004 article “The Speed of Thought” brought Ithkuil to the attention of so many people in the Russian-speaking world. Спасибо, Стас! Thanks also to Lexa Samons for his hard work in translating the original Ithkuil site into Russian and to fellow linguist and conlanger David J. Peterson for bestowing upon Ithkuil the [2008 Smiley Award](#).

And I am grateful to Dr. Oleg Bakhtiyorov of the University for Effective Development in Kyiv, Ukraine for his interest in my work and for giving me the opportunity to visit him and his colleagues and students both in Kyiv and in Elista, Kalmykia.

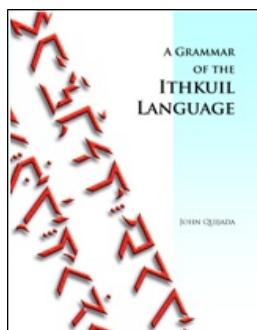
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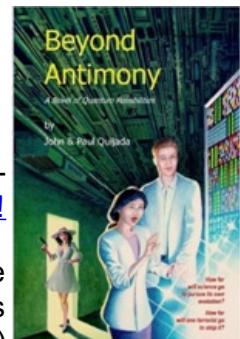
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Introduction

These webpages present the grammar of an artificially constructed human language, **Ithkuil**. It has been designed with the following goals in mind:

1. The findings of cognitive science and cognitive linguistics since the 1980s show that human cognition gives rise to and processes far more information than is overtly expressed by natural human languages. Theoretically, it should be possible to design a human-usable language that overtly expresses more (or “deeper”) levels/aspects of human cognition than are found in natural human languages.
2. Natural human languages are notorious for their semantic ambiguity, polysemy (multiple meanings for a given word), semantic vagueness, inexactitude, illogic, redundancy, and overall arbitrariness. Theoretically, it should be possible to design the language to minimize these various characteristics in favor of greater semantic precision, exactitude, and specification of a speaker’s cognitive intent.
3. The above two goals would seemingly demand that the resulting language be long-winded, since individual words of the language (or at least any sentence as a whole) would have to convey much more morpho-semantic content than their natural language counterparts. Nevertheless, it should theoretically be possible to accomplish the above two goals while achieving relatively concise morpho-phonological forms for words. In other words, to be able to pack a lot of meaning and information into a relatively small number of syllables.

Ithkuil represents the culmination of my attempts over a period of thirty years or so to achieve the above goals. It should be noted that Ithkuil is NOT intended to function like a “natural” human language. Ithkuil exists as an exercise in exploring how human languages *could* function, not how human languages *do* function.

How the Language Works

Ithkuil’s ability to express extensive cognitive detail in a concise manner is possible due to the design of the grammar, essentially a matrix of grammatical concepts and structures designed for compactness, cross-functionality and reusability. This matrix-like grammar is combined with a vocabulary/lexicon of semantic stems which (1) are capable of a high degree of flexibility and synergism within that matrix, (2) have been completely reconceptualized from the cognitive level up regardless of their correspondence to actual word roots and grammatical categories in existing languages, and (3) reflect the inherent dependencies and interrelationships between one semantic concept and another. Therefore, the morphemes of the language (i.e., word-roots, suffixes, prefixes, grammatical categories, etc.) are as phonetically brief as possible, function in multiple roles with one another, and correspond more closely to human cognitive categories than in natural languages. In this fashion, a limited number of sounds and word-roots can be made to generate a vast array of variations and derivations corresponding to and even surpassing all of the grammatical and semantic functions of the usual stock of words, phrases, and idiomatic constructions in natural languages.

Additionally, the particular grammatical categories of the language, combined with a systematic and hierarchical

derivational morphology, allow for extreme transparency and flexibility in:

- gestalt conceptualization
- conveying the evidential basis for an utterance
- conveying the cognitive intent of an utterance
- objective vs. subjective descriptions of objects, events, and phenomena
- descriptions of the holistic vs. discrete componential structure of objects, situations, and phenomena
- mechanistic vs. synergistic interpretations of objects, events, and phenomena
- the causal dynamics of complex states, acts, events
- describing spatio-temporal phenomena

As an example of the morphological richness and efficiency possible in this language, examine the following Ithkuil sentence, comparing it to its literal English translation:



Tram-mjöi hhâsmarpaqtuktôx.

TRANSLATION:

'On the contrary, I think it may turn out that this rugged mountain range trails off at some point.'

NOTE: See Phonology, [Section 1.2](#) on how to pronounce the Romanized orthography used to transliterate the Ithkuil characters.

The reader may well wonder why it takes a 19-word sentence in English to translate a two-word Ithkuil sentence. One might assume the sentence "cheats" in that the two Ithkuil words simply have innately intricate and specialized meanings. While it is true that the first word, **tram-mjöi**, translates as '*on the contrary, it may turn out at some point (that...)*', and the second word, **hhâsmarpaqtuktôx**, means '*I have a feeling this unevenly high range of mountains trails off*', it would be quite erroneous to conclude that these are simply autonomous words one might theoretically find in an Ithkuil dictionary. Indeed, the only part of the sentence that represents any sort of "root" word is **-âsm-**, a stem more or less meaning 'hill' or 'upland.' The remainder of the sentence is made up entirely of morphological, not lexical components, i.e., prefixes, suffixes, infixes, vowel permutations, shifts in stress and tone, etc. For example, the first word, **tram-mjöi**, has three parts to it as shown below:

1. **tr(a)-** = an affix indicating a rebuttal to an allegation, translatable as '*on the contrary...*'
2. **m-mj-** = an infix which conveys both aspectual information translatable as '*it turns out (to be) that*' or '*it is revealed that*,' plus subjunctive mood, translatable as '*(it) may (be that)...*'
3. **-öi** = an aspectual suffix translatable as '*at some point*' or '*somewhere along the way*'

The second word, **hhâsmarpaqtuktôx**, breaks down morphologically as follows:

1. **hh-** = an affix indicating a conclusion based on the speaker's intuition, translatable as '*I have a feeling (that)...*'
2. **-âsm(a)-** = a stem meaning 'hill, upland,' in turn derived from the root **-sm-** indicating the level of a landscape
3. **-rp̚t-** = an affix indicating (1) that the stem is to be re-interpreted as comprising a composite entity of non-identical members consolidated together into a single segmented whole (i.e., 'hill' becomes '*uneven range of hills*'), and (2) that the entity displays depletion (i.e., 'trailing off' or 'petering out')

4. **-ukt-** = a demonstrative suffix translatable as ‘this’ (= ‘the one in question’ or ‘the one at hand’)
5. **-ôx** = a suffix indicating that the stem is to be interpreted as being very large in size, and furthermore, that the increase in size creates a new gestalt entity, i.e., not simply a ‘very large hill or upland’ but rather a ‘mountain’
6. stress on penultimate (i.e., second-from-last) syllable = provides partial information on how the stem specifically derives from its semantic root
7. falling tone (unmarked) = statement reflects an end-in-itself rather than a goal-oriented situation

In addition to its morphology, Ithkuil is different from other languages in the way its lexicon (stock of word-roots) has been created as well as in the principles underlying its lexico-semantics (the relationship between words and meaning). In natural languages, the choice as to what mental concepts and categories will be overtly reflected as word-roots and stems is arbitrary and unsystematic (while in most invented languages, the lexicon is by and large consciously or subconsciously patterned after that of natural languages). While it is true that virtually all languages reflect certain basic universals of word choice (e.g., all have words for *sun*, *moon*, *speak*, *mother*, *father*, *laugh*, *I*, *you*, *one*, *two*, *water*, *blood*, *black*, *white*, *hot*, *cold*, etc.), the manner in which these words are created is haphazard and with little regard for basic conceptual interrelationships. The result, in most cases, is a plethora of separate, distinct word roots which bear no morpho-phonological, or morpho-semantic relation to one another (i.e., the patterns of sounds used to create particular words are unsystematic and independent for each word-root regardless of whether those word-roots are semantically or cognitively related to one another). Ithkuil word-roots have been created in a more efficient and systematic manner, with a recognition that the interrelatedness between what are large sets of discrete words in other languages can be formalized and systematized into a vast array or matrix of derivational rules, the result being a drastic reduction in the number of basic word-roots, which in turn allows all individual stems to be extremely compact phonologically-speaking.

For example, consider the following series of English words: *see*, *sight*, *vision*, *glimpse*, *stare*, *gawk*, *view*, *panorama*, *look*, *eye*, *glance*, *visualize*. Note how each of these is a separate, autonomous word despite the fact that it shares a single underlying semantic concept with the others (a concept which we can conveniently refer to as SIGHT/VISION), each representing a mere manipulation of either durational aspect, situational perspective, or manner of participation relating to that underlying concept. What is more, these manipulations are, by and large, haphazardly applied, vague, subjective, and particular to the specific underlying concept (i.e., the aspectual/perspectival manipulations applied to SIGHT/VISION do not parallel those manipulations applied to the concept TRANSFERENCE OF POSSESSION by which we derive the series *give*, *take*, *receive*, *steal*, *donate*, *lend*, *borrow*, *send*, etc.).

In Ithkuil, it is the seminal underlying concept which is lexified into a word-root which then undergoes a series of regular, predictable, and universally applicable modifications at the morphological (i.e., grammatical) level to generate new words that, in some cases, parallel such series of English words, but in most cases, far exceed the dynamism and range of such English word series.

Another principle underlying the formation of words in Ithkuil is **complementarity**. Western thought and language generally reflect Aristotelian logic in the way they conceptualize the world and the interrelationships between discrete entities in that world. Ithkuil, on the other hand, views the world as being based on complementary principles, where, instead of discrete independence between related entities, such concepts are seen as complementary aspects of a single holistic entity. Such complementarity is in turn reflected in the derivation of word-roots. By “complementarity” is meant that the manifestation of a concept appears in any given context as either one sort of entity or another, but never both simultaneously; yet, neither manifestation can be considered to be a discrete whole without the existence of the other. A simple illustration of complementarity is the flip of a coin: the coin can only land on one side or the other, yet without both sides being part of the coin, any given coin toss has no meaning or contextual relevance no matter which side is face-up.

For example, in Western languages, words such as *male*, *night*, *limb*, *sit*, and *happen* are all autonomous words, linguistically representing what are inherently considered to be basic mental concepts or semantic primitives. However, in Ithkuil, none of these words is considered to be a semantic primitive. Instead, they are seen to be parts of greater, more holistic semantic concepts, existing in complementary relationship to another part, the two together making up the whole.

Thus, Ithkuil lexical structure recognizes that the word *male* has no meaning in and of itself without an implicit recognition of its complementary partner, *female*, the two words mutually deriving from a more basic, holistic concept, translatable into

English as *living being*. Similarly, the word *night(time)* derives along with its complement *day(time)* from the underlying concept translatable as *day* (24-hour period), while *limb*, along with its complement *trunk* or *torso*, derives from the stem (*corporeal*) *body*.

Actions, too, are not exempt from this principle of complementarity, an example being the relationship between *sit* and *seat*; one has no meaning without an implicit and joint partnership with the other, i.e., one cannot sit unless one sits upon something, and whatever one sits upon automatically functions as a seat. We see the awkward attempt of English to convey these jointly dependent but mutually exclusive perspectives when comparing the sentences *Please sit down* and *Please be seated*. Another example involves the word *happen* or *occur*, which Ithkuil recognizes as having no real meaning without the attendant implication of *consequence* or *result*, the two being complementary components of a holistic concept roughly translatable as *event* or *situation*.

The Ithkuil word for *hole* illustrates another instance of complementarity. Holes can be looked at from two different, but interrelated perspectives: either as an opening connecting two different spaces (or access point to a previously unavailable space, i.e., a pit), or as a discontinuity in the surface or structural integrity of the dividing entity separating the two realms. In other words, one can focus on the potential function or consequences of the hole, or on the structural nature of the hole. Either of these two perspectives represents a legitimate, but complementary way to consider a hole or puncture. Thus, the Ithkuil word would have two derivative roots each indicating one of these two perspectives. One such root would be used when saying *There's a hole in your shirt*, while the other would be used when saying *She saw me through a hole in the fence*.

Ithkuil recognizes that such complementarity exists for virtually any concept, in fact that it is one of the foundational principles of the universe itself. No beam of light can be spoken of without implicit recognition of its source. No signal can be described without accounting for the signaling device. Indeed, in Ithkuil no river is without its channel, no surface without its firmament, no message without its medium, no sense impression without its sense faculty, no contents without their container, no occurrence without its consequence, no memory without its present effect, no plan without its purpose, no music without its playing, no relief without prerequisite deprivation, no pleasure without its absence, no motion without space in which to move.

Other principles underlying Ithkuil word-derivation include the interrelated principles of fuzzy logic, prototype theory, and radial categorization. Incorporation of these principles into the architecture for word-formation allows roots to be grouped into various types of affiliated sets, each of which then functions as a conceptual gestalt, the individual members of which being marked as having varying degrees and kinds of relatedness or similarity to a hypothetical prototype member or archetype. Thus, Ithkuil is able to systematically derive words such as *crowd*, *mob*, *group*, *troop*, *club*, *association*, *assembly*, and *gathering* all from the single root-word *person*. Similarly, words such as *grove*, *orchard*, *forest*, *woods*, *jungle*, and *copse* can all be derived from the single root-word *tree*.

As one last example exemplifying the dynamism and conciseness of Ithkuil lexico-semantics, consider the following list of English words and phrases: *drenched*, *wet*, *damp*, *moist*, *near-dry*, *dry*, *parched*. Rather than provide separate autonomous words for these concepts, Ithkuil recognizes that these terms all indicate relative degrees of moisture along a continuous range. Such continua would be addressed by a single root whose meaning more or less corresponds to [DEGREE OF] MOISTURE to which an array of simple suffixes would be added to specify the particular degree along that range, all the way from *bone dry* (or *parched*) through *drenched* to *saturated*. All such phenomena which Western languages tend to semantically delineate into binary oppositions (e.g., *hard/soft*, *light/dark*, *shallow/deep*, etc.) are recognized and lexified in Ithkuil as single roots which then systematically use suffixes to specify the particular degree along a continuous range.

The above paragraphs illustrate how Ithkuil is able to capture and systematically present at the morphological level what other languages accomplish haphazardly at the lexical level. By systematically finding and structuring the covert dependencies and interrelationships between what are disparate words in other languages, the hundreds of thousands of words in a language like English are drastically reduced down to the approximately 3600 word-roots of Ithkuil. This is morpho-lexical efficiency on a grand scale. Nevertheless, by means of the matrix-like morphological scheme previously described, each of these roots can in turn generate thousands of permutations to convey complex and subtle semantic distinctions and operations which dwarf the capacity of existing languages to convey without resorting to cumbersome paraphrase. This is lexico-semantic and morpho-semantic efficiency on an equally grand scale. Such a synergistic design for grammar lends a dynamism that allows the Ithkuil language to describe reality to a minute level of detail and exactitude despite a limited number of word-roots. This dynamism is visible throughout this work, but is discussed in systematic detail in [Chapter 10: Lexico-Semantics](#).

Addressing the Vagueness Inherent in Natural Languages

To further illustrate the cognitive depth at which Ithkuil operates, consider one of the most pervasive aspects of natural human languages: semantic vagueness. For example, consider the following four English sentences:

- (a) *The boy rolled down the hill.*
- (b) *Maybe she just stopped smoking.*
- (c) *Joe didn't win the lottery yesterday.*
- (d) *There is a dog on my porch.*

In examining these four sentences most native English speakers would deny that any vagueness exists. This is because the vagueness does not exist in terms of the overt meanings of the words themselves. Rather, the vagueness lies at the nearly subconscious level of their grammatical (or syntactical) relations and cognitive intent. For example, in sentence (a) we have no idea whether the boy chose to roll himself down the hill or whether he was pushed against his will. (In formal linguistic terms we would say it is unknown whether the semantic role of the subject 'boy' is as *agent* or *patient*.) And yet knowing which scenario is correct is crucial to understanding the speaker's intent in describing the action.

Imagine sentence (b) *Maybe she just stopped smoking* being spoken as an answer to the question 'Why does she seem so irritable?' In interpreting sentence (b), we have no idea whether the subject is indeed a smoker or not; i.e., is the speaker offering this speculation because he/she knows the subject to be a smoker, or as mere conjecture without knowledge one way or the other whether the subject smokes or not?

Sentence (c) *Joe didn't win the lottery yesterday* illustrates four-way ambiguity. Joe's failure to win the lottery could be either because: the speaker knows Joe didn't play; because the speaker knows Joe did play but lost; because the speaker doesn't know whether Joe played or not and is simply voicing a conjecture; or because the statement is an inference based on some indirect clue (e.g., since Joe showed up for work today, he must not have won the lottery).

And while sentence (d) *There is a dog on my porch* seems on its surface to be the most straightforward of the four, is the intent of the speaker to simply describe and identify the participants to a scene, or does she wish to convey the idea that the scene has personal significance to her, e.g., because she has a phobia of dogs or has been waiting for a long-lost pet dog to return home? In other words, the sentence itself does not convey the intent behind the utterance, only the static description of the scene.

In all four instances, such vagueness exists unless and until the audience can ascertain information from the surrounding context of other sentences. This shows that, despite the fact that all four sentences are grammatically well-formed English sentences whose words in and of themselves are unambiguous, their grammar alone is insufficient to convey the cognitive information necessary to fully comprehend the intent of the speaker's utterance. This failure of grammar to inherently convey the requisite information necessary to understand a speaker's cognitive intent is a functional pitfall of human language in general which Ithkuil grammar has been designed to avoid. The Ithkuil equivalents to the above four sentences would mandatorily convey all of the "missing" information noted above without requiring any extra words not corresponding to the English originals. The grammatical elements of the words themselves (word-selection, declensions, conjugations, prefixes, suffixes, etc.) would convey all the elements mentioned.

Similar examples can be given to show the extent to which natural languages such as English must often resort to idiomatic expressions, metaphor, paraphrase, circumlocution and "supra-segmental" phenomena (e.g., changing the pitch of one's voice) in their attempts to convey a speaker's intended meaning. Ithkuil grammar has been designed to overtly and unambiguously reflect the intention of a speaker with a minimum of such phenomena.

Comparison to Other Constructed Languages

Those readers familiar with the history of [artificial language construction](#) might think this endeavor belated or unnecessary, in that logical languages such as James Cooke Brown's renowned Loglan (or its popular derivative, Lojban) already exist. This serves to illustrate exactly what distinguishes Ithkuil from such previous attempts. Loglan was published in the 1950s as a spoken/written language based on symbolic logic (formally known as the first-order predicate calculus), an algorithmic system of symbol manipulation devised by mathematicians and logicians. As a result, one might think that such a language is the most capable means of achieving logical, unambiguous linguistic communication. However, Loglan and its derivatives are merely sophisticated tools for symbol manipulation, i.e., the levels of language known as morphology and syntax. It is not within the scope of such languages to address any reorganization of the

semantic realm. This means that symbolic logic simply manipulates arguments which are input into the system, they do not analyze the origin of those arguments in terms of meaning, nor are they capable of analyzing or formalizing the structure of the cognitive or semantic realm of the human mind in terms of how meaning itself is assigned to arguments. (Indeed, Lojban derives its roots via statistical “sampling” of the most frequent roots in the six most spoken natural languages, a method virtually guaranteed to carry over into the Lojban lexicon all of the lexico-semantic inefficiencies previously described.) By not addressing these components of language, Loglan and similar efforts fail to address the inconsistencies and inefficiency inherent in language at the lexico-semantic level. Ithkuil has been designed to systematically address this issue.

Other readers might think of international languages (or “interlanguages”) such as Esperanto, Interlingua, or Ido, as being logical and efficient representations of language. However, these languages are merely simplified, regularized amalgamations of existing languages (usually Indo-European), designed for ease of learning. While addressing many overt irregularities, inconsistencies, and redundancies of language found at the morpho-phonological and morpho-syntactic levels, they do little to address the problems found within the other components of language, especially the lexico-semantic. For example, while Esperanto admirably employs systematic rules for word derivation as *knabo* ‘boy’ versus *knabino* ‘girl,’ it preserves the basic lexico-semantic categorization scheme of Indo-European languages in general, rather than seeking opportunities to expand such word derivation schemes into multidimensional arrays as is done in Ithkuil.

All in all, neither logical languages such as Loglan nor interlanguages such as Esperanto, are designed specifically to achieve the purpose of cognitive exactness and conciseness of communication which is the goal of Ithkuil. Actually, Ithkuil might more readily be compared with the [analytical language of John Wilkins](#) of the Royal Society of London, published in 1668, in which he divided the realm of human conception into forty categories, each containing a hierarchy of subcategories and sub-subcategories, each in turn systematically represented in the phonological structure of an individual word. While unworkable in terms of specifics, Wilkins’ underlying principles are similar in a simplistic way to some of the abstract derivational principles employed in Ithkuil lexico-morphology and lexico-semantics. Another comparable predecessor in a simplistic sense is the musical language, Solresol, created by Jean François Sudre and published in 1866.

A Brief History of the Language’s Development

The design of Ithkuil has slowly and painstakingly evolved from my early attempts as a teenager (following my introduction to the Sapir-Whorf hypothesis and Charles Fillmore’s seminal 1968 article on case grammar) to explore beyond the boundaries of Western Indo-European languages to a complex, intricate array of interwoven grammatical concepts, many of which are wholly of my own creation, others of which have been inspired by such obscure linguistic sources as the morpho-phonology of Abkhaz verb complexes, the moods of verbs in certain American Indian languages, the aspectual system of Niger-Kordofanian languages, the nominal case systems of Basque and the Dagestanian languages, the enclitic system of Wakashan languages, the positional orientation systems of Tzeltal and Guugu Yimidhirr, the Semitic trilateral root morphology, and the hearsay and possessive categories of Suzette Elgin’s Láadan language, not to mention ideas inspired by countless hours studying texts in theoretical linguistics, cognitive grammar, psycholinguistics, language acquisition, linguistic relativity, semantics, semiotics, philosophy, fuzzy set theory, and even quantum physics. The writings of the American cognitive linguists George Lakoff, Ronald Langacker, Gilles Fauconnier, and Len Talmy have been particularly influential on Ithkuil’s design.

The Ithkuil writing system likewise derives from both original and inspired sources: it employs a unique “morphophonemic” principle of my own invention, its logical design borrows from the mutational principles underlying the Ethiopic and Brahmi scripts, and its aesthetic visual design bears a superficial resemblance to Hebrew square script and the various Klingon fonts.

The first version of Ithkuil was originally posted to the Internet in early 2004. A second, alternative version of the language called Ilaksh was posted during mid-2007, designed specifically to address the many requests for a version of the language with a simpler phonology (sound system). During the course of modifying the original version of Ithkuil into Ilaksh, I realized there were many aspects of Ilaksh design that could be incorporated back into Ithkuil without the constraints of Ilaksh on the number of consonants and vowels. This would (hopefully) allow the language to be more euphonic to the ear while maintaining its morpho-phonological conciseness. Additionally, hindsight has caused me to rethink a few fine points of the grammar, which this latest design allows me to incorporate into the language.

Introduced in July 2011, this third incarnation of the language (which shall retain the name “Ithkuil” out of convenience and continuity with the original version), reflects these ideas and now constitutes what I consider to be the definitive (or

“official”) version of the language. The name of the language is an anglicized form of the word *it̪kuil*, which means more or less “*hypothetical representation of a language*” in the original version of *Ithkuil*.

About the Grammar Presentation

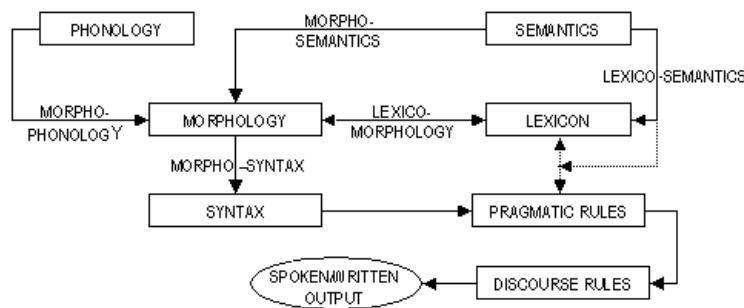
This website provides a systematic presentation of the grammar of the language. In addition to a description of the various components of the grammar, the reader will find example phrases or sentences illustrating those components. The navigational links at the top and bottom of this page lead to chapters on the major grammatical components of the language and should be preferably read in sequence, as each chapter is cumulative and assumes knowledge of the preceding. While this grammar assumes only a basic knowledge of linguistic concepts, it will be helpful to briefly familiarize the reader with the hierarchical/schematic structure of human language in general, as the organization of this grammar is somewhat based around this structure. The analysis of human language can be organized into the following hierarchical schema of primary concepts:

- **Phonology:** The manner in which vocally articulated sound is structured for use within a language; this is the basic realm of the acoustic sounds produced by the lungs, vocal cords, tongue, and lips, i.e., consonants, vowels, volume, pitch, tone, stress, etc.
- **Morphology:** The grammatical rules, structures, categories and functions which can be manipulated to form words and the component phrases of sentences; this is the realm of prefixes, suffixes, word-roots, and conceptual categories like tense, singular vs. plural, moods, active vs. passive voice, etc.
- **Syntax:** The rules governing how words and phrases can be combined into grammatically acceptable sentences.
- **Semantics:** The realm of meaning; what the words, phrases, and syntactical structures of the language represent in terms of meaning.
- **Lexicon:** The list of word-roots within a language, i.e., the vocabulary of the language.
- **Pragmatics and Discourse Rules:** The analysis of how language is actually used in real-world situations as determined by cultural and context-driven rules; the realm of style, rhetoric, formal versus informal language, slang, etc., outside the realm of grammar. Because this is a formal grammar for a hypothetical language (i.e., it has no “real world” linguistic context), pragmatics and discourse rules will not be covered.

The above components of language in turn operate in an interrelated fashion, combining to designate several additional or secondary levels of analysis. For example:

- **Morpho-phonology:** The interrelationship between phonology and morphology, i.e., the manner in which the sounds of the language are manipulated into structures that can contain meaning. For example it is morpho-phonology that explains why different word-endings signify concepts such as masculine or feminine in Spanish.
- **Morpho-syntax:** The interrelationship between morphology and syntax, i.e., how the grammatical structures within words impact the overall structure of a sentence, as illustrated by the relationship between the sentences *It is undeliverable* versus *It cannot be delivered*.
- **Lexico-Morphology:** The interrelationship between morphology and the lexicon, i.e., the structure of word-roots and how they interact with other morphological categories, as illustrated by the concept of “irregular” verbs, e.g., ‘go’ + PAST = ‘went.’
- **Lexico-Semantics:** The interrelationship between the lexicon and semantics, i.e. between words and their meaning; what mental concepts are selected by a language to be instantiated as word-roots and the cognitive processes behind the selection criteria.

The interrelationships between these components can be illustrated by the following diagram.



Each example comprises an Ithkuil word, phrase, or sentence written in native Ithkuil script, accompanied by a Romanized transliteration, an English translation (sometimes divided into a “natural” versus literal translation), and a morphological analysis. The morphological analysis is presented serially, morpheme-by-morpheme, using three-letter abbreviations or labels for Ithkuil morphological categories. These labels are presented within the body of the work in conjunction with the explanation of each morphological category. A [list of these abbreviations](#) is also available on the main naviagtional menu at the top and bottom of each page of the site.

This work is not meant as a primer or means of self-instruction in speaking the language, a task beyond even its creator, given that Ithkuil may be perhaps the most grammatically complex language ever devised. Simplicity was not my purpose, but rather bridging the gap between extreme morphological dynamism, the overt reflection of human cognitive processes via language, and extreme morpho-semantic economy and efficiency. I believe I have achieved a result which is close to the ideal I sought. I leave it to the reader to explore that result.

My work on Ithkuil is dedicated to my brother Paul, in fond remembrance of *Kccoj, Mbozo*, and all the fun times we had growing up playing with language and linguistics. *Aniamtrexu tanskbitero!*

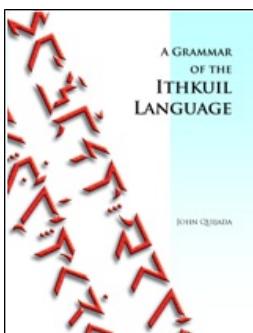
And I dedicate this new 2011 version of the language to Ms. Alla Vishneva, who teaches students about Ithkuil in Kyiv, Ukraine, and to whom my work is as important as it is to me. *Дякую, Алла. Ти маєш рацію!*

—John Quijada
July, 2011

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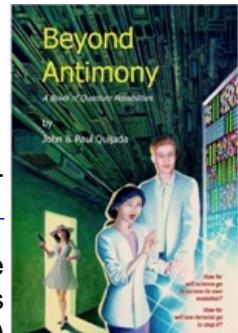
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you’re at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It’s a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a “para-linguistic” interface to a quantum computer.)



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Ithkuil: A Philosophical Design for a Hypothetical Language



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Chapter 2: Morpho-Phonology

[2.1 Grammatical Typology](#)[2.2 Root and Stem Formation](#)[2.3 Semantic Instantiation of Stems](#)[2.4 Parts of Speech](#)[2.5 Note On Terminology](#)

Morpho-phonology refers to how a language uses its phonemes (meaningful sounds) and phonological features (e.g., stress, tone, etc.) to generate patterns for word-formation and for morphological categories (e.g., singular versus plural, verb tense, etc.) to be applied to words.

2.1 GRAMMATICAL TYPOLOGY

Ithkuil morpho-phonology is primarily agglutinative and secondarily synthetic. That is, the manner in which morphosemantic stems, inflections and derivations are formed, and how those elements combine meaningfully into words, is primarily via the joining of one or more affixes (including prefixes, suffixes, infixes and interfixes) to a semantic root, where the affixes themselves are highly synthetic (i.e., combining numerous morphological categories together into a single phonological form).

2.1.1 The Structure of Ithkuil Words

As will be discussed later in [Section 2.4](#), the part of speech in Ithkuil which corresponds to nouns and verbs in Western languages is called a *formative*. The morphological structure of the Ithkuil formative can be shown by the following formula:

((Cv +) V_L +) Cg/Cs +) V_r + (Cx/Cv + V_p/V_L +) Cr + V_c (+ Ci +Vi) + Ca (+ VxC) (+ Vf (+ Cb)) [+ tone] [+ stress]

The above terms, other than **Cr**, **[tone]** and **[stress]**, refer to various consonantal or vocalic affixes. **Cr** corresponds to the word-root itself which is discussed below in [Section 2.2](#). All of the terms shown in gray are optional. However, as indicated by the pattern of parentheses in the formula, the presence of certain terms requires the presence of others.

The above morphological formula can be looked at as a series of numbered “slots” which will perhaps facilitate explanation of each term:

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv)	V _L)	Cg/Cs)	V _r	(Cx/Cv	V _p /V _L)	Cr	V _c	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction	Pattern + Stem + Designation of Incorp. Root OR	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration +	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

Illocution)			(+ Illocution)	Valence			Affiliation			
-------------	--	--	----------------	---------	--	--	-------------	--	--	--

A brief, preliminary explanation of these terms is given in Table 3 below. Detailed explanation of these terms are found in succeeding sections or subsequent chapters.

Table 3: Explanation of Terms within the Morphological Formula for Ithkuil Formatives

I	Cv	An word-initial consonantal prefix which indicates the categories of Phase (see Section 5.5) and Sanction (see Section 5.6). Both Phase and Sanction are mandatory categories, however the presence of Cv in a formative is optional (i.e., unmarked) if both the Phase and Sanction of the formative have their default values. If Cv is present in Slot I, then Slot II through IV (see below) must be filled and Slot III must be filled by Cs, not Cg.
II	VL	A vocalic affix which shows a verbal category called Valence, discussed in Section Section 5.7 . Valence is a mandatory category, however the presence of VL is optional (i.e., unmarked) if the formative's valence has its default value and Slot I (Cv) is unfilled/unmarked. If VL is present, then Slots III and IV below must also be filled.
III	Cg/Cs	<p>A consonantal affix which indicates either of two categories: (1) Validation (see Section Section 5.9), in which case this term is referred to as Cg, or (2) Aspect, in which case this term is referred to as Cs. The actual phonological forms of Cg and Cs are distinct from one another so there is no confusion when interpreting which category is being conveyed. The presence of Cv in Slot I (see above) requires that Slot III be filled by Cs, not Cg.</p> <p>Aspect (Cs) is an optional category. It is possible for a formative to not carry any particular aspect, in which case the value of Cs (if present) will simply be a placeholder consonantal form.</p> <p>Validation (shown by Cg) is a mandatory category, however the presence of Cg is optional if the formative's valence has its default category. If the formative's validation is not its default value, but the presence of Cg is not allowed due to Slot III already being filled by Cs, then the word must be restructured to remove Cv from Slot I and to remove Cs from Slot III in order to allow the presence of Cg. The formative's Phase and Sanction (Cv) and Aspect (Cs) will instead be shown either by use of an adjunct (see Section 2.4.2 below), or by moving Cv and Cs to Slots V and XI respectively (if possible - see explanation for Slots V and XI below).</p> <p>The presence of either Cg or Cs in Slot III requires that Slot IV be filled.</p>
IV	Vr	A vocalic “portmanteau” affix (i.e., conveying multiple types of morphological information), indicating the following morphological categories: Pattern and Stem (see Section 2.2.2 below), and Function (discussed in Section 5.1). Pattern and Stem are mandatory for all formatives, whereas Format occurs only if the formative carries an incorporated stem (see Cx in Slot V below).
V	Cx/Cv	<p>Slot V serves two possible functions: (1) Cx, a consonantal form indicating an incorporated root (discussed in Section 6.4) or, in the absence of an incorporated root, it becomes (2) the slot for Cv showing the formative's Phase and Sanction (thus moving it from Slot I above). The presence of Cx or Cv in Slot V requires that Slot VI also be filled.</p> <p>If functioning as Cx, the formative must carry Format information shown by the term Vf in Slot XII below. If there is no Format shown in Slot XII, then any term in Slot V must be Cv, not Cx.</p> <p>If there is no incorporated root and the formative's Phase and Sanction have their default values or are already shown in Slot I, then Slot V is left empty (as well as Slot VI).</p>
VI	Vp/VL	Slot VI serves two possible functions: (1) Vp, a vocalic affix indicating the Stem and Pattern (see Section 2.2.2 below) as well as Designation (see Section 3.7) of the incorporated root Cx in Slot V above, or, in the absence of an incorporated root, it becomes (2) the slot for VL showing the formative's Valence (thus moving it from Slot II above). If there is no incorporated root then Slot VI is left empty along with Slot V.
VII	Cr	A mandatory consonantal form (from one to five consonants in length) which represents the semantic root of the formative (see Section 2.2 below). Cr cannot be -w-, -y-, -h-, -hw-, -hr-, -hh-, -hn-, -hm-, -lw-, -ly-

		, -rw-, -ry-, -řw-, or -řy-.
VIII	Vc	This is a mandatory vocalic affix indicating the case of the formative. The category of Case is discussed in Chapter 4 .
IX	Ci +Vi	This is a consonant + vowel term consisting of one of four consonantal forms (w- , y- , h- , or hw-) plus a vocalic form, the whole of which indicates the Mood and Illocution of the formative (see Sections 5.2 and 5.3 respectively). Mood and Illocution are mandatory categories but both have default forms. If Mood and Illocution are in their default forms, then Slot IX is usually left unfilled/unmarked.
X	Ca	A mandatory consonantal portmanteau affix indicating the following five categories: Configuration, Affiliation, Perspective, Extension and Essence. These categories are all discussed in Chapter 3 .
XI	Vx+C	An optional derivational suffix of the form vowel+consonant(s) which conveys additional morpho-semantic information. There are approximately 200 such suffixes which can be combined with a formative to expand the meaning of a word. These suffixes can also be multiply added to a stem, i.e., two or more such affixes can appear on a stem. These suffixes are analyzed at length in Chapter 7 .
XII	Vf	A vocalic suffix which conveys the categories of Context (discussed in Section 3.6) and Format (discussed in Section 6.4). The presence of Format information requires that an incorporated root be present in the formative (i.e., the Cx term in Slot V above). In the absence of an incorporated root, Vf conveys the category of Context only. While Context is mandatory, it has a default value which, in the absence of Format and a Bias suffix in Slot XIII, is unmarked (i.e., Slot XII is left empty).
XIII	'Cb	A consonantal word-final suffix of the form glottal stop + consonant which indicates one of 48 Bias categories (discussed in Section 5.11). Bias is an optional category and is left unmarked (i.e., unfilled) if not present. However, if present, then Slot XII must also be filled.
XIV	[tone]	The six morphologically relevant tones (see Section 1.3.2) of an Ithkuil formative indicate the category of Version (see Section 5.8), a mandatory category.
XV	[stress]	As previously described in Section 1.3.3 , there are four possible stress patterns for an Ithkuil formative, which convey the categories of Designation (see Section 3.7) and Relation (see Section 5.4).

Based on the above morphological formula, we can see that the simplest structure for a formative is

Vr + Cr + Vc + Ca + tone+stress

as illustrated by the examples **p^hal**, **eqoec**, and **~üaklaršlā** below:

 **p^hal** 'tree' [LISTEN](#) 

Vr = (**a-**)* indicating Pattern 1, Stem 1 of the root plus STATIVE function

Cr = **-p^h-**, indicating the root: 'branched/leaved plant'

Vc = **-a-**, indicating OBLIQUE case

Ca = **-I**, indicating NORMAL essence, DELIMITATIVE extension, MONADIC perspective, UNIPLEX configuration, and CONSOLIDATIVE affiliation

tone = falling, indicating PROCESSUAL version

stress = penultimate**, indicating INFORMAL designation and UNFRAMED relation

*Note that the full form is **ap^hal**, however when the value of **Vc** is word-initial **a-** for a formative with penultimate stress, this initial **a-** can be deleted.

**As explained in [Section 1.3.3](#), monosyllabic words are considered to have penultimate stress for morpho-phonological purposes.



eqoec 'regarding humankind'

[LISTEN](#)

Vr = **e-**, indicating Pattern 1, Stem 2 of the root plus STATIVE function

Cr = **-q-**, indicating the root: 'higher order life-form'

Vc = **-oe-**, indicating REFERENTIAL case

Ca = **-c**, indicating NORMAL essence, DELIMITIVE extension, ABSTRACT perspective, UNIPLEX configuration, and CONSOLIDATIVE affiliation

tone = falling, indicating PROCESSUAL version

stress = penultimate, indicating INFORMAL designation and UNFRAMED relation



üaklaršlá 'it is/being a representation of the man-made courses/channels of a river that has dried up'

[LISTEN](#)

Vr = **üa-**, indicating Pattern 3, Stem 1 of the root plus MANIFESTIVE function

Cr = **-kl-**, indicating the root: 'water in natural motion'

Vc = **-a-**, indicating OBLIQUE case

Ca = **-ršl(a)**, indicating REPRESENTATIVE essence, DEPLETIVE extension, MONADIC perspective, AGGREGATIVE configuration, and ASSOCIATIVE affiliation

tone = high, indicating COMPLETIVE version

stress = ultimate, indicating FORMAL designation and UNFRAMED relation

From the simpler formative structures above, we can examine the structure of increasingly complex words, e.g.,

Vr + Cr + Vc + Ci + Vi + Ca + Vx+Cs + Vf + 'Cb + tone + stress, as in:



Uip^hawâtlûxe'ň? 'Might it happen to be a large symbolic grove of trees?'

[LISTEN](#)

Vr = **(ui-)**, indicating Pattern 1, Stem 1 of the root plus MANIFESTIVE function

Cr = **-p^h-**, indicating the root: 'branched/leaved plant'

Vc = **-a-**, indicating OBLIQUE case

Ci+Vi = **w+â**, indicating INTERROGATIVE illocution plus SUBJUNCTIVE mood

Ca = **-tl**, indicating NORMAL essence, DELIMITIVE extension, MONADIC perspective, DISCRETE configuration, and CONSOLIDATIVE affiliation

Vx+Cs = **û+x**, the SIZE suffix in 6th degree, translatable as 'big, large'

Vf = **e**, indicating REPRESENTATIONAL context

Cb = **ň**, indicating COINCIDENTIAL bias

tone = falling, indicating PROCESSUAL version

stress = penultimate, indicating INFORMAL designation and UNFRAMED relation

or

Cg + Vr + Cx + Vp + Cr + Vc + Ca + Vx+Cs + Vf + tone + stress, as in:



hremsoqaitsurkoi 'purportedly by means of the value derived from all the varied attributes of humanity'

[LISTEN](#)

Cg = **hr-**, indicating PURPORTIVE validation

Vr = **e-**, indicating Pattern 1, Stem 2 of the root plus STATIVE function

Cx = **-ms-**, indicating the incorporated root: 'value/cost'

Vp = **o**, indicating Pattern 2, Stem 1, and INFORMAL designation of the incorporated root

Cr = **-q-**, indicating the main root: 'higher order life-form'

Vc = **-ai-**, indicating INSTRUMENTAL case

Ca = **-ts-**, indicating NORMAL essence, DELIMITIVE extension, ABSTRACT perspective, COMPOSITE configuration, and VARIATIVE affiliation

Vx+Cs = **u+rk**, the METONYMIC suffix in 9th degree, indicating the attributes/characteristics of the formative

Vf = **o**, indicating AMALGAMATIVE context and AUTHORITATIVE format

tone = falling, indicating PROCESSUAL version

stress = penultimate, indicating INFORMAL designation and UNFRAMED relation

or a deliberately extreme example,

Cv + VL + Cs + Vr + Cx + Vp + Cr + Vc + Ca + Vx + Cs + Vf + 'Cb + tone + stress, as in:



/qʰūl-lyai'svukšei'arpíptó'ks

'...being hard to believe, after allegedly trying to go back to repeatedly inspiring fear using rag-tag groups of suspicious-looking clowns, despite resistance'

[LISTEN](#)

Cv = **q^h**, indicating ALLEGATIVE sanction plus REPETITIVE phase

VL = **ú**, indicating RESISTIVE valence

Cs = **I-ly**, indicating REGRESSIVE aspect

Vr = **ai**', indicating DYNAMIC function plus Pattern 1, Stem 2 for the main root

Cx = **sv**, indicating the incorporated root: 'fear'

Vp = **u**, indicating INFORMAL designation plus Pattern 3, Stem 1 for the incorporated root

Cr = **kš**, indicating the main root: 'fool/clown'

Vc = **ei'a**, indicating POSTCURSIVE case

Ca = **rp**, indicating NORMAL essence, DELIMITATIVE extension, UNBOUNDED perspective, AGGREGATIVE configuration, and VARIATIVE affiliation

Vx + Cs = **ipt-**, the GENUINENESS/VERACITY suffix in 4th degree, indicating a suspicious-looking nature

Vf = **o**, indicating SCHEMATIC format and EXISTENTIAL context

Cb = **'ks**, indicating SKEPTICAL bias

tone = rising, indicating INEFFECTUAL version

stress = ultimate, indicating FORMAL designation for the main root

2.1.2 Disambiguation of Specific Affixes Within Words

Because many of the terms in the above morphological formula are optional, the reader might easily wonder how a speaker/reader of Ithkuil, when looking at or hearing an Ithkuil word, can possibly know which terms are actually shown in any given word, i.e., how to interpret from the given consonants and vowels in a particular word which of the optional morphological categories is being displayed or spoken. Or, in other words, how can one tell which slots are filled? In fact, such interpretation is indeed possible and is unambiguous due to the specific allowable consonant or vowel combinations allowed for each term, i.e., the specific consonantal or vocalic values allowed for one term are distinct from those allowed for another term which might occupy the same sequential position in a specific word. Also, as previously stated in [Section 2.1.1](#) above and as indicated by the pattern of parentheses in the (((Cv +) VL +) Cg/Cs +) Vr + (Cx/Cv + Vp/VL +) Cr + Vc (+ Ci +Vi) + Ca (+ VxC) (+ Vf (+ Cb)) [+ tone] [+ stress] morphological formula, the presence of certain terms e.g., VL, requires the presence of other terms (Ci + Vc), in order to maintain a discernible sequence which can be unambiguously differentiated.

2.2 ROOT AND STEM FORMATION

All words in Ithkuil which translate into English as nouns or verbs are based on a monosyllabic **stem**, which in turn derives from a semantically abstract **root**. This process is explained in the sections below.

2.2.1 The Root

The **root** in Ithkuil forms the semantic basis from which actual noun/verb stems are derived. The root consists of a consonantal form, **Cr**, comprised of one to four consonants (e.g., **-k-**, **-st-**, **-ntr-**, **-pstw-**). Given Ithkuil phonotactic constraints (see [Section 1.4](#)) this gives approximately 3600 possible roots. (Note: roots of five consonants, e.g., **-rpskw-** are also phonotactically possible and available, but currently remain unassigned.) **Cr** cannot be a single glottal stop, nor **w**, **y**, **h**, **hw**, **hr**, **hh**, **hn**, **hm**, **lw**, **ly**, **rw**, **ry**, **rw**, or **ry**. The root occupies Slot VII of a formative's morpho-phonological structure, as shown below.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L	Cg/Cs)	V _r	(Cx/Cv)	V _{p/V_L}	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

The root is the basic semantic unit in Ithkuil. For example, **d-** is a root whose semantic referent is 'NAME/DESIGNATION'. Functional word-stems (or simply **stems**) are generated from the root via instantiation of the **V_r-** vocalic affix, as described below.

2.2.2 Stem and Pattern

There are three stems associated with each root. It is at the level of stem that Ithkuil roots become actual words with instantiated meaning. Each stem in turn manifests itself in three separate **Patterns**. Both Pattern and Stem are shown by changes to the **V_r-** vocalic affix.

The three patterns are labeled Pattern 1, Pattern 2, and Pattern 3. Pattern is used to divide a stem into a tripartite grouping consisting of a holistic stem and two complementary sub-stems. An example would be the holistic stem *spouse*, with its two complementary sub-stems *husband* and *wife*. This holistic versus complementary distinction is discussed at length below in [Section 2.3](#). This distinction of holistic versus complementary patterns is one way in which Ithkuil systematizes at the morphological level what in other languages constitute lexical distinctions (i.e., differences in word-choice when translating). It is one of the many ways by which Ithkuil can function fully as a conceptually sophisticated and subtle language while having such a small number of semantic word roots.

A formative's Pattern and Stem are shown by the **V_r** affix in Slot IV, as previously described in [Section 2.1.1](#). Besides showing a formative's Pattern and Stem, **V_r** shows the morphological category of Function, discussed in [Section 5.1](#).

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L	Cg/Cs)	V _r	(Cx/Cv)	V _{p/V_L}	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

The values of **V_r-** by Stem and Pattern and Function are shown in Table 4 below.

Table 4: Values of V_r by Stem, Pattern, and Function

	Pattern 1			Pattern 2			Pattern 3		
	Stem 1	Stem 2	Stem 3	Stem 1	Stem 2	Stem 3	Stem 1	Stem 2	Stem 3
Function (see Sec. 5.1)									

STATIVE	(a)	e	u	o	ö	î / û	â	ê	ô
DYNAMIC	i	ai	ei	au	eu	iu	ia / ua	ie / ue	io / uo
MANIFESTIVE	ui	ü / ou	ëi	ae	ea	oa	üa / aì	iù / ui	iö / uö
DESCRIPTIVE	oi	eo	eö	oe	öe	ëu	üo / oì	üe / eì	üö / aù

In the sections below where we analyze the semantics of stems, all examples are given in the STATIVE function, as this corresponds to the most common (or default) function of a formative. Thus, the forms we will analyze are:

Pattern 1			Pattern 2			Pattern 3		
Stem 1	Stem 2	Stem 3	Stem 1	Stem 2	Stem 3	Stem 1	Stem 2	Stem 3
(a)C-	eC-	uC-	oC-	öC-	îC- / ûC-	âC-	êC-	ôC-

where C- represents the root consonant form Cr.

2.3 SEMANTIC INSTANTIATION OF STEMS

We can now examine how each root instantiates meaning into the above array of stems. We will start with the three stems associated with Pattern 1; these are the holistic stems. This will be followed in a subsequent section by an analysis of the twelve stems associated with Patterns 2 and 3, the complementary stems.

2.3.1 Holistic Stems

The three stems for Pattern 1 are designated by the Vr affixes (a-), e-, and u- respectively. Thus, the root -d- 'NAME/DESIGNATION' generates the following stems:

1. (a)d- 'name of something or someone; to name something or someone'
2. ed- 'designation or reference; to assign a designation, to refer to something'
3. ud- 'a (temporary or informal) reference, "nickname"; to give a (temporary or informal) reference or name to, to (temporarily) nickname'

The semantic relationship between each stem and the underlying root is specific to each root. Nevertheless, certain patterns are common. Stem 1 usually refers to the most fundamental, basic, generalized, or common manifestation of the root concept, while Stem 2 is a more specific application or tangible manifestation thereof, or otherwise a subset of the meaning of Stem 1. Stem 3 may represent yet a further manifestation of the root, a further subset of Stem 1, or a tangential or related concept. For example, compare the relationship between the individual stems for the root -d- above with that of the root -x- ('VISION/SIGHT') below.

1. (a)x- 'a sighting, an act of seeing something; to see something'
2. ex- 'an eye; to be an eye/become an eye/use one's eye, etc.'
3. ux- 'an image in one's mind; to visualize, to picture in one's mind'

Note that each stem carries both a nominal (noun) and a verbal meaning. This will be important later when we discuss parts of speech and nominal/verbal morphology.

2.3.2 Complementary Stems

Any Ithkuil stem is capable of being further broken down into two **complementary** stems which represent mutually exclusive component parts or aspects of the main stem. Many Ithkuil stems which translate common English nouns and verbs are, in fact, such complementary derivatives, rather than being holistic word-stems.

By “complementary” is meant that the manifestation of a concept appears in any given context as either one sort of entity or another, but never both simultaneously; yet, neither manifestation can be considered to be a discrete contextual whole without the existence of the other. In Ithkuil, for example, words such as *male*, *night*, *speech*, *sit*, and *happen* are not considered basic concepts, but rather are parts of greater holistic concepts, existing in complementary relationship to another part, the two together making up the whole.

Thus, Ithkuil lexical structure recognizes that the word *male* has no meaning in and of itself without an implicit recognition of its complementary partner, *female*, the two words mutually deriving from a more basic, holistic concept, translatable into English as *living being*. Similarly, the word *night(time)* derives along with its complement *day(time)* from the underlying concept translatable as *day* (i.e., a 24-hour period), while the concept of *speak(ing)* divides into complementary concepts of *talking* (focusing on the physical production of oral sound) versus *saying/telling* (focusing on the communicative content of oral sound).

Actions, too, are not exempt from this principle of complementarity, an example being the relationship between *sit* and *seat*; one has no meaning without an implicit and joint partnership with the other, i.e., one cannot sit unless one sits upon something, and whatever one sits upon in turn functions as a seat. Another example involves the word *happen* or *occur*, which Ithkuil recognizes as having no real meaning without the attendant implication of *consequence* or *result*, the two being complementary components of a holistic concept roughly translatable as *event* or *situation*.

2.3.2.1 Using Patterns 2 and 3 to Derive Complementary Stems. The first complementary stem is derived from the holistic stem by shifting the values of **Vr** to Pattern 2, i.e., **o-**, **ö-**, and **î-** (or **û-**), while the second complementary stem is derived by shifting **Vr** to Pattern 3, i.e., **â-**, **ê-**, and **ô-**. Several examples of complementary stem derivation are given below:

Holistic Stem	eq- : human being, person
1st Comp. Stem	öq- : male person
2nd Comp. Stem	êq- : female person

Holistic Stem	aklá- : a river
1st Comp. Stem	oklá- : the water in a river
2nd Comp. Stem	âklá- : a riverbed, river channel

Holistic Stem	ult- : an act of written composition; to compose something in writing
1st Comp. Stem	ûlt- : the physical act of composing in writing; to physically write a composition
2nd Comp. Stem	ôlt- : the written content or message of a composition; to create written content

Holistic Stem	ax- : sight; to undergo an act of seeing (both sensory experience and thing seen)
1st Comp. Stem	ox- : an act of seeing, a usage of one's faculty of sight; to see with one's eyes, to undergo a sighting
2nd Comp. Stem	âx- : a view, a sight, something (to be) seen; to cast a sight or image

2.3.2.2 Complementary Stems in Translation. As illustrated above, the structure of Ithkuil holistic vs. secondary complementary roots often neatly parallels English lexical distinctions, e.g., ‘speak/speech’ breaking down into the physical aspect of ‘talking’ versus the communicative aspect of ‘saying/telling’ or ‘person’ breaking down into ‘male’ and ‘female.’ However, it is often the case that this principle of complementarity creates a semantic situation which is counterintuitive to Western semantic notions.

For example, let us analyze the root **-mm-** ‘NUCLEAR FAMILY MEMBER’. While most languages would consider the concept *parent* as fundamentally opposite from the concept *child* and assign separate word-roots to each, Ithkuil recognizes that one implies the other. No person can be a parent unless they’ve had a child, just as any child must have (or have had) parents. This, then, constitutes an archetypal complementary relationship, the whole two-sided nature of which is referred to by the holistic stem **-mm-**. One way to interpret the meaning, then, of **-mm-** is to say that the word means both ‘parent’

and ‘child,’ which of course strikes one as being problematical, perhaps even nonsensical. But in fact, the word does not mean either ‘parent’ or ‘child,’ but rather a person who is one of the members of a parent-child relationship, i.e., a member of a nuclear family. With such a root, Stem 2 and Stem 3 in turn subdivide Stem 1 into the further complementary derivatives of male and female. Such “bi-level” derivations of complementary concepts using Stem 2 and Stem 3 are common in Ithkuil root/stem derivation. Here then are the actual meanings of the stems for **-mm-**.

	Holistic Stem	1st Complementary Stem	2nd Complementary Stem
Stem 1	amm- nuclear family member	omm- : parent	âmm- : child (offspring)
Stem 2	emm- : male nuclear family member	ömm- : father	êmm- : son
Stem 3	umm- : female nuclear family member	ûmm- : mother	ômm- : daughter

Additional conceptual complementary pairs which would be contained within single Ithkuil lexical roots are illustrated by the following examples:

Holistic Concept	Complementary Concepts	
eating	food	ingestion
think, act of thinking	a thought (thing considered)	process of consideration
liquid	fluid (= ontological nature)	wet[ness] (=defining attribute)
measuring	a measurement	process of measuring
transference of possession	giving	taking
traversal between points	coming, arrival	going, departure
commercial transaction	buying	selling

2.4 PARTS OF SPEECH

Ithkuil has only two parts of speech: *formatives* and *adjuncts*. While there are words which function as nouns and verbs, such nouns and verbs derive morphologically from the same grammatical stem (its nominal or verbal function or meaning being dependent on the particular morpho-semantic context), hence the term *formative*. This process of noun/verb derivation from formatives is discussed in detail in Section 2.4.1 below. Note that there are no adjectives, adverbs, prepositions, pronouns, determiners, conjunctions, particles or interjections in Ithkuil, at least not at any autonomous lexical level that can be termed a part of speech. The equivalents to, or substitutes for, these latter Western grammatical notions all exist within the formative-adjunct morphological paradigm.

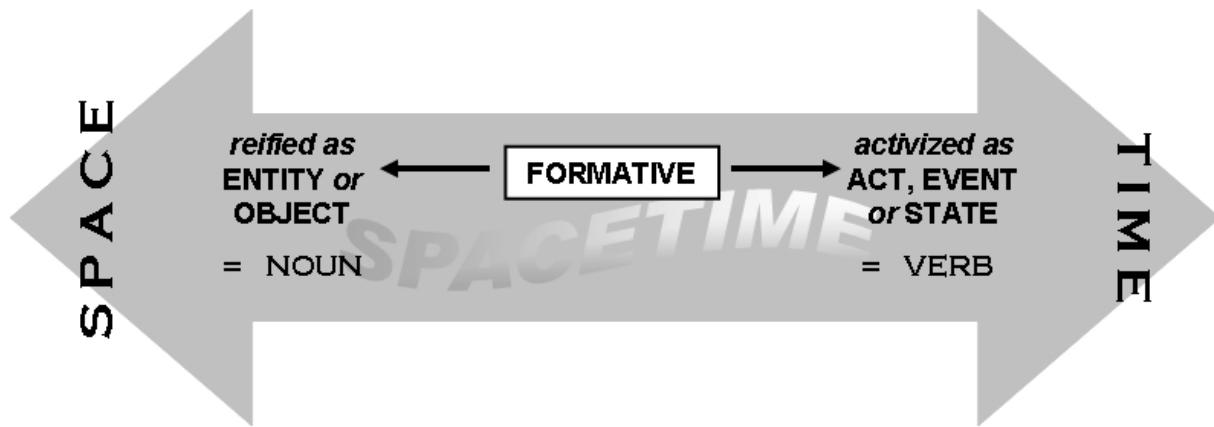
Another dissimilarity with Western languages is that there are no irregular or defective forms; all formatives and adjuncts follow the same inflectional and derivational rules without exception and all formatives are theoretically capable of semantic denotation for every inflectional or derivational category, i.e., all inflectionally or derivationally possible words theoretically exist and have meaning (although, in actuality, some forms will of course be semantically anomalous, redundant, contrived, or distinguish shades of meaning that are contextually unnecessary).

2.4.1 Formatives

The stem formed as per the discussion in [Section 2.3](#) above constitutes the grammatical part of speech termed the *formative*. All formatives, without exception, can function as both nouns or verbs, and the distinction as to whether a formative is to be interpreted as a noun or a verb can only be made by analyzing its morpho-syntactic relationship to the

rest of the sentence. Consequently, there are no stems/formatives that refer only to nouns or only to verbs as in Western languages. The formative **aklá-** illustrated above in [Section 2.3.2](#) means both ‘river’ and ‘to flow/run (as a river)’ with neither meaning being seen as more intrinsic or fundamental, nor one deriving from the other. Such hierarchies of nominal over verbal meaning (or vice-versa) arise only in translating Ithkuil to English or other Western languages, where such nominal versus verbal lexical constraints are inherent. Often, the interpretation or translation of an Ithkuil formative exclusively into a noun or verb form is arbitrary.

The reason why nouns and verbs can function as morphological derivatives of a single part of speech is because Ithkuil morpho-semantics does not see nouns and verbs as being cognitively distinct from one another, but rather as complementary manifestations of an idea existing in a common underlying semantic continuum whose components are space and time. As in physics, the holistic continuum containing these two components can be thought of as spacetime. It is in this continuum of spacetime that Ithkuil instantiates semantic ideas into lexical roots, giving rise to the part of speech termed the formative. The speaker then chooses to either *spatially “reify”* this formative into an object or entity (i.e., a noun) or to *temporally “activize”* it into an act, event, or state (i.e., a verb). This complementary process can be diagrammed as follows:



2.4.2 Adjuncts

Besides formatives, the other part of speech is the *adjunct*. Adjuncts are so named because they operate in conjunction with adjacent formatives to provide additional grammatical information about the formative, somewhat like auxiliary verbs in English (e.g., “may, will, would, do, have”) or like noun determiners (e.g., “the, this, those”).

Adjuncts are formed from one or more consonantal and/or vocalic affixes, combined agglutinatively. There are several different types of adjuncts, described in detail in [Chapter 6](#) and [Chapter 8](#). These include:

- **Personal Reference Adjuncts:** The nearest equivalent to Western personal pronouns, identifying in abbreviated form the participant entities to a verb or the entities associated with a particular noun in some case relationship. (See [Section 8.1](#).)
- **Verbal Adjuncts:** These are used in conjunction with verbal formatives to provide information on the morphological categories of Valence, Level, Phase, Sanction, Illocution, Modality, Aspect and Bias. Each of these categories is discussed in [Chapter 5](#) or [Chapter 6](#).

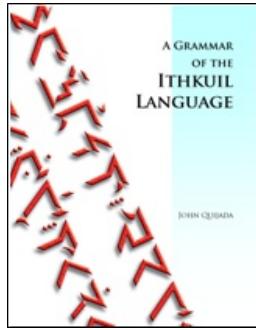
2.5 NOTE ON TERMINOLOGY

While this chapter has mentioned a few specific morphological categories in passing, beginning with [Chapter 3: Basic Morphology](#), morphological (i.e., grammatical) categories will be discussed in detail. It should be noted that, given the extensive array of overt morphological categories in Ithkuil, the terminology used in naming these categories is often arbitrary. Where a category functions similarly to a familiar linguistic category, the name of that category has been appropriated. Elsewhere, linguistic terminology from Indo-European, Uralic, Amerindian or Caucasian grammar has been appropriated out of convenience, often with only a small similarity of function. In still other instances, I have contrived my own grammatical nomenclature.

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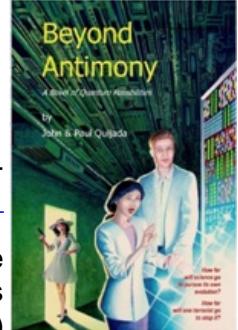
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Ithkuil: A Philosophical Design for a Hypothetical Language

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Chapter 3: Basic Morphology

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As previously discussed in [Section 2.4.1](#), the distinction between nouns and verbs common to most languages is rather blurred in Ithkuil. All lexical stems in Ithkuil function equally as nouns or verbs and share many of the same morpho-semantic features and categories. This is because Ithkuil morpho-semantics does not see nouns and verbs as being cognitively distinct from one another, but rather as complementary manifestations of ideas existing in a common underlying semantic continuum whose components are space and time. The equivalents to nouns and verbs in other languages are merely “reified” (or nominalized) and “activized” (or verbalized) derivatives of semantic formatives. Nevertheless, for simplicity’s sake, we will refer to nominal formatives as nouns and verbal formatives as verbs when discussing their morphology.

All Ithkuil formatives, whether functioning as nouns or verbs, inflect for nine **Configurations**, four **Affiliations**, four **Perspectives**, six **Extensions**, two **Essences**, four **Contexts**, and two **Designations**, and can take any of approximately 1800 optional suffixes. These morphological categories are explained in the sections which follow.

3.1 CONFIGURATION

To understand the Ithkuil concept of enumeration and quantification of nouns (i.e., what other languages term singular, plural, etc.) one must analyze three separate but related grammatical categories termed **Configuration**, **Affiliation**, and **Perspective**. These concepts are alien to other languages. While they deal with semantic distinctions which are quantitative in nature, these distinctions are usually made at the lexical level (i.e., via word choice) in other languages, not at the morphological as in Ithkuil. In this section we will deal first with Configuration, followed by Affiliation in [Section 3.2](#) and Perspective in [Section 3.3](#).

Specifically, Configuration deals with the physical similarity or relationship between members of a noun referent within groups, collections, sets, assortments, arrangements, or contextual gestalts, as delineated by internal composition, separability, compartmentalization, physical similarity or componential structure. This is best explained and illustrated by means of analogies to certain English sets of words.

Consider the English word ‘tree.’ In English, a single tree may stand alone out of context, or it may be part of a group of trees. Such a group of trees may simply be two or more trees considered as a plural category based on mere number alone, e.g., two, three, or twenty trees. However, it is the nature of trees to exist in more contextually relevant groupings than merely numerical ones. For example, the trees may be of like species as in a ‘grove’ of trees. The grouping may be an assortment of different kinds of trees as in a ‘forest’ or occur in patternless disarray such as a ‘jungle.’

As another example, we can examine the English word ‘person.’ While persons may occur in simple numerical groupings such as ‘a (single) person’ or ‘three persons’ it is more common to find persons (i.e., people) referred to by words which

indicate various groupings such as ‘group,’ ‘gathering,’ ‘crowd,’ etc.

Segmentation and amalgamated componential structure are further configurative principles which distinguish related words in English. The relationships between *car* versus *convoy*, *hanger* versus *rack*, *chess piece* versus *chess set*, *sentry* versus *blockade*, *piece of paper* versus *sheaf*, *girder* versus (*structural*) *framework*, and *coin* versus *roll of coins* all exemplify these principles.

Another type of contextual grouping of nouns occurs in binary sets, particularly in regard to body parts. These binary sets can comprise two identical referents as in *a pair of eyes*, however they are more often opposed or “mirror-image” (i.e., complementary) sets as in *limbs*, *ears*, *hands*, *wings*, etc.

In Ithkuil, the semantic distinctions implied by the above examples as they relate to varying assortments of trees or persons would be accomplished by inflecting the word-stem for ‘tree’ or ‘person’ into one of nine configurations. Additional semantic distinctions on the basis of purpose or function between individual members of a set could then be made by means of Affiliation (see [Section 3.2](#) below) and by the use of specific suffixes. For example, once the words for ‘forest’ or ‘crowd’ were derived from ‘tree’ and ‘person’ via Configuration, the Ithkuil words for ‘orchard,’ ‘copse,’ ‘team’ or ‘mob’ could easily be derived via affiliation and affixes. (Such derivations into new words using suffixes are explored in detail in [Chapter 7: Suffixes](#).)

Ithkuil words indicate Configuration via a synthetic consonantal affix immediately following the C+V stem which also indicates the Affiliation, Perspective, Extension and Essence of the stem. This is the **Ca** affix discussed in [Section 2.1.1](#).

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	Vr	(Cx/Cv	Vp/V _L)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp. Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root Case Illocution + Mood	Configuration + Affiliation + Perspective + Extension + Essence	Deriv. Suffix	Context + Format	Bias	Version			Designation + Relation	

The actual values of these **Ca** affixes are shown later in Table 5 in [Section 3.5.3](#) below, following the explanation of Essence.

The nine configurations are the **UNIPLEX**, **DUPLEX**, **DISCRETE**, **AGGREGATIVE**, **SEGMENTATIVE**, **COMPONENTIAL**, **COHERENT**, **COMPOSITE**, and **MULTIFORM**. The function and morphology of these categories are explained below along with examples of the various configurations applied to four different stems: **ap^h-**, **eq-**, **el-**, and **upšá-**.

3.1.1 UNI The Uniplex

The UNIPLEX configuration indicates a single, contextual embodiment of the stem concept, i.e., one whole contextual unit of the basic nominal stem, e.g., *a tree*, *a person*, *a screwdriver*, *a grape*, *a hammer blow*, *a hole*. With verbs the UNIPLEX signifies a single, holistic act, state, or event, e.g., *to be a tree*, *to become a person*, *to use a screwdriver*, *to eat a grape*, *to strike (once) with a hammer*, *to dig a hole*. Examples: [LISTEN](#) 

 **p^hal** ‘a tree’

 **eqal** ‘a person’



elal ‘an utterance; a spoken word’

upšál ‘an incident’

For the set of affixes which mark this configuration, see Table 5 in [Section 3.5.3](#) below.

3.1.2 DPX The Duplex

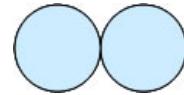
The DUPLEX configuration indicates a related binary set. While it often refers to body parts, e.g., one’s eyes, ears, lungs, wings, etc., it can also be used to describe any set of two identical or complementary objects or entities, e.g., *a matched pair of vases, a two-volume set, a set of bookends, mutual opponents*. Thus, the Ithkuil word for spouse inflected for the DUPLEX configuration would translate as *a man and wife* or *a married couple*.

One context in which the DUPLEX appears for both nouns and verbs is with events which contain two complementary “halves” exemplified by English words such as *bounce, flash, arc, wag, swing, switch, breathe/respiration*, indeed, any concept which involves a dual-state notion of up/down, to/fro, back/forth, in/out, empty/full, or on/off. Use of the DUPLEX in these contexts implies a full cycling through the two complementary states involved. For example the word for *hammer blow* inflected for the UNIPLEX would signify the singular impact of the hammer, whereas the same word inflected for the DUPLEX signifies a single down-then-up cycle of the swing of the hammer, the two complementary “halves” of the action being divided by the impact. Examples:

[LISTEN](#) 

 **p^hall** ‘a pair of trees’

 **eqall** ‘a couple’



 **elall** ‘a pair of words’

 **upšall** ‘a pair of incidents’

For the set of affixes which mark this configuration, see Table 5 in [Section 3.5.3](#) below.

3.1.3 DCT The Discrete

The DISCRETE configuration indicates a grouping or set of the basic stem units that are more or less identiform (each having the same design or physical appearance). This grouping or set-nature can be either spatial, as in *a flock of gulls* (flying together), or temporal (i.e., sequentially repetitive or iterative) as in *(a flock of) gulls flying one after another*. Further examples of English nouns or noun phrases which would be translated using the DISCRETE are *a grove, a set of screwdrivers, a group of soldiers, a pile of leaves, a bowl of grapes, a series of hammer blows, an area of holes*. Thus, the Ithkuil word for (*identical*) *set* would simply be the word for *thing* or *object* inflected for the DISCRETE configuration. Note that the distinction between a spatially configured set versus a temporally (i.e., iterative) configured set would be made by use of either the DPR suffix, **-šk**, or the SEP suffix, **-mb** specifying which spacetime axis is implied. These suffixes are analyzed in [Sec. 7.4.13](#).

For verbs, the DISCRETE signifies a single set of repetitions, whether spatially or temporally, viewed as a single holistic event. The individual member components acts, states, or events within this set can be either UNIPLEX, e.g., *to take steps, to flip through pages, to have spots, to dig holes in an area*, or DUPLEX in nature, e.g., *to hammer, to spin, to breathe*.

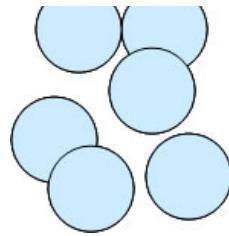
It should be noted that the Containment CNM suffix, **-mt**, can be used with the DISCRETE, as well as most of the following configurations, to designate specifically the type of container, holder, or means of conveyance for a configurative set (e.g., a sack, package, jar, bottle, pile, load, etc.) Examples:

[LISTEN](#) 



p^hat] 'a grove'

eqat] 'a group of matching people'



elat] 'a set of identical words'



upšá] 'a set of similar incidents'

For the set of affixes which mark this configuration, see Table 5 in [Section 3.5.3](#) below.

3.1.4 AGG The Aggregative

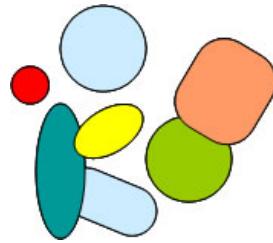
The AGGREGATIVE configuration functions like the DISCRETE above in referring to an associated group or set of entities, except that the members of the configurational set are not identical to one another. Examples of English words/entities which would be translated using the AGGREGATIVE are *a forest* (of different kinds of trees), *a toolset*, a *citizens group*, *a mixed pile of leaves*, *an assortment of animals*, *an area of different-sized holes*, *a series of musical notes*. With verbs, the AGGREGATIVE implies a spatially or temporally repeated set of non-identical acts, events, or states considered as a whole contextual unit. It would be used, for example, in translating the sentence *This morning I dug holes in my garden* (i.e., of different sizes). Examples: [LISTEN](#)



p^hal] 'a forest; a wood'



eqal] 'a group of different people'



elal] 'a set of (differing) words; a phrase'



upšál] 'a set of differing incidents'

For the set of affixes which mark this configuration, see Table 5 in [Section 3.5.3](#) below.

3.1.5 SEG The Segmentative

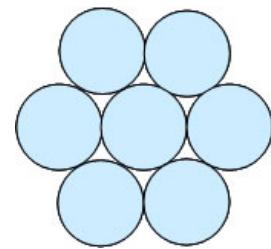
The SEGMENTATIVE configuration indicates a grouping or set of the basic stem units, the individual members of which are physically similar or identical and are either in physical contact with one another, physically connected via some linking medium, or in sufficiently close contact with one another so that the group moves or operates together. Examples would be *a web*, *a train of flatcars*, *a convoy of schoolbuses*, *a string of pearls*, *a fall of leaves*, *a line of dancers*, *a parade of Barbie dolls* (e.g., coming off an assembly line). To illustrate the difference between this configuration and the DISCRETE above, we saw that the word *grape* in the DISCRETE would be translated as *a serving of grapes*, while in the SEGMENTATIVE it would mean *a bunch of grapes* (i.e., still connected to each other on a portion of vine).

With verbs, the use of the SEGMENTATIVE versus the DISCRETE implies that the repetitive/iterative nature of the act, state, or event occurs naturally due to the contextual nature of the precipitating event or agent. It would thus be used to distinguish the fuselage of bullets from a machine-gun from the simple hail of bullets from single-fire weapons. Likewise, it would distinguish *The light is blinking* from *The light is flashing*, where *blink* implies the way in which the source naturally emits light, while *flash* implies that the light is being made to emit repetitive bursts of light. Examples: [LISTEN](#)



 **p^hall** 'a stand (or line) of trees'

 **eqall** 'a line/wall of matching people'
(e.g., shoulder-to-shoulder or with arms linked)



 **elall** 'a string of words'

 **upšáll** 'a chain of similar incidents'

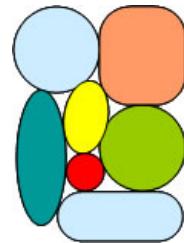
For the set of affixes which mark this configuration, see Table 5 in [Section 3.5.3](#) below.

3.1.6 CPN The Componential

The COMPONENTIAL configuration operates identically to the SEGMENTATIVE above, except that the individual members of the configurational set are not physically similar or identical to each other. Examples of English words/entities which would be translated using the COMPONENTIAL are *a freight train*, *a cascade of (mixed) fruit* (i.e., a continuous stream of fruit falling), *a line of ticketholders*, *a parade of floats*, *a pattern of musical notes*. With verbs, the COMPONENTIAL signifies a connected series of repetitions where the individual acts, events, or states comprising the repetitive set are non-identical. It would distinguish *The light twinkled* from *The light was blinking*. Examples: [LISTEN](#)

 **p^har̥l** 'a line/stand of different trees'

 **eqar̥l** 'a line/wall of different people'
(e.g., shoulder-to-shoulder or with arms linked)



 **elařl** 'a string of differing words'

 **upšářl** 'a chain of differing incidents'

For the set of affixes which mark this configuration, see Table 5 in [Section 3.5.3](#) below.

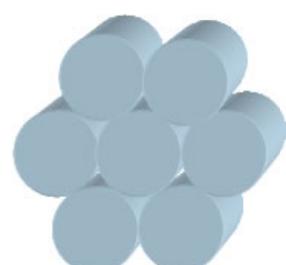
3.1.7 COH The Coherent

The COHERENT configuration functions similarly to the SEGMENTATIVE above, except that the individual members of the configuration are connected, fused or mixed with one another to form a coherent emergent entity, i.e., the total configuration of objects constitutes an entirely new gestalt-like entity. Examples of English words which would be translated using the COHERENT are *a bookcase*, *a phalanx*, *a xylophone*.

In the realm of verbs, finding English translations illustrating the COHERENT is difficult. If one can imagine the verb to *glow* to mean a series of flashes blurred one into another to create a continuous emanation, then *glow* versus *flash* might suffice. Perhaps a better illustration would be the difference between *to buzz* from *to make a set of repeating noises*. Examples: [LISTEN](#)

 **p^hask** 'an entangled grove of trees'
(i.e., their roots/branches intertwined and grown together)

 **eqask** 'a mass/unit of similar people'



elask ‘a speech made up of similar words’

upšášk ‘a web of similar incidents’

For the set of affixes which mark this configuration, see Table 5 in [Section 3.5.3](#) below.

3.1.8 **CST** The Composite

The COMPOSITE configuration operates the same as the COHERENT above except that the individual members of the configurational set are not identical or physically similar to one another. Examples of words/concepts that would be translated using the COMPOSITE are *a building* (= a constructional set of walls, floors, doors, windows, etc.), *a communications array*, *a conspiracy*, *a jungle thicket*. Thus the Ithkuil words for *recipe*, *skeleton*, and *melody* would simply be the words for *ingredient*, *bone*, and *musical note* inflected for the COMPOSITE configuration. For verbs, the COMPOSITE versus COHERENT distinction would distinguish *to rumble* from *to buzz*, or *to glitter* from *to glow*. Examples:

[LISTEN](#)



p^hašk ‘a jungle’



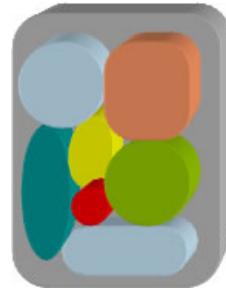
eqašk ‘a mass/unit of different people’



elašk ‘a speech’



upšášk ‘a situation (involving a number of incidents)’



For the set of affixes which mark this configuration, see Table 5 in [Section 3.5.3](#) below.

3.1.9 **MLT** The Multiform

The MULTIFORM configuration is the most difficult to explain, as there is no Western linguistic equivalent. The MULTIFORM serves to identify the noun as an individual member of a “fuzzy” set. A fuzzy set is a term which originates in non-traditional logic, describing a set whose individual members do not all share the same set-defining attributes to the same degree, i.e., while there may be one or more archetypical members of the set which display the defining attributes of the set exclusively and exactly, other members of the set may vary from this archetypical norm by a wide range of degrees, whether in physical resemblance, degree of cohesion or both. Indeed, some members of the set may display very little resemblance to the archetype and be closer to the archetype of a different fuzzy set, i.e., fuzzy sets allow for the idea of “gradient overlap” between members of differing sets.

It is difficult to accurately translate into English without resorting to paraphrase the sorts of concepts that Ithkuil easily expresses using the MULTIFORM. For example, the Ithkuil word for ‘tree’ inflected for the MULTIFORM configuration would mean something like *a group of what appear to be trees*, or better yet, *a group of tree-like objects* (i.e., some being trees, and others seeming less like trees). Essentially, any set of entities whose similarity of membership varies by different degrees in comparison to an archetypical member of the set can be expressed using the MULTIFORM. For examples, the Ithkuil word for *library* would simply be a word meaning something like *work* (i.e. thing authored/composed) inflected for the MULTIFORM, signifying a hodge-podge assortment of writings and compositions (e.g., including books, pamphlets, notebooks, ledgers, formulas, letters, journals, recordings, magazines, etc.). Other example concepts translatable using the MULTIFORM would be *a rag-tag group of people*, *an incoherent pattern*, *lives in flux*.

With verbs, the MULTIFORM implies that the individual repetitions comprising an act, state, or event have varying degrees of spatio-temporal similarity to each other. A few English verbs such as *fluctuate*, *sputter* or *flicker* capture this sense. Examples:

[LISTEN](#)



p^hak̚t̚ 'a thicket/jungle thicket'



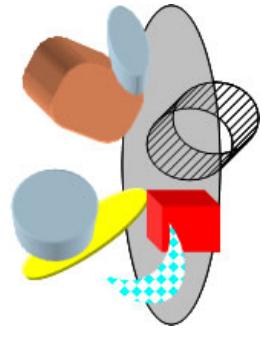
eqak̚t̚ 'rag-tag group of people'



elak̚t̚ 'incoherent speech/speak incoherently'



upšak̚t̚ 'chaos / a chaotic situation'



For the set of affixes which mark this configuration, see Table 5 in [Section 3.5.3](#) below.

3.2 AFFILIATION

While the category of Configuration from the preceding section distinguishes the relationships between the individual members of a set in terms of physical characteristics, physical attributes or physical connections, the category of Affiliation operates similarly to distinguish the member relationships in terms of subjective purpose, function, or benefit. Affiliation operates synergistically in conjunction with Configuration to describe the total contextual relationship between the members of a set. Like Configuration, the meanings of nouns or verbs in the various affiliations often involve lexical changes when translated into English.

Returning to our earlier example of the word *tree*, we saw how a group of trees of the same species becomes a *grove* in the DISCRETE configuration. The word *grove* implies that the trees have grown naturally, with no specific purpose or function in regard to human design or utilization. On the other hand, groves of trees may be planted by design, in which case they become an *orchard*. We saw how trees occurring as a natural assortment of different kinds is termed a *forest*. However, such assortments can become wholly chaotic, displaying patternless disarray from the standpoint of subjective human design, thus becoming a *jungle*.

As another example, we saw how the word *person* becomes *group*, or *gathering*, both of which are neutral as to subjective purpose or function. However, applying a sense of purposeful design generates words such as *team*, while the absence of purpose results in *crowd*.

There are four affiliations: CONSOLIDATIVE, ASSOCIATIVE, VARIATIVE, and COALESCENT. Affiliation is indicated as part of the **Ca** affix as explained in [Section 3.1](#) above and in [Section 2.1.1](#).

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv)	V _L)	Cg/Cs)	V _r	(Cx/Cv	V _p /V _L)	Cr	V _c	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp. Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Configuration + Affiliation + Perspective + Extension + Essence	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

The actual values of these **Ca** affixes are shown later in Table 5 in [Section 3.5.3](#) below, following the explanation of Extension. The details of the four affiliations are explained below.

3.2.1 CSL The Consolidative

The CONSOLIDATIVE affiliation indicates that the individual members of a configurational set are a naturally occurring set where the function, state, purpose or benefit of individual members is inapplicable, irrelevant, or if applicable, is shared. It differs from the ASSOCIATIVE affiliation below in that the role of individual set members is not subjectively defined by human design. Examples are *tree branches*, *a grove*, *a mound of rocks*, *some people*, *the clouds*.

The CONSOLIDATIVE is also the affiliation normally applied to nouns in the UNIPLEX configuration when spoken of in a

neutral way, since a noun in the UNIPLEX specifies one single entity without reference to a set, therefore the concept of “shared” function would be inapplicable. Examples: *a man, a door, a sensation of heat, a leaf*. With verbs, the CONSOLIDATIVE would imply that the act, state, or event is occurring naturally, or is neutral as to purpose or design.

For the set of affixes which mark this affiliation, see Table 5 in [Section 3.5.3](#) below.

3.2.2 ASO The Associative

The ASSOCIATIVE affiliation indicates that the individual members of a configurational set share the same subjective function, state, purpose or benefit. Its use can be illustrated by taking the Ithkuil word for soldier in the DISCRETE configuration and comparing its English translations when inflected for the CONSOLIDATIVE affiliation (= *a group of soldiers*) versus the ASSOCIATIVE (= *a troop, a platoon*). It is this CONSOLIDATIVE versus ASSOCIATIVE distinction, then, that would distinguish otherwise equivalent DISCRETE inflections of the Ithkuil word for tree by translating them respectively as *a grove* versus *an orchard*.

The ASSOCIATIVE affiliation can also be used with nouns in the UNIPLEX configuration to signify a sense of unity amongst one’s characteristics, purposes, thoughts, etc. For example, the word *person* inflected for the UNIPLEX and ASSOCIATIVE would translate as *a single-minded person*. Even nouns such as *rock, tree* or *work of art* could be inflected this way, subjectively translatable as *a well-formed rock, a tree with integrity, a “balanced” work of art*.

With verbs, the ASSOCIATIVE signifies that the act, state or event is by design or with specific purpose. The CONSOLIDATIVE versus ASSOCIATIVE distinction could be used, for example, with the verb *turn* in *I turned toward the window* to indicate whether it was for no particular reason or due to a desire to look outside.

For the set of affixes which mark this affiliation, see Table 5 in [Section 3.5.3](#) below.

3.2.3 VAR The Variative

The VARIATIVE affiliation indicates that the individual members of a configurational set differ as to subjective function, state, purpose or benefit. The differences among members can be to varying degrees (i.e., constituting a fuzzy set in regard to function, purpose, etc.) or at complete odds with one another, although it should be noted that the VARIATIVE would not be used to signify opposed but complementary differences among set members (see the COALESCENT affiliation below). It would thus be used to signify *a jumble of tools, odds-and-ends, a random gathering, a rag-tag group, a dysfunctional couple, a cacophony of notes, of a mess of books, a collection in disarray*. It operates with nouns in the UNIPLEX to render meanings such as *a man at odds with himself, an ill-formed rock, a chaotic piece of art, a “lefthand-righthand” situation*.

With verbs, the VARIATIVE indicates an act, state, or event that occurs for more than one reason or purpose, and that those reasons or purposes are more or less unrelated. This sense can probably be captured in English only through paraphrase, as in *She bought the house for various reasons* or *My being at the party served several purposes*. With non-UNIPLEX configurations, the use of the VARIATIVE affiliation can describe rather complex phenomena; for example, a sentence using the SEGMENTATIVE configuration such as *The light is blinking* in conjunction with the VARIATIVE would mean that each blink of the light signals something different than the preceding or following blinks.

For the set of affixes which mark this affiliation, see Table 5 in [Section 3.5.3](#) below.

3.2.4 COA The Coalescent

The COALESCENT affiliation indicates that the members of a configurational set share in a complementary relationship with respect to their individual functions, states, purposes, benefits, etc. This means that, while each member’s function is distinct from those of other members, each serves in furtherance of some greater unified role. For example, the Ithkuil word translating English *tool/set* would be the word for *tool* in the AGGREGATIVE configuration (due to each tool’s distinct physical appearance) and the COALESCENT affiliation to indicate that each tool has a distinct but complementary function in furtherance of enabling construction or repair activities. Another example would be the Ithkuil word for *finger* inflected for the SEGMENTATIVE configuration and the COALESCENT affiliation, translatable as the fingers on one’s hand (note the use of the SEGMENTATIVE to imply the physical connection between each finger via the hand). A further example would be using the COALESCENT with the word for *(piece of) food* to signify a *well-balanced meal*.

The COALESCENT naturally appears most often in conjunction with the DUPLEX configuration since binary sets tend to be complementary. It is used, for example, to signify symmetrical binary sets such as body parts, generally indicating a

lefthand/righthand mirror-image distinction, e.g., *one's ears*, *one's hands*, *a pair of wings*. Pairs that do not normally distinguish such a complementary distinction (e.g., *one's eyes*) can nevertheless be optionally placed in the COALESCENT affiliation to emphasize bilateral symmetry (e.g., *one's left and right eye functioning together*).

With verbs, the COALESCENT signifies that related, synergistic nature of the component acts, states, and events which make up a greater holistic act, state, or event. It imposes a situational structure onto an act, state, or event, where individual circumstances work together in complementary fashion to comprise the total situation. It would be used, for example, to distinguish the sentences *He traveled in the Yukon* from *He ventured in the Yukon*, or *I came up with a plan* versus *I fashioned a plan*.

For the set of affixes which mark this affiliation, see Table 5 in [Section 3.5.3](#) below.

3.3. PERSPECTIVE

Perspective is the closest Ithkuil morphological category to the Number and Tense categories of other languages (e.g., singular/plural and past/present/future). However, the correspondence is only approximate because Perspective does not specifically address the quantity to which a formative is instantiated within a given context, nor when it occurs relative to the present, but rather the manner in which it is *spatio-temporally instantiated*. Specifically, Perspective indicates whether a noun or verb is to be identified as 1) a “bounded” contextual entity (i.e., having a spatio-temporally unified or accessible manifestation), 2) an unbounded entity (i.e., manifested as spatio-temporally separated or inaccessible), 3) as a unified collective or generic entity throughout spacetime, or 4) as a spatio-temporally neutral abstraction. How this works requires separate explanations for nouns and verbs.

Perspective with Nouns. What Perspective means for nouns is that, in addition to merely indicating whether a given spatial context contains one or more than one, it also specifies single versus multiple manifestations in time, as well as along an axis of concreteness versus abstraction. Complicating the picture is the fact that the categories of Configuration and Affiliation (see [Sections 3.1](#) and [3.2](#) above) already contain an implicit numerical element due to the fact that they usually describe multi-membered sets. It is for all these reasons that the terms “singular” and “plural” have been avoided.

Perspective with Verbs. For verbs, the aspect of “boundedness” inherent in Perspective does not imply a quantitative context but rather an aspect of spatio-temporal “accessibility,” i.e., whether or not an act, state, or event can be viewed as a unified whole within the present temporal context. This is a long way from the “tense” categories of Western languages. In Ithkuil, the notion of linearly progressive time is not inherently expressed in the verb (although it can be specified, if necessary, using various aspectual markers - see [Section 5.10](#)).

There are four perspectives in Ithkuil: MONADIC, UNBOUNDED, NOMIC, and ABSTRACT. These are indicated as part of the **Ca** affix as explained in [Sec. 3.1](#) above.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L	Cg/Cs)	V _r	(Cx/Cv)	V _{p/V_L}	Cr	Vc	Ci + Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp. Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Configuration + Affiliation + Perspective + Extension + Essence	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

The actual values of these **Ca** affixes are shown later in Table 5 in [Section 3.5.3](#) below, following the explanation of the category of Essence. Each perspective’s specific meaning and usage is explained and illustrated below.

3.3.1 M The Monadic

The MONADIC signifies a bounded embodiment of a particular configuration. By “bounded embodiment” is meant a contextual entity which, though possibly numerous in membership or multifaceted in structure, or spread out through a time duration, is nevertheless being contextually viewed and considered as a “monad,” a single, unified whole perceived to exist within a literal or figurative psychologically uninterrupted boundary. This is important, since configurations other than the UNIPLEX technically imply more than one discrete entity-instance being present or taking place. For nouns, this boundary is physically contiguous, like a container, corresponding to the “surface” of an object (whether literal or psychological). For verbs, this boundary is psychologically temporal, specifically the “present” (which in Ithkuil might be

better thought of as the “context at hand” or the “immediately accessible context”). This distinction as to how “bounded embodiment” is interpreted for nouns and verbs is appropriate, given that Ithkuil considers nouns as *spatially reified* concepts while considering verbs to be their *temporally “activized”* counterparts (see [Section 2.4.1](#)).

Thus, using the word *tree* for example, while there might be many trees present in terms of number, the MONADIC implies they form only one embodiment of whatever particular Configuration category is manifested. Using the AGGREGATIVE configuration as an example, the MONADIC would mean there is only one AGGREGATIVE set of trees, i.e., one forest.

At this point, it should be noted in regard to Perspective that Ithkuil makes no distinction between “count” and “non-count” (or “mass”) nouns. In languages such as English, nouns differ between those that can be counted and pluralized (e.g., *one apple*, *four boys*, *several nations*), and those which cannot be counted or pluralized (e.g., *water*, *sand*, *plastic*, *air*, *laughter*). All nouns are countable in Ithkuil in that all nouns can exist as contextual monads. As a result, English translations of certain Ithkuil nouns must often be “contextual” rather than literal, employing various conventions to put the noun in a numerical and pluralizable context, e.g., ‘some dirt,’ ‘the air here’ or ‘a puff of air’ rather than “a dirt” or “an air.”

With verbs, the MONADIC superficially corresponds in a very approximate fashion with Western present tense categories except in a habitual sense. As noted above, the bounded embodiment conveyed by the MONADIC means that the act, state, or event is temporally contiguous and accessible from the point of view of the present context. It would be used to describes an act, state, or event which:

- takes place entirely in the present context
- started in the accessible past and has continued on into the present context
- starts within the present context and continues on into an accessible future
- started in an inaccessible past, but only the portion taking place in the present context is being addressed or is under consideration or relevant within the context of the utterance
- starts within the present context and may continue into an inaccessible future, but only the portion taking place in the present context is being addressed or is under consideration or relevant within the context of the utterance
- started in an inaccessible past and will continue into an inaccessible future, but only the portion taking place in the present context is being addressed or is under consideration or relevant within the context of the utterance

By “accessible past” or “accessible future” is meant a past or future where the speaker was (or will be) spatially present at the time and the time elapsed between then and “now” is psychologically contiguous, i.e., the speaker views the passage of time from then till now as one continuous temporal flow of moments, not as disconnected memories, disconnected predictions, or historical reports. Conversely, “inaccessible” would mean a past or future where the speaker was not or will not be present or which he/she knows only from memory, reports, or predictions. Examples: [LISTEN](#) 



aklál
'a river;
a river flows'



u't'ak'ařš
'constellation;
a constellation shines (in the night sky) '



vyarl
'a set of benefits;
a set of benefits is in effect'

3.3.2 U The Unbounded

The UNBOUNDED signifies “unbounded embodiment” of a particular configurative entity, meaning that the noun or verb manifests itself as not being contained within an uninterrupted boundary, i.e., in contextually “disconnected” manifestations. For nouns, the term “plural” has been avoided so as not to imply that the member nouns are not being referred to quantitatively per se, but rather as a non-monadic (i.e., non-unified) manifestation of a configurative set. While the most convenient translation into English would be to use the plural, e.g., trees, groves, lumps of dirt, a semantically (if not morphologically) more accurate rendering would be ‘a tree here, a tree there,’ ‘this grove and another and another...,’ ‘dirt-lump after dirt-lump after dirt-lump....’

For verbs, “unbounded embodiment” means that the psychological temporal boundary of an act, state, or event is not accessible from the present context. This would apply to an act, state, or event which:

- occurs entirely in the inaccessible past

- will occur entirely in the inaccessible future (if used with the PROSPECTIVE aspect - see [Section 5.10.2](#))
- may be occurring in the present context but started in an inaccessible past, and the portion occurring in the present context cannot be understood without taking into account that past portion
- may be occurring in the present context but will continue into an inaccessible future, and the portion occurring in the present context cannot be understood without taking into account the future portion
- started in an inaccessible past and will continue into an inaccessible future, and the portion occurring in the present context cannot be understood without taking into account these inaccessible portions

Note that, even more so than with the MONADIC, translation of the UNBOUNDED into Western languages is subjective, as the translation must necessarily convey linear tense information which is not conveyed by the Ithkuil original.

Examples: [LISTEN](#) 



aklát '*what once was a river; the river once flowed (but no longer)*'



u't'ak'ařg '*a past constellation; the constellation shone (but no longer)*'



vyark '*a former set of benefits; a set of benefits was in effect (but no longer)*'

3.3.3 N The Nomic

The NOMIC refers to a generic collective entity or archetype, containing all members or instantiations of a configurative set throughout space and time (or within a specified spatio-temporal context). Since it is all members being spoken of, and no individual members in particular, this category is mutually exclusive from the MONADIC or UNBOUNDED. For nouns, the NOMIC corresponds approximately to the several constructions used for referring to collective nouns in English, as seen in the sentences *The dog is a noble beast*, *Clowns are what children love most*, *There is nothing like a tree*.

With verbs, the NOMIC designates an action, event, or situation which describes a general law of nature or a persistently true condition or situation spoken of in general, without reference to a specific instance or occurrence of the activity (it is, in fact, all possible instances or occurrences that are being referred to). English has no specialized way of expressing such generic statements, generally using the simple present tense. Examples of usage would be *The sun doesn't set on our planet*, *Mr. Okotele is sickly*, *In winter it snows a lot*, *That girl sings well*.

Examples: [LISTEN](#) 



aklát '*(flowing) river(s) (as a generic concept)*'



u't'ak'ařč '*(shining) constellation(s) (as a generic concept)*'



vyarx ‘a set of benefits being in effect (as a generic concept)’

3.3.4 A The Abstract

Similar to the formation of English abstract nouns using suffixes such as *-hood* or *-ness*, the ABSTRACT transforms a configurative category into an abstract concept considered in a non-spatial, timeless, numberless context. While only certain nouns in English can be made into abstracts via suffixes, all Ithkuil nouns in all Configurative categories can be made into abstracts, the translations of which must often be periphrastic in nature, e.g., *grove* → *the idea of being a grove* or “*grovehood*”; *book* → *everything about books, having to do with books, involvement with books*.

With verbs, the ABSTRACT is used in verbal constructions to create a temporal abstraction, where the temporal relationship of the action, event, or state to the present is irrelevant or inapplicable, similar to the way in which the English infinitive or gerund form (used as substitutes for a verb phrase) do not convey a specific tense in the following sentences: *Singing is not his strong suit; It makes no sense to worry about it; I can't stand her pouting.* As a result, the ABSTRACT acts as a “timeless” verb form which, much like these English infinitives and gerunds, operates in conjunction with a separate main verb in one of the other three perspectives. The ABSTRACT is often used in conjunction with certain modalities and moods of the verb (see [Sec. 6.1 on Modality](#) and [Section 5.2 on Mood](#)) which convey hypothetical or unrealized situations, in which the temporal relationship to the present is arbitrary, inapplicable, or unknowable.

Examples:

[LISTEN](#)



aklác ‘the river as an idea / everything about being a river / “river-hood”’



u't'ak'apst ‘the idea of a constellation / “constellation-hood”’



vyarč ‘the idea of having/providing benefits’

3.4 EXTENSION

Extension is another Ithkuil morphological category for which there is no exact equivalent in other languages. It applies to all formatives and indicates the manner in which the noun or verb is being considered in terms of spatial or temporal extent or boundaries. There are six extensions: DELIMITIVE, PROXIMAL, INCEPTIVE, TERMINATIVE, DEPLETIVE, and GRADUATIVE.

Extension is shown as part of a formative’s **Ca** affix which also indicates Configuration, Affiliation, Perspective and Essence. The values of this affix are shown in [Sec. 3.5.3](#).

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv)	VL)	Cg/Cs)	Vr	(Cx/Cv	Vp/VL)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Configuration + Affiliation+ Perspective + Extension + Essence	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

Alternately, extension can be shown via tone-marking of an adjacent verbal adjunct, explained in [Section 6.3.5](#).

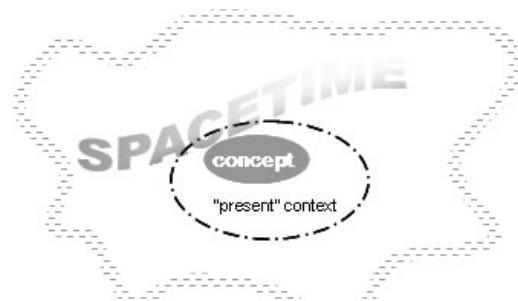
The details of how each of the six extensions operates are explained as follows:

3.4.1 DEL The Delimitive

The DELIMITIVE extension indicates that a noun is being spoken of in its contextual entirety as a discrete entity with clear spatio-temporal boundaries, with no emphasis on any particular portion, edge, boundary, limit, or manifestation beyond the context at hand. It can be considered the neutral or default view, e.g., *a tree*, *a grove*, *a set of books*, *an army*. To illustrate a contextual example, the English sentence *He climbed the ladder* would be translated with the word *ladder* in the DELIMITIVE to show it is being considered as a whole. With verbs, this extension indicates that the act, state, or event is being considered in its entirety, from beginning to end, e.g., *She diets every winter* (i.e., she starts and finishes each diet).

The DELIMITIVE can be thought of as an expanse of spacetime that has definite beginning and ending points, beyond which the noun or verb does not exist or occur. The graphic to the right illustrates the spatio-temporal relationship of a concept in the DELIMITIVE to the context at-hand (i.e., the spatio-temporal “present”).

Examples: [LISTEN](#)



aklál ‘a river’

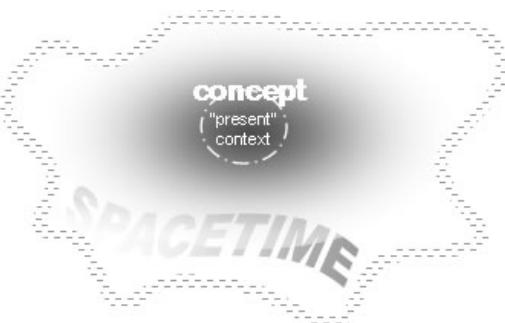
pšašk ‘a situation’

3.4.2 PRX The Proximal

The PROXIMAL extension indicates that a noun is being spoken of not in its entirety, but rather only in terms of the portion, duration, subset, or aspect which is relevant to the context at hand. It would be used to translate the words *tree*, *journey*, and *ladder* in the sentences *That tree is hard there* (e.g., in the spot where I hit against it), *She lost weight during her journey*, or *He climbed on the ladder* (i.e., it is not relevant to the context to know if he made it all the way to the top). Note that in these sentences, the PROXIMAL does not refer to a specific or delineated piece, part, or component of the tree or ladder, but rather to the fact that delineated boundaries such as the ends of the ladder or the entirety of the tree are not relevant or applicable to the context at hand. With verbs, this extension signifies that it is not the entirety of an act, state, or event which is being considered, but rather the spatial extent or durational period of the act, state, or event relevant to the context, e.g., *She’s on a diet every winter* (i.e., focus on “having to live on” a diet, not the total time spent dieting from start to finish).

The graphic to the right illustrates the spatio-temporal relationship of a noun or verbal concept in the PROXIMAL to the context at-hand (i.e., the spatio-temporal “present”).

Examples: [LISTEN](#)



aklás
'a section/stretch of (the) river'

pšams
'the midst of a situation'

3.4.3 ICP The Inceptive

The INCEPTIVE extension focuses on the closest boundary, the beginning, initiation, or the immediately accessible portion of a noun or verb, without focusing on the boundaries of the remainder. It would be used in translating the nouns *tunnel*, *song*, *desert*, *daybreak* and *plan* in the following sentences: *We looked into (the mouth of) the tunnel*, *He recognizes that song* (i.e., from the first few notes), *They came upon (an expanse of) desert*, *Let's wait for daybreak*, *I'm working out a plan* (i.e., that I just thought of). In verbal contexts it would correspond to the English ‘to begin (to...)’ or ‘to start (to...)’ as in *He began reading*, *It's starting to molt*, or *She goes on a diet every winter*.

The graphic to the right illustrates the spatio-temporal relationship of a noun or verbal concept in the INCEPTIVE to the context at-hand (i.e., the spatio-temporal “present”). Examples:

[LISTEN](#) 



klamtá ‘the beginning of a river’



pšapšt' ‘the beginning/start of a situation’

3.4.4 TRM The Terminative

The TERMINATIVE extension focuses on the end, termination, last portion, or trailing boundary of a noun, without focusing on the preceding or previously existing state of the noun. It would be used in translating the words *water*, *story*, and *arrival* in the sentences *There's no water* (i.e., we ran out), *I like the end of that story*, and *We await your arrival*. With verbs, it is illustrated by the sentences *It finished molting* or *She's come off her diet*.

The graphic to the right illustrates the spatio-temporal relationship of a noun or verbal concept in the TERMINATIVE to the context at-hand (i.e., the spatio-temporal “present”). Examples:

[LISTEN](#) 



klat'á ‘the end of a river’



pšakt' ‘the end of a situation’

3.4.5 DPL The Depletive

The DEPLETIVE extension focuses on the terminal boundary or “trailing” edge of a noun, where this terminus is ill-defined, “diffuse” or extended to some degree, (i.e. the at-hand context of the noun “peters out” or terminates gradually). Essentially, it applies to any context involving actual or figurative fading. It would be used in translating the words *water*, *strength*, and *twilight* in the sentences *He drank the last of the water*, *I have little strength left*, *She disappeared into the twilight*. With verbs, it is exemplified by the phrases *to wind down*, *to fade out*, *to disappear gradually* and similar notions, e.g., *She's eating less and less these days*.

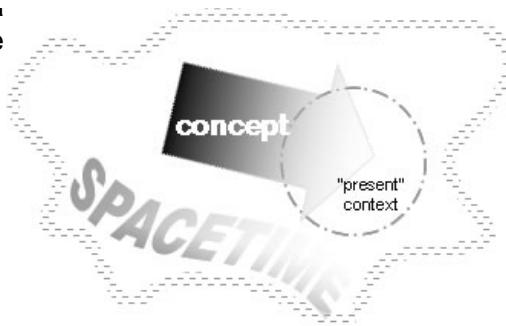
The graphic to the right illustrates the spatio-temporal relationship of a

The graphic to the right illustrates the spatio-temporal relationship of a noun or verbal concept in the DEPLETIVE to the context at-hand (i.e., the spatio-temporal “present”). Examples:

[LISTEN](#)



klakcá ‘the mouth of a river’



pšaňsk ‘the last vestiges of a situation’

3.4.6 **GRA** The Gradutive

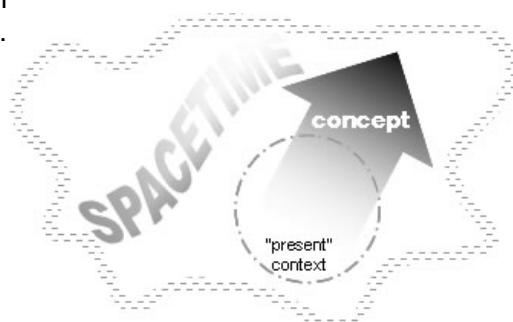
The GRADUATIVE extension is the inverse of the DEPLETIVE, focusing on a diffuse, extended “fade-in” or gradual onset of a noun. It would be used in translating the words *darkness*, *wonder*, and *music* in the following sentences: *Darkness came upon us*, *I felt a growing sense of wonder*, *The music was very soft at first*. With verbs it is illustrated by verbs and phrases such as *to fade in*, *to start gradually*, *to build up*, and similar notions, e.g., *She’s been eating more and more lately*.

The graphic to the right illustrates the spatio-temporal relationship of a noun in the GRADUATIVE to the context at-hand (i.e., the spatio-temporal “present”). Examples:

[LISTEN](#)



klakc’á ‘the headwaters of a river’



pšaňsk’ ‘a gradually developing situation’

3.5 ESSENCE

Essence refers to a two-fold morphological distinction which has no counterpart in Western languages. It is best explained by reference to various English language illustrations. Compare the following pairs of English sentences:

- 1a) *The boy ran off to sea.*
- 1b) *The boy who ran off to sea didn’t run off to sea.*

- 2a) *The dog you saw is to be sold tomorrow.*
- 2b) *The dog you saw doesn’t exist.*

Sentences (1a) and (2a) appear to be straightforward sentences in terms of meaning and interpretation. However, at first blush, sentences (1b) and (2b) appear nonsensical, and it is not until we consider specialized contexts for these sentences that they make any sense. For example, (1b) would make sense if being spoken by an author reporting a change of mind about the plot for a story, while (2b) makes sense when spoken by a puzzled pet store owner in whose window you earlier saw a dog that is now no longer there.

Why sentences such as (1b) and (2b) can have possible real-world meaning is because they in fact do not make reference to an actual boy or dog, but rather to hypothetical representations of a real-world boy and dog, being used as references back to those real-world counterparts from within an “alternative mental space” created psychologically (and implied linguistically) where events can be spoken about that are either unreal, as-yet-unrealized, or alternative versions of what really takes place. This alternative mental space, then, is essentially the psychological realm of both potential and imagination. In Western languages, such an alternative mental space is implied by context or indicated by certain lexical signals. One such group of lexical signals are the so-called “modal” verbs of English, e.g., *must*, *can*, *should*, etc. as seen in the following:

- 3) You must come home at once.
- 4) That girl can sing better than anybody.
- 5) We should attack at dawn.

Each of the above three sentences describe potential events, not actual real-world happenings that are occurring or have occurred. For example, in Sentence (3) no one has yet come home nor do we know whether coming home is even possible, in Sentence (4) the girl may never sing a single note ever again for all we know, and Sentence (5) gives us no information as to whether any attack will actually occur.

3.5.1 NRM The Normal RPV The Representative

The Ithkuil category of Essence explicitly distinguishes real-world actualities from their alternative, imagined or potential counterparts. The two essences are termed NORMAL and REPRESENTATIVE, the former being the default essence denoting real-world nouns and verbs, the latter denoting alternative counterparts. By marking such counterparts explicitly, Ithkuil allows a speaker to express any noun or verb as referring to a real-world versus alternative manifestation, without having the listener infer such from an explanatory context.

Essence is as part of the **Ca** affix which also indicates Configuration, Affiliation and Perspective. The values of this affix are shown below in [Sec. 3.5.3](#).

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	VL)	Cg/Cs)	Vr	(Cx/Cv)	Vp/VL)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp. Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Configuration + Affiliation + Perspective + Extension + Essence	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

3.5.2 Examples of Essence in Use

Compare the following two sentences and their translations to see how placement of the REPRESENTATIVE essence on different formatives changes the meaning.



Xal öqil êqattêp^h.

STA-'see'-**NRM**/DEL/M/CSL/UNI-IFL STA-'man'-AFF-**NRM**/DEL/M/CSL/UNI-IFL STA-'woman'-OBL-**RPV**/DEL/M/CSL/UNI-MAT₂/3-IFL

The man sees what he thinks is/imagines to be a young girl.

[LISTEN](#)



Xatta öqil êqalêp^h.

STA-'see'-**RPV**/DEL/M/CSL/UNI-IFL STA-'man'-AFF-**NRM**/DEL/M/CSL/UNI-IFL STA-'woman'-OBL-**NRM**/DEL/M/CSL/UNI-MAT₂/3-IFL

The man is imagining he sees a young girl.

[LISTEN](#)



Üb eikkradwa smou'olâxh.

EXN₁/6 DYN-'move.along.obliquely.vertical.path.between.two.points'-**RPV**/PRXN/CSL/UNI-IFL STA-'valley'-NAV-NRM/DEL/M/CSL/UNI-SCO₂/5-IFL

The path through the canyon is/seems steep.

[LISTEN](#)

In the example immediately above, no one is necessarily on the path (including the speaker), so steepness exists merely as an idea/assumption in the speaker's mind.

3.5.3 Affix Tables for Configuration, Affiliation, Perspective, Extension and Essence

Tables 5(a) through 5(f) below indicate all the affix values of **Ca**, the synthetic affix which indicates which of the nine Configurations, four Affiliations, four Perspectives, and six Extensions are applied to a particular stem.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	VL)	Cg/Cs)	Vr	(Cx/Cv	Vp/VL)	Cr	Vc	Ci + Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Configuration + Affiliation + Perspective + Extension + Essence	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

Tables 5(a)-(l):
Ca Configuration/Affiliation/Perspective/Extension Affixes for Formatives

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
NRM + DEL	M	CSL	I	II	tj	!	jj	řj	sk	šk	kč
		ASO	r	rr	lř	rl	rř	řl	st	št	kç
		VAR	m	mm	lm	rm	mř	řm	sp	šp	pč
		COA	n	nn	ln	r n	nř	ř n	sq	šq	qč
	U	CSL	t	lt	lt	rt	nt	řt	ňt	ňd	čt
		ASO	k	lk	lk	rk	ňk	řk	kt	xt	čk
		VAR	p	lp	lp	rp	mp	řp	pt	ft	čp
		COA	q	lq	lq	rq	ňq	řq	qt	xht	čq
	N	CSL	ť	ť	lť	rť	nť	řť	st	šť	tf
		ASO	x	xx	lx	rx	ňx	mx	sx	šx	kf
		VAR	f	ff	lf	rf	mf	řf	sf	šf	pf
		COA	xh	xxh	lxh	rxh	ňxh	mxh	sxh	šxh	qf
	A	CSL	c	cc	lc	rc	ns	řc	sc	fk	fq
		ASO	č	čč	lč	rč	nš	řč	šč	tk	ťq
		VAR	ž	žž	lž	rž	nz	řž	ťf	ťs	ťc
		COA	j	jj	lj	rj	nž	řj	fť	ťš	ťč

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
NRM + PRX	M	CSL	s	ss	ls	rs	fs	řs	ňs	ms	mss
		ASO	š	šš	lš	rš	fš	řš	ňš	mš	mšš
		VAR	z	zz	lz	rz	vz	řz	ňz	mz	mzz
		COA	ž	žž	lž	rž	vž	řž	ňž	mž	mžž
	U	CSL	d	dv	ld	rd	nd	řd	md	zd	žd
		ASO	g	gv	lg	rg	ňg	řg	ňkf	zg	žg
		VAR	b	bv	lb	rb	mb	řb	ntf	zb	žb
		COA	ň	ňň	ňç	rň	ňv	řň	ňf	řtf	řkf
	N	CSL	dh	ddh	ldh	rdh	ndh	řdh	mdh	tx	txh
		ASO	ç	çç	lç	rç	nç	řç	mç	fx	fxh
		VAR	v	vv	lv	rv	mv	řv	ndv	xf	xt
		COA	ř	řř	rbv	rdv	rgv	řxh	mť	xhf	xhť
	A	CSL	ck	čk	ps	ks	gd	psk	pšk	ksk	kšk
		ASO	ct	čt	pš	kš	bd	pst	pšt	tx	txh
		VAR	cp	čp	bz	gz	pç	ksp	kšp	px	pxh
		COA	cq	čq	bž	gž	řqf	kst	kšt	psq	pšq

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
NRM + PRX	M	CSL	mt	mt'	sk ^h	sk'	mt ^h	pst'	pst ^h	pšt'	pšt ^h
		ASO	mk	mk'	st ^h	st'	mk ^h	kst'	kst ^h	kšt'	kšt ^h
		VAR	ňp	ňp'	sp ^h	sp'	ňp ^h	psk'	psk ^h	pšk'	pšk ^h
		COA	mq	mq'	sq ^h	sq'	mq ^h	ksp'	ksp ^h	kšp'	kšp ^h
	U	CSL	pk	pk'	šk ^h	šk'	pk ^h	fk'	fk ^h	psq'	psq ^h
		ASO	tk	tk'	št ^h	št'	tk ^h	ťk'	ťk ^h	ksk'	ksk ^h
		VAR	v	vv	lv	rv	mv	řv	ndv	xf	xt
		COA	ř	řř	rbv	rdv	rgv	řxh	mť	xhf	xhť
	N	CSL	dh	ddh	ldh	rdh	ndh	řdh	mdh	tx	txh
		ASO	ç	çç	lç	rç	nç	řç	mç	fx	fxh
		VAR	v	vv	lv	rv	mv	řv	ndv	xf	xt
		COA	ř	řř	rbv	rdv	rgv	řxh	mť	xhf	xhť
	A	CSL	ck	čk	ps	ks	gd	psk	pšk	ksk	kšk
		ASO	ct	čt	pš	kš	bd	pst	pšt	tx	txh
		VAR	cp	čp	bz	gz	pç	ksp	kšp	px	pxh
		COA	cq	čq	bž	gž	řqf	kst	kšt	psq	pšq

NRM + ICP	U	VAR	tp	tp'	šp ^h	šp'	tp ^h	tp'	tp ^h	pšq'	pšq ^h
		COA	kp	kp'	šq ^h	šq'	kp ^h	xp'	xp ^h	kšk'	kšk ^h
		CSL	pq	pq'	fg	bg	pq ^h	vg	fp	fq'	fq ^h
		ASO	tq	tq'	tg	dg	tq ^h	dhg	vd	tz'	tz ^h
	N	VAR	qp	qp'	xhp	xp	sc ^h	sc'	ňqf	gb	kkç/kçç
		COA	p!	tç	xhp'	tp	šč ^h	šč'	vb	dhz	ppç/pçç
		CSL	fst	fc'	fc	lfs	xc'	tc'	ltf	fst'	fst ^h
		ASO	fšt	fč'	fč	lfš	xč'	ťč'	lkf	fšt'	fšt ^h
	A	VAR	fsk	fc ^h	rfs	fsq	xc ^h	čč ^h	xhp ^h	fsk'	fsk ^h
		COA	fšk	fč ^h	rfš	fšq	xc ^h	čč ^h	qp ^h	fšk'	fšk ^h

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
NRM + TRM	M	CSL	t'	ſt'	lt'	rt'	nt'	řt'	ťsk'	kt'	ňt'
		ASO	k'	ſk'	lk'	rk'	ňk'	řk'	ťsk'	ft'	xt'
		VAR	p'	ſp'	lp'	rp'	mp'	řp'	fsq'	pt'	fp'
		COA	q'	ſq'	lq'	rq'	ňq'	řq'	fšq'	xht'	qt'
	U	CSL	t ^h	ſt ^h	lt ^h	rt ^h	nt ^h	řt ^h	ťsk ^h	kt ^h	ňt ^h
		ASO	k ^h	ſk ^h	lk ^h	rk ^h	ňk ^h	řk ^h	ťsk ^h	ft ^h	xt ^h
		VAR	p ^h	ſp ^h	lp ^h	rp ^h	mp ^h	řp ^h	fsq ^h	pt ^h	fp ^h
		COA	q ^h	ſq ^h	lq ^h	rq ^h	ňq ^h	řq ^h	fšq ^h	xht ^h	qt ^h
	N	CSL	c'	cc'	lc'	rc'	nc'	řc'	mc'	ňc'	čt'
		ASO	č'	čč'	lč'	rč'	nč'	řč'	mč'	ňč'	čk'
		VAR	c ^h	cc ^h	lc ^h	rc ^h	nc ^h	řc ^h	mc ^h	ňc ^h	čp'
		COA	č ^h	čč ^h	lč ^h	rč ^h	nč ^h	řč ^h	mč ^h	ňč ^h	čq'
	A	CSL	pps/pss	rps	lps	rbz	lbz	řps	řbz	ňss	čt ^h

ASO	ppš/pšš	rpš	lpš	rbž	lbž	řpš	řbž	ňšš	čk
VAR	kks/ kss	rks	lks	rgz	lgz	řks	řgz	ňzz	čph
COA	kkš/kšš	rkš	lkš	rgž	lgž	řkš	řgž	ňžž	čq

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
NRM + DPL	M	CSL	kc	lkç	lsk	rsk	nsk	řsk	msk	ňsk	ssk
		ASO	žd	lťs	lst	rst	nst	řst	mst	ňst	sst
		VAR	pc	bbz/bzz	lsp	rsp	nsp	řsp	msp	ňsp	ssp
		COA	qc	ggz/gzz	lsq	rsq	nsq	řsq	msq	ňsq	ssq
	U	CSL	kč	rçç	lšk	ršk	nšk	řšk	mšk	ňšk	ššk
		ASO	jd	lťš	lšt	ršt	nšt	řšt	mšt	ňšt	ššt
		VAR	pč	bbž/bžž	lšp	ršp	nšp	řšp	mšp	ňšp	ššp
		COA	qč	ggž/gžž	lšq	ršq	nšq	řšq	mšq	ňšq	ššq
	N	CSL	bđh	xpf	lvz	rvz	rbdh	řpť	lpf	rpf	bzd
		ASO	gdh	ňdh	lvž	rvž	rgdh	řkť	lpç	rpç	bžd
		VAR	ťt	dhd	ldhz	rťs	rqt	řqt	ňkç	řpf	gžd
		COA	db	ttç/tçç	ldhž	rťš	rkç	řkç	mpç	řpç	gžd
	A	CSL	bž	rpss	lzb	rzb	nzb	řzb	mzb	řpss	gzb
		ASO	gž	rkss	lžb	ržb	nžb	řžb	mžb	řkss	gžb
		VAR	bj	rpšš	lzg	rzg	nzg	řzg	mzg	řpšš	bzg
		COA	gj	rkšš	lžg	ržg	nžg	řžg	mžg	řkšš	bžg

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
M	M	CSL	kc'	ck'	lsk'	rsk'	nsk'	řsk'	msk'	ňsk'	ssk'
		ASO	žb	ct'	lst'	rst'	nst'	řst'	mst'	ňst'	sst'
		VAR	pc'	cp'	lsp'	rsp'	nsp'	řsp'	msp'	ňsp'	ssp'

		COA	qc'	cq'	lsq'	rsq'	nsq'	řsq'	msq'	ňsq'	ssq'
NRM + GRA	U	CSL	kč'	čk'	lšk'	ršk'	nšk'	řšk'	mšk'	ňšk'	ššk'
		ASO	jb	čt'	lšt'	ršt'	nšt'	řšt'	mšt'	ňšt'	ššt'
		VAR	pč'	čp'	lšp'	ršp'	nšp'	řšp'	mšp'	ňšp'	ššp'
		COA	qc'	čq'	lšq'	ršq'	nšq'	řšq'	mšq'	ňšq'	ššq'
	N	CSL	kc ^h	ck ^h	lsk ^h	rsk ^h	nsk ^h	řsk ^h	msk ^h	ňsk ^h	ssk ^h
		ASO	žg	ct ^h	lst ^h	rst ^h	nst ^h	řst ^h	mst ^h	ňst ^h	sst ^h
		VAR	pc ^h	cp ^h	lsp ^h	rsp ^h	nsp ^h	řsp ^h	msp ^h	ňsp ^h	ssp ^h
		COA	qc ^h	cq ^h	lsq ^h	rsq ^h	nsq ^h	řsq ^h	msq ^h	ňsq ^h	ssq ^h
	A	CSL	kč ^h	čk ^h	lšk ^h	ršk ^h	nšk ^h	řšk ^h	mšk ^h	ňšk ^h	ššk ^h
		ASO	jg	čt ^h	lšt ^h	ršt ^h	nšt ^h	řšt ^h	mšt ^h	ňšt ^h	ššt ^h
		VAR	pč ^h	čp ^h	lšp ^h	ršp ^h	nšp ^h	řšp ^h	mšp ^h	ňšp ^h	ššp ^h
		COA	qc ^h	čq ^h	lšq ^h	ršq ^h	nšq ^h	řšq ^h	mšq ^h	ňšq ^h	ššq ^h

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
RPV + DEL	M	CSL	tt	tt'	tt ^h	lpt'	rpt'	řpt'	lpt ^h	rpt ^h	řpt ^h
		ASO	kk	kk'	kk ^h	lkt'	rkt'	řkt'	lkt ^h	rkt ^h	řkt ^h
		VAR	pp	pp'	pp ^h	lpk'	rpk'	řpk'	lpk ^h	rpk ^h	řpk ^h
		COA	qq	qq'	qq ^h	ltk'	rtk'	řtk'	ltk ^h	rtk ^h	řtk ^h
	U	CSL	dd	nçw	pçw	lft'	rft'	řft'	lft ^h	rft ^h	řft ^h
		ASO	gg	ňçw	kfw	lxť'	rxt'	řxt'	lxť ^h	rxt ^h	řxt ^h
		VAR	bb	mçw	pfw	lfk'	rfk'	řfk'	lfk ^h	rfk ^h	řfk ^h
		COA	cf	čf	qfw	lťk'	rťk'	řťk'	lťk ^h	rťk ^h	řťk ^h
		CSL	ťw	dhw	lťw	rťw	mťw	řťw	nťw	ldhw	rdhw
		ASO	xw	ňw	lxw	rxw	mxw	řxw	ňxw	lňw	rňw

N	VAR	fw	vw	l fw	r fw	ň fw	ř fw	m fw	lv w	rv w
	COA	xhw	çw	lxhw	rxhw	mxhw	tçw	ňxhw	lçw	rçw
A	CSL	sw	cw	l sw	r sw	m sw	ř sw	n sw	ň sw	ss w
	ASO	šw	čw	l šw	r šw	m šw	ř šw	n šw	ň šw	šš w
	VAR	zw	žw	l zw	r zw	m zw	ř zw	n zw	ň zw	zz w
	COA	žw	jw	l žw	r žw	m žw	ř žw	n žw	ň žw	žž w

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
RPV + PRX	M	CSL	tw	ttw	t ^h w	t'w	tt'w	t t ^h w	ltw	rtw	ntw
		ASO	kw	kkw	k ^h w	k'w	kk'w	kk ^h w	lkw	rkw	ňkw
		VAR	pw	ppw	p ^h w	p'w	pp'w	pp ^h w	lpw	rpw	mpw
		COA	qw	qqw	q ^h w	q'w	qq'w	qq ^h w	lqw	rqw	ňqw
	U	CSL	ty	tty	lty	ťy	nty	řty	rty	pty	tky
		ASO	ky	kky	lky	žy	ňky	řky	rky	kty	kpy
		VAR	py	ppy	lpy	fy	npy	řpy	rpy	tpy	pky
		COA	my	fty	ptw	mw	ftw	ptr	ftr	pkw	fkw
	N	CSL	dw	ddw	ldw	tv	ndw	řdw	bdw	dgw	rdw
		ASO	gw	ggw	lgw	kv	ňgw	řgw	gdw	gbw	rgw
		VAR	bw	bbw	lbw	pv	mbw	řbw	dbw	bgw	rbw
		COA	lw	ly	ry	rw	ļw	řy	tłw	řw	lř
	A	CSL	dy	ddy	ldy	dhy	ndy	řdy	rdy	bdy	dgy
		ASO	gy	ggy	lgy	jy	ňgy	řgy	rgy	gdy	gby
		VAR	by	bby	lby	vy	mby	řby	rby	dby	bgy
		COA	ny	xty	ktw	nw	xtw	ktr	xtr	tkw	ťkw

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
RPV + ICP	M	CSL	tl	ttl	l ^t l	r ^t l	n ^t l	ř ^t l	m ^t l	ł ^t l	k ^c w
		ASO	kl	kkl	lkl	rkl	ňkl	řkl	mkl	łkl	c'w
		VAR	pl	ppl	lpl	rpl	mpl	řpl	ňpl	łpl	t ^f w
		COA	ql	qql	lql	rql	ňql	řql	mql	łql	č'w
	U	CSL	dl	ddl	l ^d l	r ^d l	n ^d l	ř ^d l	bdl	dgl	vbl
		ASO	gl	ggl	l ^g l	r ^g l	ň ^g l	ř ^g l	ndl	gbl	vgl
		VAR	bl	bbl	l ^b l	r ^b l	m ^b l	ř ^b l	dbl	bgl	vdl
		COA	ml	mř	ňl	n ^l	ť ^l	fř	př	tř	lr
	N	CSL	skl	ckl	ckw	skw	sskw	çkw	sk'w	ck'w	sskl
		ASO	stl	ctl	ctw	stw	sstw	çtw	st'w	ct'w	sstl
		VAR	spl	cpl	cpw	spw	ssp ^w	çpw	sp'w	cp'w	sspl
		COA	sql	cql	cqw	sqw	ssq ^w	çqw	sq'w	cq'w	ssql
	A	CSL	škl	čkl	čkw	škw	šškw	xxw	šk'w	čk'w	šškl
		ASO	štl	čtl	čtw	štw	šštw	ť ^š w	št'w	čt'w	šštl
		VAR	špl	čpl	čpw	špw	ššpw	ffw	šp'w	čp'w	ššpl
		COA	šql	čql	čqw	šqw	ššqw	xxhw	šq'w	čq'w	ššql

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
RPV + ICP	M	CSL	tr	ttr	l ^t r	rtr	ntr	řtr	mtr	łtr	rtn
		ASO	kr	kkr	lkr	rkr	ňkr	řkr	mkr	łkr	rkn
		VAR	pr	ppr	lpr	rpr	mpr	řpr	ňpr	łpr	rpn
		COA	qr	qqr	lqr	rqr	ňqr	řqr	mqr	łqr	rqn
	U	CSL	dr	ddr	ldr	rdr	n ^d r	řdr	bdr	dgr	vbr
		ASO	gr	ggr	lgr	rgr	ňgr	řgr	gdr	gbr	vgr
		VAR	br	bbr	lbr	rbr	mbr	řbr	dbr	bgr	vdr

RPV + TRM		COA	mr	nř	ňr	nr	dhř	vř	bř	dř	gř
	N	CSL	skr	ckr	cky	sky	ssky	č ^h w	sk ^h w	ck ^h w	sskr
		ASO	str	ctr	cty	sty	ssty	c ^h y	st ^h w	ct ^h w	sstr
		VAR	spr	cpr	cpy	spy	sspy	c ^h w	sp ^h w	cp ^h w	sspr
		COA	sqr	cqr	c'y	cy	cr	č ^h y	sq ^h w	cq ^h w	ssqr
	A	CSL	škr	čkr	čky	šky	ššky	!kw	šk ^h w	čk ^h w	šškr
		ASO	štr	čtr	čty	šty	ššty	!tw	št ^h w	čt ^h w	šštr
		VAR	špr	čpr	čpy	špy	ššpy	!pw	šp ^h w	čp ^h w	ššpr
		COA	šqr	čqr	č'y	čy	čř	!qw	šq ^h w	čq ^h w	ššqr

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
RPV + DPL	M	CSL	sl	ssl	lsl	rsl	msl	řsl	nsl	ňsl	ťst
		ASO	šl	ššl	lšl	ršl	mšl	řšl	nšl	ňšl	ťšt
		VAR	zl	zzl	lzl	rzl	mzl	řzl	nzl	ňzl	ťsp
		COA	žl	žžl	lžl	ržl	mžl	řžl	nžl	ňžl	ťšp
	U	CSL	fl	ffl	lfl	rfl	mfl	řfl	fxl	ňfl	pxl
		ASO	ł	łł	łł	rł	nł	řł	txl	mł	txl
		VAR	xl	xxl	lxl	rxl	ňxl	řxl	xfl	mxl	xł
		COA	xhl	xxhl	lxhl	rxhl	ňxhl	qtl	xhfl	mxhl	xhł
	N	CSL	vl	vvl	lvł	rvl	mvl	řvl	lpł	lkł	mpł
		ASO	dhl	ddhl	ldhl	rdhl	ndhl	řdhl	cl	čl	ntł
		VAR	sv	sř	ksw	sxw	lsř	rsř	fsw	řsř	bzw
		COA	zv	zř	psw	sxhw	lzř	rzř	sfw	řzř	gzw
	A	CSL	sm	sy	cm	zm	žm	čm	bm	dm	gm
		ASO	šm	šy	čm	žm	jm	!m	vm	dhm	kř
		VAR									

			sn	zy	cn	zn	žn	čn	bn	dn	gn
		COA	šn	žy	čn	žn	jn	јn	vn	dhn	ňř

ESSENCE & EXTENSION	PERSPECTIVE	AFFILIATION	CONFIGURATION								
			UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
RPV + GRA	M	CSL	sr	ssr	lsr	rsr	msr	řsr	nsr	ňsr	ťsk
		ASO	šr	ššr	lšr	ršr	mšr	řšr	nšr	ňšr	ťšk
		VAR	zr	zzr	lzr	rzr	mzr	řzr	nzr	ňzr	ťsq
		COA	žr	žžr	lžr	ržr	mžr	řžr	nžr	ňžr	ťšq
	U	CSL	fr	ffr	lfr	rfr	mfr	řfr	fxr	ňfr	pxr
		ASO	řr	ťřr	lřr	rřr	nřr	řřr	ťxr	mřr	txr
		VAR	xr	xxr	lxr	rxr	ňxr	řxr	xfr	mxr	xřr
		COA	xhr	xxhr	lxhr	rxhr	ňxhr	qtr	xhfr	mxhr	xhřr
	N	CSL	vr	vvr	lvr	rvr	mvr	řvr	rpř	rkt	mpř
		ASO	dhr	ddhr	ldhr	rdhr	ndhr	řdhr	cr	čr	ntř
		VAR	šv	šř	kšw	šxw	lšř	ršř	fšw	řšř	bžw
		COA	žv	žř	pšw	šxhw	lžř	ržř	šfw	řžř	gžw
	A	CSL	tm	ťm	ťn	tn	rsm	rsn	sň	rsň	nm
		ASO	km	xm	xn	kn	rzm	rzn	zň	rzň	ňm
		VAR	pm	fm	fn	pn	ršm	ršn	šň	ršň	mn
		COA	qm	xhm	xhn	qñ	ržm	ržn	žň	ržň	ňn

3.5.4 Additional Example of Configuration, Affiliation, Perspective, Extension and Essence

ekšá- egw-
'clown' 'running stride' →



Aigwapsk^h ekšúll.

DYN-'running stride'-**NRM/ICP/M/VAR/COH**-IFL STA-'clown'-IND-**NRM/DEL/M/ASO/DCT-FML**

The [group of] clowns begin stumbling as they run.



[LISTEN](#)

3.6 CONTEXT

Context is yet another morphological category with no equivalent in other languages. It indicates what tangible or intangible features or aspects of a formative are being psychologically implied in any given utterance. There is no way to show this in translation other than by paraphrase. There are four contexts: the EXISTENTIAL, the FUNCTIONAL, the REPRESENTATIONAL, and the AMALGAMATE, marked by a vocalic suffix **Vf** which also conveys verbal Format (the category of Format will be analyzed in [Section 6.4](#)). Table 6 below shows the values for this suffix.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	Vr	(Cx/Cv	Vp/V _L)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp. Root OR Phase + Sanction	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

Table 6: Word-final Vf-suffix: 4 contexts x 9 formats

		FORMAT (see Sec. 6.4)									
Context↓		(none)	SCH	ISR	ATH	RSL	SBQ	CCM	OBJ	PRT	AFI
EXISTENTIAL		(a)	o	ai	â	au	ëi	oa	ea	aì	aù
FUNCTIONAL		i	ö	ui	ae	iu	ëu	oe	ia / ua	uì	iù
REPRESENTATIONAL		e	ü / öe	ei	ê	eu	öi	eo	ie / ue	eì	eù
AMALGAMATE		u	öa	oi	ô	ou	öu	io / uö	io / uo	oì	où

The four Contexts are explained below and illustrated via example Ithkuil translations of the English sentence *The orchestra is playing*.

3.6.1 EXS The Existential

The EXISTENTIAL context focuses on those features of a noun or verb which are ontologically objective, i.e., those that exist irrespective of any observers, opinions, interpretations, beliefs or attitudes. Similarly excluded from consideration in the EXISTENTIAL is any notion of a noun's use, function, role or benefit. The EXISTENTIAL serves only to point out the mere existence of a noun as a tangible, objective entity under discussion. It is thus used to offer mere identification of a noun or verb.

For example, consider the sentence *A cat ran past the doorway*. If the Ithkuil words corresponding to *cat*, *run*, and *doorway* are in the EXISTENTIAL, then the sentence merely describes an objective scene. No implication is intended concerning the subjective nature of the two entities or the action involved. The sentence is merely stating that two entities currently have a certain dynamic spatial relationship to each other; those two entities happen to be a cat and a doorway, and the running merely conveys the nature of the spatial relationship.



Ilmašqôn.

DYN-'play music'-NRM/DEL/M/COA/CST-AGC₂/7-EXS-IFL

'The orchestra is playing.' [neutral description of event]

3.6.2 FNC The Functional

The FUNCTIONAL context focuses on those features of a formative that are defined socially by ideas, attitudes, beliefs, opinions, convention, cultural status, use, function, benefit, etc. It serves to identify not what a noun existentially is, but to show that the noun has specific (and subjective) contextual meaning, relevance or purpose.

For example, in our previous sentence *A cat ran past the doorway*, if we now place the cat, doorway, and act of running each into the FUNCTIONAL, the 'cat' no longer simply identifies a participant, it makes its being a cat (as opposed to say, a dog) significant, e.g., because the speaker may fear cats, or because the cat could get into the room and ruin the furniture, or because cats are associated with mystery, or because a neighbor has been looking for a lost cat, etc. The 'doorway' now conveys its purpose as an entry, reinforcing what the cat may do upon entering. Likewise, the verb 'ran' in the FUNCTIONAL now implies the furtive nature of the cat. Example:



Ilmašqôni.

DYN-'play music'-NRM/DEL/M/COA/CST-AGC₂/7-FNC-IFL

'The orchestra is playing.' [focus on the personal meaning/importance of the event]

3.6.3 RPS The Representational

The REPRESENTATIONAL context focuses on a formative as a symbol, metaphor, or metonym*, in that it indicates that the formative is serving as a representation or substitute for some other concept or entity which is abstractly associated with it. For example, the metaphorical connotations of the English sentence *That pinstripe-suited dog is checking out a kitty*, can be equally conveyed in Ithkuil by inflecting the words for 'dog' and 'kitty' into the REPRESENTATIONAL context. The REPRESENTATIONAL is one of several ways that Ithkuil overtly renders all metaphorical, symbolic, or metonymic usages (from a grammatical standpoint).

* Metonymy is the use of a word or phrase of one type to refer to an associated word or phrase of a different type (usually a person), such as place-for-person in 'The orders came from the White House,' object-for-person in 'Tell the cook the ham-and-cheese wants fries with his order' or phrase-for-person as in 'You-know-who just showed up.'



Ilmašqône.

DYN-'play music'-NRM/DEL/M/COA/CST-AGC₂/7-RPS-IFL

'The orchestra is playing.' [connotes that sentence is a metaphor, e.g., 'life as a symphony']

3.6.4 AMG The Amalgamative

The AMALGAMATIVE context is the most abstract and difficult to understand from a Western linguistic perspective. It focuses on the systemic, holistic, gestalt-like, componential nature of a formative, implying that its objective and subjective totality is derived synergistically from (or as an emergent property of) the interrelationships between all of its parts, not just in terms of a static momentary appraisal, but in consideration of the entire developmental history of the noun and any interactions and relationships it has (whether past, present or potential) within the larger context of the world. Its use indicates the speaker is inviting the hearer to subjectively consider all the subjective wonder, emotional nuances, psychological ramifications and/or philosophical implications associated with the noun's existence, purpose, or function, as being a world unto itself, intrinsically interconnected with the wider world beyond it on many levels. Thus the AMALGAMATIVE version of our sentence *The cat ran past the doorway* would take on quite melodramatic implications, with the cat being representative of everything about cats and all they stand for, the doorway as being representative of the nature of doorways as portals of change, thresholds of departure, and the juncture of past and the future, while the act of running becomes representative of flight from enemies, rapidity of movement, the body at maximum energy expenditure, etc.



3.7 DESIGNATION

Designation is a somewhat subjective category, with no equivalent in Western languages. It refers to a two-fold distinction in a formative regarding its contextual status, authority, permanence, or extra-contextual relevance. The two Designations are the INFORMAL and the FORMAL, shown by the formative's syllabic stress (in conjunction with the verbal category of Relation which will be discussed in [Section 5.4](#)).

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	Vr	(Cx/Cv	Vp/V _L)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp. Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

The two Designations are explained below.

3.7.1 IFL The Informal

The INFORMAL designation is shown by either penultimate (second-to-last) or antepenultimate (third-from last) syllabic stress on the formative, depending on the formative's Relation (see [Section 5.4](#) on Relation).

The INFORMAL designation indicates that the noun or verb in question does not exist in a necessarily permanent state, or is to be considered only for the duration of the context in which it is spoken, with any lasting effect, influence or permanency beyond the context being either absent, unknown or irrelevant. It is best illustrated by comparative examples with the FORMAL designation in the section immediately below.

3.7.2 FML The Formal

The FORMAL designation is shown by either ultimate (final) or pre-antepenultimate (fourth-from last) syllabic stress on the formative, depending on the formative's Relation (see [Section 5.4](#) on Relation).

The FORMAL designation imparts a sense of permanency and/or authority, raising the noun or verb to a more definitive, formal or institutional manifestation of itself, or stressing this authoritative/definitive nature if the meaning already includes it. For example, stems translatable as 'symbol,' 'eat,' 'thought,' and 'a model' in the INFORMAL would become 'icon,' 'dine,' 'idea,' and 'archetype' in the FORMAL.

The FORMAL achieves several subtle purposes from a lexico-semantic standpoint. While some Ithkuil words would translate the same in English no matter which designation (e.g., *to hurt*, *to float*, *breath*, *to fall*, *shade*, *sleep*, *cough*), many stems would have different translations in English depending on their designation. For example, the stem **eq-** with the affiliated meanings *person* → *group* → *gathering* → *crowd* → *throng*, etc. in the INFORMAL designation would change to the following series of approximate translations when placed in the FORMAL designation: *official* → *team* → *association/congregation* → *assembly* → *masses*, etc.

Further examples of lexical shifts in translation due to INFORMAL → FORMAL designation are listed below:

to grow something → *to cultivate*

wander → *travel*

obtain/get → procure/requisition
 (natural) holder → container
 to create → construct/build
 animal → domesticated animal
 natural environment → “man-made” environment
 [natural] exchange → trade/commerce
 assortment of animals → zoo collection
 to group/gather → collect
 get some exercise → to work out
 problem situation → crisis

lake → reservoir
 see → observe
 heap → pile
 a thought → an idea
 awareness → consciousness
 house → home
 grouping → set
 wall → barrier
 placidity → peace
 to populate → to settle

As can be seen from the above list, the exact interpretation of Designation for each word-root is specific to each word-root, depending on its associated semantic context.

3.7.3 Examples of Designation in Use

INFORMAL

 **klal** ‘flow of water; to flow’

 **dyal**
‘sensation/feeling; to sense (affective)’

 **stal** ‘comparison; to compare/contrast’

FORMAL

 **aklál** ‘river; to flow as a river’

 **adyál**
‘sensation/feeling (volitional/deliberate); to examine via the senses’

 **astál** ‘measure(ment)’

3.8 NOTE ON MORPHO-PHONOLOGICAL AGREEMENT

In regard to the gender categories from other languages, Ithkuil has no distinctions of gender (e.g., masculine, feminine, neuter, etc.). There is no “agreement” or morpho-phonological concord of any kind between a noun and other words or morphological elements in a sentence, i.e., there is none of the required matching of masculine or feminine or singular/plural agreement between nouns, articles, and adjectives as found in most Western languages.

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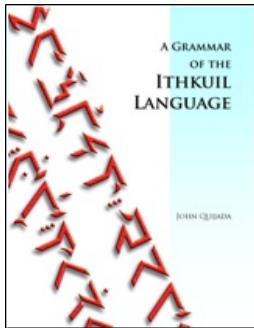
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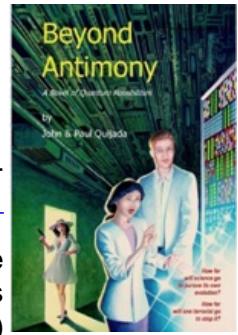
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Chapter 4: Case Morphology

[4.1 Semantic Role versus Positional Slot](#)
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[4.7 The Spatial Cases](#)
[4.8 The Vocative](#)

In this chapter, we analyze one additional morphological category: Case. Like the seven categories analyzed in the previous chapter, and unlike other languages, the category of Case applies to all formatives in Ithkuil, i.e., to both nouns and verbs alike. However, the syntactical context in which Case operates is sufficiently dissimilar for nouns and verbs to warrant separate analysis. In this chapter, we will analyze the case morphology of nouns alone. The use of Case with verbs will be analyzed in [Section 5.2](#).

Anyone who has studied German, Latin, Russian, Classical Greek or Sanskrit, is familiar with the concept of Case. Case generally refers to a morphological scheme in which a noun, whether via internal mutation of its phonemes or via affixes, shows what grammatical “role” it plays in the phrase or sentence in which it appears. For example, in the English sentence *It was me she saw*, the use of the word ‘she’ as opposed to ‘her’ and the use of ‘me’ as opposed to ‘I’ distinguishes the subject of the sentence (the person seeing) from the object of the verb (the one being seen). Similarly, in the German sentence *Der Bruder des Knaben sah den Mann* (= ‘The boy’s brother saw the man’), the words ‘der’, ‘des’ and ‘den’ distinguish the subject of the sentence ‘brother’ (nominative case) from the possessor ‘boy’ (genitive case) from the object ‘man’ (accusative case).

The concept of “case” can extend far beyond the notions of subject, object and possessor. Depending on the particular language, there may be noun cases which specify the location or position of a noun, whether a noun accompanies another or derives from another or is the recipient of another. In general, noun cases in those languages which rely upon them often substitute for what in English is accomplished using prepositions or prepositional phrases. The process of adding affixes or changing the phonetic structure of a word in order to show a noun in a particular case is known as declining a noun, and the various permutations of a noun into its cases are known as its declensions.

There are 96 cases in Ithkuil, comprising 72 main cases, and 24 Comparison cases. The Comparison cases serve specialized functions associated with the verbal category called **Level** and are discussed separately in [Section 6.2.4](#). The 72 main cases are dealt with in this chapter.

4.1 SEMANTIC ROLE VERSUS POSITIONAL SLOT

In most languages, case operates at the surface structure level of language to signify arbitrary grammatical relations such as subject, direct object, indirect object. The deeper level of “semantic role” is ignored in terms of morphological designations. The notion of semantic role can be illustrated by the following set of sentences:

- (1a) *John opened the door with the key.*
- (1b) *The key opened the door.*
- (1c) *The wind opened the door.*
- (1d) *The door opened.*

In each of these sentences case is assigned based on “slot”, i.e., the position of the nouns relative to the verb, irrespective of their semantic roles. Thus the “subjects” of the sentences are, respectively, *John*, *the key*, *the wind*, and *the door*. Yet it can be seen that, semantically speaking, these four sentences are interrelated in a causal way. Specifically, Sentence (1b) results directly from sentence (1a), and sentence (1d) results directly from either (1b) or (1c). We see that the case of the noun ‘key’ in sentence (1a) is prepositional, while in sentence (1b) it is the subject. Yet, the key plays the same semantic role in both sentences: the physical instrument by which the act of opening is accomplished. As for the noun ‘door,’ it is marked as a direct object in the first three sentences and as a subject in the fourth, even though its semantic role in all four sentences never changes, i.e., it is the noun which undergoes a change in its state as a result of the act of opening. The noun ‘John’ in sentence (1a) is marked as a subject, the same case as ‘key’ in (1b), the ‘wind’ in (1c) and the ‘door’ in (1d), yet the semantic role of ‘John’ is entirely different than the role of ‘key’ in (1b) and different again from ‘door’ in (1c), i.e., John is acting as the conscious, deliberate initiator of the act of opening. Finally, the noun ‘wind’ in (1c), while marked as a subject, operates in yet another semantic role distinct from the subjects of the other sentences, i.e., an inanimate, blind force of nature which, while being the underlying cause of the act of opening, can make no conscious or willed choice to initiate such action.

4.1.1 Case as Indicator of Semantic Role

The case structures of Western languages mark positional slot (i.e., grammatical relations) only, and have no overt way to indicate semantic role, thus providing no way of showing the intuitive causal relationship between sets of sentences like those above. In Ithkuil, however, the case of a noun is based on its underlying semantic role, not its syntactic position in the sentence relative to the verb. These semantic roles reflect a more fundamental or primary level of language irrespective of the surface case marking of nouns in other languages. Thus Ithkuil noun declension more accurately reflects the underlying semantic function of nouns in sentences. Consequently, the Western grammatical notions of “subject” and “object” have little meaning or applicability in Ithkuil grammar.

The following semantic roles are marked by noun cases in Ithkuil. They correspond roughly to the “subjects” and “objects” of Western languages:

AGENT: The animate, (and usually conscious and deliberate) initiator of an act which results in another noun undergoing a consequent change in state or behavior, e.g., ‘John’ in Sentence (1a) above.

FORCE: An inanimate, unwilling cause of an act such as a force of nature like ‘wind’ in Sentence (1c) above.

INSTRUMENT: The noun which functions as the physical means or tool by which an act is initiated or performed, e.g., ‘key’ in Sentences (1a) and (1b) above.

PATIENT: The noun which undergoes a change in state or behavior as a result of an act initiated or caused by itself or by another noun, e.g., ‘door’ in all four sentences above.

4.1.2 Additional Semantic Roles

Additional semantic roles corresponding to subjects and objects in Western languages exist in Ithkuil as overt noun cases. These include the roles of ENABLER, EXPERIENCER, STIMULUS, RECIPIENT, and CONTENT, and are explained below using the following set of sentences as illustrations.

- (2a) *Mary hits the children.*
- (2b) *Mary entertains the children.*
- (2c) *Mary sees the children.*
- (2d) *Mary tells the children a story.*
- (2e) *Mary wants children.*

Examining these five sentences, we notice that the noun Mary is in the subject slot in all of them and the children is the direct object (except in the fourth sentence), even though the semantic roles of both nouns are entirely different in each of these five sentences. Beginning with Sentence (2a) we see that Mary is an AGENT which tangibly causes injury or pain to the children who obviously function in the role of PATIENT. Thus (2a) is identical to sentence (1a) in terms of the roles portrayed by the subject and direct object.

In Sentence (2b) however, *Mary entertains the children*, there is a subtle distinction. At first we might consider Mary an agent who initiates a change in the children (i.e., the fact that they become entertained). But, in fact, the act of entertainment is not one whose result (enjoyment by the audience) can be guaranteed by the party doing the entertaining.

In fact, the result of the act of entertainment is not Mary's to determine, but rather the children's, based on whether they "feel" a sense of enjoyment at experiencing Mary's act. And so, Mary is more like a patient here, not an agent, as she is undergoing a change in her state or behavior (she is performing an attempt to entertain) which she herself has chosen to initiate and undergo, yet the act has the potential to cause a resulting change in the children, the success of this motivation to be determined by the children, however, not Mary. Such a semantic role as Mary here is termed an ENABLER. And how do the children make the decision as to whether they are entertained or not (i.e., what is their semantic role?). Can the children deliberately or consciously choose to feel a sense of enjoyment, or are they not themselves unwilling "patients" to their own emotional reactions? In case grammar, a party such as the children who undergo an unwilling experience are termed EXPERIENCERS. Besides emotional reactions, such unwilling experiences include autonomic sensory perceptions (e.g., parties that see or hear because their eyes were open and pointed in a particular direction or who were within earshot of a sound), and autonomic bodily reactions or responses as well as proprioceptive sensations (e.g., coughing, sneezing, perspiring, feeling hot or cold, feeling pain, etc.).

This notion of EXPERIENCER is likewise illustrated by Sentence (2c) *Mary sees the children*, in which the verb 'see' denotes an automatic sensory experience, not a deliberately initiated action. In other words, it is the nature of the sense of sight to function automatically whenever a person is conscious and his/her eyes are open. The verb 'see' does not necessarily imply a conscious or deliberately willed action of "seeing" (as would be implied by the verb 'to look [at]'). Therefore, the "action" is automatic and uninitiated; it is, in fact, not an action at all, but rather an experiential state which the person doing the seeing undergoes. In other words, the person seeing is actually a kind of "patient," as it is he/she who undergoes the experience of (and physical or emotional reaction to) the particular sight. Such undergoers of sensory verbs and other unwilling states (e.g., emotional states or reactions, autonomic bodily reactions such as sneezing, physical states of sensation such as being hot or cold, etc.) are categorized in the role of EXPERIENCERS. And what of the children's role in sentence (2c)? Unlike the first three sentences, the children do not undergo any action. Certainly the process of "being seen" by Mary does not in itself cause a physical change or reaction of any kind in the entity being seen. Nor can the children be analyzed as "initiating" the act of sight, as they may be completely unaware that Mary is seeing them. As a result, the children's semantic role is merely that of STIMULUS, a neutral, unwitting originating reason for the experiential state being undergone by the other noun participant.

In Sentence (2d) *Mary tells the children a story*, Mary is a patient who initiates the action which she herself undergoes, the telling of a story. The children do not undergo an unwilling emotional, sensory, or bodily reaction here, but rather are the passive and more or less willing RECIPIENT of information, the role of an "indirect object" in Western languages. The story, on the other hand, is merely a non-participatory abstract referent, whose role is termed CONTENT.

The role of CONTENT also applies to the children in Sentence (2e) *Mary wants children*, where they function as the "object" of Mary's desire. Since no tangible action is occurring, nor are the children undergoing any result of change of state, nor need they be even aware of Mary's desire, they are, like the story in sentence (2d), merely non-participatory referents. As for Mary's role in (2e), the emotional state of desire, being unwilling, self-activating, and subjectively internal, creates a situation similar to an automatic sensory perception or autonomic body response; thus, Mary's role is again that of EXPERIENCER.

4.1.3 Argument Structure

In addition to case being based on semantic roles, Ithkuil differs in another important respect from natural languages in that it does not have a default argument structure for its verbal formatives. This is explained below.

The individual verbs of natural languages each have an implied argument structure, i.e., a pattern of how nouns (i.e., "arguments") interact with the particular verb and what formal role (from a morpho-semantic perspective) each of those nouns plays in relation to the verb. For example, the verb "hit" in English implies the existence of an agent (i.e., someone doing the hitting) and a patient (i.e., someone undergoing the effect/result of the hitting), as in "He hit the dog." A different argument structure is illustrated by the verb "give" which implies an agent doing the giving, a patient undergoing the receiving, and a noun functioning in the semantic role of content, i.e., the item being given/received.

The grammar of natural languages specifies the requirements of which arguments to a verb must be present for a sentence to be grammatical and which arguments are optional. This is illustrated, for example, in the following English sentences (ungrammatical sentences are preceded by an asterisk):

- 3a) Sam gave the girl a book.
- 3b) Sam gave a book.
- 3c) Sam gave.
- 3d) * Sam gave the girl. (Intended meaning: *Sam gave something to the girl.*)
- 3e) * Gave the girl a book. (Intended meaning: *The girl was given a book or Someone gave the girl a book.*)

3f) * Gave the girl. (Intended meaning: *The girl was given something*, or *Someone gave something to the girl.*)

3g) * Gave a book. (Intended meaning: *Someone gave a book.*)

3h) * Gave. (Intended meaning: *Someone did some giving*, or *Giving occurred*).

In sentence (3a), all three arguments to the verb “gave” are expressed, while in sentence (3b) the patient/recipient has been deleted. Sentence (3c) deletes both the patient/recipient and the CONTENT argument. In sentence (3d) however, when we try to delete the CONTENT argument of book while preserving the patient/recipient, the sentence requires syntactic restructuring into *Sam gave [something] to the girl* in order to remain grammatical (the asterisk * in front of the sentence indicates it is ungrammatical). Likewise, sentences (3e), (3f), (3g) and (3h) are ungrammatical when we try to delete the agent, as well as either or both of the other two arguments as well, requiring paraphrasing to make the intended meaning grammatical).

Compare the above group of sentence containing the verb ‘gave’ with the sentences below featuring the verb ‘broke’:

4a) Tim broke the window with a hammer.

4b) Tim broke the window.

4c) The hammer broke the window.

4d) The window broke.

4e) *The hammer broke. (Intended meaning: *The hammer broke something.*)

4f) *Tim broke. (Intended meaning: *Tim broke something*, or *Tim did some breaking.*)

Notice how sentence (3c) above, *Sam gave*, is grammatical, but the similarly structured sentence (4f) *Tim broke* is not. Conversely, notice in comparing sentences (4a) and (4d) that the patient *window* is grammatical in both object and subject slots, but similarly placing the patient *girl* from sentence (3a) into subject slot gives the ungrammatical sentence **The girl gave* (with intended meaning: *The girl was given something* or *Someone gave the girl something.*)

Other examples of constraints on argument structure in English are illustrated as follows:

Bill cut the cake with a knife can be shortened to *Bill cut the cake*, but the syntactically identical *She put the book on the shelf* cannot be shortened to **She put the book*.

Treatment healed my wounds can delete its agent to give *My wounds healed*, but the similar *Treatment cured my wounds* does not allow agent-deletion to **My wounds cured*.

As can be seen, languages such as English are very haphazard in the various constraints on argument structure applied to individual verbs. Sometimes it is possible to delete arguments but at other times doing so results in an ungrammatical sentence, even though a semantically equivalent paraphrase exists. Ithkuil has no such constraints on its argument structure. As long as a sentence makes sense semantically and the relationships between explicit or implied arguments and their verb can be determined or inferred, then the Ithkuil sentence will be grammatically permissible. This is possible because nouns in Ithkuil are marked for semantically-based case, as well as the fact that verbs are marked for Function, a category we will explore [Section 5.1](#).

4.2 MORPHO-PHONOLOGICAL MARKERS FOR CASE

Case is shown in different ways in Ithkuil depending on whether the case is being manifested in conjunction with a formative or a personal reference adjunct (explained in [Section 8.1](#)). For formatives, the 72 primary cases are shown by one of 72 forms of the vocalic affix **Vc**.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	V _r	(Cx/Cv)	V _{p/V_L)}	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation

The particular **Vc** suffix-values are given in the Table 7 below. The names and function of each case are explained beginning in Section 4.3 below.

Table 7: Values for Vc by Case (for Cases 1 through 72. For **Vc** values for Cases 73 - 96 see [Section 6.2.4](#))

1 OBL	a	13 PRP	î / û	25 PUR	e'	37 CMM	au	49 AVR	eu'	61 ALP*	oi'V
2 IND	u	14 GEN	ê	26 CSD	o'	38 COM	eu	50 CMP	ou'	62 INP*	ëi'V
3 ABS	e	15 ATT	ô	27 ESS	ea	39 CNJ	iu	51 SML*	a'V	63 EPS*	au'V
4 ERG	o	16 PDC	ëi	28 ASI	eo	40 UTL	ou	52 ASS*	e'V	64 PLM*	eu'V
5 EFF	ö	17 ITP	öi	29 FUN	eö	41 ABE	ëu	53 CNR*	i'V	65 LIM*	iu'V
6 AFF	i	18 OGN	ae	30 TFM	oa	42 CVS	öu	54 ACS*	o'V	66 LOC*	â'V
7 DAT	ü / a'e	19 PAR	ia / ua	31 REF	oe	43 COR	ai'	55 DFF*	u'V	67 ORI*	ê'V
8 INS	ai	20 CRS	ie / ue	32 CLA	öa	44 DEP	ui'	56 PER *	ö'V	68 PSV*	ô'V
9 ACT	ei	21 CPS	io / uo	33 CNV	öe	45 PVS	ei'	57 PRO*	ü' / ëu'V	69 ALL*	î'V / û'V
10 DER	ui	22 PRD	io / uö	34 IDP	üa / i'	46 PTL	oi'	58 PCV*	ai'V	70 ABL*	ëu'V
11 SIT	oi	23 MED	a'	35 BEN	üe / ö'	47 CON	au'	59 PCR*	ei'V	71 NAV*	ou'V
12 POS	â	24 APL	u'	36 TSP	üo / î' / û'	48 EXC	iu'	60 ELP*	ui'V	72 VOC	ë

* Cases 51 – 71: The V represents a vowel form whose default value is -a-. However, if the formative's **Vr** affix can be deleted from Slot IV, then optionally, V takes the value of the **Vr** affix and the **Vr** affix is deleted from Slot IV, e.g., *opral* declined into the SML case becomes either *opra'al* or *pra'ol*.

For personal reference adjuncts, which correspond roughly to personal pronouns in other languages, case markers are dependent on various factors, as explained in [Section 8.1](#).

We are now in a position to examine the different noun cases in detail. We will start with the group of cases which correspond to "subjects" and "objects" in Western languages.

4.3 THE TRANSRELATIVE CASES

The Transrelative cases refer to eleven cases used to identify nouns functioning as participants to a verb, what in Western grammatical terms would be referred to as "subjects" and "objects" and most likely marked as either nominative, accusative, or dative. It is these cases which more or less correspond to the semantic roles identified in [Sec. 4.1](#) above. The eleven transrelative cases are the OBLIQUE, ABSOLUTIVE, DATIVE, ERGATIVE, EFFECTUATIVE, INDUCITIVE, AFFECTIVE, INSTRUMENTAL, ACTIVATIVE, DERIVATIVE, and SITUATIVE. Following are explanations of the function

and usage of each case.

Actual Ithkuil examples of these cases in use are provided in [Section 4.3.12](#).

4.3.1 OBL The Oblique Case

The OBLIQUE case is marked by the **Vc** value **-a-**. As described above in Section 4.1.2, the OBLIQUE identifies the semantic role of CONTENT, whether it is something given to a RECIPIENT, or the non-causal abstract content of an experiential state, e.g., a memory recalled, something desired, something feared. It would thus be used in translating sentences such as *Sam gave me a book*, *The child likes cereal*. It is also the case associated with existential identification, what in English would be the subject of the verb ‘to be’ when referring to the intrinsic identity or static description of a noun as in the English sentences *That boy is blind* or *The house was built of wood*. The OBLIQUE, being the semantically most neutral case, is also the citation form of a noun (i.e., the form in which the noun would be listed in a dictionary).

4.3.2 IND The Inducive Case

The INDUCIVE case is marked by the **Vc** value **-u-**. The INDUCIVE identifies a noun which undergoes a self-initiated action, i.e., the noun is a PATIENT of an agential action in which the AGENT and the PATIENT are the same. Note that this does not necessarily imply reflexive action (i.e., doing something to oneself). It would be used in sentences such as *The boy jumped*, *He sang*, *The dog barked all night*, or *She danced to the music*, in which the party initiating and performing the action are one and the same.

4.3.3 ABS The Absolutive Case

The ABSOLUTIVE case is marked by the **Vc** value **-e-**. As described in Section 4.1.1 above, the ABSOLUTIVE identifies the semantic role of PATIENT of an agential action, where the agent-initiator is a different party than the patient who undergoes the resulting action. Note that in sentences with patient subjects, the agent or instrument of agency need not be overtly expressed. Examples of English sentences translatable using the ABSOLUTIVE would be *The boy hit the girl*, *She forced him to do it*, *The bird fell from the sky*, *The prisoner died during the gun battle*.

4.3.4 ERG The Ergative Case

The ERGATIVE case is marked by the **Vc** value **-o-**. The ERGATIVE identifies the semantic role of AGENT, i.e., a noun which initiates a tangible action undergone by another party (the PATIENT), as described in [Section 4.1.1](#). Note that sentences involving an ERGATIVE agent need not overtly express the patient noun. Examples of English sentences translatable using the ERGATIVE would be *The boy hit the girl*, *She forced him to do it*, *That murderer kills for fun*.

4.3.5 EFF The Effectuative Case

The EFFECTUATIVE case is marked by the **Vc** value **-ö-**. The EFFECTUATIVE identifies the noun acting in the semantic role of ENABLER, as described in [Section 4.1.2](#) above. This is the noun which initiates a causal chain of events, ultimately resulting in a final event. An example would be pulling out the plug of a filled bathtub thereby causing it to empty. This case should therefore be carefully distinguished from the ERGATIVE case. Ergatively marked nouns imply that the action undergone by the patient is the same action directly initiated by the agent, whereas EFFECTUATIVE nouns imply a chain or series of cause-and-effect actions. For example, in the Ithkuil translation of the sentence *The clown emptied the blood from the tub*, the clown could be marked either as an AGENT by means of the ERGATIVE case, or as an ENABLER using the EFFECTUATIVE case. The former would mean the clown poured out the blood himself, while the latter would mean he let it drain (i.e., by pulling the plug). Such case distinctions eliminate the need for Ithkuil to have separate verbs for ‘to drain,’ ‘to pour’ or ‘to empty.’ The Ithkuil verb used in translating the sentence would simply mean ‘to remove.’

Note that the EFFECTUATIVE case is commonly used with the **ENB** affix **-ls** to show the degree or nature of the enabling cause. With this suffix, sentences can be produced which specify whether the enablement is via giving of consent or permission, by persuasion, by subtle indirect influence, by removal of a hindrance, or even by inaction.

4.3.6 AFF The Affective Case

The AFFECTIVE case is marked by the **Vc** value **-i-**. The AFFECTIVE denotes a noun whose semantic role is that of EXPERIENCER, as described previously in [Section 4.1.2](#), the noun which undergoes a non-causal, non-initiated (and unwilling) experiential state, whether internally autonomic in nature or as the result of an external stimulus. Examples of such states would be automatic sensory experience; autonomic bodily reactions such as yawning, sneezing, coughing, blinking, itching, feeling sleepy, pain, feeling ill, feeling cold or warm; automatic reactions to external stimuli such as shock, flinching, ducking, raising one's arms to avoid sudden danger; as well as any unwilling emotional state such as love, hate, fear, anger, surprise, joy, wistfulness, shyness, regret, anxiety, etc.

Example sentences requiring the use of the AFFECTIVE case would be ***The baby is coughing, The lightning startled her, Mortimer loves his vittles, Uncle Davey slept till noon, My back itches me.***

Note that if the experiential state is willfully brought about by the noun undergoing it, the INDUCIVE case would be used, since the noun is deliberately initiating an action in order to induce the experiential state. For example, compare the sentence ***The children smiled with glee*** (marked using the AFFECTIVE) with ***The children smiled on cue*** (marked using the INDUCIVE).

4.3.7 DAT The Dative Case

The DATIVE case is marked by the **Vc** value **-ü-** or, if the **Cr** root ends in a **-w** or **-y**, it is marked by the **Vc** value **-ae'**. The DATIVE has two functions in Ithkuil. Similarly to Western languages, it marks indirect objects of verbs of giving and telling, i.e., the semantic role of RECIPIENT of a noun transferred via an act of giving, donation, lending, or other transference of possession, or the hearer to who something is said, told, recounted, etc, as described in [Section 4.1.2](#) above. Secondly, like some Western languages (e.g., Russian), Ithkuil uses a dative construction in lieu of any verb 'to have' in reference to possession or attribution. It would therefore be used in translating sentences such as ***We're giving you a present, Jason lent a dollar to his sister, Please grant me a wish, The student has three books, Those mountains have a mysterious quality.***

4.3.8 INS The Instrumental Case

The INSTRUMENTAL case is marked by the **Vc** value **-ai-**. As described previously in [Section 4.1.1](#), the INSTRUMENTAL denotes a noun which functions as the INSTRUMENT or means utilized by an AGENT in accomplishing an action or bringing about a state. It is usually translated by English 'with.' Examples of usage would be ***She killed him with a knife, The man tripped over my foot, The password got him inside.*** The INSTRUMENTAL is also used to mark translations of an inanimate "subject" noun when its logical function is as the instrument of an unstated agent, e.g., compare ***I pressed the button with my finger*** with ***My finger pressed the button***, both of which would be identical in Ithkuil except for the latter sentence's missing agent, *I*.

Note that the INSTRUMENTAL does not translate 'with' in its meaning of 'along with' or 'accompanied by' (see the COMITATIVE case below in [Sec. 4.5.20](#)) as in ***She arrived with her father.*** Nor is it used to show the resources or materials consumed in performing an act. For example, in the sentence ***He cooks with tomatoes*** (see the COMPOSITIVE case in [Sec. 4.5.3](#)), it is not the tomatoes that cook the food, therefore the INSTRUMENTAL would not be used, whereas in ***He fueled the fire with wood*** it is the wood that fuels the fire, thus requiring the INSTRUMENTAL case.

4.3.9 ACT The Activative Case

The ACTIVATIVE case is marked by the **Vc** value **-ei-**. The ACTIVATIVE identifies a noun engaged in or subject to a mental or metaphysical state which, as a concurrent result, creates a hypothetical, "unrealized" situation which can potentially be made real by further action. Such unrealized situations can be illustrated by the sentence ***Frank must go to Chicago***, in which no actual travel to Chicago has occurred and, in fact, may not occur. Similarly, in the sentence ***Mother needs to rest***, no resting has yet occurred and may not. In both sentences, the event which would "fulfill" the state described remains an unrealized hypothetical, at least from the perspective of the speaker. Similar hypothetical events or states are found in the sentences ***The students want you to sing, Everyone expected you to laugh, or Joe will demand***

that I stay. Note that many of these constructions in English involve the use of “modal” verbs such as *want*, *need*, *can*, *must*, etc.

Notice that the subject of these English sentences (*Frank*, *Mother*, *the students*, *everyone*, *Joe*) are functioning neither as AGENTS nor PATIENTS, since the modal verbs of which they are the subject do not identify as-yet actualized events, only states of unrealized potential. These subjects are essentially EXPERIENCERS undergoing a mental or metaphysical state of wanting, needing, obligation, expectation, hoping, wishing, being able to, etc. However, such experiencers must be differentiated from would-be experiencers “within” the hypothetical situation. For example, in the sentence *Sam wants Shirley to love him*, it could become ambiguous if Sam and Shirley are both marked as EXPERIENCERS using the AFFECTIVE case. Consequently, Ithkuil uses the ACTIVATIVE case to mark the subject whose mental or metaphysical state creates a concurrent hypothetical, as-yet unrealized situation. All of the subjects in the example sentences from the previous paragraph (i.e., *Frank*, *Mother*, *the students*, *everyone*, *Joe*) would be so marked. In [Section 6.1](#) we will see how the ACTIVATIVE is used in conjunction with a morphological category for verbs termed Modality to create such hypothetical states and situations.

4.3.10 DER The Derivative Case

The DERIVATIVE case is marked by the **Vc** value **-ui-**. The DERIVATIVE serves two functions in Ithkuil. Firstly, it identifies an inanimate FORCE of nature (as described in [Sec. 4.1.1](#)) or abstract causative situation which causes a PATIENT noun to undergo an action, as in *The wind blew down the door*, or *Fame threatened his freedom*. The use of the DERIVATIVE instead of the ERGATIVE or the EFFECTUATIVE denotes that such inanimate agential forces or abstract enabling situations cannot consciously or willingly initiate actions, but rather are merely circumstantial initiating causes. Therefore the resulting act, event, or state is seen more as having derived from this force or situation, as opposed to being willfully or consciously caused. In this function, a noun in the DERIVATIVE can often be translated using phrases such as ‘due to, owing to, on account of, because of, as a result of.’ Nouns in the DERIVATIVE can also appear in appositive constructions (i.e., in a noun-to-noun conjunction) where the noun in the DERIVATIVE denotes the abstract cause or reason for the other noun, e.g., *the danger of fame*, *love’s heartache*, *wind song*.

The second function of the DERIVATIVE case is to identify the non-agential, unconscious or non-deliberate STIMULUS of an affective mental state, emotion, or autonomic sensory experience, as in *The coffee smells good*, *I saw her today*, *She hates that boy*, *Victor coughed from the gas*, *We laughed at his jokes*, *That song makes me cry*. Ithkuil grammar views the stimulus of an experiential state as having a similar role to that of an abstract circumstantial or situational cause (as in the above examples); this explains why the DERIVATIVE case serves to indicate both functions.

4.3.11 SIT The Situative Case

The SITUATIVE case is marked by the **Vc** value **-oi-**. The SITUATIVE identifies a noun as the background context for a clause. It is similar to the DERIVATIVE case immediately above, except it does not imply a direct causative relationship between the background context and the act, condition, or event which occurs. It is translatable into English by various circumlocutions, as shown in the following examples:

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.
Using my plan, we will defeat the enemy.

4.3.12 Examples of Transrelative Cases in Use

The following are examples of various Ithkuil sentences showing how assigning different transrelative cases to the noun participants (i.e., the arguments to the verb) allows for various changes in meaning, regardless of argument structure. As can be seen, the English translations of many of these sentences often require word order changes, word-substitution, even outright paraphrase, all in order to accommodate the constraints on English argument structure.

Roots used: **-zb-** informal Pattern 1, Stem 1 ‘anger; be angry/feel anger’
‘clown’

-kš- formal Pattern 1, Stem 2

STA = STATIVE function
DYN = DYNAMIC function

DAT = DATIVE case
IND = INDUCIVE case

AFF = AFFECTIVE case
 SIT = SITUATIVE case
 DER = DERIVATIVE case
 ERG = ERGATIVE case

GEN = GENITIVE case
 ABS = ABSOLUTIVE case
 OBL = OBLIQUE case
 LOC = LOCATIVE case

'be angry/feel anger'	'I/me'	'clown'	MEANING
Azbal STA	ti AFF	ekšoil. SIT	  <i>'I'm angry because of the clown (clown can't help it, not at fault).' / 'I'm angry because there's a clown.'</i> <i>/ 'I'm angry at the presence of a clown.'</i>
Azbal STA	ti AFF	ekšuil. DER	<i>'The clown (unwittingly) makes me angry.' / 'I'm angry at the clown (something he's done has made me angry).'</i>
Azbal STA	ti AFF	ekšól. ERG	<i>'The clown (deliberately) makes me angry.'</i>
Azbal STA	ti AFF	èkšöl. EFF	<i>'What the clown has (deliberately) started/caused makes me angry.'</i>
Azbal STA	ti AFF	èkšül. DAT	<i>'My angry state is directed toward/affects the clown (i.e., the clown notices/reacts to my anger).'</i>
Azbal STA	tü DAT	ekšil. AFF	<i>'I notice/feel that the clown is angry at me.'</i>
Azbal STA	tö EFF	ekšil. AFF	<i>'What I (deliberately) started/caused makes the clown angry.'</i>
Azbal STA	to ERG	ekšil. AFF	<i>'I (deliberately) anger the clown.'</i>
Azbal STA	tui DER	ekšil. AFF	<i>'I inadvertently anger the clown.'</i>
Azbal STA	toi SIT	ekšil. AFF	<i>'My being here angers the clown.'</i>
Azbal STA	tu IND	ekšoil. SIT	<i>'I make myself angry at the presence of the clown.'</i>
Azbal STA	tu. IND	--	<i>'I (deliberately) make myself angry.'</i>
Azbal STA	tü. DAT	--	<i>'Someone is behaving angrily toward me.'</i>
Azbal STA	tö. EFF	--	<i>'I've (deliberately) started/caused something that makes someone angry.'</i>
Azbal STA	to. ERG	--	<i>'I (deliberately) anger someone.'</i>
Azbal STA	tui. DER	--	<i>'I (inadvertently) anger someone.' / 'What I've done makes someone angry.'</i>

Azbal STA	toi. SIT	--	'My presence makes someone angry.'
Azbal STA	ti. AFF	--	'I'm angry.'/ 'I feel anger.'
Azbal STA	--	ekšúl. IND	'The clown (deliberately) makes himself angry.'
Azbal STA	--	èkšúl. DAT	'Someone is behaving angrily toward the clown.'
Azbal STA	--	èkšúl. EFF	'The clown has (deliberately) started/caused something that makes someone angry.'
Azbal STA	--	ekšóil. ERG	'The clown (deliberately) anger someone.'
Azbal STA	--	ekšúil. DER	'The clown inadvertently angers someone./ 'What the clown does makes someone angry.'
Azbal STA	--	ekšóil. SIT	'(The presence of) the clown makes someone angry.'
Azbal STA	--	ekšíl. AFF	'The clown is angry./ 'The clown feels anger.'
Azbal STA	--	--	'There is a feeling of anger./ 'There is anger.'

Same sentences as above but with DYNAMIC Function to convey action rather than state, i.e., angry behavior or physical display of anger rather than mere internal feeling of anger.

Izbal DYN	ti AFF	ekšóil. SIT	 'My display of anger/my angry behavior was because of the clown (with the clown being unaware of it and not its fault).'
Izbal DYN	ti AFF	ekšúil. DER	'My display of anger/my angry behavior was due to the clown (without the clown being necessarily aware of it).'
Izbal DYN	ti AFF	èkšúl. DAT	'My display of anger/my angry behavior affected/intimidated the clown.'

More examples of transrelative case patterns:

-k'- formal Pattern 3, Stem 2 'burn'

-ph- informal Pattern 1, Stem 1 'tree'

burn	1m	tree	MEANING
lek'ás DYN	to ERG	phel. ABS	 LISTEN 'I burn the tree.'

Ék'ás STA	--	p ^h el. ABS	'The tree burns.'
lek'ás DYN	--	p ^h ul. IND	'The tree burns itself.' / 'The tree makes itself burn.'
lek'ás DYN	to. ERG	--	'I cause something to burn.' / 'I burn.' [meaning: I cause burning to happen]
lek'ás DYN	tö. EFF	--	'I cause something to burn (through a chain of events).' / 'I burn.' [meaning: I cause a chain of events leading to burning]
lek'ás DYN	te. ABS	--	'I burn/am burning.' / 'Something burns me.'
lek'ás DYN	tu. IND	--	'I burn myself.' / 'I make myself burn.'
lek'ás DYN	tö EFF	p ^h el. ABS	'I cause the tree to burn (through a chain of events).'
lek'ás. DYN	--	--	'Something's doing some burning.' / 'Something's making some burning happen.'
Ék'ás. STA	--	--	'Something's burning.' / 'There's burning happening.'

Other patterns are possible. For example, the following chart shows patterns that can be used to translate variations on English '*I hit my leg with a rock*', or '*I hit myself on the leg with a rock*', or '*A rock hit me on the leg*'.

-č- informal Pattern 1, Stem 1 'physical contact' + FRC_{1/7} --> čalosk 'hit/strike'

-pr- informal Pattern 2, Stem 1 'leg (as physical body part)'

-kt- formal Pattern 1, Stem 1 '(piece of) rock'

tē = 'I' in genitive case referring to owner of the leg; combines as a prefix ê- with the various transrelative case forms of 'I' such as *to*, *tu*, *te*, etc. to give forms such as êto, êtu, êti.

hit/strike	I	my leg	rock	MEANING
lcálosk DYN	êto GEN / ERG	oprel ABS	aktáil INS	 LISTEN  Implies an intentional act against my leg, where my leg is seen as being an entity subjectively separate from myself, thus I am the agent while the leg is the patient. Translation: ' <i>I (intentionally) hit my leg with a rock</i> '.
lcálosk DYN	êtu GEN / IND	opral OBL	aktáil INS	In this pattern, the leg is no longer seen as a patient separate from myself as the agent. Rather, I am both agent and patient (i.e., I'm initiating the action against myself), and the role of the leg is de-emphasized to being merely a referent for the act of hitting, i.e., it is I who got hit, not the leg; the leg is merely the part of me that got hit. Consequently, The closest English translation would be ' <i>I (intentionally) hit myself with a rock on the leg</i> ', using a locative construction "on the leg" not present in the Ithkuil sentence. A stilted, but more accurate translation might be ' <i>I (intentionally) "leg-hit" myself with a rock</i> '.
lcálosk DYN	ête GEN / ABS	opral OBL	aktáil INS	This sentence masks an implied agent, emphasizing myself as the patient/victim, while, as in the sentence immediately above, the leg is reduced to merely a referent for the hitting, its status as a patient and as the location/site of the hitting suppressed. About the only way to show this suppression of agency in English is with a passive construction or a pseudo-passive construction using the verb 'get': ' <i>I am/get (intentionally) "leg-hit" with a rock</i> '.

Ičalosk DYN	ête GEN / ABS	prâ'ol LOC	aktáil INS	This sentence is like the one immediately above except that the leg is the location/site of the hit. Translation: ' <i>I am/get (intentionally) hit on the leg with a rock.</i> '
Ičalosk DYN	êtu GEN / IND	prâ'ol LOC	aktáil INS	Emphasizes that I am both agent and patient and that the leg is the location/site of the hitting. Translation: ' <i>I (intentionally) hit myself on my leg with a rock.</i> '
Ičalosk DYN	êtu GEN / IND	opral OBL	aktáil INS	Emphasizes that I am both agent and patient but with the leg reduced to merely the referent of hitting. Impossible to translate accurately into English except with the contrived sentences ' <i>I "leg-hit" myself with a rock</i> ' or ' <i>I (intentionally) get me my leg hit with a rock.</i> '
Ičalosk DYN	êti GEN / AFF	prâ'ol LOC	aktáil INS	Suppresses the agency of the action, and emphasizes myself as unwilling/accidental victim of the hitting, with my leg as the location/site of the hit. Translations: ' <i>I (accidentally) am/get hit on the leg with a rock.</i> '
Ičalosk DYN	êti GEN / AFF	opral OBL	aktáil INS	Like the example immediately above, except with the role of the leg reduced from location to mere referent of the verb. Translation: ' <i>I am/get "leg-hit"(accidentally) with a rock.</i> '
Ičalosk DYN	to ERG	—	aktáil INS	Translation: ' <i>I (intentionally) hit something with a rock / I (intentionally) do some hitting with a rock.</i> '
Ičalosk DYN	tu IND	—	aktáil INS	Translation: ' <i>I (intentionally) hit myself with a rock.</i> '
Ičalosk DYN	te ABS	—	aktáil INS	Translation: ' <i>I am/get (intentionally) hit with a rock.</i> '
Ičalosk DYN	ti AFF	—	aktáil INS	Translation: ' <i>I am/get hit (accidentally) with a rock.</i> '
Ičalosk DYN	—	tê opril AFF	aktáil INS	Here, the distinction between myself and the leg is suppressed, so that the leg is seen as the unwilling/accidental victim, not me: ' <i>My leg is/gets hit (accidentally) with a rock.</i> '
Ičalosk DYN	—	tê oprel ABS	aktáil INS	Translation: ' <i>My leg is/gets (intentionally) hit with a rock.</i> '
Ičalosk DYN	—	tê opral OBL	aktáil INS	This sentence reduces the role of the participant to the verb as merely an abstract referent for the hitting, with no implications of being the victim/target of hitting, or of me or the leg undergoing any tangible result of hitting. This can only be approximated in English by contrived translations such as " <i>Leg-hitting" with a rock occurs</i> " or ' <i>An act of hitting with a rock involving my leg occurs.</i> '
Ičalosk DYN	—	tê prâ'ol LOC	aktáil INS	Translation: ' <i>There occurs a hit on my leg with a rock. / A hit with a rock occurs on my leg.</i> '
Ičalosk DYN	—	—	aktáil INS	This sentence masks both agent and patient, as well as the location of the hitting, emphasizing only the instrument. Possible translations: ' <i>Hitting with a rock occurs,</i> ' or ' <i>The rock hits something,</i> ' or ' <i>Something gets hit with a rock.</i> '

Note that all of the above sentences can be restated without the presence of the rock as instrument:

hit/strike	I	my leg	MEANING

Ičalosk DYN	éto GEN / ERG	oprel ABS	'I (intentionally) hit my leg.'
Ičalosk DYN	étu GEN / IND	opral OBL	'I (intentionally) "leg-hit" myself.'
Ičalosk DYN	éte GEN / ABS	opral OBL	'I am/get (intentionally) "leg-hit".'
Ičalosk DYN	éte GEN / ABS	prâ'ol LOC	'I am/get (intentionally) hit on the leg.'
Ičalosk DYN	étu GEN / IND	prâ'ol LOC	'I (intentionally) hit myself on my leg.'
Ičalosk DYN	étu GEN / IND	opral OBL	'I "leg-hit" myself' or 'I (intentionally) get me my leg hit.'
Ičalosk DYN	éti GEN / AFF	prâ'ol LOC	'I am/get hit (accidentally) on the leg.'
Ičalosk DYN	éti GEN / AFF	opral OBL	'I (accidentally) am/get "leg-hit" or 'I (accidentally) get me my leg hit.'
Ičalosk DYN	to ERG	—	'I (intentionally) hit something.' / 'I do some hitting.'
Ičalosk DYN	tu IND	—	'I (intentionally) hit myself.'
Ičalosk DYN	te ABS	—	'I am/get (intentionally) hit.'
Ičalosk DYN	ti AFF	—	'I am/get hit (accidentally).'
Ičalosk DYN	—	tê opril AFF	'My leg is/gets hit.'
Ičalosk DYN	—	tê oprel ABS	'My leg is/gets (intentionally) hit.'
Ičalosk DYN	—	tê opral OBL	"Leg-hitting" occurs' or 'An act of hitting involving my leg occurs.'
Ičalosk DYN	—	tê prâ'ol LOC	'There occurs a hit on my leg. / A hit occurs on my leg.'
Ičalosk DYN	—	—	'Some hitting occurs' / 'Something does some hitting' / 'Something gets hit.'

Patterns with the rock in the DERIVATIVE case are also possible, in which the rock is seen as a blind force of nature (e.g., it has been hurled at the leg by a strong wind or has fallen on the leg from above, or has hit the leg after being kicked up by a passing vehicle, etc.).

hit/strike	I	my leg	rock	MEANING
lčalosk DYN	--	tē oprel ABS	aktúil DER	'The rock hits my leg.' / 'My leg is/getts hit by a rock.'
lčalosk DYN	ête GEN/ABS	prâ'ol LOC	aktúil DER	'The rock hits me on my leg.'
lčalosk DYN	ête GEN/ABS	opral OBL	aktúil DER	'I get my leg hit by the rock.' / 'I was/got "leg-hit" by the rock.'
lčalosk DYN	êti GEN/AFF	opral OBL	aktúil DER	'The rock "leg-hits" me.'
lčalosk DYN	ti AFF	--	aktúil DER	'The rock hits me.' / 'I am/get hit by a rock.'
lčalosk DYN	--	--	aktúil DER	'The rock hits something.'

Possible Ithkuil translations for the English sentence 'My back itches me.'

-kç- informal Pattern 1, Stem 1: 'itch'

-xn- informal Pattern 2, Stem 1: 'back, dorsal bodily surface'

OGN = ORIGINATIVE case

itch	I	my back	MEANING
Kças STA	êti GEN/AFF	oxnall OBL	 ئىچىڭ ئەتتىرىنىڭ LISTEN  'My back itches me.' This is grammatically acceptable and the most neutral or vague.
Kças STA	êti GEN/AFF	xnâ'oll LOC	'Itch on my back.' Emphasizes the bodily location of the itch.
Kças STA	êti GEN/AFF	oxnaell OGN	'The itching I'm feeling is coming from my back.' Conveys the sense of the back being the place of origin of the itch.

Again, each of the above Ithkuil sentences could delete the affective patient "I/me" from the sentence to render equivalents to the English sentence 'My back itches' and 'There's itching on my back.'

Use of the ABSOLUTIVE case with DYNAMIC function conveys the idea of an unnamed external agent that is causing the itching.

itch	I	my back	MEANING
Ikças DYN	êti GEN/AFF	oxnell ABS	'Something is making my back itch me.' Implies that the cause of the itching is an external unnamed agent.
Ikças DYN	ête GEN/ABS	xnâ'oll LOC	'Something is itching me on my back.' Switches the patient role to me as opposed to my back, and implies that the cause of the itching is an external unnamed agent.

If we remove the personal reference adjunct 'I/me' from the above two sentences, the respective translations become

'Something is itching my back' and 'Something itches on my back.'

4.3.13 Using Case to Achieve "Middle Voice" Semantic Effects

English (among other languages) allows some of its verbs to operate both transitively (i.e., taking a direct object) as well as intransitively (i.e., without a direct object), where the object of the transitive sentence becomes the subject of the intransitive sentence. Furthermore, the intransitive sentence describes the same potential event as the transitive version does, except that no agent is expressed, the focus of the sentence being on the result, not the act which gives rise to the result. Examples:

The manager opened the store at 8 a.m.
The store opened at 8 a.m.

Robert flies the airplane beautifully.
The airplane flies beautifully.

The engineer increased the pressure.
The pressure increased.

I molded the soft clay easily.
The soft clay molded easily.

Note that the second sentence of each pair above is semantically distinct from its passive voice equivalent (i.e., *The store was opened at 8 a.m.*, *The airplane is flown beautifully*, *The pressure was increased*, *The soft clay was molded easily*) in that passives allow for the agent to be overtly stated (using the preposition 'by' in English, as in *The store was opened by the manager*) or, if absent, nevertheless imply the existence of the agent. However, the intransitive sentences above (equivalent to "middle voice" constructions in languages such as Swahili or Turkish) do not allow for expression of an agent and are designed to suppress the semantic relevance (or saliency) of the agent.

However, English is very haphazard and idiosyncratic as to what verbs it allows to operate this way, often having to resort to paraphrase and idiomatic structures to accomplish the same effects as in the four intransitive sentences above. For example [ungrammatical sentences are preceded by an asterisk]:

Father painted the fence yellow.
* *The fence painted yellow.*
(But: *The fence came out yellow.*)

I noticed a storm on the horizon.
* *A storm noticed on the horizon.*
(But: *A storm came into view on the horizon.*)

The owner keeps scissors with the sewing supplies.
* *Scissors keep with the sewing supplies.*
(But: *Scissors belong/stay with the sewing supplies.*)

Fans buy beer a lot at baseball games.
* *Beer buys a lot at baseball games.*
(But: *Beer sells a lot at baseball games.*)

Of course, many English speakers would simply use the passive voice or a construction using 'get' to accomplish the same thing (i.e., *The fence was/got painted yellow*, *A storm was noticed on the horizon*, *The scissors are/get kept with the sewing supplies*, *Beer is/gets bought a lot at baseball games*.) without worrying about the existence of an implied agent.

Many languages utilize reflexive constructions to accomplish this effect, e.g., Spanish *Se habla español aquí*, literally "Spanish speaks itself here", meaning *Spanish is spoken here*.

Ithkuil, however, can manipulate the assignment of case to verb arguments to achieve this "middle voice" effect for any verb where it is semantically feasible, without having to resort to idiomatic constructions or paraphrase. For example:



Aikkaldhort âjnoccat̥.

'chew'-easily 'snails'-**ERGATIVE**

Snails chew easily. [meaning: It is easy for snails to chew things.]

[LISTEN](#)

versus:



Aikkaldhort âjneccat̥.

'chew'-easily 'snails'-**ABSOLUTIVE**

Snails chew easily. [meaning: It is easy to chew (on) snails.]

[LISTEN](#)

4.3.14 Specialized Suffixes Used to Expand the Functionality of the Transrelative Cases

It should be noted that Ithkuil provides an array of suffixes specifically designed to work in conjunction with nouns inflected into one of the Transrelative cases to significantly expand their ability to specify the exact nature of the causal relationships between participants to a verb in an Ithkuil sentence. These suffixes include the Consent **CNS** suffix, the Reason **RSN** suffix, the Expectation **XPT** suffix, the Deliberateness **DLB** suffix, the Enablement **ENB** suffix, the Agency/Intent **AGN** suffix, and the Impact **IMP** suffix. These affixes are detailed in [Section 7.4.12](#) and discussed further in [Section 10.1.2](#).

4.4 THE POSSESSIVE CASES

Those Western languages which have possessive cases usually have only one such case, often functioning in a vague and ambiguous way to show varying types of relationships between two nouns. For example, notice the differing relationships expressed by the possessive in the following English sentences:

- the man's hat* = the hat belonging to him [alienable possession]
- the man's house* = the house he legally owns [proprietary responsibility]
- the man's arm* = part of his body [inalienable component]
- the man's brother* = the brother related to him [genetic relationship]
- the man's happiness* = he feels happy [affective experience]
- the man's rescue* = he was or will be rescued [target of others' purpose]
- the man's gift* = the gift is for him [benefaction]
- the man's gift* = the gift is from him [source]
- the man's world* = the world in which he lives [inherent subjective association]
- the man's team* = the team he is associated with [interactive mutual association]
- the man's story* = the story about him [topical reference]
- the man's painting* = the picture he painted [creation/authorship]
- the man's command* = his being a commander [role or function]

In many instances, the English possessive is totally ambiguous, e.g., does 'the man's story' mean the one he wrote or the one about him? Regarding 'the man's rescue,' did the man do the rescuing or is he the one being rescued? Is 'the man's gift' one he is giving or receiving? Ithkuil is more exact in specifying the nature of these relationships via case. Many of the above relationships are addressed by the seven Possessive cases.

The Possessive cases make a distinction between alienable versus inalienable possession or attribution, as well as distinguishing whether the possession is inherent to the possessor or imposed or caused from without. These distinctions are explained below. Like Western languages (and unlike many American Indian and North Caucasian languages), the case marking is on the possessor noun, not the possessed. The seven Associative cases are the POSSESSIVE, PROPRIETIVE, GENITIVE, ATTRIBUTIVE, PRODUCTIVE, INTERPRETATIVE, and ORIGINATIVE. Following are explanations of the function and usage of each case. Actual Ithkuil examples of the cases in use are given in [Sec. 4.4.8](#).

4.4.1

POS

The Possessive Case

The POSSESSIVE case is marked by the **Vc** value **-â-**. The POSSESSIVE is used to refer to a noun 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 two nouns are not in any sense inherent parts of one another and the relationship between the two can be theoretically or actually terminated by an outside force or influence, or by decision of the possessor, usually by means of mere physical permanent separation of the possessor and possessed nouns. The possessive would be used to translate English phrases such as **his coat** (e.g., the one he is wearing, regardless of whether he owns it or not), **the boy's book** (e.g., the one in his hand), **Father's chair** (e.g., the one he happens to be sitting in, as in a restaurant).

4.4.2 PRP The Proprietive Case

The PROPRIETIVE case is marked by the **Vc** value **-î-** or alternately **-û-**; following **Cr** stems ending in **-w**, the **Vc** value is **-î-**, while following **Cr** stems ending in **-y**, the **Vc** value is **-û-**; after other **Cr** stems, either **Vc** value is permissible. The PROPRIETIVE identifies a noun 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 two nouns are not in any sense inherent parts of one another, however the relationship cannot be terminated except via an equally or more binding act, declaration, convention, law, process, etc. Using the same English examples used with the POSSESSIVE above, we can analyze the connotative difference: **his coat** (i.e., the one he owns, regardless of whether he is wearing it or not), **the boy's book** (e.g., the one he bought), **Father's chair** (e.g., the one assigned to him).

4.4.3 GEN The Genitive Case

The GENITIVE case is marked by the **Vc** value **-ê-**. The GENITIVE is used to refer to a noun which has inalienable (i.e., unremovable, unseverable) 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, e.g., **my hand**, **the building's doors**, **the child's father**, **the essence of that woman**.

4.4.4 ATT The Attributive Case

The ATTRIBUTIVE case is marked by the **Vc** value **-ô-**. The ATTRIBUTIVE is used to refer to a noun 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. Examples: **his pain**, **Mother's guilt**, **the child's cough**, **Dorothy's mood**, **Davey's happiness**, **the teacher's stubbornness**, **my needs**.

4.4.5 PDC The Productive Case

The PRODUCTIVE case is marked by the **Vc** value **-ëi-**. The PRODUCTIVE identifies the creator, author or originator of another noun, e.g., **the girl's poem**, **the clowns' plan**, **my statue** (i.e., the one I sculpted).

4.4.6 ITP The Interpretative Case

The INTERPRETATIVE case is marked by the **Vc** value **-öi-**. The INTERPRETATIVE identifies a noun acting as the subjective interpretational context of another noun, that is the noun by or through which another noun is subjectively interpreted or described, as exemplified by the phrases **Monet's Paris**, **our world**, **life as seen by children**.

4.4.7 OGN The Originative Case

The ORIGINATIVE case is marked by the **Vc** value **-æ-**. The ORIGINATIVE identifies a noun as being the literal or figurative source of another, or which is the native location, origin, or usual locational context for another, e.g., **the man's story** (i.e., the one he told), **our gift** (i.e., the one we are giving), **water from the river**, **the fruit of the tree**, **Fix the**

kitchen sink! (i.e. the one found in the kitchen), **Desert rocks** are so beautiful (i.e., whether being spoken about rocks taken from the desert or rocks still present in the desert), **Northern women** are easy-going.

The ORIGINATIVE should be distinguished from the ABLATIVE in [Section 4.7.5](#) below, in that the ABLATIVE position or path of motion away from, whereas the ORIGINATIVE merely presents a locational context as a means of description or to distinguish the noun from an otherwise similar noun.

4.4.8 Examples of Possessive Cases in Use



ultánj êmmâl

STA-'page.of.writing'-OBL-NRM/DEL/M/SEG/COA-FML STA-'male child '-**POS**-NRM/DEL/M/CSL/UNI-IFL

'the boy's book' [i.e., the one he has in his immediate possession, not one he necessarily owns]

[LISTEN](#)



ultánj êmmûl

STA-'page.of.writing'-OBL-DEL/M/SEG/COA-FML STA-'male child '-**PRP**-NRM/DEL/M/CSL/UNI-IFL

'the boy's book' [i.e., the one he owns]

[LISTEN](#)



öptal àctêl

STA-'interior.corner'-OBL-NRM/DEL/M/CSL/UNI-IFL STA-'room/chamber'-**GEN**-NRM/DEL/M/CSL/UNI-FML

'corner of a room'

[LISTEN](#)



xal aktrôl

STA-'see+thing.seen'-OBL-NRM/DEL/M/CSL/UNI-IFL STA-'eagle'-**ATT**-NRM/DEL/M/CSL/UNI-IFL

'what the eagle sees'

[LISTEN](#)



lsval êzguirs èksôt âmmit.

DYN-'fear'-NRM/DEL/M/CSL/UNI-IFL STA-'sound.of.laughter'-DER-NRM/PRX/M/CSL/AGG-IFL STA-'clown'-**ATT**-NRM/DEL/U/CSL/UNI-FML STA-'child'-

AFF-NRM/DEL/U/CSL/UNI-IFL

[LISTEN](#)

'The sound of the clowns' laughter frightens the children.'



ultánj êmmëil

STA-'page.of.writing'-OBL-NRM/DEL/M/SEG/COA-FML STA-'male child'-**PDC**-NRM/DEL/M/CSL/UNI-IFL

'the boy's book' [i.e., the one he authored]

[LISTEN](#)



lolmámž ûmmöil.

DYN-'measure.of.music'-NRM/PRX/M/COA/CST-FML STA-'mother'-**ITP**-NRM/DEL/M/CSL/UNI-IFL

'They're playing mother's song.'

[i.e., the one that is special to her] [LISTEN](#)



âmpafsec éqael

STA-'whiff.of.odor'-OBL-NRM/PRX/M/CSL/SEG-QUA₁/3-IFL STA-'woman'-**OGN**-NRM/DEL/M/CSL/UNI-IFL

4.5 THE ASSOCIATIVE CASES

The Associative cases refer to a large group of cases which modify a noun to show that it has some relationship to another, usually adjacent noun or that it functions in an adverbial relationship to a verb. Most of these cases correspond to relationships in which, in English translation, we find two nouns together in apposition or as a compound noun, as in *cat box*, *schoolbook*, *peace march*, *mountain man*, etc., or joined by the word 'of' in a non-possessive relationship, e.g., *box of coins*, *dreams of youth*, *sounds of laughter*, or as a modifier of a verbal phrase. Following are explanations of the function and usage of each case. Actual Ithkuil examples of the cases in use are given in [Sec. 4.5.33.](#)

4.5.1 PAR The Partitive Case

The PARTITIVE case is marked by the **Vc** value **-ia-** or **-ua-**; following **Cr** stems ending in **-w**, the **Vc** value is **-ia-**, while following **Cr** stems ending in **-y**, the **Vc** value is **-ua-**; after other **Cr** stems, either **Vc** value is permissible. When used in conjunction with another noun, the PARTITIVE 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*. When used alone, it signifies that the context of the phrase or sentence involves only a portion of the noun, rather than the whole noun, e.g., *I ate some bread*, *Pour (some) water down my back*.

The PARTITIVE is also used to mark a noun qualified by a specific number, e.g., *three boxes*, *two clowns*, *twenty words*. This usage is analyzed in detail in Chapter 12, where we will see that, in Ithkuil, numbers are formatives (i.e., full nouns and verbs), not adjectives as in Western languages. Additionally, a noun qualified by a number is not pluralized. In other words, one does not say 'three boxes,' but rather "a trio of a box" or perhaps more eloquently, "a box trio."

The PARTITIVE case is also used in constructing words for Ithkuil numbers beginning with two hundred. This is also detailed in Chapter 12 on enumeration.

4.5.2 CRS The Contrastive Case

The CONTRASTIVE case is marked by the **Vc** value **-ie-** or **-ue-**; following **Cr** stems ending in **-w**, the **Vc** value is **-ie-**, while following **Cr** stems ending in **-y**, the **Vc** value is **-ue-**; after other **Cr** stems, either **Vc** value is permissible. The CONTRASTIVE identifies a noun which has been replaced by another or for which another noun has been substituted. This is translatable by the English phrases 'instead of' or 'rather than' or 'as opposed to,' or specialized uses of 'not,' e.g., *Instead of rain, it snowed*; *They hired her as a cook, as opposed to a maid*; *I prefer peas to carrots*; *Rather than marigolds, let's buy carnations*; *That's sugar, not salt*.

4.5.3 CPS The Compositive Case

The COMPOSITIVE case is marked by the **Vc** value **-io-** or **-uo-**; following **Cr** stems ending in **-w**, the **Vc** value is **-io-**, while following **Cr** stems ending in **-y**, the **Vc** value is **-uo-**; after other **Cr** stems, either **Vc** value is permissible. The COMPOSITIVE 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*.

The COMPOSITIVE is also used in conjunction with verbs to identify the material(s) or resources used up or consumed in performing or undertaking an activity. Examples of this usage would be *She likes to cook with tomatoes*, *He reads by candle(light)*, *That child goes through four sets of clothes a day*, *My uncle satisfied his sweet tooth with three chocolate bars*.

4.5.4 PRD The Predicative Case

The PREDICATIVE case is marked by the **Vc** value **-iö-** or **-uö-**; following **Cr** stems ending in **-w**, the **Vc** value is **-iö-**,

while following **Cr** stems ending in **-y**, the **Vc** value is **-uö-**; after other **Cr** stems, either **Vc** value is permissible. The PREDICATIVE identifies a noun which constitutes 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*, *Can success supported by murder be sustained?*

The PREDICATIVE should be distinguished from Transrelative cases such as the DERIVATIVE or INSTRUMENTAL, in that the PREDICATIVE does not denote a cause, merely the sustaining entity on which another depends, e.g., it would not be used to translate *anxiety based on terror*, as the anxiety does not ‘rely’ or ‘depend’ on terror, but rather is caused by it. Similarly, in the phrase *an attitude fueled by greed*, the attitude derives from or results from greed, but is not relying on it.

4.5.5 MED The Mediative Case

The MEDIATIVE case is marked by the **Vc** value **-a'**. The MEDIATIVE indicates the physical, psychological, or figurative medium through which another noun or event takes place. It would be used in translating phrases or sentences such as a *radio announcement*, *arrival by water*, *a letter bomb*, *air mail*, *achieving ecstasy through sex*, *I showed her my love with chocolate*. It should be distinguished from the INSTRUMENTAL case (see [Section 4.3.8](#) above), which signifies the actual instrument or physical means used to accomplish a causative action. For example, in the sentence *Call him on the phone!*, translating the phrase *on the phone* into the INSTRUMENTAL case would signify ‘Use the phone (i.e., the one in the room) to call him,’ whereas inflection into the MEDIATIVE case would mean ‘Call him via the medium of telephony.’

4.5.6 APL The Applicative Case

The APPLICATIVE case is marked by the **Vc** value **-u'**. The APPLICATIVE identifies a noun which represents the purpose for which another noun is to be utilized in a given instance. As such, it usually translates English ‘for’ when meaning ‘for the temporary or incidental use/purpose of.’ Examples of usage would be *a cup for coffee* (i.e., a cup being used incidentally to hold coffee), *a box for tools* (i.e., the box is only temporarily being used to hold tools), *a room for changing*. Note that the use of the APPLICATIVE can extend to usages beyond English ‘for,’ as in a “*weapon*” *cat* = ‘a cat used as a weapon,’ or a “*projectile*” *book* = ‘a book used as a projectile.’

4.5.7 PUR The Purposive Case

The PURPOSIVE case is marked by the **Vc** value **-e'**. The PURPOSIVE identifies a noun which characterizes or defines the purpose of, or reason for, another noun. The PURPOSIVE is subtly distinct from the APPLICATIVE above, in that the latter names the actual use to which a noun is put on a given occasion or in given context, whereas the PURPOSIVE defines another noun’s general function or primary reason for being, outside of any contextual instance, i.e., what the noun is used for all the time (or at least its intended use). It generally translates English ‘as,’ ‘of’ or ‘for’ when meaning ‘for the purpose of’ or alternately an English noun-noun expression or a compound noun. Examples of usage would be a *coffee cup*, *a toolbox*, *a litter box*, *a trashcan*.

4.5.8 CSD The Considerative Case

The CONSIDERATIVE case is marked by the **Vc** value **-o'**. The CONSIDERATIVE identifies a noun as the delimiting or defining context in which an act, state or event occurs or is considered. Thus, it translates English terms such as ‘according to,’ ‘pursuant to,’ ‘as per,’ ‘in the opinion of.’ Examples of usage would be *In my opinion he's a coward; He's leaving town as per orders from the court; You were arrested pursuant to law; According to our teacher, humans are descended from apes.*

4.5.9 ESS The Essive Case

The ESSIVE case is marked by the **Vc** value **-ea-**. The ESSIVE identifies the role or name by which a noun is known or contextually identified. It translates English ‘as’ in the sense of naming or reference to the a nouns functional identity. It would be used in translating the English sentences *They called him a clown*, *The woman entered the club as an equal*

of any man, We consider you our **only hope**.

4.5.10 ASI The Assimilative Case

The ASSIMILATIVE case is marked by the **Vc** value **-eo**. The ASSIMILATIVE identifies a noun used as a context for analogy or metaphorical comparison to either another noun or a verb. Thus, it translates English 'like' or 'as' in the sense of comparison or analogy between one thing and another. Examples of usage are *She sings like a bird, As children they seemed to me.*

4.5.11 FUN The Functive Case

The FUNCTIVE case is marked by the **Vc** value **-eö-**. It functions similarly to English adverbs ending in *-ly* or the adverbial use of *with*, identifying the manner in which an action, event, or state occurs or exists. More exactly, it identifies a noun used to characterize the manner of the act, state, or event, translatable most accurately by the phrase 'in a manner characterized by....' Examples would be: *She dances gracefully* (i.e., in a manner characterized by grace), *The boys ate with gusto, That clown is speaking nonsense, Father speaks with such fortitude.*

4.5.12 TFM The Transformative Case

The TRANSFORMATIVE case is marked by the **Vc** value **-oa-**. The TRANSFORMATIVE 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 having undergone some transformation. Example usages would be *The house burned to ashes, The clown reached a state of tranquility, The clowns will turn our children into slaves, Her father drank himself to death.*

4.5.13 REF The Referential Case

The REFERENTIAL case is marked by the **Vc** value **-oe-**. The REFERENTIAL identifies a noun functioning as the general referent of the verb, translating such English terms as 'about,' 'regarding,' 'concerning,' 'in regard to,' 'in reference to,' 'pertaining to,' or 'as for.' Examples of use would be *a song of love; As for those books, burn them!; Let's talk about clowns; His attitude toward women.*

4.5.14 CLA The Classificative Case

The CLASSIFICATIVE case is marked by the **Vc** value **-öa-**. The CLASSIFICATIVE identifies a noun as a basis for arranging, sorting, classifying, or counting, translating various English prepositions and phrases used for this purpose. Example of usage are *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.*

The CLASSIFICATIVE is also used to identify a noun considered in consecutively recurring increments as a means of describing the manner of an event. This is usually in conjunction with nouns denoting time periods, but can be used with any concrete noun to describe the repetitive nature of an event. Examples would be *Month by month, their departure crept closer; Year after year, I see more and more clowns; Day in, day out, he's always working; The fertilizer factory keeps rolling them out, bag upon bag; Patient by patient, the nurse administered injections.*

Note that the CLASSIFICATIVE would not be used to describe a noun other than adverbially, e.g., it would not be used to translate the sentence *One bomb after another fell on the city*. Such a construction would utilize a suffix indicating sequential instantiations of the noun (see [Sec. 7.4.4](#)).

4.5.15 CNV The Conductive Case

The CONDUCTIVE case is marked by the **Vc** value **-öe-**. The CONDUCTIVE identifies the meaningful or relevant context of another. It can be thought of as conveying the relationship signified by the expressions 'having to do with,' 'as it

pertains to,' or 'considered within the context of.' Examples of English phrases translatable using this case are *a circus clown*, *a mountain man*, *a feeling of loneliness*, *the Mafia's world*, *a realm of fear*, *my life achievement*, *childhood memories*, *Let's discuss the morality of war*.

4.5.16 IDP The Interdependent Case

The INTERDEPENDENT case is marked by the **Vc** value **-üä-** unless the preceding **Cr** stems ending in **-w** or **-y**, in which case the **Vc** value is **-i'-**. The INTERDEPENDENT identifies a noun 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, e.g., *the students' teacher*, *an army general*, *the blood in my veins*, *the driver of the truck*, *the nation's leader*, *his team* (i.e., the one on which he's a member). Note that this case does not imply a part-whole dependency as with the GENITIVE case above, e.g., it would not be used to translate *the book's pages*, or *the leaves of a tree*.

4.5.17 BEN The Benefactive Case

The BENEFACTIVE case is marked by the **Vc** value **-üe-** unless the preceding **Cr** stems ending in **-w** or **-y**, in which case the **Vc** value is **-ö'-**. The BENEFACTIVE identifies a noun for whose sake or benefit an action or event occurs or is done. As such, the BENEFACTIVE is similar to the DATIVE, except that the BENEFACTIVE implies a strong emphasis on the fact that the noun is more than simply the recipient or target of a dative action, but rather benefits in a tangible or consequential way from the action or event. It is usually translated by English 'for' in the sense of 'for the sake (i.e., benefit) of.' Examples of usage are *a toy for the children*, *We threw him a party*, *Go to the teachers' lounge*.

The BENEFACTIVE also translates the English phrases 'out of respect for,' 'for the sake of,' or 'in deference toward,' identifying the noun to which deference is paid within the context for an act, condition, or event. Examples of usage would be *He remained silent for her sake*, *They went on with the ceremony out of respect for the families*, *They dressed in robes because of tradition*.

4.5.18 TSP The Transpositive Case

The TRANSPOSITIVE case is marked by the **Vc** value **-üö-** unless the preceding **Cr** stem ends in **-w**, in which case the **Vc** value is **-i'-**, or the preceding **Cr** stem ends in **-y**, in which case the **Vc** value is **-û'**. The TRANSPOSITIVE implies substitution of one noun for another. It translates English 'for' in the sense of 'on behalf of,' 'in place of,' or 'instead of' (i.e., 'as a substitution for'). Examples of usage are *The boss made the speech for me*, *She went up into the attic for her brother* (i.e., so he wouldn't have to).

4.5.19 CMM The Commutative Case

The COMMUTATIVE case is marked by the **Vc** value **-au-**. The COMMUTATIVE translates English 'for' in the sense of 'in exchange for' as in *You paid too much money for that dress*, *She kills for thrills*.

4.5.20 COM The Comitative Case

The COMITATIVE case is marked by the **Vc** value **-eu-**. Similar to its counterpart in Uralic languages such as Finnish or Estonian, the COMITATIVE translates the English 'with' in its meaning of accompaniment (i.e., 'along with') as in *The child went with the clown to the party*. Like English 'with,' the COMITATIVE does not imply that the conjoined noun is necessarily engaged in the same activity or associated with the same verb as the head noun. For example, in the sentence *My father was walking with a loaf of bread*, the loaf of bread is not considered to be itself walking.

It should be noted, however, that the COMITATIVE is not used to imply mutually interactive or reciprocal activity between two nouns. Thus it would not be used in translating the sentences *They danced with each other* or *Mother wants to talk with you*. These would be translated using the RECIPROCAL valence of the verb, explained in [Section 5.7](#). This distinction is illustrated even more clearly by comparing the following two sentences; the first would be translated using

the COMITATIVE, the second would not: *This man fought with my father* (e.g., alongside him during the war) versus *This man fought with my father* (e.g., they had a fight with each other).

Note also that the COMITATIVE is not used to indicate instrumentality (English ‘with’ meaning ‘by means of’). Thus, it is not used to translate sentences such as *I cut the meat with a knife*. As previously discussed in [Section 4.3.8](#), instrumentality is indicated by use of the INSTRUMENTAL case. Likewise, it is not used to identify the resources or material(s) consumed in undertaking an act, as in He catches his fish with worms for which the COMPOSITIVE case is used.

4.5.21 CNJ The Conjunctive Case

The CONJUNCTIVE case is marked by the **Vc** value **-iu-**. The CONJUNCTIVE translates English ‘with’ in its meaning of ‘in conjunction with,’ i.e., to indicate that the noun is engaged in the same activity or a complementary activity as the conjoined noun. It should be distinguished from the COMITATIVE above, which indicates mere accompaniment. For example, in the *walking with a loaf of bread* example from above, it would be incorrect to use the CONJUNCTIVE case because that would signify the bread was walking, too. To further illustrate the usage, consider the sentence *I'm with the brigade*. Translating ‘brigade’ using the COMITATIVE would mean that ‘I've come along (e.g., drove) with the brigade to the scene,’ while using the CONJUNCTIVE would mean ‘I'm a member of the brigade.’ Additional examples where the CONJUNCTIVE would be used are *They skate with the best team*, *That teacher works well with children*.

4.5.22 UTL The Utilitative Case

The UTILITATIVE case is marked by the **Vc** value **-ou-**. The UTILITATIVE identifies a noun in the process of being utilized. This corresponds to the use of English ‘with’ where it refers to actual use in progress as in *A man with a gun ran into the room*. It should be distinguished from the INSTRUMENTAL (see [Sec. 4.3.8](#)) in that the latter indicates the implement used to accomplish an action, while the UTILITATIVE identifies a noun in use, but does not imply that the noun was the implement used to accomplish a stated action. For example, compare the sentence *The man with an umbrella was pushing a stroller in the rain* (UTILITATIVE) with *The man pushed a stroller in the rain with an umbrella* (INSTRUMENTAL). The first sentence implies the man was pushing a stroller with one hand while holding an open umbrella against the rain, whereas the second sentence has him using the umbrella to push the stroller. Another way to translate the UTILITATIVE would be to use an English gerundial construction as in *A gun-wielding man ran into the room* or *An umbrella-toting man pushed a stroller in the rain*.

Besides the INSTRUMENTAL, the UTILITATIVE should likewise be distinguished from the COMITATIVE case above, in that the COMITATIVE merely indicates accompaniment, while the UTILITATIVE indicates use in progress. For example, the sentence *Go sit next to the girl with the book*, if translated using the COMITATIVE would merely identify a girl who has a book in her visible possession, while with the UTILITATIVE it would mean the girl is actually engaged in reading the book.

4.5.23 ABE The Abessive Case

The ABESSIVE case is marked by the **Vc** value **-eu-**. The ABESSIVE is essentially the opposite of the COMITATIVE, translating the English ‘without’ or ‘-less’ in the sense of ‘unaccompanied by’ or ‘not having’ as in *a day without rain* or *a treeless plain*. As noted in the next section below on the CONVERSIVE case, it is **not** used to translate ‘without’ when it means ‘unless one has,’ referring to a hypothetical exception to a potential outcome as in *I can't go on without love*.

4.5.24 CVS The Conversive Case

The CONVERSIVE case is marked by the **Vc** value **-öu-**. The CONVERSIVE is used in conjunction with hypothetical or potential contexts to identify a hypothetical exception to a potential outcome or an actual circumstance which alters or has altered a potential outcome. This translates two different ways into English. Where it indicates an exception to a hypothetical situation, it is translated by the conjunction ‘unless’ in verbal contexts, and by the preposition ‘without’ for nouns (note that ‘without’ in this sense does not correspond to its usual ABESSIVE usage in Sec. 4.5.23 above). If applied to a real or actual situation, it is translatable by such expressions as ‘but for,’ ‘if not for,’ ‘if it wasn't for,’ or ‘if it wasn't on account of.’ Example of usage: **Without peace, this society is doomed; If not for the rain, we would have had a good**

time.

4.5.25 COR The Correlative Case

The CORRELATIVE case is marked by the **Vc** value **-ai'**. The CORRELATIVE is used to indicate an abstract relationship, association, or conjunction between a noun and another noun or verb, including subjective, contextual, metaphorical, or symbolic associations. It translates general phrases such as 'relative to,' 'in relation to,' 'in correlation with,' 'in association with,' etc. It would be used in translating phrases such as **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 (or in) art** (i.e., the relationship between art and sex). Additional examples are **years of wonder**, **the Clown Planet**, **life blood**, **city of evil**. Note that the CORRELATIVE case would often be used to translate constructions for which English often uses an adjective, e.g., **spatial coordinates**, **the political economy**, **a dangerous situation** (i.e., a situation characterized by danger).

When used in contexts involving directional motion or spatial positioning is, the CORRELATIVE signifies the directional orientation or position of one noun relative to another, i.e., a noun relative to whose position in space another noun is being described for purposes of spatial orientation. To an English-speaker, the function of this case makes greater sense once one realizes that, in Ithkuil, most one-to-one spatial relationships are described by verbs, not prepositions, e.g., 'to be situated on the right,' 'to move beneath,' etc. Consequently, this use of the CORRELATIVE case can be thought of as expressing the phrase 'relative to.' Examples of how it would be used are **I'm standing four feet north of the desk**, **The one hanging above the boxes looks fresh**, **It lies at a 30° angle relative to the tree**, **He turned his back on me**, **The upstairs bedroom faces the yard**, **It's alongside the desk** (i.e., its lateral surface is oriented toward the desk).

As will be described in [Section 5.4.2.3](#), the CORRELATIVE is used with verbal case-frames to convey the equivalent of simple relative clauses in Western languages.

4.5.26 DEP The Dependent Case

The DEPENDENT case is marked by the **Vc** value **-ui'**. The DEPENDENT translates the English phrase 'depending on' signifying a noun as the contingency on which the reality of a main clause depends. Examples of usage would be **Depending on the rain, we'll go for a picnic; She may show up, depending on her attitude**.

The DEPENDENT should be distinguished from the PREDICATIVE case in [Sec. 4.5.4](#), in that the former denotes contingency, while the PREDICATIVE denotes reliance.

4.5.27 PVS The Provisional Case

The PROVISIONAL case is marked by the **Vc** value **-ei'**. The identifies the noun, situation, or circumstance on which the factuality of the main clause of the sentence depends, i.e., the required condition(s) which must come into existence for the situation described in the main clause to occur. This is translatable by such English phrases as 'provided (that),' 'on condition of,' 'only in case of,' or 'but only if,' e.g., **Provided [there's] food, I will attend the meeting; We will fight only in case of war**.

4.5.28 PTL The Postulative Case

The POSTULATIVE case is marked by the **Vc** value **-oi'**. The operates somewhat similarly to the PROVISIONAL above, except that the POSTULATIVE implies a causal or consequential relationship (not merely a circumstantial one) between the pre-condition(s) and the circumstances of the main clause. Specifically, it identifies the noun, situation, or circumstance whose factuality has not yet come into existence, but, should it come into existence, will result in the consequence indicated by the main clause. This is translatable by English 'if,' or 'in case of.' Note that it does not translate English 'if' where it means 'whether' as in *I don't know if it's warm enough*, i.e., where the clause is meant only to convey uncertainty or optionality (but not a causal relationship between a potential condition and its consequences). Examples of usage: **If [there's] snow, I'm not going out; In case of fire, flee; If friend, welcome them, if foe, kill 'em**.

The example below is offered to further distinguish the use of the POSTULATIVE case from the PROVISIONAL case above:

PROVISIONAL: *We're packing umbrellas, but only in case of bad weather* (i.e., umbrellas will not be packed unless the weather is actually bad).

POSTULATIVE: *We're packing umbrellas in case of bad weather* (i.e., the umbrellas are being packed in preparation for the possibility of bad weather).

4.5.29 CON The Concessive Case

The CONCESSIVE case is marked by the **Vc** value **-au'**. The CONCESSIVE case identifies a noun, situation, or circumstance which gives rise to an expectation of a certain result which, in fact, does not occur. This can be translated by various English prepositions, conjunctions, or phrases such as 'despite,' 'in spite of,' 'notwithstanding,' 'although,' 'regardless of,' 'no matter what,' etc. Examples of usage: **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 foreigners, we will let them attend the meeting.**

4.5.30 EXC The Exceptive Case

The EXCEPTIVE case is marked by the **Vc** value **-iu'**. The EXCEPTIVE indicates a noun, situation, or circumstance which is an exception, or is exempted or excluded from the main clause, translatable by English 'except (for),' 'but (not),' or 'excluding.' Examples of usage: **She loves everybody except clowns; I like all animals, excluding dogs; He eats almost anything but (not) spinach.**

4.5.31 AVR The Aversive Case

The AVERSIVE case is marked by the **Vc** value **-eu'**. The AVERSIVE identifies a noun as 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 verb phrases (i.e., case-frames; see [Sec. 5.2](#)) , it would translate English 'lest.' Examples of usage are **She finished her plate for fear of my wrath, I traveled by night to avoid the sun.**

4.5.32 CMP The Comparative Case

The COMPARATIVE case is marked by the **Vc** value **-ou'**. The COMPARATIVE identifies a noun being compared to another. It translates such expressions as 'as compared to,' or certain usages of 'versus' or 'as opposed to.' It is similar to the CONTRASTIVE case (see Section 4.5.2 above), except that it does not carry the sense of opposition, joint exclusivity, or either-or binary substitution of the CONTRASTIVE, but rather merely comparison/choice/preference from various options or along a spectrum or scale. With verbal case-frames (see [Sec. 5.4](#)) it would translate as 'whereas' or 'while' (in its synonymous usage to 'whereas'). Examples are **She chose the red one as opposed to the others, Sam drives a van versus Joe, who prefers a truck, You'll find it in Room Twelve** [as opposed to a room with a different number].

4.5.33 Examples of Associative Cases in Use



âkyuál vlalêx

STA-'coffee.bean.drink'-**PAR**-NRM/DEL/M/CSL/UNI-FML STA-'contain.via.gravity/basin'-NRM/DEL/M/CSL/UNI-SIZ₂/3-IFL
'cup of coffee' [LISTEN](#)



âkniel

STA-'pet.snake'-**CRS**-NRM/DEL/M/CSL/UNI-IFL
'as opposed to the pet snake / rather than the pet snake'

[LISTEN](#)



uçtál op^hiol

STA-'wall.of.room'-OBL-NRM/DEL/M/CSL/UNI-FML STA-'wood'-CPS-NRM/DEL/M/CSL/UNI-IFL
'wooden wall' [LISTEN](#) 



t^harl riöč

STA-'law/statute'-OBL-NRM/DEL/M/ASO/AGG-IFL STA-'reason'-PRD-NRM/DEL/A/ASO/UNI-IFL
'laws based in reason' [LISTEN](#) 



Opçav ökcul ödhá'sk.

DYN-'(self).directed.motion.throughout.three.dimentional.volume'-NRM/PRX/N/VAR/UNI-IFL STA-'virus'-IND-NRM/DEL/M/CSL/UNI-IFL STA-

'drink.of.water'-MED-NRM/DEL/M/CSL/CST-FML

'The virus spreads via the drinking water.' [LISTEN](#) 



âkyú'l vialêx

STA-'coffee.bean.drink'-APL-NRM/DEL/M/CSL/UNI-FML STA-'contain.via.gravity/basin'-OBL-NRM/DEL/M/CSL/UNI-SIZ₂/3-IFL
'cup being used for coffee'



âkyé'l vialêx

STA-'coffee.bean.drink'-PUR-NRM/DEL/M/CSL/UNI-FML STA-'contain.via.gravity/basin'-DEL/M/CSL/UNI-SIZ₂/3-IFL
'coffee cup' [LISTEN](#) 



esro'láun

STA-'prepared/cooked food'-CSD-NRM/DEL/M/CSL/UNI-FML-AGC₂/2
'according to the cook' [LISTEN](#) 



Idawelar êmmil ukšeal.

DYN-'nickname/label'-DIR-NRM/DEL/M/CSL/UNI-NA1₁/5-IFL STA-'male.child'-AFF-NRM/DEL/M/CSL/UNI-IFL STA-'nerd'-ESS-NRM/DEL/M/CSL/UNI-IFL
'Don't call the boy a nerd.' [LISTEN](#) 



las almeodh

STA-'voice'-OBL-NRM/PRX/M/CSL/UNI-IFL STA-'musical.note'-ASI-NRM/DEL/PRX/N/CSL/UNI-IFL
'a voice like music'



eqteöck

STA-'degree.of.happiness'-FUN-NRM/PRX/A/CSL/UNI-FML

'happily/in a manner characterized by happiness' [LISTEN](#) 



~Sakč'a tō myicka zboack.

CPT-STA-'change.state'-NRM/GRA/U/CSL/UNI-IFL 1m/ATT STA-'sense.of.gratitude'-AFF-NRM/PRX/A/CSL/UNI-IFL
STA-'feeling.of.anger'-**TRM**-NRM/PRX/A/CSL/UNI-IFL

'My sense of gratitude gradually turned into anger.'

[LISTEN](#) 



ultánl açk^hwoet

STA-'page.of.writing'-OBL-NRM/DEL/M/SEG/COA-FML STA-'porcupine'-**REF**-NRM/DEL/N/CSL/UNI-IFL

'a book about porcupines'

[LISTEN](#) 



kpöal

STA-'extent.of.spatial.length'-**CLA**-NRM/DEL/M/CSL/UNI-IFL

'lengthwise'

[LISTEN](#) 

4.6 THE TEMPORAL CASES

The temporal cases deal with contexts relating to time. In many respects, Ithkuil analyzes time similarly to Western languages, particularly in the ability to spatially compartmentalize time as seen in such English phrases as 'in 3 hours,' 'for 5 years,' 'day by day,' and 'per month,' as well as in analyzing time as progressively linear using concepts such as 'before,' 'after,' 'during,' 'until,' and 'ago.' The fifteen temporal cases are the SIMULTANEITIVE, ASSESSIVE, CONCURSIVE, ACCESSIVE, DIFFUSIVE, PERIODIC, PROLAPSIVE, PRECURSIVE, POSTCURSIVE, ELAPSIVE, ALLAPSIVE, INTERPOLATIVE, EPISODIC, PROLIMITIVE, and LIMITATIVE. Following are explanations of the function and usage of each case. Actual Ithkuil examples of these cases in use are provided in [Sec. 4.6.16](#).

4.6.1 SML The Simultaneitive Case

The SIMULTANEITIVE case is marked by the **Vc** value **-a'a-**, or optionally **-a'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The SIMULTANEITIVE identifies a noun signifying a time period simultaneous to the act, state, or event under discussion. Examples would be *I was in class at the same time as his accident, I worked a side-job concurrent to the strike, She laughed simultaneously with my coughing fit.*

4.6.2 ASS The Assessive Case

The ASSESSIVE case is marked by the **Vc** value **-e'a-**, or optionally **-e'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

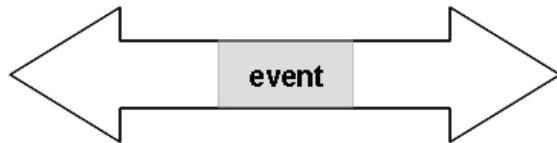
The ASSESSIVE specifies the unit of time by which a contextual ratio of measurement is created, corresponding to English 'by' or 'per.' Examples would be *My lawyer charges by the minute, He publishes several books each year, The clown drove the fun-mobile at 90 miles per hour.*

4.6.3 CNR The Concursive Case

The CONCURSIVE case is marked by the **Vc** value **-i'a-**, or optionally **-i'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The CONCURSIVE serves as a "temporal locative" signifying the beginning and ending boundaries of time during or at which an act, state, or event occurs, the whole of which being considered a single contextual situation. Examples of usage

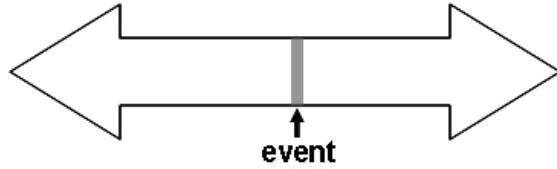
would be *He prays during lunch*, *She studied hard last night*, *I won't visit until then* (i.e., during that period in time).



4.6.4 ACS The Accessive Case

The ACCESSIVE case is marked by the **Vc** value **-o'a-**, or optionally **-o'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The ACCESSIVE is similar to the CONCURSIVE, except that the time identified is specific to a single moment or a brief, highly delimited period seen in context as one moment, i.e., the point in time at which something occurs. Examples of usage would be *Dinner will be served at sunset; When* (i.e., at the moment that) *you hear his voice, call in the clowns; Upon impact, both cars were accelerating.*



4.6.5 DFF The Diffusive Case

The DIFFUSIVE case is marked by the **Vc** value **-u'a-**, or optionally **-u'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The DIFFUSIVE is yet another temporal locative similar to the CONCURSIVE, except that the time period identified does not have explicit boundaries, only being centered on the period identified by the noun. It is best expressed by the English phrase 'during the time surrounding....' Examples of usage would be *Most cars had tail fins in those days; I was abroad during that era; At the time of his death, the number of clowns was increasing; Over the past several seasons, your talent has matured.*



4.6.6 PER The Periodic Case

The PERIODIC case is marked by the **Vc** value **-ö'a-**, or optionally **-ö'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

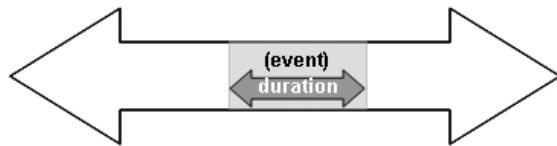
The PERIODIC identifies the span of time at some point(s) during which, an act, condition, or event occurs. This case should be distinguished from the CONCURSIVE above, in that the CONCURSIVE signifies a contextually single holistic event, whereas the PERIODIC specifies a time frame in which separate events, repetitions, or durationally extended 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.*



4.6.7 PRO The Prolapsive Case

The PROLAPSIVE case is marked by the **Vc** value **-ü'a-** (or **-ëu'a-** if the preceding **Cr** stem ends in **-w** or **-y**). Optionally the **Vc** value can be **-ü'V-** (or **-ëu'V-** if the preceding **Cr** stem ends in **-w** or **-y**), where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The PROLAPSIVE signifies the duration of an act, condition, or event, i.e., how long it takes or lasts. This case should be distinguished from the PERIODIC above, in that the PROLAPSIVE specifies the actual duration of the act, condition, or event, whereas the PERIODIC merely specifies a contextual span of time at some point(s) during which, an act, condition, or event occurs. Examples would be *He prayed through lunch, While he was dying, the number of clowns increased, It rained all night, It took three days for the fever to break, She sang for an hour.*



4.6.8 PCV The Precursive Case

The PRECURSIVE case is marked by the **Vc** value **-ai'a-**, or optionally **-ai'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The PRECURSIVE identifies a point in time prior to which an act, condition, or event occurs. Examples would be *This situation occurred before the war, It rained prior to his appearance, There will be a presentation preceding the banquet.*

4.6.9 PCR The Postcursive Case

The POSTCURSIVE case is marked by the **Vc** value **-ei'a-**, or optionally **-ei'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The POSTCURSIVE identifies a point in time after which an act, condition, or event occurs. Examples would be *This situation occurred after the war, It rained subsequent to his appearance, There will be a presentation following the banquet.*

4.6.10 ELP The Elapsive Case

The ELAPSIVE case is marked by the **Vc** value **-ui'a-**, or optionally **-ui'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The ELAPSIVE identifies the amount of time that has passed between the contextual present and the time of the act, condition, or event being spoken of. It corresponds to English ‘...ago.’ Examples would be ***Four years ago I was a student; Going back three generations, women could not even vote.***

4.6.11 ALP The Allapsive Case

The ALLAPSIVE case is marked by the **Vc** value **-oi'a-**, or optionally **-oi'V-**, where **V** has the value of the formative’s **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative’s **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The ALLAPSIVE identifies the amount of time that expected to pass between the contextual present and the time of a future act, condition, or event. Examples would be ***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.***

4.6.12 INP The Interpolative Case

The INTERPOLATIVE case is marked by the **Vc** value **-ëi'a-**, or optionally **-ëi'V-**, where **V** has the value of the formative’s **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative’s **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The INTERPOLATIVE is used within the context of repetitive or iterative acts, states, and events and signifies the duration of each repetition. Examples of usage are ***We heard several five-second snippets of music; Between lightning bursts were intervals of several seconds; She gets recurring migraines, each lasting hours.***

4.6.13 EPS The Episodic Case

The EPISODIC case is marked by the **Vc** value **-au'a-**, or optionally **-au'V-**, where **V** has the value of the formative’s **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative’s **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The EPISODIC identifies a contextually recurring time-period. Examples of usage are ***The man talks with his mother 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.***

4.6.14 PLM The Prolimitive Case

The PROLIMITIVE case is marked by the **Vc** value **-eu'a-**, or optionally **-eu'V-**, where **V** has the value of the formative’s **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative’s **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The PROLIMITIVE defines a point in time which signifies a temporal limit to further contextual activity, i.e., the time by which some act, state, or event occurs. Examples of usage would be ***By the time of your graduation, I want you out of the house; Please be on board by midnight; By the time of the raid, there was nothing left to steal.***

4.6.15 LIM The Limitative Case

The LIMITATIVE case is marked by the **Vc** value **-iu'a-**, or optionally **-iu'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The LIMITATIVE signifies a event culminating an anticipatory context. It translates the English expression 'in time for.' Examples of usage are *He arrived in time for dinner*, *Be inside the Big Tent in time for the clowns*.

4.6.16 Examples of Temporal Cases in Use



tkoi'al žial

STA-'three'-**ALP**-NRM/DEL/M/CSL/UNI-IFL STA-'day (24-hr. period)''-PAR-NRM/DEL/M/CSL/UNI-IFL
'three days from now'

[LISTEN](#)



qô teu'at'

ma-ATT STA-'life'-**PLM**-NRM/TRM/M/CSL/UNI-IFL
'by the time of his death'

[LISTEN](#)



llau'atjuarl

STA-'one'-**EPS**-NRM/DEL/M/CSL/DCT-CAL₂/1-IFL
'on Sundays'

[LISTEN](#)



Igvarsukt tu tkü'al žial.

DYN-'article of clothing'-NRM/PRX/M/CSL/AGG-DEF₁/9-IFL 1m-IND STA-'three'-**PRO**-NRM/DEL/M/CSL/UNI-IFL
IFL-'day (24-hr. period)''-PAR-NRM/DEL/M/CSL/UNI
'I've been (deliberately) wearing these clothes for three days.'

[LISTEN](#)



žô cʰei'as

1m+2u+ua-ATT STA-'grief'-**PCR**-NRM/PRX/M/CSL/UNI-IFL
'after our period of grief'

[LISTEN](#)

4.7 THE SPATIAL CASES

As noted previously, prepositions do not exist in Ithkuil. While various non-Indo-European languages such as Finnish, Hungarian, Basque and the North Caucasian languages accomplish the equivalent of prepositional relationships using noun cases, such relationships are usually accomplished in Ithkuil via verbal formatives (e.g., a verb translatable as 'to be inside of' instead of a preposition 'inside of'). Nevertheless, there are six cases corresponding to certain types of spatial relationships. These are the LOCATIVE, ORIENTATIVE, PROCURSIVE, ALLATIVE, ABLATIVE, and NAVIGATIVE.

Also: see [Section 4.5.25](#) above regarding the use of the CORRELATIVE case in sentences involving spatial direction or orientation.

Following are explanations of the function and usage of each case. Actual Ithkuil examples of these cases in use are provided in [Sec. 4.7.7](#).

4.7.1

LOC The Locative Case

The LOCATIVE case is marked by the **Vc** value **-â'a-**, or optionally **-â'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The LOCATIVE signifies general static position in the same contextual place as the specified location, translatable by many English prepositions such as 'at,' 'in,' 'on,' or 'by,' depending on the context, e.g., *in that building, by the wall, on the street, at my house*.

4.7.2

ORI The Orientative Case

The ORIENTATIVE case is marked by the **Vc** value **-ê'a-**, or optionally **-ê'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The ORIENTATIVE identifies the noun (usually a subcomponent or body part) which serves as the forward "end" of a spatially orientated axis aligned to a vector of motion. This is translatable into English using elements such as '-ward(s)' or '-first' in conjunction with portions of objects in a spatio-orientational context, e.g., *He jumped in feet-first, The car rolled backward*. The ORIENTATIVE allows for the extension of this concept to contexts which seem awkward in English translation, e.g., *He walked "butt-ward" down the street* (i.e., backward with his butt protruding frontwards, leading the way).

4.7.3

PSV The Procurative Case

The PROCURSIVE case is marked by the **Vc** value **-ô'a-**, or optionally **-ô'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The PROCURSIVE identifies a noun (often a subcomponent or body part) which serves as the orientational reference point, interactional surface or interface relative to the direction of interaction with, or position in space of, a second noun. This second noun usually appears in the ALLATIVE case (see below). Examples of use would be *They collided sideways, She turned her back on him, The chair "faced" the doorway* (i.e., The chair stood with its seat and back aligned toward the doorway).

4.7.4

ALL The Allative Case

The ALLATIVE case is marked by either the **Vc** value **-î'a-** or **-û'a-**; if the preceding **Cr** stem ends in **-w**, the **Vc** value is **-î'V-**, whereas if the preceding **Cr** stem ends in **-y**, the **Vc** value is **-û'V-**; for other **Cr** stems, either **Vc** value is permissible. Optionally the **Vc** value can be **-î'V-** or **-û'V-** (under the same rules for **Cr** stems ending in **-w** or **-y**), where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

When used in the context of explicit or implied directional motion, the ALLATIVE signifies the direction of motion, translatable by 'to' or 'toward(s)' or the suffix '-ward(s)' in English. Note that the ALLATIVE in no way implies that the object is intended as the final or intended destination or goal of the motion or movement, only the direction of the movement. Examples would be *I wandered eastward, The little girl ran toward me, Throw the rock at that clown!, We headed for home*.

4.7.5

ABL The Ablative Case

The ABLATIVE case is marked by the **Vc** value **-ëu'a-**, or optionally **-ëu'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if both phonotactically and morpho-phonologically permissible (i.e., if its deletion does not violate phonotactic rules (see [Section](#)

[1.4](#)) and does not cause confusion or ambiguity in parsing the various consonants and vowels of the formative into their respective morphemes (i.e., their grammatical components).

When used in context of explicit or implied directional motion, the ABLATIVE signifies the general directional origin of movement away from or out of. It does not specify the actual point of origin or departure. Examples would be *He came out of the east*, *She walked here from (the direction of) the river*.

When used in contexts where directional motion is not implied, the ABLATIVE signifies a reverse directional orientation of one noun relative to another, e.g., *He faced away from me*.

4.7.6 NAV The Navigative Case

The NAVIGATIVE case is marked by the **Vc** value **-ou'a-**, or optionally **-ou'V-**, where **V** has the value of the formative's **Vr** affix (from Slot IV); if choosing the latter value for **Vc**, then the formative's **Vr** affix can be deleted from Slot IV if it is in word-initial position.

The NAVIGATIVE identifies the noun relative to whose vector, arc, or trajectory of motion an act, state, or event takes place. This is particularly important, as we will see in [Section 10.3.3](#) that Ithkuil modes of positional reference are tied into the vectors of movement or the configurational axes of objects in the environment such as the sun or the length of a room. Example uses would be *I looked down the street*, *We aligned it perpendicular to the path of the sun*, *He crossed the room diagonally* (i.e., walked diagonally relative to the long axis of the room.)

4.7.7 Examples of Spatial Cases in Use



Üb eikkradwa smou'olâxh.

EXN_{1/6} DYN-'move.along.obliquely.vertical.path.between.two.points'-RPV/PRX/N/CSL/UNI-IFL STA-'valley'-NAV-NRM/DEL/M/CSL/UNI-SCO₂/5-IFL

'The path through the canyon is steep.'

[LISTEN](#)



İçatosk êti prâ'ol

DYN-'physical.contact'-NRM/DEL/M/CSL/UNI-FRC₁/7-IFL GEN-1m-AFF STA-'leg'-LOC-NRM/DEL/M/CSL/UNI-IFL

'I got hit on the leg.'

[LISTEN](#)



Uajatiuçkims tê'al qi.

DYN-'downward movement'-NRM/DEL/U/CSL/UNI-PHY₂/1-AGN₁/1-IFL STA-'head'-ORI-NRM/DEL/M/CSL/UNI-IFL ma-AFF

'He fell headfirst to his death.'

[LISTEN](#)

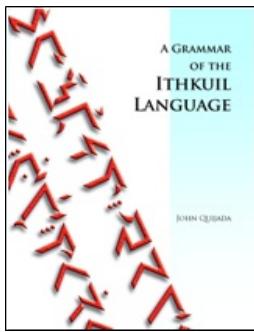
4.8 THE VOCATIVE

The VOCATIVE case is marked by the **Vc** value **-ë-**. The VOCATIVE is used when a nominal formative is used in direct address. In modern colloquial English, there is no vocative form, and the base form of the noun, name, or pronoun is used, usually followed by an exclamation point if the vocative functions as its own sentence, e.g., '**Bill!**' or '**Please come this way, sir!**' or '**Driver, take me to 53rd and 3rd.**' However, in archaic, poetic, formal or dramatic contexts, English utilizes the vocative particle "o", as in '**O Time, thy pyramids!**' or '**Why me, o lord?**'

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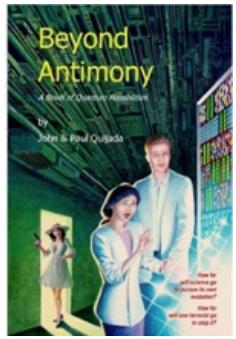
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Chapter 5: Verb Morphology

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The Ithkuil verbal formative (termed “verb” in this chapter for simplicity’s sake) is the workhorse of the language, inflecting for twenty-two different morphological categories. These include the seven categories shared by all formatives and already discussed in [Chapter 3: Configuration, Affiliation, Perspective, Extension, Essence, Context, and Designation](#). Additionally the following fifteen categories apply solely to verbs: **Function, Mood, Illocution, Case-Frame, Relation, Phase, Sanction, Valence, Version, Validation, Aspect, Format, Modality, Level, and Bias**. Additionally, Ithkuil allows for stem incorporation, i.e., for one formative stem to be incorporated inside of another to expand the latter’s semantic range. The verb can also theoretically take any number of the approximately 1800 suffixes available to formatives. Such suffixes are analyzed in [Chapter 7](#).

The full structure of a Ithkuil verbal formative is in two parts, i.e., having two distinct words, these being a **valence/modality adjunct** and the **verb** itself. In simple sentences, the valence/modality adjunct may be missing. The following extreme example of a fully inflected Ithkuil verb illustrates all 22 of the above-listed categories, as well as demonstrating an incorporated stem:



hruštrul-lyö'ň hničhâctàu'watkwöu

hr.u.štr.u.l-ly.ö.'ň

Valence: DEMONSTRATIVE
Level: SURPASSIVE-RELATIVE
Phase: RECURRENT
Sanction: REFUTATIVE
Illocution: DIRECTIVE
Modality: DESIDERATIVE
Aspect 1: REGRESSIVE
Aspect 2: IMMINENT
Bias: COINCIDENTAL

.hn.i.čh.â.ct.àu.'wa.tkw.öu

Validation: PRESUMPTIVE 2
Function: DYNAMIC
Pattern/Stem of Main Root: *Pattern 1, Stem 1*
Incorporated Root: **čh** ‘make/construct’
Pattern/Stem of Inc. Root: *Pattern 1, Stem 1*
Designation of Incorporated Root: FORMAL
Main Root: **ct** ‘chamber; spatial enclosure’
Case-Frame: CONCESSIVE
Mood: SUBJUNCTIVE
Essence: REPRESENTATIVE
Extension: PROXIMAL
Perspective: ABSTRACT
Configuration: COMPOSITE
Affiliation: COALESCENT
Context: AMALGAMATIVE
Format: SUBSEQUENT
Version: COMPLETIVE

A highly stilted but approximate English translation of the above, capturing as many of the nuances of the Ithkuil phrase as possible, would be: ‘...despite presumably being on the verge, contrary to the allegation, of just so happening to want to succeed in maybe ordering a periodic return to the honorable practice of superlative architecture for others to follow by example.’

Of the 15 morphological categories particular to verbal formatives, we will examine in this chapter those eleven of them which usually constitute part of the verbal formative itself (Function, Mood, Illocution, Case-Frame, Relation, Phase, Sanction, Valence, Version, Validation and Aspect). The remaining categories specific to valence/modality adjuncts (Modality, Level, and Bias) will be described in [Chapter 6](#). Additionally, the category of Format, while displayed within the formative, is closely tied to the phenomenon of stem incorporation, which is also discussed in Chapter 6. Therefore, Format will be discussed in that chapter.

5.1 FUNCTION

Function refers to the general relationship a verb has to its noun participants based on whether the verb represents an existential or psychological state, a dynamic action or event, a mere statement of X = Y identification, or a description. Without a standardized system for the lexico-semantic function of verbs, the meaning of such a form could only be learned from hearing others using it in context.

Note that, although Function is being described here in the chapter on Verbs, Ithkuil nouns, too, carry a Function, specifically the STATIVE function, in that they manifest an inherent, existential (i.e., non-dynamic) state of matter/energy. Because a formative's Function changes only for verbs, not nouns, Function is being discussed in this chapter.

As previously described in [Section 2.2.2](#), Function is shown by the **Vr** affix in Slot IV, which also conveys the main root's Stem and Pattern.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	V _r	(Cx/Cv)	V _{p/V_L)}	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

The values of **Vr**- by Stem and Pattern and Function are shown in Table 8 below.

Table 8: Values of Vr by Stem, Pattern, and Function (see [Section 2.2.2](#) for a discussion of Stem and Pattern)

		Pattern 1			Pattern 2			Pattern 3		
		Stem 1	Stem 2	Stem 3	Stem 1	Stem 2	Stem 3	Stem 1	Stem 2	Stem 3
Function		(a-)	e-	u-	o-	ö-	î- / û-	â-	ê-	ô-
STATIVE		i-	ai-	ei-	au-	eu-	iu-	ia- / ua-	ie- / ue-	io- / uo-
DYNAMIC		ui-	ü- / ou-	ëi-	ae-	ea-	oa-	üa- / ai-	iù- / ui-	io- / uö-
MANIFESTIVE										

DESCRIPTIVE	oi-	eo-	eo-	oe-	öe-	eu-	üo- / oì-	ue- / ei-	üö- / aù-
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The four Functions are the STATIVE, DYNAMIC, MANIFESTIVE, and DESCRIPTIVE. They are described in the following sections. Note that the previous version of Ithkuil, as well as llaksh, had additional functions (previously called Confluences) than the current four. Due to Ithkuil's new stem-incorporation abilities (described in [Section 6.4](#)), those additional functions are no longer necessary.

5.1.1 STA The Stative

The STATIVE function indicates a stative manifestation, i.e. to be in a non-causal, non-dynamic (temporary or permanent) state, including states of mind, non-dynamic or affective physical states (e.g., something being warm, but not making something warm), as well as being the Function associated with all formatives acting as nouns. However, it does NOT mean “be” in the sense of X=Y copula identification as in “I am John.”

5.1.2 DYN The Dynamic

DYNAMIC function indicates that the verb refers to a tangible or physical act or cause-and-effect event: to perform the action of X; to do what X does; to carry out X's function. Note that the choice of whether a particular situation is to be considered STATIVE or DYNAMIC can be subjective. For example, if a person is chronically coughing due to an illness, one can describe the coughing using either the DYNAMIC (to focus for example on the paroxysmal movements and physical processes undergone by the person during each cough), or the STATIVE (to let the reader/listener know you consider the coughing to be merely a manifestation of an existential state, e.g., an illness, in which the physical motions and processes associated with each cough are not the relevant issue).

In the examples from [Section 4.3.12](#) involving anger-inducing clowns and burning trees, we likewise saw the difference in meaning between using STATIVE versus DYNAMIC function for otherwise identical sentences.

5.1.3 MNF The Manifestive

MANIFESTIVE function indicates that the verb represents a manifestation or naming of the identity of a specific entity; this is the nearest equivalent to the X=Y “be” copula of identification in Western languages, as in *She is a manager, That man is secretly a clown, Dogs are mammals, Mrs. Beasley is a fat crone*.

5.1.4 DSC The Descriptive

DESCRIPTIVE function indicates descriptive manifestation, i.e., to appear or manifest in the manner of. This sense is the nearest Ithkuil equivalent to English adjectives.

5.1.5 Examples of Function

Here follow examples of the four functions applied to the same stem **egrá-** ‘prepare(d) food’:

STA	STATIVE	egrá- ‘(to be in) a state of preparing food’
DYN	DYNAMIC	aigrá- ‘prepare food’
MNF	MANIFESTIVE	ügrá- ‘to be prepared food’
DSC	DESCRIPTIVE	eográ- ‘to be like prepared food’

Additional examples of Function:



Iek'ás to p^hel.

DYN-'burn'-NRM/PRX/M/CSL/UNI-FML 1M-ERG STA-'tree'-ABS-NRM/DEL/M/CSL/UNI-IFL

I burn the tree.

[LISTEN](#)



Êk'ás p^hel.

STA-'burn'-NRM/PRX/M/CSL/UNI-FML STA-'tree'-ABS-NRM/DEL/M/CSL/UNI-IFL

The tree is burning / The tree is in flames.

[LISTEN](#)



~Qa uip^hal êk'âi'sa.

mi-OBL MNF-'tree'-NRM/DEL/M/CSL/UNI-IFL FRAMED-FML-STA-'burn'-COR-NRM/PRX/M/CSL/UNI

It is a burning tree / It is a tree in flames.

[LISTEN](#)



~Qa üek'ás.

mi-OBL DSC-'burn'-NRM/PRX/M/CSL/UNI-FML

It is flame-like / It reminds one of burning flames.

[LISTEN](#)

5.2 MOOD

Most languages have a morphological category for verbs known as “mood,” serving to indicate specific attitudes or perspectives on the act, condition, or event, or the degree of factuality involved. Example moods common to Western languages include the indicative (factual utterances), subjunctive (showing doubt or probability, expressed by ‘may/might’ in English), imperative (indicating commands, e.g., *Go now!*, *Sing it for us!*), conditional (expressing hypotheticals, e.g., *She would travel if she could*), optative (indicating wishes, hopes, expectations, e.g., *I wish he'd go*, *I expect him to be here*), and hortative (indicating exhortations, e.g., *May he live 100 years!* *Let them see for themselves!*).

We will see later in [Section 5.3](#) that in Ithkuil the functions of certain moods in Western languages correspond not to Mood, but to the grammatical category of Illocution, specifically where Western moods function to describe types of speech acts. In Ithkuil, moods simply convey a two-fold distinction as to whether the factuality of an utterance is certain or uncertain, combined with a four-way distinction as to whether the factuality of an explicit or implicit assumption underlying the utterance (i.e., a presupposition) is true, false, unknown, or a determinant of the factuality of the utterance. This twofold by fourfold matrix renders a total of eight moods in Ithkuil.

The eight moods are FACTUAL, SUBJUNCTIVE, ASSUMPTIVE, SPECULATIVE, COUNTERFACTIVE, HYPOTHETICAL, IMPLICATIVE, and ASCRIPTIVE. They are shown in conjunction with the morphological category of Illocution (see [Section 5.3](#)) by the **Ci+Vi** infix placed in Slot IX. The **Ci+Vi** infix is of the form consonant **Ci** followed by a vowel **Vi**.

(NOTE: Under certain circumstances, as an alternate to the **Ci+Vi** infix in Slot IX, Mood can be shown via the **Cs** prefix in Slot III usually used to show the category of Aspect. These circumstances are described later in [Section 5.10](#) on Aspect.)

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv)	VL	Cg/Cs)	Vr	(Cx/Cv	Vp/VL)	Cr	Vc	Ci + Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase +	Valence OR	Validation OR	Pattern + Stem +	Incorp. Root OR	Pattern + Stem + Designation of Incorp.	Root	Case	Illocution + Mood	Essence + Extension +	Deriv. Suffix	Context + Format	Bias	Version	Designation +

Sanction (+ Illocution)	Aspect (+ Mood)	Function	Phase + Sanction (+ Illocution)	Root OR Valence			Perspective + Configuration + Affiliation				Relation
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The consonant half of the infix, **Ci**, has three different forms: **-w-**, **-y-**, and **-h-**.

NOTE: If the formative's **Vc** case affix is a diphthong ending in **-u** (i.e., au, eu, iu, ou, öu, öü), the **-w-** value of **Ci** changes to **-hw-** and the final **-u** of the **Vc** diphthong is deleted. Thus, adding the **Ci+Vi** infix **-wa-** to the formative *dau*s results in *dauwas*, not *dauwas*.

Also, if the formative's **Vc** case affix is a diphthong ending in **-i** (i.e., ai, ei, oi, ui, öi, öü), the **-y-** value of **Ci** changes from to **-hw-** (while the **Vc** diphthong is left intact). Thus, adding the **Ci+Vi** infix **-ya-** to the formative *dai*s results in *daihwas*, not *daiyas*.

Table 9 below shows the values of the **Ci+Vi** infix by Illocution and Mood.

Table 9: Ci + Vi infix values indicating 6 Illocutions x 8 Moods

ILLOCUTION (see Sec. 5.3) ↓	MOOD							
	FAC	SUB	ASM	SPC	COU	HYP	IPL	ASC
1 ASSERTIVE	(-wë)*	-wa	-yë	-ya	-yû	-hë	-ha	-hû / -hî
2 DIRECTIVE	-we	-wö	-ye	-yo	-yeu / -wei	-he	-hö	-hei
3 INTERROGATIVE	-wu	-wâ	-yu	-yâ	-yau / -wai	-hu	-hâ	-hai
4 ADMONITIVE	-wo	-wê	-yo	-yê	-you / -woi	-ho	-hê	-hoi
5 HORTATIVE	-wi	-wô	-yi	-yô	-yiu / -wui	-hi	-hô	-hui
6 DECLARATIVE **	-wî	—	—	—	—	—	—	—

* The combination of FACTUAL Mood + ASSERTIVE Illocution is usually unmarked. It is marked by the infix **-wë-** only in certain cases where Slots V and VI are filled by the **Cv** and **Vl** affixes (see note in [Section 5.5](#) for details).

** The DECLARATIVE Illocution can only be used in the FACTUAL mood.

NOTE: The category of Mood (along with the category of Aspect) can alternately be shown via the **Cs** affix in Slot III; this will be discussed in [Section 5.10](#). Additionally the **Cs** Mood/Aspect affix can be placed into a verbal adjunct rather than being shown in the formative; this will be discussed in [Section 6.3.1](#).

The function of the eight moods is described in the sections immediately below.

5.2.1 FAC The Factual

The FACTUAL mood signifies that the factuality of the speaker's statement is certain and that there either is no underlying presupposition to the statement, or if there is, its factuality is also certain or has no bearing on the factuality of the statement. Examples:



Eglas âmmij qê.

STA-'illness'-[FAC]-NRM/PRX/M/CSL/UNI-IFL STA-'child.offspring'-AFF-NRM/DEL/M/CSL/AGG-IFL ma-GEN

His kids are ill. [i.e., it is known he has kids and it is known they are ill]

[LISTEN](#)



Hetiun-n ivogwařjokkai tei.

PRL-ITV-FAC DYN-[inc.stem: 'recreation.leisure']-'ambulate'-NRM/DEL/M/CSL/CPN-TPP₁/7-IFL-ISR 1+ma-ACT

She and I are taking a walk later on. [i.e., it is our intention and we have the opportunity to do so]

[LISTEN](#)



Uzlas gvarl âpcââl.

STA-'inside-out'-**[FAC]**-NRM/PRX/M/CSL/UNI-IFL STA-'article.of.clothing'-OBL-NRM/DEL/M/ASO/AGG-IFL STA-'wife'-POS-NRM/DEL/M/CSL/UNI-FML

His wife's clothes are inside-out.

[LISTEN](#)

5.2.2 SUB The Subjunctive

The SUBJUNCTIVE mood indicates that the factuality of an explicit or implicit presupposition underlying the statement is certain, but the factuality of the speaker's statement itself is questionable or uncertain, the specific nuance of factuality intended being subject to the particular Bias and Validation associated with the verb. Corresponds roughly with English 'may,' 'maybe' or 'might,' with the added distinction that an explicit or implicit (i.e., underlying) presupposition is true. Examples:



Eglawas âmmil qê.

STA-'illness'-**SUB**-NRM/PRX/M/CSL/UNI-IFL STA-'child.offspring'-AFF-NRM/DEL/M/CSL/AGG-IFL ma-GEN

Maybe his kids are ill. [i.e., it is known that he has kids but it is not known whether they are ill]



Hëtiump-m ivogwařjokkai tei.

PRL-ITV-**SUB** DYN-[inc.stem: 'recreation.leisure']-'ambulate'-NRM/DEL/M/CSL/CPN-TPP₁/7-IFL-ISR 1+ma-ACT

She and I may take a walk later on. [i.e., it is known that the opportunity to do so will arise, but it is uncertain whether we will choose to]



Uzlawas gvarl âpcââl.

STA-'inside-out'-**SUB**-NRM/PRX/M/CSL/UNI-IFL STA-'article.of.clothing'-OBL-DEL/M/ASO/AGG-IFL STA-'wife'-POS-DEL/M/CSL/UNI-FML

His wife's clothes may be inside-out.

5.2.3 ASM The Assumptive

The ASSUMPTIVE mood functions identically to the FACTUAL except that the factuality of an underlying presupposition is unknown. It therefore conveys an act, state, or event whose factuality is dependent on whether something else is factual, thus corresponding to certain usages of English 'maybe' and 'will' (where 'will' primarily conveys possibility, not future tense). As with all moods, the specific translation is subject to the particular Bias and Validation associated with the verb. Examples:



Eglayës âmmil qê.

STA-'illness'-**ASM**-NRM/PRX/M/CSL/UNI-IFL STA-'child.offspring'-AFF-NRM/DEL/M/CSL/AGG-IFL ma-GEN

His kids'll be ill OR If he has kids, they are ill. [i.e., it is unknown whether he has kids, but if he does, they are certainly ill.]



Hëtiul-I ivogwařjokkai Ღei.

PRL-ITV-**ASM** DYN-[inc.stem: 'recreation.leisure']-'ambulate'-NRM/DEL/M/CSL/CPN-TPP₁/7-IFL-ISR 1+ma-ACT

She and I will take a walk later on [i.e., if we can] OR We intend to take a walk. [i.e., but we don't know if we'll be able to]



Uzlayës gvarl âpcââl.

STA-'inside-out'-**ASM**-NRM/PRX/M/CSL/UNI-IFL STA-'article.of.clothing'-OBL-DEL/M/ASO/AGG-IFL STA-'wife'-POS-DEL/M/CSL/UNI-FML

If he has a wife her clothes are inside-out.

5.2.4 SPC The Speculative

The SPECULATIVE mood indicates that the factuality of both the presupposition and the statement itself are unknown. Its translation into English is dependent on the specific context, sometimes corresponding to 'may,' 'maybe' or 'might,' and at other times corresponding to the auxiliary 'would.' Compare the examples below to those above:



Eglayas âmmil qê.

STA-'illness'-**SPC**-NRM/PRX/M/CSL/UNI-IFL STA-'child.offspring'-AFF-NRM/DEL/M/CSL/AGG-IFL ma-GEN

Maybe his kids are ill [i.e., it is unknown if he has kids but if he does, they may be ill].



Hëtiur-r ivogwařjokkai Ღei.

PRL-ITV-**SPC** DYN-[inc.stem: 'recreation.leisure']-'ambulate'-NRM/DEL/M/CSL/CPN-TPP₁/7-IFL-ISR 1+ma-ACT

She and I may take a walk later on [i.e., it is unknown whether we will have the opportunity to do so, and even if we do, it is uncertain whether we will choose to].



Uzlayas gvarl âpcââl.

STA-'inside-out'-**SPC**-NRM/PRX/M/CSL/UNI-IFL STA-'article.of.clothing'-OBL-DEL/M/ASO/AGG-IFL STA-'wife'-POS-DEL/M/CSL/UNI-FML

If he has a wife her clothes may be inside-out.

5.2.5 COU The Counterfactual

The COUNTERFACTIVE mood indicates that the factuality of the underlying presupposition is false or unreal but that the factuality of the statement would otherwise be true. It thus corresponds to the English construction of auxiliary 'would' or 'would have' in its use to show counterfactuality (i.e., what would have been if a false presupposition had been true). Again, the specific translation is subject to the particular Bias and Validation associated with the verb. Compare the examples below to those above.



Eglayûs âmmil qê.

STA-'illness'-**cou**-NRM/PRX/M/CSL/UNI-IFL STA-'child.offspring'-AFF-NRM/DEL/M/CSL/AGG-IFL ma-GEN

His kids would be (would have been) ill [i.e., if he had kids they would be ill, but he doesn't].



Hëtiuň-ň ivogwařjokkai Ქei.

PRL-ITV-COU DYN-[inc.stem: 'recreation.leisure']-'ambulate'-NRM/DEL/M/CSL/CPN-TPP₁/7-IFL-ISR 1+ma-ACT

She and I would take (would have taken) a walk later on [i.e., it is our intention but we won't have the opportunity].



Uzlayúš gvarl âpcâäl.

STA-'inside-out'-NRM/PRX/M/CSL/UNI-COU-IFL STA-'article.of.clothing'-OBL-DEL/M/ASO/AGG-IFL STA-'wife'-POS-DEL/M/CSL/UNI-FML
If he were to have a wife her clothes would be inside-out.



Tʰem-mpʰāmnas osmuil.

ASR/CTX/ALG-PRL-PRS/COU-STA-'awe'-NRM/PRX/M/CSL/UNI-IFL STA-'valley'-DER-NRM/DEL/M/CSL/UNI-IFL

The valley would've been awe-inspiring to you, too [i.e., if you had seen/visited/been to it].

[LISTEN](#)

5.2.6 HYP The Hypothetical

The HYPOTHETICAL mood indicates that the factuality of the underlying presupposition is false or unreal and that the factuality of the statement itself is uncertain. It thus corresponds to the English construction of auxiliary 'might have' in its use to show possible counterfactuality (i.e., what might have been if a false presupposition had been true). Again, the specific translation is subject to the particular Bias and Validation associated with the verb. Compare the examples below to those above.



Eglahës âmmij qê.

STA-'illness'-HYP-NRM/PRX/M/CSL/UNI-IFL STA-'child.offspring'-AFF-NRM/DEL/M/CSL/AGG-IFL ma-GEN

His kids might've been ill [if he had kids, but he doesn't, so we'll never know].



Hëtiur-n ivogwařjokkai Ქei.

PRL-ITV-HYP DYN-[inc.stem: 'recreation.leisure']-'ambulate'-NRM/DEL/M/CSL/CPN-TPP₁/7-IFL-ISR 1+ma-ACT

She and I might've taken a walk later on [i.e., but we won't have the opportunity, so the decision whether to do so is moot].



Uzlahës gvarl âpcâäl.

STA-'inside-out'-HYP-PRX/M/CSL/UNI-IFL STA-'article.of.clothing'-OBL-DEL/M/ASO/AGG-IFL STA-'wife'-POS-DEL/M/CSL/UNI-IFL

If he were to have a wife her clothes might be inside-out.

5.2.7 IPL The Implicative

The IMPLICATIVE mood indicates that the factuality of the underlying presupposition determines the factuality of the statement and that the relationship between the two need not necessarily be a direct cause-and-effect, but merely an indirect chain of events from which the speaker infers the statement from the underlying presupposition. In grammatical analysis, this is referred to as an “epistemic conditional.” Examples are shown below.



Eglahas âmmil qê.

STA-'illness'-**IPL**-NRM/PRX/M/CSL/UNI-IFL STA-'child.offspring'-AFF-NRM/DEL/M/CSL/AGG-IFL ma-GEN

His kids are (must be) ill [i.e., as implied by some other fact such as his staying home from work].



Iul-n ivogwařjokkai Ქei.

PRL-ITV-**IPL** DYN-[inc.stem: 'recreation.leisure']-'ambulate'-NRM/DEL/M/CSL/CPN-TPP₁/7-IFL-ISR 1+ma-ACT

[If she wears a blue dress,] we'll be taking a walk later on. [the dress implies something has happened that will make the walk a certainty]



Uzlahas gvarl âpcâäl.

STA-'inside-out'-**IPL**-NRM/PRX/M/CSL/UNI-IFL STA- 'article.of.clothing'-OBL-DEL/M/ASO/AGG-IFL STA-'wife'-POS-DEL/M/CSL/UNI-IFL

His wife's clothes must be inside-out.

5.2.8 ASC The Ascriptive

The ASRIPTIVE mood functions identically to the IMPLICATIVE immediately above, except that the factuality of the inference derived from the underlying presupposition is uncertain. Examples:



Eglahîs âmmil qê.

STA-'illness'-**ASC**-NRM/PRX/M/CSL/UNI-IFL STA-'child.offspring'-AFF-NRM/DEL/M/CSL/AGG-IFL ma-GEN

His kids may be ill [i.e., as implied by some other fact such as his staying home from work].



Iur-ň ivogwařjokkai Ქei.

PRL-ITV-**ASC** DYN-[inc.stem: 'recreation.leisure']-'ambulate'-NRM/DEL/M/CSL/CPN-TPP₁/7-IFL-ISR 1+ma-ACT

[If she wears a blue dress,] we might be taking a walk later on. [the dress implies something has happened that we'll make the walk a possibility]



Uzlahîs gvarl âpcâäl.

STA-'inside-out'-**ASC**-NRM/PRX/M/CSL/UNI-IFL STA-'article.of.clothing'-OBL-DEL/M/ASO/AGG-IFL STA-'wife'-POS-DEL/M/CSL/UNI-IFL

That means his wife's clothes are inside-out.

5.3 ILLOCUTION

Illocation refers to what in linguistics is usually termed types of speech acts, i.e., the general purpose of a statement such as whether it is an assertion, a command, a declaratory pronouncement, a question, a warning, etc. This is a category which is not generally marked within Western languages in any consistent grammatical sense, the nearest equivalent grammatical category usually being Mood. As was seen above in Section 5.1, Mood functions in a much narrower grammatical range than in Western languages. When the moods of Western language actually relate to types of speech acts, the equivalent function in Ithkuil is shown by the category of Illocation.

There are six illocutions in Ithkuil: ASSERTIVE, INTERROGATIVE, DIRECTIVE, ADMONITIVE, HORTATIVE and DECLARATIVE. They distinguish the type of speech act being performed by the speaker, with a specific focus on the type of commitment being made on the part of either the speaker or the hearer to the truth or purpose of the utterance. Illocation is marked along with the category of Mood (see [Section 5.2](#)) by a consonant+vowel **Ci+Vi** infix to the formative, as previously shown in [Table 9](#) above.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	V _r	(Cx/Cv	V _{p/V_L)}	Cr	Vc	Ci + Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+Illocation)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp. Root OR Phase + Sanction (+ Illocation)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocation + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

Illocation can alternately be shown via the **Cv** affix (Slots I or V) as discussed in [Section 5.5](#) below on Phase. Additionally, in [Section 6.3.3](#) we will see that Illocation can be shown by an affix within a verbal adjunct.

The six illocutions are described below.

5.3.1 ASR The Assertive

The ASSERTIVE is used to express propositions which purport to describe or name some act, event, or state in the real world, with the purpose of committing the hearer to the truth of the proposition. Thus, an utterance in the ASSERTIVE illocution is one that can be believed or disbelieved, and is either true or false. Such utterances would include general statements, descriptions, and explanations.

5.3.2 DIR The Directive

The DIRECTIVE illocution is for the purpose of committing the hearer to undertake a course of action represented by the proposition, where the proposition describes a mental wish, desire, or intention on the part of the speaker. Thus, an utterance in the DIRECTIVE is one that is neither true nor false because it is not describing something that purports to exist in the real world; rather, it describes an act or situation which can potentially be made real, i.e., that can be fulfilled or carried out. Such utterances include commands, orders, and requests and would generally be marked in Western languages by either the imperative, optative, or subjunctive moods. The commitment on the part of the hearer is not belief or disbelief, but rather whether to obey, comply with, or grant. The DIRECTIVE is also used for “commissive” types of statements such as promises, vows, pledges, oaths, contracts, or guarantees, where the statement is a wish or command directed at oneself.

5.3.3 IRG The Interrogative

The INTERROGATIVE is used for utterances corresponding to questions in other languages. The commitment on the part of the listener in regard to the INTERROGATIVE is one of compliance or non-compliance in divulging the information sought, and the truth value of the utterance is neutral pending the reply.

5.3.4 ADM The Admonitive

The ADMONITIVE is used for admonitions and warnings, corresponding to English phrases such as '(I) caution you lest...', '(I) warn you against...', or 'Be careful not to....' The utterance is neither true nor false because it describes only a potential act or situation which may occur unless avoided. The commitment on the part of the hearer is to assess the degree of likelihood of the potentiality, followed by a choice whether to heed or ignore/defy the utterance.

5.3.5 HOR The Hortative

The HORTATIVE is used for statements that are untrue or unreal, but wished to be true or real, corresponding to English phrases such as 'if only...', or 'were it that....'

5.3.6 DEC The Declarative

The DECLARATIVE is used for utterances whose purpose is to themselves effect a change upon the real world, based upon convention, cultural rules, law, subjective authority, or personal authority or control of a situation. The commitment imposed upon the hearer is one of recognition or non-recognition. Such utterances include declarations, announcements, proclamations, and various "performative" expressions. Certain languages mark this function of a verb using a mood known as hortative. Examples would be: *I dub thee "Clown Master"!, The king will hear all grievances at noon each day, This court is now in session, We hereby declare this treaty null and void!*

5.3.7 Examples of Illocution in Use



Aidhawél.

DYN-'water.as.nourishment'-DIR-NRM/DEL/M/CSL/UNI-FML

Drink some water!

[LISTEN](#)



Ükšoàwíl âmmell.

MNF-'clown'-TFM-DEC-NRM/DEL/M/CSL/UNI-FML STA-'child'-ABS-DEL/M/CSL/DPX-IFL

The pair of children are hereby turned into clowns!



[LISTEN](#)



Iolmawót êjneilüükt.

DYN-'sing.a.song'-ADM-NRM/DEL/N/CSL/UNI-FML STA-'bird'-ACT-NRM/DEL/M/CSL/UNI-DEF₁/8-FML

Be aware that this pet bird sings.

[LISTEN](#)



Aigrawutlüun?

DYN-'prepared.food'-IRG-NRM/DEL/M/CSL/DCT-AGC₂/2-FML

Will the cook prepare some meals?

[LISTEN](#)



Igrawileit̄rar oi eglulôn.

DYN-'eat food'-FAC-HOR-NRM/DEL/M/CSL/UNI-EXT₂/6-NA1₁/5-IFL PCL STA-'illness'-IND-NRM/DEL/M/CSL/UNI-AGC₂/7-IFL

If only the physician wouldn't eat his food in one gulp like that.

[LISTEN](#) 

5.4 CASE-FRAMES AND RELATION

Virtually all languages allow for sentences to be hierarchically embedded within other sentences, a process termed **subordination**. In Western languages, the embedded sentence becomes either a subordinate clause or a relative clause, explicitly introduced by a conjunctions such as ‘that,’ ‘which,’ ‘who,’ ‘where,’ ‘although,’ ‘if,’ ‘while,’ ‘whereas,’ or a preposition followed by a conjunction, such as ‘through which,’ ‘by whom,’ etc. In English, such clauses can also occur as an infinitive or gerundial verb construction. Both relative and subordinate clauses are illustrated in the following sentences:

The dog that ate my hat belongs to them.

I want him to stop shouting.

The committee voted to fire the superintendent.

We demand (that) you give us equal pay.

Although he's a college graduate, he acts like a child.

This is the slot through which the letter is passed.

In case you're unaware, I'll be leaving next month.

The boy walking toward us is my nephew.

The Ithkuil equivalent to relative or subordinate clauses is known as a **case-frame**, or simply, **frame**. Conceptually, the sentence to be embedded is simply treated as a noun participant to the main verb of a sentence and is therefore marked for case like any other noun. For example, take the following two sentences:

She and I were working together.

The two nations were at war.

Suppose we want to use the second sentence to provide a temporal context for the first sentence. In English we could do this by subordinating the second sentence to the first using the conjunction ‘while,’ as in *She and I were working together while the two nations were at war*. Alternately, we could create a relative clause by inserting a connecting prepositional phrase, as in *She and I were working together during the time (that) the two nations were at war*.

In Ithkuil, temporal context for a sentence may be provided by a noun in any of the temporal cases such as the CONCURSIVE (see [Sec. 4.6.3](#)). A word such as ‘summer’ or ‘famine’ would be placed in the CONCURSIVE case to create a sentence corresponding to:

She and I were working together during the summer.

She and I were working together at the time of the famine.

Just as the single words ‘summer’ and ‘famine’ are placed in the CONCURSIVE case, so an entire sentence such as *The two nations were at war* can be placed in the CONCURSIVE case to provide the temporal context for the main sentence. In other words, Ithkuil treats the entire subordinate sentence as a noun phrase to be declined into any required case. That is the purpose of a frame, to place sentences into noun cases. By doing so, Ithkuil accomplishes the same task for which Western languages use relative and subordinate conjunctions. In theory, any sentence can be placed into any of the 96 cases and inserted into another sentence wherever a simple noun might be placed in the sentence using that same case.

5.4.1 Relation and the Placement of Frames

To construct a case-frame, the second-order sentence (i.e., the sentence to be subordinated) is placed in the main sentence at the point where a noun declined for the required case would appear. The actual case of the second-order sentence is indicated in the verbal formative the same way as for nominal formatives, i.e., via the **Vc** affix in Slot VII. Additionally, the syllabic stress of the formative will change to show **FRAMED Relation**, explained in the next paragraph.

Relation is a binary category in Ithkuil, having two values. The main verbal formative of an Ithkuil sentence is in UNFRAMED Relation, marked by penultimate (second-to-last) syllabic stress or by ultimate (final) stress if the formative has FORMAL Designation (see Section 3.7). Once a verbal formative is subordinated within a case-frame, it takes FRAMED relation, shown by antepenultimate (third-from-last) syllabic stress or by preantepenultimate (fourth-from-last) syllabic stress if the formative has FORMAL Designation.

Table 10: Relation x Designation

STRESS = 2 relations x 2 designations	UNFRAMED Relation		FRAMED Relation	
	IFL Designation	FML Designation	IFL Designation	FML Designation
	penultimate stress	ultimate stress	antepenultimate stress	pre-antepenultimate stress

If the formative does not have enough syllables to allow for penultimate or pre-antepenultimate stress, any morphophonological Slot (see [Section 2.1.1](#)) which is unfilled due to having its unmarked default value, can instead be marked by its alternate default value, e.g., the affix **-a-** in Slot IV (see [Section 2.2.2](#)), and/or the infix **-wë-** in Slot IX (see [Section 5.5](#)), and/or the affix **-a-** in Slot XII (see [Section 3.6](#)), in order to create a sufficient number of syllables.

If the case-frame is inserted at the beginning or into the middle of the main sentence, the final word of the case-frame will usually carry a special suffix, **-t'** (see details in [Section 7.4.13](#)), which signifies the end of the frame if this will help to avoid confusion as to which words in the sentence belong inside the frame (i.e., with the secondary sentence), and which belong to the main sentence. A case-frame usually has its verb appear as the first element of the case frame.

In general, the perspective of the verb in the secondary sentence operates independently from that of the main verb, however, it is also common for the perspective of the verb in the secondary sentence to be placed in the ABSTRACT, which has the effect of deferring all [Perspective](#) information about the verb to the main verb, similarly to the way English subordinate clauses using gerunds and infinitives defer all tense information to the main verb of the sentence.

5.4.2 Reinterpreting the Notion of a Relative Clause

There is no direct equivalent in Ithkuil to the relative clauses of Western languages. Ithkuil treats such clauses the same as subordinate clauses using case-frames as described above. However, the manner in which this is done, while ultimately logical, is somewhat complex and confusing from a Western perspective. Therefore, to analyze how Ithkuil reinterprets Western relative clauses into subordinate case-frames will first require us to review the nature of relative clauses in Western languages such as English.

A relative clause refers to an imbedded sentence which modifies or describes a “head” noun in the main clause. There are two types of relative clauses, restricted (or dependent) and unrestricted (or independent). The two types are illustrated in the following English sentences.

RESTRICTED CLAUSE

- (1) *Lions that like chasing their tails* can be seen at any circus.
- (2) *That book (that) I just finished reading* was written by a priest.

UNRESTRICTED CLAUSE

- (3) *Lions, which like chasing their tails*, can be seen at any circus.
- (4) *That book, which I just finished reading*, was written by a priest.

In the first sentence, the clause ‘that like chasing their tails’ refers to a specific type of lion found at a circus (i.e., not all lions chase their tails). Similarly, the clause ‘(that) I just finished reading’ in the second sentence is restricted in that it is considered by the speaker as being necessary in order to identify which book is being talked about, i.e., without the clause, the listener would not know which book the speaker was referring to.

Note the difference in meaning, however, when comparing the first two sentences to the third and fourth sentences. In the third sentence, the speaker implies that all lions chase their tails regardless of whether they are in the circus. In the fourth sentence, the identity of the book is already known to the listener, and the speaker is merely providing two additional facts about it: the fact that he just finished reading it and the fact about its author. Notice that in English, an unrestricted relative clause is set off in writing by commas and cannot begin with ‘that’ (rather ‘which’ or ‘who’ must be used); also, such clauses are normally spoken in a lowered intonation with juncture (i.e., brief pauses) immediately before and after the clause.

5.4.2.1 Restricted Clauses. Ithkuil treats the above notions about relative clauses in a different way. We will first analyze how Ithkuil creates equivalents to restricted relative clauses. This can best be approached by analyzing the underlying

sentences which give rise to the main and relative clauses. Analyzing Sentence No. 2 above, it can be broken up into two discrete sentences:

*That book was written by a priest. (=A priest wrote that book.)
I just finished reading that book.*

In Ithkuil, the sentence which will be functioning as the main sentence acts as a “template” in which the secondary sentence is placed. The particular place in the template to be filled is dependent on what semantic role, i.e., case (see [Chapter 4](#)) the secondary sentence is to fill. Note that the common point of reference of the two sentences is ‘that book.’ In the main sentence, ‘that book’ functions in the semantic role of CONTENT (See [Sec. 4.1.2](#)), superficially equivalent to the direct object of the ABSOLUTIVE subject ‘priest’, therefore, the main sentence becomes the template ‘A priest wrote X where X is in the OBLIQUE case (See [Section 4.3.1](#)). Meanwhile, in the secondary sentence, the noun which is the common point of reference (what in Western grammar would be called the “head” of the relative clause) is marked with an affix indicating such. So we now have the two sentences as:

A priest wrote []. I just finish reading that book-H.

The ‘-H’ in the second sentence above is meant to represent an affix marking the “head” or common reference point between the two sentences. At this point, Ithkuil inserts the second sentence as a case-frame into the empty “slot” based on the semantic role it will be playing, in this instance the role of CONTENT marked by the OBLIQUE case (see [Sec. 4.3.1](#)).

A priest wrote [OBL]. I just finish reading that book-H.

As described in [Sec. 5.4.1](#) above, the verb of the secondary sentence takes the relevant case marker (OBLIQUE).

A priest wrote I just finished reading-OBL that book-H.

Reverse translating this sentence back to English, the closest literal translation would be the rather awkward construction: *A priest wrote what I just finished reading, that book.* However, this is how Ithkuil translates the English sentence ‘A priest wrote that book that I just finished reading.’

Two observations can be noted from the Ithkuil sentence. First of all, unlike Western languages, the main clause contains no “head.” Instead, the “head” is marked from within the imbedded clause. Secondly, there is no difference between this process and the rendering of other types of subordinate clauses using case-frames, as the main sentence was rearranged (or reinterpreted) to provide a slot for the semantic role of the imbedded sentence, the exact same way that subordinate clauses are constructed in Ithkuil. Therefore, as was previously stated, Ithkuil makes no distinction between subordinate and relative clauses.

Similarly, the other example sentence from above, *Lions that like chasing their tails can be seen at any circus* would become in Ithkuil: *At any circus one can see certain lions-H like to chase-OBL their tails.* A literal translation into English would be: *At any circus one can see (that) certain lions like chasing their tails.*

5.4.2.2 Unrestricted Clauses. As for independent or unrestricted clauses, as shown in example sentences (3) and (4) earlier, Ithkuil treats these differently still. In Western languages, an unrestricted clause does not help to identify a noun or provide a context for it, but simply adds additional information about an already identified noun. Thus, unrestricted relative clauses serve a wholly different cognitive-semantic purpose than restricted clauses, a fact hidden by their nearly identical surface structures. Ithkuil acknowledges this profound difference at the overt sentence level by not subordinating any clause at all. Rather, the two sentences are given co-equal status as main clauses and simply joined by a coordinating affix. Thus sentences (3) and (4) from earlier become:

*One can see lions at any circus and they like chasing their tails.
A priest wrote that book and I just finished reading it.*

5.4.2.3 Use of the CORRELATIVE Case In Lieu of Simple Relative Clauses. The CORRELATIVE case (discussed in [Section 4.5.25](#)) is used to create case-frames which are semantically equivalent to the English phrase ‘that/which/who is/are...’ Such a case-frame would be used in conjunction with specific Functions (see [Section 5.1](#)) to convey whether the relationship of the relativized clause to the main clause is one of description, copula identification, etc.

5.4.3 Example of Case-Frames in Use

ՀԵՇԻՏԱՌԱՋՐԱՎՐԱ

Âffapka gvilevum ~xhéi'aica ekšaéč odralek^{há} gvoecuat.

STA-'cry'-NRM/ICP/U/CSL/UNI-IFL STA-'article.of.clothing'-AFF-NRM/DEL/M/CSL/UNI-CAP₁/3-ROL₁/9-IFL
FRAMED/DYN-'know'-**PCR**-NRM/DEL/A/CSL/UNI-CPT-IFL STA-'clown'-OGN-NRM/DEL/N/CSL/UNI-FML STA-'rule'-OBL-NRM/DEL/M/CSL/UNI-TPP₁/3-FML
 STA-'article.of.clothing'-REF-NRM/DEL/A/CSL/UNI-DEV₂/1-IFL



The incompetent tailor began to cry after finding out about the clowns' new directive on nakedness.

ՀԵՇԻՏԱՌԱՋՐԱՎՐԱ

N-nsaixtāš qu íkau'šurdūž.

[LISTEN](#)

CNT-DYN-'job/employment'-NRM/PRX/M/ASO/UNI-FML ma-IND **FRAMED**-FML-DYN-'travel'-**CON**-NRM/PRX/M/ASO/UNI-EXD₁/9-CNS₁/6
He keeps on working despite his reluctance to having to travel more and more.

5.5 PHASE

Phase refers to variances in the temporal pattern of how an act, condition or event occurs, e.g., in a momentary, lasting, or repetitive manner (or lack thereof). This is especially useful in describing phenomena that occur in sudden bursts of short duration, e.g., flashing, sputtering, blinking, alternating, etc. Phase functions closely with the morphological category of Extension, previously described in [Sec. 3.4](#), to specify the durational nature, starting and ending, and operative pattern of a state, action or event.

The nine phases are the CONTEXTUAL, PUNCTUAL, ITERATIVE, REPETITIVE, INTERMITTENT, RECURRENT, FREQUENTATIVE, FRAGMENTATIVE, and FLUCTUATIVE. They are marked by the **Cv** affix to a formative, depending on the sanction (and potentially the illocution) of the verb (discussed in [Sections 5.6](#) and [5.3](#) respectively). The **Cv** affix is normally placed in Slot V of the formative's morphological structure, unless the formative contains an incorporated root (see [Section 6.4](#)), in which case **Cv** is placed in Slot I. (In [Section 6.3.3](#) we will see that **Cv** can alternately be placed within a verbal adjunct.)

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv)	V_L	Cg/Cs)	V_r	(Cx/Cv)	V_{p/V_L}	Cr	V_c	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv Suffix	Context + Format	Bias	Version	Designation + Relation

The presence of a **Cv** infix in Slot V requires the presence of a **V_L** affix in Slot VI (See [Section 5.6](#) below on Valence). However, if the categories of Phase, Sanction, Illocution, and Valence are all in their default modes (i.e., CONTEXTUAL phase, PROPOSITIONAL Sanction, ASSERTIVE illocution, and MONOACTIVE valence), then they normally remained unmarked, i.e., the **Cv** and **V_L** affixes are deleted and Slots V and VI will be unfilled.

NOTE: If Slots V and VI are filled (whether by the **Cv + V_L** infixes or by the **Cx + V_p** infixes discussed in [Section 6.4](#)), it becomes necessary to be able to distinguish them from the **Cr + V_c** root + case infixes in Slots VII and VIII (so the reader/listener will be able to tell which consonants and vowels belong to which morpho-phonological slot). This is accomplished in either of two ways:

1. The **V_r** vocalic affix in Slot IV must be filled and must be followed by an additional glottal stop '. It is this inserted glottal stop that clues the reader/listener that Slots V and VI are filled.
2. Or, if the formative is unmarked for Mood and Illocution (i.e., the formative has FACTUAL mood and ASSERTIVE illocution), then this Mood/Illocution combination becomes marked by the infix -wë- in Slot IX. This option is available

only where Slots V and VI are filled by **Cx + Vp** infixes, not **Cv + VL** infixes.

The values for the **Cx** affix are shown in Tables 11(a) through 11(f) below. Note that if the formative's illocution is already shown by the **Ci+Vi** infix in Slot IX, then illocution is NOT shown via the **Cv** infix. In such a case, the **Cv** infix will display ASSERTIVE illocution only (as a default), i.e., only the values from Table 11(a) below will be utilized for **Cv**.

Tables 11(a)-(f): Cv infixes: 9 Sanction x 9 Phases x 6 Illocutions

NAME OF ILLLOCUTION	PHASE LABEL	NAME OF PHASE	SANCTION								
			1 PPS	2 EPI	3 ALG	4 IPU	5 RFU	6 REB	7 THR	8 EXV	9 AXM
ASSERTIVE ASR	CTX	Contextual	t	t'	t ^h	l	tr	tl	tř	tw	ty
	PCT	Punctual	k	k'	k ^h	x	kr	kl	kř	kw	ky
	ITR	Iterative	p	p'	p ^h	vv	pr	pl	př	pw	py
	REP	Repetitive	q	q'	q ^h	ř	qr	ql	xr	qw	xl
	ITM	Intermittent	b	v	vr	vl	br	bl	bř	bw	by
	RCT	Recurrent	d	dh	ž	žž	dr	dl	dř	dw	dy
	FRE	Frequentative	g	xh	j	jj	gr	gl	gř	gw	gy
	FRG	Fragmentative	m	mm	r	rr	mr	ml	mř	mw	my
	FLC	Fluctuative	n	nn	ddh	ll	nr	nl	nř	nw	ny

NAME OF ILLLOCUTION	PHASE LABEL	NAME OF PHASE	SANCTION								
			1 PPS	2 EPI	3 ALG	4 IPU	5 RFU	6 REB	7 THR	8 EXV	9 AXM
INTERROGATIVE IRG	CTX	Contextual	s	ss	sm	sn	sr	sl	sř	sw	sy
	PCT	Punctual	š	šš	šm	šn	šr	šl	šř	šw	šy
	ITR	Iterative	ç	çç	çm	çn	çl	çr	çř	çw	ly
	REP	Repetitive	c	cc	cm	cn	cr	cl	cř	cw	cy
	ITM	Intermittent	č	čč	čm	čn	čr	čl	čř	čw	čy
	RCT	Recurrent	z	zz	zm	zn	zr	zl	zř	zw	zy
	FRE	Frequentative	ž	žž	žm	žn	žr	žl	žř	žw	žy
	FRG	Fragmentative	f	ff	fw	fy	fr	fl	fř	vw	vy
	FLC	Fluctuative	ť	ťť	ťw	ťy	ťr	ťl	ťř	dhw	dhy

NAME OF	PHASE	NAME OF	SANCTION
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ILLOCUTION	LABEL	PHASE	1 PPS	2 EPI	3 ALG	4 IPU	5 RFU	6 REB	7 THR	8 EXV	9 AXM
DIRECTIVE DIR	CTX	Contextual	sk	sk'	sk ^h	zg	skr	skl	skř	skw	sky
	PCT	Punctual	st	st'	st ^h	zd	str	stl	stř	stw	sty
	ITR	Iterative	sp	sp'	sp ^h	zb	spr	spl	spř	spw	spy
	REP	Repetitive	sq	sq'	sq ^h	xx	sqr	sql	xw	sqw	řř
	ITM	Intermittent	šk	šk'	šk ^h	žg	škr	škl	škř	škw	šky
	RCT	Recurrent	št	št'	št ^h	žd	štr	štl	štř	štř	šty
	FRE	Frequentative	šp	šp'	šp ^h	žb	špr	špl	špř	špw	špy
	FRG	Fragmentative	šq	šq'	šq ^h	xxh	šqr	šql	xhw	šqw	řw
	FLC	Fluctuative	ň	ňň	rw	ry	ňr	ňl	ňř	ňw	řy

NAME OF ILLOCUTION	PHASE LABEL	NAME OF PHASE	SANCTION								
			1 PPS	2 EPI	3 ALG	4 IPU	5 RFU	6 REB	7 THR	8 EXV	9 AXM
ADMONITIVE ADM	CTX	Contextual	ks	kss	ksm	ksn	ksr	ksl	ksř	ksw	ksy
	PCT	Punctual	kš	kšš	kšm	kšn	kšr	kšl	kšř	kšw	kšy
	ITR	Iterative	ps	pss	psm	psn	psr	psl	psř	psw	psy
	REP	Repetitive	pš	pšš	pšm	pšn	pšr	pšl	pšř	pšw	pšy
	ITM	Intermittent	gz	gzz	gzm	gzn	gzs	gzl	gzř	gzw	gzy
	RCT	Recurrent	gž	gžž	gžm	gžn	gžs	gžl	gžř	gžw	gžy
	FRE	Frequentative	bz	bzz	bzm	bzn	bzs	bzl	bzř	bzw	bzy
	FRG	Fragmentative	bž	bžž	bžm	bžn	bžs	bžl	bžř	bžw	bžy
	FLC	Fluctuative	sx	sxh	šx	šxh	zgr	zgl	zgř	zgw	zgy

NAME OF ILLOCUTION	PHASE LABEL	NAME OF PHASE	SANCTION								
			1 PPS	2 EPI	3 ALG	4 IPU	5 RFU	6 REB	7 THR	8 EXV	9 AXM
HORTATIVE HOR	CTX	Contextual	čt	čt'	čt ^h	st	ctr	ctl	ctř	ctw	cty
	PCT	Punctual	čk	čk'	čk ^h	št	čkr	čkl	čkř	čkw	čky
	ITR	Iterative	čp	čp'	čp ^h	sf	čpr	čpl	čpř	čpw	čpy

REP	Repetitive	çq	çq'	çq ^h	šf	çqr	çql	çqř	çqw	çč
ITM	Intermittent	kt	kt'	kt ^h	gd	ktr	ktl	ktř	ktw	kty
RCT	Recurrent	pt	pt'	pt ^h	bd	ptr	ptl	ptř	ptw	pty
FRE	Frequentative	qt	qt'	qt ^h	tk	qtr	qtl	qtř	qtw	qty
FRG	Fragmentative	sc	sc'	sc ^h	db	žr	žl	žř	žw	žy
FLC	Fluctuative	šč	šč'	šč ^h	dg	jr	jl	jř	jw	jy

NAME OF ILLOCUTION	PHASE LABEL	NAME OF PHASE	SANCTION								
			1 PPS	2 EPI	3 ALG	4 IPU	5 RFU	6 REB	7 THR	8 EXV	9 AXM
DECLARATIVE DEC	CTX	Contextual	ct	ct'	ct ^h	tm	ctr	ctl	ctř	ctw	cty
	PCT	Punctual	ck	ck'	ck ^h	km	ckr	ckl	ckř	ckw	cky
	ITR	Iterative	cp	cp'	cp ^h	pm	cpr	cpl	cpř	cpw	cpy
	REP	Repetitive	cq	cq'	cq ^h	qm	cqr	cql	gm	cqw	xm
	ITM	Intermittent	čt	čt'	čt ^h	tn	čtr	čtl	čtř	čtw	čty
	RCT	Recurrent	čk	čk'	čk ^h	kn	čkr	čkl	čkř	čkw	čky
	FRE	Frequentative	čp	čp'	čp ^h	pn	čpr	čpl	čpř	čpw	čpy
	FRG	Fragmentative	čq	čq'	čq ^h	qn	čqr	čql	gn	čqw	xn
	FLC	Fluctuative	xt	xt'	xt ^h	pk	xtr	xtl	xtř	xtw	xtý

The nine phases are explained in the following sections. The Category of Sanction is explained in [Section 5.6](#).

5.5.1 **CTX** The Contextual

The CONTEXTUAL is the default phase, describing a single act, condition, or event as a relatively brief (but not instantaneous), single holistic occurrence considered once, where the actual duration of the occurrence is not relevant in the particular context. It can be visually represented along a progressive timeline by a short dash, e.g., —

5.5.2 **PUN** The Punctual

The PUNCTUAL describes an act, condition, or event which is point-like, momentary or instantaneous in nature, such as an explosion, a flash of lightning, a blow, a single handclap, a collision between two objects, a stab of pain, a single cough, the clicking of a lock, etc. It can be visually represented along a timeline by a single point, e.g., •

5.5.3

ITR

The Iterative

The ITERATIVE refers to a momentary or instantaneous event, like the PUNCTUAL above, which repeats itself in a rapid, on/off, staccato manner, like a machine gun burst, strobe light burst, an alarm bell ringing, or the quick unconscious tapping of a finger, the whole comprising a single CONTEXTUAL event.

Visual representation: ••••

5.5.4

REP

The Repetitive

The REPETITIVE refers to a relatively brief event of indeterminate or vague duration (i.e., as with the CONTEXTUAL phase above), but repeated in an on/off staccato manner, like a car horn being honked repeatedly in a fast steady rhythm, or an automatic machine press. Visual representation: — — —

5.5.5

ITM

The Intermittent

The INTERMITTENT is similar to the ITERATIVE above, identifying a repetitive occurrence of a PUNCTUAL event, however, unlike the ITERATIVE, the duration of time between repetitions is relatively long and contextually relevant. It would be used in describing the downbeat pattern of a pop song, the ongoing snapping of fingers to music, the steady one-drop-at-a-time dripping of a faucet, etc.

Visual representation: • • • • •

5.5.6

RCT

The Recurrent

The RECURRENT is to the REPETITIVE as the INTERMITTENT is to the ITERATIVE. It indicates a slow repetition of a CONTEXTUAL event, where the duration between occurrences is relatively long and contextually relevant. Exemplified by the sounding of a foghorn, or the ongoing hooting of an owl.

Visual representation: — — — —

5.5.7

FRE

The Frequentative

The FREQUENTATIVE indicates an iterative occurrence (a single set of punctual repetitions) which in turn repeats at intervals, the whole considered as a single CONTEXTUAL event. Examples would be the repetitive sets of hammerings of a woodpecker or the repeated short bursts of a jackhammer.

Visual representation: ••• ••• ••• •••

5.5.8

FRG

The Fragmentative

The FRAGMENTATIVE indicates a random pattern of punctual occurrences, the whole considered as a single CONTEXTUAL event.

Visual representation: • • • • • • • •

5.5.9

FLC

The Fluctuative

The FLUCTUATIVE indicates a random pattern of both punctual and longer occurrences. An example would be the "sputtering" of a lighted fuse, the random patterns of tongues of flames, the chirping of birds in the wild, etc.

Visual representation: — • — — • — • — • — — • — — • — — • —

5.5.10 Examples of Phase in Use



Hwe'maklás. (OR **Hweklásürn.**)
 INF-STA-ASR/**FRG**/PPS-'rain'-NRM/PRX/M/CSL/UNI-FML
It may be raining.



la'qantas altaelgôñ.
 DYN-ASR/**REP**/PPS-MNO-'sound'-NRM/PRX/M/CSL/UNI-IFL STA-'inscribe'-OGN-NRM/PRX/U/ASO/DCT-AGC₂/7-IFL
The sound coming from the banks of printers keeps on steadily repeating.



llarburn êlnuł.
 DYN-'voice'-NRM/PRX/U/VAR/AGG-**FLC**-IFL STA-'bird'-IND-NRM/DEL/M/CSL/AGG-IFL
Birds are chirping, tweeting, and calling.

5.6 SANCTION

The morphological category of Sanction indicates the discourse-related purpose of an utterance in relation to what sort of truthfulness the listener should ascribe to it. In everyday terms, this corresponds to whether the utterance is a neutral proposition or assertion, an allegation, a rebuttable presumption, a counter-argument, a refutation of an allegation, a rebuttal, etc.

There are nine sanctions: the PROPOSITIONAL, EPISTEMIC, ALLEGATIVE, IMPUTATIVE, REFUTATIVE, REBUTTATIVE, THEORETICAL, EXPATIATIVE, and AXIOMATIC. Sanction is shown by the **Cv** affix to a formative, depending on the phase (and potentially the illocution) of the verb (discussed in [Sections 5.5](#) and [5.3](#) respectively). The **Cv** affix is normally placed in Slot V of the formative's morphological structure, unless the formative contains an incorporated root (see [Section 6.4](#)), in which case **Cv** is placed in Slot I. (In [Section 6.3.3](#) we will see that **Cv** can also be placed within a verbal adjunct.)

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V_L)	Cg/Cs)	V_r	(Cx/Cv)	V_{p/V_L)}	Cr	V_c	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv Suffix	Context + Format	Bias	Version	Designa- tion + Relation

As previously noted in the section on Phase, the presence of a **Cv** infix entails several other morpho-phonological structural requirements potentially affecting Slots IV, VI and IX. See [Section 5.5](#) above for details of these requirements.

Each sanction is explained in the sections below.

5.6.1 PPS The Propositional

The PROPOSITIONAL sanction is the default sanction, indicating the utterance represents a neutral proposition or assertion of ontologically objective fact, i.e., a statement of fact irrespective of third-party opinion, belief, or interpretation.

Example of such statements would be *That is a mountain*, or *I'm hungry*.

5.6.2 EPI The Epistemic

The EPISTEMIC sanction identifies an utterance as being a statement of shared knowledge or conventionalized fact whose ontology is human convention (i.e., agreed-upon knowledge) as opposed to objective fact irrespective of human knowledge. An example would be *That mountain is Mount Fuji* or *The U.N. tries to relieve hunger in the Third World*.

5.6.3 ALG The Allegative

The ALLEGATIVE sanction identifies an utterance as an ontologically subjective assertion or allegation, i.e., a proposition expressing one's opinion, belief, or interpretation, open to challenge or refutation. Examples would be *That mountain is beautiful* or *No one in the United States goes hungry*.

5.6.4 IPU The Imputative

The IMPUTATIVE sanction identifies an utterance as a rebuttable presumption, i.e., an assertion, whether ontologically objective or by convention, that is to be assumed true unless and until rebutted by a sufficient counter-argument or other evidence. Examples would be *He knows how to drive* [e.g., because he owns a car] or *She can't be hungry now* [e.g., because I saw her come out of the restaurant].

5.6.5 RFU The Refutative

The REFUTATIVE sanction identifies an utterance as a counter-allegation, refutation, or rebuttal of a previous assertion, allegation or presumption, where the counter-allegation, refutation, or rebuttal is epistemic in nature, i.e., based on shared human knowledge as opposed to ontologically objective fact.

5.6.6 REB The Rebuttative

The REBUTTATIVE sanction identifies an utterance as a counter-allegation, refutation, or rebuttal of a previous assertion, allegation or presumption, where the counter-allegation, refutation, or rebuttal is based on ontologically objective fact, irrespective of subjective opinion, belief, or interpretation.

5.6.7 THR The Theoretical

The THEORETICAL sanction identifies an utterance as a testable hypothesis or potentially verifiable theory.

5.6.8 EXV The Expatiative

The EXPATIATIVE sanction identifies an utterance as a hypothesis or theory that is not necessarily provable or verifiable.

5.6.9 AXM The Axiomatic

The AXIOMATIC sanction identifies an utterance as a conclusive presumption, i.e., a statement of ontologically objective, pan-experiential fact not open to rational argument or refutation. Examples would be *Gravity is ubiquitous*, or *Hunger is caused by not consuming enough food*.

5.6.10 Examples of Sanctions In Use



T^hem-mp^hāmnas osmuil.

ASR/CTX/**ALG**-PRL-PRS/COU-STA-'awe'-NRM/PRX/M/CSL/UNI-IFL STA-'valley'-DER-NRM/DEL/M/CSL/UNI-IFL

The valley would've been awe-inspiring to you, too [i.e., if you had seen/visited/been to it].



Tlan-nsach^has ômmil.

ASR/CTX/**REB**-MNO-CNT-STA-'sadness'-NRM/PRX/M/CSL/UNI-IFL STA-'female.child'-AFF-NRM/DEL/M/CSL/UNI-IFL

On the contrary, the girl is still sad.



Pšei'ùlûr̥ lén-nsa hwaixtasár öqeil.

STA-'incident'-PCR-NRM/DEL/M/CSL/UNI-EXT₁/6-FML **IPU**-CPC-CNT INF-DYN-'job/employment task'-NRM/PRX/M/CSL/UNI-NA₁/5-FML STA-'man'-ACT-NRM/DEL/M/CSL/UNI-IFL

After an incident like that, it's a fair guess the man won't be able to work any longer.

[LISTEN](#)

5.7 VALENCE

In Ithkuil, the term **Valence** is used to refer to the manner of participation of two separate entities or parties to any given verb, i.e., participation by one party automatically implies participation by another party to the same act, event, or state in either a parallel, corollary, or complementary fashion. Such dual participation occurs naturally in the verbs of world languages and is the province of what is known as "co-active" verbs. While all languages implicitly have co-active verbs, Ithkuil explicitly shows this dual participation in a formal and systematic way. To illustrate the concept of co-activity in English compare the following pairs of sentences:

- | | | |
|---|---|--|
| 1a) <i>I found an old man.</i> | → | 1b) <i>I found an empty can.</i> |
| 2a) <i>I threw the ball at Sam.</i> | → | 2b) <i>I threw the ball at the window.</i> |
| 3a) <i>I performed in front of her.</i> | → | 3b) <i>I performed in front of the wall.</i> |

Note that the first member of each sentence pair has an animate object of the verb (*an old man*, *Sam*, and *her*), while the second member of each pair has an inanimate object (*an empty can*, *the window*, and *the wall*). Now compare this set of sentence pairs to the similar set below:

- | | | |
|----------------------------------|---|---|
| 1c) <i>I met an old man.</i> | → | 1d) * <i>I met an empty can.</i> |
| 2c) <i>I threw Sam the ball.</i> | → | 2d) * <i>I threw the window the ball.</i> |
| 3c) <i>I entertained her.</i> | → | 3d) * <i>I entertained the wall.</i> |

The asterisk * indicates that the second sentence of these pairs is semantically unacceptable to English speakers. Why? The second set of sentence pairs parallel the first set except that the verbs *find*, *throw at*, and *perform* have been replaced by the semantically similar *meet*, *throw*, and *entertain*. Nevertheless, the use of inanimate objects with these latter three verbs appears unacceptable. The reason is that the verbs in the first set are "mono-active," i.e., they do not require that the object participate in the action in any way, whereas the verbs in the second set are "co-active," requiring that the object participate in the action along with the subject. Thus, while I can *find* an old man without the old man doing anything about it or even being aware of it, I cannot *meet* an old man without the old man also meeting me. I can *throw a ball at Sam* without Sam noticing, but if I *throw Sam a ball* it implies that he is expected to participate by catching it. Similarly, I can *perform* in front of someone even if they're asleep, but I can't *entertain* them unless they are participating in the situation by observing me. The participatory relationship involving the second party of a co-active verb differs depending on the context. It can be a parallel relationship (i.e., both parties participate identically) as implied by the English adverb 'together' in *He and I jog together*, or a reciprocal relationship as in the sentence *I met the old man* (i.e.,

and so he met me) or in verbs used with the adverbial phrase ‘each other,’ as in *We love each other*. The relationship can be one of accompaniment as in *I played along with him* (e.g., as he sang), or a complementary relationship as in *I threw Sam the ball* (i.e., and so he caught it). Other sorts of co-active relationships are possible. It is the differences in these relationships that are systematized in Ithkuil into the category called valence. In English and other languages co-activity is rarely explicit and systematic (the use of adverbs such as ‘together,’ ‘each other,’ or prefixes such as ‘out’ as in *out-perform* are some exceptions), and when lexified within a verb itself, are implicitly specific to that verb, giving rise to monoactive/co-active pairs such as *find/meet, throw at/throw, perform/entertain*, etc. In Ithkuil, co-activity is explicitly shown morphologically, and the types of co-active relationships, i.e., the valences of the verb, are systematic and fully productive for all verbs. As a result, no mono-active versus co-active lexical distinctions are necessary, i.e., all verbs can function monoactively as well as co-actively.

There are fourteen valences in Ithkuil: the MONOACTIVE, PARALLEL, COROLLARY, RECIPROCAL, COMPLEMENTARY, NONRELATIONAL, DUPLICATIVE, DEMONSTRATIVE, RESISTIVE, IMITATIVE, CONTINGENT, PARTICIPATIVE, INDICATIVE, and MUTUAL. Valence is shown by the **V_L** affix to a formative, normally placed in Slot VI of the formative’s morphological structure (following the **C_v** affix in Slot V), unless the formative contains an incorporated root (see [Section 6.4](#)) or a **C_s** aspect/mood infix in Slot III, in which case **V_L** is placed in Slot II following the **C_v** affix in Slot I. As per the [Note in Section 5.5](#), the presence of **C_v** and **V_L** in Slots V and VI require that the **V_r** infix in Slot IV be followed by a glottal stop ’.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((C _v)	V _L	C _g /C _s)	V _r	(C _x /C _v)	V _p /V _L)	C _r	V _c	C _i + V _i	C _a	V _x C	(V _f	('C _b)	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

(In [Section 6.3.4](#) we will see that Valence can also be shown via a consonantal prefix to a verbal adjunct.)

Table 12 below shows the values for the **V_L** affix for each of the fourteen valences.

Table 12: V_L Valence Prefixes

	Label	Valence name	V _L
1	MNO	Monoactive	a
2	PRL	Parallel	e
3	CRO	Corollary	o
4	RCP	Reciprocal	i
5	CPL	Complementary	u
6	NNR	Nonrelational	â
7	DUP	Duplicative	ê
8	DEM	Demonstrative	ô
9	RES	Resistive	û / î
10	IMT	Imitative	ai / au
11	CNG	Contingent	ei / eu
12	PTI	Participative	oi / ou
13	IDC	Indicative	ui / iu
14	MUT	Mutual	ö

The fourteen corresponding consonantal prefixes for Valence used with verbal adjuncts are given in [Section 6.3.4](#).

The fourteen valences are explained as follows:

5.7.1 MNO The Monoactive

The MONOACTIVE valence is the default valence and indicates a lack of co-activity, i.e., no participation by a second party is implied.

5.7.2 PRL The Parallel

The PARALLEL valence indicates that a second party is engaging in the same activity as the first party at same time. It would be used in translating sentences such as *The children all sang together*, *We both went jogging on the parkway*.

5.7.3 CRO The Corollary

The COROLLARY valence is similar to the PARALLEL, except that the second party engages in related activity at the same time as the first party, rather than the same activity. It would be used in translating sentences such as *The children played in the yard* (i.e., each child engaged in a different play activity) or *The band played my favorite song* (implying that not everyone in the band was playing the same instrument, or perhaps that someone in the band sang as opposed to playing an instrument).

5.7.4 RCP The Reciprocal

The RECIPROCAL valence indicates identical activity by each party directed at the other, thus translating the English adverbial phrases 'each other' and 'one another,' as in *They looked at each other*, *The clown and the grocer despise one another*.

5.7.5 CPL The Complementary

The COMPLEMENTARY valence indicates that the second party performs a complementary activity to that of the first party. By "complementary" is meant an activity different from that of the first party, but necessary to complete the whole of the joint activity, i.e., the "other half" of the joint activity. This is exemplified in sentences such as *The man and his son played catch*, *Hortense took me into the woods*, *The clown read the children a story*, *My back itches so I scratch it*, where 'played catch' implies the complementary activities of throwing and catching, 'took (into the woods)' implies someone leading while the other follows, 'read' implies a reader and an audience, and 'itches' implies scratching.

5.7.6 NNR The Nonrelational

The NONRELATIONAL valence indicates that a second party engages in a completely unrelated activity from the first, i.e., an incidental or circumstantial co-activity. There is no direct way to exemplify this valence in English translation other than to add a periphrastic clause such as 'while the other did something else' as in *He shaved while she did something else*. The way an Ithkuil sentence would utilize this valence would be in sentences overtly constructed to say, for example, 'They were in the house' with the NONRELATIONAL valence rendering a connotation of '...where one party was doing one thing while the other did something else.'

5.7.7 DUP The Duplicative

The DUPLICATIVE valence indicates that the second party copies or repeats the activity of the first party, as in the sentences *Let's draw a picture* (i.e., I'll draw it first, then you draw the same picture), *They both read that book* (i.e., first one, then the other), *I bought a new car* (i.e., and now someone else is buying a new car, too).

5.7.8 DEM The Demonstrative

The DEMONSTRATIVE valence indicates that the first party demonstrates for the second party how to do something or what to do. Thus an Ithkuil sentence constructed as *We played chess* with the verb in the DEMONSTRATIVE valence would mean ‘I showed her how to play chess,’ while the sentence constructed as *They fought us* in this valence would mean ‘They taught us how to fight.’

5.7.9 RES The Resistive

The RESISTIVE valence indicates that the second party resists or attempts to avoid participating in the activity of the first party. This sense can sometimes be suggested in English using the adverbs ‘anyway,’ ‘nevertheless,’ or adverbial phrases such as ‘just the same,’ as in sentences such as *We took the children to see the clowns anyway* (i.e., they didn’t want to go), *They fed me liver just the same* (i.e., I can’t stand liver), *Nevertheless, he told us the story* (i.e., despite our not wanting to hear it).

5.7.10 IMT The Imitative

The IMITATIVE valence indicates that the second party mimics, imitates, or attempts to duplicate the activity of the first party. The Ithkuil sentence *The clown juggled three balls for the child* in the IMITATIVE valence implies that the child attempted to juggle the balls as well.

5.7.11 CNG The Contingent

The CONTINGENT valence indicates that the second party engages in the next or dependent phase of a multi-part activity, the specific activity being dependent on context. Thus the Ithkuil sentence *I started the campfire for my friend* in the CONTINGENT implies that the friend then performed the next logical step, i.e., he cooked the food.

5.7.12 PTI The Participative

The PARTICIPATIVE valence indicates that the parties take part in an activity involving a greater whole, translatable by the English phrase ‘take part in....’ Thus, the Ithkuil sentence *They raced* in the PARTICIPATIVE means ‘They each took part in the race.’

5.7.13 IDC The Indicative

The INDICATIVE valence indicates that the second party perceives a cue, nuance, or implication from the first party’s activity. Thus the sentence *I looked at her* in the INDICATIVE would mean ‘She understood what I meant from my looking at her’ while the sentence *I spoke to them* would mean ‘They gleaned what I really meant from my words.’

5.7.14 MUT The Mutual

The MUTUAL valence indicates that both parties alternate performing an activity, as in *She and I take turns cleaning* or *They both alternate teaching the beginning and advanced classes*.

5.7.15 Examples of Valence in Use



Tö um-mixhakc'éc̥ eglelôn üksâleac̥.

1M-EFF CPL-SUB-DYN-'study'-NRM/GRA/M/CSL/UNI-FML-CVT₁/3-CPT
FRAMED-FML-MNF-'clown'-OBL-NRM/DEL/M/CSL/UNI-QUA₂/8

STA-'illness'-ABS-NRM/DEL/M/CSL/UNI-AGC₂/7-IFL

I may secretly teach the doctor to be a truly outstanding clown.



૪૮૭

Il-Irazgall eqill.

RCP-HAB-STA-'smile'-NRM/DEL/M/CSL/DPX-IFL STA-'person'-AFF-NRM/DEL/M/CSL/DPX-IFL

The couple are always smiling at each other.

LISTEN



Uin-ntixal ömmul ekšíl.

IDC-SUB/RTR-DYN-'see'-NRM/DEL/M/CSL/UNI-IFL STA-'father'-IND-NRM/DEL/M/CSL/UNI-IFL STA-'clown'-AFF-NRM/DEL/M/CSL/UNI-FML
Maybe the clown understood the meaning of father's look.

卷之三

Ailtac wëtöin-n qeowi.

DYN-'write.message'-NRM/DEL/A/CSL/UNI-IFL RCP-PPS/CTX/ASR-DVR-FAC ma-ACT-CSL-NRM/DPX

The two of them like writing to each other.



Em-mrigradh ekšóll âmmej.

PRL-PRS-DYN-'eat/drink food'-NRM/PRX/N/CSL/UNI-IFL STA-'clown'-ERG-NRM/DEL/M/CSL/DPX-FML STA-'child'-ABS-NRM/DEL/M/CSL/AGG-IFL

The pair of clowns will make the children eat together from now on.



A'tukças tê oxnall

STA-PPS/CTX/ASR-CPL-'itch'-NRM/PRX/M/CSL/UNI-IFL 1m-GEN STA-'back'-OBL-NRM/DEL/M/CSL/DPX-IFL

My back itches so I scratch it.

LISTEN



T^hem-mp^hâmnas osmuil.

ASR/CTX/ALG-**PRL**-PRS/COU-STA-'awe'-NRM/PRX/M/CSL/UNI-IFL STA-'valley'-DER-NRM/DEL/M/CSL/UNI-IFL

You, too, would've found the valley to be awe-inspiring [i.e., if you had seen/visited/been to it].

NOTE: The example sentence immediately above is interesting in that there is no overt reference in the Ithkuil sentence to any subject “you.” The idea that there are two parties involved, i.e., the speaker and the listener(s), is conveyed solely by the presence of PARALLEL valence. Without PRL valence, the sentence would simply mean *‘the valley would have been awe-inspiring’*; the added PRL valence implies the speaker is alleging to another party (i.e., the listener/reader) that the latter would have also enjoyed the valley’s awesomeness.

5.8 VERSION

Version refers to a six-way aspectual distinction indicating whether the verb refers to an act, event or state which is goal- or result-oriented, and/or whether it has been successfully actualized subsequent to one's initial intention. Like many Ithkuil morphological categories, version addresses semantic distinctions which are usually rendered by lexical differentiation (i.e., word choice) in other languages.

Version is shown by the formative's tone (see [Section 1.3.2](#) for an explanation of how tone functions in Ithkuil formatives). The six versions are PROCESSUAL, COMPLETIVE, INEFFECTUAL, INCOMPLETIVE, POSITIVE and EFFECTIVE.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	V _r	(Cx/Cv	V _{p/V_L)}	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

The six versions are explained below:

5.8.1 PRC The Processual

The PROCESSUAL version is marked by falling tone. It is the default version and describes all acts, conditions, or events which are ends in themselves and not goal-oriented, i.e., are not focused on an anticipated outcome or final purpose toward which a progressive effort is being made.

5.8.2 CPT The Completive

The COMPLETIVE version is marked by high tone. It describes acts, conditions, or events which achieve, or are intended to achieve, an anticipated outcome, i.e., which are oriented toward the achievement of some purpose, outcome, or final state. Such a distinction is usually handled by word choice in Western languages. The dynamism of Version can be seen in the following comparisons:

PROCESSUAL → COMPLETIVE

hunt → *to hunt down*
to be losing → *to lose*
to study → *to learn*
to be winning → *to win*
to strive for → *to accomplish, achieve*
to risk → *to defeat the odds; win*
to work → *to build, construct, make*
to displace; infiltrate → *infest, to take over; vanquish*
to pour out → *to drain*
to remove (incrementally) → *to eliminate*
to increase → *to maximize*
to read → *to read to the end; finish reading*
to decrease → *minimize*
to flank → *to surround*
to enlarge → *to make gigantic*
to spread upon or over → *to cover, engulf, envelop*
to shrink → *miniaturize*
to chase → *to catch up to*
to eat → *eat all up*
to pursue → *to capture*
to compete → *to win*
to be pregnant → *to give birth*
to throw at → *to hit (with a throw)*
to run low on → *to run out of, deplete*
to grow → *to grow up*
to use → *use up*
to possess, hold → *to keep*
to tear/ rip → *to tear/rip up or to pieces*

to join together → *to unify*
to accelerate, speed up → *to achieve maximum speed*
to pour into → *to fill (up)*
to bleed → *to bleed to death*
to run → *to run all the way*
to descend, go down → *to get to the bottom*
to brighten → *to illuminate*
to decelerate, slow down → *to stop*
to search for, seek → *to find*
to polish → *to burnish*
to practice → *to perfect*
to darken → *to make dark*
to ascend, rise → *to reach the top*
to explore → *to discover*

5.8.3 INE The Ineffectual

The INEFFECTUAL version is marked by rising tone. It, and the INCOMPLETIVE which follows, operate in parallel fashion to the PROCESSUAL and the COMPLETIVE versions respectively but are specific to acts, events, or states initially expressed (whether explicitly or implicitly) as unrealized intentions, attempts, desires, needs, etc., often in conjunction with a modality affix to the verb (see [Section 6.1](#)). Such “unrealized” verbs are exemplified in the following sentences: *I want to dance*, *She needs to work*, *I tried to finish*, *She must find him*, *I choose to celebrate*. Each of these sentences in itself does not specify whether the action was “realized” or not, i.e., just because I want to dance doesn’t necessarily mean that I actually do dance; her need to work doesn’t tell us by itself whether she in fact will work, etc.

The INEFFECTUAL version indicates that the outcome of an “unrealized” PROCESSUAL verb is unsuccessful. Thus the sentence *I want to dance* in the INEFFECTUAL would be translated as *I want to dance but I'm not going to*, while the sentence *I tried to eat* in the INEFFECTUAL means *I tried to eat but couldn't*.

5.8.4 INC The Incompletive

The INCOMPLETIVE version is marked by low tone. It indicates that the outcome of an “unrealized” COMPLETIVE verb is unsuccessful. It functions identically to the INEFFECTUAL, except that it refers to a verb that is result/goal-oriented, as illustrated in the comparative chart shown above for the COMPLETIVE version. Thus, the sentence *I tried to eat* in the INCOMPLETIVE means *I tried to eat all of it but couldn't*.

5.8.5 PST The Positive

The POSITIVE version is marked by rising-falling tone. Complementing the INEFFECTUAL, the POSITIVE indicates an intention brought to reality. Thus the sentence *I want to dance* in the POSITIVE would be translated as *I want to dance and so I'm going to*, while the sentence *I tried to eat* in the POSITIVE means *I succeeded in eating something*.

5.8.6 EFC The Effective

Likewise, the EFFECTIVE version complements the INCOMPLETIVE, indicating the same successful effort implied by the POSITIVE version, only applied to goal-/result-oriented verbs. Thus *I wanted to finish* in the EFFECTIVE implies that the desire was successfully carried out; *I tried to eat* in the EFFECTIVE means *I succeeded in eating it all up*. The EFFECTIVE is marked by falling-rising tone.

5.8.7 Examples of Version in Use



Ixhát' épá l̥kuil efneil t̥e.

DYN-'study'-NRM/TRM/M/CSL/UNI-FML-**EFC** STA-[carrier stem]-OBL-NRM/DEL/M/CSL/UNI "Ithkuil" STA-'male cousin'-ACT-DEL/M/CSL/UNI-IFL
1M-GEN

My cousin has finally learned Ithkuil.

[LISTEN](#)

→

Uakal egruláun. → Uakal egruláun.

[PRC]-DYN-'come'-NRM/DEL/M/CSL/UNI-IFL STA-'prepare.food'-IND-NRM/DEL/M/CSL/UNI-AGC₂/2-FML
→ CPT-DYN-'come'-NRM/DEL/M/CSL/UNI-IFL STA-'prepare.food'-IND-NRM/DEL/M/CSL/UNI-AGC₂/2-FML

The cook is on his way. → The cook has arrived.

[LISTEN](#)

5.9 VALIDATION

Validation expresses the degree or type of evidence supporting a statement, a grammatical requirement of Ithkuil. Such categories are usually termed "evidentials" or "factives" in various non-Western languages which have them. There are 14 validations in Ithkuil, five refer to non-hearsay types of evidence, while nine refer to hearsay situations. These nine hearsay categories are distinguished by a two-fold matrix of whether the source of the hearsay is considered by the speaker to be trustworthy and whether the statement/information is potentially verifiable. The exactitude of Ithkuil evidential categories is impossible to capture in English translation except through cumbersome paraphrase, but can be approximated in a rough way using phrases such as *reportedly*, *presumably*, *supposedly*, *purportedly*, *allegedly*, *rumour has it*, *I have a feeling that*, etc.

The 14 validations are shown by a consonantal prefix **Cg** in Slot III.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	VL)	Cg/Cs)	Vr	(Cx/Cv	Vp/VL)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

The values for the **Cg** prefix are shown in Table 13 below as well as the meaning (description of evidential basis) of each validation.

Table 13(a) and (b): Cg Validation Prefixes

	Label	Name	Cg	Evidential Basis
1	CNF	CONFIRMATIVE	(h-)*	direct observation/knowledge and verifiable by others
2	AFM	AFFIRMATIVE	y-	direct observation/knowledge but unknown verifiability by others
3	RPT	REPORTIVE	w-	direct observation/knowledge but unverifiable by others
4	INF	INFERENTIAL	hw-	inference
5	ITU	INTUITIVE	hh-	intuition/feeling

* The CONFIRMATIVE Validation is unmarked unless the formative displays a VL value in Slot II, in which case Cg is h-.

Hearsay Categories

	Label	Name	Cv	Source Trustworthy?	Verifiable?
6	PSM	PRESUMPTIVE	hm-	Yes	Yes
7	PSM2	PRESUMPTIVE 2	hn-	Yes	Unknown
8	PPT	PURPORTIVE	hr-	Yes	No
9	PPT2	PURPORTIVE 2	lw-	Unknown	Yes
10	CJT	CONJECTURAL	ly-	Unknown	Unknown
11	DUB	DUBITATIVE	rw-	Unknown	No
12	TEN	TENTATIVE	ry-	No	Yes
13	PUT	PUTATIVE	řw-	No	Unknown
14	IPB	IMPROBABLE	řy-	No	No

5.9.1 Examples of Validation in Use

蒙古文



Qȫ-uhmixhákc' eglelön ükšàwëla.

ma-EFF CPT-CPL-**PSM**-DYN-'study'-GRA/M/CSL/UNI-FML STA-'illness'-ABS-NRM/DEL/M/CSL/UNI-AGC₂/7-IFL FRAMED/FML-MNF-'clown'-OBL-NRM/DEL/M/CSL/UNI

Presumably he is teaching the doctor to be a clown.

卷之三

Ihratzgallamz eqill.

RCP-PPT-STA-'smile'-NRM/DEL/M/CSL/DPX-MOT₂/5-IFL STA-'person'-AFF-NRM/DEL/M/CSL/DPX-IFL

Purportedly, the couple can't help smiling at each other.

三

Irwail tac qeiwi.

RCP-DUB-DYN-'write.message'-NRM/DEL/A/CSL/UNI-IFL ma-ACT-CSL-NRM/DPX

Supposedly the two of them write to each other but who knows if it's true or not.

5.10 ASPECT

Aspect provides detailed and specific temporal information about the verb, not in relation to the speaker's present moment of utterance (as with Perspective in [Sec. 3.3](#)), but rather in relation to the contextual "present" of the act, condition, or event being spoken about. There are 32 aspects in Ithkuil. For the most part, they translate various common adverbial phrases used in English.

Generally, Aspect is usually shown by affixes to a verbal adjunct, since such adjuncts allow for a second aspect to be conveyed, and any other morphological information carried by the adjunct requires the adjunct to carry an aspectual

marker as well. However, it is also possible to show a single aspect within the formative itself, by means of the **Cs** consonantal prefix in Slot III. Such an alternative would be available when Slots I and II of the formative are filled, thus requiring the presence of either **Cg** or **Cs** in Slot III.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	Vr	(Cx/Cv	Vp/V _L)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

The **Cs** consonantal affix will always contain one of the specialized dyssyllabic geminate clusters described in [Section 1.2.1.3](#), written **n-n**, **m-m**, **l-l**, **r-r**, etc. or various other syllabic consonant clusters, e.g., **l-m**, **l-n**, **r-m**, **r-n**, and **r-ň**. The only appearance in Ithkuil of these specialized consonantal clusters is in the **Cs** affix used in Slot III of formatives (as well as in Slot D of verbal adjuncts, discussed in [Section 6.0](#)). In this way, the reader/listener can always distinguish whether the consonantal form in Slot III represents **Cs** showing Aspect as opposed to **Cg** showing Validation (see [Section 5.9](#) above).

Besides showing Aspect, **Cs** also shows Mood. If the formative's Mood is already shown via the **Ci+Vi** infix in Slot IX (see [Section 5.2](#)), then **Cs** will show a FACTUAL mood solely as a placeholder/default value, and only the Aspect value of **Cs** will be semantically active.

The values for **Cs** are shown in Table 14 below. (The forms of alternate vocalic affixes used for showing Aspect within verbal adjuncts will be discussed in [Section 6.3.1](#).)

Table 14: Values for Cs (32 Aspects x 8 Moods)

		MOOD									
Aspect				FAC	SUB	ASM	SPC	COU	HYP	IPL	ASC
	none			n-n	m-m	l-l	r-r	ň-ň	r-n	l-ň	r-ň
1	RTR	RETROSPECTIVE		n-nr	n-nt	n-nt'	n-nd	n-nt ^h	n-nt̄	n-ndh	n-nh
2	PRS	PROSPECTIVE		m-mr	m-mp	m-mp'	m-mb	m-mp ^h	m-mf	m-mv	m-mh
3	HAB	HABITUAL		l-lr	l-lt	l-lt'	l-ld	l-lt ^h	l-lt̄	l-ldh	l-lh
4	PRG	PROGRESSIVE		r-rn	r-rt	r-rt'	r-rd	r-rt ^h	r-rt̄	r-rdh	r-rh
5	IMM	IMMINENT		ň-ňr	ň-ňk	ň-ňk'	ň-ňg	ň-ňk ^h	ň-ňx	ň-ňq	ň-ňh
6	PCS	PRECESSIVE		n-nw	n-ntw	n-nt'w	n-ndw	n-nt ^h w	n-nt̄w	n-ndhw	n-nhw
7	REG	REGULATIVE		m-mw	m-mpw	m-mp'w	m-mbw	m-mp ^h w	m-mfw	m-mvw	m-mhw
8	EXP	EXPERIENTIAL		l-lw	l-ltw	l-lt'w	l-ldw	l-lt ^h w	l-lt̄w	l-ldhw	l-lhw
9	RSM	RESUMPTIVE		r-rw	r-rtw	r-rt'w	r-rdw	r-rt ^h w	r-rt̄w	r-rdhw	r-rhw

10	CSS	CESSATIVE	ň-ňw	ň-ňkw	ň-ňk'w	ň-ňgw	ň-ňk ^h w	ň-ňxw	ň-ňqw	ň-ňhw
11	RCS	RECESSATIVE	n-ny	n-nty	n-nt'y	n-ndy	n-nt ^h y	n-n ^h y	n-ndhy	n-nç
12	PAU	PAUSAL	m-my	m-mpy	m-mp'y	m-mby	m-mp ^h y	m-mf ^h y	m-mvy	m-mç
13	RGR	REGRESSIVE	l-ly	l-lty	l-lt'y	l-ldy	l-lt ^h y	l-lt ^h y	l-lthy	l-lç
14	PCL	PRECLUSIVE	r-ry	r-rty	r-rt'y	r-rdy	r-rt ^h y	r-r ^h y	r-rdhy	r-rç
15	CNT	CONTINUATIVE	n-ns	n-nz	n-nsw	n-nzw	n-nc'	n-nc ^h	n-nc'w	n-nc ^h w
16	ICS	INCESSATIVE	m-ms	m-mz	m-msw	m-mzw	m-mc'	m-mc ^h	m-mc'w	m-mc ^h w
17	PMP	PREEMPITIVE	ň-ňs	ň-ňz	ň-ňsw	ň-ňzw	ň-ňc'	ň-ňc ^h	ň-ňc'w	ň-ňc ^h w
18	CLM	CLIMACTIC	l-ls	l-lz	l-lsw	l-lzw	l-lc'	l-lc ^h	l-lc'w	l-lc ^h w
19	PTC	PROTRACTIVE	r-rs	r-rz	r-rsw	r-rzw	r-rc'	r-rc ^h	r-rc'w	r-rc ^h w
20	TMP	TEMPORARY	n-nš	n-nž	n-nšw	n-nžw	n-nč'	n-nč ^h	n-nč'w	n-nč ^h w
21	MTV	MOTIVE	m-mš	m-mž	m-mšw	m-mžw	m-mč'	m-mč ^h	m-mč'w	m-mč ^h w
22	CSQ	CONSEQUENTIAL	ň-ňš	ň-ňž	ň-ňšw	ň-ňžw	ň-ňč'	ň-ňč ^h	ň-ňč'w	ň-ňč ^h w
23	SQN	SEQUENTIAL	l-lš	l-lž	l-lšw	l-lžw	l-lč'	l-lč ^h	l-lč'w	l-lč ^h w
24	EPD	EXPEDITIVE	r-rš	r-rž	r-ršw	r-ržw	r-rč'	r-rč ^h	r-rč'w	r-rč ^h w
25	DCL	DISCLUSIVE	n-nł	m-mł	ň-ňł	n-ntł	m-mtł	ň-ňtł	l-ltł	r-rtł
26	CCL	CONCLUSIVATIVE	l-lm	l-lł	n-nł	ň-ňm	m-mř	m-mt	ň-ňt	ň-ňn
27	CUL	CULMINATIVE	r-rm	r-rl	m-ml	m-mn	r-mř	m-mt'	ň-ňt'	ň-ňç
28	IMD	INTERMEDIATIVE	l-łn	l-nł	l-lř	n-nm	ň-ňř	m-mt ^h	ň-ňt ^h	ň-ňt
29	TRD	TARDATIVE	l-nw	l-ny	l-lg	l-lgw	l-lx	l-lxw	l-lv	l-lcw
30	TNS	TRANSITIONAL	r-nw	r-my	r-rg	r-rgw	r-rx	r-rxw	r-rv	r-rcw
31	ITC	INTERCOMMUTATIVE	l-mw	l-my	l-lb	l-lbw	l-lf	l-lfw	l-ňw	l-lčw
32	CSM	CONSUMPTIVE	r-mw	r-ny	r-rb	r-rbw	r-rf	r-rfw	r-ňw	r-rčw

The thirty-two aspectual categories are explained below.

5.10.1 RTR RETROSPECTIVE

This aspect operates in conjunction with Perspective (see [Sec. 3.3](#)) to create various equivalents to Western tense categories. With the MONADIC, the RETROSPECTIVE can be translated by English ‘have already’ as in *I’ve already done it*. With the UNBOUNDED, the RETROSPECTIVE is equated with the English simple past tense. With the NOMIC and ABSTRACT, it adds a sense of ‘and it’s always been that way’ to the verb.

5.10.2 PRS PROSPECTIVE

Like the RETROSPECTIVE above, this aspect operates in conjunction with Perspective to create various equivalents to Western tense categories. With the MONADIC, the PROSPECTIVE equates with the English future tense. With the UNBOUNDED, it can be translated by the English future perfect (i.e., ‘will have...’). With the NOMIC and ABSTRACT, it adds a sense of ‘and it’ll always be that way’ or ‘from now on’ to the verb.

5.10.3 HAB HABITUAL

When used with the MONADIC perspective, this aspect conveys the idea of ‘always’ or ‘continues to’, while with the UNBOUNDED, the English ‘used to’ construction offers an equivalent translation, as in *She used to come see me on Wednesdays*.

5.10.4 PRG PROGRESSIVE

This aspect conveys the idea of an act in progress, similar to the English construction ‘in the midst of [verb] + ing’ or the use of the present participle in Spanish.

5.10.5 IMM IMMINENT

Conveys that an action, state or event is imminent. Translates phrases such as ‘(just) about to’ or ‘on the verge of’ as in *I think Carl is about to cry*.

5.10.6 PCS PRECESSIVE

Conveys that an action, state or event has immediately preceded. Translates such phrases as ‘just’ or ‘just now,’ as in *We just saw a clown in the toy store*.

5.10.7 REG REGULATIVE

Conveys the idea of participation or involvement in an action, state, or event over an amount of time extending from the past into the future relative to the contextual present. Translates English phrases such as ‘engaged in’ or ‘involved in’ as in *Her husband is engaged in construction of the new bridge*.

5.10.8 EPR EXPERIENTIAL

Translates English ‘ever’ in the sense of ‘within the realm of one’s experience’ or ‘at some point in one’s experience,’ as in *Does he ever shut up?* Note the EXPERIENTIAL does not equate to ‘ever’ when it means ‘always,’ as in *Ever does he seek his destiny* nor as an adverb of mere emphasis as in *Was she ever tired*.

5.10.9 RSM RESUMPTIVE

Conveys the idea of an act, state, or event resuming after having previously ceased, as in *The girl resumed singing*, or

He is starting to laugh again.

5.10.10 **CSS** CESSATIVE

Conveys the idea of cessation of an event, state or action. Translates English phrases such as ‘stop,’ ‘discontinue,’ or ‘cease,’ as in *They stopped dancing at midnight.*

5.10.11 **RCS** RECESSATIVE

Conveys the idea of cessation of event again, after having previously ceased then resumed, as in *Lyudmila stopped eating yet again in order to enjoy a quick interlude with the neighborhood clown.*

5.10.12 **PAU** PAUSAL

Indicates a pause in an action, state or event, with an implied intention to resume. Translates phrases such as ‘take a break from’ or ‘pause in’ as in *Mother took a break from cleaning to gossip with her friends.*

5.10.13 **RGR** REGRESSIVE

Conveys the idea of a return to an original or previous action, state or event after a long hiatus involving an intervening change of state or situation, as translated by the phrase ‘return to.’ The REGRESSIVE should be distinguished from the RESUMPTIVE above, which merely implies the restarting after a stop or pause without an intervening change of state or situation. An example would be *Mr. Yates returned to golf after recovering from his stroke.*

5.10.14 **PCL** PRECLUSIVE

Conveys the fact that an action, state, or event takes place from inception to conclusion all in one contextual segment, translating such phrases as ‘all at once,’ ‘all in one go,’ ‘without stopping,’ etc. as in *Walter drank the entire bottle in one gulp.*

5.10.15 **CNT** CONTINUATIVE

Conveys the idea that an action, event, or state continues on. Translates phrases such as ‘keep on,’ ‘still,’ ‘stay,’ ‘yet,’ etc. When used in a negative sentence, conveys the idea of English ‘no longer’ or ‘not anymore’ as in *She kept on singing, You’re still staring at me, I’ve yet to meet him, Sam no longer loves you / Sam doesn’t love you anymore.*

5.10.16 **ICS** INCESSATIVE

Conveys that an action, state or event continues on without stopping. Translates such English adverbials as ‘...on and on’ or ‘...away’ as in *They danced the night away* or *They’ve been battling on and on since last year.*

5.10.17 **PMP** PREEMPTIVE

Emphasizes the singularity and initial occurrence an action, state or event, as translated by such English phrases as ‘for once’ or ‘just once,’ as well as the anticipation preceding a long-expected situation, as translated by phrases such as ‘at last,’ ‘after all this time,’ ‘finally,’ and ‘for the first time.’

5.10.18 CLM CLIMACTIC

Emphasizes the finality of an action, state or event, as translated by such English phrases as ‘once and for all’ or ‘for the last time.’

5.10.19 PTC PROTRACTIVE

Conveys that an action, state or event takes place over a long period of time. If used with the CONTEXTUAL or PUNCTUAL phases, or with formatives describing naturally brief durations, the PROTRACTIVE conveys the idea of the act or event being long-delayed. Example usages: *It rained for quite a while, We shared a long kiss, That slap to his face was a long time coming.*

5.10.20 TMP TEMPORARY

Conveys that an action, state or event is being considered or is applicable only to the present subjective context or range of the contextual present, as translated by phrases such as ‘for the time being’ or ‘but only for the moment’ or ‘for now’ as in *This will be sufficient for now* or *For the time being you’ll have to drink water.*

5.10.21 MTV MOTIVE

Conveys that an action, state or event involves physical removal or absence of the participant from the present context of discourse. Translates such phrases as ‘be off ...-ing’ or ‘go off to ...’ as in *Dad’s off hunting* or *They went off to cavort with the clowns.*

5.10.22 CSQ CONSEQUENTIAL

This aspect conveys the idea of proceeding or engaging in an action or event despite the possibility of adverse consequences. It translates the English phrases such as ‘go ahead and’ or ‘anyway,’ as in *She went ahead and bought the furniture* or *I decided to go there anyway.*

5.10.23 SQN SEQUENTIAL

This aspect conveys the idea a “sequential progressive” in which a series of contextually identical instances is seen as comprising a single event, usually with an implied culmination point. It translates the English use of ‘off’ as in *He’s checking off each item as it is inventoried*, or *The sheep died off from the disease.*

5.10.24 EPD EXPEDITIVE

Conveys a sense of haste associated with an action or event. Translates English ‘hurry (up)’ as in *Hurry up and finish* or *They ate in a hurry.*

5.10.25 DCL DISCLUSIVE

Focuses on the revelatory nature of an action, state or event, translating phrases such as ‘turn out to be,’ ‘turn out that...’ and ‘be revealed that....’

5.10.26 CCL CONCLUSIVE

Conveys the direct outcome of an action, state or event within the short-term context of the situation at hand. Translates phrases such as ‘end up...’, ‘come to’, ‘reach the point where,’ as in *I ended up crashing the car* or *He drank to the point where he passed out*.

5.10.27 CUL CULMINATIVE

Similar to the CONCLUSIVE above, but with a focus on the eventual, long-term outcome over an extended period of time or through a series of developmental steps. Compare the following examples with the CONCLUSIVE aspect above: *In the end, I'll have to leave town; Things got to the point where the mayor got involved; Eventually, they fell in love.*

5.10.28 IMD INTERMEDIATIVE

Conveys the idea that the action, state, or event takes place at some point along the timeline of, or within the duration of, another action, state, event, or background context, as translated by the phrases ‘at some point’ or ‘somewhere along the way....’

5.10.29 TRD TARDATIVE

Conveys the idea that an action, state, or event lessens, dwindles, or slackens in energy, intensity, or effect, impliedly by exhaustion of the active source of energy or agency, or by dissipation of the foundational context involved. Translates such phrases as ‘to get tired of,’ ‘peter out,’ ‘trail off,’ etc.

5.10.30 TNS TRANSITIONAL

Focuses on the initial stage of preparation, adjustment, or accustomization to an action, state or event, translated by phrases such as ‘take up,’ ‘start to,’ etc. implying a long-term process of initialization, as in *I'm planning to take up golf.*

5.10.31 ITC INTERCOMMUTATIVE

Conveys the idea of “sequential reciprocity,” meaning that the action or event is a consequent reciprocation triggered by, or in reaction to, an initiating action or event. It translates the English verbal particle ‘back’ as in *The boy threw it back* or *She stared back at the men ogling her.*

5.10.32 CSM CONSUMPTIVE

Conveys an all-consuming action, state, or event which interferes with or prevents other events from occurring. It translates English phrases such as ‘spend one’s time’ or ‘away’ as in *Mother spends her life worrying* or *He's pining away.*

5.10.33 Examples of Aspect In Use



Al-Isinyat eqṭulisqa tē.

MNO-CLM-DYN-'choose'-NRM/DEL/U/CSL/UNI-IFL STA-'brother'-IND-NRM/DEL/M/CSL/UNI-DCS₂/1-IFL 1M-GEN

My indecisive brother made a choice once and for all.



Al-lyuolmát êqul.

MNO-RGR-DYN-'sing.a.song'-NRM/DEL/U/CSL/UNI-FML STA-'woman'-IND-NRM/DEL/M/CSL/UNI-IFL

The woman returned to singing.



Çtar-ryo igraleitħar eglulōn.

HOR/CTX/PPS-PCL-HAB DYN-'eat.food'-NRM/DEL/M/CSL/UNI-NA₁/5-EXT₂/6-IFL STA-'illness'-IND-NRM/DEL/M/CSL/UNI-AGC₂/7-IFL

If only the physician wouldn't always eat his food in one gulp like that.



Lér-rwia hwaixtasár öqeil.

ASR/CTX/IPU-CPC-RSM-TMP INF-DYN-'job/employment.task'-PRX/M/ASO/UNI-NA₁/5-FML STA-'man'-ACT-DEL/M/CSL/UNI-IFL

I'd venture to say the man won't be able to resume working anytime soon.

5.11 BIAS

Bias expresses the general, overall subjective/emotional attitude or perspective in which the speaker regards the action. There are 24 basic bias categories, each of which has an additional “intensive” form which often warrants a change in English translation.

5.11.1 Bias Categories and Usage

Bias is shown as a word-final consonantal suffix to formative with a glottal stop being infix between the suffix and the Vf mood/context suffix, e.g., **uprexalo'ss**. (The glottal stop is necessary so that the reader/listener does not confuse it with a word-final VxC suffix in Slot XI.)

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	Vr	(Cx/Cv	Vp/V _L)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood	Essence + Extension + Perspective + Configuration + Affiliation	Deriv Suffix	Context + Format	Bias	Version	Designation + Relation

NOTE: We will see in [Section 6.3.2](#) that, as an alternative to the **Cb** bias suffix on a formative, Bias can instead be shown via a word-final consonantal suffix to to a verbal adjunct.

These **Cb** affix forms are shown in Table 15 below. The forms to the right of the arrow are the “intensive” forms described above. The 24 biases are explained following the table.

Table 15: Morpho-Phonological Markers for Bias

	LABEL	NAME OF BIAS	Cb AFFIX → Cb INTENSIVE AFFIX
1	ASU	ASSURATIVE	n → nn
2	HPB	HYPERBOLIC	m → mm
3	COI	COINCIDENTAL	ň → ſň

4	ACP	ACCEPTIVE	č → čč
5	RAC	REACTIVE	ć → ćć
6	STU	STUPEFACTIVE	s → ss
7	CTV	CONTEMPLATIVE	z → zz
8	DPV	DESPERATIVE	š → šš
9	RVL	REVELATIVE	l → ll
10	GRT	GRATIFICATIVE	r → rr
11	SOL	SOLICITIVE	ř → řř
12	SEL	SELECTIVE	! → !!
13	IRO	IRONIC	kç → kçç
14	EXA	EXASPERATIVE	p! → p!!
15	LTL	LITERAL	pç → pçç
16	CRR	CORRECTIVE	x → xx
17	EUP	EUPHEMISTIC	xh → xxh
18	SKP	SKEPTICAL	ks → kss
19	CYN	CYNICAL	f → ff
20	CTP	CONTEMPTIVE	kš → kšš
21	DSM	DISMISSIVE	kf → kff
22	IDG	INDIGNATIVE	pš → pšš
23	SGS	SUGGESTIVE	ps → pss
24	PPV	PROPOSITIONAL	pf → pff

5.11.1.1 **ASU** ASSURATIVE

This bias indicates certainty or self-assurance on the part of the speaker, translatable by such phrases as ‘of course,’ ‘after all,’ or ‘needless to say.’ The intensive form adds a sort of self-righteousness quality conveyed by *I told you so!* or *You see?!*

5.11.1.2 **HPB** HYPERBOLIC

This bias imparts a sense of hyperbole and exaggeration, captured in such colloquial expressions as a prolonged ‘so’ or ‘totally’ as in *I so don’t care!* or *That is totally not what I wanted.* The intensive form adds a sense of “one-upmanship” as conveyed by the expression *That’s nothing, wait till you hear this!*

5.11.1.3 **COI** COINCIDENTAL

This bias conveys a sense of coincidence or happenstance as conveyed by the use of ‘happen’ in *I happened to run into Jane* or *It just so happens that I’m busy.* The intensive form adds a sense of serendipity, as conveyed by expressions such as ‘as luck would have it,’ ‘luckily’ or ‘fortunately.’

5.11.1.4 **ACP** ACCEPTIVE

This bias indicates a sense of general acceptance, as conveyed by the expression ‘it’s just as well that.’ The intensive form conveys resignation to fate, as expressed by phrases such as ‘like it or not’ or ‘...and there’s nothing to be done about it!’

5.11.1.5 RAC REACTIVE

This bias indicates surprise, as conveyed by phrases such as ‘my goodness!’ or ‘it’s surprising that.’ The intensive form raises this sense to the level of astonishment, as expressed by ‘Wow!’ or ‘Amazing!’

5.11.1.6 STU STUPEFACTIVE

This bias indicates a mild sense of wonder or reflection, as conveyed by the phrase ‘it’s a wonder that’ as in *It’s a wonder he didn’t break a bone in that fall*. The intensive raises this sense to one of awe, as conveyed by expressions such as ‘Well I’ll be!’ or ‘Who would’ve thought....’

5.11.1.7 CTV CONTEMPLATIVE

This bias expresses puzzlement, as conveyed by phrases such as ‘I wonder how...,’ ‘that’s odd...,’ ‘I don’t get it...,’ or a quizzical ‘hmmmm.’ The intensive form raises this sense to sudden bewilderment, as in ‘Huh? What do you mean...?’

5.11.1.8 DPV DESPERATIVE

This bias conveys a sense of dread or the conveyance of bad news, as expressed by ‘I don’t know how to say this, but...’ or ‘I’m afraid that....’ The intensive form raises this to the level of outright despair, as in ‘Oh, God...’ or ‘Oh, no!....’

5.11.1.9 RVL REVELATIVE

This bias expresses a sense of discovery, as conveyed by expressions such as ‘No wonder....’ or ‘So that’s why....’ The intensive form raises this to a sense of surprised revelation, as in ‘Aha!....’ or ‘Well, well, well!....’

5.11.1.10 GRT GRATIFICATIVE

This bias conveys a sense of pleasantness or mild pleasure, as conveyed by expressions such as ‘It’s pleasant to...’ or ‘I like to....’ The intensive raises this to a state of bliss or rapture, as in ‘Oh, there’s nothing like....’ or ‘(Sigh) What bliss it is to....’

5.11.1.11 SOL SOLICITIVE

This bias expresses the Ithkuil equivalent of English ‘please.’ In its intensive form, this transforms into an impatient demand, expressed in ‘C’mon!’, ‘What’re you waiting for?’ or the phrase ‘so...already!’ as in the sentence *So dance already!*

5.11.1.12 SEL SELECTIVE

This bias conveys the idea of subjective interpretation, as seen in expressions such as ‘Look at it this way...,’ ‘As I see it....,’ ‘Subjectively speaking....,’ or ‘From one point of view,...’ In its intensive form, it conveys a narrow, singleminded interpretation, as conveyed by expressions such as ‘It can only mean one thing...,’ ‘and that’s that!’ ‘and that’s all there is to it!’ or ‘There’s no two ways about it,...’

5.11.1.13 IRO IRONIC

This bias conveys a sense of understatement, as conveyed in many subtle ways in English such as tone of voice or deliberately undramatic word choices. In its intensive form, this sense is raised to that of blatant irony, as when saying

'Well! That was fun!' after an unpleasant or harrowing experience.

5.11.1.14 EXA EXASPERATIVE

This bias conveys a sense of impatient exasperation, as conveyed by expressions such as 'Look, don't you get it?...' or 'Look, I'm trying to tell you....' In its intensive form, this bias conveys a sense of outright mockery, as expressed by a mocking tone of voice in English, or by an deliberate, exasperated echolalia, i.e., the repeating of a person's words back at them in contempt.

5.11.1.15 LTL LITERAL

This bias underscores a distinction between context and literalness, expressed by the English phrases 'technically speaking' or 'Context aside for a moment,...' as in *Technically speaking, that's not a polka* (i.e., it's a polka version of a non-polka song). In the intensive form, this bias conveys a sense of total literalness and exactitude, expressed in English by phrases such as 'strictly speaking' or 'to put it in clinical terms....' as in *Strictly speaking, that's not a polka* (i.e., its rhythm is not that of a true polka).

5.11.1.16 CRR CORRECTIVE

This bias indicates a correction on the part of the speaker, as expressed in English by 'that is to say...', 'What I mean(t) to say is...' or 'I mean....' The intensive form indicates a sense of subjective equivalence, as expressed in English by 'in a manner of speaking,' 'so to speak,' or 'for all intents and purposes.'

5.11.1.17 EUP EUPHEMISTIC

This bias indicates a rephrasing or substitution of wording for means of clarification, as expressed in English by 'in other words...' or 'to put it more exactly....' The intensive form conveys a sense of outright euphemism, as expressed in English by phrases such as 'Let's just say that....' or 'Well, let me put it this way....'

5.11.1.18 SKP SKEPTICAL

This bias conveys a sense of skepticism, as expressed in English by 'It's (a little) hard to believe that....' The intensive form raises this sense to that of outright incredulity, as in a derisive 'Oh, yeah! Suuuure!' or a sneering 'Yeah, right!'

5.11.1.19 CYN CYNICAL

This bias conveys a sense of incredulous unexpectedness or cynical surprise, as in "You mean to tell me...?" or 'You gotta be kidding me,' The intensive form shifts this to outright sarcasm upon the discovery, as in 'So! You just had to go and...' or 'Well, wouldn't you know it, ...' or 'Oh, nice!....'

5.11.1.20 CTP CONTEMPTIVE

This bias expresses simple disapproval, as conveyed by phrases such as "I don't like the fact that..." or 'It bothers me that....' The intensive form raises this to all-out contempt or disgust, as conveyed by 'Shit!' or 'What nonsense!' or 'What bullshit!'

5.11.1.21 DSM DISMISSIVE

This bias conveys a sense of downplaying or lowering of expectations, as expressed in English by "sorry, but..." or 'It's

nothing. It's just..." as in It's just a small cut or Sorry, but it's only the mailman. The intensive form expresses outright dismissal or insignificance, as conveyed by such expressions as 'Is that it?' 'Big deal!' or 'So what!?'

5.11.1.22 IDG INDIGNATIVE

This bias conveys a sense of second-guessing, as expressed in English by 'I'm sorry, what did you say?' or 'Say again? You want me to what?' or 'I beg your pardon?' The intensive form shifts this sense to outright indignation, as conveyed by expressions such as 'The nerve!' or 'How dare...!?"

5.11.1.23 SGS SUGGESTIVE

This bias conveys the sense of suggestiveness conveyed in English by such phrases as 'what if...' or 'It could be that....' The intensive form shifts this to a sense of a formal suggestion or proposition, as in 'Consider this: ...' or 'Posit the following: ...' or 'Assume for the sake of argument that....'

5.11.1.24 PPV PROPOSITIVE

This bias expresses a proposal or suggested activity, as conveyed by English phrases such as 'How about,' 'We could,' or general suggestions, as in the sentences *How about going for a stroll?*, *We could meet the clowns behind the barn if you want*, or *You can sit on my lap*. The intensive form turns this into an ultimatum, as conveyed in English by phrases such as 'take it or leave it,' 'this is your last chance,' or 'it's now or never.'

5.11.2 Examples of Bias in Use



Isvala'kss ézguirs èkšôt âmmit.

[LISTEN](#)

DYN-'fear'-NRM/DEL/M/CSL/UNI-EXS-IFL-**SKP+** STA-'sound.of.laughter'-DER-NRM/PRX/M/CSL/AGG-IFL STA-'clown'-ATT-NRM/DEL/U/CSL/UNI-FML
STA-'child'-AFF-NRM/DEL/U/CSL/UNI-IFL

You can hardly expect us to believe that the sound of the clowns' laughter frightens the children.



Uzlasa'nn gvarl âpcâäl.

STA-'inside-out'-PRX/M/CSL/UNI-EXS-IFL-**ASU+** 'article.of.clothing'-OBL-DEL/M/ASO/AGG STA-'wife'-POS-DEL/M/CSL/UNI-FML
You see?! I told you his wife's clothes are inside-out!

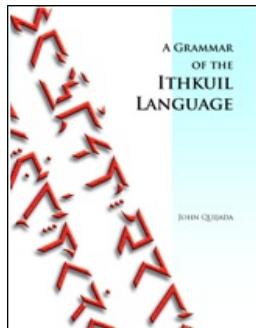


Hwe'maklasá'ň. (OR Hweklasürná'ň.)

INF-STA-ASR/FRG/PPS-'rain'-NRM/PRX/M/CSL/UNI-FML-**COR**

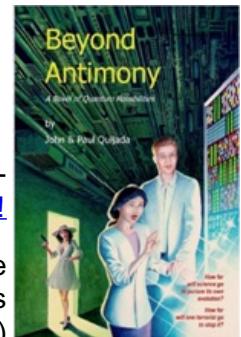
It may just so happen to be raining.

[Proceed to Chapter 6: More Verb Morphology >>](#)



For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)
(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Chapter 6: More Verb Morphology

6.1 Modality	6.3 Alternate Representation of Formative Categories
6.2 Level	6.4 Incorporation and Format

In this chapter, we examine two additional morphological categories — **Modality** and **Level** — as well as the morpho-syntactic process called **Incorporation** and its associated morphological category **Format**. Modality and Level are shown via a word separate from the formative itself, the **verbal adjunct**. The concept of adjuncts was previously discussed in [Section 2.4](#) and [2.4.2](#). A verbal adjunct is placed either immediately preceding or immediately following a verbal formative, and provides additional morphological information about the formative.

Note that, in addition to conveying Modality and Level, the verbal adjunct also has slots for conveying certain categories usually conveyed by the formative, specifically Valence, Phase, Sanction, Illocution, Aspect, Mood, Bias, and Extension. Therefore, a verbal adjunct can be used to convey these other categories in order to decrease the number of syllables of the formative and facilitate pronunciation/euphony of the sentence as whole. This is discussed in [Section 6.3](#).

The structure of a **verbal adjunct** is as follows. Those slots which are exclusive to verbal adjuncts (i.e., not also found in the formative) are Slots B and D:

A	B	C	D	E	F	G	H
((CL))	Ve)	Cv)	Vm)	Cs	(Vs	(Cb))	[tone]
Valence	Level	Phase + Saction + Illocution	Modality	Aspect	Aspect	Bias	Extension

The **Cs** aspectual infix in Slot E is mandatory, even if it carries a null value (i.e., no aspect). The **Cs** consonantal affix will always contain one of the specialized dyssyllabic geminate clusters described in [Section 1.2.1.3](#), written **n-n**, **m-m**, **l-l**, **r-r**, etc. as well as various other syllabic consonant clusters, e.g., **l-m**, **l-n**, **r-m**, **r-n**, and **r-ñ**. The second member of the dyssyllabic consonant cluster always carries the word stress and tone in a verbal adjunct. It is the appearance of such a dyssyllabic geminate cluster as the last, or second-to-last consonantal form in the word that identifies the word to readers/listeners as a verbal adjunct.

The default tone of a verbal adjunct is falling. However, variations in the tone of a verbal adjunct can be used to convey the accompanying formative's Extension category, in order to simplify the phonetic structure of the Formative's **Ca** affix (see [Chapter 3](#)) for purposes of euphony and ease of pronunciation. This is discussed in [Section 6.3.5](#) below.

For an example of a verbal adjunct, the example verb at the beginning of Chapter 5 ([Section 5.0](#)) is repeated here:

hruštrul-lyö'ň ḥničhâčtāu'watkwöü

The first word of this two-word phrase is the adjunct, analyzable as follows:

A	B	C	D	E	F	G	H
hr	u	štr	u	l-ly	ö	'ň	[falling tone]
DEMONSTRATIVE valence	SURPASSIVE-RELATIVE level	RECURRENT phase REFUTATIVE sanction DIRECTIVE illocution	DESIDERATIVE modality	REGRESSIVE aspect	IMMINENT aspect	COINCIDENTAL bias	[default EXTENSION]

6.1 MODALITY

Modality corresponds roughly to the function of both modal verbs in Western languages (e.g., *can*, *may*, *must*, *should*, etc.) as well as those verbs which modify a following verb such as to *want to*, *to choose to*, *to need to*, *to offer to*, *to demand that*, etc. However, in Ithkuil, the effect of such modifications on a verb causes a fundamental change in the cognitive interpretation of the verb, usually resulting in a modification of both the Essence (see [Sec. 3.5](#)) and the Perspective (see [Sec. 3.3](#)) of the verb, as well as invoking the use of the ACTIVATIVE case to mark the “subject” noun (see [Sec. 4.3.9](#)). The nature of these modifications is explained as follows: As we saw in [Sections 3.5](#) and [4.3.9](#), it is possible in human language to speak about events that are either unreal, as-yet-unrealized, or alternative versions of reality. Specifically, nouns and verbs can make reference to hypothetical representations of real-world counterparts from within an “alternative mental space” created psychologically (and implied linguistically). This alternative mental space is essentially the psychological realm of potential and imagination. It is seen, for example, in the following sentences.

- 1) You must **come home at once**.
- 2) That girl can **sing better than anybody**.
- 3) Our troops should **attack at dawn**.
- 4) Mother needs **you to come with her**.
- 5) The teacher requests that **I dance for you**.
- 6) The man believes **clowns are dangerous**.

Each of the above sentences describe potential or unreal events, not actual real-world happenings that are occurring or have occurred. In Sentence (1) no one has yet come home, in Sentence (2) the girl may choose never to sing again, Sentence (3) does not tell us whether any attack will actually occur, Sentence (4) does not indicate whether you will come or not, Sentence (5) does not indicate whether I will dance, nor does Sentence (6) establish whether or not clowns are, in fact, dangerous. Because the clauses following the verbs *must*, *can*, *should*, *need*, *request*, *believe*, in the above sentences all refer to unrealized, imagined, or hypothetical events, the nouns and verbs within those clauses would be marked in the ABSTRACT perspective (see [Sec. 3.3](#)) and the REPRESENTATIVE essence (see [Sec. 3.5](#)). The “subject” nouns which invoke the event (the nouns *you*, *girl*, *troops*, *mother*, *teacher*, and *man* in the six sentences above) would be marked in the ACTIVATIVE case (see [Sec. 4.3.9](#)). It should be noted that not all Ithkuil modalities necessarily invoke hypothetical or unrealized events. For example, in the sentence *She chose to move to Australia*, the verb *chose* signals that the following clause is spoken of abstractly (i.e., it is the act of choice that is being talked about, not the move itself), but nevertheless refers to an actual event (i.e., she did, in fact, move to Australia). Thus, the *move to Australia* clause would be marked in the ABSTRACT perspective but would *not* be marked in the REPRESENTATIVE essence. Thus, the requirement that an Ithkuil modality construction invoke modifications in the perspective, essence and case of the associated nouns and verbs is entirely dependent on the semantics and cognitive intent of the utterance.

There are 30 modalities in Ithkuil. Modality is marked by the **Vm** vocalic affix in Slot D of a verbal adjunct.

A	B	C	D	E	F	G
((CL))	Ve)	Cv)	Vm)	Cs	(Vs	(Cb))
Valence	Level	Phase + Sactions + Illocutions	Modality	Aspect	Aspect	Bias

The 30 modalities and their respective **Vm** affixes are shown in Table 16 below. The function of each modality is described in the sub-sections following the table.

Table 16: Vm Modality Affixes

	Label	Name	Vm-affix		Label	Name	Vm-affix	
	--	(no modality)	a		15	ITV	Intitative	iu
1	DES	Desiderative	u		16	ANT	Anticipative	au
2	ASP	Aspirative	e		17	DSP	Dispositive	eu
3	EPC	Expectative	o		18	PRE	Preparative	ou
4	CRD	Credential	i		19	NEC	Necessitative	ae
5	REQ	Requisitive	ö		20	DCV	Decisive	ia / ua
6	EXH	Exhortative	î / û		21	PTV	Proclivitive	ie / ue
7	OPR	Opportunitive	â		22	VOL	Voluntative	io / uo
8	CPC	Capacitative	ê		23	ACC	Accordative	ïö / uö
9	PRM	Permissive	ô		24	ICL	Inclinative	ea
10	PTN	Potential	ü / oe		25	CML	Compulsive	oa
11	CLS	Compulsory	ai		26	DVR	Divertive	öi / ië
12	OBG	Obligative	ei		27	DVT	Devotive	öu / uë
13	IMS	Impositive	ui		28	PFT	Preferential	eo
14	ADV	Advocative	oi		29	IPS	Impressional	ëi
					30	PMS	Promissory	ëu

6.1.1 **DES** The Desiderative

The DESIDERATIVE more or less corresponds to English constructions expressing desire, e.g., to want to, to desire that, etc. as in *The teacher wants the students to study hard*.

6.1.2 **ASP** The Aspirative

The ASPIRATIVE corresponds to English constructions expressing wishing or hoping, e.g., to wish that, to hope that, etc.

6.1.3 **EPC** The Expectative

The EXPECTATIVE corresponds to English constructions expressing expectation, as in *He expected her to be beautiful*, or *I imagine he's reached his destination*.

6.1.4 **CRD** The Credential

The CREDENTIAL corresponds to English constructions expressing belief, as in *I think she has two sons*, or *We believe the earth to be round*. Note that it does not correspond to English expressions of opinion, i.e., it would not be used in translating sentences such as *I think she's pretty*.

6.1.5 **REQ** The Requisitive

The REQUISITIVE corresponds to English constructions expressing requests, as in *I request his presence at the banquet*, or *I'd like you to visit your father*.

6.1.6 EXH The Exhortative

The EXHORTATIVE corresponds to English expressions of exhortation or demand, as in *I demand you return my book* or *Let the gates be opened!*

6.1.7 OPR The Opportunitive

The OPPORTUNITIVE corresponds to the English modal verb *can/could/be able* where it means 'have the opportunity to,' as in *Can we pass by our old house when we visit town?* or *Because of the delay, she was able to go to the museum after all.*

6.1.8 CPC The Capacitative

The CAPACITATIVE corresponds to the English modal verb *can/could/be able* where it means 'have the ability or capacity to,' as in *Can she sing opera?* or *He could run like the wind.* Note that it would also be used when translating English generic statements implying ability or capacity as in *He speaks French like a native* [i.e., the sentence does not imply he is speaking French at the moment, but rather his general ability to do so].

6.1.9 PRM The Permissive

The PERMISSIVE corresponds to the English modal verbs *can/could/be able* or *may/might* where they mean 'be permitted to,' as in *Very well, you can have ice cream for dessert;* or *Could I talk to you?*

6.1.10 PTN The Potential

The POTENTIAL corresponds to the English modal verb *can/could/be able* where it means 'have the potential to or the possibility of,' as in *Remember it can flood suddenly in this area,* or *That man could fly into rages for no reason.* It is also used when translating generic statements implying potential or possibility, as in *It rains unpredictably in the Northwest.*

6.1.11 CLS The Compulsory

The COMPULSORY corresponds to the English modal verbs *must* or *have to/had to* in their meaning of compulsory obligation, as in *You must get up now,* or *I had to attend the ceremony.*

6.1.12 OBG The Obligative

The OBLIGATIVE corresponds to the English modal verbs *should, ought to*, or other phrases expressing optional but preferential obligation, as in *You ought to see a dentist,* *I should tell her how I feel,* or *It would be best if the children stayed away from clowns.*

6.1.13 IMS The Impositive

The IMPOSITIVE corresponds to English expressions such as *be supposed to, be expected to, or be to* which impose an expectation upon a party, as in *You're supposed to smile when introduced,* or *He is to give a speech at the banquet.*

6.1.14 ADV The Advocative

The ADVOCATIVE corresponds to English expressions such as *suggest that* or *propose that* which advocate a position, as in *I suggest you study harder* or *They proposed that the clowns take their circus tent elsewhere*.

6.1.15 ITV The Intentive

The INTENTIVE corresponds to English expressions such as *intend to*, *plan on* or *shall* which convey an intention, as in *The girls plan on travelling to Europe*, or *I shall see to it*.

6.1.16 ANT The Anticipative

The ANTICIPATIVE corresponds to English expressions such as *to look forward to* or *to eagerly await* which convey positive anticipation, as in *We look forward to the clowns coming to town*.

6.1.17 DSP The Dispositive

The DISPOSITIVE corresponds to the English expression *to be willing to*, conveying willingness as in *He is willing to give his life to defeat the clowns*.

6.1.18 PRE The Preparative

The PREPARATIVE corresponds to the English expressions *be ready to* or *be prepared to*, indicating readiness, as in *She's ready to host the party*, or *They are prepared to endure harsh weather*.

6.1.19 NEC The Necessitative

The NECESSITATIVE corresponds to the English expressions *need to* or *be necessary to*, indicating necessity, as in *You need to do something about those clowns in the yard*, or *It was necessary to inform her about the atrocities*.

6.1.20 DCV The Decisive

The DECISIVE corresponds to English expressions such as *decide to* or *choose to*, indicating choice, as in *Peter decided to cook breakfast* or *Colleen chose to visit the clowns*.

6.1.21 PTV The Proclivitive

The PROCLIVITIVE corresponds to English expressions such as *tend to*, *be apt to*, or *be prone to*, indicating tendency, as in *The wolverine tended to eat platypus eggs*, or *Boris is apt to make a fool of himself when meeting women*.

6.1.22 VOL The Voluntative

The VOLUNTATIVE corresponds to English expressions such as *offer to* or *volunteer to*, indicating an act of offering as in *The foreman offered to put poison in my beer*, or *Mrs. Blathermot volunteered to bake artichoke pie for the Open House event*.

6.1.23 ACC The Accordative

The ACCORDATIVE corresponds to the English expression *agree to*, as in *Constance agreed to perform her go-go number at the talent show.*

6.1.24 ICL The Inclinative

The INCLINATIVE corresponds to English expressions such as *to feel like* or *be up for*, indicating an impulsive desire, as in *He's up for going to the shindig*, or *Molly felt like eating the entire chocolate cake.*

6.1.25 CML The Compulsive

The COMPULSIVE corresponds to English expressions such as *feel driven to* or *feel a need to*, indicating compulsion, as in *Jack feels driven to hunt wolverines*, or *My hairdresser feels a need to date bikers*. It is marked by addition of the suffix **-ui** to a conflational or valence adjunct.

6.1.26 DVR The Divertive

The DIVERTIVE corresponds to English expressions such as *like to*, or *enjoy*, conveying simple likes and pastimes as in *Boys like to dream about cars*, or *My salamander enjoyed biting people on their rump.*

6.1.27 DVT The Devotive

The DEVOTIVE corresponds to English expressions such as *be devoted to* or *be committed to*, indicating devotion as in *Charlotte is committed to being the best seamstress in town*, or *They were devoted to rooting for the losing team.*

6.1.28 PFT The Preferential

The PREFERENTIAL corresponds to English expressions such as *prefer*, or *would rather that*, indicating preference as in *He'd rather work by himself*, or *Muldane prefers that his cats eat live food.*

6.1.29 IPS The Impressional

The IMPRESSIONAL corresponds to English expressions such as *have an impression that*, *have a hunch that*, or *feel that*, indicating a subjective belief or impression as in *I've a hunch that the porter is an alcoholic*, or *Betty feels her husband flirts too much with the secretarial pool.*

6.1.30 PMS The Promissory

The PROMISSORY corresponds to English expressions such as *promise*, or *swear that*, indicating a self-imposed obligation as in *She promised that her son would visit my daughter*, or *Hargreaves swears that the fish from that lake are sentient.*

6.1.31 Examples of Modality in Use



Wëtöin-n ailtac qeowi.

RCP-PPS/CTX/ASR-DVR-FAC DYN-'write.message'-NRM/DEL/A/CSL/UNI-IFL ma-ACT-CSL-NRM/DPX

The two of them like writing to each other.



Hëtiun-n ivogwarjokkai tei.

PRL-ITV-FAC DYN-[inc.stem: 'recreation.leisure']-'ambulate'-NRM-DEL/M/CSL/CPN-TPP₁/7-ISR 1+ma-ACT

She and I are planning on taking a walk later on.



On-n amnadya osmuil.

EPC-FAC STA-'awe'-RPV/PRX/A/CSL/UNI-IFL IFL-'valley'-DER-NRM/DEL/M/CSL/UNI

The valley is expected to be awe-inspiring.



Ur-rwu ivadya âbyeil.

DES-FAC/RSM-RTR DYN-'play'-RPV/PRX/A/CSL/UNI-IFL STA-'dog'-ACT-NRM/DEL/M/CSL/UNI-IFL

The dog wanted to play some more.

6.2 LEVEL

Level corresponds roughly to what is known as degree of comparison in other languages. Many languages morphologically indicate degrees of comparison as exemplified by the English suffixes *-er* and *-est* seen in *great-greater-greatest*, or alternately with the adverbs *more* and *most*, as well as their negative counterparts *less* and *least*. The Ithkuil comparison schema is much more complex than those found in natural languages and is designed to eliminate various ambiguities that arise from those simpler schemata, as discussed below.

6.2.1 Ambiguity and Under-specification in Natural Languages

The comparison schemata of natural languages tend to grossly under-specify the exact semantic nature of the comparison. A clear case of such under-specification can be seen in an English example sentence such as *Jane is healthier*. This sentence can mean any of the following:

- (a) Jane's state of health has improved, although she is still unwell.
- (b) Jane's state of health has improved so that now she is well (whereas before she was unwell).
- (c) Jane's state of health is even better than it previously was (i.e., she was healthy before, but is even healthier now).
- (d) Jane's state of health is not as poor as someone else's state of health (although neither Jane nor the other person are well).
- (e) Jane's state of health is better than someone else's state of health, so that Jane can be considered healthy while the other is unwell.
- (f) Jane's state of health is better than someone else's state of health, even though both can be considered healthy.

This ambiguity is not alleviated even when we specify a party to which Jane's health is being compared as in *Jane is healthier than Sue*, which can mean:

- (a) Jane's state of health is not as poor as Sue's although both are unwell.
- (b) Jane's state of health is better than Sue's, so that Jane can be considered well while Sue is unwell.
- (c) Both Jane and Sue are healthy, but Jane's state of health is even better than Sue's.
- (d) Jane's state of health is not as poor as Sue's (although neither Jane nor the other person are well).

This sort of ambiguity allows odd-sounding sentences such as *Snow is warmer* (e.g., than liquid nitrogen) to be perfectly grammatical. What is important to note about the above analysis is that the words *healthier* or *warmer* do not indicate in the actual context of usage *whether a person is actually healthy* or *whether snow is actually warm*. Rather English *-er* and *-est* (and *more* and *most*) as well as their negative counterparts (*/ess* and */east*) merely serve to indicate *on a relative scale* a relationship between two entities being compared (or where only one party is mentioned, in relationship to some unspecified standard or expectation). Additional statements are needed to clarify the actual context to determine where the entities fall on the quantitative "spectrum" or range of the particular quality or attribute pair in question, e.g., *unhealthy* \longleftrightarrow *healthy*.

The comparison scheme of Ithkuil has been designed to inherently specify such relative comparison while simultaneously specifying placement within the qualitative spectrum, so that ambiguity as to whether "healthier" means the person is well or unwell is eliminated.

6.2.2 Relative Versus Absolute Comparison

An additional aspect of Ithkuil comparison is the concept of **relative comparison** versus **absolute comparison**. This is an important concept which impacts the truth value of a statement based upon context. Specifically, relative comparison allows for statements to be true within the narrow confines of the context-at-hand, whereas absolute comparison allows for statements to be true without reference to any specific context. This can be illustrated by the following examples.

- (a) *Sirius is the brightest star in the night sky.*
- (b) *That highway is the fastest way into town.*

Both of these sentences are true in certain pragmatic contexts and not true in others. For example, while Sirius is the most luminous star as seen from Earth, this is merely due to its relative nearness to Earth (8.4 light years) as compared to most other stars. There are thousands of known stars which are larger (and inherently more luminous) than Sirius but are much further away from Earth. So Sentence (a) is true in a relative context but false in an absolute context. Similarly the highway in Sentence (b) may be the fastest way in most conditions, but if there is a traffic jam or an accident blocking the highway, or if one has access to a private helicopter, then the statement would be false. Therefore, it is only true in a narrow context determined by the pragmatics of the moment it is spoken. Ithkuil allows speakers to specify whether a comparison is to be interpreted within the context-at-hand (relative comparison) or as an absolute statement irrespective of the context-at-hand.

6.2.3 Comparison Operators (Levels)

There are nine comparison operators for the Ithkuil verb, called Levels, which specify the comparative relationship involved, e.g., *same as*, *more than*, *less than*, etc. These levels are marked by a word-initial vocalic prefix to the verb, **Ve**. Each prefix comes in two varieties, to distinguish between relative versus absolute comparison. Additionally there is an unmarked default zero-level in which no comparison is being made). The presence of a **Ve** prefix in Slot B of the verbal adjunct requires Slots C And D to be filled by their respective affixes as well.

A	B	C	D	E	F	G	H
((CL))	Ve)	Cv)	Vm)	Cs	(Vs	(Cb))	[tone]
Valence	Level	Phase + Sanction + Illocution	Modality	Aspect	Aspect	Bias	Extension

NOTE: As an alternative to using **Ve**, Level can also be conveyed by the suffixes -V₁**mJ** and -V₂**mJ** added to the formative (placed in Slot XI), explained in [Section 7.4.13 - LVL suffix](#).

In interpreting the meaning of the various Levels, the terms used in the formulas refer to the following **X-M-(Y)** model, where M represents a verb or an adjectival description, X is the "subject" of the verb, and Y is the standard being compared to.

Sue	dances as well as / dances better than / dances worse than etc.	Mary		OR	Sue	is as smart is smarter than is less smart than etc.	Mary
X	M	(Y)			X	M	(Y)

Note that the meaning of each Level allows for an interpretation in which there is no Y term so that the standard of comparison is a previous state of X, e.g., the difference between *Sue dances better than Mary* versus *Sue dances better than before*.

Table 17: Ve Level prefixes

		VL Prefix		Meaning
Label	Name of Level	RELATIVE	ABSOLUTE	
EQU	EQUATIVE	a-	â-	X M's the same as Y (or as before) / X is as M as Y (or as before)
SUR	SURPASSIVE	u-	û / î-	X M's more than Y (or than before) / X is more M than Y (or than before)
DFC	DEFICIENT	i-	ö-	X M's less than Y (or than before) / X is less M than Y (or than before)
OPT	OPTIMAL	o-	ô-	X M's at its most possible / X is at its most M possible
MIN	MINIMAL	e-	ê-	X M's at its least possible / X is at its least M possible
SPL	SUPERLATIVE	ai-	au-	X M's at its most yet / X is at its most M yet
IFR	INFERIOR	ui-	iu-	X M's at its least yet / X is at its least M yet
SPQ	SUPEREQUATIVE	ei-	eu-	X M's more than or = to Y (or than or equal to before) / X is more M than or = to Y / before
SBE	SUBEQUATIVE	oi-	ou-	X M's less than or = to Y (or than or equal to before) / X is less M than or = to Y / before

Note that in verbal adjuncts where Valence is marked by a word-initial **CL** consonantal prefix in Slot A (see [Sec. 6.3.4](#)), but there is no Level, the neutral value of **Ve** in Slot B is **ë**.

6.2.4 The Comparison Cases

In addition to Level, there are 24 specialized noun cases which identify the exact nature of the comparison in relation to the quantitative spectrum, range, or standard for the particular attribute, quality, or act in question. These cases are applied to the noun to which something is compared, i.e., the term Y in the above formulas. So, for example, in the Ithkuil translation of the sentence *Jane is healthier than her sister*, the equivalent to *is healthier* would be shown by a Level prefix meaning "more than" applied to a formative meaning "manifesting a state of health," while the phrase corresponding to *than her sister* would be the word *sister* marked for a case which specifies whether the other noun to which the sister is being compared (i.e., Jane) is now well, or is nevertheless still unhealthy, etc.

It is primarily through the use of these specialized comparison cases that the ambiguities discussed above in [Sec. 6.2.1](#) are eliminated. The meaning of each case as applied to Y, in terms of the X-M-Y formula discussed above, would be:

"in comparison to Y, where X Q in terms of reference standard S"

where Q indicates the change (or lack thereof) in X over time and S indicates an external standard of comparison for M. An example of this formula in use would be where the term Q = "was previously less M than Y" and S = "although X (still) isn't very M compared to some external standard or expectation of M-ness" applied to the sentence *Jane is healthier than Sue*, now disambiguated to mean that Jane, while being in a healthier state than Sue, still isn't very healthy.

There are eight possible values for Q and three possible values for S, rendering a total of 24 possible Q + S combinations. It is these 24 possible Q + S combinations that are rendered as the Comparison cases in Ithkuil. The eight possible values for Q are as follows:

1	was previously less M (or M 'd less) than Y
2	was previously more M (or M 'd more) than Y
3	is still less M (or M 's less) than Y
4	is still more M (or M 's more) than Y
5	is now less M (or M 's less) than Y
6	is now more M (or M 's more) than Y
7	was previously as M (or M 'd as much) as Y
8	where X 's previous state of M-ness (or level of M-ing) relative to Y is unknown, inapplicable or irrelevant

The three possible values for S are as follows:

A	although X (still) isn't very M compared to some external standard or expectation of M-ness
B	where X meets/exceeds some external standard or expectation of M-ness and Y does not
C	where both X and Y meet/exceed some external standard or expectation of M-ness, where previously only Y met/exceeded it

The eight values of Q combine with the three values of S to give the specific meanings of the 24 comparison cases as shown below in Table 18. As with the 72 primary cases (see [Chapter 4](#)) the 24 comparison cases are shown by the **Vc** infix to the formative in Slot VIII.

Table 18: The 24 Comparison Cases (as per the formula: [X] [M] [in comparison to Y] where X Q in terms of reference standard S)

Mutation Series	Label	Name of Case	Vc	Value of Q (change in X over time)	Value of S (Comparison to external standard)
73	CMP1A	COMPARATIVE 1A	aì	where X was previously less M (or M 'd less) than Y	although X (or X and Y) (still) isn't/aren't very M compared to some external standard or expectation of M-ness
74	CMP2A	COMPARATIVE 2A	eì	where X was previously more M (or M 'd more) than Y	
75	CMP3A	COMPARATIVE 3A	oì	where X is still less M (or M 's less) than Y	
76	CMP4A	COMPARATIVE 4A	uì	where X is still more M (or M 's more) than Y	
77	CMP5A	COMPARATIVE 5A	aù	where X is now less M (or M 's less) than Y	
78	CMP6A	COMPARATIVE 6A	eù	where X is now more M (or M 's more) than Y	
79	CMP7A	COMPARATIVE 7A	où	where X was previously as M (or M 'd as much) as Y	
80	CMP8A	COMPARATIVE 8A	iù	where X 's previous state of M-ness (or level of M-ing) relative to Y is unknown, inapplicable or irrelevant	
81	CMP1B	COMPARATIVE 1B	ao	where X was previously less M (or M 'd less) than Y	
82	CMP2B	COMPARATIVE 2B	äu	where X was previously more M (or M 'd more) than Y	
83	CMP3B	COMPARATIVE 3B	eü	where X is still less M (or M 's less) than Y	
84	CMP4B	COMPARATIVE 4B	oü	where X is still more M (or M 's more) than Y	

		4B			
85	CMP5B	COMPARATIVE 5B	ëi	where X is now less M (or M's less) than Y	and where X (or Y) meets/exceeds some some extrenal standard or expectation of M-ness and Y(or X) does not
86	CMP6B	COMPARATIVE 6B	öi	where X is now more M (or M's more) than Y	
87	CMP7B	COMPARATIVE 7B	ëù	where X was previously as M (or M'd as much) as Y	
88	CMP8B	COMPARATIVE 8B	öù	where X's previous state of M-ness (or level of M-ing) relative to Y is unknown, inapplicable or irrelevant	
89	CMP1C	COMPARATIVE 1C	eai	where X was previously less M (or M'd less) than Y	
90	CMP2C	COMPARATIVE 2C	oai	where X was previously more M (or M'd more) than Y	
91	CMP3C	COMPARATIVE 3C	eau	where X is still less M (or M's less) than Y	
92	CMP4C	COMPARATIVE 4C	oau	where X is still more M (or M's more) than Y	
93	CMP5C	COMPARATIVE 5C	uai / iau	where X is now less M (or M's less) than Y	and where both X and Y meet/exceed some external standard or expectation of M-ness, where previously only Y met/exceeded it
94	CMP6C	COMPARATIVE 6C	uei / ieu	where X is now more M (or M's more) than Y	
95	CMP7C	COMPARATIVE 7C	uoí / iou	where X was previously as M (or M'd as much) as Y	
96	CMP8C	COMPARATIVE 8C	uëi / iëu	where X's previous state of M-ness (or level of M-ing) relative to Y is unknown, inapplicable or irrelevant	

6.2.5 The COS Suffix

Since Level affixes modify a verb directly, there is still a potential for ambiguity due to the fact that Levels and the Comparison cases specify the relationship between two entities being compared, but they do not specify the particular parameter of the term M. In other words, the verb "laugh" in the SURPASSIVE Level might be best translated as "out-laugh," as in *Sam out-laughed George*, but we still do not know if this means the laugh was louder, longer, or "harder." Therefore, verbs marked for Levels often take the COS suffix as well, to specify the parameters of the quality or act in question. This suffix is found in the list of derivational suffixes in Chapter 7, but is shown here as well, for the sake of convenience. (See [Chapter 7](#) for an explanation of the nine degrees and three suffix-types associated with derivational suffixes).

-V_x ks COS Comparison Specifications

- “more”/“less” = extent/amount/volume
- “harder”/“weaker” = degree of intensity or effort
- “longer”/“shorter” = duration; time spent being/doing
- “better”/“worse” = quality / style
- “more efficiently”/“less efficiently” = efficiency / effort relative to outcome
- “greater”/“poorer” = relevant outcome / bottom-line result
- combo of 4, 5, and 6
- combo of 1, 2, and 3
- combo of 1 through 6

6.2.6 Examples of Level and the Comparison Cases in Use

(Note that in the morphological interlinear analysis below, the distinction between absolute versus relative Level is indicated by a small “a” versus a small “r” attached to the label/abbreviation for the particular Level.)



Ulan-n oxassûg êqil ôqoil.

[LISTEN](#)

SUR-ASR/CTX/IPU-FAC STA-'have.eyesight'-NRM/PRX/M/CSL/DPX-FLS1/6-IFL STA-'woman'-AFF-NRM/DEL/M/CSL/UNI-IFL STA-'man'-CMP3A-NRM/DEL/M/CSL/UNI-IFL

It is clear the woman's eyesight has improved, but she still doesn't see as well as the man, who doesn't see very well either.



Rril eglalaiml byoail.

[LISTEN](#)

STA-'cat'-AFF-NRMDEL/M/CSL/UNI-IFL STA-'sickness/illness'-NRM/DEL/M/CSL/UNI-**SPQa**-IFL STA-'dog'-**CMP2C**-NRM/DEL/M/CSL/UNI-IFL

The cat is now at least as sick as the dog, if not more so, whereas previously only the dog was sick.

6.3 ALTERNATE REPRESENTATION OF FORMATIVE CATEGORIES

In Chapter 5 we discussed the verbal categories of Mood, Aspect, Bias, Phase, Sanction, Illocution, and Valence, and showed how each of these categories is manifested by various affixes within the structure of a formative. However, the structure of the verbal adjunct, discussed at the beginning of this chapter, allows for each of the aforementioned morphological categories to alternately be displayed via a verbal adjunct rather than a formative. This is often desirable for purposes of phonological euphony or to address the limitations of phonotactic constraints (see [Section 1.4](#)). The sub-sections below discuss the specifics on the alternate representations of these categories via a verbal adjunct.

6.3.1 Alternate Representation of Mood and/or Aspect

The categories of Mood and Aspect were previously discussed in [Section 5.2](#) and [Section 5.10](#) respectively. Mood is normally shown (along with Illocution) via the Ci+Vi infix to a formative in Slot IX, although it can alternately be shown along with Aspect via the **Cs** affix to a formative in Slot III. However, the use of the **Cs** affix in Slot III of a formative, unless required by the presence of affixes in Slots I or II, is generally undesirable as its presence adds two syllables to the length of the formative. Therefore, as an alternative, Aspect and/or Mood can be conveyed by the same **Cs** affix within a verbal adjunct in Slot E. This **Cs** affix is mandatory for all verbal adjunct.

The second syllable of the **Cs** affix (i.e., the second member of one of the dyssyllabic consonant clusters **I-I**, **m-m**, **n-n**, **ň-ň**, **r-r**, **I-m**, **I-n**, **r-m**, **r-n**, and **r-ň**) always receives the syllabic stress and tone in a verbal adjunct.

A	B	C	D	E	F	G	H
((CL))	Ve)	Cv)	Vm)	Cs	(Vs)	(Cb))	[tone]
Valence	Level	Phase + Saction + Illocution	Modality	Aspect	Aspect	Bias	Extension

A second verbal aspect can be shown within a verbal adjunct utilizing the **Vs** affix in Slot F. Each of the 32 aspects, in addition to their consonantal **Cs** form, has a vocalic affixual form **Vs**, shown in the table below.

Table 19: Values for Vs Aspectual Markers and Cs Aspect+Mood Markers

		MOOD									
			FAC	SUB	ASM	SPC	COU	HYP	IPL	ASC	
Aspect		Vs									
	(none)		a	n-n	m-m	I-I	r-r	ň-ň	r-n	I-ň	r-ň
1	RTR	RETROSPECTIVE	u	n-nr	n-nt	n-nt'	n-nd	n-nt ^h	n-nt̄	n-ndh	n-nh

2	PRS	PROSPECTIVE	e	m-mr	m-mp	m-mp'	m-mb	m-mp ^h	m-mf	m-mv	m-mh
3	HAB	HABITUAL	o	l-lr	l-lt	l-lt'	l-ld	l-lt ^h	l-l ^h	l-ldh	l-lh
4	PRG	PROGRESSIVE	i	r-rn	r-rt	r-rt'	r-rd	r-rt ^h	r-r ^h	r-rdh	r-rh
5	IMM	IMMINENT	ö	ň-ňr	ň-ňk	ň-ňk'	ň-ňg	ň-ňk ^h	ň-ňx	ň-ňq	ň-ňh
6	PCS	PRECESSIVE	î/û	n-nw	n-ntw	n-nt'w	n-ndw	n-nt ^h w	n-ntw	n-ndhw	n-nhw
7	REG	REGULATIVE	â	m-mw	m-mpw	m-mp'w	m-mbw	m-mp ^h w	m-mfw	m-mvw	m-mhw
8	EXP	EXPERIENTIAL	ê	l-lw	l-ltw	l-lt'w	l-ldw	l-lt ^h w	l-l ^h w	l-l ^h w	l-lhw
9	RSM	RESUMPTIVE	ô	r-rw	r-rtw	r-rt'w	r-rdw	r-rt ^h w	r-r ^h w	r-rdhw	r-rhw
10	CSS	CESSATIVE	ü/oe	ň-ňw	ň-ňkw	ň-ňk'w	ň-ňgw	ň-ňk ^h w	ň-ňxw	ň-ňqw	ň-ňhw
11	RCS	RECESSATIVE	ai	n-ny	n-nty	n-nt'y	n-ndy	n-nt ^h y	n-ny	n-ndhy	n-nç
12	PAU	PAUSAL	ei	m-my	m-mpy	m-mp'y	m-mby	m-mp ^h y	m-mfy	m-mvy	m-mç
13	RGR	REGRESSIVE	ui	l-ly	l-lty	l-lt'y	l-ldy	l-lt ^h y	l-l ^h y	l-l ^h y	l-lç
14	PCL	PRECLUSIVE	oi	r-ry	r-rty	r-rt'y	r-rdy	r-rt ^h y	r-r ^h y	r-rdhy	r-rç
15	CNT	CONTINUATIVE	iu	n-ns	n-nz	n-nsw	n-nzw	n-nc'	n-nc ^h	n-nc'w	n-nc ^h w
16	ICS	INCESSATIVE	au	m-ms	m-mz	m-msw	m-mzw	m-mc'	m-mc ^h	m-mc'w	m-mc ^h w
17	PMP	PREEMPITIVE	eu	ň-ňs	ň-ňz	ň-ňsw	ň-ňzw	ň-ňc'	ň-ňc ^h	ň-ňc'w	ň-ňc ^h w
18	CLM	CLIMACTIC	ou	l-ls	l-lz	l-lsw	l-lzw	l-lc'	l-l ^h c	l-l ^h cw	l-l ^h cw
19	PTC	PROTRACTIVE	æ	r-rs	r-rz	r-rsw	r-rzw	r-rc'	r-rc ^h	r-rc'w	r-rc ^h w
20	TMP	TEMPORARY	ia/ua	n-nš	n-nž	n-nšw	n-nzw	n-nč'	n-nč ^h	n-nč'w	n-nč ^h w
21	MTV	MOTIVE	ie/ue	m-mš	m-mž	m-mšw	m-mžw	m-mč'	m-mč ^h	m-mč'w	m-mč ^h w
22	CSQ	CONSEQUENTIAL	io/uo	ň-ňš	ň-ňž	ň-ňšw	ň-ňžw	ň-ňč'	ň-ňč ^h	ň-ňč'w	ň-ňč ^h w
23	SQN	SEQUENTIAL	iù /uì	l-lš	l-lž	l-lsw	l-lzw	l-lč'	l-l ^h č'	l-l ^h čw	l-l ^h cw
24	EPD	EXPEDITIVE	iö/uö	r-rš	r-rž	r-rsw	r-rzw	r-rč'	r-rč ^h	r-rč'w	r-rč ^h w
25	DCL	DISCLUSIVE	ea	n-nł	m-mł	ň-ňł	n-nł	m-mł	ň-ňł	l-lł	r-rł
26	CCL	CONCLUSIVE	oa	l-lm	l-lł	n-nł	ň-ňm	m-mř	m-mt	ň-ňt	ň-ňn

27	CUL	CULMINATIVE	eö	r-rm	r-rl	m-ml	m-mn	r-mř	m-mt'	ň-ňt'	ň-ňç
28	IMD	INTERMEDIATIVE	öi/öa	I-In	I-nj	I-Iř	n-nm	ň-ňř	m-mt ^h	ň-ňt ^h	ň-ňť
29	TRD	TARDATIVE	öu/öe	I-nw	I-ny	I-lg	I-lgw	I-lx	I-lxw	I-lv	I-lcw
30	TNS	TRANSITIONAL	eo	r-nw	r-my	r-rg	r-rgw	r-rx	r-rxw	r-rv	r-rcw
31	ITC	INTERCOMMUTATIVE	ëi	I-mw	I-my	I-lb	I-lbw	I-lf	I-lfw	I-ňw	I-lčw
32	CSM	CONSUMPTIVE	ëu	r-mw	r-ny	r-rb	r-rbw	r-rf	r-rfw	r-ňw	r-rčw

6.3.2 Alternate Representation of Bias

Bias was previously discussed in [Section 5.11](#), shown by the word-final **Cb** suffix to a formative. As an alternative, however, the same **Cb** suffix can instead be placed in word-final position on a verbal adjunct (in which case a **Vs** affix in Slot F becomes mandatory). The forms of **Cb** used in verbal adjunct are the same as those used with formatives, except that, unlike formatives, there is no preceding glottal stop. See [Table 15 in Section 5.11.1](#) for the specific **Cb** suffix for each bias.

A	B	C	D	E	F	G	H
((CL))	(Ve)	(Cv)	(Vm)	(Cs)	(Vs)	(Cb))	[tone]
Valences	Level	Phase + Saction + Illocution	Modality	Aspect	Aspect	Bias	Extension

6.3.3 Alternate Representation of Phase, Sanction, and Illocution

The categories of Phase, Sanction, and Illocution were previously discussed in [Sections 5.5, 5.6](#), and [5.3](#) respectively. In a formative, they are shown by a combination affix, **Cv**, placed in Slot V, or if an incorporated stem is present, in Slot I. Alternately, however, they may be shown by the same **Cv** affix in Slot C of a verbal adjunct (which entails the mandatory presence of a **Vm** modality infix in Slot D). The forms of **Cv** for a verbal adjunct are the same as those for formatives, shown in [Tables 11\(a\) through \(f\) in Section 5.5](#).

A	B	C	D	E	F	G	H
((CL))	(Ve)	(Cv)	(Vm)	(Cs)	(Vs)	(Cb))	[tone]
Valence	Level	Phase + Saction + Illocution	Modality	Aspect	Aspect	Bias	Extension

6.3.4 Alternate Representation of Valence

The category of Valence was previously discussed in [Section 5.7](#), shown by the vocalic prefix, **VL** in Slot VI, or, if an incorporated stem is present, in Slot II. Alternately, however, Valence may be shown by consonantal counterpart to the **VL** prefix, **CL**, placed in Slot A of a verbal adjunct (which entails the mandatory presence of affixes in Slots B, C, and D).

A	B	C	D	E	F	G	H
((CL))	Ve)	Cv)	Vm)	Cs	(Vs	(Cb))	[tone]
Valence	Level	Phase + Saction + Illocution	Modality	Aspect	Aspect	Bias	Extension

The forms of CL for a verbal adjunct are the same as those for formatives, shown in Table 20 below:

Table 20: CL Valence Prefixes for Verbal Adjuncts

	Label	Valence name	CL
1	MNO	Monoactive	—
2	PRL	Parallel	h-
3	CRO	Corollary	y-
4	RCP	Reciprocal	w-
5	CPL	Complementary	hw-
6	NNR	Nonrelational	hm-
7	DUP	Duplicative	hn-
8	DEM	Demonstrative	hr-
9	RES	Resistive	lw-
10	IMT	Imitative	ly-
11	CNG	Contingent	rw-
12	PTI	Participative	ry-
13	IDC	Indicative	řw-
14	MUT	Mutual	řy-

6.3.5 Alternate Representation of Extension

The category of Extension is normally shown by means of the Ca affix in Slot X of the formative (see Sections 2.1, 3.4 and 3.5.3). However, in order to simplify the phonological structure of the Ca affix for purposes of euphony, Extension may be shown via the tone of the adjacent verbal adjunct. The default tone of a verbal adjunct is falling, which indicates deferral of Extension information to the Ca affix of the formative. Otherwise, Extension is conveyed by the following shifts in tone of the verbal adjunct.

Table 21: Extension As Shown by Tone Shifts in Verbal Adjunct

Tone	Extension
Falling	[Extension shown by formative]
High	PROXIMAL
Rising	INCEPTIVE
Low	TERMINATIVE
Falling-Rising	DEPLETIVE
Rising-Falling	GRADUATIVE

6.4 INCORPORATION AND FORMAT

Many languages, including English, are able to combine two separate meanings into a single verb, a process termed **conflation**. This is illustrated in the following English sentences:

1. *He bicycled south.* = He traveled south by bicycle.
2. *She dolled herself up.* = She made herself look as pretty as a doll.
3. *They're shelving the books.* = They're putting the books on the shelf/shelves.
4. *Slide me a beer.* = Give me a beer by sliding it (e.g., along the bar).

The above sentences show four verbs which respectively carry inherent senses of vector movement, transformation, positioning/placement, and giving. The patterning of such “conflated” verbs is usually random and haphazard in any given language. For example, the English *to bicycle* in sentence (1) means ‘to travel by means of bicycle,’ not ‘to make a bicycle’ or ‘to be a bicycle.’ On the other hand, the verb *to doll up* does not mean to ‘travel by doll,’ but rather ‘to make appear like a doll.’ Yet, *to shelf* means ‘to place on a shelf,’ not ‘to travel by means of shelves’ or ‘to make appear like a shelf.’ And none of the verbs in the first three sentences connotes the idea of giving or conveyance as does *slide* in sentence (4).

As can be seen, verb conflation is essentially a “short-cut” way of combining an unspoken primary verbal sense (such as movement, transformation, placement, giving, etc.) with an overtly expressed verb that conveys a secondary sense such as means, manner, or location. This can be formally notated for our four sentences above as follows:

He [1: (TRAVEL+past tense) south] [2: (BY-MEANS-OF) bicycle]
= ***He bicycled south.***

She [1: (CAUSE-TO-RESEMBLE+past tense+reflexive)] [2: (IN-THE-MANNER-OF) doll]
= ***She dolled herself up.***

They [1: (PUT+progressive) the books] [2: (TO-LOCATION-OF) shelves]
= ***They're shelving the books.***

[1: (GIVE+imperative)] a beer [2: (BY-MEANS-OF) sliding] to me
= ***Slide me a beer.***

Note that the particular unspoken covert and overt senses (shown by the numerals 1 and 2 in the above analyses) are specific to any given verb and must be subjectively learned by the listener, i.e., a speaker of English must learn that *to hand* means to GIVE by MEANS of one’s hand, but *to shoulder* does **not** mean to GIVE by MEANS of one’s shoulder.

Thus, while conflation of verbs presents a potential opportunity for instantiating verbs with patterns of overt and covert meaning, the lack of systemization prevents one from knowing with certainty what pattern to use when attempting to interpret the usage of a verb form.

Ithkuil systemizes verb conflation into a productive scheme, in which any formative stem can be incorporated directly into another formative stem. The operational sense of the incorporated stem and its semantic relation to the primary formative stem is conveyed by a morphological category called **format** (discussed in [Section 6.4.1](#) below). The incorporated stem is shown via the **Cx** and **Vp** affixes in Slots V and VI, where **Cx** indicates the root and **Vp** its Pattern, Stem and Designation. Format is shown as part of the **Vf** prefix which also shows the category of Context (previously discussed in [Section 3.6](#)).

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	VL)	Cg/Cs)	Vr	(Cx/Cv)	Vp/VL)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood + Polarity	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

If an incorporated stem is present (i.e., **Cx** and **Vp** are present in Slots V and VI) then a **Vf** affix showing the incorporated stem’s Format must also be present in Slot XII (see [Section 6.4.1](#) below for an explanation of Format).

The values for the **Vp** infix are shown in Table 22 below.

Table 22: Vp infixes indicating Pattern, Stem and Designation of an Incorporated Root

Stem Vowel →		Pattern 1	Pattern 2	Pattern 3
Informal Designation	Stem 1	a	i	u
	Stem 2	o	e	ö
	Stem 3	ai	ui	ei
Formal Designation	Stem 1	â	î / û	ô
	Stem 2	ê	oi	au
	Stem 3	eu	iu	ou

6.4.1 Format

As described above, a conflated verb in English can convey different senses such as means, manner, or location, the specific sense being learnable only through actual usage and context. In Ithkuil, this sense is overtly identified by the **format** of the verb, shown by the **Vf** affix in Slot XII. The **Vf** affix was previously discussed in [Section 3.6](#) on Context. Table 23 below shows the values of **Vf**.

Tables 23: **Vf** Affixes: Context & Format

Context↓ (see Sec. 3.6)	FORMAT									
	(none)	SCH	ISR	ATH	RSL	SBQ	CCM	OBJ	PRT	AFI
EXISTENTIAL	(a)	o	ai	â	au	ëi	oa	ea	ài	àù
FUNCTIONAL	i	ö	ui	ae	iu	ëu	oe	ia / ua	ùi	ìù
REPRESENTATIONAL	e	ü / öe	ei	ê	eu	öi	eo	ie / ue	ìi	èù
AMALGAMATE	u	öa	oi	ô	ou	öu	io / uö	io / uo	òi	òù

The specific interpretation of the nine formats is often dependent on the verb's Function (see [Section 5.1](#)). This is explained in the sub-sections below for each format:

6.4.1.1 SCH The Schematic

For verbs carrying DYNAMIC Function (see [Sec. 5.1.2](#)), the SCHEMATIC function indicates that the incorporated stem specifies the manner of the primary stem. So for example, when translating the English sentence *I'm speeding through dinner* [= eating speedily], the Ithkuil sentence would incorporate the stem corresponding to 'speed' into the stem 'eat' plus SCHEMATIC function to convey a sentence literally translatable as *I'm speed-eating dinner* [= eating in a manner characterized by speed.]

Similarly, the Ithkuil translation of *Clouds blanketed the city* would incorporate the stem corresponding to 'blanket' into the stem for 'cover/engulf' plus SCHEMATIC function to convey a sentence literally translatable as *Clouds blanket-cover the city* [= cover like a blanket.]

For verbs carrying STATIC Function (see [Sec. 5.1.1](#)), the SCHEMATIC function indicates that the incorporated stem characterizes the primary stem, i.e., the primary stem has the characteristics, behavior, or acts like the incorporated stem.

For verbs carrying MANIFESTIVE Function (see [Sec. 5.1.3](#)), the SCHEMATIC function indicates that the incorporated is equivalent in identity (i.e., a copula relationship) to the primary stem, i.e., the primary stem is the incorporated stem in an existential sense.

For verbs carrying DESCRIPTIVE Function (see [Sec. 5.1.4](#)), the SCHEMATIC function indicates that the incorporated has the superficial appearance or physically or (metaphorically) resembles the primary stem, i.e., the primary stem

resembles/looks like the incorporated stem.

6.4.1.2 ISR The Instrumentative

The INSTRUMENTATIVE function indicates that the incorporated stem specifies the means, cause, or instrument of causation of the conflated primary sense, so that the sentence *I clubbed him* would be translated by incorporating the stem for ‘club’ into the stem for ‘hit/beat’ plus the INSTRUMENTATIVE format, rendering a sentence literally translatable as *I club-hit him* or *I club-beat him* [= I hit/beat him with a club].

6.4.1.3 OBJ The Objective

The OBJECTIVE function indicates that the incorporated stem specifies the Patient (see Sec. 4.1.1) of the primary stem. So, for example, the Ithkuil translation of *She dusted the table* would incorporate the stem ‘dust’ into the stem ‘remove’ to render a sentence literally translatable as *She dust-removed the table* [= removed dust]. Similarly the sentence *They fish that river each spring* would incorporate the stem ‘fish’ into the stem ‘gather/collect’ to render *They fish-gather that river each spring* [= gather fish]

6.4.1.4 ATH The Authoritive

The AUTHORITIVE function indicates that the incorporated stem specifies the entity of which the primary stem is the indirect/enabling cause or derivational source. So, for example, the Ithkuil translation of the English sentence *He sang her cares away* (= his singing allowed her to forget her cares) would incorporate the verb ‘forget’ into the verb ‘sing’ with AUTHORITIVE format, the party ‘he’ in the EFFECTUATIVE case, and the party ‘she’ in the AFFECTIVE case.

6.4.1.5 PRT The Precurrent

The PRECURRENT function indicates that the incorporated stem specifies an initial event immediately preceding or continuing on into the main verb , where the initial event is not the cause of the conflated sense, i.e., the main act/state/event would have occurred anyway, e.g., *I bought some lunch* (conflated sense: EAT). First X, then Y (non-causal).

6.4.1.6 RSL The Resultative

The RESULTATIVE function indicates that the verb specifies the concurrent result of the conflated sense, i.e., an event which occurs in conjunction with the conflated sense but is also caused by it, e.g., *The plane crashed into the water* (conflated sense: FLY) First X, then Y as a result; X causes Y

6.4.1.7 SBQ The Subsequent

The SUBSEQUENT function indicates that the verb specifies the subsequent cause-and-effect purpose (not the concurrent result) of the conflated sense, e.g., *I'll look in on the stew* (conflated sense: GO [to kitchen]) X or the purpose of Y; X in order to Y

6.4.1.8 CCM The Concomitant

The CONCOMMITANT function indicates that the verb specifies an incidental simultaneous event having no causal relationship, e.g., *She wore jeans to church* (conflated sense: GO); *He sweated through her recital* (Conflated sense: LISTEN) X while Y

6.4.1.9 AFI The Affinitive

The AFFINITIVE function indicates that the incorporated stem is associated with, represents, or acts in behalf of the primary stem. So, for example, the English sentence '*They are a group of sports officiators*' would utilize the stem for 'sport' incorporated into the stem for 'officiate' along with the AFFINITIVE format.

6.4.2 Examples of Incorporation and Format



Hëtiun-n ivogwařjokkai tei.

PRL-ITV-FAC DYN-[inc.stem: 'recreation.leisure']-IFL-'ambulate'-NRM-DEL/M/CSL/CPN-TPP₁/7-IFL-ISR 1+ma-ACT

She and I are planning on taking a walk later on.



hremsoqaitsurkoi

PPT-STA-[inc.stem: 'value']-IRL-'human.being'-INS-NRM-DEL/A/VAR/CST-MET₁/9-IFL-AMG/ATH

'purportedly by means of the value derived from all the varied attributes of humanity'



Xha üvôqalsâniú.

ua-OBL MNF-[inc.stem: 'sport']-RML-'official'-NRM/PRX/M/CSL/DCT-AGC₂/5-FML-FNC/AFI

They are a group of sports officiators.

6.4.3 Expansion of Format via Specialized Suffixes

In addition to the nine formats shown solely by the **Vf** vocalic suffix described above in [Section 6.4.1](#), the category of Format can be expanded via a set of specialized suffixes, so that an incorporated root can be associated with any of the 72 main noun cases from [Chapter 4](#). Additionally, these suffixes allow the categories of Configuration (see [Sec. 3.1](#)) and Perspective (see [Sec. 3.4](#)) to be specified for the incorporated root.

These Format expansion suffixes are of the type VxC (Slot XI) which will be discussed in [Chapter 7](#). These Format expansion suffixes allow one to specify the exact meaning of a word like "child-love" using the stem for 'love' with an incorporated root 'child' so that the resulting combinations can distinguish meanings such as:

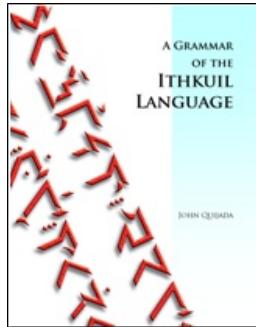
- the love one has for a child*
- the love one has for a group of children*
- the love one has for children in general*
- the love one has for a pair of children*
- the love a child feels*
- the love that children feel in general*
- love experienced for the sake of a child*
- love experienced for the sake of a group of children*
- love experienced for the sake of children in general*

The specifics of how these suffixes work are described in [Section 7.4.15](#).

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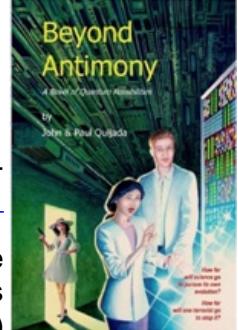
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Ithkuil: A Philosophical Design for a Hypothetical Language

ઇથકુલ: રાષ્ટ્રાદ્યાનાં

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Chapter 7: Suffixes

[7.1 VxC Suffixes](#)

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As we have seen in previous chapters, Ithkuil, like most languages, employs affixes (including both prefixes, suffixes, and infixes) in its morphology. However, one type of affix to the formative, the **Vx+C** suffix from Slot XI, operates in a manner warranting separate analysis. This chapter describes the morpho-phonological structure of these **Vx+C** suffixes (how they are formed from consonants and vowels), as well as their function.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
((Cv))	V _L)	Cg/Cs)	V _r	(Cx/Cv	V _p /V _L)	Cr	Vc	Ci +Vi	Ca	VxC	(Vf	('Cb))	[tone]	[stress]
Phase + Sanction (+ Illocution)	Valence	Validation OR Aspect (+ Mood)	Pattern + Stem + Function	Incorp.Root OR Phase + Sanction (+ Illocution)	Pattern + Stem + Designation of Incorp. Root OR Valence	Root	Case	Illocution + Mood + Polarity	Essence + Extension + Perspective + Configuration + Affiliation	Deriv. Suffix	Context + Format	Bias	Version	Designation + Relation

7.1 VxC SUFFIXES

All Ithkuil affixes we have analyzed up to this point, whether prefixes or infixes, have consisted of either a single vocalic form (i.e., a single vowel, a diphthong, or a dyssyllabic vocalic conjunct), or a single consonantal form (i.e., a single consonant, a geminated consonant, or a consonant cluster), each of which has been invariable in its form. Furthermore, we have found that only one such affix can occupy its given slot in the formative's structure.

However, the **VxC** suffix from Slot XI is different in three respects: (1) it is comprised of both a vowel form and a consonantal form, (2) the vocalic portion of the suffix can mutate, and (3) more than one **VxC** suffix can occupy Slot XI in the formative (i.e., **VxC** suffixes can be strung together sequentially one after the other).

7.1.1 Mutation of the Vowel Vx

While the consonantal portion of the suffix, **C**, is always invariable, the vocalic portion **Vx** mutates depending on two morphological factors known as **degree** and **suffix-type**. The nine different degrees will be discussed in detail in the next section below. As for suffix-type, every consonantal-based **Vx+C** suffix falls into one of three types, which determine what vowel or vowels will come before the invariable consonant **C**. The three suffix-types are labelled **V₁**, **V₂**, and **V₃**, in reference to the vowel portion of the suffix.

7.1.2 Degree And Degree-Shifting

In addition to the three suffix-types, the vowel(s) associated with suffixes are also determined by degree. There are nine degrees, each of which has three associated vowel infixes corresponding to the three suffix-types. Table 24 below shows the vowel(s) associated with each suffix-type.

Table 24: Vocalic Infixes for Consonantal Suffixes by Suffix Type

	Suffix: -V ₁ C	Suffix Type 2: -V ₂ C	Suffix Type 3: -V ₃ C
Degree 1	-iC	-iuC / -uaC	-ieC
Degree 2	-öC	-auC / -oaC	-iöC
Degree 3	-eC	-êC	-ioC
Degree 4	-îC / -uëC	-euC / -oeC	-oiC / -öaC
Degree 5	-(a)C	-âC	-üaC / -uiC / -iùC
Degree 6	-ûC / -iëC	-eiC / -eoC	-ouC / -öeC
Degree 7	-oC	-ôC	-uoC
Degree 8	-üC	-aiC / -eaC	-uöC
Degree 9	-uC	-iaC / -uiC	-ueC

Applying the above rules to three example suffixes we can see in Table 25 below how these suffixes would actually appear in conjunction with the word **eqal** ‘person’:

TABLE 25: Example of Application of Suffixes to a Stem

	Suffix: -V ₁ k	Suffix Type 2: -V ₂ k	Suffix Type 3: -V ₃ k
Degree 1	eqalik	eqaliuk / eqaluak	eqalieik
Degree 2	eqalök	eqalauk / eqaloak	eqaliök
Degree 3	eqalek	eqalék	eqaliok
Degree 4	eqalïk / eqaluëk	eqaleuk / eqaloek	eqaloik / eqalöak
Degree 5	eqalak	eqalâk	eqalüak / eqaluïk / eqaliük
Degree 6	eqalûk / eqaliëk	eqaleik / eqaleok	eqalouk / eqalöek
Degree 7	eqalok	eqalôk	eqaluok
Degree 8	eqalük	eqalaik / eqaleak	eqaluök
Degree 9	eqaluk	eqaliak / eqaluik	eqaluek

As for the morpho-syntactic function of Degree, it is used in Ithkuil to create a gradient system for all consonantal suffixes, which generally indicates the degree to which the semantic concept underlying the particular suffix applies to the particular stem. This gradient usually extends from zero-degree (i.e., the particular concept or quality is absent or minimal) to a maximal degree (i.e., the particular concept or quality is present in totality). We will see in the tables of suffixes in [Section 7.4](#) how this gradient system is used systematically in many dynamic semantic contexts. As a preview we can illustrate the meanings associated with the nine degrees for the suffix **-V₁d**.

Degree	Suffix	Meaning
1	-id	wholly lacking in / a complete absence of / not at all
2	-öd	way too little / totally insufficient(ly) / not anywhere enough
3	-ed	not enough / insufficient(ly) / under-[+verb]
4	-îd	not quite enough / somewhat insufficient(ly) / slightly under-[+verb]
5	-ad	enough (of) / sufficient(ly)
6	-ûd	a little too (much) / more than needed / slightly over-[+verb]
7	-od	too / too much / over-[+verb]
8	-üd	way too much / totally over-[+verb]
9	-ud	nothing but / to the exclusion of all else

There are approximately 200 different consonantal suffix categories, each of which divides into the nine degrees discussed above to render over 1800 distinct suffixes. Each degree of a suffix has a distinct meaning, often representing a point along a continuum in terms of how much or how little the underlying semantic sense of the suffix category is being manifested by the particular formative.

It is important to remember that, since all morpho-semantic stems are both nominal and verbal in meaning, all suffixes to a stem have both a nominal and a verbal meaning. Therefore, the choice whether to translate the suffixes below into their nominal or verbal meaning is entirely dependent on the morpho-syntactical structure of the word within the context of its use in a phrase or sentence as a whole.

7.1.3 Notational Scheme

For convenience' sake, when referring to a particular suffix of specific type and degree, we will use the notation in the section above, utilizing a V for the variable vocalic component, a subscript 1, 2, or 3 indicating the suffix-type, followed by a slash and a number indicating the degree. Thus, the suffix -nt of Type 1 and 4th degree will be written **-V₁nt/4**, while the suffix -r of Type 3 and 8th degree will be written **-V₃r/8**, and so forth.

7.2 SUFFIX-TYPES

Each suffix category comes in three types, numbered 1, 2, and 3, indicated by variances in the initial vocalic component of the suffix. Use of the Type 1 version of a suffix carries a mere circumstantial meaning applicable to the context at hand in a subjectively incidental, happenstance, temporary, or informal manner, whereas the Type 2 version of a suffix implies a derivational meaning which can entail lexical differences when translating into English.

For example, the Type 1 suffix **-up**, i.e., **-V₁p/9**, and its Type 2 counterpart **-uip**, i.e., **-V₂p/9**, which both mean 'exactly similar to.../identical...', the difference in usage being that the Type 1 suffix conveys merely a circumstantial or incidental similarity, while the Type 2 suffix implies that the similarity is an integral aspect of the word. In English, such a distinction would most likely be conveyed by using a different word. For example, note the difference when we add these two suffixes to the Ithkuil word **eqal** 'person': **eqalup** means 'identical-looking person,' whereas **eqaluip** means 'twin.' In this way, we can say that the suffix **-Vp** with Type 1 vocalic infixes conveys a circumstantial application of its meaning to a stem, while with Type 2 vocalic infixes, it conveys a derivational application of its meaning (i.e., wholly new concepts or words are derived from the stem).

As for Type 3 suffixes, these are used in circumstances where the meaning of the suffix is meant to be applied not to the formative itself, but rather to the immediately adjacent suffix. This is somewhat analogous to the way that adverbs can be used to modify descriptive adjectives in English. For example, in the phrase *suddenly blue sky*, it is the blueness that is sudden, not the sky. In Ithkuil, Type 3 suffixes modify another suffix (usually the one following, unless there are only two suffixes on the stem, in which case the suffix order is irrelevant); this is done by using Type 3 vocalic infixes. For example, the suffix **-Vd/5**, which means 'enough / sufficient(ly)', can be used both circumstantially (using Type 1 infixes) and derivationally (using Type 2 infixes) to modify a stem, or can be used to modify only the adjacent suffix (using Type 3 infixes). Such suffixes must immediately precede the suffix they are modifying, unless they are in word-final position, in which case they modify the immediately preceding suffix. This is illustrated below:

eqalad: ‘a sufficient person’ (i.e., one able to perform the task at hand)
eqalâd: ‘a recruit’ (i.e., one able to meet performance or entry requirements)
eqalüadûx: ‘a sufficiently large person’ (where suffix **-V₁x/6** = ‘large’)

7.2.1 Multiple Suffixation and Ordering of Suffixes

When adding two or more suffixes to a stem, the suffixes generally can be added to the stem in any order desired, with the exception of **V₃C** suffixes which modify an adjacent suffix. This latter type must precede the suffix it modifies, unless there are only two **VxC** suffixes to the word, in which case the order is irrelevant.

7.3 SPECIAL USE OF V₃C SUFFIXES

Note that when a Type 3 suffix appears alone in Slot XI, unaccompanied by another **VxC** suffix, it serves a different purpose than normal. Such lone Type 3 suffixes are used as “short-cut” ways of displaying a type of adjunct we will discuss in Chapter 8, called a personal reference adjunct. In these cases, the consonant portion of the suffix, rather than representing its usual suffix category, instead corresponds to one of the numerous personal reference categories we will discuss in Chapter 8, while the vowel portion of the suffix, rather than corresponding to one of nine degrees, instead corresponds to one of nine noun cases. The details for utilizing these special **V₃C** suffixes are discussed in [Section 8.1.5](#).

7.4 LIST OF SUFFIXES

The 200 suffix categories are listed in the sections which follow, indicating the difference in meaning for each of the nine degrees. Recall that each of these suffixes may (theoretically) function as both Type 1 and Type 2 suffixes, the latter type often entailing a change of meaning or lexical shift when translating into English.

7.4.1 Demonstrative Suffixes

These suffixes correspond to various determiners and modifying adjectives in English having to do with denoting or identifying a noun within a larger context or discourse.

-kt	DEF	Degree Of Definiteness
Degree 1		any (number of) [random selection - NOT quantitative/partitive “any”]; in any manner
Degree 2		almost any; in almost any (number of) way(s)
Degree 3		some X or other; in some way or other
Degree 4		some certain X; in some certain way [identity unknown]
Degree 5		this X or that; a certain X or more; in this way or that [identity almost known – choices limited]
Degree 6		a certain / a particular; in a certain or particular way [identity ascertainable]
Degree 7		presumably this/that; apparently this X; in that way presumably [tentatively identified]
Degree 8		this/that/said; in said manner/(in) that way [identity known]
Degree 9		at hand/under discussion/this one now/instant; in this manner [identity = present context]

-q'	DSR	Degree Of Discretion
Degree 1		announced/advertised/heralded; w/ public disclosure
Degree 2		open & well-known; with full public knowledge
Degree 3		open/public; for all to see/publicly/openly
Degree 4		shown, open, or available by request/ by request
Degree 5		semi-public(ly), exclusive(ly)
Degree 6		own/personal; personally
Degree 7		own private; privately
Degree 8		secret; secretly

-q^h	INL	Degree Of Inclusion
Degree 1		not a(ny), not one, no X whatsoever, none of X; in no such manner
Degree 2		hardly any, barely any X; in hardly any such manner
Degree 3		some few/a few certain ... ; in a few certain ways
Degree 4		some (of/certain . . . ; in certain ways
Degree 5		several / more than a few / various / in various ways / in several different ways
Degree 6		a significant portion of/a fair number of, in a fair number of ways
Degree 7		most/in most ways
Degree 8		almost every; in almost every way
Degree 9		each/every; in each way

-rt / -tr	EXT	Exactness of Identity / Identity As a Referent Or Standard
Degree 1		nothing like that X; nothing like that ; in no way similar
Degree 2		somewhat like that X; somewhat so
Degree 3		nearly or almost that X; nearly or almost so
Degree 4		just about . . . / for all intents and purposes
Degree 5		kind of / type of / this sort of; typically
Degree 6		such (a); in such a manner
Degree 7		clear (case of); clearly / certainly / indeed[in negative sentences = no way / at all]
Degree 8		just like that; just so, thus(ly)
Degree 9		the exact X/ the very (one); exactly thus / exactly so

-ns	FAM	Degree Of Familiarity
Degree 1		unknowable / alien; unable to even try X-ing
Degree 2		totally unfamiliar; totally unaccustomed to X-ing
Degree 3		unfamiliar; unaccustomed to X-ing
Degree 4		somewhat unfamiliar; somewhat unaccustomed to X-ing
Degree 5		only just (recently) familiar; only just recently familiar to X-ing
Degree 6		somewhat familiar; somewhat accustomed to X-ing
Degree 7		familiar/known; accustomed to X-ing
Degree 8		well-known / utterly familiar with / ingrained; inherently accustomed or used to X-ing
Degree 9		intimate with; intimately involved with / intimately accustomed to

-p	SIM	Degree Of Similarity
Degree 1		opposite; as different as possible / at the other extreme
Degree 2		completely different/dissimilar; in a totally different or dissimilar way
Degree 3		rather different / barely similar / almost completely different or dissimilar; in an almost completely different way
Degree 4		other [=different]; in another [=different] way
Degree 5		somewhat different, only superficially similar; somewhat differently
Degree 6		similar in the ways that count/similar down deep, some sort of X; similarly at deep level
Degree 7		(somewhat) similar, only superficially different, sort of like, something like, X-like; similarly
Degree 8		very similar; very similarly
Degree 9		[exactly the] same, indistinguishable from; in the [exactly] same way

7.4.2 Deictic Suffixes

Deictic suffixes refer to the grammatical process of **deixis**, the act of pointing to or pointing out. The suffixes correspond to the different variants of the concepts of 'here' and 'there.' In Ithkuil, distinctions are made in these suffixes as to whether a referent is near the speaker, near the listener, distant from both, whether it is observable or accessible, and in some case, whether it is alienable or inalienable (i.e., whether the entity can be separated from the associated person).

-č'	DEX	Deixis Categories
Degree 1		yonder / way over there somewhere / a long way away (not near anyone) [inaccessible or unobservable]
Degree 2		over there somewhere (by third party) [inaccessible or observable]
Degree 3		there somewhere (by listener) [inaccessible or observable]
Degree 4		here somewhere (by speaker) [inaccessible or observable]
Degree 5		here (by speaker and accessible)
Degree 6		here with us (by speaker and listener and accessible)
Degree 7		there [by listener and accessible]
Degree 8		there (by third party, but accessible to speaker and listener)
Degree 9		yonder / way over there [not near any party but accessible]

-č^h	DXX	Additional Deixis Categories
Degree 1		spread out/ everywhere / scattered yonder / all over out there [inaccessible]
Degree 2		spread out/ everywhere / scattered all about listener / all over the place around listener [inaccessible]
Degree 3		spread out/ everywhere / scattered all about speaker / all over the place / here and there [inaccessible]
Degree 4		spread out/ everywhere / scattered all about speaker / all over / here & there [observable but inaccessible]
Degree 5		spread out/ everywhere / scattered all throughout speaker / enveloping speaker [inalienable]
Degree 6		spread out/ everywhere / scattered all throughout speaker / enveloping speaker [alienable]
Degree 7		spread out/ everywhere / scattered all about speaker/all over the place / here and there [accessible]
Degree 8		spread out/ everywhere / scattered all about listener / all over the place around listener [accessible]
Degree 9		spread out/ everywhere / scattered yonder / all over out there [accessible]

7.4.3 Sequential Suffixes

-nn	SEQ	Numerical Sequence
Degree 1		first / initial; first(ly) / first of all
Degree 2		second; secondly
Degree 3		third; thirdly
Degree 4		still near the beginning / not yet halfway
Degree 5		the middle one, in between (sequentially)/ just about halfway there
Degree 6		nearing the end
Degree 7		third from last; antepenultimately
Degree 8		next to last; penultimately
Degree 9		last / final; last(ly) / finally (in terms of sequence)

-nš / -šn	SQT	Sequence Relative to Present Context
Degree 1		immediately beforehand / first
Degree 2		one before preceding
Degree 3		the former; primarily
Degree 4		two before preceding
Degree 5		current/at hand; now/currently / at the moment [in sequence of events]
Degree 6		second one after next
Degree 7		the latter; secondarily
Degree 8		one after next

-c'	SQC	Sequence of Cause and Effect
Degree 1		originating; originally / in the first place / initially / at the outset
Degree 2		preliminary; preliminarily
Degree 3		preparatory / in preparation for / getting ready to
Degree 4		awaited; waiting to/ waiting for [focus on imminency or sequential position, NOT on anticipation]
Degree 5		precursor to; but just beforehand
Degree 6		based on the preceding and setting the stage for what follows
Degree 7		eventual / at last; at last / finally (result)
Degree 8		following /...which follows; then subsequent to that / following that...
Degree 9		subsequent / consequent; then / so / thus / therefore

7.4.4 Coordinative Suffixes

-ň	COO	Adjective Coordination
Degree 1		in conjunction with / combined with / including X
Degree 2		and / also / additionally/ furthermore/ moreover/ what's more
Degree 3		... and so forth / and so on / and all that/ and whatever else
Degree 4		and at the same time / and simultaneously
Degree 5		and [all in a series]
Degree 6		or [potentially inclusive] = and/or
Degree 7		either . . . or [exclusive or] / or else
Degree 8		... or something else / or whatever / or whatever else
Degree 9		either . . . or [exclusive or in a series]

-ňň	CTR	Contrastive Coordination
Degree 1		still / nevertheless / however — (despite seemingly inherent conflict or contradiction)
Degree 2		beyond / not just . . . but also / in addition to X... also
Degree 3		even / or even / ... still [e.g., thicker still]
Degree 4		or [= otherwise]
Degree 5		as opposed to / but not
Degree 6		but [qualifying]
Degree 7		however / on the other hand — (simple difference in expected outcome, no inherent conflict)
Degree 8		but (rather) [= substitute]
Degree 9		just in case / should the need arise

-nz / -zn	DST	Distributive Coordination
Degree 1		applying to each equally [unfairly]
Degree 2		applied selectively by decision/preference [unfairly]
Degree 3		respectively (=to each) but in differing amounts [unfairly]
Degree 4		selectively at random [unfairly]
Degree 5		respectively [= applied in the sequentially spoken order]
Degree 6		selectively at random [fairly]
Degree 7		respectively (=to each) but in differing amounts [fairly]
Degree 8		applied selectively by decision/calculation [fairly]
Degree 9		applying to each equally [fairly]

7.4.5 Temporal Suffixes

-t^h	TPI	Impact or Duration Over Time
Degree 1		immediate / at this instant / for this moment; momentary
Degree 2		temporary / for right now / for the moment; temporarily / in the meantime [duration of context. recent]
Degree 3		short term/for now; in the short term/for now / for the immediate future [hours to days]
Degree 4		for the meantime / for the meanwhile [days to weeks to months]
Degree 5		for a while / for some time to come [months to several years]
Degree 6		for the foreseeable future [years to decades]
Degree 7		long term/in the long run; over the course of time [over the course of a lifetime, decades to centuries]
Degree 8		through the ages / over the course of the ages [centuries to millenia]; permanent
Degree 9		ever-present / eternal / constant / incessant / neverending; from now on / eternally / all the time / for all time

-rč	TPD	Temporary Duration
Degree 1		brief, momentary (lasting a few seconds)
Degree 2		for a "minute"
Degree 3		for a few minutes (e.g., "while you wait")
Degree 4		for a little while (i.e., up to an hour approximately)
Degree 5		for a while (i.e., from one to several hours)
Degree 6		for today (i.e., from several hours to 24 hours approximately)
Degree 7		for one or two days
Degree 8		from two to four days
Degree 9		up to a week

-II	FRQ	Degree Of Frequency
Degree 1		never
Degree 2		rare / hardly ever / once in a great while; rarely / almost unheard of
Degree 3		infrequent; seldom / infrequently
Degree 4		now and then / from time to time / off and on / every so often / now and again occasionally / sometimes
Degree 5		frequent; frequently / often
Degree 6		usual; usually / customarily / generally
Degree 7		almost always / rarely fail to / routinely
Degree 8		ever-faithful / unwavering; always / every time / without fail / like clockwork / never fail to
Degree 9		constant / continuous; constantly / continuously / all the time

-z	TPR	Temporal Placement/Reaction/Viewpoint
Degree 1		wistfully looking back / in the (good) old days [with longing]
Degree 2		in hindsight / looking back
Degree 3		upon further consideration/upon reflection
Degree 4		initial; at first/initially / at first blush / at first glance
Degree 5		now that the moment has come / now that the time is here / now that the deed or event is at hand
Degree 6		any moment now, on the verge of, just about to
Degree 7		imminent(ly) ; very soon
Degree 8		soon [w/ anticipation]
Degree 9		someday. . . / one day [with longing]

-kk	TPP	Temporal Position Relative to Present
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Degree 1	in the remote past, once upon a time
Degree 2	past/former/previous; once [e.g., I was young once], a long time ago
Degree 3	recent; recently
Degree 4	. . . just past / just (happened)
Degree 5	present/current/present day; now / at present / presently / currently
Degree 6	imminent; just about to / about to / on the verge of
Degree 7	forthcoming / soon to arrive; soon
Degree 8	future / – to be / –to come / eventual(lly); someday...
Degree 9	in the remote future / far in the future / long after we're gone

-pt	ATC	Degree Of Anticipation
Degree 1		long-awaited / long looked for
Degree 2		eagerly awaited; can't wait for / dying to
Degree 3		anticipated / awaited; in anticipation of / look forward to
Degree 4		up for / up to
Degree 5		await / wait to / wait for / waiting to
Degree 6		ambivalent about ; could take or leave it
Degree 7		not looking forward to
Degree 8		dreaded; dread X-ing
Degree 9		long-dreaded; dread the day when

-nž / -žn	LAT	Degree Of Lateness/Earliness
Degree 1		way too early / way too soon
Degree 2		too early / too soon
Degree 3		a little early / a bit soon
Degree 4		almost late / not a moment too soon
Degree 5		just in time / sharp / on the dot
Degree 6		a little late
Degree 7		late
Degree 8		too late
Degree 9		way too late

-nt / -tn	ITN	Degree Of Iteration
Degree 1		just once / once only
Degree 2		again / once more / one more time / re-
Degree 3		again and again / keep X-ing over and over [focus on habit, not periodicity]
Degree 4		again and again / keep X-ing over and over [focus on periodicity, not habit]
Degree 5		irregular, unpredictable ; at irregular or unpredictable intervals
Degree 6		[cyclic] return of... / ...once again; return to / ...back again [e.g., summer's back]
Degree 7		intermittent; intermittently / at regular intervals
Degree 8		repetitive / repeating; repeatedly
Degree 9		constantly cycling or repeating / continuously or perpetually repeating / constant, eternal, perpetual repetition of

-kt	RPN	Pattern of Spatio-Temporal Repetition or Distribution of Set Members
Degree 1		slow-paced repetition at regular intervals
Degree 2		slow-paced repetition at irregular intervals
Degree 3		slow-paced repetition at mixed intervals
Degree 4		mid-paced repetition at irregular intervals
Degree 5		mid-paced repetition at regular intervals
Degree 6		mid-paced repetition at mixed intervals
Degree 7		fast-paced repetition at mixed intervals

Degree 8	fast-paced repetition at irregular intervals
Degree 9	fast-paced repetition at regular intervals

-rl	CAL	Calendrical Sequencing (used with numerical stems to indicate calendrical concepts)
Degree 1	[sequential number +] day of the week	
Degree 2	[sequential number +] day of the month	
Degree 3	[sequential number +] day of the year	
Degree 4	[sequential number +] week of the month	
Degree 5	[sequential number +] month of the year	
Degree 6	[sequential number +] year	
Degree 7	[sequential number +] decade of the century	
Degree 8	[sequential number +] century	
Degree 9	[sequential number +] millennium	

The V1 value of these suffixes merely indicates sequential position on the calendar, e.g., **llalirl** 'the first day of the week,' whereas V2 values give the names of the days of the weeks, days of the month, months of the year, etc., e.g., **llaluarl** 'Sunday,' **ksaluarl** 'Monday,' **ksalärl** 'February,' **llalökearl** 'the 21st Century,' **mřalik (řial) xmalukeorl** 'the year 1999.'

Note: the CAL suffix inherently conveys Functional (FNC) Context, since calendrical notions are, of course, societal conventions as opposed to being natural ontological concepts. Therefore, for formatives carrying the CAL suffix it is not necessary to inflect for FNC Context.

7.4.6 Quantifying Suffixes

-lz / -zl	DGR	Exactness of Degree
Degree 1	unknowable degree or amount of	
Degree 2	unknown degree or amount of	
Degree 3	almost impossible to determine degree of	
Degree 4	nowhere near the desired degree of	
Degree 5	hard to pinpoint / hard to determine / difficult to determine	
Degree 6	fluctuating, ever-changing (amount of); to changing/fluctuating degree or extent of	
Degree 7	vaguely around / vaguely in the range of / somewhere around / loosely in the vicinity of	
Degree 8	approximate(ly) / somewhere around / just about; or something like that / ...or so	
Degree 9	exact/specific; exactly / specifically / on the dot / sharp / to the letter	

-ss	PTW	Contiguous Portion of the Whole
Degree 1	no amount of / none (of)	
Degree 2	a very few / a tiny amount of / a tiny number of; only a tiny bit / a tiny bit	
Degree 3	few / a little / a bit; a little / a bit	
Degree 4	some, any [= some of] / some of or any of the / a portion; partially / to some extent	
Degree 5	a fair number of / a fair amount of / pretty (+adj.) / fairly (+adj.) / rather / somewhat; more or less / to a fair extent	
Degree 6	much / many / (such) a lot of / very / quite (a); quite; a lot / very much / to a large extent	
Degree 7	a whole lot of / a verily large amount or number of / immensely, in an incredible amount / so much...; so	
Degree 8	most of / mostly	
Degree 9	every / all (of)/whole; entirely/in its entirety	

-ns / -sn	PTT	Non-Contiguous (i.e., Intermixed) Portion of the Whole
Degree 1	no amount of / none (of)	
Degree 2	a very few / a tiny amount of / a tiny number of; only a tiny bit / a tiny bit	

Degree 3	few/a little / a bit; a little / a bit
Degree 4	some, any [= some of] / some of or any of the / a portion; partially / to some extent
Degree 5	a fair number of / a fair amount of / pretty (+adj.) / fairly (+adj.) / rather / somewhat; more or less / to a fair extent
Degree 6	much / many / (such) a lot of / very / quite (a); quite /; a lot / very much / to a large extent
Degree 7	a whole lot of / a very large amount or number of / immensely, in an incredible amount / so much...; so
Degree 8	most of / mostly
Degree 9	every / all (of) / whole; entirely / in its entirety

-mt / -tm	CNM	Type of Container/Packaging/Conveyance/Holder
Degree 1	jar/pot of X [storage + containment]	
Degree 2	dispensor-type container/package, e.g., tube, barrel, bottle for multiple use	
Degree 3	can/tin/bottle/sealed pouch [= storage + packaging + protection/preservation]	
Degree 4	carton/box/basket [= temporary containment]	
Degree 5	natural or generic mass containment/packaging/holder (e.g., a loaf of bread, a lump of clay)	
Degree 6	satchel, pack of [= for personal conveyance/moving]	
Degree 7	pile of, load of [= in context of conveyance/moving or bulk storage]	
Degree 8	X-ful of [+ Partitive], e.g., a roomful of clowns, a skyful of clouds, a treeful of leaves, a spoonful	
Degree 9	embodiment/manifestation of abstract essence, e.g., a life form [= an embodiment of life]	

-d	SUF	Degree Of Sufficiency
Degree 1	none at all; not...at all	
Degree 2	way too little / woefully insufficient / way too few; not...anywhere enough / totally under-[+verb]	
Degree 3	not enough / insufficient / too few; not...enough / insufficiently / under-[+verb]	
Degree 4	not quite enough / slightly insufficient; not...quite enough / a bit insufficiently / slightly under-[+verb]	
Degree 5	enough (of) / sufficient; enough / sufficiently	
Degree 6	a little too / a little too much; a little too much / slightly over- [+verb]	
Degree 7	too / toomuch; too much / too many / over- [+verb]	
Degree 8	way too / way too much; way too much / totally over- [+verb]	
Degree 9	inundated with; to the exclusion of all else / to the point that X overwhelms or takes over	

-b	EXN	Degree or Extent
Degree 1	none (at all); to no extent at all	
Degree 2	tiniest part of / a bit of; to smallest extent / hardly / barely	
Degree 3	only a part of / only some of; to some extent / partially / partly / somewhat	
Degree 4	less than usual / below normal; less so than usual/ to a lesser degree or extent than usual	
Degree 5	the normal, expected or usual amount (of)	
Degree 6	more than usual / above normal; more so than usual; to a greater degree or extent than normal	
Degree 7	way more than usual / way above normal or expected; to a much greater degree or extent than normal	
Degree 8	almost as much as possible / near(ly) maximum	
Degree 9	total, -ful; to greatest extent / maximum / maximal; maximally / at full capacity, e.g., She bought out the store.	

-rd / -dr	EXD	Dynamically Changing Degree or Extent
Degree 1	less and less / fewer and fewer / ongoing decrease in; decreasingly	
Degree 2	a lot fewer / a lot less (of); a lot less	
Degree 3	fewer / less (of); less	
Degree 4	a little less (of) / a bit less (of); a little less / a bit less	
Degree 5	a fluctuating amount or degree of; to a fluctuating degree or extent	
Degree 6	a little more (of) / a bit more (of); a little more / a bit more	
Degree 7	more (of); more	

Degree 8	a lot more (of); a lot more
Degree 9	more and more / continuing increase in / increasingly more / ever-increasing

This suffix is used with all vector-like or gradient concepts. When used with the COMPLETIVE version, degrees 1 and 9 imply attainment of a change in state, e.g., *sleepiness* → *sleep*.

7.4.7 Modulative Suffixes

-zb	RCO	Recoil in place (spring back; snap back; fall back into place)
-zg	TFI	Back & forth; to & fro in place (e.g., pendulum, wagging tail)
-žd	TFV	Back & forth over linear vector (e.g., snake-like; zig-zag)
-zd	CRI	Cycle or circular motion in place (spin, revolve)
-žb	CRV	Cycle or circular motion over linear vector (e.g., train wheels, bike wheels)
-žg	MDL	Random pattern of modulation (unpredictable/irregular movement pattern)

These suffixes operate in conjunction with Phase ([see Sec. 5.3](#)) to describe contexts involving recoil, spring motion, oscillative, cyclic, reflective or vibrative motion, using the following degrees:

Degree 1	not enough
Degree 2	hardly at all
Degree 3	to a small degree
Degree 4	to a less than normal degree
Degree 5	to the normal / standard / usual degree
Degree 6	to a greater than normal degree
Degree 7	to a large degree
Degree 8	to a very large degree
Degree 9	too much / overly

-g	FLS	Degree of Fluctuation/Stability
Degree 1	inherently and consistently unstable and random to a high degree	
Degree 2	highly variable/random fluctuation or instability	
Degree 3	moderately variable/random fluctuation or instability	
Degree 4	increasing fluctuation or destabilization in pattern	
Degree 5	tending toward fluctuations and periods of instability	
Degree 6	decreasing fluctuation or instability in pattern = increasing stability	
Degree 7	moderately stable and lacking in fluctuations	
Degree 8	complete lack of fluctuation or instability; highly stable	
Degree 9	inherently and consistently stable	

-f	ICR	Increase
-ft	DCR	Decrease
-pf	ICD	Increase then Decrease
-kf	DCI	Decrease then Increase
-qt	IDR	Random/Varying Increases and Decreases

Used with the following degrees, the above five suffixes operate to expand Phase into showing increases or decreases (or wavering) of intensity of an action during its duration.

Degree 1	so slowly as to seem immovable
Degree 2	very slowly
Degree 3	slowly
Degree 4	somewhat slower than normal
Degree 5	normal/usual/standard speed

Degree 6	somewhat faster than normal
Degree 7	fast/quickly
Degree 8	very rapidly
Degree 9	so rapidly as to be unable to follow

-fs	MVT	Degree of Stillness/Movement
Degree 1	unmovable – integrated	
Degree 2	unmovable due to mass	
Degree 3	not easily moved	
Degree 4	inclined to stillness	
Degree 5	holding still	
Degree 6	moving around slightly, stirring	
Degree 7	moving around in one place	
Degree 8	moving around, agitated	
Degree 9	highly agitated, unable to keep still	

7.4.8 Qualifying Suffixes

-x	SIZ	Degree of Size
Degree 1	too small	
Degree 2	very small/ very little/ minuscule/ tiny/ itty-bitty; in a very small manner; barely/hardly	
Degree 3	small/little	
Degree 4	a little on the small size / undersized / petite	
Degree 5	a little on the large size / oversized / jumbo	
Degree 6	big/large; in a large manner	
Degree 7	very big/very large; in a very large manner	
Degree 8	enormous(ly) / huge(ly) / humoungous(ly) / gigantic(ally)	
Degree 9	too big / too large / too huge; in too large a manner	

-xh	SCO	Dynamic Change of Size
Degree 1	smallest single manifestation of / particle of	
Degree 2	runaway shrinkage of / rapid disappearance or diminishment of	
Degree 3	solitary / only / sole / lone / unaccompanied; alone / by -self / on his own / unaccompanied / solely	
Degree 4	decreasing / de-escalating / shrinking	
Degree 5	compact/concentrated; in efficient or compact way [e.g., <i>canyon</i> → <i>gorge</i>]	
Degree 6	expanded/enhanced; in expanded or enhanced way [e.g., <i>canyon</i> → <i>rift valley</i>]	
Degree 7	growing, increasing, escalating	
Degree 8	runaway / runaway growth, increase or expansion of	
Degree 9	synergistic expansion e.g., hit (+ RCP valence) → fight	

-c	AFT	Degree of Affect
Degree 1	cute/darling / in a cute or darling manner	
Degree 2	too cute / schmaltzy / in a maudlin way	
Degree 3	kitschy / quaint(ly)	
Degree 4	dear, endearing(ly)	
Degree 5	lovely / elegant	
Degree 6	esteemed	
Degree 7	imperious / royal / most high / most excellent / revered	
Degree 8	too grand / too imperious	
Degree 9	great / grand; in a great / grand / grandiose manner	

-č	QUA	Degree of Quality, Effectiveness or Adequacy
Degree 1		too poor(ly); too badly
Degree 2		very bad(ly) / very poor(ly) / very inadequate(ly) / intolerable / intolerably / terrible / terribly
Degree 3		bad / poor / inadequate; badly / poorly / inadequately / wanting / lacking
Degree 4		not-so-good / could be better; somewhat poor(ly) or bad(ly) / somewhat wanting or lacking / below average
Degree 5		not-so-bad / average; could be worse; so-so / somewhat well / OK, I guess / adequate(ly) / acceptably
Degree 6		good/effective; well/effectively/ more than adequate / above-average
Degree 7		very good / very effective(ly) / very well
Degree 8		excellent(ly) / superb(ly) / outstanding(ly)
Degree 9		astounding(ly) / amazing(ly) great or well / unbelievably excellent / absolutely superb(ly) / unsurpassable(ly)

-c	UNQ	Degree of Specialness or Uniqueness
Degree 1		vulgar, trashy, too cheap / in a vulgar or trashy manner
Degree 2		cheap, tasteless, gaudy, gauche / in a cheap, gaudy, gauche or tasteless manner
Degree 3		run of the mill / unexceptional / average / commonplace / ordinary; in a commonplace or unexceptional manner
Degree 4		somewhat ordinary / somewhat common(place)
Degree 5		somewhat special / somewhat out of the ordinary / interesting(ly) / intriguing(ly) / eye-catching / appealing(ly)
Degree 6		special; especially
Degree 7		extraordinary / highly unusual; extraordinarily
Degree 8		(one and) only/unique; in the only way / uniquely / unparalleled
Degree 9		marvelous / wonderful / wondrous / awesome / awe-inspiring

-řň	IPT	Degree of Importance/Impact/Significance
Degree 1		utterly unimportant, insignificant, unnecessary, irrelevant
Degree 2		hardly necessary, seemingly unimportant, essentially insignificant, essentially irrelevant
Degree 3		third-string / no remaining alternative but X
Degree 4		back-up / understudy / second-string
Degree 5		secondary
Degree 6		fairly significant, somewhat important
Degree 7		importan t/ significant / considerable
Degree 8		primary / foremost / very significant
Degree 9		Indispensable/crucial/critical

-k^h	CNQ	Degree of Consequentiality, Finality or Irrevocability
Degree 1		inconsequential/sham/having no effect; like it didn't even happen/with no effect
Degree 2		relatively inconsequential / having little effect / easily reversible or undone / to little effect / minor / to minor degree
Degree 3		somewhat inconsequential/having only some effect/reparable/reversible/to some effect / somewhat minor
Degree 4		not so minor / somewhat significant degree / reversible with effort / having a somewhat significant impact or effect
Degree 5		consequential / having a fair effect / reversible only with concerted effort / to good effect
Degree 6		Overall / significant degree of; all in all / for the most part/to great effect / on the whole
Degree 7		virtually total/near total; nearly for good/almost completely
Degree 8		utter / complete / total; altogether / completely / for good / utterly / irrevocably for all intents and purposes
Degree 9		for all time / forever / finally

-q	NTR	Degree of Notoriety, Acceptance, Respect, Honor
Degree 1		pariah-like / ostracized; in an alienating or self-ostracizing manner
Degree 2		infamous; infamously

Degree 3	frowned-upon / disapproved ; in a manner guaranteed to arouse disapproval
Degree 4	tolerated; in a tolerated manner
Degree 5	common / customary / expected / accepted; in an common, customary, expected, or accepted manner
Degree 6	notorious(ly)
Degree 7	well-known / well-liked / well thought of; in a totally appropriate way / in a manner befitting a gentleman or lady
Degree 8	respected / honored; respectfully / honorably
Degree 9	highly praised / highly honored / highly esteemed / highly respected / most excellent / most honorable

-rg	BEH	Degree of Subjective Effect or Behavioral Appropriateness
Degree 1	grotesque, gross, nauseating, sickening	
Degree 2	repugnant, revolting, repulsive	
Degree 3	despicable, deplorable, detestable	
Degree 4	lurid, spectacle-inducing	
Degree 5	offensive, ill-mannered, in poor taste	
Degree 6	lewd	
Degree 7	spectacular, showy, larger-than-life	
Degree 8	well-mannered, polite	
Degree 9	classy, dignified, in good taste	

-xht	APR	Degree of Contextual Appropriateness
Degree 1	contemptable(-ly) / utterly inappropriate(ly)	
Degree 2	scandalous(ly) / trashy(-ly) / inappropriate(ly)	
Degree 3	ill-mannered / boorish(ly) / improper(ly) / tasteless(ly)	
Degree 4	eyebrow-raising / questionable(-ly)	
Degree 5	somewhat improper(ly) / unorthodox(ically)	
Degree 6	acceptable(-ly) / adequate(ly)	
Degree 7	appropriate(ly) / proper(ly) / correct(ly)	
Degree 8	utterly appropriate(ly), very proper(ly); strictly correct(ly)	
Degree 9	stuffy / orthodox / old-fashioned; utterly predictable(ly)	

-tl	HRC	Position on Social, Occupational, or (Para-) Military Hierarchy
Degree 1	bottom rung / the "dregs"	
Degree 2	rank & file	
Degree 3	lower echelon	
Degree 4	lower-mid	
Degree 5	mid-level	
Degree 6	upper mid	
Degree 7	upper echelon	
Degree 8	senior	
Degree 9	head / chief / top / executive	

This suffix, for example, would be used to distinguish the names of the various ranks within a military or paramilitary organization such as *private, corporal, sergeant, lieutenant*, etc. all the way up to *general* and *supreme commander*.

-z	FRM	Degree of Formality
Degree 1	too casual / overly casual	
Degree 2	very casual	

Degree 3	casual
Degree 4	somewhat casual
Degree 5	neither casual nor formal
Degree 6	somewhat formal
Degree 7	formal
Degree 8	very formal
Degree 9	too formal / overly formal

-j	TYP	Degree of Typicalness
Degree 1	unique / never-before-seen / one of a kind / shocking	
Degree 2	original / avant-garde; surprising(ly) / innovative(ly)	
Degree 3	atypical(ly) / unusual(ly)	
Degree 4	somewhat atypical(ly) or unusual(ly)	
Degree 5	garden variety / run-of-the-mill / typical(ly)	
Degree 6	expected / common; in a commonplace manner	
Degree 7	disappointingly typical; very typically	
Degree 8	unoriginal / mundane; in an uninspired way	
Degree 9	stereotyped / stereotypical(ly)	

-ňx	PTY	Degree of Prototypicalness
Degree 1	very dissimilar to prototype, very atypical member, closer to members of different set	
Degree 2	dissimilar to prototype, atypical member	
Degree 3	having noticeable dissimilarities from prototype	
Degree 4	somewhat dissimilar to prototype	
Degree 5	having unknown degree of closeness or similarity to prototype	
Degree 6	adequately similar to prototype	
Degree 7	as close to prototype as is typically found	
Degree 8	as close to prototype as possible	
Degree 9	prototype/archetype/model	

-mž / -žm	ITG	Degree of Intelligence Manifested
Degree 1	dumb / stupid / assinine; idiotic(ally) / moronic(ally)	
Degree 2	foolhearty / foolish(ly)	
Degree 3	ill-conceived(ly) / (in a) poorly thought out (way)	
Degree 4	naïve(ly) / simplistic(ally)	
Degree 5	well-intentioned but ill-conceived / reckless(ly); risky	
Degree 6	well-reasoned / intelligent(ly)	
Degree 7	innovative(ly) / daring [based on analysis and judgement]	
Degree 8	ingenious / brilliant	
Degree 9	wise(ly); [V2 = 'philosophical(ly)']	

-	MDN	Degree of Age or Modernity
Degree 1	prehistoric / proto-	
Degree 2	ancient	
Degree 3	old (first) / archaic	
Degree 4	classic(al)	
Degree 5	old-fashioned; in the old-fashioned way	
Degree 6	"yesteryear"; in the era just passed; in the previous zeitgeist	
Degree 7	modern, contemporary, present-day	
Degree 8	innovative / trailblazing; innovatively, trailblazingly, cutting-edge	
Degree 9	avant-garde	

7.4.9 Modifying Suffixes

-r	NA1	Negation/affirmation of all morphological components
-l	NA2	Negation/affirmation of stem + affixes but not adjunct information
-ř	NA3	Negation/affirmation of all morphological components except Modality
-řř	NA4	Negation/affirmation of all but aspectual or Modality information

The above four suffixes are used to affirm or negate a formative. Because much of the information associated with an Ithkuil formative is carried in adjuncts, the above suffixes are used to indicate exactly which morpho-semantic information is being affirmed or negated. For example, in English the sentences *I don't want to stop eating*, *I want to not stop eating*, and *I want to stop not eating* mean different things. The above four suffixes are used with the following degrees.

Degree 1	on the contrary...most certainly does NOT/is NOT [absolute negation]; no X whatsoever; absolutely not = emphatic negation/denial
Degree 2	on the contrary...does NOT or is NOT [absolute negation contrary to expectation]
Degree 3	on the contrary...does NOT or is NOT [relative negation contrary to expectation]
Degree 4	no; not [absolute negation] = e.g., <i>I will not win the race (because I'm not in the race)</i>
Degree 5	no; not [relative negation] = e.g., <i>I will not win the race (although I am in the race)</i>
Degree 6	almost / near(ly)
Degree 7	hardly / barely
Degree 8	...does (too) / is (too) [= simple affirmation contrary to expectation]
Degree 9	...is indeed / does indeed / most certainly is / most certainly does [emphatic affirmation]

-rr	PLV	Polarity / Logical valence values
Degree 1	false/negative [bivalent polarity or logic]	
Degree 2	false/negative [trivalent polarity or logic]	
Degree 3	superpositional – neither true/positive nor false/negative	
Degree 4	unknown polarity or logical state/value [trivalent polarity or logic]	
Degree 5	neutral [trivalent polarity or logic]	
Degree 6	unknown polarity or logical state/value [bivalent polarity or logic]	
Degree 7	superpositional – both true/positive and false/negative	
Degree 8	true/positive [trivalent polarity or logic]	
Degree 9	true/positive [bivalent polarity or logic]	

-t	DEV	Degree of Development
Degree 1	reversal or undoing of process = 'un-' / 'de-' / 'dis-'	
Degree 2	reversal/undoing of process in large chunks = 'un-' / 'de-' / 'dis-'	
Degree 3	reversal little by little / a little at a time = entropic change in / slowly falling apart / unravelling	
Degree 4	moribund / stagnant; in a moribund or stagnant manner	
Degree 5	well-maintained / well-kept / "healthy"; keep X going / maintain X-ing	
Degree 6	one by one / one at a time / one after another	
Degree 7	little by little / a little at a time / bit by bit / a piece at a time	
Degree 8	by leaps and bounds / in large amounts at a time	
Degree 9	complete achievement now irreversible / set in stone	

-pt	REA	Degree of Genuineness or Veracity
Degree 1	real / actual / true / genuine; truly, genuinely, really, actually, indeed [affirmation contrary to suggestion otherwise]	
Degree 2	real / actual / true / genuine; truly, genuinely, really, actually, indeed	
Degree 3	apparent / seeming / looks like a; apparently / appears to have / seems to have	
Degree 4	suspicious-looking / "fishy" seeming; presumably / allegedly / gives the appearance of having	

Degree 5	ersatz / facsimile; as an equivalent to
Degree 6	substitute / replacement / proxy / fill-in / placeholder; as a substitute or proxy for
Degree 7	fake / pretend / mock; pretend to, fake X-ing
Degree 8	imaginary / unreal / made-up ; imagine X-ing, not really X-ing
Degree 9	imaginary / unreal / made-up ; imagine X-ing, not really X-ing [contrary to suggestion otherwise]

-rk / -kr	SCS	Degree of Success versus Failure
Degree 1		total failure in; completely fail to
Degree 2		failed, would-be; unsuccessfully, fail to
Degree 3		= INEFFECTUAL or INCOMPLETE version (see Sec. 5.8)
Degree 4		certain to be a failed / certain to fail in
Degree 5		marginally successful(ly) / barely, hardly [in terms of adequacy or success]
Degree 6		certain to be a successful ; certain to succeed in
Degree 7		= POSITIVE or EFFECTIVE version (see Sec. 5.8)
Degree 8		successful(-ly completed); successfully
Degree 9		overwhelmingly successful(ly)

-v	CAP	Degree of Potential or Capability
Degree 1		utterly incapable / completely lacking in all necessary abilities or capacities
Degree 2		underqualified; almost totally lacking in necessary abilities or capacities
Degree 3		lacking in certain key capabilities; mostly inadequate to task
Degree 4		possible but less than likely due to underdeveloped capabilities
Degree 5		unknown if capable or not
Degree 6		somewhat capable / has possible potential to perform
Degree 7		sufficiently capable / adequate potential to perform
Degree 8		fully capable; well within abilities
Degree 9		overly qualified; more capable than necessary or required

-cq	PRB	Degree of Probability or Likelihood
Degree 1		impossible / hopeless / lost cause
Degree 2		almost no chance of / virtually impossible
Degree 3		highly unlikely
Degree 4		unlikely / improbable(ly)
Degree 5		possible; possibly
Degree 6		hopeful(ly)
Degree 7		probable; probably
Degree 8		highly probable / highly likely / certain to be a . . . certain to
Degree 9		forgone conclusion that / in the can / done deal

7.4.10 Adverbial Suffixes

-nt / -tn	STR	Degree of Physical Strength Possible or Used
Degree 1		barely / hardly / very weak(ly)
Degree 2		weak(ly) / to small degree
Degree 3		soft(ly) / guarded(ly)
Degree 4		measured(ly)
Degree 5		somewhat strong(ly) / somewhat powerful(ly)
Degree 6		adequately strong; with adequate strength
Degree 7		strong(ly) / powerful(ly)
Degree 8		very strong(ly) / very powerful(ly)

-kç	FRC Degree of Physical Force Exerted
Degree 1	too light(ly) / too soft(ly) / too delicate(ly)
Degree 2	light as a feather/ baby soft; extremely delicately or lightly or softly
Degree 3	light/soft/hardly at all; softly / lightly / delicately / gingerly
Degree 4	somewhat on the light or soft side; somewhat softly / lightly / delicately / gingerly
Degree 5	neither soft(ly) nor forceful(ly); with the right touch
Degree 6	somewhat violent(ly) / somewhat forceful(ly)
Degree 7	violent/forceful / rough; violently / with force / roughly
Degree 8	very violent(ly) / very forceful(ly) / very rough(ly)
Degree 9	too violent(ly) / too forceful(ly) / too rough(ly)

-sk	ITY Degree of Speed (i.e., Intensity of Movement or Change)
Degree 1	too slow(ly)
Degree 2	very slow(ly)
Degree 3	slow(ly)
Degree 4	somewhat slow(ly)
Degree 5	at just the right speed or intensity
Degree 6	somewhat fast / somewhat quick(ly) / somewhat rapid(ly)
Degree 7	fast / quick(ly) / rapid(ly); at fast pace
Degree 8	very fast / very quick(ly) / very rapid(ly); at fast pace
Degree 9	too fast / too quick(ly) / too rapid(ly); at fast pace

-st	SPD Degree of Speed (i.e., Velocity = Distance Over Time)
Degree 1	too slow(ly)
Degree 2	very slow(ly)
Degree 3	slow(ly)
Degree 4	somewhat slow(ly)
Degree 5	at just the right speed
Degree 6	somewhat fast / somewhat quick(ly) / somewhat rapid(ly)
Degree 7	fast / quick(ly) / rapid(ly); at fast pace
Degree 8	very fast / very quick(ly) / very rapid(ly); at fast pace
Degree 9	too fast / too quick(ly) / too rapid(ly); at fast pace

-lt / -tl	CFD Degree of Forthrightness, Confidence or Humility
Degree 1	too meek(ly) / too submissive(ly) / too obedient(ly) / too docile(ly)
Degree 2	very meek(ly) / very submissive(ly) / very obedient(ly) / very docile(ly)
Degree 3	meek(ly) / submissive(ly) / obedient(ly) / docile(ly)
Degree 4	somewhat meek(ly) / somewhat submissive(ly) / somewhat obedient(ly) / somewhat docile(ly)
Degree 5	properly humble / properly forthright ; with proper degree of humility or forthrightness
Degree 6	somewhat confident(ly) / somewhat strong(ly) / somewhat definite(ly) / somewhat definitive(ly) or authoritative(ly)
Degree 7	confident(ly) / strong(ly) / definite(ly) / definitive(ly) / authoritative(ly)
Degree 8	very confident(ly) / very strong(ly) / very definite(ly) / very definitive(ly) / very authoritative(ly)
Degree 9	over-confident(ly) / too strong(ly) / too definite(ly) / too definitive(ly) / too authoritative(ly)

-dh	EFI Degree of Efficiency or Efficacy
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Degree 1	destructively wasteful / disastrous(ly) / accomplishing the opposite of intention / making things worse
Degree 2	very wasteful / accomplishing nothing / making a mess of it
Degree 3	wasteful / accomplishing little
Degree 4	somewhat wasteful / accomplishing somewhat less than expected
Degree 5	adequate(ly) [in terms of efficiency]
Degree 6	rather efficient(ly) / fairly efficient(ly) / accomplishing somewhat more than expected
Degree 7	efficient(ly) / with little or no waste(d effort)
Degree 8	extremely efficient(ly) / with no waste(d effort) whatsoever
Degree 9	a synergy of... / sum beyond total of parts / a synergistic composite of ; to X synergistically

-šq	ERR	Degree of Correctness versus Error
Degree 1	totally wrong / totally mis- or mal-; totally in error / erroneous(ly) / incorrect(ly)	
Degree 2	wrong/incorrect(ly) / mis- / mal- ; in error / erroneous(ly) / incorrect(ly)	
Degree 3	fairly wrong / fairly incorrect(ly)	
Degree 4	somewhat wrong / more wrong than right	
Degree 5	so-so; barely adequate(ly) / barely correct(ly)	
Degree 6	somewhat right / more right than wrong	
Degree 7	fairly right / fairly correct(ly)	
Degree 8	right / correctly	
Degree 9	totally right / totally correct(ly) / totally well-Xd	

-p ^h	MAT	Degree of Maturation
Degree 1	undeveloped / immature(ly) / seed / embryo	
Degree 2	under-developed / newborn [stage, not age] / seedling / baby	
Degree 3	growing / budding / youthful / young	
Degree 4	maturing / developing / getting stronger or bigger or more complex or sophisticated	
Degree 5	fully developed / fully mature(d) / robust / ripe	
Degree 6	overly developed / overripe / showing signs of wear and tear / stressed / under stress / fatigued	
Degree 7	declining/fading; trail off/fade / getting softer or weaker / faded / decrepit / has-been / past one's prime	
Degree 8	disintegrating / utterly deteriorated / beyond repair or rehabilitation / irreparable / dying	
Degree 9	dead / defunct / disintegrated	

-ňz	SBT	Degree of Subtlety
Degree 1	too subtle(ly)	
Degree 2	very subtle(ly)	
Degree 3	subtle(ly)	
Degree 4	somewhat subtle(ly)	
Degree 5	somewhat unsubtle(ly)	
Degree 6	unsubtle(ly) / lumbering(ly) rather obvious/ fairly blatant / belabored ; belabor / lumber along X-ing	
Degree 7	obvious(ly) / blatant(ly) / exaggerated(ly)	
Degree 8	very obvious(ly) / very blatant(ly)	
Degree 9	over-the-top / in-your-face / to obvious(ly) / too blatant(ly)	

-kš	DRC	Degree of Directness
Degree 1	too indirect(ly)	
Degree 2	very indirect(ly)	
Degree 3	indirect(ly)	
Degree 4	somewhat indirect(ly)	
Degree 5	somewhat direct(ly)	
Degree 6	fairly direct(ly) / rather direct(ly)	

Degree 7	direct(ly) / straightforward
Degree 8	very direct(ly) / very straightforward
Degree 9	too direct(ly) / painfully straightforward

-mš / -sm	SUD Degree of Suddenness
Degree 1	too slow(ly) in happening, too long in X-ing, overdue, delayed
Degree 2	very slow(ly) in happening or developing
Degree 3	slow(ly) ; long in developing or happening
Degree 4	somewhat slow(ly) ; somewhat long in developing or happening
Degree 5	taking just the right amount of time to develop or occur
Degree 6	somewhat immediate / somewhat sudden; somewhat immediately / somewhat suddenly
Degree 7	immediate / sudden; immediately / suddenly
Degree 8	very immediate / very sudden; very immediately / very suddenly
Degree 9	too immediate / too sudden; too immediately / too suddenly

-pc	PCN Degree of Care, Precision or Scrutiny
Degree 1	utterly sloppy(ly) / totally careless(ly)
Degree 2	very sloppy(ly) / very careless(ly)
Degree 3	sloppy(ly) / careless(ly) / with poor attention to detail
Degree 4	somewhat sloppy(ly) / somewhat careless(ly)
Degree 5	less than careful(ly) / with only some degree of care
Degree 6	somewhat careful(ly) / fairly precise(ly)
Degree 7	precise(ly) / careful(ly) / detailed
Degree 8	extremely precise(ly) / with great care or precision or scrutiny / meticulous(ly)
Degree 9	overly precise(ly) / 'nit-picky' / with too much scrutiny / overly meticulous(ly)

-ch	CNC Degree of Concern or Consideration
Degree 1	...the hell...! / what the hell . . . / . . . who cares
Degree 2	self-centered(ly) / without thought or concern for others
Degree 3	at the very least / at the least level of concern required
Degree 4	without concern / indifferent(ly) / without consideration / unconcerned(ly) / thoughtless(ly)
Degree 5	reluctant(ly)
Degree 6	at best / with the most concern one can muster
Degree 7	concerned(ly) / with concern / with consideration for others
Degree 8	very concerned(ly) / highly concerned(ly) / with great concern or consideration for others
Degree 9	overly concerned(ly) / worrisome(ly) / with too much concern or consideration for others / altruistically

-lk / -kl	SPH Degree of Sophistication
Degree 1	too crude(ly) / too primitive(ly)
Degree 2	very crude(ly) / very primitive(ly)
Degree 3	crude(ly) / primitive(ly)
Degree 4	somewhat crude(ly) / somewhat primitive(ly)
Degree 5	with expected/normal degree or level of sophistication
Degree 6	somewhat sophisticated or refined
Degree 7	sophisticated or refined
Degree 8	very sophisticated or refined
Degree 9	too sophisticated or refined

-ct	CVT Degree of Covertness versus Overtess
Degree 1	too secretive(ly) / overly covert(ly)

Degree 2	very secretive(ly) / highly covert(ly) / hidden / well behind the scenes
Degree 3	secretive(ly) / covert(ly) / behind the scenes / between the lines / under the table / "back-room"
Degree 4	somewhat secretive(ly) / somewhat covert(ly)
Degree 5	not too secretive(ly) / not so open(ly)
Degree 6	somewhat open(ly) / somewhat "up front"
Degree 7	open(ly) / overt(ly) / "up front" / out in the open / honest / forthcoming(ly)
Degree 8	very open(ly) / very overt(ly) / very "up front" / flaunting(ly) / brutally honest
Degree 9	too open(ly) / too overt(ly) / overly flaunting(ly) / vulgar(ly)

-rt / -tr	EFT	Degree of Effort
Degree 1		too difficult / overly difficult
Degree 2		very difficult / so difficult
Degree 3		strained / difficult; strain to / with difficulty / struggle to / to work at X-ing / to X hard
Degree 4		somewhat difficult / not that easy
Degree 5		neither easy nor difficult
Degree 6		somewhat easy; not so difficult
Degree 7		easy / certain / unhindered / with ease / without resistance / effortlessly
Degree 8		very easy / so easy
Degree 9		too easy / overly easy

-ňž	DSG	Degree of Design or Purposefulness
Degree 1		purposeless(ly) / random(ly) / utterly unorganized / chaotic(ally)
Degree 2		haphazard(ly) / without plan or guidance/ disorganized(ly) / poorly planned
Degree 3		fairly haphazard(ly) / not well-planned / not well-organized
Degree 4		somewhat haphazard(ly) / somewhat disorganized
Degree 5		slightly disorganized / less than well-planned
Degree 6		somewhat organized / somewhat well-planned
Degree 7		organized(ly) / purposeful(ly) / well-planned
Degree 8		very organized / very structured
Degree 9		too organized / overly structured / "anal(ly)"

-sq	DCS	Degree of Decisiveness, Commitment or Emphasis
Degree 1		indecisive / meandering; indecisively / first one way then another
Degree 2		wishy washy / flaky
Degree 3		some sort of / some kind of / sort of (like) / "kind of"; in a way / halfway / does and doesn't
Degree 4		apparent(ly); seeming(ly)
Degree 5		mere(ly) / only (a); merely / only
Degree 6		deliberate / decisive; deliberately / decisively / purposefully
Degree 7		a real / certainly a ; really / certainly [emphasis, not genuineness or veracity]
Degree 8		the (one); in the only way that counts
Degree 9		what (a) ...!; how . . . !; Boy! Did (does) X ever ...

-št	CTN	Degree of Contrariness to Expectation(s) or Shift in Subject
Degree 1		but X would... / if things were otherwise XWOULD... / on the contrary, XWOULD [affirmation of hypothetical contrary to statement/suggestion otherwise]
Degree 2		but / XDOES/IS . . . / on the contrary ... [affirmation of fact contrary to suggestion or statement otherwise]
Degree 3		like it or not... / well, as much as we didn't want to think it would happen...
Degree 4		against expectation or belief '... after all' 'well, what do you know...X!'
Degree 5		a genuine / real / true ; really do, [contrary to expectation]

Degree 6	as a matter of fact
Degree 7	'at least/at any rate'
Degree 8	'by the way/ just to mention'
Degree 9	not to change the subject but.../ sorry to change the subject, but.../ I don't mean to change the subject, but ...

-čk	PHY	Degree of Physical Control
Degree 1		uncontrolled/helpless(ly) ; without control/ out of control
Degree 2		almost completely out of control / almost totally helpless
Degree 3		losing control / losing the ability to...
Degree 4		insufficiently trained in...
Degree 5		amateur(ishly) / superficially able to...
Degree 6		learn(ing) to... / begin(ning) to be able to...
Degree 7		w/ growing proficiency or expertise (in)
Degree 8		proficient(ly)
Degree 9		in full control / expert(ly)

7.4.11 Modality Suffixes

Many of these correspond to the modality suffixes used in valence/modality adjuncts (see [Chapter 6](#)). The nine degrees associated with each suffix allow a speaker control over the extent to which the modality category should apply to the utterance. These suffix forms function, then, as an alternative to adjunct forms for greater nuance in the applicability of the modality category and to apply them to nouns. The nine degrees of each suffix are as follows:

Degree 1	not at all
Degree 2	to too little a degree; to an insufficient degree
Degree 3	hardly at all
Degree 4	to a small degree
Degree 5	to a fair degree/somewhat
Degree 6	fairly much/more so than not
Degree 7	very much so / decidedly so / to a great degree
Degree 8	too much so / to too great a degree
Degree 9	to the exclusion of all else / without consideration for anything else

The specific modality suffixes are as follows:

-řb	MD01	resigned to
-řd	MD02	devoted; committed to / devoted to
-řc	MD03	desired / sought-after; want to
-řt	MD04	attempted, attempt at a ...; try to, attempt to
-řč	MD05	capable, able; can / able to / capable of
-řc	MD06	knowledgeable; can = know how to / familiar with
-řf	MD07	mandatory; must / have to
-řxh	MD08	required; should / be to
-řk	MD09	expected; be supposed to
-nd	MD10	intended; mean to / intend to / shall
-řg	MD11	chosen, selected; choose to / elect to
-řq	MD12	...on impulse; feel like X-ing
-řz	MD13	promised; promise to
-řj	MD14	well-liked; like (to)
-řtl	MD15	feared; fear (to)
-řs	MD16	willing; willing to

-řš	MD17	prepared / ready; prepared to/ready to
-rv	MD18	necessary / needed; need to
-řň	MD19	Daring; dare to
-řdh	MD20	decided-upon; decide to
-řz	MD21	offered/offer of; offer to
-řž	MD22	aided / assisted; help to / aid in X-ing
-řn	MD23	not unexpected; be prone to / be apt to / tend to
-rm	MD24	agreed-upon; agree to
-řl	MD25	responsible for/in charge of
-řp	MD26	remember to
-md	MD27	feel a need to / feel one should / feel one must / feel driven to
-qf	MD28	to guess or think [that]...
-tf	MD29	available; available to/for
-mv	MD30	potential; can = have potential to
-řt	MD31	permitted; can = permitted to
-řg	MD32	hoped-for; hope/wish to
-mf	MD33	X by inclination; be inclined to

7.4.12 Agential/Participant Suffixes

-n	AGC	Degree of Agency
Degree 1	[AGENT]	= one who forces/causes
Degree 2	[ENABLER]	= one who enables to happen
Degree 3	[INFLUENCE]	= one who persuades/influences
Degree 4	[ENABLER BY PERMISSION]	= one who permits/allows/lets happen
Degree 5	[PATIENT]	= one who does/is made to do
Degree 6	[EXPERIENCER]	= one who undergoes/experiences
Degree 7	[INSTRUMENT]	= instrument which causes
Degree 8	[STIMULUS]	= one whose status is as stimulus of affective experience
Degree 9	[SOURCE]	= that which gives rise to, provides underlying reason for, source of

This suffix and the following identify a formative as filling a specific semantic role corresponding in many cases to the semantic roles discussed in [Sections 4.1.1](#) and [4.1.2](#). In several instances, these suffixes would translate the English "agentive" suffixes -er, or -or.

-m	ROL	Role
Degree 1		that which contains or functions as the enclosure / container / house / shelter of or for
Degree 2		that which results from
Degree 3		[RECIPIENT] = one who receives / has / "-ee"
Degree 4		one who is / acts as / functions as
Degree 5		one who is characterized by / described by...
Degree 6		one who is similar to/functions or acts similarly to
Degree 7		one whose responsibility is / who is responsible for / runs the business of (operationally speaking)
Degree 8		one who constructs / makes / creates
Degree 9		one who manages / oversees / supervises / coordinates / runs the business of (managerially speaking)

-ps	UTE	Utilitative or Enabling Means
Degree 1		tool/device/apparatus specifically designed for X-ing
Degree 2		medium by/through which one Xs

Degree 3	conduit-like tool/apparatus for X-ing
Degree 4	natural/standard body part for X-ing
Degree 5	object employed circumstantially as implement for X-ing
Degree 6	covering/protective element employed to allow/permit X-ing
Degree 7	enabling element/device/apparatus to allow/foster X-ing
Degree 8	environment/situation/circumstances/setting which allows/fosters X-ing
Degree 9	FORCE which causes/permits X-ing

-ž	CNS	Degree of Consent
Degree 1		deliberately without consent of knowledge
Degree 2		without consent or knowledge as a precaution or "for their own good"
Degree 3		without consent or knowledge due to circumstances
Degree 4		with their knowledge but w/o consent; against their will
Degree 5		consent obtained under pressure, threat, coercion
Degree 6		w/ reluctant consent
Degree 7		willingly; with full consent
Degree 8		with enthusiastic approval and support
Degree 9		at their request

-t	MEC	Type of Mechanical Instrumentality = 'by means of'
Degree 1		the body's natural method of doing so (e.g., on foot, by hand, etc.)
Degree 2		a manually manipulated generic tool or implement
Degree 3		a specialized tool for that specific purpose or activity
Degree 4		a machine or via mechanical means or process
Degree 5		a virtual, electronic means or via engineering
Degree 6		mental power, force of will, concentration
Degree 7		a redirection or collation of energy specially applied
Degree 8		a collective pooling of manual labor resources
Degree 9		a collective pooling of electronic/mechanical/engineering resources

-rx / -xr	BOD	Bodily Instrumentality = 'by means of'
Degree 1		a hand
Degree 2		an arm
Degree 3		a foot
Degree 4		a leg
Degree 5		one's eyes
Degree 6		both legs
Degree 7		both feet
Degree 8		both arms
Degree 9		both hands

-mp	DBI	Additional Bodily Instrumentality = 'by means of'
Degree 1		a finger
Degree 2		a thumb
Degree 3		a knee
Degree 4		one's head

Degree 5	one's teeth
Degree 6	one's lips
Degree 7	one's tongue
Degree 8	one's elbow
Degree 9	one's fingers

-Id / -dl	SOC Type of Social Instrumentality = 'by means of'
Degree 1	via lackeys, grunt labor, go-fors or henchmen
Degree 2	by coercion, threat, blackmail
Degree 3	"fronts", or disguised go-betweens
Degree 4	indirectly through actions of others (unbeknownst to them)
Degree 5	indirectly through actions of others (with their knowledge)
Degree 6	by leveraging existing resources / personnel (deploying existing methods in a new application)
Degree 7	via a proxy or proxies
Degree 8	hired help or staff
Degree 9	by delegation of task to experts

-ňq	OAU Origin/Association/Utilization
Degree 1	entity/thing/phenomenon that hails from X
Degree 2	entity/thing/phenomenon associated with X
Degree 3	entity/thing/phenomenon that utilizes X
Degree 4	person that hails from X
Degree 5	person associated with X
Degree 6	person that utilizes X
Degree 7	idea/practice/custom that hails from X
Degree 8	idea/practice/custom associated with X
Degree 9	idea/practice/custom that utilizes X

-ndh	AUT Authorization
Degree 1	by being granted a personal privilege / via the generosity or largess of another or others
Degree 2	by inalienable human right / by natural right
Degree 3	by right of a legal claim / by right of statute or law
Degree 4	by right of custom or social convention / by right of general agreement or common knowledge
Degree 5	by granting of a personal favor or claim on a favor owed
Degree 6	by making of a threat or via a quid-pro-quo agreement
Degree 7	by one's own formal authority, rank, or formal position
Degree 8	by authority of one's social position, class, or position in informal or subjective hierarchy
Degree 9	as authorized by a governing entity or formal collective authority

-šš	RSN Reason for an Emotional State or Motivation for an Action
Degree 1	for evil or perverse reasons
Degree 2	for foolish or naïve reason
Degree 3	due to deception by another
Degree 4	due to faulty information provided by another [no deception intended]
Degree 5	due to or based on faulty perception or misinterpretation of information or evidence

Degree 6	despite negative circumstances or reasons not to
Degree 7	for no reason
Degree 8	for appropriate reasons / for good reason
Degree 9	for virtuous, healthy reasons

-ps	MTA	Additional Motivation for an Action or State
Degree 1		in anger
Degree 2		in repugnance/revulsion
Degree 3		in irritation
Degree 4		in defense/for protection
Degree 5		in fear
Degree 6		out of curiosity/to see what happens
Degree 7		to provoke/elicit reaction
Degree 8		to entice
Degree 9		to show appreciation

-nt	XPT	Expectation of Outcome
Degree 1		shockingly unexpected; without precedent or rumour
Degree 2		surprise X/ unexpected X; completely by surprise/ completely unexpected(ly)
Degree 3		manage to X despite inadequacy of preparation or effort
Degree 4		manage to X despite misguided or misdirected preparation or effort
Degree 5		managed to X despite hindrance(s) or obstacles; hard-won
Degree 6		manage to X due to hindrances or obstacles being overestimated; easier than thought to be
Degree 7		manage to X due to excellent preparation / planning / execution
Degree 8		completely as expected / totally as anticipated / as predicted
Degree 9		pat; outcome pre-ordained or predetermined

-sp	DLB	Degree of Deliberateness/Agency
Degree 1		accidental(ly) / inadvertent(ly) and unaware of consequences
Degree 2		unintended / unintentional(ly) / without meaning to and unaware of consequences
Degree 3		accidental(ly) / inadvertent(ly) but now aware of consequences
Degree 4		unintended / unintentional(ly) / without meaning to but now aware of consequences
Degree 5		unforeseeable / unpredictable; unforeseeably / unpredictably
Degree 6		without realizing or considering potential consequences
Degree 7		thinking one can get away without reaping consequences / furtive(ly)
Degree 8		realizing potential risks or consequences / cognizant of potential risks or consequences
Degree 9		intentional(ly) / deliberate(ly) / on purpose / by choice; choose to

-mz / -zm	MOT	Degree of Self-Conscious Deliberation or Motivation
Degree 1		affected, ostentatious; affectedly/ostentatiously
Degree 2		self-conscious(ly)
Degree 3		guilty / guiltily
Degree 4		half-hearted(ly)
Degree 5		against better judgement / can't help but / can't help it
Degree 6		ingrained, by upbringing
Degree 7		learned / habitual; by habit / trained to
Degree 8		natural(ly) / un-self-conscious(ly)
Degree 9		autonomic / unaware, automatic

-ls / -sl	ENB	Degree of Enablement
Degree 1		by inadvertent gesture/word/sign taken as order or permission

Degree 2	by granting of permission
Degree 3	by cajoling or persuasion
Degree 4	by direct request or imploring
Degree 5	by direct order based on one's real or perceived authority
Degree 6	by inadvertent removal of hindrance
Degree 7	by inadvertent action that initiates a chain of events
Degree 8	by deliberate removal of hindrance
Degree 9	by deliberate action that initiates a chain of events

-ms / -sm	AGN	Degree of Agency, Intent or Effectiveness
Degree 1		with the anticipated max. resulting effect possible
Degree 2		with the anticipated resulting effect to a high degree
Degree 3		with the anticipated resulting effect to a moderate degree
Degree 4		with the anticipated resulting effect but only to a marginal, superficial or barely noticeable degree
Degree 5		with no noticeable effect or resulting change
Degree 6		with only marginal, superficial, or barely noticeable effect or resulting change unanticipated
Degree 7		with moderate effect or resulting change — unanticipated
Degree 8		with the resulting effect to a high degree — unanticipated
Degree 9		with the max. resulting effect possible — unanticipated

-rz / -zr	IMP	Degree of Impact on Patient/Target or Enablement of Outcome
Degree 1		target can do nothing - utterly inevitable
Degree 2		target chooses to do nothing - resigned to fate
Degree 3		target tries to prevent/avoid but fails
Degree 4		target tries to prevent/avoid and does so partially or mitigates impact somewhat
Degree 5		target tries to prevent/avoid and succeeds
Degree 6		target helps/enables outcome inadvertently
Degree 7		target helps/enables outcome against own interest (i.e., without thinking)
Degree 8		target helps/enables outcome intentionally despite negative consequences
Degree 9		target helps/enables outcome intentionally for own benefit

7.4.13 Miscellaneous Suffixes

-t'	TPF	Topic, Frame and Focus
Degree 1		[sentence topic]
Degree 2		[end of frame]
Degree 3		[head of relative clause]
Degree 4		[sentence topic + head of relative clause]
Degree 5		[end of frame + head of relative clause]
Degree 6		[sentence topic + end of frame]
Degree 7		[sentence focus + end of frame + head of rel. clause]
Degree 8		[sentence focus]
Degree 9		[sentence focus + end of frame]

The various functions of the above suffix are explained in [Sec. 5.4](#) on Frames, and [Sec. 9.1](#) on Topic and Focus.

-rm / -mr	SWR	Switch Reference & Obviative Specification (For an explanation and illustration of this suffix, see Sec. 8.1.4 and Sec. 8.1.1.7)
Degree 1		nearest preceding referent
Degree 2		2nd to nearest preceding referent
Degree 3		3rd party not previously mentioned
Degree 4		referring to sentence focus
Degree 5		first referent mentioned

Degree 6	referring to sentence topic
Degree 7	3rd party non-transrelative referent
Degree 8	2nd order transrelative referent
Degree 9	higher order transrelative referent

-s	PLA Place, State, Setting Where...
Degree 1	place where one learns to
Degree 2	place where one does, performs, carries out X
Degree 3	place where one obtains
Degree 4	place where one stores or inventories
Degree 5	place where one keeps or shelters
Degree 6	place where one sees or views
Degree 7	natural habitat or environment of
Degree 8	place where one deals with/ treats/ confronts
Degree 9	place where one feels affected by

-mm	APT Aspects
Degree 1	yet, still
Degree 2	'even' as in "I don't even like them" = in the least bit, to the slightest extent
Degree 3	Contemplative: upon reflection/ in hindsight
Degree 4	upon deep introspection / following careful consideration or meditation on the matter
Degree 5	on first blush / at first / upon initial impression / [my] first thought is/was...
Degree 6	natural(ly) / obvious(ly) / clear(ly) [in terms of naturalness, not blatancy]
Degree 7	Experiential: ever
Degree 8	Regressive: return to previous state
Degree 9	Protractive: over a long period of time / long-delayed

-ňš	TEM Alternative Temporal Aspects
Degree 1	Inceptive: begin to / start to
Degree 2	Resumptive: begin again / start again / resume
Degree 3	Continutive: keep on / still / continue / stay / yet
Degree 4	Incessative: to Xaway / not stop
Degree 5	tire of X-ing / get tired of X-ing / become weary of X-ing
Degree 6	Cessative: stop / discontinue / cease
Degree 7	Pausal: take a break from [stop with intention to re-sume]
Degree 8	Recessative: stop again
Degree 9	Terminative: finish / complete

-rs / -sr	PTF Part/Whole Functional Metaphors
Degree 1	engine / motor / heart / pump / core / driver mechanism
Degree 2	brain / computer / chip / instruction set
Degree 3	input / feeder / access point
Degree 4	exit point / anus / exhaust / tailpipe / smokestack / vent
Degree 5	wing/ arm / branch / extensor / manipulator
Degree 6	support / leg / stand / base
Degree 7	skeleton / frame
Degree 8	wiring / conduits / plumbing
Degree 9	sensor / eye / ear / antennae

-š	PTG Part/Whole Gestalt Componential Metaphors
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Degree 1	"base"portion (e.g., upper arm)
Degree 2	"extension" portion (e.g., forearm) or "flange"
Degree 3	"trunk" or central bulk portion
Degree 4	middle or divisional segment or joint
Degree 5	top/upper component relative to gravity or natural vector of movement
Degree 6	bottom/lower component relative to gravity or natural vector of movement
Degree 7	side/flank/ lateral component
Degree 8	"head" extension or main interface area
Degree 9	extension/"arm"

-qt	MET	Metonymic Categories
Degree 1	part for whole	
Degree 2	producer for product	
Degree 3	object used or owned for user/owner	
Degree 4	controller for controlled	
Degree 5	institution for people responsible	
Degree 6	place for inhabitants/occupants	
Degree 7	place for event	
Degree 8	place for institution	
Degree 9	attribute or characteristic for owner	

Metonymy is the reference to an entity via one of its attributes, associations or activities, as in *The ham-and-cheese wants fries with his order* or *The White House has its nose in our business*.

-k	SSD	Stem-Specific Derivatives
Degree 1	derivative 1	
Degree 2	derivative 2	
Degree 3	derivative 3	
Degree 4	derivative 4	
Degree 5	derivative 5	
Degree 6	derivative 6	
Degree 7	derivative 7	
Degree 8	derivative 8	
Degree 9	derivative 9	

This suffix is used to distinguish particular instantiations of a more generic entity; their meaning is semantically specific to the particular stem.

-k'	SBS	Subset of Configurative Set
Degree 1	single specific member (random, i.e., any given member)	
Degree 2	natural first level subset, e.g., <i>a cell among a network, a clique within a club, a row of an orchard</i>	
Degree 3	natural 2nd level subset, e.g., <i>a section of a network, a subcommittee within a club, a section of an orchard</i>	
Degree 4	complex natural system or pattern within a set (e.g., <i>the circulatory system, the heating system</i>)	
Degree 5	subset of set (unknown if natural or select subconfiguration)	
Degree 6	complex/circumstantial select pattern/arrangement within a set (e.g., <i>the parts/things of a house damaged by fire</i>)	
Degree 7	2nd level subset (externally determined), e.g., <i>select section of trees of an orchard</i>	
Degree 8	first level subset (externally determined), e.g., <i>select rocks from a pile, select trees of an orchard</i>	
Degree 9	single select member (externally determined)	

-rq	SPS	Supersets/Multi-Level Gestalts (e.g., musical note --> melody --> movement of musical piece --> symphony/suite, etc.)
Degree 1	3rd-level superset/gestalt based on number nodes	

Degree 2	3rd-level superset/gestalt based on new layer of infrastructure
Degree 3	3rd-level superset/gestalt based on complexity leading to the appearance/manifestation of emergent properties
Degree 4	2nd-level superset/gestalt based on number nodes
Degree 5	2nd-level superset/gestalt based on new layer of infrastructure
Degree 6	2nd-level superset/gestalt based on complexity leading to the appearance/manifestation of emergent properties
Degree 7	4th-level superset/gestalt based on number nodes
Degree 8	4th-level superset/gestalt based on new layer of infrastructure
Degree 9	4th-level superset/gestalt based on complexity leading to the appearance/manifestation of emergent properties

-p'	ATN	Degree of Attention or Determination
Degree 1		concentrate fully upon; pay utmost attention to
Degree 2		concentrate to point of distraction, to be 'lost' in X-ing
Degree 3		pay strict attention to
Degree 4		determined to
Degree 5		pay attention to; attend to; be careful that you...; heed
Degree 6		keep an eye on
Degree 7		take some notice of
Degree 8		barely notice; take little notice of
Degree 9		ignore completely

-šk	DPR	Dispersion or Separability of a Configurative Set
Degree 1		in total contact / contiguous mass of; pile, "ball of..."
Degree 2		non-contiguous but closely connected, interlinked, each linked to adjacent via connecting medium (like web); cluster
Degree 3		connected via intervening central medium (like a vine or branches); bunch
Degree 4		not physically connected but with immediate accessibility and knowledge of other member actions
Degree 5		scattered - contact with nearest member possible but less possible with others
Degree 6		"virtual" association only
Degree 7		temporal (iterative) set – iteration at long intervals
Degree 8		temporal (iterative) set – iteration at frequent intervals
Degree 9		temporal (iterative) set – iteration at very short, immediate intervals / one after another

-mb	SEP	Spatio-Temporal Separability of a Configurative Set
Degree 1		Logical connectedness only (spatial)
Degree 2		Loosely integrated spatially – one positioned far away from another
Degree 3		Loosely integrated spatially – one positioned a little ways away from another
Degree 4		Well-integrated spatially – one positioned right next to or behind another
Degree 5		Both spatially and temporally well-integrated (one right after another)
Degree 6		Well-integrated temporally – one right after the other
Degree 7		Loosely integrated temporally – one a little while after the other
Degree 8		Loosely integrated temporally – one a long while after the other
Degree 9		Logical connectedness only (temporal)

-ňk	SDP	Subset of Duplex Set
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Degree 1	first, top, front, lefthand or lead "half" of duplex set or pair (e.g., upper lip, inhale/inhalation, left hand)
Degree 2	beginning or leading "edge" of the first, top, front, lefthand or lead "half" of a duplex event or object
Degree 3	middle section of the first, top, front, lefthand or lead "half" of a duplex event or object
Degree 4	ending or trailing "edge" of the first, top, front, lefthand or lead "half" of a duplex event or object
Degree 5	midpoint, peak, or lull between the 2 halves of a duplex set or pair
Degree 6	beginning or leading "edge" of 2nd, bottom, back, righthand or trailing "half" of a duplex event or object
Degree 7	middle section of 2nd, bottom, back, righthand or trailing "half" of a duplex event or object
Degree 8	ending or trailing "edge" of 2nd, bottom, back, righthand or trailing "half" of a duplex event or object
Degree 9	2nd, bottom, back, righthand or trailing "half" of duplex set or pair (e.g., lower lip, exhale/exhalation, right hand)

-xt	NEW	Degree of Newness/Revision
Degree 1	new = original + new, i.e., never before seen	
Degree 2	new = never before seen within current context, e.g., a new student	
Degree 3	new = role, i.e., never functioning/existing in this capacity/manner before	
Degree 4	new/other = replacement + new	
Degree 5	new/other = additional instance + new	
Degree 6	new/other = revision + additional	
Degree 7	new/other = revision + replacement	
Degree 8	new/other/different = different, not seen/used before within current context; status as addition/replacement unknown or inapplicable	
Degree 9	new/other/different = different + new; status as addition/replacement unknown or inapplicable	

-ks	COS	Comparison Specifications (Used with Levels) - see Section 6.2 and Section 6.2.5
Degree 1	"more"/"less" = extent/amount/volume	
Degree 2	"harder"/"weaker" = degree of intensity or effort	
Degree 3	"longer"/"shorter" = duration; time spent being/doing	
Degree 4	"better"/"worse" = quality / style	
Degree 5	"more efficiently"/"less efficiently" = efficiency / effort relative to outcome	
Degree 6	"greater"/"poorer" = relevant outcome / bottom-line result	
Degree 7	combo of 4, 5, and 6	
Degree 8	combo of 1, 2, and 3	
Degree 9	combo of 1 through 6	

-In / -nl	WAK	Spread/wake/trail/area/expanse created by passage of entity
Degree 1	quasi-linear "trail" or wake left behind on path of linear movement; trail or wake is not composed of the moving entity itself but shows effect of its passage (e.g., slime trail left by snail, footprints left on snow, mowed down foliage left by moving convoy, etc.)	
Degree 2	quasi-linear spread of entity stretching behind linearly moving "head" (e.g., a line of soldiers put in place to create a front, a line left on a piece of paper as written by an ink pen, path of a ball of string or skein of yarn as it unravels while rolling down an incline)	
Degree 3	quasi-linear trail/wake/spread left behind passage as line of demarcation/boundary/barrier	
Degree 4	2-d quasi-planar wake left behind on path of movement; wake is not composed of the moving entity itself but shows effect of its passage (e.g., aftermath of a forest fire, cleaned area of dirty floor or wall after it has been wiped by a mop or dustcloth)	
Degree 5	2-d quasi-planar spread stretching behind moving front (e.g., area of spreading flames in a forest fire, area being inundated by a flood, area of a wall being covered up by plaster by workmen, coating of an apple dipped in chocolate, area of floor covered up by a rug)	
Degree 6	2-d quasi-planar wake/spread left behind passage as area of demarcation/zone/restricted area	

Degree 7	3-d volume left behind a moving front; volume is not composed of or inundated with the moving entity itself but shows effect of its passage (e.g., area left behind the passage of a tidal wave, column of superheated air left behind the passage of a rocket)
Degree 8	3-d volume inundated by spread of moving front (e.g., spread of a gas within a room, area inundated by fog, volume of a container taken up by substance placed/poured/stuffed into it)
Degree 9	3-d volume left behind passage of moving front as volume/spatial area of demarcation/zone/restricted space

The above affix distinguishes movement of an entity from the “trail” or spread left behind, e.g., movement which leaves behind a wake or affected area; used with motion roots as well as roots designating shapes/forms. Use of the above suffixes in conjunction with the various roots pertaining to paths of translative movement allows for very nuanced translations of English words such as *surround*, *cover*, *inundate*, *enclose*, *expand*, *spread out*, *encompass*, etc.

-šp	SCT	Degree of Shift/Change/Transition (used for both spatial and temporal contexts)
Degree 1		sharp break, sudden shift from one state/form/shape/set of circumstances to another with no discernible transition period/zone (i.e., point-like/instantaneous transition)
Degree 2		disjointed/non-contiguous/non-continuous break/shift from one state/form/shape/set of circumstances to another
Degree 3		extremely brief/small/barely discernible transition period or zone from one state/form/shape/set of circumstances to another
Degree 4		somewhat brief/small/descernible transition period or zone from one state/form/shape/set of circumstances to another
Degree 5		normal/standard/expected transition period or zone from one state/form/shape/set of circumstances to another
Degree 6		somewhat variable/changing/fluctuating transition period/zone from one state/form/shape/set of circumstances to another
Degree 7		highly variable/chaotic transition period/zone from one state/form/shape/set of circumstances to another
Degree 8		smooth, gradual transition period/zone from one state/form/shape/set of circumstances to another
Degree 9		very gradual/almost imperceptible rate/degree of change/transition from one state/form/shape/set of circumstances to another

-lm / -ml	NNN	n-numbered angles/facets/faces/sides/points/forms
Degree 1		uneven /assymmetrical n-sided 2-D obtusely angled form (e.g., quadrilateral, pentagonoid, hexagonoid)
Degree 2		uneven/assymetrical n-pointed 2-D acutely angled “star” formation
Degree 3		uneven/assymetrical n-faceted 3-D solid
Degree 4		uneven/assymetrical n-faced 3-D solid (e.g., n-hedron-like solid)
Degree 5		having n number of 3-D projections/spikes/pointed surfaces
Degree 6		symmetrical n-faced 3-D solid (e.g., tetrahedron, dodecahedron)
Degree 7		symmetrical n-faceted 3-D solid
Degree 8		symmetrical n-pointed 2-D acutely angled “star” formation (can be used with numbers as low as 2, which would refer to an elongated diamond shape)
Degree 9		symmetrical n-sided 2-D form (e.g., square, pentagon, hexagon)

The above affix is used with the number stems (see Chapter 12) to provide words for forms, shapes, and solids bearing a distinct number of angles, points, sides, facets, etc.

-ml	LVL	Alternate forms of Comparison Operators (Levels) (see Section 6.2.3) - V1C forms correspond to relative comparison, V2C forms to absolute comparison.
Degree 1	EQU	EQUATIVE
Degree 2	SUR	SURPASSIVE
Degree 3	DFC	DEFICIENT
Degree 4	OPT	OPTIMAL
Degree 5	MIN	MINIMAL
Degree 6	SPL	SUPERLATIVE
Degree 7	IFR	INFERIOR
Degree 8	SPQ	SUPEREQUATIVE
Degree 9	SBE	SUBEQUATIVE

-I_t	FNS	Material States/Forms (non-solid / quasi-solid)
Degree 1	X as liquid	
Degree 2	X as goo or slime-like substance	
Degree 3	X as powder or dust-like substance	
Degree 4	X as gravel or sand-like substance	
Degree 5	X as gas	
Degree 6	X as wax(y) or clay-like substance	
Degree 7	X as rubber(y) or elastic substance	
Degree 8	X as flexible substance like cotton or cloth	
Degree 9	X as flaky substance or shavings	

-I_f	FMS	Material States/Forms (solids)
Degree 1	X as frozen	
Degree 2	X as carvable substance (like wood or soap)	
Degree 3	X as chalk-like, friable substance	
Degree 4	X as rock or cement-like substance	
Degree 5	X as solid	
Degree 6	X in natural chunks or randomly-shaped solid pieces	
Degree 7	X as block-like or formed pieces	
Degree 8	X as hardened/durable substance	
Degree 9	X as metal(lic)	

-I_v	TRF	Transformation for Use
Degree 1		Cured (transformed by natural chemical process)
Degree 2		Treated
Degree 3		Processed (transformed by artificial/man-made process)
Degree 4		Transformed via exposure to or saturation w/ other substance(s)
Degree 5		Cooked
Degree 6		Soaked/saturated/marinated with liquid(s)
Degree 7		Derived (chemically or processually) from something else
Degree 8		Fermented
Degree 9		Pickled/Brined

-I_b	CVY	Means of Transportation/Conveyance
Degree 1		holder / stabilizer for (transporting/holding) X
Degree 2		mystical/magical/supernatural means for (transporting/holding) X
Degree 3		automatic or separately controlled vehicle/vessel used for (transporting/holding) X
Degree 4		automated/electronic means for (transporting/holding) X
Degree 5		manually operated vessel/vehicle used for (transporting/holding) X
Degree 6		jury-rigged means for (transporting/holding) X

Degree 7	method/practice used for (transporting/holding) X
Degree 8	device used for (transporting/holding) X
Degree 9	rule/regulation/by-law for (transporting/holding) X

-ls	FEA Featural Properties
Degree 1	functional manifestation/portion/piece of X
Degree 2	container(ful) of X
Degree 3	a sample of X
Degree 4	a display(ing) of X
Degree 5	an instance of X
Degree 6	an aspect/characteristic/trait of X
Degree 7	a feature/function of X
Degree 8	a highlight / key feature of X
Degree 9	an example of X

-n 	STG Stage of a Process
Degree 1	onset/initiation/birth of X
Degree 2	development/build-up of X
Degree 3	point of no return/imminent transition of X
Degree 4	plateau stage, rest or pause before next stage of X
Degree 5	(at) peak / in prime / mature stage
Degree 6	abrupt or premature termination of X
Degree 7	gradual decline of X
Degree 8	end stage / final state / terminal or last stage
Degree 9	cessation / finished / over / dead

-lc	CGL Motive/Reason for Conglomeration/Coming Together of Gestalt Entity
Degree 1	by voluntary/volitional association
Degree 2	by appointment to the task
Degree 3	by custom/societal convention/expectation
Degree 4	by random chance
Degree 5	by being forced to
Degree 6	by being pressured
Degree 7	by reluctant volunteering
Degree 8	for pragmatic/utilitarian reasons
Degree 9	by eager/enthusiastic volunteering

-lq	INB Inability/Incapacity Due To . . .
Degree 1	inability/incapacity to [perform/achieve/realize] X due to absence/loss of resource(s)
Degree 2	inability/incapacity to [perform/achieve/realize] X due to absence/loss of physical means
Degree 3	inability/incapacity to [perform/achieve/realize] X due to absence/loss of skill/knowledge
Degree 4	inability/incapacity to [perform/achieve/realize] X due to blockage/prevention of access to resource(s)
Degree 5	inability/incapacity to [perform/achieve/realize] X due to blockage/prevention of access to

Degree 0	physical means
Degree 6	inability/incapacity to [perform/achieve/realize] X due to blockage/prevention of access to skill/knowledge
Degree 7	inability/incapacity to [perform/achieve/realize] X due to psychological trauma
Degree 8	inability/incapacity to [perform/achieve/realize] X due to physical trauma
Degree 9	inability/incapacity to [perform/achieve/realize] X due to loss/absence of desire

-ff	PLE	Degree of (Un-)Pleasantness (of Effect or Result)
Degree 1		maximally unpleasant, horrible, ghastly, terrible
Degree 2		very unpleasant, awful
Degree 3		unpleasant, mildly awful
Degree 4		somewhat unpleasant, disagreeable
Degree 5		neutral, neither pleasant nor unpleasant, bland
Degree 6		somewhat pleasant, agreeable
Degree 7		pleasant, a nice experience
Degree 8		very pleasant, pleasureable
Degree 9		maximally pleasant, very pleasureable, exstacy

-rc	ACQ	Acquisition
Degree 1		acquired by chance/whim/having stumbled upon
Degree 2		acquired by mental effort/learning/study/creation
Degree 3		acquired by informal, spur-of-the-moment search
Degree 4		acquired by trickery/subterfuge
Degree 5		innate/inherent
Degree 6		acquired by formal search
Degree 7		acquired by informal agreement/negotiation
Degree 8		acquired by formally negotiated trade or deal
Degree 9		acquired by purchase

-rf	TAL	Degree of Capacity or Talent for...
Degree 1		no capacity/talent for X(-ing)
Degree 2		almost no capacity/talent for X(-ing)
Degree 3		poor/little capacity/talent for X(-ing)
Degree 4		capacity/talent for X(-ing)
Degree 5		capacity/talent for X(-ing)
Degree 6		above average/good capacity/talent for X(-ing)
Degree 7		very good capacity/talent for X(-ing)
Degree 8		excellent capacity/talent for X(-ing)
Degree 9		outstanding capacity/talent for X(-ing)

-rt	RNC	Renunciation
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Degree 1	give up X-ing / give up on X
Degree 2	lose faith/belief in X(-ing)
Degree 3	stop trying to X
Degree 4	undermine (efforts to) X
Degree 5	refuse to X
Degree 6	lose sense of resolve/commitment to X
Degree 7	no longer have passion for X / lose passion for X
Degree 8	lose ability to do/be/make X
Degree 9	lack means/ability to X

-mx	DPT	Depiction/Representation/Record
Degree 1		symbol/emblem/logo representing/standing for X
Degree 2		allegorical reference to X
Degree 3		stand-in/substitute for X
Degree 4		symptom/consequence of X
Degree 5		representation/depiction/illustration of X
Degree 6		trace/clue/vestige of X
Degree 7		record of X
Degree 8		pointer to/indicator of X
Degree 9		map/blueprint/schematic diagram of X

-ic	ENG	Degree of Engagement/Involvement
Degree 1		avoiding X(-ing) at all costs; run away from X(-ing)
Degree 2		averse to X(-ing); fear X(-ing)
Degree 3		shirk involvement in X(-ing); not be/get involved in
Degree 4		to X for appearance' sake only; to X solely for show
Degree 5		lackluster interest/involvement in X(-ing)
Degree 6		marginal interest/involvement in X(-ing)
Degree 7		limited/partial involvement in X(-ing)
Degree 8		fully involved/engrossed in X(-ing)
Degree 9		irreversibly involved/engrossed in X(-ing)

-lg	OPF	Degree of Operational Functionality
Degree 1		disintegrated, in pieces, shattered
Degree 2		irreparably damaged, ruined
Degree 3		badly damaged, non-operational, non-functional (with possibilty of being repaired)
Degree 4		damaged -- only partially functional (i.e., some parts/aspects are functional while others are not)
Degree 5		something wrong with X, not functioning properly, something not right with X
Degree 6		impaired -- functional but not performing to full extent of output or efficiency
Degree 7		in fair working order/condition
Degree 8		in good working order/condition
Degree 9		in optimum working order / in excellent condition

-rc	MLR	Meta-level representation/coordination/analysis
Degree 1		formal theory explaining/coordinating X
Degree 2		plan explaining/coordinating X
Degree 3		idea explaining/coordinating X
Degree 4		folk theory or accepted societal convention explaining/coordinating X
Degree 5		illustration/picture/graphic representation explaining/coordinating X
Degree 6		physical model explaining/coordinating X
Degree 7		mathematical model explaining/coordinating X
Degree 8		logical model explaining/coordinating X
Degree 9		metaphorical representation of X

-rp	HG1	Linguistic Hedges (1st group)
Degree 1		more or less
Degree 2		for all practical purposes / to all intents and purposes / practically / virtually/all but technically
Degree 3		sort of / kind of
Degree 4		strictly speaking
Degree 5		essentially / in essence / basically
Degree 6		might as well be
Degree 7		in one sense
Degree 8		in some sense
Degree 9		par excellence

-lp	HG2	Linguistic Hedges (2nd group)
Degree 1		in a sense / in a way
Degree 2		in a manner of speaking
Degree 3		more of a ___ than anything else
Degree 4		(what can be looked at (as) / (what) can be viewed as / (what) one thinks of (as) / one might say that
Degree 5		loosely speaking
Degree 6		so-called

Degree 7	in name only
Degree 8	so to say
Degree 9	for all I know / for all one knows

-rn	PHS	Alternative suffix forms for Phase categories (see Sec. 5.5)
Degree 1	Contextual	
Degree 2	Punctual	
Degree 3	Iterative	
Degree 4	Repetitive	
Degree 5	Intermittent	
Degree 6	Recurrent	
Degree 7	Frequentative	
Degree 8	Fragmentative	
Degree 9	Fluctuative	

7.4.14 Locational Suffixes

-rš / -šr	LCT	Locational Octant Markers for Object Being Located (see Section 10.3.3)
Degree 1	+X / +Y / +Z = "right / ahead / above" = Octant 1	
Degree 2	+X / +Y / -Z = "right / ahead / below" = Octant 2	
Degree 3	+X / -Y / +Z = "right / behind / above" = Octant 3	
Degree 4	+X / -Y / -Z = "right / behind / below" = Octant 4	
Degree 5	object at rest relative to other object	
Degree 6	-X / +Y / +Z = "left / ahead / above" = Octant 5	
Degree 7	-X / +Y / -Z = "left / ahead / below" = Octant 6	
Degree 8	-X / -Y / +Z = "left / behind / above" = Octant 7	
Degree 9	-X / -Y / -Z = "left / behind / below" = Octant 8	

-bz	PXM	Degree of Proximity
Degree 1	too close	
Degree 2	as close as possible without contact	
Degree 3	very close to	
Degree 4	close to	
Degree 5	somewhat close to	
Degree 6	not very close to / somewhat far from	
Degree 7	far from / distant from	
Degree 8	far away / very far from	
Degree 9	too far away	

-gz	CTC Degree of Contact
Degree 1	melded with / blended with / fused
Degree 2	inseparable(ly) / locked together / bonded
Degree 3	linked / attached / connected / joined
Degree 4	touching intimately / touching all over / flush with / in close contact with
Degree 5	deliberately touching at several spots or places or over a fair area
Degree 6	deliberately touching at one spot or place
Degree 7	casually or incidentally touching at several spots or places or over a fair area
Degree 8	casually or incidentally touching at one spot or place
Degree 9	barely touching / hardly touching at all / touching at one small spot

-rb	VWP From Viewpoint/Perspective of
Degree 1	from viewpoint/perspective of speaker
Degree 2	from viewpoint/perspective of 3rd party visible/hear to speaker
Degree 3	from viewpoint/perspective of the last-mentioned argument/referent
Degree 4	from viewpoint/perspective of a party other than one under discussion
Degree 5	from viewpoint/perspective of 3rd party under discussion
Degree 6	from viewpoint/perspective of an as-yet-undetermined 3rd party
Degree 7	from viewpoint/perspective of the first-mentioned argument/referent
Degree 8	from viewpoint/perspective of 3rd party visible/hear to listener
Degree 9	from viewpoint/perspective of listener

7.4.15 Format Expansion Suffixes

These VxC suffixes were first mentioned in [Section 6.4.3](#) and are used in conjunction with the Vf Format/Context suffix in Slot XII to accomplish the following:

- Specify the Configuration and Perspective of an incorporated stem (see [Sec. 6.4](#))
- Expand the category of Format (see [Sec. 6.4.1](#)) so that it is associated with the 72 primary noun cases (see [Chapter 4](#)), i.e., so that the semantically conflated relationship of the incorporated stem to the main stem of the formative can be specifically defined by a noun case. For example, the Format of an incorporated stem ‘cat’ can be marked as INDUCIVE case (see [Sec. 4.3.2](#)) in conjunction with the main stem ‘vocalize’ to give a word meaning ‘meow’.

Twelve consonant forms are used for these Slot XI suffixes, which combine with the three suffix-types to give the 36 forms necessary to specify the nine possible configurations and four possible perspectives of the incorporated stem. In turn, the nine suffix-degrees times eight vocalic **Vf** suffixes in Slot XII combine to identify which of the 72 primary noun cases constitutes the Format of the incorporated stem. All these forms are shown in the matrices below.

Perspective & Configuration of Incorporated Stem – Shown by VxC value

PER-SPECTIVE	CONFIGURATION								
	1 UNI	2 DPX	3 DCT	4 AGG	5 SEG	6 CPN	7 COH	8 CST	9 MLT
M	-V1tt	-V2tt	-V3tt	-V1st'	-V2st'	-V3st'	-V1št'	-V2št'	-V3št'
U	-V1pk	-V2pk	-V3pk	-V1sp'	-V2sp'	-V3sp'	-V1šp'	-V2šp'	-V3šp'
N	-V1qq	-V2qq	-V3qq	-V1sq'	-V2sq'	-V3sq'	-V1šq'	-V2šq'	-V3šq'
A	-V1tk	-V2tk	-V3tk	-V1sk'	-V2sk'	-V3sk'	-V1šk'	-V2šk'	-V3šk'

Expanded Format Corresponding to Case – Shown by VXC suffix degree x Vf suffix value

	degree			degree			degree			degree	
1 OBL	1	*	19 PAR	1	ISR	37 CMM	1	RSL	55 DFF	1	CCM
2 IND	2		20 CRS	2		38 COM	2		56 PER	2	
3 ABS	3		21 CPS	3		39 CNJ	3		57 PRO	3	
4 ERG	4		22 PRD	4		40 UTL	4		58 PCV	4	
5 EFF	5		23 MED	5		41 ABE	5		59 PCR	5	
6 AFF	6		24 APL	6		42 CVS	6		60 ELP	6	
7 DAT	7		25 PUR	7		43 COR	7		61 ALP	7	
8 INS	8		26 CSD	8		44 DEP	8		62 INP	8	
9 ACT	9		27 ESS	9		45 PVS	9		63 EPS	9	
10 DER	1	SCH	28 ASI	1	ATH	46 PTL	1	SBQ	64 PLM	1	OBJ
11 SIT	2		29 FUN	2		47 CON	2		65 LIM	2	
12 POS	3		30 TFM	3		48 EXC	3		66 LOC	3	
13 PRP	4		31 REF	4		49 AVR	4		67 ORI	4	
14 GEN	5		32 CLA	5		50 CMP	5		68 PSV	5	
15 ATT	6		33 CNV	6		51 SML	6		69 ALL	6	
16 PDC	7		34 IDP	7		52 ASS	7		70 ABL	7	
17 ITP	8		35 BEN	8		53 CNR	8		71 NAV	8	
18 OGN	9		36 TSP	9		54 ACS	9		72 VOC	9	

* the default Vf suffix form is used (i.e., -a, -i, -e, or -u, depending on the formative's Context)

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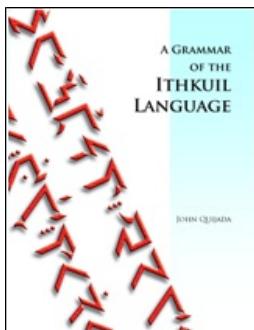
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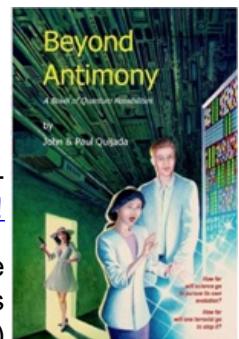
[List of Abbreviations](#)



For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Ithkuil: A Philosophical Design for a Hypothetical Language



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Chapter 8: Adjuncts

8.1 Personal Reference Adjuncts	8.3 Affixual Adjuncts
8.2 Aspectual Adjuncts	8.4 Bias Adjuncts

The notion of adjuncts was introduced in [Section 2.4.2](#). We have already discussed details of some kinds of adjuncts — verbal adjuncts were introduced in [Chapter 6](#). In this chapter, several additional types of adjuncts are introduced.

8.1 PERSONAL REFERENCE ADJUNCTS

The first type of adjunct we will analyze are those relating to personal reference. By “personal reference” is meant the grammatical description of nouns by abbreviated forms of reference. In most languages, this is accomplished by means of personal pronouns (e.g., English *he*, *she*, *it*, *I*, *you*, *him*, *her*, *mine*, *ours*, etc.). Generally, personal pronouns are distinguished by “person” (1st, 2nd, or 3rd) and case (e.g., compare English *we*, *us*, and *ours*). Ithkuil accomplishes the equivalent function by means of personal reference adjuncts, of which there are two types: single-referent and dual-referent.

Like other adjuncts in Ithkuil, personal reference adjuncts are highly synthetic in their structure, comprised of at least two morphemes and usually more. Before we examine the componential structure of personal reference adjuncts themselves, we must first introduce the personal reference categories they refer to.

8.1.1 Personal Reference Categories

The morpho-semantic delineations of Ithkuil personal reference categorization are based on inclusion or exclusion in relation to an utterance. These delineations begin with identifying whether or not the party speaking is included or excluded in relation to the utterance. The next delineation made is whether the party being addressed (i.e., the audience/listener) is included or excluded, then finally whether any third party (i.e., a party other than the speaker and the addressee) is included or excluded.

There are 44 personal reference categories in Ithkuil, each of which is represented by a single consonant affix plus a corresponding falling or high tone as shown in Table 26 below. The various terms and abbreviations used in the table are explained following the table.

Table 26(a) and (b): Personal Reference Categories

PRONOUNCED WITH FALLING TONE				
	Label	Speaker Included	Addressee Included	3rd Party Included
t	1m	YES	—	—
s	1+2m	YES	monadic	—
š	1+2u	YES	unbounded	—

PRONOUNCED WITH HIGH TONE				
	Label	Speaker Included	Addressee Included	3rd Party Included
t	1m+Mx	YES	—	mixed m/u/a/i
s	1+2m+Mx	YES	monadic	mixed m/u/a/i
š	1+2u+Mx	YES	unbounded	mixed m/u/a/i

k	2m	—	monadic	—
p	2u	—	unbounded	—
q	ma	—	—	monadic animate
xh	ua	—	—	unbounded animate
ç	Col	—	—	Collective
I	Ea	—	—	universal animate
v	IDa	—	—	indefinite animate
r	Mx	—	—	mixed m/u/a/i
ř	IPa	—	—	impersonal animate
ł	1+ma	YES	—	monadic animate
n	1+ua	YES	—	unbounded animate
x	2m+ma	—	monadic	monadic animate
ň	2m+ua	—	monadic	unbounded animate
f	2u+ma	—	unbounded	monadic animate
m	2u+ua	—	unbounded	unbounded animate
h	1+2m+ma	YES	monadic	monadic animate
z	1+2m+ua	YES	monadic	unbounded animate
j	1+2u+ma	YES	unbounded	monadic animate
ž	1+2u+ua	YES	unbounded	unbounded animate

k	2m+Mx	—	monadic	mixed m/u/a/i
p	2u+Mx	—	unbounded	mixed m/u/a/i
q	mi	—	—	monadic inanimate
xh	ui	—	—	unbounded inanimate
ç	Abt	—	—	Abstract
I	Ei	—	—	universal inanimate
v	IDi	—	—	indefinite inanimate
r	Obv	—	—	Obviative
ř	IPi	—	—	impersonal inanimate
ł	1+mi	YES	—	monadic inanimate
n	1+ui	YES	—	unbounded inanimate
x	2m+mi	—	monadic	monadic inanimate
ň	2m+ui	—	monadic	unbounded inanimate
f	2u+mi	—	unbounded	monadic inanimate
m	2u+ui	—	unbounded	unbounded inanimate
h	1+2m+mi	YES	monadic	monadic inanimate
z	1+2m+ui	YES	monadic	unbounded inanimate
j	1+2u+mi	YES	unbounded	monadic inanimate
ž	1+2u+ui	YES	unbounded	unbounded inanimate

Explanation of abbreviations and terms in the above table:

1 = Inclusion of speaker

2 = Inclusion of addressee

m = monadic (single party)

u = unbounded (more than one party)

a = animate 3rd party

i = inanimate 3rd party

E = universal ('everyone/everything')

Mx = mixed combination of 3rd parties (including animate+inanimate or MONADIC+UNBOUNDED)

IP = Impersonal ('one')

ID = Indefinite ('anyone/anything')

Obv = Obviative (see Sec. 8.1.1.7 below)

Col = Collective (see Sec. 8.1.1.5 below)

Abt = Abstract (see Sec. 8.1.1.6 below)

The following sections explain the terminology in the above table.

8.1.1.1 Monadic vs. Unbounded. These terms were discussed in detail in [Sec. 3.3](#) on Perspective. For simplicity's sake, the difference between a MONADIC third party versus an UNBOUNDED third party can be thought of as the difference between 'he/she/it' and 'they.'

8.1.1.2 Speaker and Addressee. These terms refer respectively to the party speaking (in Western grammar the first person), the party being spoken to (the second person), and a third party being considered or mentioned (the third person). Unlike the standard six-person matrix common in Western grammar (the three persons divided into singular and plural), Ithkuil divides personal reference along logical lines of inclusion versus exclusion in the speaker's utterance.

From the viewpoint of Ithkuil grammar, only a single individual can speak. Even if there are two or more persons speaking the same utterance simultaneously it is but a collection of single individuals, each of which is one speaker. Therefore, the "first person" of Ithkuil, the speaker, can be only MONADIC, never UNBOUNDED. Thus, in Ithkuil, there is no true equivalent to the word "we," since inherent in the various categories which translate "we" is the concept of "I plus some other entity or entities." From this we can begin to see how it is the idea of inclusion or exclusion in the speaker's utterance that determines the various personal reference categories.

The "second person" in Ithkuil is the addressee, the person(s) being addressed or spoken to. There can be one addressee, or more than one addressee, i.e., MONADIC or UNBOUNDED.

The "third person" in Ithkuil is where things get very complicated, in that a party being referenced who is not the speaker

or the addressee can have many distinctions, including the presence or absence of animacy, being MONADIC versus UNBOUNDED, being referred to as a collective entity, being an intangible abstraction, being indefinite, being an impersonal generic reference, or being a combination of two or more of these categories. These distinctions are explained below.

8.1.1.3 Animate vs. Inanimate. This is as it sounds. As we saw in earlier chapters, particularly [Sec. 4.1](#), several important morphological categories in Ithkuil are dependent on whether the party to the act, condition, or event is a living entity or inanimate. Note that the distinction between gender (he vs. she) found in most Western languages does not exist in the Ithkuil personal reference system.

8.1.1.4 “Mixed” Third-Party Reference. It is possible for the third party being referenced to be two or more entities of different natures. For example a speaker could make reference to “I, you, and they” where “they” consists of a group consisting of one person (i.e., a monadic animate entity), three boxes (i.e., a polyadic inanimate entity), and an intangible concept such as ‘happiness’ (i.e., an abstract entity). In such cases, Ithkuil personal reference categories provide for such “mixed” parties to be included in a particular personal referent.

8.1.1.5 Collective Reference. This corresponds to the NOMIC Perspective in which a noun can be spoken of as a generic collective. For example, the word ‘dog’ in the sentence *The dog is a noble beast* refers to all dogs in a collective sense, not any dog in particular. This COLLECTIVE category has its own set of personal reference affixes in Ithkuil, depending on what other entities are included in the context of the utterance.

8.1.1.6 Abstract Reference. This corresponds to the ABSTRACT perspective, equivalent to derivational abstract forms such as English nouns ending with *-hood*, *-ness*, etc. In Ithkuil, all nouns can be spoken of in this abstract sense (e.g., “bookhood” = the sense of being or functioning as a book), and the personal reference system provides affixes for this category whose form again depends on what other entities are included in the context of the utterance.

8.1.1.7 Obviative (4th Person) Reference. This category has no equivalent in Western languages, although it is found in various Native American languages. It refers to a third party referent other than one previously mentioned, which would otherwise be identically marked. In Native American grammatical treatises, this category is usually termed the obviative or “fourth” person. For example, the English sentence *He saw his book* is ambiguous because we are uncertain whether ‘he’ and ‘his’ refer to the same person or to two different persons (i.e., one who did the seeing and another who owns the book). In Ithkuil, no such ambiguity occurs because the latter third person referent, if a distinct person from the initial third person referent, would be marked using the OBVIATIVE, not the third person. This disambiguation of third person referents is the purpose of the OBVIATIVE. Its translation into English is therefore dependent on a preceding personal referent. (See [Sec. 8.1.4](#) below for more information about the OBVIATIVE).

8.1.1.8 Indefinite Reference. This category indicates that the third party refers to any third party within the specified parameters. For example, the falling-toned referent **v** indicates an indefinite animate party, i.e., English ‘anyone’ or ‘anybody,’ while the high-toned referent **~v** indicates an indefinite inanimate party, i.e., English ‘anything.’

8.1.1.9 Universal Reference. This category indicates that the third party refers to every third party within the specified parameters. For example, the falling-toned referent **I** indicates a universal animate party, i.e., English ‘everyone’ or ‘everybody,’ while the high-toned referent **~I** indicates a universal inanimate party, i.e., English ‘everything.’

8.1.1.10 Impersonal Reference. This category corresponds to the German pronoun *man* or French pronoun *on*, as well as the various circumlocutions used in English to describe impersonal reference (e.g., ‘one,’ ‘you,’ ‘they,’ the passive voice, and certain usages of ‘someone’). Such impersonal reference is illustrated in the following English sentences:

- **One** should never speak to clowns alone.
- To dance the tango **you** need a partner.
- **They** say it never rains in August.
- That town **is said** to be haunted.
- She just wants to talk to **someone** without being criticized.

8.1.1.11 Inclusivity vs. Exclusivity. Since Ithkuil personal reference adjuncts are designed to specify who among the speaker, addressee(s), and any third party is included or excluded in the context of the utterance, there are many possible personal reference distinctions possible in Ithkuil for which English has no equivalent pronouns. Such exacting distinctions would have to be made peripherastically in English, e.g., instead of saying ‘we,’ the speaker would have to specify ‘the two of us,’ or ‘I and he but not you,’ or ‘I, you, and they.’ Similarly, the English word ‘you’ breaks down into specific meanings equivalent to ‘you (singular),’ ‘you (plural),’ ‘you (singular) and it,’ ‘you and those people,’ ‘you and those things,’ etc.

8.1.2 Single-Referent Personal Reference Adjuncts

Adjuncts with one personal referent are termed single-referent adjuncts and have four forms: (1) a short form, (2) a long form, (3) a conjunct form, and (4) a collapsed form, as shown in Table 27 below.

Table 27: Morphological Structure of a Single-Referent Personal Reference Adjunct

Form 1 (Short Form): C₁ + V_c	Example: p + oi → poi
Form 2 (Long Form) : C₁ + V_c + C_z + V_z (+ 'C_b)	Example: t (w/ high tone) + i + w + u → [˥] tiwu
Form 3 (Conjunct Form): C_s+V_s (+ C_s+V_s...) + C₁ + V₁ + C_z + V_z (+ 'C_b)	Example: f + o + t + eu + y + e + 'çç → foteuye'çç
Form 4 (Collapsed Form): V_{c₂} + C₁ + V_c	Example: e + p + oi → epoi

Where:

C₁ = consonant identifying Referent 1 [from [Table 26](#) above]

V_c = vocalic infix indicating case of Referent 1 [see [Table 28](#) below]

C_z = consonantal infix showing the affiliation of Referent 1 (see [Table 29](#) below)

V_z = vocalic suffix showing the Configuration and Essence of Referent 1 in conjunction with syllabic stress (see [Table 30](#) below)

C_s = consonantal suffix for Referent 1 from standard suffix tables

V_s = vocalic infix showing the suffix degree and suffix type for **C_s** [see [Table 24](#) in Sec. 7.1.2]

C_b = consonantal bias suffix (see [Table 15](#) in Sec. 5.11.1)

Syllabic Stress = indicates essence of Referent 1: penultimate (or monosyllabic) = NRM; ultimate stress = RPV

V_{c₂} = vocalic infix indicating the case of a second instance of Referent 1. The values are the same as for **V_c** [see [Table 28](#) below]

8.1.2.1 Short Form: Form 1, the short form of the adjunct, consists of a single consonant (labeled **C₁** in the diagram) plus falling or high tone, corresponding to one of the 44 particular referents (as described in [Sec. 8.1.1](#) above). This is followed by a single vocalic suffix **V_c** indicating the case of the personal referent (see [Chapter 4](#) on Case). The 96 possible values for this suffix are shown in Table 28 below in the column labeled **V_c**. Note that for Case Nos. 49 through 96, **V_c** is the same as for the first 48 cases, plus a shift in the tone of the adjunct. Those personal referents which take falling tone shift to low tone, while personal referents that take high tone shift to rising tone.

The short form of a single-referent personal reference adjunct is used when it is clear from the surrounding context of the utterance which previously identified noun participant is being referred to, so that it is unnecessary to indicate the Configuration, Affiliation, or Essence of the referent. The short form of the adjunct merely indicates the party itself and its case.

8.1.2.2 Long Form: Form 2 of the adjunct, the long form, contains an additional consonantal infix **C_z** followed by a vocalic suffix **V_z**. **C_z** indicates the referent's affiliation, while **V_z** indicates its configuration and essence. (See [Chapter 3](#) for an explanation of the Affiliation, Configuration, and Essence categories.) The default form of **C_z** is shown in Table 28 below in

the Column labeled **Vc+Cz**. Note that for some noun cases (Nos. 18, 43-48, 56-59, and 61), the value of **Vc** changes when used with **Cz** in Form 2 of the adjunct, as shown in the table.

The long form of the adjunct is used when necessary to indicate the Configuration, Affiliation, and Essence of the referent when the surrounding sentences do not provide or make clear this information.

Table 28: Short- and Long-Form Vc (+ Cz) Suffixes/Infixes for Single-Referent Personal Reference Adjuncts (Default Forms)

(Note that due to its vocalic patterning paralleling the patterning of the CMP8C case, the VOCATIVE case is shown out of order in Position No. 48 in this table.)

Label	CASE	Vc	Vc + Cz
OBL	Oblique	a	-aw-
IND	Inducive	u	-uw-
ABS	Absolutive	e	-ew-
ERG	Ergative	o	-ow-
EFF	Effectuative	ö	-öw-
AFF	Affective	i	-iw-
DAT	Dative	ü	-üw-
INS	Instrumental	ai	-aiw-
ACT	Activative	ei	-eiw-
DER	Derivative	ui	-uiw-
SIT	Situative	oi	-oiw-
POS	Possessive	â	-âw-
PRP	Proprietary	î	-îw-
GEN	Genitive	ê	-êw-
ATT	Attributive	ô	-ôw-
PDC	Productive	ëi	-ëiw-
ITP	Interpretative	öi	-öiw-
OGN	Originative	û	-aew-
PAR	Partitive	ia	iaw-
CRS	Contrastive	ie	iew-
CPS	Compositive	io	iow-
PRD	Predicative	ïö	iöw-
MED	Mediative	ua	uaw-
APL	Applicative	ue	uew-
PUR	Purposive	uo	uow-
CSD	Considerative	üö	uöw-
ESS	Essive	ea	eaw-
ASI	Assimilative	eo	eow-
FUN	Functive	ëö	eöw-
TFM	Transformative	oa	oaw-
REF	Referential	oe	oew-
CLA	Classificative	öa	öaw-
CNV	Conductive	öe	öew-
IDP	Interdependent	üä	üaw-
BEN	Benefactive	üe	üew-
TSP	Transpositive	üö	üow-
CMM	Commutative	äi	äiw-
COM	Comitative	ëi	ëiw-
CNJ	Conjunctive	oi	oiw-
UTL	Utilitative	ùi	ùiw-
ABE	Abessive	öi	öiw-
CVS	Conversive	ëi	ëiw-
COR	Correlative	au	aùw-
DEP	Dependent	eu	eùw-
PVS	Provisional	ou	oùw-

Label	CASE	Vc *	Vc + Cz
EXC	Exceptional	a	-ay-
AVR	Aversive	u	-uy-
CMP	Comparative	e	-ey-
SML	Simultaneitive	o	-oy-
ASS	Assessive	ö	-öy-
CNR	Concursive	i	-iy-
ACS	Accessive	ü	-üy-
DFF	Diffusive	ai	-auy-
PER	Periodic	ei	-euy-
PRO	Prolapsive	ui	-iuy-
PCV	Precursive	oi	-ouy-
PCR	Postcursive	â	-ây-
ELP	Elapsive	î	-aey-
ALP	Allapsive	ê	-êy-
INP	Interpolative	ô	-ôy-
EPS	Episodic	ëi	-ëuy-
PRL	Prolimitive	öi	-öuy-
LIM	Limitative	û	-ûy-
LOC	Locative	ia	iay-
ORI	Orientative	ie	iey-
PSV	Procursive	io	ioy-
ALL	Allative	ïö	iöy-
ABL	Ablative	ua	uay-
NAV	Navigative	ue	uey-
CMP1A	Comparative1A	uo	uoy-
CMP2A	Comparative2A	üö	uöy-
CMP3A	Comparative3A	ea	eay-
CMP4A	Comparative4A	eo	eoy-
CMP5A	Comparative5A	ëö	eöy-
CMP6A	Comparative6A	oa	oay-
CMP7A	Comparative7A	oe	oey-
CMP8A	Comparative8A	öa	öay-
CMP1B	Comparative1B	öe	öey-
CMP2B	Comparative2B	üä	üay-
CMP3B	Comparative3B	üe	üey-
CMP4B	Comparative4B	üö	üoy-
CMP5B	Comparative5B	äi	äiy-
CMP6B	Comparative6B	ëi	ëiy-
CMP7B	Comparative7B	oi	oiy-
CMP8B	Comparative8B	ùi	ùiy-
CMP1C	Comparative1C	öi	öiy-
CMP2C	Comparative2C	ëi	ëiy-
CMP3C	Comparative3C	au	aùy-
CMP4C	Comparative4C	eu	eùy-
CMP5C	Comparative5C	ou	oùy-

PTL	Postulative	iu	iùw-
CON	Concessive	öu	öùw-
VOC	Vocative	ëu	ëùw-

CMP6C	Comparative6C	iu	iùy-
CMP7C	Comparative7C	öu	öùy-
CMP8C	Comparative8C	ëu	ëùy-

* For the 48 cases in the right-hand column above: in Form 1 of a single-referent adjunct, those personal referents with falling tone shift to low tone, those with high tone shift to rising tone.

The table above shows **Cz** in its default (CSL) form. The full values for **Cz** are shown in Table 29 below.

Table 29: Values for Cz: Affiliation of a Single-Referent Personal Reference Adjunct

	Affiliation			
	CSL	ASO	VAR	COA
Case Nos. 1 - 48:	-w-	'w	-h	-hw
Case Nos. 49 - 96:	-y-	'y	-'	'h

The referent's Configuration are shown by the **Vz** suffix. The values of **Vz** are shown in Table 30 below.

Table 30: Values for Vz: Configuration of a Single-Referent Personal Reference Adjunct

	UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
NRM Essence	(-a)	-u/-i	-e	-o	-ö	-ü *	-ai / -au *	-ei / -eu *	-oi / -iu *

* For the last four configurations above, these can alternately be shown using the suffixes **-a**, **-u/-i**, **-e**, and **-o** (same as the first four configurations) plus a tone shift in the adjunct, as follows: falling tone shifts to falling-rising tone, and high tone shifts to rising-falling tone. This alternate means of indicating configuration is valid only for single-referent adjuncts. For dual-referent adjuncts (see [Sec. 8.1.3](#) below), it is inapplicable and the vocalic values shown in the above table must be used.

8.1.2.3 The Conjunct Form: Form 3 of the adjunct, the conjunct form, is the same as the long form, Form 2, with the addition of one or more consonant + vowel prefixes **Cs + Vs** which correspond to the **VxC** derivational suffixes from Slot XI of a formative, as described in Chapter 7. When used in Form 3 of a single-referent personal referent adjunct, the order of the vocalic and consonantal portions of the affix are reversed.

8.1.2.4 The Collapsed Form: Form 4 of the adjunct, the collapsed form, is the same as the short form, Form 1, with the addition of a vocalic prefixes **Vc2** which represents the case of a second instance of the same personal referent already indicated by the adjunct. In other words, the collapsed form is a short-cut means of representing two separate adjuncts, both of which refer to the same party, but in two different cases. Examples of such an adjunct were seen in [Section 4.3.12](#) with the word *éto*, a short-cut for *té + to*, i.e., 1m/GEN plus 1m/ERG.

8.1.2.5 Examples of Single-Referent Personal Reference Adjuncts in Use



Azbal šoi ekšil.

STA-'anger'-NRM/DEL/M/CSL/UNI-IFL 1+2u-SIT STA-'clown'-AFF-NRM/DEL/M/CSL/UNI-FML

Our being here angers the clown.



lčatosk éti prá'ol aktáil.

DYN-'physical.contact'-NRM/DEL/U/CSL/UNI-FRC_{1/7} **GEN+1m-AFF** STA-'leg'-LOC-NRM/DEL/M/CSL/UNI-IFL STA-'rock'-INS-NRM/DEL/M/CSL/UNI-FML
I got hit on the leg with a rock.



ultánj këi

STA-'page.of.writing'-OBL-NRM/DEL/M/SEG/COA-FML **2m-PDC**
'your book' [i.e., the one you authored]



žô c^hei'as

1m+2u+ua-ATT STA-'grief'-PCR-NRM/PRX/M/CSL/UNI-IFL
'after our period of grief'



xhoeħwe

ua-REF-COA-CST

'according to those variously interdependent but differing networks of people'

8.1.3 Dual-Referent Personal Reference Adjuncts

Ithkuil allows a personal reference adjunct to show the personal reference category and associated case for two separate parties all in one adjunct. This is called a dual-referent adjunct and serves to combine two unrelated personal referents into one adjunct, no matter what their associated cases may be. There is only one form of a dual-referent adjunct, shown in Table 31 below.

Table 31: Morphological Structure of a Dual-Referent Personal Reference Adjunct

Form: ((V _w +) C ₂ +) V ₂ + C _k + V _c + (C _z + V _z (+ 'C _b))	Example: u-h-ia-ks-ai-'wé-'ks
Where:	
V _w = vocalic prefix indicating the configuration of Referent 2 (see Table 32 below)	
C ₂ = consonant form indicating the affiliation of Referent 2 (see Table 33 below)	
V ₂ = vocalic prefix indicating case of Referent 2 (these values are the same as for V _c in Table 28 above)	
C _k = consonant form indicating both Referent 1 and Referent 2 [from Table 34 below]	
V _c = vocalic infix indicating case of Referent 1 [see Table 28 above]	
C _z = consonantal infix showing the affiliation of Referent 1 (see Table 29 above)	
V _z = vocalic suffix showing the configuration of Referent 1 (see Table 30 above)	
C _b = consonantal bias suffix (see Table 15 in Sec. 5.11.1)	
Tone = Combinations of Ref. 1&2: falling + falling = falling, high + high = high, falling + high = rising, high + falling = low	

Stress = shows Referents 1 and 2 Essence respectively: penultimate = 1:NRM / 1:NRM, ultimate = 1:NRM / 2:RPV, antepenultimate = 1:RPV / 2:NRM, preantepenultimate = 1:RPV / 2:RPV

Analyzing the above structure, it can be seen that the third term, **V₂**, has the same values as **V_c** for single-referent adjuncts; and the last four terms and their values, **V_c + C_z + V_z (+ 'C_b)**, are the same as for single-referent adjuncts. The new terms are **V_w**, **C₂**, and **C_k**, whose values are shown in the various tables below:

Table 32: Values for V_w: Configuration of Referent 2 in a Dual-Referent Personal Reference Adjunct

UNI	DPX	DCT	AGG	SEG	CPN	COH	CST	MLT
—	ö-	-e	a-	ü-	o-	e-	u-	ë-

Table 33: Values for C₂: Affiliation of Referent 2 in a Dual-Referent Personal Reference Adjunct

Affiliation			
CSL	ASO	VAR	COA
(-h)	w-	y-	hw-

Table 34: Values for C_k: Dual-Referent Personal Reference Adjunct Prefixes

Falling Tone	High Tone	2nd referent → 1st referent ↓	h	ř	ç	r	l	ň	n	m	xh	x	t	f	ž	v	z	š	ł	s	p	k	t
ma	mi	q	q ^h	gř	çq'	qr	ql	gn	qn	qm	çq ^h	çq	qt	qf	šq'	qw	sq'	šq	č'	sq	q'	g	d
1m	1+ Mx	t	t ^h	tř	çt'	tr	tl	t'	tn	tm	çt ^h	çt	dh	tf	j	tw	ż	č	c'	c	p ^h	k ^h	
2m	2m+Mx	k	tx	kř	çk'	kr	kl	k'	kn	km	çk ^h	çk	kł	kf	gž	kw	gz	kš	tl	ks	b		
2u	2u+Mx	p	px	př	çp'	pr	pl	p'	pn	pm	çp ^h	çp	pt	pf	bž	pw	bz	pš	pl	ps			
1+2m	1+2m+Mx	s	sř	st	sr	sl	sň	sn	sm	sxh	sx		sf		sw								
1+2u+ma	1+2u+mi	ł	łk ^h	łt ^h	łt'	łł	łk'	łt	łp	łq	łk		c ^h		łw								
1+2u	1+2u+Mx	ś	śř	çw	śr	śl	śň	śn	śm	śxh	śx	śł	śf		św								
1+2m+ua	1+2m+ui	z	sk ^h	sk'	zr	zl	zg		zm	ss	sk		sp		zw								
lDa	lDi	v	šp ^h	vř	šp'	vr	vl	dn	vn	vm	žb	zb	st	bm	w								
1+2u+ua	1+2u+ui	ž	šk ^h	šk'	žr	žl	žg	žn	žm	šš	šk	št	šp										

2u+ma	2u+mi	f	sp ^h	ſſ	sp'	fr	fl	bl	br	bv	pç	tt̪	bdh
1+ma	1+mi	t̪		ſ̪	sť	tr̪	tl̪	dl̪	dr̪	dv	gdh	ťk	
2m+ma	2m+mi	x	xx	sq ^h	rr̪	xr̪	xl̪	gv	xn̪	xm̪	č ^h		
ua	ui	xh	xxh	šq ^h	řř̪	xhr̪	xhl̪	gr̪	xhn̪	xhm̪			
2u+ua	2u+ui	m	hm	mř̪	çm̪	mr̪	ml̪	ňň̪	mm̪				
1+ua	1+ui	n	hn̪	nř̪	çn̪	nr̪	nl̪	nn̪					NOTES:
2m+ua	2m+ui	ň	hn̪	zn̪	št̪	ňr̪	ňl̪						• Forms with light blue backgrounds optionally reverse form
Ea	Ei	I	hl̪	st̪ ^h	cl̪	ll̪							in non word-initial position, e.g., kr → rk
Mx	Obv	r	hr̪	št̪ ^h	cr̪								• Yellow backgrounds = optional changes in non word-initial position:
Col	Abt	ç	çç	zz̪									kw → fk, pw → fp, tw → ft, qw → fq, sw → zd, l̪w → vd, šw → žd, st̪ → nt̪,
IPa	IPi	ř	žž̪										zw → vz, št̪ → ndh, gn → ňg, qn → ňq, kn → ňk, pn → ňt̪, vn → mf, çw → xht̪
1+2m+ma	1+2m+mi	h											• Blank boxes with grey backgrounds = grammatically impermissible or no form available

Explanation of abbreviations and terms in the above table:

1 = Inclusion of speaker

2 = Inclusion of addressee

m = monadic (single party)

u = unbounded (more than one party)

a = animate 3rd party

i = inanimate 3rd party

E = universal ('everyone/everything')

Mx = mixed combination of 3rd parties (including animate+inanimate or MONADIC+UNBOUNDED)

IP = Impersonal ('one')

ID = Indefinite ('anyone/anything')

Obv = Obviative (see Sec. 8.1.1.7 below)

Col = Collective (see Sec. 8.1.1.5 below)

Abt = Abstract (see Sec. 8.1.1.6 below)

Note that when combining two referent prefixes to form the composite prefix the tones associated with each referent must also be combined (remember it is the distinction between falling and high tone that expands the 22 single-consonant referents into 44). Since all single-referent adjuncts are either of falling or high tone, their combination proceeds as follows:

falling + falling → falling

falling + high → rising

high + high → high

high + falling → low

The order in which the above formulas are applied is based on the logical order of the personal referents, i.e., Referent 1 then Referent 2, not the order that associated vowels corresponding to the referents are manifested phonologically. (Many dual-referent personal reference adjuncts begin with vowels which carry morphological information for Referent 2, while

the second syllable carries information for referent 1. Nevertheless, the tone on the adjunct is determined in the order of Referent 1 + Referent 2 as per Table 34 above.)

The four-way combination of Essence for Referent-1 and Referent-2 respectively is shown by the four available stress patterns: penultimate stress indicates NORMAL + NORMAL, ultimate stress indicates NORMAL + REPRESENTATIVE, antepenultimate indicates REPRESENTATIVE + NORMAL, and preantepenultimate indicates REPRESENTATIVE + REPRESENTATIVE. (See [Section 3.5](#) on Essence).

8.1.3.1 Special Use of Short Adjunct Form. The short form (Form 1) of the single-referent adjunct discussed in [Sec. 8.1.2](#) above (utilizing the abbreviated **Vc** suffix from [Table 28](#)) can be used with the special dual-referent **Ck** composite prefixes from [Table 34](#) under the following circumstance: to show that two different parties are governed by the same case and participate equally with the verb, equivalent to connecting two pronouns in English by ‘and’ as in *He and I went to the store* or *The man looked at them and me*. Examples: **ksau**, /xlu/. Note in the last example /xlu/ how the combination of a falling-toned referent and a high-toned referent combines to give a rising-toned adjunct.

8.1.3.2 Examples of Dual-Referent Adjuncts



Euspát _uda smâ'ol.

DYN-'buy'-NRM/DEL/U/CSL/UNI-FML Ref2:IND-Ref1:mi/Ref2:1m-Ref1:OBL STA-'valley'-LOC-NRM/DEL/M/CSL/UNI-IFL
I bought it in the valley.



Awuçk^hoewi andawút!

Ref2:AGG-Ref2:ASO-Ref2:IND-Ref1:2m/Ref2:ua-Ref1:REF-Ref1:CSL-Ref1:DPX DYN-'inquiry'-IRG-NRM/DEL/M/CSL/DCT-FML
Are those formally recognized groups of people making inquiries about the pair of you?

8.1.4 Use of the Switch Reference Suffix

In [Section 7.4.13](#), the SWR switch reference suffix was introduced. This affix works with the OBVIATIVE personal referent (see [Sec. 8.1.1.7](#)) to specifically indicate which party is being referred to. The following is a review of this affix for all nine degrees. By use of this affix, reference can be made immediately to any party relevant to a discourse, even to a third party not previously mentioned.

-rm / -mr	SWR	Switch Reference & Obviative Specification
Degree 1		nearest preceding referent
Degree 2		2nd to nearest preceding referent
Degree 3		3rd party not previously mentioned
Degree 4		referring to sentence focus
Degree 5		first referent mentioned
Degree 6		referring to sentence topic
Degree 7		3rd party non-transrelative referent
Degree 8		2nd order transrelative referent
Degree 9		higher order transrelative referent

This suffix rarely appears in fifth-degree, as use of the OBVIATIVE by itself defaults to the first referent mentioned. The following example illustrates the use of the switch reference suffix:



Léi'aita eqṭul' tē ekšüléñt aigwamt ḥru byú'âl mrerîwa.

[LISTEN](#)

FRAMED/IFL-DYN-'speak'-PCR-NRM/DEL/U/CSL/UNI STA-'brother'-IND-NRM/DEL/M/CSL/UNI-IFL 1m-GEN STA-'clown'
 -DAT-NRM/DEL/M/CSL/UNI-FML-TPF1/3 DYN-'run'-NRM/ICP/M/CSL/UNI-IFL OBV/IND-[**SWR/5**] STA-'pet.dog'-ALL-NRM/DEL/M/CSL/UNI-IFL
 OBV/PRP-**SWR/3**

After my brother spoke to the clown, he [my brother] began running toward his [a third party's] pet dog.

8.1.5 Details of Personal Reference Suffixes

[Sec. 7.3](#) described the existence of a group of specialized suffixes derived from personal reference adjunct consonantal affixes. As previously discussed in [Sec. 8.1.1](#), there are 22 single consonants associated with 44 single-referent personal reference categories (based on a distinction between falling and high tone). In the absence of any other VxC suffixes to the formative, these 22 consonants can be combined with Type 3 vocalic infix patterns (see [Sec. 7.2](#)) to correspond to certain Associative and Appositive noun cases, to create short-cut substitutes for single-referent personal reference adjuncts in these nine cases. These 22 consonants correspond to the falling-toned group of personal reference affixes; this short-cut option is not available for the 22 high-toned personal reference categories. The use of these suffixes is optional. The noun cases associated with the nine suffix degrees are as follows:

Degree 1	POSSESSIVE Case
Degree 2	PROPRIETIVE Case
Degree 3	GENITIVE Case
Degree 4	ATTRIBUTIVE Case
Degree 5	ORIGINATIVE Case
Degree 6	PRODUCTIVE Case
Degree 7	INTERPRETATIVE Case
Degree 8	CORRELATIVE Case
Degree 9	CONDUCTIVE Case

8.2 ASPECTUAL ADJUNCTS

As we saw in [Section 6.3.1](#) and [Section 5.10](#), Aspect can be shown as the **Vs** suffix to a verbal adjunct, in addition to its more usual position as a consonantal affix **Cs** to a formative or verbal adjunct. However, in the absence of any verbal adjunct, and as another alternative to infixing **Cs** within a formative, Aspect can also be conveyed by simply using the **Vs** affix as its own autonomous adjunct.

Examples (compare these to the examples in [Sec. 5.10.33](#)):



Ou inyat eq̥tulisqa tē.

CLM DYN-'choose'-NRM/DEL/U/CSL/UNI-IFL STA-'brother'-IND-NRM/DEL/M/CSL/UNI-DCS1/1-IFL 1M-GEN

My indecisive brother made a choice once and for all.

[LISTEN](#)



Ui uolmáti êqul.

RGR DYN-'sing.a.song'-NRM/DEL/U/CSL/UNI-FML STA-'woman'-IND-NRM/DEL/M/CSL/UNI-IFL

The woman returned to singing.

8.3 AFFIXUAL ADJUNCTS

Any Type-1 or Type-2 **Vx-C** formative suffix described in [Chapter 7](#) may be removed from the formative and positioned as an adjacent adjunct for purposes of euphony (i.e., to reduce the number of syllables in the formative). Additionally, since

affix categories represent common concepts generally applicable to many contexts, an affixual adjunct can also be informally used as a “short cut” method of conveying a notion, essentially as an abbreviated one-word sentence somewhat like an interjection or exclamation in English, thus conveying the concept of the affix category. For example, the affix **-V₁j/7** connotes disappointing typicality, but as an affixual adjunct, **oj**, it can be used by itself as an informal expression translatable by the English phrase *How typical!*

Example:



Çtar-ryo igraleiṭtar eglulôñ. → Ar çtar-ryo eir̥ igral eglulôñ.

HOR/CTX/PPS-PCL-HAB DYN-'eat.food'-NRM/DEL/M/CSL/UNI-**EXT₂/6-NA_{11/5}**-IFL STA-'illness'-IND-NRM/DEL/M/CSL/UNI-AGC₂/7-IFL →
NA_{11/5} HOR/CTX/PPS-PCL-HAB **EXT₂/6** DYN-'eat food'-NRM/DEL/M/CSL/UNI-IFL STA-'illness'-IND-NRM/DEL/M/CSL/UNI-AGC₂/7-IFL
If only the physician wouldn't always eat his food in one gulp like that.

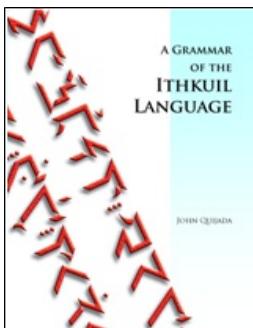
8.4 BIAS ADJUNCTS

[Section 5.11](#) describes how Bias is shown on formatives, while [Section 6.3.2](#) describes how the category is shown on verbal adjuncts. And in [Sections 8.1.2](#) and [8.1.3](#), we saw how the conjunct form of a single-referent personal reference adjunct, as well as dual-reference personal reference adjuncts, can take an optional affix, **C_b**, to indicate Bias. In the absence of these possibilities, the Bias suffix (shown in [Table 15 of Sec. 5.11.1](#)), like affixual adjuncts described above in [Section 8.3](#), can stand alone as an autonomous adjunct. Such a Bias adjunct can be used to informally convey one's attitude toward a situation. For example, if one wishes to convey a sense of awe, one could state the Ithkuil equivalent to the sentence, *I feel a sense of awe!* or one can simply hiss out a long **s**-sound, ‘ss,’ which is the intensive form of the affix for the STUPEFACTIVE bias category, whose translation can be approximated by the English expressions ‘Well, I’ll be!’ or ‘Who would’ve thought?!’

Other examples would be the expression ‘çç’ to signify fulfillment and contentment, the equivalent to a long sigh of satisfaction ‘ahhh’ in English; or the expression ‘kšš’ to convey contempt and disgust, similar to English ‘Poppycock!’ or ‘What bullshit!'

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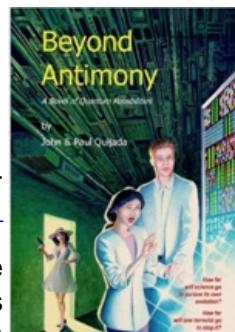
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(It’s a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a “para-linguistic” interface to a quantum computer.)



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Chapter 9: Syntax

[9.1 Topic, Focus and Pragmatic Relations](#)[9.2 Morpho-Semantic Considerations](#)[9.3 The “Carrier” Root](#)

Syntax refers to the rules for sequencing the order of words within a phrase or sentence, including rules permitting more than one possible sequential ordering of words. To understand the following discussion of Ithkuil syntax it is necessary to have a cursory understanding of the notions of *semantic role*, *pragmatic role*, and *grammatical (or syntactical) relations*:

- **Semantic role:** This refers to the underlying semantic function of a particular word, irrespective of overt morphological category. We have already seen how Ithkuil marks its noun cases to reflect semantic roles, not grammatical relations. Such roles include Agent, Patient, Experiencer, Recipient, Instrument, etc., as previously explained in [Section 4.1](#) et seq.
- **Pragmatic role:** This refers to the function of a word or phrase in relation to its predicate or the rest of the sentence in terms of whether and how it represents “given” versus “new” information, i.e., whether or not the word or phrase represents background information already known to the addressee, or whether it represents new information previously unknown to the addressee. Three such roles or relations are generally delineated: **topic**, **comment**, and **focus**. The *topic* of a sentence is the word or phrase about which the speaker has been asked or is expected by the addressee to talk about. The *comment* is the information (usually a predicate) given by the speaker about the particular topic. The term *focus* refers to whatever information in a sentence is new to the addressee, (i.e., not previously known). To illustrate these concepts, consider the sentence *I can see why Mary’s angry, but what about Bill?* (i.e., *What happened to make Bill angry, too?*). In the hypothetical answer *Bill (or He) is angry because he lost his keys*, ‘Bill’ (or ‘he’) is the topic, ‘is angry because he lost his keys’ is the comment, and ‘he lost his keys’ is the focus.
- **Grammatical (or syntactical) relations:** the arbitrary word-ordering rules of a language, irrespective of semantic or pragmatic roles, e.g., the subject of the sentence in English normally precedes the main verb and the direct object normally follows the main verb.

In general, the syntax of a language either (1) establishes the permissible grammatical relations of the language, (2) reflects and/or reinforces semantic roles, (3) reflects and/or reinforces pragmatic roles, or (4) any combination of these. As one might surmise from the above, English syntax is weighted heavily toward establishing grammatical relations at the near-total expense of identifying semantic roles. As for pragmatic roles, English rarely reflects these in its syntax (one exception is the strong tendency for placing *wh*- question words in sentence-initial position in specialized questions, even if they represent a direct object, e.g., *What have you done?* or *Who[m] are they talking about?*), however, such roles do tend to be marked “supra-segmentally” by inflection of vocal pitch and tone of voice.

We have already seen the extreme to which Ithkuil uses noun cases to mark semantic roles morphologically as opposed to syntactically. And since grammatical relations in and of themselves are relatively arbitrary within language, Ithkuil uses word order primarily to accomplish pragmatic relations, i.e., to indicate the topic and/or focus of a sentence. Additionally, Ithkuil does have a few word order constraints necessary to ensure avoidance of ambiguity in determining which nouns lie

in apposition to their head, and which words of a compound sentence lie within a case-frame as opposed to outside the case-frame. The specifics of Ithkuil word order are explained in Section 9.1 below.

9.1 TOPIC, FOCUS, AND PRAGMATIC RELATIONS

The concept of semantic focus refers to what information in an utterance is to be considered new information, while the semantic topic is the background context already known or implied. The specifics are explained below and are best understood through various English illustrations.

In any given discourse (i.e., a contextual series of utterances such as a conversation, a story, an account of an event, etc.), any single sentence of that discourse will likely make reference to previously mentioned material as background, as well as present new material to further the purpose of the discourse. Semantic focus refers to those elements of a sentence which constitute new material within an actual or implied discourse. For example, the sentence *My dog jumps through hoops* could function as an answer to several different questions such as 1) *What tricks can your dog do?*, or 2) *Does your dog do anything with hoops?* or 3) *Do you know of anyone's pet that jumps through hoops?* or even 4) *What's up with you?* In answering the first of these questions, 'jump through hoops' would have semantic focus while the dog is background material, i.e. the topic. In answering the second question, the verbal phrase 'jump through' would have focus while both the dog and the hoops would be the topic. In answering the third question, it would be 'my dog' that carries the focus while jumping through hoops would be the topic. Lastly, in answering the fourth sentence, no element in the sentence has focus over any other, as all elements present previously unknown material within the context of the discourse. In general, English conveys focus by a shift in vocal inflection (tone and pitch contours) to provide emphasis.

Focus does not necessarily require a full discourse to have semantic relevance; it can occur within a single autonomous sentence, in which case the background discourse is implied. For example, a person might spontaneously begin a conversation with the same sentence: *My dog jumps through hoops*. In English, the speaker might use vocal inflection to emphasize what elements convey semantic focus versus what elements are to be taken by the listener as "given." Or, the speaker might say the sentence in a neutral tone of voice, essentially inviting the listener to "choose" which elements to focus upon in responding, e.g., *Oh, you have a dog?* or *Oh, does he do any other tricks?* or *Oh, do you use metal or plastic hoops?* or an equally neutral response such as *Oh, you don't say?*

Ithkuil uses word-order to accomplish the same options that such vocal inflections accomplish in English. In Ithkuil, the element with focus is placed immediately before the verb. As for the topic of the sentence, this is shown by placing it as the first element in a sentence. If there is no overt topic or focus, the verb will appear as the first word in the sentence. Examples:



Euspoigrataì ekšúl břatì.

DYN-[inc.stem: 'buy']-consume/ingest'-NRM/DEL/U/CSL/UNI-IFL-PRT STA-'clown'-IND-NRM/DEL/M/CSL/UNI-FML
STA-'clam'-OBL-NRM/DEL/M/CSL/DCT-IFL

The clown bought some clams and consumed them. (No topic or focus)

[LISTEN](#)



Ekšúl euspoigrataì břatì.

STA-'clown'-IND-NRM/DEL/M/CSL/UNI-FML DYN-[inc.stem: 'buy']-consume/ingest'-NRM/DEL/U/CSL/UNI-IFL-PRT
STA-'clam'-OBL-NRM/DEL/M/CSL/DCT-IFL

It was the clown who bought some clams and consumed them. (The clown is the focus)



Břatì ekšúl euspoigrataì.

STA-'clam'-OBL-NRM/DEL/M/CSL/DCT-IFL STA-'clown'-IND-NRM/DEL/M/CSL/UNI-FML
DYN-[inc.stem: 'buy']-consume/ingest'-NRM/DEL/U/CSL/UNI-IFL-PRT

As for the clams, it was the clown who bought and consumed them. (The clams are the topic; the clown is the focus)

9.1.1 Abbreviated Sentences Using Focus and Topicalization

Focus and topicalization allow Ithkuil, as with other languages, to provide abbreviated sentences in direct answer to commands, questions, or to comment on a topic already under discussion. Because the topic is already known within the contextual discourse, only the portion of the new sentence carrying semantic focus need be spoken. Similarly, the topicalization suffix in conjunction with the INTERROGATIVE illocution, allows for abbreviated inquiries within a known contextual discourse, similar to such abbreviated sentences in English, e.g., ‘and Bill?’ in lieu of the full sentence ‘Comment on how this applies to Bill.’

9.1.2 Word-order within Case-Frames

Within a case-frame (see [Section 5.4](#)), the verb always appears in initial position to identify the clause as a case frame (using FRAMED Relation in the verb). Because of this, it becomes necessary to utilize the focusing and sequencing affixes from Sec. 7.4.13 to identify elements which carry focus or are topicalized within the case-frame. Additionally, the last noun within the case-frame will usually take the **-Vt'** in degree 2, 6, 7, or 9 (see [Sec. 7.4.13](#)) to signify the end of the case-frame, unless this is clear without the suffix (e.g., because the case-frame is in sentence-final position).

9.1.3 Additional Constraints in Word Order

The following additional word-order constraints exist in order to avoid potential ambiguity or semantic incoherence.

- Nouns in Possessive and Associative cases (see [Sects. 4.4](#) and [4.5](#)) which are dependent on, or in apposition to a “head” noun, must immediately precede or follow that head noun, unless the relationship between
- A case-frame cannot be broken apart into segments within a main sentence, i.e., the case-frame must constitute a single cohesive clause and not contain elements of the main clause within it. It is possible to “nest” a second case-frame within a case-frame, similar to the way in which subordinate or relative clauses can be nested in English and other Western languages, e.g., *[Despite owning a Picasso [that comes from his Blue period] [of which I, [a mere student,] am fond,]] Joe is actually a very humble person.*

9.1.4 Phonotactically-Induced Syntactic Modifications

As mentioned above, word-order can shift in an Ithkuil sentence to accommodate phonotactic or phonaesthetic ends, i.e., for purposes of euphony. This is because suffixes on a formative, as well as morphemes associated with categories of Aspect and Bias and can be moved to verbal adjuncts or transformed into autonomous adjuncts (see Sections [6.3](#), [8.2](#), [8.3](#), and [8.4](#)). As words of six syllables or more are generally undesirable, any formative with numerous affixes is potentially subject to having several of its morphemes redistributed to adjuncts.

Example:



Ar-ryigrawilei̯tar eglulôn. → Çtar-rya eir̯ igralar eglulôn.

MNO-PCL-DYN-'eat.food'-HOR/FAC-NRM/DEL/M/CSL/UNI-EXT₂/6-NA11/5-IFL STA-'illness'-IND-NRM/DEL/M/CSL/UNI-AGC₂/7-IFL →
HOR/PPS/CTX-PCL EXT₂/6 DYN-'eat food'-NRM/DEL/M/CSL/UNI-NA11/5-IFL STA-'illness'-IND-NRM/DEL/M/CSL/UNI-AGC₂/7-IFL
If only the physician wouldn't eat his food in one gulp like that.

When ordering such phonaesthetically-induced adjuncts, it is important that they can be easily associated with the formative to which they apply. Generally, this means that they will be adjacent to the formative, or occur on either side of other adjuncts associated with the formative.

9.1.5 Iconicity

English and other languages generally display phrase-structure patterns and word-order patterns which reinforce, or even reflect, a cognitive understanding of what is being described, i.e., the order of the words themselves reflects information

about how we are to understand the utterance. Such a phenomenon is known as **iconicity**. In English and other Western languages, the most common way in which iconicity is manifested is what is termed “sequential order iconicity,” the idea that the actual sequential order of words in a phrase or sentence reflects the sequential order of the events they describe. For example, the phrases ‘eye it, try it, buy it,’ ‘I came, I saw, I conquered,’ or ‘dine and dash’ describe sequential events where the sequence of the words reflect the sequence of the events. What is most important is that re-ordering of the words either changes the meaning of the phrase or leads to semantic nonsense, e.g., ‘buy it, eye it, try it’ implies that a different sequence of events actually takes place than ‘eye it, try it, buy it.’ This can be more dramatically illustrated with the following pair of sentences.

- 1) *Jane got married and had a baby.*
- 2) *Jane had a baby and got married.*

In English, the ambiguous word ‘and’ is interpreted as connecting a sequence of events, i.e., ‘and’ is interpreted to mean sequential ‘then’ (= ‘and following that,’ ‘then next’ or ‘then later’). As a result, the meanings of the two sentences imply very different social interpretations about Jane.

Besides the reflection of sequential order, other types of word-order iconicity are possible. For example, compare the subtle difference in meaning between the following two sentences:

- 3) *Sam painted the fence white.*
- 4) *Sam painted the white fence.*

In the first sentence, we do not know what color the fence was prior to being painted, or even if it was a new fence that had never been painted before. In the second sentence, not only do we know what color the fence had been, but also that it was not previously unpainted, however, we do not necessarily know what its new color is. This sort of iconicity is used to convey a resultative state of affairs, i.e., by placing the adjective ‘white’ after the word ‘fence’ (seemingly in violation of the usual adjective-before-noun word order used in English), we describe a resulting state of affairs.

Yet another type of word-order iconicity is displayed in comparing the following two sentences.

- 5) *Loretta gave Sue a wedding gift.*
- 6) *Loretta gave a wedding gift to Sue.*

Most grammar textbooks would state that these two sentences are semantically equivalent, the first employing a “ditransitive” pattern (i.e., juxtaposing an indirect object ‘Sue’ with a direct object ‘wedding gift’), while the second uses a “complement” pattern in which the indirect object follows the direct object and is changed to a prepositional phrase using ‘to.’ However, there is a subtle semantic distinction between the two sentences. The first strongly implies that the wedding gift is for Sue, i.e., Sue is the bride and intended recipient. The second sentence, however, invites the possibility that Sue is only a temporary or circumstantial goal for the act of giving, but not the bride and intended recipient. For example, if Sue is merely a guest at the wedding and Loretta needed Sue’s help carrying an armload of wedding gifts, she might give a wedding gift *to Sue*, but that does not mean she would *give Sue* a wedding gift. This type of iconicity distinguishing a recipient from a directional goal is an example of what is termed “distance iconicity,” because the two linked words are made more “distant” from each other in the sentence as a reflection of their more circumstantial association.

Ithkuil does not display iconicity. While the order of words in an Ithkuil phrase or sentence may coincidentally reflect a temporal or causative sequence of events, this is not by syntactic design. Because of the myriad means available in Ithkuil to morphologically distinguish sequence, cause-and-effect, resulting states, and the distinction of recipients from directional goals, no iconicity patterns are required.

For example, we saw in sentences (1) and (2) above how English ‘and’ can be used to convey not just mere coordination, but also a sequencing function. In [Sections 7.4.3](#) and [7.4.4](#), we saw that Ithkuil has no less than thirty-six suffixes (four suffix categories, each with nine different degrees) which convey various coordinative and sequencing patterns with great specificity. Thus, Ithkuil has no morpheme directly equivalent to the ambiguous English word ‘and.’ There is an affix corresponding to ‘and’ in its use as a mere additive listing device (e.g., ‘pears and apples and bananas’), another corresponding to its use as an indicator of simultaneity (e.g., *I clenched my fists and scowled*), another corresponding to its use as an indicator of additional information (e.g., *The clown likes children and loves to eat*), another to its use as an indicator of parallel description or activity (e.g., *We went dancing and so did they*), and yet another as a temporal sequencing indicator (e.g., *I went to the window and looked out*).

9.2 MORPHO-SEMANTIC CONSIDERATIONS

It should be noted that when structuring an Ithkuil sentence, particularly when translating from other languages such as English, care must be given to avoid capturing irrelevant semantic information reflected by the morphology of the source language and trying to find an equivalent or parallel way to reflect those irrelevancies in the Ithkuil sentence. This can have a profound effect on the morpho-syntactical structure of the resulting Ithkuil sentence.

9.2.1 Arbitrary Delineations of Perspective or Point of View

One area where word-choice in English and other Western languages arbitrarily affects sentence structure is in the unintentional schematicization of a particular perspective or point of view. For example, consider the following pair of sentences in English.

- 1) *The path climbs steeply out of the canyon.*
- 2) *The path descends steeply into the canyon.*

Both of these sentences are describing the same property of the path — its steepness. The distinction in the sentences comes from the point of view being reflected by the speaker. In sentence (1) the implied point of view is from the bottom of the canyon upward, while in sentence (2) the viewpoint is from the top of the canyon downward. What is important is that, semantically, the point of view is of no relevance to the steepness of the path *per se*. So if the cognitive intent of the utterance is simply to describe the vertical gradient of the path within the canyon, there would be only one Ithkuil translation for both of these sentences, eschewing the point of view entirely and restating the sentence to read:



Üb eikradwa smou'olâxh.

EXN_{1/6} DYN-'move.along.obliquely.vertical.path.between.two.points'-RPV/PRX/N/CSL/UNI-IFL STA-'valley'-NAV-NRM/DEL/M/CSL/UNI-SCO_{2/5}-IFL

The path through the canyon is steep. [LISTEN](#)

9.2.2 Masking of Semantic or Participatory Roles

Similarly, care must be made, when comparing Ithkuil sentence structure with other languages, to note that Ithkuil grammar allows for a more overt reflection of the underlying semantic roles inherent in a given sentence. As a result, sentence structures in Western languages which “mask” potentially anomalous semantic structures are avoided in Ithkuil. For example, compare the following pairs of sentences.

- | | |
|---|--|
| 3a) <i>He supplied a report to the analyst.</i> | 4a) <i>She applied a solvent to the stain.</i> |
| 3b) <i>He supplied the analyst a report.</i> | 4b) * <i>She applied the stain a solvent.</i> |

The syntactical patterns of these two pairs of sentences are identical, yet the word-order in sentence (4b) is ungrammatical (as indicated by the asterisk), while the same word-order in sentence (3b) presents no problem. The underlying reason for the difference is one of semantic role. While ‘analysts’ can function in the role of Recipients, ‘stains’ cannot (they are merely directional Goals, i.e., where the solvent gets applied). Cognitively, stains cannot “possess” a solvent the way analysts can “possess” a report. In Ithkuil, the semantic roles would be clearly defined by the case-markings of the participants. Therefore, syntactically inconsistent pairs such as (3b) and (4b) do not occur.

Sometimes, rather than semantic role, it is a participant’s relationship to an underlying clause that presents the problem. For example, *He’s a tall president* means ‘He’s a president who is tall.’ So why doesn’t *He’s a likely president* mean ‘*He’s a president who is likely?’ The reason is that, while ‘tall’ describes its adjacent referent ‘president,’ ‘likely’ does not describe its adjacent referent. Rather, ‘likely’ describes an underlying process in which that referent is or will be engaged, i.e., ‘running for president.’ Therefore, while these two sentences are morpho-syntactically identical in English, their Ithkuil translations are quite different from one another morpho-syntactically.



Qi alka'eins eádrai'seumi.

ma-AFF STA-'height'-NRM/DEL/N/CSL/UNI-PTT_{2/6}-IFL MNF-FRAMED/FML-'preside/govern'-COR-NRM/PRX/M/CSL/UNI-ROL_{2/4}-FNC

He's a tall president.

[literally: *There is much height to him who formally presides.*]

[LISTEN](#) 



Qa eadramtôçqeumi.

ma-OBL MNF-'preside/govern'-NRM/ICP/M/CSL/UNI-PRB₂/7-ROL₂/4-FNC-FML

He's a likely president.

[literally: *He is one who probably will begin to formally preside.*]

[LISTEN](#) 

9.2.3 Negation

Negation is another morpho-semantic area where translation from English or other Western languages can be tricky. Consider the English sentence *Shelly doesn't think they like her cooking*. Note this sentence does not mean what a literal word-for-word analysis implies, i.e., 'That they like her cooking is not something that Shelly is thinking.' Rather, the correct meaning is 'Shelly thinks that they don't like her cooking.' Ithkuil is very precise in specifying exactly what components of a sentence are to be negated. Use of the four affirmation/negation affixes from [Section 7.4.9](#) in conjunction with a formative carries very specific information as to what morphological components of a sentence are being affirmed or negated and to what degree. Using these four affixes alone, Ithkuil can distinguish between the following four sentences without any syntactic rearrangement of the words:

I don't want to begin singing.

I'm beginning to not want to sing.

I want to not begin singing.

I'm beginning to want to not sing.

Thus when translating negative sentences into Ithkuil, care must be taken to not syntactically "rearrange" a sentence as with *Shelly doesn't think they like her cooking*. Additionally, Ithkuil makes a morpho-semantic distinction not found in Western languages: the difference between **absolute negation** and **relative negation**. Absolute negation implies that the non-existence or non-occurrence of an entity, state, or event is due to contextual inapplicability, while relative negation indicates that the non-existence or non-occurrence is circumstantial. This distinction is illustrated in the two sentences below:



Ilmaṭär êqeil.

DYN-'sing'-NRM/DEL/N/CSL/UNI-NA1₁/5-FML STA-'girl'-ACT-NRM/DEL/M/CSL/UNI-IFL

The woman doesn't sing [even though she can, i.e., she chooses not to].



Ilmaṭir êqeil.

DYN-'sing'-NRM/DEL/N/CSL/UNI-NA1₁/4-FML STA-'girl'-ACT-NRM/DEL/M/CSL/UNI-IFL

The woman doesn't sing [because she can't, i.e., she is mute].

9.3 THE "CARRIER" ROOT

Since the Ithkuil declensional and conjugational system is based on multiple patterns of vowel mutation, affixation, and shifts in tone and stress, proper nouns such as personal and place names, as well as non-Ithkuil words from other languages are by nature morpho-phonologically incompatible with such as system. Nevertheless, such words can be declined or conjugated like any other Ithkuil formative by means of the "carrier" root **-p-**. In addition to this use, the carrier

root is employed in certain other contexts as well, as described below.

9.3.1 Words that Cannot Take Affixes or Be Mutated

The three primary stems of the carrier root, (**a**)**p-**, **ep-**, **up-**, are respectively associated with animate beings (the two complementary derivatives **op-** and **āp-** being humans versus non-humans or figuratively/metaphorically animate entities); inanimate entities (the two complementary derivatives **öp-** and **ēp-** being objectively concrete entities versus subjective entities such as thoughts, emotions, sensations, etc.); and finally intangible abstract referents (the two complementary derivatives **ip-/ūp-** and **ōp-** being place names and abstractions). The carrier stem is placed immediately before the proper noun or foreign word or phrase, then declined or conjugated normally for any desired morphological categories, even verbal categories. The proper noun or foreign word or phrase itself is left unchanged. The non-Ithkuil word or phrase is pronounced with either high or rising tone on its last syllable, in order to clue the listener that the following syllable/word returns to being Ithkuil. For those rare instances where the non-Ithkuil word or phrase natively carries grammatical tone (e.g., properly pronounced Cantonese), the end of the phrase can be indicated by either a pause in speech or repetition of the carrier-stem following the phrase. (Note: this repeated carrier-stem would not be indicated in writing - see [Sec. 11.4.](#))

9.3.2 Emphasizing or Highlighting a Particular Category

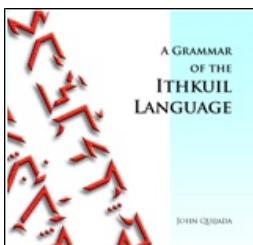
Another use of the carrier root is to emphasize or topicalize a particular affix or grammatical element associated with a word. For example, in English we can say ‘*a big house*’ with extra intonation on the word ‘big’ to emphasize that word. To accomplish such emphasis in Ithkuil, the carrier root is used with the augmentative suffix in conjunction with the noun ‘house’ as opposed to simply using the augmentative suffix on the stem for ‘house.’ No change in vocal pitch or intonation is required, as the grammatically unnecessary use of the carrier root serves to accomplish the required emphasis. Any morphological category manifested by a carrier root rather than an adjunct or mutation serves to emphasize that category. (It should be noted that the use of optional combination and euphonic adjuncts do not accomplish such emphasis. Their use versus non-use imparts no difference in emphasis for the particular morphological categories contained in the adjunct.)

9.3.3 Titles of Address

It should be noted that the use of the carrier root in front of the names of persons serves to function as a title of address corresponding to English *Mister*, *Ms.* or *Miss*. There is no distinction of gender or marital status conveyed by the term.

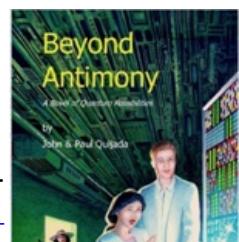
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you’re at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)





(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Ithkuil: A Philosophical Design for a Hypothetical Language



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Chapter 10: Lexico-Semantics

10.1 Systemic Morphological Derivation	10.4 Lexical Generalization
10.2 Dimensional and Descriptive Oppositions	10.5 Lexical Differentiation
10.3 Spatial Position and Orientation	10.6 Comparison to Western Categorization

The term **lexico-semantics** refers to the relationship between the lexicon of a language (i.e., its root-words and word-stems) and the various possible semantic categories created by the human mind. Every language (and particularly every language family) divides the world up differently in terms of what sorts of concepts are made into words and how the meanings of those words reflect the reality around us. In other words, the lexico-semantics of a language answers the questions *what semantic concepts does this language psycho-linguistically categorize into autonomous words and how are each of these categories internally organized?*

Lexico-semantics is extremely important in Ithkuil for two related reasons:

1) Ithkuil morpho-phonology only allows for 3600 possible root words, as explained in Chapter 2. This means that the concepts chosen to be conveyed by these roots must be carefully selected to insure the widest range of conceptualization possible within such a limited framework.

2) We have seen throughout this work how Ithkuil's matrix-like grammatical structure allows for an incredible amount of synergy in terms of morphological word-derivation, generating wholly new, emergent concepts from word-roots, not simply mere conjugations, declensions, and transparent derivations. In order to ensure the maximum amount of dynamism in deriving new concepts morphologically from existing word-roots, it is important that those initial roots be carefully selected in terms of meaning.

In this chapter, we will examine the many considerations that go into the assigning of concepts to those 3600 roots, in order to optimally accomplish what has been demonstrated throughout this work: using the dynamics of Ithkuil morphology to eliminate the need for the hundred thousand or more autonomous word roots of natural languages, or to put it colloquially, "getting the most lexico-semantic bang for the morpho-phonological buck."

We will start first with a review of key components in the systemic design of Ithkuil morphology. This will be followed by sections on those areas of Ithkuil lexico-semantics which are most profoundly distinct from Western languages.

The last section deals with comparison to Western categorizations, examining how Ithkuil lexico-semantics reinterprets certain concepts considered "fundamental" in English and other Western languages.

Note on Ithkuil's Implicit "Theory of Meaning"

For those readers who may be trained in linguistics, particularly cognitive linguistics, it should be noted that at this point in the author's development of the language, a traditional Enlightenment-based theory of meaning, assuming a one-to-one

correspondence between a lexeme and its external “in-the-world” referent, has been implicitly assumed for convenience and/or expediency’s sake. A more careful and rigorous construction for Ithkuil’s lexico-semantics, given the author’s stated design goals (as described in the Introduction section), would not assume such a theory of meaning, but would rather incorporate more recent findings of cognitive science and cognitive linguistics to reflect embodied meaning and metaphor-based conceptualization. However, pursuing such a foundation for the lexico-semantics of the language would, in the author’s opinion, be extremely time-consuming (on the order of many additional years, perhaps decades, to construct). Rather than withdraw the language from public availability for such reasons, the author has chosen instead to adopt a traditional/formalist foundation for its lexico-semantics essentially out of convenience, in order to be able to showcase the language’s morphology.

10.1 SYSTEMATIC MORPHOLOGICAL DERIVATION

Ithkuil systematically uses its myriad of morphological categories to derive secondary concepts from more basic concepts, often eliminating the need for separate lexicalization, i.e., eliminating the need to create separate word-roots for new but related concepts as is so often the case in Western languages. We will explore this system of morphological derivation more closely, particularly in regard to its universality across the spectrum of Ithkuil word-roots.

10.1.1 Stem Derivation from Roots

We have already seen many applied examples of the above-described concepts, particularly in [Section 2.3](#) et seq. regarding the use of the three different **Vr** vowel patterns to derive a trinary array of interrelated stems from a root, as well as shifting the **Vr** vowel of those trinary stems to in turn derive two separate arrays of complementary stems from the initial holistic array of stems. Through this system of vowel shifts, we saw how a single root generates no less than eighteen formative stems, each functioning as a noun or verb. This is illustrated below using the example root **-k-**‘TRANSLATIVE MOTION’.

-K- ‘TRANSLATIVE MOTION’			
INFORMAL Designation		FORMAL Designation	
1. ak- move/motion from one place to another		1. aká- travel/traverse; journey	
2. ek- set in motion/self-directed movement from one place to another		2. eká- set off for/journey to/directed travel toward	
3. uk- move/movement between one place and another (i.e., along line between two points)		3. uká- travel/journey along way between two places	
COMPLEMENTARY STEMS		COMPLEMENTARY STEMS	
1. ok- go = movement outward/away	1. âk- come = movement inward/toward	1. oká- go traveling, be off	1. âká- journey to(ward)
2. ök- go away/move away = increase distance from a starting point	2. êk- come toward/to close the distance = decrease distance toward endpoint	2. öká- travel/journey further away from starting point	2. êká- reach vicinity of, close in on destination
3. îk/ûk- leave/depart = move away from one point towards another	3. ôk- approach = approach one point from direction of another	3. îká/ûká- depart/departure from starting point on journey toward elsewhere	3. ôká- arrive/arrival, reach destination

As described in [Chapter 2](#), this hierarchical pattern of stem derivation and division into complementary stems from a more basic or underlying “holistic” stem allows for significant collapsing in the number of word-roots necessary compared to

Western languages, as words that are semantically interrelated in a hierarchical or complementary fashion can be derived morphologically from a basic root, as opposed to being assigned separate word-roots as in other languages. The above root **-k-** demonstrates how concepts such *come* versus *go* are expressed as complementary derivations of a single underlying concept TRANSLATIVE MOTION. All such complementary stems based on participant perspective are similarly patterned, e.g., *lead/follow, buy/sell, give/take*, etc.

Additionally, this hierarchical structure of stem derivation from a single root using vocalic infixes allows for the creation of “built-in” classification schemes and taxonomies for concepts which require them. Biological taxonomies, for example, can be easily accommodated under this scheme, first dividing the two Forms (Designations) of the root into the animal itself versus the animal as a resource, the holistic stems indicating first the generic species then male versus female. The complementary stems then make the further distinction between wild versus domesticated for the informal stem and between food/prey and derived or processed products for the formal stem.

Using the nine degrees of the Stem Specific Derivative **SSD** suffix **-k** from Section 7.4.13 on such a root, we can extend this scheme to denote specific parts, products or derived resources such as a the milk, oil, meat, skin or hide, tail, tusk or horn, hair or fur (e.g., wool), etc. The Degree of Maturity **MAT** suffix **-p^h** from Section 7.4.10 is also applied to indicate the developmental stage of the animal, providing derived equivalents to words such as *foal, fawn, lamb* or *cub*, from *horse, deer, goat, or lion*.

10.1.2 The Use of Derivational Suffixes

In Chapter 7, we saw how many of the approximately 200 suffix categories can be used to generate both derivative concepts as well as amalgamated gestalts carrying a new holistic meaning. As an example, here are only ten of the various new concepts which can be derived through affixes from the stem **el-** ‘say something [i.e., communicate a verbal message]’:

elalaiq'	‘share a secret’	suffix = DSR _{2/8}
elalêpt	‘news’	suffix = ATC _{2/3}
elalâxh	‘quip’	suffix = SCO _{2/5}
elaluiq	‘praise, adulation’	suffix = NTR _{2/9}
elalôpt	‘lie’[= tell a lie]	suffix = REA _{2/7}
elalaint̪	‘shout out a message’	suffix = STR _{2/8}
elalên	‘persuasive person, a persuader’	suffix = AGC _{2/3}
elalôn	‘liaison, a go-between’	suffix = AGC _{2/7}
elaliuçauk ç	‘whisper sweet nothings’	suffixes = AFT _{2/1} + FRC _{2/2}
elaliucêps	‘cuss, curse’	suffixes = UNQ _{2/1} + MTA _{2/3}

Similarly the use of the Consent **CNS** suffix, the Reason **RSN** suffix, the Expectation **XPT** suffix, the Deliberateness **DLB** suffix, the Enablement **ENB** suffix, the Agency/Intent **AGN** suffix, and the Impact **IMP** suffix from [Section 7.4.12](#) in conjunction w/ Transrelative cases ([Sec. 4.3](#)), provides a means for describing extremely subtle scenarios of causation, willingness, enablement, hindrance, etc. which other languages can only capture via long-winded paraphrase. Employing this array of affixes and cases, a sentence such as *The singer stopped the boys from playing around* can be translated

into Ithkuil in many syntactically equivalent (but morphologically distinct) ways to indicate whether the singer used physical force or persuasion to stop the boys, whether she stopped them via an indirect enabling means (such as turning out the lights), or whether it was the boys themselves who stopped upon hearing her voice or seeing her beauty, or even by her mere presence interrupting them (such as walking in on them inadvertently), as well as the degree of willingness or consent with which they stopped. The following example sentence further illustrates the complex detail which these suffixes make possible:

Ôqölöñtauspûls êjnelôzra iaçtaxhtiamsít.

STA-'man'-EFF-NRM/DEL/M/CSL/UNI-XPT1/2-DLB2/2-ENB1/6-IFL STA-'bird'-ABS-NRM/DEL/M/CSL/UNI-IMP2/7-IFL

DYN-'room'-NRM/DEL/U/COA/CST-AGN2/9-DEV1/1-FML

Aided by the bird's own stupidity, the man unexpectedly and accidentally killed it without even realizing he'd done so, by inadvertently letting it out of the house.

The **DEV** suffix from Sec. 7.4.9, in first degree, roughly corresponds to the reversive prefixes of English such as 'un-,' 'de-,' and 'dis-' to indicate the undoing or opposite of a word. However, in Ithkuil this suffix is productive for all semantically applicable stems and operates in conjunction with Modality (Section 6.1) and the Modality suffixes from Section 7.4.11 to extend the system of modalities, as illustrated by the following:

*promise to + DEV/1 = foreswear, vow never to
can (know how to) + DEV/1 = be ignorant of
decide to + DEV/1 = avoid
offer to + DEV/1 = refuse to
agree upon/to + DEV/1 = decline to/abstain from
like to + DEV/1 = loathe
fear to + DEV/1 = love to
need to + DEV/1 = dispensable, unnecessary to, can dispense with*

10.1.3 The Use of Configuration, Affiliation, and Context

Each of these categories has means to generate amalgamate, holistic, or emergent concepts from a more basic underlying stem.

10.1.3.1 Configuration: In Sec. 3.1 we saw how applying each of the nine Configuration categories to a stem often generates forms based on amalgamation of sets which require complete relexification when translated into English. Examples are:

*bone → skeleton
strut/girder → frame → framework
component → structure → system
ingredient → compound
food → dish → meal
tool → toolset
do/perform → coordinate
vehicle → convoy
person → group → crowd → masses
activity → process.*

10.1.3.2 Affiliation: In Sec. 3.2 we saw how the four Affiliations can generate new concepts based on delineations of purpose, benefit, or function. Examples include:

*group → team,
grove → orchard
assortment → collection → junk
process → plan*

10.1.3.3 Context: In Sec. 3.6.4 we encountered the AMALGAMATE context, which serves to identify a stem specifically as a gestalt entity, composed of objective and subjective/social elements or components which contribute to the overall nature of the stem. Depending on the stem to which it is applied, the use of the amalgamate can cause relexification in

translating to English. Examples:

demeanor → *personality*
craftsmanship → *artistry*
career → *livelihood*
(one's) past → *(one's) life*
to look after/tend → *nurture*

10.1.4 The Use of Designation and Version

In [Section 3.7](#) on Designation as well as [Section 5.8](#) on Version, we saw how both of these morphological categories create distinctions in word-stems which usually require relexification in translation. The following word pairs illustrate such relexification:

<i>(the) past</i> → <i>history</i>	<i>see</i> → <i>observe</i>
<i>writings</i> → <i>literature</i>	<i>one</i> → <i>single/singular</i>
<i>wordplay</i> → <i>rhetoric</i>	<i>hear</i> → <i>listen</i>
<i>behavior</i> → <i>demeanor</i>	<i>desire</i> → <i>request</i>
<i>wander</i> → <i>travel</i>	<i>query</i> → <i>research</i>
<i>eat</i> → <i>dine</i>	<i>ponder</i> → <i>analyze</i>
<i>containment</i> → <i>storage</i>	<i>path</i> → <i>route</i>

Again we see that application of morphological categories to word-stems serves to generate forms which substitute for lexical distinctions in other languages, thus helping to reduce the size of the Ithkuil lexicon.

10.1.5 The Use of Phase and Extension

The use of the nine Phases, as explained in [Sec. 5.5](#), used in conjunction with the category of Extension ([Sec. 3.4](#)) gives rise to an elaborate means by which to describe phenomena in terms of duration, periodicity, repetition, iterativity, and cyclic phenomena. When used in conjunction with the twelve Modulative suffixes from [Sec. 7.4.7](#), the Iteration **ITN** and Repetition **RPN** suffixes from Sec. 7.4.5 and the Intensity **ITY** suffix from Sec. 7.4.10, Phase becomes an extremely powerful means to describe with great subtlety all phenomena which display vibratory, oscillative, wavering, on-off, or variative movement, motion, or intensity. As an example, specific application of the various phases combined with the aforementioned suffixes and other suffix categories to a single stem **-nt-** '[make] sound' can give rise to translations for all of the following English words:

acoustic	faint sound		sonorous
audible	fizz	pit-a-pat	sound
auditory	gag	plink	staccato
bang	grate	pop	stifle
blast	hiss	quaver	strident
boom	howl	quiet	stutter
buzz	hullabaloo	racket	swirl
cacophony	hum	rap	swish
calm	hush	rat-a-tat	tap
click	jangle	rattle	thump
clickety-clack	kerplunk	raucous	tick
clink	knock	resonant	toot
crack	loud(ness)	reverberate	twang
crackle	lull	ring	uproar
crash	moan	roar	vibration
din	muffle	rumble	whir
discord	murmur	rush of sound	whistle
dissonance	mute	rustle	whiz
drone	noise	screech	whoosh
echo	pandemonium	shrill	

explosion

peal

silence
snap

The same principles applied to other types of stems give rise to a plethora of complex and subtle means for describing motions, paths, trajectories, movement in situ, light emanation, reflection, consistency, texture, variation in shape, visual complexity, etc.

10.1.6 Note on the Absence of Lexico-Semantic “Classes”

It should be noted that in previous versions of the language, formative roots were divided into lexico-semantic “classes” designated by the phonological patterning of the root (there were 17 such classes in the original version of Ithkuil, ten such classes in llaksh). In the current version of the language, these lexico-semantic classes have been eliminated, as the author has realized that the establishment of such classes does not serve any real functional purpose in “real-world” spoken/written contexts; the ability to identify the semantic class of a stem does not sufficiently aid in understanding the stem’s specific meaning. Therefore, the assignment of phoneme patterns to roots in Ithkuil is now arbitrary. While the astute reader will note that many roots pertaining to a specific semantic notion (e.g., animals, plant and substance taxonomies, spatial position, etc.) still have similar phonological patterning, such patterning is nevertheless merely incidental and is without formal significance.

10.2 DIMENSIONAL AND DESCRIPTIVE OPPOSITIONS

Another area of the lexicon where Western languages tend to divide up reality into binary oppositions is the realm of spatial dimensions, where pairs such as *near/far*, *small/large*, *thin/thick*, *narrow/wide*, *tall/short*, *light/heavy*, *hot/cold*, etc. are commonplace. As with the perspective-based oppositions seen in the preceding section, again Ithkuil lexico-semantics treats such concepts in a wholly different way. Rather than lexicalize such concepts as pairs of binary oppositions, Ithkuil delineates these qualities as *varying points along a continuous range*. In other words, in Ithkuil you do not say *X is cold* and *Y is hot*, but rather *X has less temperature* and *Y has greater temperature*. Similarly, one does not say *A is near to me* and *B is far from me*, but rather *the distance from me to A (or proximity of A to me) is less than the distance from me to B (or proximity of B to me)*. Note that the choice of translation for the latter stem as either ‘distance’ or ‘proximity’ becomes arbitrary, as the real meaning of the Ithkuil formative is ‘amount of linear space separating one party from another.’ Virtually all Western descriptive and dimensional oppositions are similarly handled in Ithkuil as mere variance in the quantity of a single quality, the degree of an attribute, or the extent along a spatio-temporal range or continuum.

10.3 SPATIAL POSITION AND ORIENTATION

Concepts of spatial position and orientation are expressed very differently in Ithkuil as compared to Western languages such as English. The three major differences are explained below, each of which will be explored in detail in the sections which follow.

- 1) Ithkuil does not employ prepositions; all notions of spatial relationships, position, and orientation are designated by nominal/verbal formatives.
- 2) While Western languages allow spatial/positional reference to function autonomously irrespective of the speaker’s cognitive or semantic intent, Ithkuil subordinates spatial/positional reference at the lexico-semantic level in deference to the cognitive or semantic purpose of an utterance. What this means is that sentences describing spatial relationships or positional reference are only used when the underlying intent of the speaker’s utterance is purely to specify spatial or positional reference information. If, in fact, the underlying intent of the utterance is to show some functional or purposeful relationship (where a spatial relationship is merely coincidental or consequential), the Ithkuil sentence will describe this function or purpose, not the spatial relationship. For example, in answer to the question *Where’s Billy?* an English speaker might give answers such as (a) *He’s standing right next to Sam*, or (b) *He’s in bed*, or (c) *He’s in the bathtub*. While each of these sentences gives spatial information, only the first is truly intended to convey spatial information as its purpose, while sentences (b) and (c) imply information that is, in fact, more relevant than the spatial information given, e.g., sentence (b) could be restated as ‘*He’s sleeping (or sick)*,’ while sentence (c) could be restated as ‘*He’s bathing*.’ An Ithkuil speaker would not utter sentences like (b) or (c) in answer to the query about Billy, since he/she would assume the

question *Where's Billy?* is intended to inquire only about Billy's physical position in absolute space. If the questioner had, in fact, been seeking non-spatial information, he/she would have asked the Ithkuil equivalent of *What's Billy doing?* or *What's happening with Billy?* to which a Ithkuil speaker would answer with sentences corresponding to the rephrased versions of (b) or (c), not their original versions.

3) Ithkuil utilizes an absolute coordinate system of comparative spacial reference, not a relative one as found in most languages. Note the positional ambiguity inherent in sentences such as *He's standing to the left of the desk*. To be meaningful, the listener must first determine from whose perspective the speaker is referring (i.e., do we mean the speaker's left, the addressee's left, the desk's left relative to the position of the speaker, the desk's left relative to the position of the addressee, or the desk's left relative to the direction the desk is oriented/facing?) Such ambiguity occurs because Western languages employ a relative coordinate system which can shift from one participant or referent object to another. Ithkuil spatial reference employs an absolute coordinate system independent of the perspective of a participant (e.g., the speaker or addressee) or referent object (i.e., the thing(s) whose position is being described), as opposed to the relative coordinate system found in Western languages. The Ithkuil system allows listeners to understand exactly the spatial relationship and orientation of any object(s) in absolute space, irrespective of anyone's (or anything's) personal perspective.

10.3.1 Formatives vs. Prepositions

Besides lexically “partitioning” the world of two- and three-dimensional space in different ways than in Western languages, Ithkuil has no prepositions. Rather, Ithkuil utilizes formatives which describe a spatial relationship between two objects or between an object and an associated background, the nearest translations being a noun meaning “the area X” or a verb meaning “to be positioned X”, where X corresponds to a Western preposition or positional adverb such as “in” or “inside.”

10.3.2 Underlying Cognitive Purpose of an Utterance

Ithkuil grammar considers the functional relationship between two objects to be primarily relevant, not their spatial orientation or position relative to each other (or between an object and its background). When it comes to describing an object against a background or the relationship between two objects, Ithkuil grammar is more interested in answering the question *How do X and Y function relative to each other*, rather than *How are X and Y positioned in space relative to each other?*

For example: in uttering the English sentence *The vase is on the table*, is the intention of the sentence to tell the listener the physical coordinate position of the vase in 3-D space relative to the table, or to tell the listener that the vase is being physically supported (i.e., against gravity) by the table? If the intention is the former, the corresponding Ithkuil sentence would indeed utilize a spatial formative translatable as ‘manifest self on the top side of a surface that is horizontal relative to the direction of gravity.’ However, if the intention is to actually indicate support against gravity, the Ithkuil sentence would not utilize a spatial reference at all, but rather translate the sentence more or less as *The table is supporting the vase*. As a result, spatial, locative, or orientational formatives in Ithkuil are used far less often than corresponding prepositions and spatial constructions in English or other Western languages. Note the following examples illustrating how various English sentences utilizing the concept ‘in’ (meaning ‘inside’ or ‘into’) are translated into Ithkuil using various non-spatial roots based on reason or purpose.

ENGLISH SENTENCE	CONCEPT CORRESPONDING TO 'IN(SIDE or INTO)'	NEAREST TRANSLATION TO Ithkuil EQUIVALENT
<i>The man works in(side) that building.</i>	general locational reference where idea of interiority or containment is incidental	<i>The man works at that building.</i>
<i>The book is in that box.</i>	physical containment only with no specific purpose	<i>That box contains the book.</i>
<i>You'll find pencils in(side) the small blue can.</i>	incidental, temporary, or circumstantial constraint/holder to prevent spillage from gravity	<i>The small blue can holds the pencils you're seeking.</i>
<i>I poured soup in(to) the bowl.</i>	same as above	<i>I enabled the bowl to hold soup</i>
<i>We stayed in(side) due to the rain.</i>	shelter, containment for purpose of protection	<i>We shelter ourselves from the rain.</i>
<i>He placed the sword in(side or into) its sheath.</i>	containment in fitted covering for purposes of protection	<i>He sheathed the sword.</i>
<i>He stayed in(side) his room.</i>	containment for purpose of privacy	<i>He shuttered himself.</i>

<i>The tiger was kept in(side) a cage.</i>	containment to prevent escape	<i>The tiger remained captured.</i>
<i>There are high concentrations of lead in(side) that pottery.</i>	ingredient, composite substance	<i>That pottery contains much lead.</i>
<i>Microchips can be found in(side) any machine these days.</i>	inherent or integral component	<i>These days, any machine incorporates microchips.</i>
<i>I put fuel in the gas tank.</i>	integral component having function to hold or contain other component	<i>I (re-)fueled the gas tank.</i>
<i>We'll never know what's in(side) her head.</i>	intangible containment	<i>We'll never know her thoughts.</i>
<i>He has a tumor in(side) his pancreas.</i>	enveloped to inaccessible depth by surrounding medium	<i>His pancreas "harbors" a tumor.</i>
<i>He hammered a nail in(to) the wall.</i>	fastening/connecting	<i>He fastened the nail to the wall with a hammer.</i>
<i>The child tried putting the square block in(side or into) the round hole.</i>	fitting together one object to another	<i>The child tried to fit the round hole and the square block together.</i>

This functional prioritization notwithstanding, Ithkuil is nevertheless able, if necessary, to describe true spatial relationships and orientations quite specifically. However, it does so in ways that are very unfamiliar in terms of Western grammar. These are described in the following section.

10.3.3 Absolute vs. Relative Spatial/Positional Coordinates

While Western languages are capable of describing the physical position and orientation of object in absolute terms (e.g., *My hometown is located at 93°41'36"W by 43°12'55"N*), it is not normal to do so in general parlance. Rather, Western spatial position and orientation is normally relative, i.e., described from the dynamic perspective of the two objects themselves or from the perspective of a third party observer (usually, but not exclusively, the speaker). Therefore, if I describe the position of objects in my backyard to you on the telephone, and you have never seen my backyard, phrases such as 'the swingset is against the wall,' 'the barbecue is sitting to my right,' 'the elm tree is behind the shed' and 'the rose bush is beyond the bird fountain' convey little information without first having to establish a common frame of reference based on where the speaker is positioned relative to the edges of the yard (in order to interpret what he means by 'beyond the fountain'), which way he is facing relative to the yard (in order to interpret what he means by 'to my right'), perhaps even the orientation of the shape of the yard relative to some external absolute system of orientation (e.g., the four cardinal directions N, S, E, W).

In such a relative scheme concepts such as 'to my right' change completely if I turn my body 180 degrees. Confusion also occurs when I say 'to the left of the chair.' Do I mean to the left side of the chair from my (the speaker's) perspective? Or do I mean to the left side of the chair from the perspective of someone sitting in the chair?

Ithkuil avoids such confusions by being based on an absolute coordinate system of spatial reference as opposed to a relative system (similar in nature to the absolute system used in navigation based on the four cardinal points.). Very few languages on Earth utilize such absolute systems to the exclusion of relative systems. (Examples include Guugu Yimidhirr, an Australian aboriginal language; Tzeltal, a Yucatec Mayan language; and Yurok, an Algonquian Indian language of Northern California). Ithkuil utilizes three different absolute coordinate schemes, each functioning within a different speech context. These coordinate systems establish a three-dimensional right-angled coordinate grid superimposed upon space, with the X-axis reckoned from a line perpendicular to the direction of gravity (which, for practical purposes, we may term "horizontal"), the Z-axis reckoned by a line corresponding to the direction of gravity (which may be termed the "vertical") and the all-important Y-axis (which differentiates a relative system from an absolute) derived from one of three points of reckoning depending on which coordinate scheme is being utilized. The three schemes are as follows:

1) Solar-based system. This is the standard Ithkuil system of reckoning. The line of the Y-axis runs parallel to the rising and setting points of the sun in mid-summer, with the vector oriented in the direction of the setting sun. Note that the alignment of this Y-axis relative to the X-axis is variable; i.e., the line connecting the rising and setting points of the sun merely designate the *direction* of the Y-axis, not its actual position. This is necessary so that descriptions of spatial relationships can be made using a "octant locator" system based on this grid, where any two objects can be made to lie within different octants relative to each other (this will be illustrated below).

Use of this solar-based reckoning system continues at nighttime and on overcast or rainy days, based on society's collective knowledge and/or recollection of landmarks indicating the rising and setting points of the sun. Use of this system even continues indoors if there exists a collective understanding of the orientation of the building/structure/room relative to the solar-based Y-axis (i.e., everyone in the room can still tell the orientation of the outdoor Y-axis, whether by

sight through windows, or by noticing that the length-width ratios of the room are aligned with the outdoor Y-axis).

2) **Length vs. width of enclosed space or room.** In indoor situations where the orientation of the outdoor solar-based Y-axis is unknown (or cannot be readily determined on a continuous basis as new speakers enter the room), an arbitrary Y-axis is connoted by the length of the room in a direction away from whichever end of the room displays a visibly unique feature (e.g., the doorway, a window, an alcove, an imposing piece of furniture, a stage or dais, etc.), this symbolically substituting for the position of the rising sun. This is the coordinate system which would be employed in theaters, enclosed banquet halls without windows, and cellars without windows or ready access to outside orientation.

3) **Arbitrarily delineated axis based on local landmarks, objects, or persons.** This is similar to a Western relative system in which the speaker announces the orientation perspective being utilized. An Ithkuil speaker would consider this a highly unusual and “affected” method of reckoning. Nevertheless, it is possible to designate a personally defined reckoning system using words to designate the origin point and direction of the Y-axis vector, examples translatable by such phrases as ‘based on a vector from me to that large window’ or ‘based on a vector between the shed and the big oak tree.’ In fact, this is the purpose of the NAVIGATIVE case (see [Sec. 4.7.6](#)). The primary use for this system of reckoning is literary or narrative, such as when a speaker tells a story of another time and place, in which he/she wishes to describe spatial relationships solely within the context of the story in order to convey a mental map or image of the goings-on to his/her audience.

10.3.3.1 Describing Spatial Relationships between Two or More Objects. Using such a triaxial three-dimensional grid, Ithkuil then lexically divides up space into “octants”, four quadrants to each given “hemisphere” of absolute space delineated by the three axes, for a total of eight octants.

+X / +Y / +Z = “right / ahead / above” = Octant 1 = Root: **-KST-**
+X / +Y / -Z = “right / ahead / below” = Octant 2 = Root: **-KŠT-**
+X / -Y / +Z = “right / behind / above” = Octant 3 = Root: **-PST-**
+X / -Y / -Z = “right / behind / below” = Octant 4 = Root: **-PŠT-**
-X / +Y / +Z = “left / ahead / above” = Octant 5 = Root: **-KSP-**
-X / +Y / -Z = “left / ahead / below” = Octant 6 = Root: **-KŠP-**
-X / -Y / +Z = “left / behind / above” = Octant 7 = Root: **-PSK-**
-X / -Y / -Z = “left / behind / below” = Octant 8 = Root: **-PŠK-**

There are eighteen additional roots corresponding to the above where either one or two of the X/Y/Z values are zero, indicating concepts equivalent English phrases such as ‘neither above nor below,’ ‘straight down,’ ‘straight ahead,’ ‘directly behind,’ ‘straight up,’ ‘on the same plane as,’ etc.

The **SSD** suffix in turn is used to specify translative movement from a starting octant specified by the stem toward an endpoint specified by the suffix, as follows:

Degree 1	moving toward Octant 1
Degree 2	moving toward Octant 2
Degree 3	moving toward Octant 3
Degree 4	moving toward Octant 4
Degree 5	moving toward a position between octants, (i.e., either X = 0, Y = 0, or Z = 0)
Degree 6	moving toward Octant 5
Degree 7	moving toward Octant 6
Degree 8	moving toward Octant 7
Degree 9	moving toward Octant 8

Additionally, the **LCT** suffix is used with these roots to identify the location of objects within a specific octant. The above octants are indicated in the illustrations below.

Because the lateral alignment (but not direction) of the solar-based X and Y-axes are variable (i.e., each can be slid laterally relative to the other axis), any two objects whose relative positions are to be described can be made to fall within two different octants, as illustrated in figures A, B, C and D below (Figure A represents the background context for which Figures B, C and D present varying positional frames of reference).

Figure A

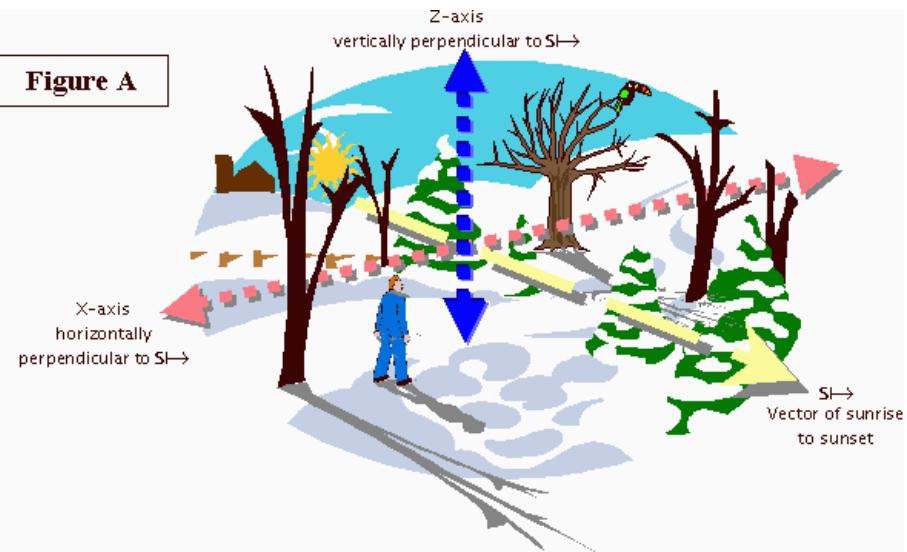
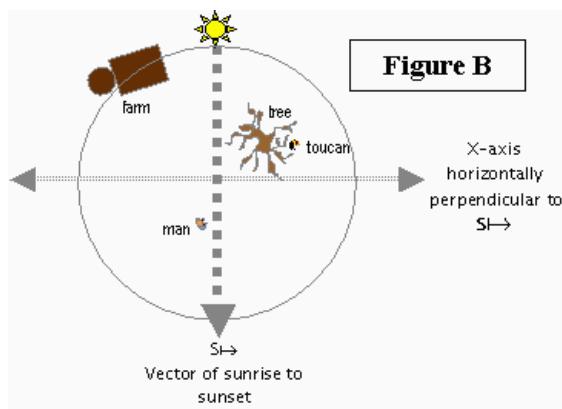


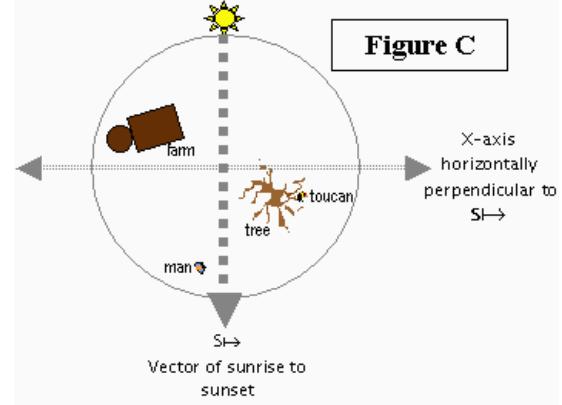
Figure B



TOP VIEW LOOKING DOWN ALONG Z-AXIS
WITH X- AND Y- AXES ALIGNED TO
POSITIONALLY DIFFERENTIATE THE MAN
AND THE TOUCAN:

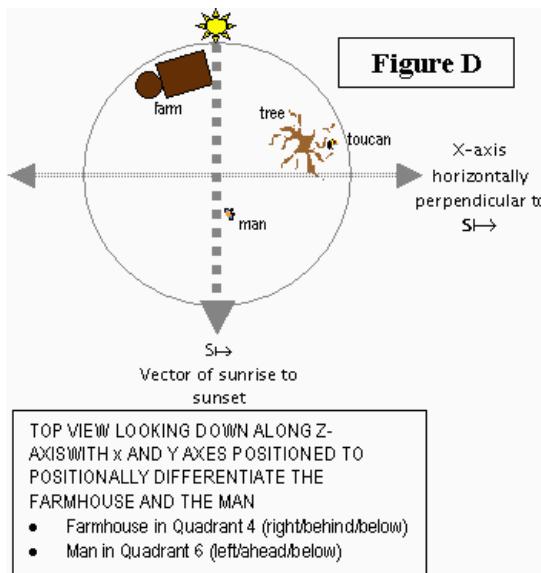
- Man in Quadrant 2 (right/ahead/below)
- Toucan in Quadrant 7 (left/behind/above)

Figure C



TOP VIEW LOOKING DOWN ALONG Z-AXIS WITH
X AND Y AXES POSITIONED TO POSITIONALLY
DIFFERENTIATE THE TOUCAN AND THE
FARMHOUSE

- Toucan in Quadrant 5 (left/ahead/above)
- Farmhouse in Quadrant 4 (right/behind/below)



It is the ability to “slide” the axes of this three-dimensional grid that allows Ithkuil to easily describe the relative position of objects in an absolute manner. Because the grid can be arranged so that any two objects each fall into different octants, a series of octant-to-octant relationships between the two objects can be lexified. Thus, each of the above roots has a stem which, in conjunction with a set of affixes, designates a spatial relationship between an object occupying that octant and a second object occupying any of the seven other octants. For the purpose of this analysis, we will call each of these octant-to-octant static relationships a “positional frame.” (the leftover affixes refer to (1) 1st object in motion while 2nd object at rest, and (2) 2nd object in motion while first object at rest. Used to mark the participant nouns with motion sentences described below.)

Additionally, such a positional reference system allows a speaker to describe exactly the spatial relationships between two objects in motion relative to each other. This is done in Ithkuil by stating that two objects are moving from positional frame A toward positional frame B. If one remembers that, by “positional frame” we mean a spatial relationship between two objects, not a specific location in space, it can be seen how such a simple formula easily describes the relative trajectories of two objects. An Ithkuil speaker is describing exactly how two objects are moving through space by stating in one short sentence the octant-to-octant relationship the two objects have to start with, and the octant-to-octant relationship they will have when the motion is ended. The root used to describe the motion indicates the nature of the motion in terms of its smoothness, speed, etc.

To insert a third party into a positional frame (such as describing where the speaker or addressee or third party is situated relative to the two objects described in the positional frame) a case-frame clause is added to the sentence in the concursive case (“while/during/at the time of”) which states the positional frame between that third party and the FIRST party (unless the 2nd party is overtly specified). Example: “The dog and the ball M’d while the cat N’d,” where M is the positional frame of the dog and ball and N is the positional frame between the cat and dog.

Based on the above, we can see just how exact Ithkuil can be in describing relative position between objects in an absolute manner. This is best illustrated by narrowly translating into English an Ithkuil sentence which describes a three-party positional situation.



Qi’êlafs âmmul âhiogwokstatükai íxi’asa aqt^hu pštâ’at.

STA-'woman'-CNR-NRM/DEL/M/CSL/UNI-MVT1/5-IFL STA-'child'-ABS-NRM/DEL/M/CSL/UNI-IFL
NNR-CNF-DYN- [incorp. stem: 'run']-'Octant-1'-NRM/DEL/U/CSL/UNI-**SSD1/8**-IFL-EXS/ISR FRAMED-DYN-'see'-CNR-NRM/PRX/M/CSL/UNI-FML
Ref2:OBL-Ref1:1m/Ref2:ua-Ref1:IND STA-'Octant-4'-LOC-NRM/DEL/U/CSL/UNI-IFL

There is no way to translate this Ithkuil sentence into everyday English except via inadequate approximation, thus: *The woman stood still as the boy ran from ahead and above her, then past her, while I watched them from behind and below.* However, a more exact, narrow translation of this sentence, capturing all of the positional/orientational specificity of the original, would run as follows:

As the woman held still, the boy ran from a position above, ahead of, and to the right of her relative to the direction of the sunrise-to-sunset vector, a plane perpendicular to it, and the axis of gravity, toward a position

still above, but behind and to the left of her relative to the same directional vector, perpendicular plane and gravitational axis, as I was watching them from below, behind, and to the right of her relative to the same vector, plane, and axis.

10.4 LEXICAL GENERALIZATION

In a word-for-word comparison to a Eurocentric vocabulary, especially one as large as that of English, the Ithkuil lexicon appears very overgeneralized in many respects. At first impression, it appears that shades of meaning expressed by multiple words in English are expressed by only one root in Ithkuil. As we have seen repeatedly throughout this work, this is primarily due to the fact that shades of meaning for a single underlying cognitive concept are normally differentiated at the morphological level in Ithkuil, as opposed to the lexical. Nevertheless, there are several lexico-semantic areas where Ithkuil truly does generalize in comparison to Western languages. This occurs primarily where (1) Western vocabulary distinguishes separate lexemes for a redundant concept based on different participants to, practitioners of, or manifestations of that concept, and (2) where lexification is at an arbitrarily detailed or particularized level. These topics are discussed in detail in the following sections.

10.4.1 Consolidation of Unnecessary Distinctions

As an example of lexical generalization in Ithkuil (or over-lexicalization in English!), compare the following words for animal vocal sounds: *meow*, *bark*, *whinny*, *chirp*, *moo*, *bray*, etc. Each of these words mean merely to make one's species-specific inherent vocal sound. Ithkuil utilizes only a single stem for this concept (essentially meaning *vocal sound/vocalize* – from the same root which gives the stem for *(human) voice*), based on the logical assumption that, since cats can't bark, whinny or moo, and dogs can't meow, whinny or moo, there is no need to differentiate lexically the innate vocal sound being made by an animal if the animal making the sound is identified in the sentence. Of course, one might argue that English allows for metaphorical or simulative application of such words, as in *The sergeant barked out orders to the platoon*, or *The baby squealed in delight*. Such constructions are perfectly captured in Ithkuil via the [ESSIVE](#) and [ASSIMILATIVE](#) cases, as in *He 'vocalized' the orders like a dog*, or *The baby 'vocalized' like a baby piglet from feeling delight*, or via the manipulation of Function, Incorporation and Format (see [Sections 5.1](#) and [6.4](#)).

Similar series of English words which reduce to a single stem in Ithkuil would be (1) *herd*, *flock*, *pride*, *gaggle*, etc.; (2) *hair*, *fur*, *fleece*, *coat*, etc.; (3) *skin*, *hide*, *pelt*, *pellicle*, *peel*, *rind*, *lambskin*, *leather*, *integument*, etc.

10.4.2 Translative Motion, Paths and Trajectories

By translative motion is meant the idea of an object moving (or being moved) from one location to another. English is particularly rich in its vocabulary to describe the various paths or trajectories of such an object, not only in regard to the "shape" or form of the path or trajectory, but also the means of initiating the movement. Thus we have terms such as *to toss*, *throw*, *pitch*, *hurl*, *fling*, *roll*, *run*, or *pass* a ball or other object. In reaching its destination, the object can *fly*, *float*, *wing*, *pass*, *arc*, *sail*, *plummet*, *drop*, *fall*, *thread*, *hop*, *leap*, *bounce*, *roll*, *zig-zag*, *slide*, *glide*, *slither*, or *jump* its way there.

As we have seen to be the case in other contexts, Ithkuil lexifies concepts of translative motion with a focus on the contexts of purpose and outcome, not on the "innate structure" of the event as an end in itself. Essentially, Ithkuil is less concerned with how the object gets there and is more concerned about why it's going there and whether it arrives. For example, look at the following two columns of English sentences :

I tossed it into the basket.

It sailed into the basket.

I flung it into the basket.

It flew into the basket.

I hurled it into the basket.

It arced its way into the basket.

I pitched it into the basket.

It fell into the basket.

The sentences in the lefthand column describes how I initiate the action while those in the righthand column describe how the object moves. In Ithkuil the lefthand column of sentences would normally all be translated by a single sentence narrowly translatable as *I made it end up inside the basket*, while the righthand column of sentences would all be translated by the exact same sentence minus the [ERGATIVE](#) personal referent *I*, thus: *It ended up inside the basket*.

So where are the words translating the range of descriptive nuance surrounding the means of sending it into the basket and the different trajectories it takes there? In normal Ithkuil speech, such distinctions would be considered irrelevant. This is because Ithkuil grammar questions all acts, conditions and events as to their underlying cognitive purpose. For the above sentences, Ithkuil views them as all having the same underlying purpose: to express that I have caused an object to pass from a state of being in my alienable possession to a state of being within the basket, by passing through the physical space between me and the basket. Therefore there is only one translation for the varying sentence pairs.

Before the reader begins to think that Ithkuil is incapable of distinguishing the shades of meaning present in the above examples, it should be noted that such distinctions can be easily rendered by additional affixes and words describing these concepts. For example, if it is truly necessary to indicate that the object was “flung” into the basket, Ithkuil can augment the sentence *I made it end up inside the basket* to include affixes which indicate use of the hand in a sudden recoil-like motion plus affixes indicating forceful and rapid arrival into the basket, the result being narrowly translatable as *Using my hand in a sudden, subtle, recoil-like motion I caused it to move quickly away and end up forcefully inside the basket*.

While this would more or less accurately capture the nuances of English “flung,” Ithkuil first makes us stop and ask ourselves, why is it even necessary to describe the details of the trajectory and the force initiating it? After all, in a normal everyday contextual setting, if an English speaker were to use the verb “tossed” or “threw” or “placed” or “put” instead of “flung” in the above sentence, would his/her speaker be considered to have been given information any less sufficient or essential for understanding the message and its purpose? All of which again illustrates the dynamism of Ithkuil lexico-semantics: if a complex, highly detailed morphology already conveys a high degree of semantic and cognitive nuance, why belabor the obvious by reinforcing such nuances at the lexical level if the context and underlying cognitive purpose of the utterance does not require it? Thus the Ithkuil language not only captures levels of cognitive detail beyond the scope of Western languages, but it also allows the speaker to avoid having to provide such detail when it is inessential.

10.4.3 No Lexification of Specific Instances of Underlying Processes

In regard to over-lexification in English from a Ithkuil perspective, an example would be *limp*, as in ‘to walk with a limp.’ Ithkuil recognizes that, in observing a person walking with a limp, it is not the condition *per se* that is relevant, but rather the manner in which the condition causes the person to move, i.e. asymmetrically, irregularly, discontinuously in an unexpected way inconsistent with a “normal” or “standard” expectation of walking. Ithkuil speakers would consider English *limp* to represent an arbitrarily specific occurrence of an underlying state of translative movement. To a Ithkuil speaker, what is important is the way the person moves. The idea that a person continues to “have a limp” even when sleeping or sitting is considered absurd. What the person “continues to have” is an underlying physical injury, abnormality, disability, illness, or deformity which causes the person to move asymmetrically when walking. Therefore, instead of *He has a limp because of his war wound*, a Ithkuil speaker would say *He walks asymmetrically/irregularly because of his war wound*.

To illustrate this by analogy, consider a person who, when dancing to rock music, has a tendency to jerk his/her head to the left at the sound of the downbeat. Most English speakers would consider it ludicrous over-lexicalization to propose a verb “spreggie” meaning ‘to jerk one’s head to the left on the downbeat when dancing,’ as in the hypothetical sentence *She spreggles to rock music*. Yet, from the Ithkuil standpoint, there is no difference in arbitrariness between the hypothetical “spreggie” and the actual word ‘limp.’

Based on a combination of the above reasoning surrounding both animal vocal sounds and ‘limp,’ Ithkuil has no words for ‘blind(ness),’ ‘deaf(ness),’ ‘mute(ness),’ ‘dementia,’ or ‘paralysis.’ In Ithkuil, one simply says *He can’t see, She can’t hear, She can’t speak, He can’t think, He can’t move*, or alternately *His faculty of sight (or other sense or innate faculty) doesn’t function/no longer functions*. [Note: each of these sentences would, of course, employ appropriate morphological markers, case, voice, degrees of affixes, etc. to indicate the extent of functional loss, whether temporary or permanent, whether increasing or decreasing, whether externally caused or inherently developed, etc.]

10.5 LEXICAL DIFFERENTIATION

While we have examined the many ways in which the dynamism and logic of Ithkuil grammar eliminates whole swaths of equivalent English vocabulary, there are, nevertheless, many concepts where Ithkuil provides autonomous lexical roots and stems for which neither English nor other Western languages provide similar words and must resort to paraphrase in order to translate. Such concepts are particularly found in the realm of human emotions, social relationships, functional interrelationships between objects, philosophy, psychology, and sensory phenomena.

Underlying such differentiation is the idea that the Ithkuil language is meant to reflect in linguistic terms as close a representation of human cognition and pre-linguistic epistemological categorization as is possible in language without resorting to outright linguistic representations of pure mathematical logic. Since the inner mental life of the speaker is often clouded in vagueness or artificial “surface” categories once represented in spoken languages such as English and other Eurocentric languages, a language which is focused on representing that inner mental life will necessarily require many more words to describe that life than are commonly available in existing human languages.

10.6 COMPARISON TO WESTERN CATEGORIZATION

Western languages have several words and/or concepts for which there is no exactly corresponding equivalent in Ithkuil. These include the concepts embodied in the verb “to be” and “to have.” Ithkuil has no way of truly expressing copula identification corresponding to “be” or “being”, nor any direct translation of possession or ownership equivalent to “have.” Essentially this is because Ithkuil grammar and lexico-semantics do not recognize inherent existential identification or inherent existential possession as true semantic functional categories or fundamental cognitive primitives.

10.6.1 Translating “To Be”

Ithkuil grammar inherently recognizes that the universe is, at any and all moments, and on all scales large and small, in a state of flux. The idea that any given entity can be permanently or innately identified as “being” some other entity is considered nonsensical. Ithkuil grammar has no way of clearly indicating any such notions as “being” or “to be,” as the universe is a universe of actions or states that are the results of actions. Even states, as such, are in flux and different from moment to moment, if only because the mere passage of time itself renders the “static” condition different than it was the moment before. Therefore, one cannot “be” anything else, or for that matter “be” anything at all. Rather, one “does” or “functions as” or “fulfills a role as” or “manifests itself as” something else. Fundamental to Ithkuil grammar are the notions of function and purpose, not mere description; results, not mere means; manifestation, not mere existence. This explains why there is no true distinction between nouns and verbs in Ithkuil, both being mere differences in functional roles played by any given formative concept whose underlying meaning is not inherently nominal or verbal, but rather a conceptual primitive waiting to be manifested as either (1) a representation of an action, process, or event, (i.e., a verb), or (2) as a concrete or abstract entity that is representative of, or embodies the underlying concept (i.e., a noun).

So, an Ithkuil speaker does not say *I am John*, *She is a cook*, *The leaf is green*, *Stan is ill*, or *Murder is wrong*, but rather *One calls me John*, *She cooks [for a living]*, *The leaf [currently] manifests a green color*, *Stan feels ill [or carries a disease]*, and *Murder controverts morality*.

10.6.2 Translating ‘To Have’

In regard to “have” or “having,” Ithkuil views the concept of possession as breaking down into more specific functional states and categories, each operating independently and having little relation to each other. The neutral, default way of expressing “to have” involves placing the possessor in the DATIVE case and utilizing the MANIFESTIVE function of the verb, so that the phrase “*I have a book*” translates more or less as “*There is a book to me*.”

10.6.3 ‘Yes,’ ‘No’ and Other Interjections

As there are no interjections in Ithkuil, there are no true equivalents to “yes” and “no” in Ithkuil. Nevertheless, Ithkuil grammar also allows for the use of Bias suffixes (see [Sec. 5.11](#)) to function as autonomous words to convey attitudes and emotional responses similarly to interjections in Western languages. This phenomenon has already been discussed in [Section 8.4](#). Additionally, [Section 8.3](#) described how affixal adjuncts may be used to convey information similarly to autonomous interjections.

10.6.4 “WH”-Questions

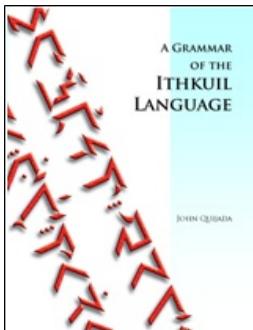
Ithkuil has no equivalent to WH-question words such as *what?* *where?* *when?* *why?* *how?* etc. Instead, statements are made using DIRECTIVE illocution (and hopefully SOLICITIVE bias) to provide the desired information. Thus, instead of asking “Where is the toilet?” or “What is your name?” one says “Please state the toilet’s location” and “Please identify yourself.”

10.6.5 Translating Metaphorically Structured Phrases

Ithkuil grammar recognizes that much of our understanding and expression of everyday experience is structured in terms of metaphor and metonymy (the latter being the reference to an entity by one of its attributes, associations or activities, as in *The ham-and-cheese wants fries with his order* or *The White House has its nose in our business*). Ithkuil allows for the overt designation of metaphorical concepts by several means. These include the [REPRESENTATIONAL](#) context, stem incorporation, the [metonymic MET](#) affix -qt, and the two [part-whole PTF](#) and [PTG suffixes](#) -rs and -š.

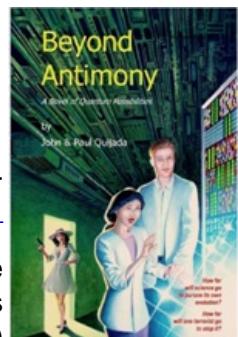
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you’re at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)
(It’s a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a “para-linguistic” interface to a quantum computer.)



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Chapter 11: The Writing System

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The Ithkuil script is a morpho-phonemic script, i.e., the individual characters do not simply convey phonetic (i.e., phonological) information, but also convey grammatical (i.e., morphological) information. Many of the characters are purely morphological in function and without any set phonological value, their specific phonological interpretation being up to the reader based on the flexibility and options inherent in Ithkuil morpho-phonology.

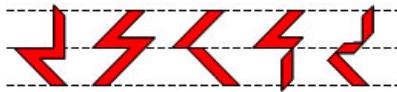
11.1 CHARACTER TYPES

There are four types of characters used in the Ithkuil Script: Primary Case/Aspect characters, Secondary Case/Aspect characters, Tertiary characters, and Consonantal characters. Additionally, there are symbols used for numbers (to be discussed in Chapter 12), separate rules for transliterating non-Ithkuil words alphabetically, and a few punctuation symbols.

11.1.1 Primary Case/Aspect Markers

If present, the Case-Marker character is the first written character in a word. It is normally used to convey the case or case-frame of a formative, however, when the case or case-frame of the formative is the OBLIQUE, it can instead be used to convey one of the following: Aspect, Modality, Validation, or Valence. In addition to these categories, the character also shows the following categories: Configuration, Essence, Affiliation, Extension, Mood, and Version.

Primary Case/Aspect characters are recognizable by the absence of a top or bottom horizontal bar (as is found on all consonantal characters below), as well as a diagonal section of the character either below or above the horizontal mid-line. This diagonal section of the character will always change direction at the horizontal midline of the character. Examples:



11.1.2 Secondary Case/Aspect Markers

As stated above, Primary Case markers can be used to convey only one of the following categories at a time: Case, Aspect, Modality, Validation, or Valence. However, it is often necessary to be able to show more than one of these categories on a formative (i.e., the formative has non-default values for more than one of these categories). In such cases, secondary Case/Aspect Markers can be used. These characters are capable of showing Case, Aspect, and Modality simultaneously. Additionally, they can be used to show non-default values for the categories

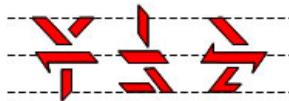
of Phase, Sanction, Designation, and Perspective.

Secondary Case/Aspect markers can be recognized by the presence of a diagonal bar extending the entire length of the character from the top-line (or even above the top-line) all the way to the bottom-line (or even below the bottom-line). This diagonal bar may be broken or modified in the middle by either a horizontal or vertical zig-zag, but will always continue in the same direction as before coming out of the break or zig-zag (unlike Primary Case/Aspect characters which have a change in direction beginning at the horizontal mid-line). Examples:



11.1.3 Tertiary Characters

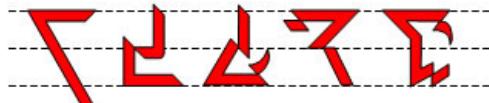
These characters are used, when necessary, to convey the combination of two different aspects, aspect plus modality, aspect plus valence, aspect plus validation, validation plus modality, valence plus modality, or valence plus validation. They are recognizable by having a horizontal bar at the mid-line of the character which is not connected to any vertical or diagonal bars above or below the horizontal bar. The ends of the horizontal bar may be modified by points facing upward or downward. Examples:



11.1.4 Consonantal Characters

These characters are used to convey the consonantal root **Cr**, the incorporated root **Cx** (if present), and any **VxC** consonantal suffixes the formative may have. They are placed following any characters of Types 1, 2, or 3, in the order (Cx)-Cr-(VxC)-(VxC... etc.) If an incorporated root **Cx** is present, it is indicated by vertically inverting the Consonantal character in order to distinguish it from the following **Cr** character. The **Cr** character is also used to convey the categories of Function, Format, Context, Illocution, and Relation, while the **VxC** character conveys affix type and degree, as well as Bias.

Consonantal characters are recognizable by the presence of a horizontal bar either along the top-line or the bottom-line, the ends of which may be modified. Examples:



11.1.5 Example of the Script in Operation

To illustrate further how a morpho-phonemic script operates, we can analyze the function of each character in the following Ithkuil sentence:

⠤⠤⠤⠤⠤

Igrawileitrar oi eglulôn.

DYN-'eat food'-FAC-HOR-NRM/DEL/M/CSL/UNI-NA1₁/5-EXT₂/6-IFL PCL STA-'illness'-IND-NRM/DEL/M/CSL/UNI-AGC₂/7-IFL

If only the physician wouldn't eat his food in one gulp like that.



The shape of this character indicates it is a primary character showing GENITIVE case or, alternately, PRECLUSIVE aspect. The bar below it indicates default PROCESSUAL version and also serves to indicate the character carries its alternate value, i.e., PRECLUSIVE aspect. The lack of a superposed diacritic over the character indicates FACTUAL mood as well as the fact that the word is a formative and not a personal reference adjunct. The lack of a

	diacritic alongside the character indicates MONADIC perspective and INFORMAL designation. The lack of modifications to the top half of the character indicates NORMAL essence and UNIPLEX configuration. The lack of modifications to the bottom half of the character indicates DELIMITIVE extension and CONSOLIDATIVE affiliation.
	The shape of this character indicates it is a consonantal character, /g/; the bottom-half modification adds an /r/ giving the form /gr/. Its position following a primary case/aspect character shows it is a Cr root, -GR-. The lack of modification to the top-bar indicates Pattern 1, Stem 1, 'food and drink; eat and drink one's food' as well as indicating UNFRAMED relation. The superposed dot diacritic indicates DYNAMIC function and default EXISTENTIAL context. The fact the character is not vertically inverted shows the word carries no incorporated stem or format. The absence of an underposed diacritic shows the stem is not triconsonantal or tетraconsonantal. The angular diacritic alongside the character indicates both HORTATIVE illocution and negative polarity (i.e., equivalent to carrying the NA11/5 suffix).
	The shape of this character indicates it is a consonantal character, /t/. Its position following a Cr root and the fact it is vertically inverted indicates it is a V2C derivational suffix. The modification of the bottom-half (actually the top- half due to the vertical inversion of the character) prefixes a consonantal /r/ giving the phonological form /rt/ which is the EXT suffix. The angular diacritic over the character indicates the suffix is Degree 6. The lack of modifications to the top-half (actually bottom-half due to vertical inversion) indicates the formative carries no Bias.
	The shape of this character, its position following a consonantal suffix, the lack of top-half or bottom-half modifications, and the absence of any diacritics all serve to indicate the start of a new word which is a formative (as opposed to a personal reference adjunct) and that it is a primary character showing INDUCIVE case, PROCESSUAL version, NORMAL essence, UNIPLEX configuration, DELIMITIVE extension, CONSOLIDATIVE affiliation, INFORMAL designation, and MONADIC perspective.
	The shape of this character indicates it is a consonantal character, /g/; the bottom-half modification adds an /l/ giving the form /gl/. Its position following a primary case/aspect character shows it is a Cr root, -GL-. The modification to the top-bar indicates Pattern 1, Stem 2, 'illness/sickness' as well as indicating UNFRAMED relation. The absence of a superposed diacritic indicates STATIVE function and default EXISTENTIAL context. The fact the character is not vertically inverted shows the word carries no incorporated stem or format. The absence of an underposed diacritic shows the stem is not triconsonantal or tетraconsonantal. The absence of a diacritic alongside indicates default ASSERTIVE illocution.
	The shape of this character indicates it is a consonantal character, /n/. Its position following a Cr root, the fact it is vertically inverted, and the absence of any bottom-half (actually top-half due to vertical inversion) indicates it is a V2C derivational suffix, AGC. The grave accent-like diacritic over the character indicates the suffix is Degree 7. The lack of modifications to the top-half (actually bottom-half due to vertical inversion) indicates the formative carries no Bias.
	The absence of any secondary case/aspect character or placeholder characters within these formatives indicate default CONTEXTUAL phase and PROPOSITIONAL sanction on both formatives.

As can be seen from the above analysis, the only purely phonological information conveyed by the written form of this sentence consists of the consonantal groupings /gr/ /t/ /gl/ and /n/. The remainder conveys solely morphological/grammatical information by which the reader "re-constructs" the pronunciation based on his/her knowledge of Ithkuil morpho-syntax and the various optional ways in which it maps to the language's morpho-phonology. The non-alphabetic nature of the script, along with the flexibility of Ithkuil morpho-phonology, allows the written form of this sentence to be read in many equivalent ways, such as:



Igrawileit̪ar oi eglulōn.

Oi eir̪t̪ igrawilar ôn eglul.

Çtar-ryigraleit̪ar eglulōn.

If only the physician wouldn't eat his food in one gulp like that.

11.2 DIRECTION OF WRITING

The Ithkuil script is written in a horizontal boustrophedon (i.e., zig-zag) manner, in which the first and every subsequent odd-numbered line of writing is written left-to-right, while the second and every subsequent even-numbered line of writing is written right-to-left. The characters within even-numbered lines written right-to-left retain their normal lateral orientation and are not laterally reversed (i.e., they are not written in a mirror-image manner). A small left-pointed mark like an arrow or left-pointing triangle is placed at the beginning of even-numbered lines (i.e., those written right-to-left) to remind the reader of the line's orientation. The following paragraph shows by analogy how the script is written.

THE ITHKUIL SCRIPT IS WRITTEN IN A HORIZONTAL BOUSTROPHEDON
TNEUQESBUS YREVE DNA TSRIF EHT HCIHW NI ,RENNAM (GAZ-GIZ ,.E.I)
ODD-NUMBERED LINE OF WRITING IS WRITTEN LEFT-TO-RIGHT, WHILE
-TIRW FO ENIL DEREBMUN-NEVE TNEUQESBUS YREVE DNA DNOCES EHT
ING IS WRITTEN RIGHT-TO-LEFT.

11.3 PRESENTATION & ANALYSIS OF THE CHARACTER TYPES

The sub-sections below provide the details of the various characters and character-permutations associated with each character type.

11.3.1 Primary Case/Aspect Characters

The neutral default shape for a Primary Case/Aspect character is as follows:



This shape can then be mutated into a variety of derivative shapes by means of changing the direction of the bars of the character at the mid-line point, extending the mid-line point horizontally, and changing the corner-like vertices to "offset" connections, as illustrated by the examples in [Section 11.1.1](#) above:

The common recognizable elements in any Primary Case/Aspect character, and what distinguishes such characters from the other three character-types, are (1) the absence of a horizontal bar along the top-line and the bottom-line, (2) a diagonal bar running from the mid-line to either the top-line or to the bottom-line or both, and (3) a change in the diagonal bar's (or bars') direction at the mid-line.

A Primary Case/Aspect character usually conveys the case of the formative (see [Chapter 4](#)), however, in the absence of case (e.g., as with a verb), or when the case is OBLIQUE, the character can convey one of the following other categories: Aspect, Modality, Valence, or Validation.

The various ways the character conveys these categories is described below.

(NOTE: If a formative is the first word in a sentence and carries no Aspect or Modality, and the other five categories are in their neutral/default modes (i.e., MNO valence, CNF validation, PRC version, CTX phase, and PPS sanction), then the Primary Aspect/Modality character will be missing, i.e., is not written.)

11.3.1.1 Case: The 96 cases are shown by the main body of the character – there are 24 basic forms corresponding to the first 24 cases. The next group of 24 cases utilizes the same 24 forms laterally reversed. The latter 48 cases utilize these same forms, vertically reversed. These forms are shown below (note that the vertical symmetricality of Forms 1 and 25, as well as Forms 3 and 27, require that Forms 49, 51, 73, and 75 have special forms):

Table 35: Primary Case characters (Note that for the purposes of this table, the VOCATIVE case is

shown in Position No. 48.)

1 OBL	<	25 PUR	>	49 EXC	s	73 CMP1A	r
2 IND	sh	26 CSD	z	50 AVR	z	74 CMP1B	sh
3 ABS	sh	27 ESS	z	51 CMP	s	75 CMP1C	r
4 ERG	sh	28 ASI	z	52 SML	z	76 CMP1D	y
5 EFF	s	29 FUN	z	53 ASS	z	77 CMP1E	s
6 AFF	sh	30 TFM	z	54 CNR	sh	78 CMP1F	z
7 DAT	s	31 REF	z	55 ACS	z	79 CMP1G	s
8 INS	l	32 CLA	z	56 DFF	z	80 CMP1H	y
9 ACT	sh	33 CNV	>	57 PER	sh	81 CMP2A	z
10 DER	l	34 IDP	z	58 PRO	z	82 CMP2B	y
11 SIT	l	35 BEN	z	59 PCV	z	83 CMP2C	y
12 POS	sh	36 TSP	z	60 PCR	z	84 CMP2D	sh
13 PRP	sh	37 CMM	z	61 ELP	z	85 CMP2E	sh
14 GEN	s	38 COM	z	62 ALP	z	86 CMP2F	s
15 ATT	sh	39 CNJ	z	63 INP	z	87 CMP2G	sh
16 PDC	sh	40 UTL	z	64 EPS	z	88 CMP2H	sh
17 ITP	sh	41 ABE	z	65 PRL	z	89 CMP3A	sh
18 OGN	sh	42 CVS	z	66 LIM	z	90 CMP3B	z
19 PAR	sh	43 COR	z	67 LOC	z	91 CMP3C	sh
20 CRS	s	44 DEP	z	68 ORI	z	92 CMP3D	sh
21 CPS	s	45 PVS	z	69 PSV	z	93 CMP3E	s
22 PRD	sh	46 PTL	z	70 ALL	sh	94 CMP3F	z
23 MED	sh	47 CON	z	71 ABL	sh	95 CMP3G	z
24 APL	sh	48 VOC	z	72 NAV	sh	96 CMP3H	sh

11.3.1.2 Configuration and Essence: These two categories (see Sections 3.1 and 3.5) are shown via modifications to the top “end” of the Primary Case/Aspect character, as shown below:

Table 36: Modifications to Primary Case/Aspect Characters Indicating Configuration & Essence

	NRM essence	RPV essence
1 UNI	---	↑ //
2 DPX	↖ //	↖ //
3 DCT	↖ ↗	↖ //
4 AGG	--- ↗	↖ ↗
5 SEG	--- ↗	↖ ↗
6 CPN	↖ ↗	↖ ↗
7 COH	↖ ↗	↖ ↗
8 CST	↖ ↗	↖ ↗
9 MLT	↖ ↗	--- ↗

11.3.1.3 Extension and Affiliation: These two categories (see Sections 3.4 and 3.2) are shown via the bottom “end” of the Primary Case/Aspect character, as shown below:

Table 37: Modifications to Primary Case/Aspect Characters Indicating Extension & Affiliation

	AFFILIATION			
	CSL	ASO	VAR	COA
1 DEL	↓ ↘	↙ ↗	↓ ↗	↖ ↘
2 PRX	↖ ↘	↙ ↗	↖ ↗	↖ ↘
3 ICP	↖ ↗	↖ ↘	↓ ↗	↙ ↗
4 TRM	--- ↗	↖ ↗	↖ ↗	↖ ↗
5 DPL	--- ↗	↖ ↗	↖ ↗	↖ ↗
6 GRA	↖ ↗	↖ ↗	↖ ↗	↖ ↗

11.3.1.4 Perspective and Designation: These two categories (see Sections 3.3 and 3.7) are shown via a diacritic mark written alongside the mid-line of the Primary Case/Aspect character following the character in the direction the line is being written. These diacritics are shown below:

Table 38: Diacritics on Primary Case/Aspect Characters Indicating Perspective & Designation

		PERSPECTIVE			
		MONADIC	UNBOUNDED	NOMIC	ABSTRACT
INFORMAL		---	---	---	---
		---	---	---	---
FORMAL	---	---	---	---	---
	---	---	---	---	---

11.3.1.5 Mood: This category (see Section 5.2) is shown via a superposed diacritic above the Primary Case/Aspect character, as follows:

Table 39: Diacritics on Primary Case/Aspect Characters Indicating Mood

1 FAC	2 SUB	3 ASM	4 SPC	5 COU	6 HYP	7 IPL	8 ASC
◊	▫	▫	▫	▫	▫	▫	▫
---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---

Note: If instead of one of the above, the Primary Case/Aspect character carries a superposed horizontal bar

--- this indicates that the word is a Personal Reference adjunct rather than a formative. In addition, highlighted personal reference adjuncts carry an underposed dot diacritic on the same Primary Case/Aspect character. (The presence of the superposed horizontal bar diacritic on the character prevents this underposed dot from being confused with Version marking explained in the section immediately below.)

11.3.1.6 Version: This category (see Section 5.8) is shown via an underposed diacritic below the Primary Case/Aspect character. These diacritics come in two varieties, standard and alternate. Use of the alternate form of the diacritic indicates that the main body of the character conveys a category other than Case (explained below in Section 11.3.1.7).

Table 40: Diacritics on Primary Case/Aspect Characters Indicating Version

	1 PRC	2 CPT	3 INE	4 INC	5 PST	6 EFC
standard		---	---	---	---	---
		◊	▫	▫	▫	▫
alternate	---	---	---	---	---	---
	▫	▫	▫	▫	▫	▫

11.3.1.7 Aspect, Modality, Valence and Validation: If the underposed version diacritic shown on a Primary Case/Aspect character is in an alternate form (as shown in Table 40 above), then the main body of the character no longer conveys the category of Case, but rather one of the following four categories: Aspect, Modality, Valence, or Validation, depending on which character is displayed (see Sections 5.10, 6.1, 5.7, and 5.9 respectively, for explanations of these categories). The characters normally reserved for Case Nos. 1 through 32 instead indicate

the 32 aspects. The characters normally reserved for Case Nos. 33 through 62 instead indicate the 30 modalities. The characters normally reserved for Case Nos. 63 through 76 instead indicate the fourteen valences, and the characters normally reserved for Case Nos. 77 through 90 instead indicate the fourteen validations. These values are shown in the following tables:

**Table 41: Primary Aspect Characters
(when accompanied by alternate form of underposed Version diacritic)**

1 RTR	↖	9 RSM	↖	17 PMP	↗	25 DSC	↗
2 PRS	⚡	10 CSS	⚡	18 CLM	⚡	26 CCL	⚡
3 HAB	⚡	11 RCS	⚡	19 PTC	⚡	27 CUL	⚡
4 PRG	⚡	12 PAU	⚡	20 TMP	⚡	28 IMD	⚡
5 IMM	⚡	13 RGR	⚡	21 MTV	⚡	29 TRD	⚡
6 PCS	↖	14 PCL	⚡	22 CSQ	↖	30 TNS	⚡
7 REG	⚡	15 CNT	⚡	23 SQN	↖	31 ITC	⚡
8 EXP	↖	16 ICS	⚡	24 EPD	↗	32 CSM	⚡

**Table 42: Primary Modality Characters
(when accompanied by alternate form of underposed Version diacritic)**

1 DES	↗	7 OPR	↗	13 IMS	↗	19 NEC	⚡	25 CML	↖
2 ASP	↗	8 CPC	↗	14 ADV	↗	20 DEC	↖	26 DVR	↗
3 EXV	↗	9 PRM	↖	15 ITV	↗	21 PTV	↗	27 DVT	↖
4 CRD	↗	10 PTN	↗	16 ANT	↗	22 VOL	↖	28 PFT	↖
5 REQ	↖	11 CLS	↖	17 DSP	⚡	23 ACC	↖	29 IPS	↖
6 EXH	↖	12 OBG	⚡	18 PRE	↖	24 INC	↖	30 PMS	↖

**Table 43: Primary Valence Characters
(when accompanied by alternate form of underposed Version diacritic)**

1 MNO	↖	4 RCP	↖	7 DUP	↖	10 IMT	↖	13 IDC	↖
2 PRL	↖	5 CPL	↖	8 DEM	↖	11 CNG	↗	14 MUT	↘
3 CRO	↖	6 NNR	⚡	9 RES	↖	12 PTI	⚡		

**Table 44: Primary Validation Characters
(when accompanied by alternate form of underposed Version diacritic)**

1 CNF	⚡	4 INF	⚡	7 PSM2	⚡	10 CJT	⚡	13 PUT	⚡
2 AFM	➤	5 ITU	➤	8 PPT	↳	11 DUB	↳	14 IPB	➤
3 RPT	↳	6 PSM	↳	9 PPT2	↳	12 TEN	↳		

11.3.2 Secondary Case/Aspect Characters

The neutral, default shape for a secondary case/aspect character is as follows:

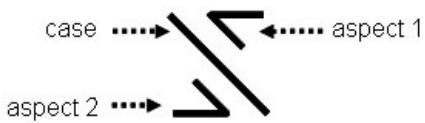


The common recognizable element in all secondary case/aspect characters, and what distinguish them from other character types is a diagonal bar extending from the top-line of the character (or even beyond the top-line) all the way to the bottom-line of the character (or even below the bottom-line of the character). This diagonal line can be interrupted at the mid-line by a horizontally offset juncture or be broken into two separate diagonal lines, but the continuation of the diagonal past the mid-line will always be in the same direction as on the other side of the mid-line. Examples were shown in [Section 11.1.2](#) above.

A secondary case/aspect character normally conveys all of the following categories of information: Case, Aspect, Modality, Phase and Sanction. It can also indicate the categories of Designation and Perspective using the same laterally-placed diacritic as described in [Section 11.3.1.4](#) above. The diagonal bar portion of the character which indicates case normally runs from the upper-right corner of the character to the lower-left corner. The upper-left portion of the character “above” the diagonal bar indicates Aspect, while the lower-right portion “below” the diagonal bar indicates Modality. Phase is indicated by a superposed diacritic above the character, while Sanction is indicated by an underposed diacritic below the character.



If the diagonal bar indicating case has its orientation reversed (i.e., made to run from upper-left to lower-right) then the section “below” the diagonal normally reserved for indicating Modality, will instead indicate a second aspect.



11.3.2.1 Case: The secondary case/aspect character indicates case via the diagonal bar portion of the character, as per the following table. The dotted horizontal lines represent the top-line, mid-line, and bottom-line of the line of writing, in order to illustrate which characters extend above the top-line or dip below the bottom-line.

Table 45: Secondary Case Characters (Note that for the purposes of this table, the VOCATIVE case is shown in Position No. 48.)



1 OBL		25 PUR		49 EXC		73 CMP1A	
2 IND		26 CSD		50 AVR		74 CMP1B	
3 ABS		27 ESS		51 CMP		75 CMP1C	
4 ERG		28 ASI		52 SML		76 CMP1D	
5 EFF		29 FUN		53 ASS		77 CMP1E	
6 AFF		30 TFM		54 CNR		78 CMP1F	
7 DAT		31 REF		55 ACS		79 CMP1G	
8 INS		32 CLA		56 DFF		80 CMP1H	
9 ACT		33 CNV		57 PER		81 CMP2A	
10 DER		34 IDP		58 PRO		82 CMP2B	
11 SIT		35 BEN		59 PCV		83 CMP2C	
12 POS		36 TSP		60 PCR		84 CMP2D	
13 PRP		37 CMM		61 ELP		85 CMP2E	
14 GEN		38 COM		62 ALP		86 CMP2F	
15 ATT		39 CNJ		63 INP		87 CMP2G	
16 PDC		40 UTL		64 EPS		88 CMP2H	
17 ITP		41 ABE		65 PRL		89 CMP3A	
18 OGN		42 CVS		66 LIM		90 CMP3B	

19 PAR		43 COR		67 LOC		91 CMP3C	
20 CRS		44 DEP		68 ORI		92 CMP3D	
21 CPS		45 PVS		69 PSV		93 CMP3E	
22 PRD		46 PTL		70 ALL		94 CMP3F	
23 MED		47 CON		71 ABL		95 CMP3G	
24 APL		48 VOC		72 NAV		96 CMP3H	

11.3.2.2 Aspect: Aspect in a secondary case/aspect character is shown via the portion of the character “above” the diagonal bar. The forms below are the default forms when used in the upper-left portion of the character. For laterally reversed characters, these should be, in turn, laterally reversed, and placed in the upper-right portion of the character. When used to show a second aspect in laterally reversed characters, the form should be vertically inverted and placed in the lower-left portion of the character.

Table 46: Secondary Aspect Characters - shown with OBLIQUE case marking

1 RTR		9 RSM		17 PMP		25 DSC	
2 PRS		10 CSS		18 CLM		26 CCL	
3 HAB		11 RCS		19 PTC		27 CUL	
4 PRG		12 PAU		20 TMP		28 IMD	
5 IMM		13 RGR		21 MTV		29 TRD	
6 PCS		14 PCL		22 CSQ		30 TNS	
7 REG		15 CNT		23 SQN		31 ITC	
8 EXP		16 ICS		24 EPD		32 CSM	

11.3.2.3 Modality: The thirty modalities are indicated in the portion of a secondary case/aspect character “below” the diagonal bar. The particular forms are the same as the first thirty aspect forms, only vertically inverted and

laterally reversed, as shown in the following table.

Table 47: Secondary Modality Characters - shown with OBLIQUE case marking

1 DES		7 OPR		13 IMS		19 NEC		25 CML	
2 ASP		8 CPC		14 ADV		20 DEC		26 DVR	
3 EXV		9 PRM		15 ITV		21 PTV		27 DVT	
4 CRD		10 PTN		16 ANT		22 VOL		28 PFT	
5 REQ		11 CLS		17 DSP		23 ACC		29 IPS	
6 EXH		12 OBG		18 PRE		24 INC		30 PMS	

11.3.2.4 Phase: The nine phases (see [Section 5.5](#)) are shown via a diacritic mark placed over the secondary case/aspect character, as per the following:

Table 48: Phase Diacritics Placed Over Secondary Case/Aspect Characters

11.3.2.5 Sanction: The nine sanctions (see [Section 5.6](#)) are shown via a diacritic mark placed below the secondary case/aspect character, as per the following:

Table 49: Sanction Diacritics Placed Under Secondary Case/Aspect Characters

1 PPS	2 EPI	3 ALG	4 IPU	5 RFU	6 REB	7 THR	8 EXV	9 AXM
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
◆	❖	↳	↘	↖	↗	↗	↙	↘

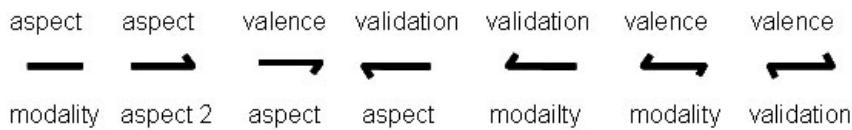
11.3.2.6 Placeholder Character for Phase/Sanction: If there is no secondary Case/Aspect character (or Tertiary character as described below) available by which to display the Phase and/or Sanction diacritics, then a special placeholder character is used, consisting of a single vertical bar extending from the top-line to the bottom-line.

11.3.3 Tertiary Characters

The third type of character is the tertiary character. The common recognizable element in all tertiary characters, and

what distinguishes them from other character types is a horizontal bar extending across the mid-line of the character, not connected to those portions of the character above or below the mid-line. The two ends of this horizontal bar may be modified. Examples were shown in [Section 11.1.3](#) above.

A tertiary character normally conveys one of the following sets of grammatical information: Aspect 1 + Aspect 2, Aspect + Modality, Valence + Aspect, Validation + Aspect, Validation + Modality, Valence + Modality, or Valence + Validation. The particular set of information being conveyed is indicated by the “ends” of the horizontal mid-line bar of the character, as follows:



The forms utilized above and/or below the horizontal bar for showing aspect and modality are the same as those used for secondary case/aspect characters (shown in Sections [11.3.2.2](#) and [11.3.2.3](#) above), vertically inverted and laterally reversed when used below the horizontal mid-line bar. Likewise, valence and validation are each shown by the first fourteen forms used for showing Aspect from Section [11.3.2.2](#) above, again vertically inverted and laterally reversed when used below the horizontal mid-line bar.

As with secondary case/aspect characters, the categories of Phase and Sanction can be displayed on a tertiary character via superposed and underposed diacritics respectively as per Tables 48 and 49 above. The categories of Designation and Perspective can likewise be shown on a tertiary character utilizing the same mid-line diacritics described previously in [Section 11.3.1.4](#).

11.3.4 Consonantal Characters

Consonantal characters, the fourth type of character, are discernible by a horizontal bar along the top-line of the character, or when vertically inverted, along the bottom-line of the character. This horizontal bar will always be connected to the remaining portion of the character. The “ends” of the top-bar as well as the ends of the other bars making up the character are subject to numerous modifications and extensions. Examples of consonantal characters were shown in [Section 11.1.4](#) above:

Consonantal characters will always be the last group of characters in a word, following any and all Type 1, 2, or 3 characters. They convey the following information: main root plus its Pattern, Stem and Relation; incorporated root (if present) plus its Pattern, Stem and Designation; Function; Format; Context; Illocution; Suffixes; and Bias. The manner in which these pieces of morphology are conveyed is described in the sub-sections below.

11.3.4.1 Main Root: If there is no incorporated root in the formative, then the first consonantal character in the word will be the main root consonant form, represented by a single consonant character. This character conveys the actual root Cr form (see Section 2.1), whether the root is one up to five consonants in length. The consonant forms are shown in the table below.

Table 50: Basic Consonantal Characters

p		t		k		q		c		č	
b		d		g		,		ž		j	
p'		t'		k'		q'		c'		č'	
p ^h		t ^h		k ^h		q ^h		c ^h		č ^h	

f	ፊ	t	ቲ	x	ጀ	xh	ጀ	s	ጀ	š	ጀ
v	ጀ	dh	ጀ	h	ጀ	ř	ጀ	z	ጀ	ž	ጀ
w	ጀ	l	ጀ	y	ጀ	l	ጀ	r	ጀ	ç	ጀ
m	ጀ	n	ጀ	ň	ጀ	tł	ጀ				

Various extensions added to the above forms allow for the prefixing of various consonants, e.g., t → lt. These extensions which prefix consonants to existing consonant forms are shown below:

Table 51: Consonantal Character Extensions Indicating Consonant Prefixes

I+C	ጀጀጀ	m+C	ጀጀጀ	r+C	ጀጀጀ	I+C	ጀጀጀ	n+C	ጀጀጀ
s+C (z+C)	ጀጀጀ	š+C (ž+C)	ጀጀጀ	ň+C	ጀጀጀ	z+C	ጀጀጀ	ř+C	ጀጀጀ
ç+C	ጀጀጀ	c+C (ž+C)	ጀጀጀ	č+C / j+C	ጀጀጀ	ž+C	ጀጀጀ	k+C / (g+C)	ጀጀጀ
p+C (b+C)	ጀጀጀ	q+C	ጀጀጀ	t+C (d+C)	ጀጀጀ	x+C	ጀጀጀ	t+C / (dh+C)	ጀጀጀ
f+C (v+C)	ጀጀጀ	xh+C	ጀጀጀ	gemination					

Additional extensions allow for the suffixing of various consonants, e.g., t → tl, as shown below:

Table 52: Consonantal Character Extensions Indicating Consonant Suffixes

C+w	ጀጀጀ	C+y	ጀጀጀ	C+l	ጀጀጀ	C+r	ጀጀጀ	C+ř	ጀጀጀ
C+m	ጀጀጀ	C+n	ጀጀጀ	C+v	ጀጀጀ	C+ň	ጀጀጀ		

Various diacritics are also available for placement underneath the Cr character, used in conjunction with the above sets of extensions in order to indicate tri-consonantal stems and tetra-consonantal stems.

Table 53: Underposed Diacritics to Consonant Characters Indicating Consonant Affixes

C+w	C+y	C+l	C+r	C+ř	C+m	C+n
---	---	---	---	---	---	---
---	---	---	---	---	---	---
◊	◊	◊	◊	◊	◊	◊

s+C	z+C	š+C	ž+C	f/v+C	t/dh+C	



If a tri-consonantal or tetra-consonantal stem cannot be unambiguously indicated using the above extensions and diacritics on a consonantal character, then the **Cr** root can be written using two characters, the second one being a placeholder character consisting of a vertical bar without a horizontal top-bar, running from the top-line to the bottom-line, to which the various extensions shown in Tables 51 and 52 are added.

11.3.4.2 Pattern, Stem and Relation: These categories (see Sections 2.2 and 5.4) are shown via extensions or modifications made to the horizontal top-bar (or bottom-bar if the character is inverted) of the **Cr** consonantal character, as follows:

**Tables 54a and 54b:
Consonantal Character Extensions Indicating Pattern, Stem, and Relation**

UNFRAMED Relation

P1 S1	P1 S2	P1 S3	P2 S1	P2 S2	P2 S3	P3 S1	P3 S2	P3 S3
━	━	━	━	━	━	━	━	━

FRAMED Relation

P1 S1	P1 S2	P1 S3	P2 S1	P2 S2	P2 S3	P3 S1	P3 S2	P3 S3
━	━	━	━	━	━	━	━	━

11.3.4.3 Function: The category of Function (see [Section 5.1](#)) is shown by a superposed diacritic above the **Cr** consonantal character:

Table 55: Superposed Diacritics to Cr Character Indicating Function

STA	DYN	MNF	DSC
	◊	━	Ø

11.3.4.4 Incorporated Root plus Pattern, Stem, and Designation: Incorporated roots are shown using the same consonantal characters as for the **Cr** main root in [Section 11.3.4.1](#) above. The character representing the incorporated root is placed immediately preceding the **Cr** main root character (i.e., so that it becomes the first Type 4 character in the word), and it is vertically inverted. Its pattern and stem are shown using the same extensions/modifications to its horizontal bar (now on the bottom-line rather than the top due to vertical inversion of the character), as shown above for the **Cr** character. Formal designation of the incorporated root is shown by using the FRAMED alternatives of the Pattern+Stem extensions/modifications.

11.3.4.5 Format: Any formative containing an incorporated root must show the category of Format (see [Section 6.4](#)). This is shown by a combination of diacritics above both the incorporated root character and the **Cr** main root

character, as well as vertical inversion of the **Cr** character. Since the **Cr** main root character may already carry diacritics indicating the formative's function, such diacritics will be subject to modification. The values in the table below show an inverted ‘t’ consonantal character representing the incorporated root, followed by a standard ‘t’ consonantal character representing the main root. The pattern of diacritics is shown on these two characters:

Table 56: Pattern of Diacritics and Inversion of Cr Character to Indicate Format

Function	SCH	ISR	ATH	RSL	SBQ	CCM	OBJ	PRT	AFI
↓ STA	ꝑ →	ꝑꝑ							
↑ DYN	ꝑ →	ꝑꝑ							
MNF	ꝑ →	ꝑꝑ							
DSC	ꝑ →	ꝑꝑ							

11.3.4.6 Context: The default EXS Context (see [Section 3.6](#)) is unmarked. The three other contexts are shown via a superposed diacritic over the **Cr** character (or underposed below the character if it is inverted). If the **Cr** character already has a diacritic showing Function or Function+Format, it is modified as per the table below:

Table 57: Modification of Function(+Format) Diacritics on Cr Character to Indicate Context

EXS	FNC	RPS	AMG
ꝑ →	ꝑ	ꝑ	ꝑ
ꝑ →	ꝑ	ꝑ	ꝑ
ꝑ →	ꝑ	ꝑ	ꝑ
ꝑ →	ꝑ	ꝑ	ꝑ

11.3.4.7 Illocution: This category (see [Section 5.3](#)) is shown via a diacritic mark alongside the **Cr** character at the mid-line following the character in the direction the particular line of writing is written (unless the diacritic can be written “inside” a character whose shape has an obvious interior space, e.g., the **I** and **x** consonantal characters).

Table 58: Illocution Diacritics on Cr Character

ASR	IRG	DIR	ADM	HOR	DEC
	----	----	----	----	----

11.3.4.8 Negative Polarity: The Ithkuil script allows for a “shortcut” representation of the NA1/5 negation suffix, the most common method of negating a verb in Ithkuil. This shortcut is accomplished via a diacritic mark alongside the **Cr** character at the mid-line following the character in the direction of writing. The character is shown below in the

first box of Table 59. Since this diacritic position is the same utilized for showing Illocution (see Table 58 above), the Illocution diacritics are modified to indicate this negation, as follows:

Table 59: Illocution Diacritics on Cr Character Modified to Show Negative Polarity

ASR	IRG	DIR	ADM	HOR	DEC
---	---	---	---	---	---
---↖	---↓	---↗	---↗	---↖	---↖
---	---	---	---	---	---

11.3.4.9 Suffixes: Derivational (Slot XI) Suffixes (see [Chapter 7](#)) are shown by additional Type 4 consonantal characters, placed following the **Cr** consonantal character. Each such character represents one **VxC** suffix, its formation of prefixed and suffixed consonants identical to the character formation principles previously described for the **Cr** consonantal character, utilizing the same extensions and modifications shown in [Tables 51 and 52](#) above.

Suffix-Type: The default consonantal character is used to represent Type-1 suffixes. Types 2 and 3 are shown in the following ways: Type-2 suffixes are shown by vertically inverting the consonantal character. Type-3 suffixes are shown by an underposed dot diacritic beneath the consonantal character.

Suffix Degree: The nine suffix degrees are shown via superposed diacritics above the consonantal character (even if the character is vertically inverted to represent a Type-2 suffix). The diacritics are shown in the following table.

Table 60: Diacritics Representing Suffix Degree

Degree 1	Degree 2	Degree 3	Degree 4	Degree 5	Degree 6	Degree 7	Degree 8	Degree 9
◊	↖	↗	↖	(none)	↗	↖	↗	↖
---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---

11.3.4.10 Bias: The category of Bias (see [Section 5.11](#)) is shown by modification of the top-bar of a consonantal suffix character. If the formative does not carry a **VxC** suffix, then the modification is made to a special placeholder character consisting of a top-bar alone with no stem.

The modifications are mostly the same modifications made to **Cr** characters for showing Pattern, Stem, and Relation, as shown previously in [Tables 54a and 54b](#), supplemented by additional underposed diacritics placed beneath the bottom-line of the character (shown next to the character in the following table). Note that for the last 16 biases whose representation utilizes a vertical-bar diacritic, if the placeholder top-bar character is used to represent these biases, then the character is laterally reversed rather than utilizing the vertical-bar diacritic.

Table 61: Modifications to Consonantal Suffix Characters to Show Bias

	ASU	HPB	COI	ACP	RAC	STU	CTV	DPV
	↖	↖	↖	↖	↖	↖	↖	↖

Intensive Forms	ASU+	HPB+	COI+	ACP+	RAC+	STU+	CTV+	DPV+
	↖	↖	↖	↖	↖	↖	↖	↖

	RVL	GRT	SOL	SEL	IRO	EXA	LTL	CRR
	↖	↖	↖	↖	↖	↖	↖	↖



Intensive Forms	RVL+	GRA+	SOL+	SEL+	IRO+	EXA+	LTL+	CRR+

	EUP	SKP	CYN	CTP	DSM	IDG	SGS	PPV

Intensive Forms	EUP+	SKP+	CYN+	CTP+	DSM+	IDG+	SGS+	PPV+

11.4 WORD BOUNDARIES, PUNCTUATION, AND ALPHABETIC TRANSLITERATION

Because all written words begin with characters other than Type 4 (consonantal characters), while all words end with Type 4 characters, it is always possible to determine where new words begin in a line of Ithkuil writing, obviating the need for a blank space or other boundary between words. In turn, a blank space functions to indicate a sentence boundary. And because Ithkuil morphology already indicates within words themselves various attitudes, moods, and other information which are normally indicated supra-segmentally in Western languages (e.g., by tone or inflection of the voice, hyper-enunciation, etc.), symbols corresponding to exclamation points and question marks are likewise unnecessary. The Ithkuil equivalents to subordinate and relative clauses are likewise indicated morphologically, as are coordinative/serial lists of words, therefore there is no need for any equivalent to the comma.

The only “punctuation” symbols used are to show quotations of direct speech and phonetic transliteration (as when spelling non-Ithkuil words and names). These two sets of symbols are shown below. Note that the quotation marks are used only to indicate direct speech; they are not used as in English to offset a word for emphasis or special usage. The phonetic rendering marks indicate the word or phrase between the marks is to be pronounced phonetically (i.e., alphabetically).

❖ insert quote here ❖

❖ insert transliteration here ❖

11.4.1 Alphabetic Transliteration

Proper names and other non-Ithkuil words, when transliterated into Ithkuil, are written alphabetically between the phonetic transliteration marks shown above. Consonants are written using the Type 4 consonant characters, utilizing the extensions from [Tables 51 and 52](#) above (but not the diacritics from Table 53) to represent various consonant clusters or gemination. Transliteration is based on either a phonemic or phonetic representation of the non-Ithkuil word, without concern for any spelling conventions contained in the original/native script of the foreign word or name. Vowels are represented in the following ways:

Vowels: For vowels preceding or following a consonant (or consonant conjunct) the top-bar modifications normally used for representing Pattern, Stem, and Relation are used – the vowel thereby being represented as part of the consonant character. If there is no consonant in the syllable to carry the vowel, a placeholder symbol consisting of a top-bar alone is used. These top-bar modifications are shown in the following tables (note that the vowel-sounds are indicated using the International Phonetic Alphabet):

Table 62: Modifications to Consonant Characters to Transliterate Accompanying Vowel

modification:	⇒	↯	↗	↖	↙	↘	↗ ↘	↖ ↙	↗ ↙ ↘
IPA value:	(none)	a	æ	a	ɔ	o	ɛ	e	i

modification:	⇒↑	⇒↖	⇒↗	⇒↖	⇒↙	⇒↘	⇒↗ ↘	⇒↖ ↙	⇒↗ ↙ ↘
IPA value:	i	ə	ʊ	u	y	ʉ/y	œ	ø	ɯ/ɨ

By default, the vowel is to be pronounced following the consonantal form. If instead the vowel is to be pronounced preceding the consonant, the character carries a superposed dot diacritic. If there are two vowels in a row and there is no consonant character to carry the vowel, a placeholder consonant character is used consisting of a lone top-bar. Syllabic stress is shown by a superposed horizontal bar diacritic; if a dot diacritic is already present above the character, it changes to a vertical bar diacritic for stressed syllables. Diphthongs and long vowels are indicated by diacritics placed alongside the character in the direction of writing (unless the diacritic can be written “inside” a character whose shape has an obvious interior space, e.g., the **I** and **x** consonantal characters). Diphthongs ending in an -i/-y semivowel are indicated with a dot, those ending in -u/-w by a small vertical bar, and long vowels by a small horizontal bar.

Tone: If necessary to transliterate a word carrying tone, the following underposed diacritics may be used under the consonant+vowel character corresponding to the syllable containing the toneme.

Table 63: Diacritics to Consonant Characters for Transliteration of Syllabic Tone

low	high	mid	rising	falling	fall-rise	rise-fall
---	---	---	---	---	---	---
---	---	---	---	---	---	---
◊	▫	˥	↗	↖	˨	˧

Note on Placenames and Ethnonyms: In general, the Ithkuil names of real-world placenames and ethnonyms are the same as the native form to the extent that Ithkuil phonology allows and to the extent that such native terms can be distinguished. Otherwise, alternate names in common usage can be utilized. So, for example, the most technically correct Ithkuil name for China would be *îpal Čuň'kwo*, based on Ithkuil's closest available phonological equivalent to the Mandarin *Zhōngguó* (IPA [tʂúŋkwɔ]), although the name *îpal Čin*, based on the historically derived root (from both Persian and Sanskrit) would be acceptable as well.

For placenames with multiple native names from equally official languages (e.g., the four names of Switzerland in each of its four official languages), the Ithkuil phonological equivalent to any official name is acceptable. For names whose native ethnonym is not common knowledge or not readily discoverable (e.g., the Andi people of Dagestan whose native ethnonym is variously given as *Qwannal*, *Qwannab*, *Khivannal*), a name in common use can be used even if it is derived from a non-native source (e.g., the Russian-derived name “Andi”).

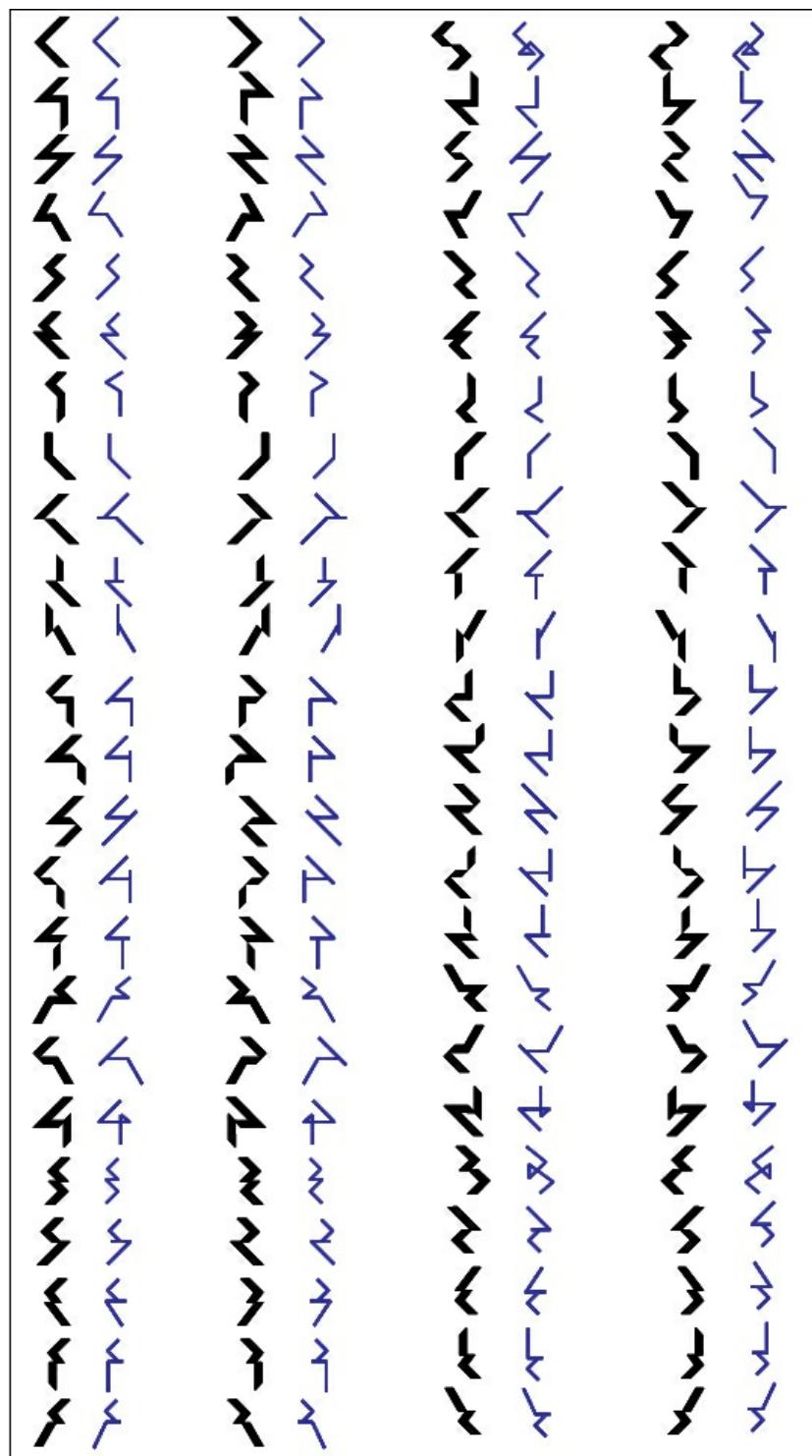
The author intends at some future point to add a section to the Lexicon on the official Ithkuil names of major non-Ithkuil placenames and ethnonyms.

Language Names: The Ithkuil name of a non-Ithkuil language is given by the native ethnonym of the people or their nation/placename with the addition of the SSD_{1/5} suffix **-a)k** added to the carrier root preceding the alphabetic name.

11.5 HANDWRITTEN FORMS OF THE CHARACTERS

The various charts below display the handwritten equivalents to the various character types, the extensions to top bars and bottom bars, diacritics, etc.

Primary Characters



תַּ	תְּ
רַ	רְ
נַ	נְ
טַ	טְ
בַּ	בְּ
אַ	אְ
פַּ	פְּ
צַ	צְ
לַ	לְ

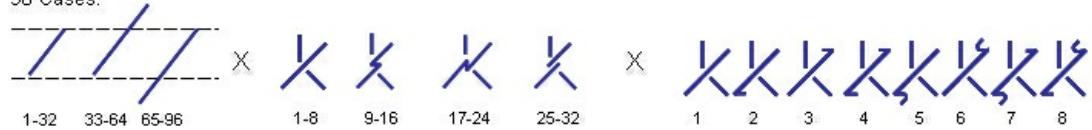
תָּאֵן	תָּאֵן	תָּאֵן	תָּאֵן
רָאֵן	רָאֵן	רָאֵן	רָאֵן
נָאֵן	נָאֵן	נָאֵן	נָאֵן
טָאֵן	טָאֵן	טָאֵן	טָאֵן
בָּאֵן	בָּאֵן	בָּאֵן	בָּאֵן
אָאֵן	אָאֵן	אָאֵן	אָאֵן
פָּאֵן	פָּאֵן	פָּאֵן	פָּאֵן
צָאֵן	צָאֵן	צָאֵן	צָאֵן
לָאֵן	לָאֵן	לָאֵן	לָאֵן

Diacritic Marks

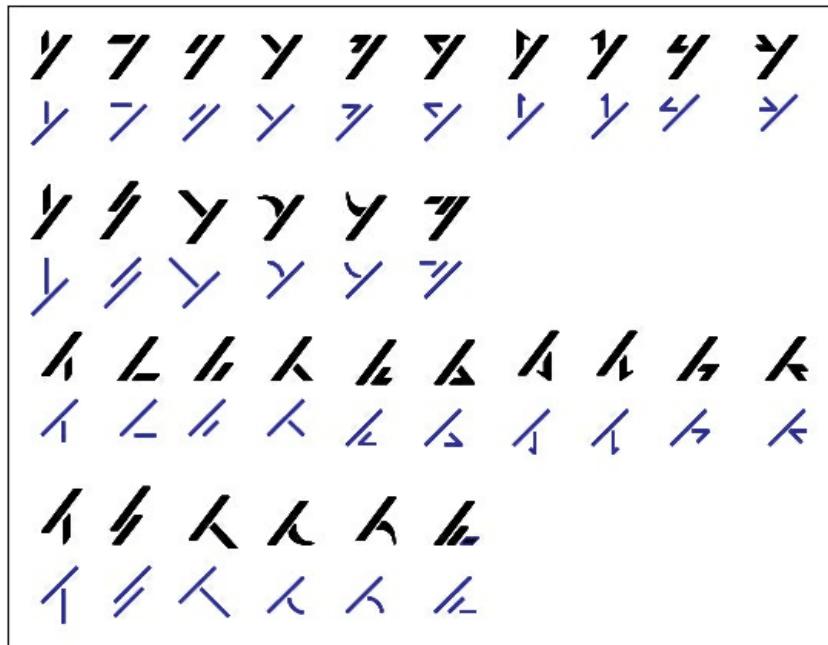
• - ׀ / \ ׁ ׂ ׃ ׄ ׅ ׆ ׇ ׈ ׉ ׊

Secondary Case Characters

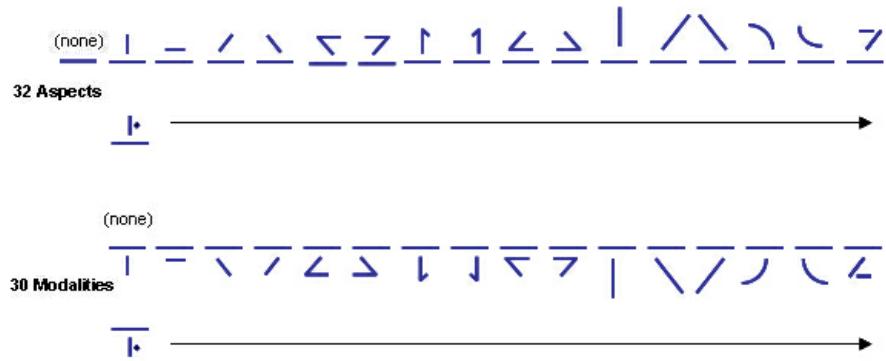
96 Cases:



Secondary Aspect Characters



Tertiary Characters



Category indicated above and below horizontal mid-bar dependent on form of the ends of the mid-bar:

aspect	aspect	valence	validation	validation	valence	valence

modality aspect 2 aspect aspect modality modality validation

Consonantal Characters

p	፩	t	፪	k	፫	q	፬	e	፭	č	፮
b	፻	d	፼	g	፻	,	፻	ž	፻	j	፻
p'	፻	t'	፪	k'	፫	q'	፬	e'	፭	č'	፮
p ^h	፻	t ^h	፪	k ^h	፫	q ^h	፬	e ^h	፭	č ^h	፻
f	፯	t̥	፼	x	፯	xh	፻	s	፭	š	፯
v	፻	dh	፼	h	፫	ř	፻	z	፭	ž	፯
w	፪	l	፼	y	፫	ł	፬	r	፬	ç	፯
m	፯	n	፻	ň	፯	tł	፬				

Consonantal Extensions (Shown on -t-, -k-, and -g- characters)

፪ጀጀጀ	፬ጀጀጀ	፫ጀጀጀ	፭ጀጀጀ	፮ጀጀጀ
+	m+	r+	+	n+
፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ
s(/z)+	š(/ž)+	ň+	z+	ř+
፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ
ç+	c/z+	č/j+	ž+	k/g+
፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ
p/b+	q+	t/d+	x+	t̥/dh+
፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ		
f/v+	xh+	gemination		
፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ
+w	+y	+l	+r	+ř
፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	፯ጀጀጀ	
+m	+n	+v	+ň	

PATTERN x STEM x RELATION - shown via top bar of primary consonantal character

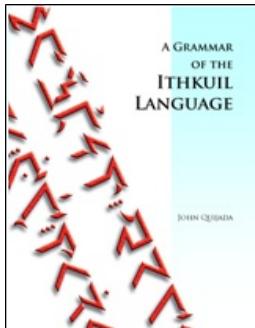
- FRAME	P1 S1	P1 S2	P1 S3	P2 S1	P2 S2	P2 S3	P3 S1	P3 S2	P3 S3
+ FRAME									

11.6 THE ALTERNATIVE ORNAMENTAL SCRIPT

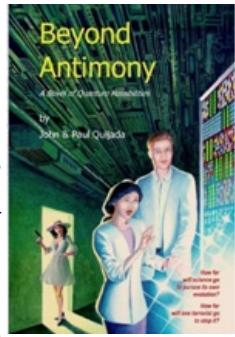
The now defunct previous revision of Ithkuil known as Ilaksh utilized an experimental two-dimensional, non-linear writing system of colorful “cartouche”-like containers and hexagonal glyphs used to fashion an abstract morphological “map” of an Ilaksh sentence. Now that the Ilaksh language has been withdrawn, it is the author’s intention to eventually adapt this writing system to Ithkuil, for use as an alternative, “ornamental” writing system for artistic purposes. When this adaptation is ready it will be placed in this section of the grammar. The graphic below illustrates a draft sample of what this writing system will look like.



[Proceed to Chapter 12: The Number System>>](#)



For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)



And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)

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Chapter 12: The Number System

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The Ithkuil system of numbers and counting is distinct from Western languages in two fundamental ways: it is centesimal (base one hundred) as opposed to decimal (base ten), and the numbers themselves are full formatives (i.e., nouns and verbs), not adjectives. This has already been discussed briefly in [Section 4.5.1](#) regarding the PARTITIVE case. This section will examine the numerical system in greater detail.

12.1 FEATURES OF A CENTESIMAL NUMBER SYSTEM

Being a centesimal system of enumeration, the numbers from zero to 100 are considered autonomous units represented by single stems and written using single autonomous symbols. Beginning with the number 101, numbers are referred to by the number of hundreds plus the number of units, just as a decimal system, beginning with the number 11, refers to the number of tens plus the number of units. However, where a decimal system then shifts to a unit referring to 100 once “10 tens” is reached, a centesimal system proceeds to the number 10,000 before establishing a new unit reference (i.e., “100 hundreds”). Thus the number 3254, which in a decimal system is 3 thousands — 2 hundreds — 5 tens — 4 ones, in a centesimal system becomes 32 hundreds—54 ones, and would be only two digits when written (the single character representing 32, and the single character representing 54). The details of writing Ithkuil numerals are given below in Section 12.5.

After 100, separate unit numbers and symbols are assigned to the square of 100 (i.e. ten thousand, that being “100 hundreds”), then the square of that number, 100^4 (100 million, i.e., 10,000 ten-thousands). The final unit is 100^8 , that is, 10 quadrillion or 100 million hundred-millions, the last number for which Ithkuil assigns a separate root and symbol. After ten quadrillion, numbers are referred to as multiples of lower sets, similar to saying in English “one trillion quadrillion” instead of the equivalent “one octillion.”

While the above may seem unwieldy or even arbitrary, it actually parallels Western base-ten numerals in terms of its systematization. For example, in a Western number like 456,321,777,123, each set of three numbers between the commas tells how many hundreds there are of a certain power of 1000 (i.e., there are 123 of 1000^0 , 777 of 1000^1 , 321 of 1000^2 , and 456 of 1000^3 , or in more common terms 123 ones, 777 thousands, 321 millions, 456 billions).

The same exact system holds for Ithkuil, except that the sets of numbers “between the commas” so to speak, is the number of ten-thousands, not thousands. Thus, if we were to rewrite the Western number 456,321,777,123 in such a system, it would be 4563,2177,7123 (i.e., 7123 of 10000^0 , 2177 of 10000^1 , and 4563 of 10000^2 , that being 7123 ones, 2177 ten-thousands, and 4563 hundred-millions).

12.2 SEMANTIC DESIGNATIONS FOR NUMERICAL STEMS

The semantic roots for numbers in Ithkuil from 1 to 99 are based on roots for 1 through 10, to which the nine degrees of the Slot XI derivational affix **-V_k** are added. Each of the nine degrees of this suffix, when applied to one of the ten number-roots, corresponds to an additional multiple of ten. This is illustrated in Table 64 below.

Table 64: The SSD Affix with Numerals

Degree	Suffix	Meaning	Degree	Suffix	Meaning	Degree	Suffix	Meaning
1	-ik	stem + 10	4	-ik / -uëk	stem + 40	7	-ok	stem + 70
2	-ök	stem + 20	5	-ak	stem + 50	8	-ük / -aek	stem + 80
3	-ek	stem + 30	6	-ük / -iëk	stem + 60	9	-uk	stem + 90

The addition of a particular degree of this affix to one of the ten indicates that the root number is added to that multiple of ten. For example, the stem **ksal** ‘two,’ plus the seventh degree affix **-V_k/7**, gives **ksalok** ‘seventy-two.’ Because there is no root corresponding to ‘zero’ (see [Sec. 12.3](#) below), each multiple of ten is constructed using stem **mřal** ‘ten’ plus one of the above suffixes. Thus, the numbers 20, 30 and 40 are respectively **mřalik**, **mřalök** and **mřalek**, but the numbers 22, 32 and 42 are **ksalök**, **ksalek**, and **ksalik**. This pattern only operates up to the nineties, as there is a separate autonomous root for 100, **-ň-**.

Since numbers are formatives in Ithkuil, not adjectives as in most Western languages, holistic stem No. 1 is a formative signifying a set containing a number of members corresponding to that particular root. Thus, the formative **ksal**, translatable as ‘two,’ actually means ‘a set of two; a duo / to be a duo.’ In turn, the two complementary derivatives of each stem denote its multiple and its fraction respectively. This is illustrated below for both Form I and II using the roots **-ks-**, TWO, and **-ns-**, meaning SEVEN:

For **-ks-**, TWO:

1. **ksal / aksál** ‘a set of two, a duo; to be two in number’

COMPLEMENTARY DERIVATIVES:

oksal / oksál: ‘twice the number of something; to double, to multiply by two’
âksal / âksál: ‘a half; to halve, to be or make half, to divide by or in two’

2. **eksal / eksál** ‘to be or make dual; having two uses or aspects; bi-; twofold’

COMPLEMENTARY DERIVATIVES:

öksal / öksál: ‘two times (i.e., iterations), twice; to be/do/make twice’
êksal / êksál: ‘to be of or make into two parts; bifurcate(d)’

3. **uksal / uksál** ‘the second one in a sequence; to be or make second (in a sequence)’

COMPLEMENTARY DERIVATIVES:

ûksal / ûksál: ‘to the second power, squared; to square, raise to the 2nd power’
ôksal / ôksál: ‘to the negative second power, the inverse square; to divide by the square of’

For **-ns-**, SEVEN:

1. **nsal / ansál** ‘a set/group of seven, a septet; to be seven in number’

COMPLEMENTARY DERIVATIVES:

onsal / onsál: ‘7 times the number of something; to multiply by 7; septuple’
ânsal / ânsál: ‘a seventh; to be or make a 7th part of something, to divide by 7 or into 7 parts’

2. **ensal / ensál** ‘to be or make seven-faceted; having 7 uses or aspects; septi-; sevenfold’

COMPLEMENTARY DERIVATIVES:

önsal / önsál: '7 times (i.e., iterations); to be/do/make 7 times'

ênsal / ênsál: 'to be of or make into 7 parts; separate(d) into 7 parts'

3. unsal / unsál 'the seventh one in a sequence; to be or make 7th (in a sequence)'

COMPLEMENTARY DERIVATIVES:

ûnsal / ûnsál: 'to the 7th power; to raise to the 7th power'

ônsal / ônsál: 'to the negative 7th power; to divide by the 7th power of'

In addition to the above-described roots, there is the root **-II-**, ONE/UNITY. As this root has no multiples, its semantic designations follow a unique pattern. NOTE: The INFORMAL versus FORMAL distinction in this root (i.e., Form I versus Form II of each stem) distinguishes between a focus on non-duplication/singularity for the INFORMAL, and indivisibility/unity for the FORMAL:

1. IIal / allál 'a single entity; to be one in number'

COMPLEMENTARY DERIVATIVES:

ollal / ollál: 'to be indivisible, whole, a single unit; unitary; to unify'

âllal / âllál: 'to be (an) individual, a distinct entity in itself; to individualize'

2. ellal / ellál 'a lone entity, something alone; an entity in solitude, something/someone isolated; be alone; to isolate; be in solitude'

COMPLEMENTARY DERIVATIVES:

öllal / öllál: 'something/someone lonely; be or make lonely'

êllal / êllál: 'something/someone independent, self-sufficient, singular (i.e., without need of, connection to, or dependency on others); be or make independent, self-sufficient, singular'

3. ullal / ullál 'something/someone unique, the only one; to be or make unique'

COMPLEMENTARY DERIVATIVES:

ûllal / ûllál: 'a sole entity, the only one available or able (in terms of sufficiency or applicability to the context)'

ôllal / ôllál: 'something/someone one-of-a-kind, unparalleled, without equal or peer (in terms of uniqueness of characteristics)'

The Ithkuil numerical roots as described in the section above are as follows:

-II-	-ks-	-t̪k-	-px-	-st̪-	-cq-	-ns-	-fy-	-xm-	-mř-
one	two	three	four	five	six	seven	eight	nine	ten

-ň-	-zm-	-pstw-	-čk^h-
one hundred	ten thousand	one hundred million	ten quadrillion

12.3 EXPRESSING “ZERO”

Ithkuil has no word for “zero” nor is it conceptualized as a numerical category. Instead any appropriate formative may take the **PTW** suffix in first-degree **-iss** ‘no amount of’ or the **EXN** suffix in first-degree **-ib** ‘no...at all’ in terms of degree or extent to create negative expressions that convey the idea of an absence of a numerical entity or quantity. In many cases, simply the negative of whatever formative is under discussion may be used.

As for handling the concept of zero as a null placeholder when writing Ithkuil numbers, this is addressed in Section 12.4 below.

12.4 WRITING NUMERALS

Writing Ithkuil numerals is somewhat similar to writing numbers in Western languages (i.e., “Arabic” numerals), in that the interpretation of a number as a different power of 100 (analogous to interpreting single Arabic numerals as either ones, tens, hundreds, thousands, etc.) is based on its sequence within the entire number. However, there are two aspects of writing Ithkuil numbers that are quite different from Arabic numbers.:

1. Ithkuil does not employ a symbol for zero. Instead, Ithkuil employs separate autonomous symbols for each power of 100 (100, 10,000, 100 million, etc.) each of which operates as the appropriate placeholder instead of zero. To illustrate what this means by analogy, pretend that “@” is an autonomous symbol for 27 (since Ithkuil numbers from 1 to 99 each have a separate symbol), “&” is a symbol for 100, “#” is a symbol for 10,000 and there is no symbol 0 (zero). The numbers 2700, 2705, 327, 22700 and 4,270,027 would then be written @&, @5, 3@, 2@&, and 4#@#@ respectively. (NOTE: In actual practice, numbers which contain the “hundred” symbol, here represented as “&,” normally place a dot above or below the adjacent numeral and dispense with the &, indicating that the number so marked is to be multiplied by 100.)
2. Since Ithkuil is a base-100 system, numbers do not become two digits in length until the hundreds, do not become three digits in length until the ten thousands, do not become four digits in length until the millions, etc.

One must also remember that in terms of left-to-right orientation, numbers follow the *boustrophedon* mode the same as the Ithkuil script (see [Sec. 11.3.2](#)). Similarly to Western languages, small non-compound numbers can be written using either their numerical symbols or written out in script (as in English “12” versus “twelve”).

The following table gives the Ithkuil numerical symbols along with their morphological stems. The symbols for 11 through 99 consist of the symbols for 1 through 9 plus various extensions added to their lower left “trailing” line indicating the particular 10-group to be added.

Table 65: ITHKUIL NUMERICAL STEMS AND WRITTEN SYMBOLS

llal	ksal	łkal	pxal	stal	cqal	nsal	fyal	xmal	mřal
1	2	3	4	5	6	7	8	9	10

extensions:

+10	+20	+30	+40	+50	+60	+70	+80	+90

ňal	zmal	pstwal	čk ^h al
100	10 000	100 000 000	10 000 000 000 000 000

12.5 USING NUMBERS IN SPEECH

Spoken numbers are formed from the above stems using both the PARTITIVE and COMITATIVE cases, as well as using the coordinative affix **-Vň/1** (= **-iň**). The number of largest base units is shown by placing the base-unit term in the PARTITIVE. If this is then followed by another collection of smaller base units, that number of smaller base units is connected using the COMITATIVE case while the smaller base-unit term is again in the PARTITIVE. Single units (from 1 to 99) are connected by the coordinative affix when they are part of the number of hundreds or higher base-units.

It should be noted that when pronouncing numbers greater than 199, it is normal in Ithkuil to omit the word **ňial** (= the PARTITIVE of **ňal** ‘one hundred’) referring to the number of hundreds. This is equivalent to the custom in colloquial English of saying ‘three twelve’ for ‘three hundred (and) twelve.’ The difference is that in Ithkuil, this omission of the word for ‘hundred’ is the preferred option, the word **ňial** being used only in larger numbers for clarity’s sake.

These principles are illustrated by the following examples:



ksalik (ňial) xmalök
literally: “42 (of hundreds) 29”
4229



cqalök zmial nseuluk (ňial) cqalûk
literally: “26 of ten-thousands with 97 (of hundreds) 66” = 26,9766
269,766



llalök ňial zmual
literally: “21 of hundred of ten-thousands”
21,000,000
[NOTE: **ňial** is required in this example]



ksalok ňial xmalokiň apstwial tkeul ňial tkalakiň zmual pxeulek mřalûk
literally:
“72 of hundreds and 79 of hundred-millions with 3 of hundreds and 53 of ten-thousands with 34 60”
727,903,533,460

We have already seen that when numbers are used to indicate how many of a certain noun there are, the noun must appear in the PARTITIVE case, since the number itself is functioning as the “head” of the numerical expression (e.g., English “12 boxes” being constructed in Ithkuil as a “12-set of a box” or perhaps more appropriately a “box-dozen”). Another syntactical consequence of numbers being full formatives is when a number functions as a label or overt identifier, as in the English sentence *You'll find him in Room 216*. Such usage of numbers is not primarily sequential (which would involve the equivalent of “ordinal” numbers such as ‘fourth,’ ‘twenty-sixth’, etc. equivalent to stem No. 3 of each number root) but rather organizational (e.g., as in the three-dimensional array of room numbers in a hotel). Ithkuil handles such organizational labeling using either the COMPARATIVE case (see [Sec. 4.5.32](#)) or the ESSIVE case (see [Sec. 4.5.9](#)) depending respectively on whether the enumeration of the noun in question is to distinguish it from other enumerated nouns versus merely identifying the noun by a numerical name. Examples:



açtál ksou'lik

'room'-OBL 'twelve'-CMP

'the room marked "12"' OR 'Room 12' OR 'Room No. 12' [i.e., as opposed to being some other room]



açtál ksealik

'room'-OBL 'twelve'-ESS

'the room marked "12"' OR 'Room 12' OR 'Room No. 12' [identifying reference only]

Lastly, when numbers comprising multiple number-stems are declined for case, configuration, extension, etc., rather than writing out the entire number “long-hand,” the number symbol is used, preceded by the carrier stem **ep-** (see [Sec. 9.3](#)) which carries the appropriate declensions. This use of the carrier stem applies even to single-stemmed numbers when writing, in order to allow use of the number symbol instead of writing it out. In such cases involving single-stemmed numbers, the carrier stem is not pronounced (rather, the numerical stem bears the pronounced declensions); it is there only as a written indicator of the morphological declensions/derivations to be applied to the number stem.

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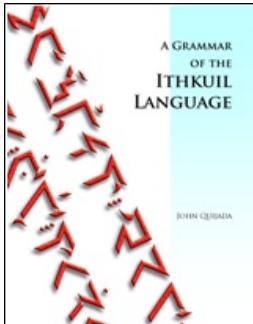
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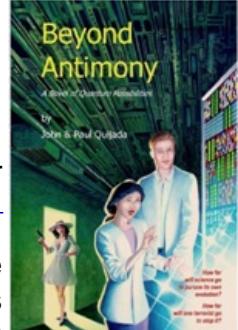
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List of Morphological Abbreviations

1+ M	personal reference: speaker + mixed 3rd party
1+2m	personal reference: speaker + monadic listener
1+2m+M	personal reference: speaker + monadic listener + mixed 3rd party
1+2m+ma	personal reference: speaker + monadic listener + monadic animate 3rd party
1+2m+mi	personal reference: speaker + monadic listener + monadic inanimate 3rd party
1+2m+ua	personal reference: speaker + monadic listener + unbounded animate 3rd party
1+2m+ui	personal reference: speaker + monadic listener + unbounded inanimate 3rd party
1+2u	personal reference: speaker + unbounded listener
1+2u+M	personal reference: speaker + unbounded listener + mixed 3rd party
1+2u+ma	personal reference: speaker + unbounded listener + monadic animate 3rd party
1+2u+mi	personal reference: speaker + unbounded listener + monadic inanimate 3rd party
1+2u+ua	personal reference: speaker + unbounded listener + unbounded animate 3rd party
1+2u+ui	personal reference: speaker + unbounded listener + unbounded inanimate 3rd party
1+ma	personal reference: speaker + monadic animate 3rd party
1+mi	personal reference: speaker + monadic inanimate 3rd party
1+ua	personal reference: speaker + unbounded animate 3rd party
1+ui	personal reference: speaker + unbounded inanimate 3rd party

2m	personal reference: monadic listener
2m+M	personal reference: monadic listener + mixed 3rd party
2m+ma	personal reference: monadic listener + monadic animate 3rd party
2m+mi	personal reference: monadic listener + monadic inanimate 3rd party
2m+ua	personal reference: monadic listener + unbounded animate 3rd party
2m+ui	personal reference: monadic listener + unbounded inanimate 3rd party
2u	personal reference: unbounded listener
2u+M	personal reference: unbounded listener + mixed 3rd party
2u+ma	personal reference: unbounded listener + monadic animate 3rd party
2u+mi	personal reference: unbounded listener + monadic inanimate 3rd party
2u+ua	personal reference: unbounded listener + unbounded animate 3rd party
2u+ui	personal reference: unbounded listener + unbounded inanimate 3rd party
A	Abstract perspective
ABE	Abessive case
ABL	Ablative case
ABS	Absolutive case
Abt	personal reference: Abstract referent
ACC	Accordative modality
ACP	Acceptive bias
ACQ	Suffix: Acquisition
ACS	Accessive case
ACT	Activative case
ADM	Admonitive illocution
ADV	Advocative modality
AFF	Affective case
AFM	Affirmative validation

AFI	Affinitive format
AFT	Suffix: Degree of Affect
AGC	Suffix: Degree of Agency
AGG	Aggregative configuration
AGN	Suffix: Degree of Agency, Intent or Effectiveness
ALG	Allegative sanction
ALL	Allative case
ALP	Allapsive case
AMG	Amalgamative context
ANT	Anticipative modality
APL	Applicative case
APR	Suffix: Degree of Contextual Appropriateness
APT	Suffix: Various Aspects
ASC	Ascriptive mood
ASI	Assimilative case
ASM	Assumptive mood
ASO	Associative affiliation
ASP	Aspirative modality
ASR	Assertive illocution
ASS	Assessive case
ASU	Assurative bias
ATC	Suffix: Degree Of Anticipation
ATH	Authoritative format
ATN	Suffix: Degree of Attention or Determination
ATT	Attributive case
AUT	Suffix: Authorization

AVR	Aversive case
AXM	Axiomatic sanction
BEH	Suffix: Degree of Subjective Effect or Behavioral Appropriateness
BEN	Benefactive case
BOD	Suffix: Bodily Instrumentality = 'by means of'
CAL	Suffix: Calendrical Sequencing - days, months, years, decades, centuries, millenia
CAP	Suffix: Degree of Potential or Capability
CCL	Conclusive aspect
CCM	Concomitant format
CFD	Suffix: Degree of Forthrightness, Confidence or Humility
CGL	Suffix: Motive/Reason for Conglomeration/Coming Together of Gestalt Entity
CLA	Classificative case
CLM	Climactic aspect
CLS	Compulsory modality
CML	Compulsive modality
CMM	Commutative case
CMP	Comparative case
CMP1A	Comparative 1A case
CMP1B	Comparative 1B case
CMP1C	Comparative 1C case
CMP2A	Comparative 2A case
CMP2B	Comparative 2B case
CMP2C	Comparative 2C case
CMP3A	Comparative 3A case
CMP3B	Comparative 3B case

CMP3C	Comparative 3C case
CMP4A	Comparative 4A case
CMP4B	Comparative 4B case
CMP4C	Comparative 4C case
CMP5A	Comparative 5A case
CMP5B	Comparative 5B case
CMP5C	Comparative 5C case
CMP6A	Comparative 6A case
CMP6B	Comparative 6B case
CMP6C	Comparative 6C case
CMP7A	Comparative 7A case
CMP7B	Comparative 7B case
CMP7C	Comparative 7C case
CMP8A	Comparative 8A case
CMP8B	Comparative 8B case
CMP8C	Comparative 8C case
CNC	Suffix: Degree of Concern or Consideration
CNF	Confirmative validation
CNG	Contingent valence
CNJ	Conjunctive case
CNM	Suffix: Type of Container/Packaging/Conveyance/Holder
CNQ	Suffix: Degree of Consequentiality, Finality or Irrevocability
CNR	Concursive case
CNS	Suffix: Degree of Consent
CNT	Continuative aspect
CNV	Conductive case

COA	Coalescent affiliation
COH	Coherent configuration
COI	Coincidental bias
Col	personal reference: collective entity
COM	Comitative case
CON	Concessive case
COO	Suffix: Adjunctive Coordination
COR	Correlative case
COS	Suffix: Comparison Specifications (Used with Levels) - see Section 6.2 and Section 6.2.5
COU	Counterfactive mood
CPC	Capacitative modality
CPL	Complementary valence
CPN	Componential configuration
CPS	Compositive case
CPT	Compleutive version
CRD	Credential modality
CRI	Suffix: Cycle or circular motion in place (spin, revolve)
CRO	Corollary valence
CRR	Corrective bias
CRS	Contrastive case
CRV	Suffix: Cycle or circular motion over linear vector (e.g., train wheels, bike wheels)
CSD	Considerative case
CSL	Consolidative affiliation
CSM	Consumptive aspect
CSQ	Consequential aspect

CSS	Cessative aspect
CST	Composite configuration
CTC	Suffix: Degree of Contact
CTN	Suffix: Degree of Contrariness to Expectation(s) or Shift in Subject
CTP	Contemptive bias
CTR	Suffix: Contrastive Coordination
CTV	Contemplative bias
CTX	Contextual phase
CUL	Culminative aspect
CVS	Conversive case
CVT	Suffix: Degree of Covertness versus Overtness
CVY	Suffix: Means of Transportation/Conveyance
CYN	Cynical bias
DAT	Dative case
DBI	Suffix: Additional Bodily Instrumentality = 'by means of'
DCI	Suffix: Decrease then Increase
DCL	Discursive aspect
DCR	Suffix: Decrease
DCS	Suffix: Degree of Decisiveness, Commitment or Emphasis
DCT	Discrete configuration
DCV	Decisive modality
DEC	Declarative illocution
DEF	Suffix: Degree Of Definiteness
DEL	Delimitive extension
DEM	Demonstrative valence
DEP	Dependent case

DER	Derivative case
DES	Desiderative modality
DEV	Suffix: Degree of Development
DEX	Suffix: Deixis Categories
DFC	Deficient level
DFF	Diffusive case
DGR	Suffix: Exactness of Degree
DIR	Directive illocution
DLB	Suffix: Degree of Deliberateness/Agency
DPL	Depletive extension
DPR	Suffix: Dispersion or Separability of a Configurative Set
DPT	Suffix: Depiction/Representation/Record
DPV	Desperate bias
DPX	Duplex configuration
DRC	Suffix: Degree of Directness
DSC	Descriptive function
DSG	Suffix: Degree of Design or Purposefulness
DSM	Dismissive bias
DSP	Dispositive modality
DSR	Suffix: Degree Of Discretion
DST	Suffix: Distributive Coordination
DUB	Dubitative validation
DUP	Duplicative valence
DVR	Divertive modality
DVT	Devotive modality
DXX	Suffix: Additional Deixis Categories

DYN	Dynamic function
Ea	personal reference: universal animate
EFC	Effective version
EFF	Effectuative Case
EFI	Suffix: Degree of Efficiency or Efficacy
EFT	Suffix: Degree of Effort
Ei	personal reference: universal inanimate
ELP	Elapsive case
ENG	Suffix: Degree of Engagement/Involvement
ENB	Suffix: Degree of Enablement
EPD	Expeditive aspect
EPI	Epistemic sanction
EPS	Episodic case
EQU	Equative level
ERG	Ergative case
ERR	Suffix: Degree of Correctness versus Error
ESS	Essive case
EUP	Euphemistic bias
EXA	Exasperative bias
EXC	Exceptive case
EXD	Suffix: Dynamically Changing Degree or Extent
EXH	Exhortative modality
EXN	Suffix: Degree or Extent
EXP	Experiential aspect
EXS	Existential context

EXT	Suffix: Exactness of Identity / Identity As a Referent Or Standard
EXV	Expatiative sanction
EPC	Expectative modality
FAC	Factual mood
FAM	Suffix: Degree Of Familiarity
FEA	Suffix: Featural Properties
FLC	Fluctuative phase
FLS	Suffix: Degree of Fluctuation/Stability
FML	Formal designation
FMS	Suffix: Material States/Forms (non-solid or quasi-solid)
FNC	Functional context
FNS	Suffix: Material States/Forms (solids)
FRAMED	Framed relation
FRC	Suffix: Degree of Physical Force Exerted
FRE	Frequentative phase
FRG	Fragmentative phase
FRM	Suffix: Degree of Formality
FRQ	Suffix: Degree Of Frequency
FUN	Functive case
GEN	Genitive case
GRA	Graduative extension
GRT	Gratificative bias
HAB	Habitual aspect
HOR	Hortative illocution
HPB	Hyperbolic bias
HRC	Suffix: Position on Social, Occupational, or (Para-) Military Hierarchy

HYP	Hypothetical mood
ICD	Suffix: Increase then Decrease
ICL	Inclinative modality
ICP	Incipient extension
ICR	Suffix: Increase
ICS	Incessative aspect
IDa	personal reference: indefinite animate
IDC	Indicative valence
IDG	Indignative bias
IDi	personal reference: indefinite inanimate
IDP	Interdependent case
IDR	Suffix: Random/Varying Increases and Decreases
IFL	Informal designation
IFR	Inferior level
IMD	Intermediate aspect
IMM	Imminent aspect
IMP	Suffix: Degree of Impact on Patient/Target or Enablement of Outcome
IMS	Impositive modality
IMT	Imitative valence
INB	Suffix: Inability/Incapacity Due To
INC	Incompletive version
IND	Inducive case
INE	Ineffectual version
INF	Inferential validation
INL	Suffix: Degree Of Inclusion
INP	Interpolative case

INS	Instrumental case
IPa	personal reference: impersonal animate
IPB	Improbable validation
IPi	personal reference: impersonal in animate
IPL	Implicative mood
IPS	Impressional modality
IPT	Suffix: Degree of importance/impact/significance
IPU	Imputative sanction
IRG	Interrogative illocution
IRO	Ironic bias
ISR	Instrumentative format
ITC	Intercommutative aspect
ITG	Suffix: Degree of Intelligence Manifested
ITM	Intermittent phase
ITN	Suffix: Degree of Iteration
ITP	Interpretative case
ITR	Iterative phase
ITU	Intuitive validation
ITV	Intentive modality
ITY	Suffix: Degree of Speed (i.e., Intensity of Movement or Change)
LAT	Suffix: Degree Of Lateness/Earliness
LCT	Suffix: Locational Octant Markers for Object Being Located (see Section 10.3.3)
LIM	Limitative case
LOC	Locative case
LTL	Literal bias

LVL	Suffix: Levels (see Sec. 6.2)
M	Monadic perspective
ma	personal reference: monadic animate 3rd party
MAT	Suffix: Degree of Maturation
MD01	Suffix: resigned to
MD02	Suffix: devoted; committed to / devoted to
MD03	Suffix: desired / sought-after; want to
MD04	Suffix: attempted, attempt at a ...; try to, attempt to
MD05	Suffix: capable, able; can / able to / capable of
MD06	Suffix: knowledgeable; can = know how to / familiar with
MD07	Suffix: mandatory; must / have to
MD08	Suffix: required; should / be to
MD09	Suffix: expected; be supposed to
MD10	Suffix: intended; mean to / intend to / shall
MD11	Suffix: chosen, selected; choose to / elect to
MD12	Suffix: ...on impulse; feel like X-ing
MD13	Suffix: promised; promise to
MD14	Suffix: well-liked; like (to)
MD15	Suffix: feared; fear (to)
MD16	Suffix: willing; willing to
MD17	Suffix: prepared / ready; prepared to/ready to
MD18	Suffix: necessary / needed; need to
MD19	Suffix: Daring; dare to
MD20	Suffix: decided-upon; decide to
MD21	Suffix: offered/offer of; offer to
MD22	Suffix: aided / assisted; help to / aid in X-ing

MD24	Suffix: not unexpected; be prone to / be apt to / tend to
MD25	Suffix: agreed-upon; agree to
MD26	Suffix: responsible for/in charge of
MD27	Suffix: remember to
MD28	Suffix: feel a need to / feel one should / feel one must / feel driven to
MD29	Suffix: to guess or think [that]...
MD30	Suffix: available; available to/for
MD31	Suffix: potential; can = have potential to
MD32	Suffix: permitted; can = permitted to
MD33	Suffix: hoped-for; hope/wish to
MDL	Suffix: Random pattern of modulation (unpredictable/irregular movement pattern)
MDN	Suffix: Degree of Age or Modernity
MEC	Suffix: Type of Mechanical Instrumentality = 'by means of'
MED	Mediative case
MET	Suffix: Metonymic Categories
mi	personal reference: monadic inanimate 3rd party
MIN	Minimal level
MLR	Suffix: Meta-level representation/coordination/analysis
MLT	Multiform configuration
MNF	Manifestive function
MNO	Monoactive valence
MOT	Suffix: Degree of Self-Conscious Deliberation or Motivation
MTA	Suffix: Additional Motivation for an Action or State
MTV	Motive aspect
MUT	Mutual valence
MVT	Suffix: Degree of Stillness/Movement

Mx	personal reference: mixed third party (animate + inanimate and/or monadic + unbounded)
N	Gnomic perspective
NA1	Suffix: Negation/affirmation of all morphological components
NA2	Suffix: Negation/affirmation of stem + affixes but not adjunct information
NA3	Suffix: Negation/affirmation of all morphological components except Modality
NAR	Suffix: Negation/affirmation of all but aspectual or Modality information
NAV	Navigative case
NEC	Necessitative modality
NEW	Suffix: Degree of Newness/Revision
NNN	Suffix: n-numbered angles/facets/faces/sides/points/forms
NNR	Nonrelational valence
NRM	Normal essence
NTR	Suffix: Degree of Notoriety, Acceptance, Respect, Honor
OAU	Suffix: Origin/Association/Utilization
OBG	Obligative modality
OBJ	Objective format
OBL	Oblique case
Obv	personal reference: obviative
OGN	Originative case
OPF	Suffix: Degree of Operational Functionality
OPR	Opportunitive modality
OPT	Optimal level
ORI	Orientative case
PAR	Partitive case
PAU	Pausal aspect

PCL	Preclusive aspect
PCN	Suffix: Degree of Care, Precision or Scrutiny
PCR	Postcursive case
PCS	Precessive aspect
PCT	Punctual phase
PCV	Precursive case
PDC	Productive case
PER	Periodic case
PFT	Preferential modality
PHS	Suffix: Phase categories
PHY	Suffix: Degree of Physical Control
PLA	Suffix: Place, State, Setting Where...
PLE	Suffix: Degree of (Un-)Pleasantness (of Effect or Result)
PLM	Prolimitive case
PLV	Suffix: polarity / logical valence values
PMP	Preemptive aspect
PMS	Promissory modality
POS	Possessive case
PPS	Propositional sanction
PPT	Purportive validation
PPT2	Purportive 2 validation
PPV	Propositive bias
PRB	Suffix: Degree of Probability or Likelihood
PRC	Processual version
PRD	Predicative case
PRE	Preparative modality

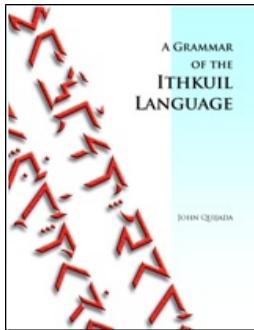
PRG	Progressive aspect
PRL	Parallel valence
PRM	Permissive modality
PRO	Prolapsive case
PRP	Proprietary case
PRS	Prospective aspect
PRT	Precurrent format
PRX	Proximal extension
PSM	Presumptive validation
PSM2	Presumptive 2 validation
PST	Positive version
PSV	Procursive case
PTC	Protractive aspect
PTF	Suffix: Part/Whole Functional Metaphors
PTG	Suffix: Part/Whole Gestalt Componential Metaphors
PTI	Participative valence
PTL	Postulative case
PTN	Potential modality
PTT	Suffix: Non-Contiguous (i.e., Intermixed) Portion of the Whole
PTV	Proclivitive modality
PTW	Suffix: Contiguous Portion of the Whole
PTY	Suffix: Degree of Prototypicalness
PUR	Purposive case
PUT	Putative validation
PVS	Provisional case

PXM	Suffix: Degree of Proximity
QUA	Suffix: Degree of Quality, Effectiveness or Adequacy
RAC	Reactive bias
RCO	Suffix: Recoil in place (spring back; snap back; fall back into place)
RCP	Reciprocal valence
RCS	Recessive aspect
RCT	Recurrent phase
REA	Suffix: Degree of Genuineness or Veracity
REB	Rebuttative sanction
REF	Referential case
REG	Regulative aspect
REP	Repetitive phase
REQ	Requisitive modality
RES	Resistive valence
RFU	Refutative sanction
RGR	Regressive aspect
RNC	Suffix: Renunciation
ROL	Suffix: Role
RPN	Suffix: Pattern of Spatio-Temporal Repetition or Distribution of Set Members
RPS	Representational context
RPT	Reportive validation
RPV	Representative essence
RSL	Resultative format
RSM	Resumptive aspect
RSN	Suffix: Reason for an Emotional State or Motivation for an Action
RTR	Retrospective aspect

RVL	Revelative bias
SBE	Subequative level
SBQ	Subsequent format
SBS	Suffix: Subset of Configurative Set
SBT	Suffix: Degree of Subtlety
SCH	Schematic format
SCO	Suffix: Dynamic Change of Size
SCS	Suffix: Degree of Success versus Failure
SCT	Suffix: Degree of Shift/Change/Transition (used for both spatial and temporal contexts)
SDP	Suffix: Subset of Duplex Set
SEG	Segmentative configuration
SEL	Selective bias
SEP	Suffix: Spatio-Temporal Separability of a Configurative Set
SEQ	Suffix: Numerical Sequence
SGS	Suggestive bias
SIM	Suffix: Degree Of Similarity
SIT	Situative case
SIZ	Suffix: Degree of Size
SKP	Skeptical bias
SML	Simultaneitive case
SOC	Suffix: Type of Social Instrumentality = 'by means of'
SOL	Solicitive bias
SPD	Suffix: Degree of Speed (i.e., Velocity = Distance Over Time)
SPE	Speculative mood
SPQ	Superequative level
SPH	Suffix: Degree of Sophistication

SPL	Superlative level
SPS	Suffix: Supersets/Multi-Level Gestalts
SQC	Suffix: Sequence of Cause and Effect
SQN	Sequential aspect
SQT	Suffix: Sequence Relative to Present Context
SSD	Suffix: Stem-Specific Derivatives
STA	Stative function
STG	Suffix: Stage of a Process
STR	Suffix: Degree of Physical Strength Possible or Used
STU	Stupefactive bias
SUB	Subjunctive mood
SUD	Suffix: Degree of Suddenness
SUF	Suffix: Degree Of Sufficiency
SUR	Surpassive level
SWR	Suffix: Switch-reference
TAL	Suffix: Degree of Capacity or Talent For
TEM	Suffix: Alternative Temporal Aspects
TEN	Tentative validation
TFI	Suffix: Back & forth; to & fro in place (e.g., pendulum, wagging tail)
TFM	Transformative case
TFV	Suffix: Back & forth over linear vector (e.g., snake-like; zig-zag)
THR	Theoretical sanction
TMP	Temporary aspect
TNS	Transitional aspect
TPD	Suffix: Temporary Duration

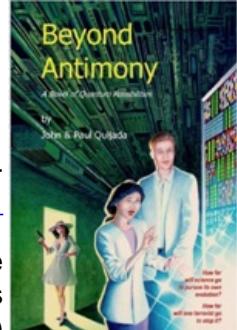
TPF	Suffix: Topic, Frame and Focus
TPI	Suffix: Impact or Duration Over Time
TPP	Suffix: Temporal Position Relative to Present
TPR	Suffix: Temporal Placement/Reaction/Viewpoint
TRD	Tardative aspect
TRF	Suffix: Transformation for Use
TRM	Terminative extension
TSP	Transpositive case
TYP	Suffix: Degree of Typicalness
U	Unbounded perspective
ua	personal reference: unbounded animate 3rd party
ui	personal reference: unbounded inanimate 3rd party
UNFRAMED	Unframed relation
UNI	Uniplex configuration
UNQ	Suffix: Degree of Specialness or Uniqueness
UTE	Suffix: Utilitative or Enabling Means
UTL	Utilitative case
VAR	Variative affiliation
VOC	Vocative case
VOL	Voluntative modality
VWP	Suffix: From Viewpoint/Perspective Of
WAK	Suffix: Spread/wake/trail/area/expanse created by passage of entity
XPT	Suffix: Expectation of Outcome



For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Ithkuil: A Philosophical Design for a Hypothetical Language



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The Lexicon

Currently, the lexicon below lists over **900** roots, each of which contains 18 stems, for a total of **16200** stems (see Sections [2.2](#), [2.3](#), and [10.1.1](#) for an explanation of the structure of individual roots and their 18 stems). This represents approximately one-fourth of the roots in the language. Additional roots and their stems will be periodically added to this list as time permits.

The reader should be aware that the glosses (i.e., the English translations or definitions) for each of the stems below are at times somewhat arbitrary, as Ithkuil roots and their stems have been conceptualized from the cognitive level up, without regard as to whether they correspond necessarily to an existing word or phrase in English or other languages. As a result, some of the English glosses chosen as representations for the Ithkuil stems are approximations at best.

Ideally, the best way to represent the meanings of Ithkuil stems would be to use a semantic “meta-language” comprised of a closed set of semantically universal (or near-universal) “primitives” to create semantic “formulas” which define the use of a particular stem. (The design and use of such a meta-language to translate the meanings of words from one language to another can be found in the writings of linguist Anna Wierzbicka.) However, the author has chosen not to pursue such an effort for the sake of time, as such an analysis would likely take decades to complete.

In regard to the list below, note that in some cases both a nominal (i.e., noun) and verbal gloss have been provided, while in others only one or the other is present. Nevertheless, the reader should keep in mind at all times that Ithkuil stems always convey both a nominal and verbal meaning, as explained in detail in [Section 2.4.1](#).

The lexicon is arranged in the following alphabetical order:

B C C' C^h Ç Č Č' Č^h D Dh F G J K K' K^h L Ł M N N̄ P P' P^h Q Q' Q^h R R̄ S Š T T' T^h T̄ V X Xh Z Ž Ž̄

It should also be noted that in previous versions of the language, formative roots were divided into lexico-semantic “classes” designated by the phonological patterning of the root (there were 17 such classes in the original version of Ithkuil, ten such classes in Ilaksh). In the current version of the language, these lexico-semantic classes have been eliminated, as the author has realized that the establishment of such classes does not serve any functional purpose in “real-world” spoken/written contexts; the ability to identify the semantic class of a stem does not sufficiently aid in understanding the stem’s specific meaning. Therefore, the assignment of phoneme patterns to roots in Ithkuil is now arbitrary. While the astute reader will note that many roots pertaining to a specific semantic notion (e.g., animals, plant and substance taxonomies, spatial position, etc.) still have similar phonological patterning, such patterning is nevertheless merely incidental and is without formal significance.

Note on Ithkuil's Implicit “Theory of Meaning”

For those readers who may be trained in linguistics, particularly cognitive linguistics, it should be noted that at this point in the author’s development of the language, a traditional Enlightenment-based theory of meaning, assuming a one-to-one correspondence between a lexeme and its external “in-the-world” referent, has been implicitly assumed

for convenience and/or expediency's sake. A more careful and rigorous construction for Ithkuil's lexico-semantics, given the author's stated design goals (as described in the Introduction section), would not assume such a theory of meaning, but would rather incorporate more recent findings of cognitive science and cognitive linguistics to reflect embodied meaning and metaphor-based conceptualization. However, pursuing such a foundation for the lexico-semantics of the language would, in the author's opinion, be extremely time-consuming (on the order of many additional years, perhaps decades, to construct). Rather than withdraw the language from public availability for such reasons, the author has chosen instead to adopt a traditional/formalist foundation for its lexico-semantics essentially out of convenience, in order to be able to showcase the language's morphology.

The Lexicon:

-B- 'WANT/DESIRE/REQUEST'			
INFORMAL Stems		FORMAL Stems	
1. affective (i.e., unwilling) want/desire [emotion + object of desire]			1. request [desire + thing requested]
2. conscious desire based on need/lack/goal			2. need/lack/necessity + thing needed or lacking
3. hope/wish [feeling + thing wished/hoped for]			3. ambition/goal/aspiration; aspire
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to the feeling of desire	same as above 3 stems referring to the thing desired	same as above 3 stems referring to the feeling of desire/need	same as above 3 stems referring to the thing requested/needed

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: whim, fancy, inclination, appetite, "hunger", greed, covet, propensity, aptness, eagerness, longing, crave, urge, passion, attract, tempt, persuade, allure, popularity, demand

-BB- 'COAT/JACKET' The stems of this root are patterned after the root [-GV-](#)

-BD- 'NECKTIE/CRAVATTE' The stems of this root are patterned after the root [-GV](#)

-BDh- 'OCTOPUS' The stems of this root are patterned after the root [-VR-](#)

-BG- 'SQUID' The stems of this root are patterned after the root [-VR-](#)

-BJ- 'EEL' The stems of this root are patterned after the root [-VR-](#)

-BK- 'LAMPREY' The stems of this root are patterned after the root [-VR-](#)

-BKW- 'PIKE' The stems of this root are patterned after the root [-VR-](#)

-BK- 'RAY' The stems of this root are patterned after the root [-VR-](#)

-BK^h- 'SHARK' The stems of this root are patterned after the root [-VR-](#)

-BL- 'middle, center (as seen parallel to long axis of entity) The pattern of stems for this root follow those of the root [-G-](#).

-BLW- 'AQUAMARINE' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-BM- 'SCALLOP' The stems of this root are patterned after the root [-VR-](#)

-BN- 'MUSSEL' The stems of this root are patterned after the root [-VR-](#)

-BQ- 'CRAB' The stems of this root are patterned after the root [-VR-](#)

-BQW- 'BASS' The stems of this root are patterned after the root [-VR-](#)

-BQ- 'SHRIMP/PRAWN' The stems of this root are patterned after the root [-VR-](#)

-BQ^h- 'LOBSTER' The stems of this root are patterned after the root [-VR-](#)

-BR- 'YELLOW' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-BR- 'CLAM' The stems of this root are patterned after the root [-VR-](#)

-BT- 'TROUT' The stems of this root are patterned after the root [-VR-](#)

-BT'- 'TUNA' The stems of this root are patterned after the root [-VR-](#)

-BT^h- 'SALMON' The stems of this root are patterned after the root [-VR-](#)

-BTW- 'COD' The stems of this root are patterned after the root [-VR-](#)

-BV- 'APPLICATION OF KNOWLEDGE / TECHNOLOGY'

INFORMAL Stems		FORMAL Stems	
1. application of knowledge / apply knowledge to practical purpose [both application and result]		1. piece of technology; tool/product resulting from the application of science	
2. theorize / theory - observational knowledge utilized and integrated to create coherent explanation		2. prototype; piece of technology used to test theory	
3. brainstorm; inspiration and insight into the application of knowledge to solve a problem		3. specific technological discovery; breakthrough solution	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems but with focus on the process of applying knowledge	same as above 3 stems but with focus on the result	same as above 3 stems but with focus on the tool/device/piece of technology itself	same as above 3 stems but with focus on the function/purpose of the technology

-BW- 'MOUTH/ORAL'

INFORMAL Stems		FORMAL Stems			
1. mouth [= oral orifice]		Same as INFORMAL Stems but for non-animal entity or figuratively			
2. lip [use of DPX = lips]					
3. interior of mouth/oral cavity					
COMPLEMENTARY Stems					
Same as above 3 stems but w/ focus on bodily location/physical aspect	Same as above 3 stems but w/ focus on purpose, use, function				

-BY- 'DOG'

INFORMAL Stems		FORMAL Stems	
1. dog		1. dog as resource	
2. male dog		2. male dog as resource	
3. female dog, bitch		3. female dog as resource	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. wild/feral dog	1. domesticated/pet dog	1. dog as food/prey	1. dog as derived resource or processed product
2. wild/feral male dog	2. domesticated/pet male dog	2. male dog as food/prey	2. male dog as derived resource or processed product
3. wild/feral female dog	3. domesticated/pet female dog	3. female dog as food/prey	3. female dog as derived resource or processed product

-BZ- 'DESCRIPTION/ACCOUNT/STORY'

INFORMAL Stems		FORMAL Stems	
1. description/account; to describe, to informally communicate an account of something [process + contents]		1. narrative story; communicate a story [process + contents]	
2. relate/report/recount = communication from memory or		2. recitation; recite (=communicate/describe from	

observations [process + contents]	record or based on memorization) [process + contents]
3. historical narrative / historical account [work itself + contents]	3. fictional narrative / fictional story [work itself + contents]
COMPLEMENTARY Stems	COMPLEMENTARY Stems
same as above 3 stems referring to the process of describing/communicating	same as above 3 stems referring to content thereof
	same as above 3 stems referring to the process of describing/communicating
	same as above 3 stems referring to content thereof

-BZD- 'POSITION BETWEEN / AMIDST / AMONG [planar 2-dimensional context, e.g., among others in a crowded room] PATTERNED AFTER ROOT [-F-](#);

-BZDW- 'PYTHON' (the stems of this root are patterned after the root [-SK-](#))

-BZG- 'POSITION BETWEEN / AMIDST / AMONG [linear unidimensional context, e.g., between two others in a queue] PATTERNED AFTER ROOT [-F-](#);

-BZGR- 'VIPER' (the stems of this root are patterned after the root [-SK-](#))

-C- 'EXISTENCE/ONTOLOGY/METAPHYSICS'	
INFORMAL Stems	FORMAL Stems
1. exist objectively; something that exists; be(ing) [both ontological and metaphysical]	Same as INFORMAL stems except in reference to epistemological context [i.e., in relation to knowledge/awareness of ontological or metaphysical existence]
2. law of nature / existential axiom	
3. natural/inherent	
COMPLEMENTARY Stems	
same as above 3 stems referring to ontology / ontological aspect	same as above 3 stems referring to metaphysics / metaphysical aspect

-CK- 'HAT' The stems of this root are patterned after the root [-GV-](#)

-CK^h- 'LIQUID (OTHER THAN WATER) AS SUBSTANCE AND TOOL' -- The stems of this root are patterned after those of the root [-DH-](#).

-CL- '0/-Y/-Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-CM- 'LONGITUDE / EAST-WEST'			
INFORMAL Stems	FORMAL Stems		
1. east-west axis/orientation/direction/areal designation	1. longitude		
2. west axis/orientation/direction/areal designation	2. West longitude		
3. east axis/orientation/direction/areal designation	3. East longitude		
COMPLEMENTARY Stems	COMPLEMENTARY Stems		
1. east-west axial direction or orientation	1. east-west geographical or geopolitical areal designation	1. meridian	1. zero meridian (Greenwich meridian)
2. west direction or orientation	2. west geographical or geopolitical areal designation	2. time zone	2. Western Hemisphere
3. east direction or orientation	3. east geographical or geopolitical areal designation	3. International Date Line	3. Eastern Hemisphere

-CN- 'PLANT TYPES'

INFORMAL Stems

1. branched/leaved plant including its fruit or flower
2. grass-like or stalked plant including its seed or grain
3. moss-like or fungal plant or mold including its spore or cyst

FORMAL Stems

same as FORMAL stems but as resource (i.e., food, fuel, material, etc.)

COMPLEMENTARY Stems

1. branched/leaved plant	1. flower, fruit, or blossom of branched/leaved plant
2. grass-like or stalked plant	2. seed, grain, or kernel of grass-like or stalked plant
3. moss-like or fungal plant or mold	3. spore or cyst of moss-like or fungal plant or mold

SSD for Stem 2: 1) grass 2) ground-covering plant 3) clover 4) weed 5) wildgrass

SSD for Stem 3: 1) lichen 2) mushroom 3) mold 4) slime mold 5) moss 6) non-mushroom fungus

-CP- '-X/+Y/0 SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT F; BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-CP- 'BODILY JOINT'

INFORMAL Stems

1. bodily joint (physical joint + function); flex joint
2. ball & socket-type bodily joint
3. standard-type joint

FORMAL Stems

1. specialized bodily joint/juncture
2. vertebra
3. wrist/ankle/waist (lateral circular joint type)

COMPLEMENTARY Stems

- | | | | |
|--|--|-----------------------|-----------------------|
| Same as above 3 stems referring to external hard or knob-like part | Same as above 3 stems referring to internal joint and its function/process | Same as above 3 stems | Same as above 3 stems |
|--|--|-----------------------|-----------------------|

hip/flex hip, shoulder, flex shoulder
finger joint, toe joint, knee, elbow
spinal column; flex spine
wrist, ankle waist

-CQ- 'SIX'

INFORMAL Stems

1. a set or group of 6 / a sextet; to be 6 in number
2. be/make six-faceted / having 6 uses or aspects / sexa- / hexa- / sixfold
3. sixth one in a sequence; be/make sixth in a sequence

FORMAL Stems

FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7

COMPLEMENTARY Stems

- | | |
|---|---|
| 1. 6 times the number of something; to sextuple / multiply by 6 | 1. a sixth / divide by 6 or into 6 parts |
| 2. 6 times [= iterations]; to be/make/do 6 times | 2. be of or make into 6 parts; separate(d) into 6 parts |
| 3. to the 6th power; raise to the 6th power | 3. to the negative 6th power; to divide by the 6th power of |

-CR- '0/-Y/0 SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT F; BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-CT- '+X/+Y/0 SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT F; BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-CT- 'THREE-DIMENSIONAL BLOCK-LIKE SHAPES/FORMS'	
INFORMAL Stems	FORMAL Stems
1. cube [solid volume]	Same as INFORMAL stems but as outline
2. rectilinear block [solid volume]	edges/frame only, not as solid volumes
3. disc	
COMPLEMENTARY Stems	
Same as above 3 stems referring to shape itself as abstract archetype	Same as above 3 stems referring to an object having that shape or form

-CW- '-X/0/0 SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, + Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-CY- 'MOUSE' (the stems of this root are patterned after the root [-SK-](#))

-C- 'tenderness/nuturing/caring' The stems of this root are patterned after the root [-PK-](#)

-Ch- 'GRIEF / SADNESS FROM LOSS / MOURNING'	
INFORMAL Stems	FORMAL Stems
1. non-volitional (i.e., affective) experience of a grief/sadness due to loss; feeling grief [state + content]	Same as INFORMAL stems except referring to a formal/institutionalized/symbolic expression of grief, i.e., mourning.
2. act or action caused by non-volitional experience of grief	
3. cause or causal circumstance for one's grief	
COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on process/behavior itself	Same as above 3 stems w/ focus on experiential state/feeling of grief itself

-Ç- 'excitement/thrill' The stems of this root are patterned after the root [-PK-](#)

-ÇC- 'DRESS' The stems of this root are patterned after the root [-GV-](#)

-ÇCW- 'SHREW' (the stems of this root are patterned after the root [-SK-](#))

-ÇÇ- 'self-induced trance or self-induced state of altered consciousness, e.g., through meditation' The stems of this root are patterned after the root [-PK-](#)

-ÇČ- 'feeling of emotional maturity/superiority; feeling "above it all"' The stems of this root are patterned after the root [-PK-](#)

-ÇČW- 'VOLE' (the stems of this root are patterned after the root [-SK-](#))

-ÇF- 'feeling of piquancy, stimulated curiosity, a desire for a new experience' The stems of this root are patterned after the root [-PK-](#)

-ÇFL- member of couple being matched or "set up" with each other — The stems of this root are patterned the same as the root [-Kh-](#)

-ÇK- 'eagerness / fervor / zeal' The stems of this root are patterned after the root [-PK-](#)

-ÇKÇ- socially adversarial based on social one-upmanship/ego gratification — The stems of this root are patterned the same as the root [-Kh-](#)

-ÇKF- interviewer/interrogator + interviewee — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇKL- partners or team members in sporting match or sporting activity — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇKR- socially adversarial based on enmity/hatred — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇKT- co-participants in general activity — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇKV- co-workers/associates — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇKW- sibling relations — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇKY- members of stigmatized/isolated/oppressed societal group — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇK'- 'LIQUID (OTHER THAN WATER) IN NATURAL MOTION' -- The stems of this root are patterned after those of the root [-KL-](#).

-ÇK^h- 'post-orgasmic/post-coital bliss; "afterglow"' The stems of this root are patterned after the root [-PK-](#)

ÇK ^h W- 'PORCUPINE'			
INFORMAL Stems		FORMAL Stems	
1. member of mammalian/avian/reptilian genus		1. member of genus as resource	
2. male member of genus		2. male as resource	
3. female member of genus		3. female as resource	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. wild member of genus	1. bred or domesticated member of genus	1. member of genus as food/prey	1. member of genus as derived resource or processed product
2. wild male member of genus	2. bred or domesticated male member of genus	2. male as food/prey	2. male as derived resource or processed product
3. wild female member of genus	3. bred or domesticated female member of genus	3. female as food/prey	3. female as derived resource or processed product

-ÇL- 'feeling carefree / frivolity / relaxed' The stems of this root are patterned after the root [-PK-](#)

-ÇM- 'jollity/merriment/gayness' The stems of this root are patterned after the root [-PK-](#)

-ÇMW- adversarial based on anger/resentment — The stems of this root are patterned the same as the root [-Kh-](#)

-ÇN- 'feeling of inherent "connection" to or oneness with the universe through space and time' The stems of this root are patterned after the root [-PK-](#)

-ÇNW- creditor + debtor — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇP- 'inspiration / feeling of positive energy' 'uplift/inspiration (e.g., by beauty, art, music, etc.) The stems of this root are patterned after the root [-PK-](#)

-ÇPC- lessor + lessee — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇPF- adversaries or opposing team members in sporting match or sporting activity — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇPL- official/agent of authority + supplicant/petitioner/applicant — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇPR- strangers brought together by circumstances of the moment — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇPŘ- members of same religion or belief system — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇPT- relationship based on compulsion/threat — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇPW- members of holy order or spiritual fellowship — The stems of this root are patterned the same as the root [-Kh-](#).

-ÇP^h- 'SQUIRREL' (the stems of this root are patterned after the root [-SK-](#))

-ÇP^hW- 'POSSUM' (the stems of this root are patterned after the root [-SK-](#))

-ÇQ- 'SKIRT/KILT' The stems of this root are patterned after the root [-GV-](#)

-**ÇQF**- adversarial based on jealousy/coveting of one's situation — The stems of this root are patterned the same as the root [-Kh-](#).

-**ÇQL**- co-authors/creators of joint opus or artistic work — The stems of this root are patterned the same as the root [-Kh-](#).

-**ÇQR**- adversarial based on a feud — The stems of this root are patterned the same as the root [-Kh-](#).

-**ÇQT**- adversarial based on material envy/coveting of one's possessions — The stems of this root are patterned the same as the root [-Kh-](#).

-**ÇQ'**- ‘CHIPMUNK’ (the stems of this root are patterned after the root [-SK-](#))

-**ÇQ^h**- ‘feeling "high" - drug- or chemically-induced euphoria/state of altered consciousness’ The stems of this root are patterned after the root [-PK-](#)

-**ÇQ^hW**- ‘MOLE’ (the stems of this root are patterned after the root [-SK-](#))

-**ÇR**- ‘poignancy, “aaaaw” reaction to irresistible cuteness’ The stems of this root are patterned after the root [-PK-](#)

-ÇT- ‘FIT/HOLD/CONTAIN AS INTERNAL-EXTERNAL PARTITION’			
INFORMAL Stems		FORMAL Stems	
1. holding area / containment area; hold/keep/contain		1. room, chamber	
2. fit; to fit, contain (= have sufficient room for)		2. reside, situate; room as place of residence, quasi-permanent situation or default location	
3. volume or boundary of containment area		3. room boundaries (i.e., walls, floor, ceiling)	
COMPLEMENTARY Stems			
same as above 3 stems referring to the physical boundaries (“walls”) which define the containment area and prevent contents from leaking or escaping	same as above 3 stems referring to the space (“room”) within the holding area and protection of contents from external environment	same as above 3 stems referring to the room as a container separating inside from outside	same as above 3 stems referring to the space within the room as shelter or sanctuary

SSD Derivatives for Formal Stem 3: ceiling, wall, floor, dividing panel, piece of furniture serving to divide room space

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: house, building, cell, booth, closet; snug, snugness, loose, looseness, baggy, bogginess

-**ÇTL**- traders/barterers — The stems of this root are patterned the same as the root [-Kh-](#).

-**ÇTR**- speaker/speechmaker/presenter + audience — The stems of this root are patterned the same as the root [-Kh-](#).

-**ÇTR**- enmity based on revenge — The stems of this root are patterned the same as the root [-Kh-](#).

-**ÇTW**- autocrat or autarch + subjects — The stems of this root are patterned the same as the root [-Kh-](#).

-**ÇT'**- ‘RAT’ (the stems of this root are patterned after the root [-SK-](#))

-**ÇT^h**- ‘ecstatic/euphoric feeling of joie-de-vivre’ The stems of this root are patterned after the root [-PK-](#)

-**ÇT^hW**- ‘SKUNK’ (the stems of this root are patterned after the root [-SK-](#))

-**ÇV**- ‘anticipate (something positive); feeling of anticipation (for something positive)’ The stems of this root are patterned after the root [-PK-](#)

-**ÇW**- ‘serenity, peace of mind’ The stems of this root are patterned after the root [-PK-](#)

-Ç- ‘PHYSICAL CONTACT’		
INFORMAL Stems		FORMAL Stems
1. physical contact between 2 or more objects [contact + effect]		FORMAL Stems for this root have the same meanings as the INFORMAL stems except that the context is specific to physical contact by one’s “default” appendage(s) for volitional physical contact, i.e., hands/fingers, beak, snout, tongue, pseudopod, tendril, tentacle, etc.
2. application of physical pressure/force + effect		
3. move or set in motion via physical contact + resulting motion		
COMPLEMENTARY Stems		
same as above 3 stems but with focus on physical act of contact	same as above 3 stems but with focus on resulting effect/movement	

EXAMPLE DERIVATIONS FROM THESE STEMS: feel, push, stroke, caress, tap, nudge, hit, strike, slap, punch, shove, press, rub, knock over, fall [due to being pushed], injure [via striking], etc.

-ÇK- ‘SWITCH/ALTERATION BETWEEN MULTI-VALUED SETTINGS’

INFORMAL Stems		FORMAL Stems	
1. switch to a different value or setting		Same as INFORMAL stems but in reference to permanent, authoritative, formal contexts or to social or analogical contexts	
2. veer, change course			
3. change to a less active or more active setting; increase or decrease intensity or setting			
COMPLEMENTARY Stems			
1. switch to higher/greater value or setting	1. switch to lower/lesser value or setting		
2. change to more difficult, dangerous, or unpredictable course	2. change to easier, safer, or more predictable course		
3. increase to higher/stronger intensity	3. decrease to lower/weaker intensity		

-ČK ^h - 'TEN QUADRILLION'			
INFORMAL Stems		FORMAL Stems	
1. a set or group of ten quadrillion; to be 10 quadrillion in number		FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7	
2. be/make 10 quadrillion-faceted / having 10 quadrillion uses or aspects / 10 quadrillion-fold			
3. 10 quadrillionth in a sequence; be/make quadrillionth in a sequence			
COMPLEMENTARY Stems			
1. 10 quadrillion times the number of something; to multiply by 10 quadrillion	1. a ten quadrillionth / divide by 10 quadrillion or into 10 quadrillion parts		
2. 10 quadrillion times [= iterations]; to be/make/do 10 quadrillion times	2. be of or make into 10 quadrillion parts; separate(d) into 10 quadrillion parts		
3. to the 10 quadrillionth power; raise to the 10 quadrillionth power	3. to the negative 10 quadrillionth power; to divide by the 10 quadrillionth power of		

-ČL- '+X/0/0 SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-ČM- non-heat related method of food preparation, e.g., preparing sushi, making a peanut butter sandwich, etc. -- The pattern of stems for this root follow that of the root [-SX-](#).

-ČN- 'DEGREE OF WAKEFULNESS OR CONSCIOUSNESS'			
Note: Stems from this root are used in conjunction with various degree indicator affixes such as the EXN, EXD and SUF affixes from Sec. 7.7.6 in order to distinguish which polarity (awake vs. asleep) is implied.			
INFORMAL Stems		FORMAL Stems	
1. degree of consciousness or unconsciousness		1. degree of activity/vivaciousness/"energy"	
2. degree of wakefulness or sleepiness		2. degree of dormancy or hibernation	
3. degree of alertness/focus/attention/awareness or lack thereof		3. degree of personal intent/diligence/enterprise	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. capacity for or faculty of consciousness	1. object/entity/thought of which one is conscious	1. state of activity / vivaciousness / liveliness / energy	1. object of activity / vivaciousness / liveliness / energy
2. capacity for or faculty of wakefulness/sleepiness	2. that which stimulates awakening or lulls into sleep	2. state of dormancy/hibernation	2. object of dormancy/hibernation
3. capacity for or faculty of alertness/attention/awareness	3. that to or of which one is alert/attentive/aware	3. state of personal intent/diligence/enterprise	3. object of one's intent/diligence/enterprise

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: sleepy, listless(ness), grogginess, "fresh", unconscious, dull, inattentive, vigilant, to "stir", frisky, ardent, eager, persevere, bustling, zeal

-ČP- '-X/-Y/0 SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL

WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-ČP- 'glass (material)' Pattern of stems is the same as [-XL-](#)

-ČQ- '0/0/+Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-ČR- 'VULTURE' (the stems of this root are patterned after the root [-SK-](#))

-ČT- '+X/-Y/0 SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-ČT^hW- gourd — The pattern of stems for this root follows those of the root [-QW-](#)

-ČV- 'COLLAR' The stems of this root are patterned after the root [-GV-](#)

-ČW- '0/+Y/0 SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-Č'- 'ACCESS/PASSAGE'			
INFORMAL Stems		FORMAL Stems	
1. access point / passage; pass through, access		1. doorway (= the access portal itself, not the door which opens/closes off access)	
2. passage or infiltration of one substance into another		2. gateway / portal	
3. filter / screening [selective access]		3. checkpoint	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. enter / go in / pass within / ingress	1. exit / go out / egress	1. enter (through primary/official entrance/access portal)	1. exit (through primary/official entrance/access portal)
2. infiltrate / imbue / immerse	2. emit / dispense	2. receive (= welcome) ; reception	2. remove / dispel
3. filter through	3. filter out	3. admittance; admit; let in	3. oust, put out / eject; ejection

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: door, gate, let in, insert, introduce, take out, remove, penetrate, emanate, emerge

-Č ^h - 'MAKE/CONSTRUCT/INTEGRATE/FORM'			
(NOTE: This root does not refer to 'make/create' meaning 'emit/secrete/produce' as in 'make noise' or 'make milk', etc.)			
INFORMAL Stems		FORMAL Stems	
1. make/construct/create (non-mechanical) [= construct via integration of material resources]		1. mechanically construct / build from a design	
2. to form/fashion/mix (non-mechanical) [= combine ingredients/parts to form]		2. integrate parts / integration of parts	
3. integrate/organize (non-mechanical)		3. machine / mechanical device	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on effort/work involved	Same as above 3 stems w/ focus on the result or product	Same as above 3 stems w/ focus on effort/work involved	Same as above 3 stems w/ focus on the result or product

NOTE: The above meanings represent these stems as used in conjunction with the COMPLETIVE (CPT) version. Their default PROCESSUAL (PCT) counterparts would translate as 'plan (to)', 'design', etc.

Derivations: cobble together, rig, system, conspire

-D- 'NAME/DESIGNATION/TITLE'			
INFORMAL Stems		FORMAL Stems	
1. name + referent; to be named, to be called		1. title + referent	
2. designation/reference + referent; refer to as		2. formal designation + referent	

3. label / nickname + referent; to go by COMPLEMENTARY Stems	3. role COMPLEMENTARY Stems
Same as above 3 stems but with focus on the reference	Same as above 3 stems but with focus on the referent

-DBR- inflammatory disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DBY- pulmonary disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DD- 'PANTS' The stems of this root are patterned after the root [-GV-](#)

-DDL- degenerative tissue disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DDR- mental disorder (i.e., no discernible lesion) — SSD Derivatives: 1) schizo-affective 2) sociopathic condition 3) schizophrenia 4) personality disorder 5) depression 6) dissociative disorder 7) manic condition, mania 8) unknown mental disorder 9) bipolar condition

-DDW- topical skin disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DDY- neuro-muscular/myalgiic disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DDR- peripheral nervous system disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DG- 'APRON' The stems of this root are patterned after the root [-GV-](#)

-DGL- cellular/metabolic disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DGR- malignant tumorous /neoplastic disorder; cancer — The pattern of stems for this root follows that of the root [-SXh-](#).

-DGV- cardio-vascular disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DGW- ocular/eye disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DGY- back pain disorder (neuro-muscular, not spinal) — The pattern of stems for this root follows that of the root [-SXh-](#).

-DK- 'MISCELLANEOUS BODY PARTS'			
INFORMAL Stems		FORMAL Stems	
1. buttock	1. haunch		
2. breast/teat	2. snout/proboscis		
3. navel	3. fin		
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to physical body part itself	Same as above 3 stems referring to function, purpose or impact/effect	Same as above 3 stems referring to physical body part itself	Same as above 3 stems referring to function, purpose or impact/effect

-DL- 'HAND'					
INFORMAL Stems		FORMAL Stems			
1. hand (as gestalt entity) [both physical body part and function]		FORMAL stems are the same as INFORMAL stems but applied to "hand" of a non-animal entity, e.g., a mechanical device, vehicle, plant, etc.			
2. hand (as holder, grasper, striker) [both physical body part and function]; to grasp-->hold					
3. leg (as manipulator, handler, feeler) [both physical body part and function]					
COMPLEMENTARY Stems					
1. hand as physical body part	1. function of hand as "feeler"- focuser of body's tactile sense				
2. hand as main tool of body	2. function of hand as holder/grasper				
3. hand as limb/extension	3. function of hand as manipulator/handler				

SSD derivatives: 1) fist 2) palm 3) knuckle 4) hand as flat "blade", e.g., for karate chop 5) finger 6) thumb 7) "butt" of hand [=lower part of palm] 8) fingernail 9) bottom side of fist [as when pounding fist onto table; for individual fingers, use following affixes + SSD/5 for 'finger': index = "main finger" or "first finger", middle finger = "mid-finger" or "long finger" or "2nd finger", ring finger = "3rd finger", pinkie = 4th finger or small(est) finger

-DLW- nasal disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DLY- mid/inner ear disorder; hearing problem — The pattern of stems for this root follows that of the root [-SXh-](#).

-DM- 'ROBE(S)/TOGA' The stems of this root are patterned after the root [-GV-](#)

-DMY- neurological disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DN- 'GOODWILL/FRIENDLINESS'			
INFORMAL Stems		FORMAL Stems	
1. being nice [= emotional/spiritual/physical support of another's interests]		1. good samaritanship, going out of the way to help	
2. goodwill, benevolent intent, kindness		2. peace / fellowship	
3. amicability / friendliness		3. friendship (unidirectional)	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on act(ions) or behavior	Same as above 3 stems w/ focus on emotion or feeling	Same as above 3 stems w/ focus on act(ions) or behavior	Same as above 3 stems w/ focus on emotion or feeling

Derivations: altruism, being friends, affable

-DNW- liver disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DR- 'MANAGE/GUIDANCE/COMPLIANCE'			
INFORMAL Stems		FORMAL Stems	
1. guide / guideline + compliance		1. rule, precept + obedience	
2. manage / direct + compliance		2. preside over / mete out law / govern + abidance	
3. discipline + submission/obedience		3. moral guideline + personal rectitude	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. guide / guideline	1. follow guide / follow guideline	1. rule, precept	1. obey rule or precept
2. manage / direct	2. comply / follow direction(s)	2. preside over / mete out law / govern	2. abide by law / obey law
3. apply discipline	3. submit to discipline	3. moral guideline	3. personal rectitude

-DR- 'ORANGE' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6)-ish 7) translucent 8) opaque 9) extra dark

-DV- 'SMOOTHNESS/ROUGHNESS (= TACTILE COARSENESS) The pattern of stems for this root follows that of the root [-KV-](#).

-DW- seller + buyer — The stems of this root are patterned the same as the root [-Kh-](#).

-DY- 'SENSE/SENSATION'			
INFORMAL Stems		FORMAL Stems	
1. sense/sensation, "feel" / "feeling" [faculty/act of sensing + sensation itself]; an act of sensing something		1. examine via the senses [both act and result/outcome]	
2. sensor / sensory organ [function + sensor itself]		2. sensor(y) device/instrument [both use and device itself]	
3. imagine a sensation or feeling / imagined sensation or feeling [faculty/act of sensing + sensation itself]		3. create/induce a sensory experience [both act and result/outcome]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. to sense / act of sensing	1. a sensation, a feeling	1. examine via the senses [the act thereof]	1. resulting evidence of senses
2. sense faculty/ability	2. sensor(y) organ	2. sensor(y) device/instrument [the use thereof]	2. sensor(y) device or instrument [the device/instrument itself]
3. imagine a sensation/feeling	3. a mentally imagined sensation	3. create a sensory experience or feeling [the act thereof]	3. sensation/feeling as externally created/induced

EXAMPLE MORPHOLOGICAL DERIVATIVES: perceive, detect, perception

-Dh- 'WATER AS SUBSTANCE AND TOOL'			
INFORMAL Stems		FORMAL Stems	
1. (some) water; (be/make) wet / moist(en)		1. (some) water as component of life	
2. (some) water in context of usage [both substance and use]		2. (some) water as nourishment; to consume/drink water	
3. ice		3. (some) water as biological environment or medium	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. (some) water [substance itself]	1. degree of moisture [from water]	1. (some) water of one's corporeal body	1. hydration; hydrate
2. water as "tool" (e.g., for washing, for powering a turbine, etc.)	2. wash, clean [with water]	2. act of drinking water; to drink water	2. to water (e.g., plants)
3. ice / freeze	3. float	3. (some) water from a natural environmental setting	3. to inhabit water / live in water / water-dwelling

EXAMPLE DERIVATIONS FROM THIS STEM: bathe, lave, submerge, sink, dunk, immerse, dry, drench(ed), irrigate, swim, the sea (as environment); dehydrate; thirst

-DhBL- genetic disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhBW- musculo-skeletal disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhBV- glandular/endocrine disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhBZ- upper gastric disorder; throat/mouth disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhGL- blood/hematological disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhGR- invasive skin disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhGV- spinal condition or disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhGW- microbial infection — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhGY- physical brain disorder (i.e., discernible lesion) — The pattern of stems for this root follows that of the root [-SXh-](#). SSD Derivatives: general dementia, multi-infarct dementia, stroke,

-DhGZ- lower gastro-intestinal disorder; bowel problem — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhL- 'MAROON' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-DhM- the common cold — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhMW- non-malignant tumorous/neoplastic disorder; non-cancerous growth — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhMY- auto-immune condition — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhN- 'subjective feeling of safety/security, relaxation, and peace-of-mind one feels by being at or returning home; "home-sweet-home"feeling.' The stems of this root are patterned after the root [-PK-](#). Derivations: hospitality; make one feel at home, make oneself at home

-DhNW- mid gastric disorder; stomach/esophagal disorder — The pattern of stems for this root follows that of the root [-SXh-](#).

-DhŘ- alcohol, wood — Pattern of stems is the same as [-XL-](#)

-DhW- alcohol, grain — Pattern of stems is the same as [-XL-](#)

-DhY- 'TAIL' The stems of this root are patterned after the root [-PR-](#)

-F- 'SPATIAL ORIENTATION / POSITION / DIRECTION'			
INFORMAL Stems		FORMAL Stems	
1. general spatial position [currently or within context of utterance]; be situated at		1. specific spatial position at "end point"; be situated at "end point" of	
2. general orientation (along or relative to directional axes); to "face" [toward]		2. specific orientation toward "end point" of; to "face" squarely	
3. general direction/axis of movement; direct/move along		3. specific direction/axis of movement toward "end point"	

axis of COMPLEMENTARY Stems		of; to head straight for COMPLEMENTARY Stems	
1. general position toward "one side" of opposed spatial points	1. general position toward "other side" of opposed spatial points	1. specific position at "one end" of opposed spatial points	1. specific position at "other side" of opposed spatial points
2. general orientation toward "one side" of opposed spatial points	2. general orientation toward "other side" of opposed spatial points	2. specific orientation toward "one end" of opposed spatial points	2. specific orientation toward "other end" of opposed spatial points
3. general direction toward "one side" of opposed spatial points	3. general direction toward "other side" of opposed spatial points	3. specific direction toward "one end" of opposed spatial points	3. specific direction toward "other end" of opposed spatial points

-FC- 'GENERIC FLYING BUG' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FF- 'PLEASURE- or PAIN-BASED VOCALIZATION'	
INFORMAL Stems	FORMAL Stems
1. sigh (affective/non-volitional)	Same as INFORMAL stems but referring to deliberate (i.e., volitional) vocalizations
2. squeal/groan/moan (affective/non-volitional)	
3. gasp (affective/non-volitional)	
COMPLEMENTARY Stems	
Same as above 3 stems as triggered by physical or mental pleasure or satisfaction	Same as above 3 stems as triggered by physical or mental distress, pain, torment, or dissatisfaction

SSD DERIVATIONS: cry, sob, howl, whimper, murmur

OTHER MORPHOLOGICAL DERIVATIONS: weep

-FFR- allies — The stems of this root are patterned the same as the root [-Kh-](#).

-FFM- predator + prey — The stems of this root are patterned the same as the root [-Kh-](#).

-FFY- 'GNAT' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FKČ- 'APHID' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FKL- matchmaker + parties being matched — The stems of this root are patterned the same as the root [-Kh-](#).

-FKR- 'MOSQUITO' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FKŘ- warring parties — The stems of this root are patterned the same as the root [-Kh-](#).

-FKT- lender + borrower — The stems of this root are patterned the same as the root [-Kh-](#).

-FKW- entertainer/emcee + audience — The stems of this root are patterned the same as the root [-Kh-](#).

-FKY- invader + invaddee — The stems of this root are patterned the same as the root [-Kh-](#).

-FK- Sulfur — Pattern of stems is the same as [-XL-](#)

-FK^h- Lead — Pattern of stems is the same as [-XL-](#)

-FK^hW- safflower — The pattern of stems for this root follows those of the root [-QW-](#)

-FL- 'BLACK' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-FLY- 'HOUSEFLY' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

[-FN- 'COUSIN'](#)

INFORMAL Stems		FORMAL Stems	
1. cousin [male or female]		1. step-cousin [male or female]	
2. male cousin		2. male step-cousin	
3. female cousin		3. female step-cousin	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. cousin [male or female – related through one's mother]	1. cousin [male or female – related through one's father]	1. cousin [male or female – related through one's stepmother]	1. cousin [male or female – related through one's stepfather]
2. male cousin [related through one's mother]	2. male cousin [related through one's father]	2. male cousin [related through one's stepmother]	2. male cousin [related through one's stepfather]
3. female cousin [related through one's mother]	3. female cousin [related through one's father]	3. female cousin [related through one's stepmother]	3. female cousin [related through one's stepfather]

-FPÇ- 'BUTTERFLY' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FPL- perpetrator + victim — The stems of this root are patterned the same as the root [-Kh-](#).

-FPT- 'FIREFLY' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FQL- advisor + party seeking advise — The stems of this root are patterned the same as the root [-Kh-](#).

-FQR- fellowship, "band of brothers", fraternity, sorority, etc. — The stems of this root are patterned the same as the root [-Kh-](#).

-FQT- fellow hobbyists or enthusiasts — The stems of this root are patterned the same as the root [-Kh-](#).

-FQh- 'bother, annoyance (based on displeasure at or disagreement with external circumstances)' The stems of this root are patterned after the root [-PK-](#)

-FR- 'TIME PERIOD/DURATION LESS THAN ONE DAY'			
INFORMAL Stems		FORMAL Stems	
1. moment/instant		1. 'second' [= basic unit of cyclic time, based on clapping of hands once together then once with back of hands together]	
2. a 'while'		2. 'minute' = 100 seconds	
3. portion of a day		3. 'hour' = 100 minutes	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above three stems w/ focus on elapsed time	Same as above three stems w/ focus on time during which	Same as above three stems w/ focus on elapsed time	Same as above three stems w/ focus on time during which

SSD affix used with FORMAL stems by degree: 1) 1/100 of time period 2) 1/10 3) ¼ 4) ½ 5) exactly/precisely 6) twice the duration 7) 4 times 8) 10 times 9) 100 times

SSD affix used with INFORMAL Stem No. 3 by degree: 1) midnight to dawn period [Spanish 'madrugada'] 2) dawn [use of CPT or TRM = 'sunrise'] 3) early morning 4) morning 5) midday 6) afternoon [use of CPT or TRM = 'sunset'] 7) twilight 8) evening 9) late night, from darkness till midnight

-FR- 'INFIRMITY/PHYSICAL DISABILITY'			
INFORMAL Stems		FORMAL Stems	
1. general weakness/infirmity (e.g., age-related or illness-related)		1. acute infirmity, attack, flare-up	
2. specific physical disability or abnormality; disabled		2. injury; injure(d)	
3. lame, crippled, handicapped, impaired (permanently or chronically)		3. impaired; decreased mobility (temporary)	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems w/ focus on underlying condition itself	same as above 3 stems w/ focus on physical effect, impact, symptoms, manifestation	same as above 3 stems w/ focus on underlying condition itself	same as above 3 stems w/ focus on physical effect, impact, symptoms, manifestation

-FS- 'side/flank, lateral area' The pattern of stems for this root follow those of the root [-G-](#).

-FSK- club members — The stems of this root are patterned the same as the root [-Kh-](#).

-FSK- owner + pet — The stems of this root are patterned the same as the root [-Kh-](#).

-FSKh- 'DRAGONFLY' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FSM- 'WASP' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FSN- members of business/executive management — The stems of this root are patterned the same as the root [-Kh-](#).

-FSP- relationship between business associates — The stems of this root are patterned the same as the root [-Kh-](#).

-FSP' 'GRASSHOPPER' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FSQ- members of secret society — The stems of this root are patterned the same as the root [-Kh-](#).

-FSQW- 'PHEASANT' (the stems of this root are patterned after the root [-SK-](#))

-FSQ' "center of attention" + sycophants — The stems of this root are patterned the same as the root [-Kh-](#).

-FSQh- sage + disciples — The stems of this root are patterned the same as the root [-Kh-](#).

-FST- 'MOTH' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FSY- 'FLEA' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FŠ- 'ABDOMEN/THORAX/TORSO/CHEST'	
INFORMAL Stems	FORMAL Stems
1. thorax/torso [both body part and function]	FORMAL stems are the same as INFORMAL stems but applied to "mid-section" of a non-animal entity, e.g., a mechanical device, vehicle, plant, etc.
2. abdomen/midsection (lower front half of torso) [both body part and function]	
3. chest (upper front of torso) [both body part and function]	
COMPLEMENTARY Stems	
Same as above 3 stems referring to physical body part	Same as above 3 stems referring to function

NOTE: Due to the bilateral symmetry of this body part, the above stems are often used in the DUPLEX configuration, the UNIPLEX form referring only to one side of the bodily part or the other.

-FŠK- 'BUMBLEBEE' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FŠKh- fan + celebrity — The stems of this root are patterned the same as the root [-Kh-](#).

-FŠK' supervisor/boss + employee — The stems of this root are patterned the same as the root [-Kh-](#).

-FŠP- 'HONEYBEE' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FŠP' 'HORNET' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FŠQh- 'MANTIS' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FŠT^h- 'LOCUST' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-FT- 'FULLNESS/EMPTINESS' The pattern of stems for this root follows that of the root [-KV-](#).

-FT^h- 'LEGGING/SOCK' The stems of this root are patterned after the root [-GV-](#)

-FT- 'INSECT'			
INFORMAL Stems		FORMAL Stems	
1. member of particular genus of insect		1. member of genus as resource	
2. male member of genus		2. male as resource	
3. female member of genus		3. female as resource	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. wild member of genus	1. bred or domesticated member of genus	1. member of genus as food/prey	1. member of genus as derived resource or processed product
2. wild male member of genus	2. bred or domesticated male member of genus	2. male as food/prey	2. male as derived resource or processed product

3. wild female member of genus	3. bred or domesticated female member of genus	3. female as food/prey	3. female as derived resource or processed product
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MAT Suffix used to indicate life stage: larvae/grub, chrysalis, cocoon, adult, etc.

SSD Suffix used as follows: 1) egg, 2) wing, 3) oil/secretion, 4) silk/web, 5) skin/pellicle, 6) tail, 7) horn, 8) leg(s) 9) [open]

-FY- 'EIGHT'	
INFORMAL Stems	FORMAL Stems
1. a set or group of 8 / an octet; to be 8 in number	
2. be/make eight-faceted / having 8 uses or aspects / octo- / eightfold	
3. eighth one in a sequence; be/make eighth in a sequence	
COMPLEMENTARY Stems	
1. 8 times the number of something; to octuple / multiply by 8	1. an eighth / divide by 8 or into 8 parts
2. 8 times [= iterations]; to be/make/do 8 times	2. be of or make into 8 parts; separate(d) into 8 parts
3. to the 8th power; raise to the 8th power	3. to the negative 8th power; to divide by the 8th power of

-G- 'COMPONENTIAL PART OF WHOLE'	
INFORMAL Stems	FORMAL Stems
1. component/part of something + its function/purpose	
2. appearance/condition of component/part + its function/purpose	
3. component/part as seen in relation to the greater whole	Same as INFORMAL stems but referring to a separable/detachable component/part, as opposed to INFORMAL stems which refer to an inalienable or integrated component/part
COMPLEMENTARY Stems	
1. component/part itself	1. function/purpose of component/part
2. physical appearance/condition of component/part	2. impact/effect of component's/part's condition on its function/purpose
3. component/part itself as seen in relation to the greater whole	3. function/purpose of component/part itself in relation to the greater whole

-GB- 'FANTASTIC OR IMAGINARY CREATURE'			
INFORMAL Stems	FORMAL Stems	COMPLEMENTARY Stems	
1. fantastic or imaginary creature/beast	1. mythological/symbolic creature/beast		
2. winged fantastic creature/beast	2. legendary being/creature/beast, allegedly real		
3. reptilian/saurian fantastic creature/beast	3. alien/extraterrestrial being		
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to physical body or presence of creature/beast itself	Same as above 3 stems referring to the mind, personality, character, or interaction/communication with the creature/beast	Same as above 3 stems referring to physical body or presence of creature/beast itself	Same as above 3 stems referring to the mind, personality, character, or interaction/communication with the creature/beast

SSD Derivatives for Informal Stem 1:

SSD Derivatives for Informal Stem 2: dragon

SSD Derivatives for Informal Stem 3:

SSD Derivatives for Formal Stem 1: centaur, sphinx, satyr, unicorn, chimera

SSD Derivatives for Formal Stem 2: vampyre, werewolf, yeti

-GD- 'NECK'	
INFORMAL Stems	FORMAL Stems
1. neck (as gestalt entity) [body part + function]	
2. neck (as bodily support/swivel point for head) [body part + function]	FORMAL stems are the same as INFORMAL stems but applied to "neck" of a non-animal entity, e.g., a mechanical device, complex 3-dimensional form, plant, etc.
3. neck (as narrowest, most vulnerable body part) [body part + function]	
COMPLEMENTARY Stems	
1. neck as physical body	1. neck as functional body part

part	
2. neck as bodily support/swivel point for head	2. neck as functional support/swivel point for head
3. neck as physically narrowest, most vulnerable body part)	3. neck as functionally narrowest, most vulnerable body part

MORPHOLOGICAL DERIVATIVES: nape, throat (i.e., front part of neck)

-GDR- ‘ALBATROSS’ (the stems of this root are patterned after the root [-SK-](#))

-GDh- ‘cloth/fabric’ Pattern of stems is the same as [-XL-](#)

-GG- ‘VEIL’ The stems of this root are patterned after the root [-GV-](#)

-GL- ‘STATE OF HEALTH/ILLNESS/WELL-BEING’			
INFORMAL Stems		FORMAL Stems	
1. state of physical health / physical well-being		1. state of mental health / mental well-being	
2. physical illness; sick(ness)		2. mental illness	
3. physical injury/wound/lesion/trauma		3. mental trauma	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on effect	Same as above 3 stems w/ focus on cause	Same as above 3 stems w/ focus on effect	Same as above 3 stems w/ focus on cause

SSD affix used with Stem 2 of both INFORMAL and FORMAL stem in conjunction w/ the AGC2/7 affix give: 1) nurse 2) emergency technician 3) therapist 4) caregiver 5) doctor 6) surgeon 7) healer 8) “medicine man” 9) medical assistant

Derivations: madness, craziness, insanity

-GM- ‘TWO-DIMENSIONAL OUTLINE SHAPES’			
INFORMAL Stems		FORMAL Stems	
1. generic 2-D outline shape (e.g., the shape of a close-course race-track, the outline of the shore of a lake, a drawing of a national border on a map, etc.)		1. 2-D outline shape generically distorted	
2. generic 2-D outline horizontally elongated		2. 2-D outline shape obliquely elongated / skewed along one axis	
3. generic 2-D outline vertically elongated		3. 2-D outline shape medially compressed, i.e., “squished/pinched in the middle”	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to shape itself as abstract archetype	Same as above 3 stems referring to an object having that shape or form	Same as above 3 stems referring to shape itself as abstract archetype	Same as above 3 stems referring to an object having that shape or form

-GN- ‘wax’ Pattern of stems is the same as [-XL-](#)

-GR- ‘NUTRITION / NUTRITIONAL CONSUMPTION’			
INFORMAL Stems		FORMAL Stems	
1. food and drink; to eat and drink		1. eat a serving of food or drink; to dine	
2. food; to eat		2. prepared/cooked food; to eat prepared/cooked food	
3. drink (i.e., substance drunk); to drink		3. processed drink or spirits; to drink processed drink or spirits	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. eat and drink as biological process	1. food and drink (substances consumed)	same as above 3 stems but with focus on the process of consumption	same as above 3 stems but with focus on the items consumed
2. eat/ingest/consume	2. item of solid food		
3. drink/imbibe	3. liquid (to be) drunk		

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: cooking, meal, repast, feast, become drunk, gorge(d); chef, cook, brewer

-GR- ‘SKY BLUE’ patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-GV- 'ARTICLE OF CLOTHING'

INFORMAL Stems		FORMAL Stems	
1. piece of clothing as covering or fashion; to wear such		1. piece of clothing as part of uniform or costume; to wear such	
2. piece of clothing as distinguishing marker or indicator of station; to wear such		2. part of uniform or costume as indicator of station/job; to wear such	
3. piece of clothing as ornament or accessory; to wear such		3. part of uniform or costume as ornament; to wear such	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. piece of clothing as covering; to wear such	1. piece of clothing as fashion; to wear such	1. part of uniform as covering; to wear such	1. part of costume as covering; to wear such
2. piece of clothing as distinguishing marker; to wear such	2. piece of clothing as indicator of station; to wear such	2. part of uniform as indicator of station/job; to wear such	2. part of costume as indicator of station/job; to wear such
3. piece of clothing as ornament; to wear such	3. piece of clothing as accessory; to wear such	3. part of uniform as ornament; to wear such	3. part of costume as ornament; to wear such

-GW- 'AMBULATION'

INFORMAL Stems		FORMAL Stems	
1. ambulate (as natural to specific species, e.g., walk, slither, fly, crawl, etc.)		1. "formal" ambulation, e.g., march, prance	
2. rapid ambulation (as per specific species, e.g., run, gallop, scamper, scurry, etc.)		2. purposeful rapid ambulation, e.g., flee, race	
3. unnatural or affected ambulation		3. deliberately unnatural or affected ambulation, e.g., swagger, saunter	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to the nature of the bodily movement/gait	same as above 3 stems referring to the translative/directional motion from one point toward another	same as above 3 stems referring to the nature of the bodily movement/gait	same as above 3 stems referring to the translative/directional motion from one point toward another

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: skip, shuffle, slink; lead, follow

SSD Derivatives: 1) swim on surface 2) swim/glide underwater 3) slither 4) crawl 5) walk 6) hop 7) jump/leap 8) swing (e.g., through trees, from vines, etc.) 9) fly

-GY- 'WHITE' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-GZ- 'TENSENESS (= STRAIN)' The pattern of stems for this root follows that of the root [-KV-](#).

-GZB- 'INTERTWINED/INTERMINGLED/INTERMIXED POSITION/STATE' [individual components separable/extractable] PATTERNED AFTER ROOT [-E-](#):

-GZBL- 'COBRA' (the stems of this root are patterned after the root [-SK-](#))

-GZD- '+X/0/+Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-GZDR- 'RATTLESNAKE' (the stems of this root are patterned after the root [-SK-](#))

-GZDW- 'ASP' (the stems of this root are patterned after the root [-SK-](#))

-GZL- '0/0/0 SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-GZV- '+X/0/-Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-J- 'VERTICAL MOTION / ASCENT & DESCENT / UP & DOWN' The stems of this root are patterned after the root [-K-](#)

-JGW- 'HAWK' (the stems of this root are patterned after the root [-SK-](#))

-JK-: ‘oval’ The pattern of stems for this root follow that of the root [-GM-](#).

-JM- ‘IN-LAW/FOSTER RELATIONS’			
INFORMAL Stems		FORMAL Stems	
1. member of parent/child in-law relationship		1. member of foster family	
2. male member of parent/child in-law relationship		2. male member of foster family	
3. female member of parent/child in-law relationship		3. female member of foster family	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. parent in-law	1. child in-law	1. foster parent	1. foster child
2. father in-law	2. son in-law	2. foster father	2. foster son
3. mother in-law	3. daughter in-law	3. foster mother	3. foster daughter

-JP^h-: ‘egg-shaped’ The pattern of stems for this root follow that of the root [-GM-](#).

-JQ-: Platinum — Pattern of stems is the same as [-XL-](#)

-JT^h-: ‘half-circle/semi-circle’ The pattern of stems for this root follow that of the root [-GM-](#).

-JW-: ‘SCARF’ The stems of this root are patterned after the root [-GV-](#)

-K- ‘PATH-ORIENTED TRANSLATIVE MOTION’ (QUASI-LINEAR)			
INFORMAL Stems		FORMAL Stems	
1. move from one place to another; translative motion (i.e., motion from one place toward another)		1. journey; to travel, traverse, to journey from	
2. course/way/route/trajectory followed between two points		2. route travelled/traversed on journey	
3. move between two points; motion along path from one point to another; to cross/go across from one side to another		3. travel between two points / make a crossing / travel across	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. motion “outward”; go	1. motion “inward”; come	1. go travelling / be off	1. journey toward
2. movement away; go away (= increase distance between two objects)	2. close in / get close(r) (= decrease distance between two objects)	2. travel further away from	2. reach vicinity of / close in on
3. leave (= move away from one point toward some distant point)	3. approach (= approach one point from direction of some distant point)	3. departure; depart	3. arrival; arrive / reach destination

Morphological derivations: sojourn, set off / set out, set in motion; self-directed movement

-KC- ‘LOWER ORDER LIFE FORM’					
INFORMAL Stems		FORMAL Stems			
1. lower-order life form (i.e. non-vertebrate)		same as INFORMAL stems but as resource (i.e., food, fuel, material, etc.)			
2. microbe					
3. non-microbial animal					
COMPLEMENTARY Stems					
1. bacterium	1. soft-bodied animal (e.g., jellyfish, sponge, slime mold)				
2. virus	2. exoskeletal animal (e.g., insect, arthropod, crustacean)				
3. protist	3. endoskeletal animal				

-KC- ‘AFFECTIVE BODILY SENSATIONS (SURFACE-TACTILE)’			
INFORMAL Stems		FORMAL Stems	
1. itch		1. “creeps”/crawling sensation	
2. tingle		2. tickle	
3. sting/prick		3. “chill” feeling / feeling of hairs standing on end	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above three	same w/ focus on causal act or	same as above three stems w/	same w/ focus on

stems w/ focus on effect/sensation itself	source, e.g., the stinging itself, the interaction b/w irritant and skin giving rise to the itch, etc.	focus on effect/sensation itself	causal act or source
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-KČ- EXCUSE / FOREGIVENESS / ABSOLUTION / AMNESTY			
act of seeking and granting excuse, of seeking to be condoned and being condoned		seeking of and granting of propitiation/ appeasement/placation	
the craving of pardon/forgiveness plus the granting of pardon/forgiveness		the seeking of and granting of absolution	
atonement/make amends/do penance plus the act of redemption/recognition of one's amends		the seeking of and granting of amnesty or indemnification	
ask to be excused for one's conduct/traits/presence, etc. / seek to be condoned or to have one's conduct or presence overlooked or allowed for	to excuse, condone, allow for; act of excusing or condoning someone's conduct/traits/presence, etc.	seek to be appeased or placated; state of seeking appeasement or placation	propitiate, appease, placate; act of appeasement or placation
crave pardon, beg forgiveness	pardon/forgive; act of pardoning or forgiveness	seek absolution, seek to be absolved	absolve
atone, make amends, do penance, seek redemption	redeem, accept one's penance or amends	seek/try for amnesty or indemnification	grant amnesty, indemnify; act of granting amnesty or indemnification

Note that this root, like the root **-SP-** 'exchange' refers to a naturally two-sided (i.e., complementary) process involving the acts or states of mind of two different parties: the party doing the excusing, pardoning, forgiving, absolution, etc., and the party seeking to be excused, pardoned, forgiven, absolved, etc. The holistic stems refer to this complementary process, while the complementary stems reference each "side" of the situation.

Note also that the speaker should take care to utilize Version categories carefully with these stems (especially when using the holistic stems), in order to distinguish whether or not the person seeking pardon, forgiveness, etc., is, in fact, pardoned, forgiven, etc. Likewise, the speaker should consider whether it is appropriate to utilize a Valence category when using these stems, given that their semantics naturally entail the actions/states of two parties

-KČʷW- ginger — The pattern of stems for this root follows those of the root [-QW-](#)

-KF- 'TYPES OF HARD OR NON-LIVING BODILY TISSUES'			
INFORMAL Stems		FORMAL Stems	
1. tooth		1. head hair	
2. fingernail/toenail/claw		2. whisker / facial hair	
3. hard growth of skin (e.g., wart, corn, callus, bunion, scar)		3. pubic/armpit hair	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to physical tissue itself	Same as above 3 stems referring to function, purpose, or effect/impact	Same as above 3 stems referring to physical tissue itself	Same as above 3 stems referring to function, purpose, or effect/impact

Morphological derivative from FORMAL Stem 1: bald

SSD Derivatives for FORMAL Stem 2: mustache, beard, sideburn

SSD Derivatives for INFORMAL Stem 1: incisor, fang, bicuspid, molar

SSD Derivatives for INFORMAL Stem 3: wart, corn, callus, bunion, scar

-KK- 'SOLIDITY/HOLLOWNESS (= PERMEABILITY)' The pattern of stems for this root follows that of the root [-KV-](#).

-KKR- 'OBLIQUE VERTICAL MOTION' The stems of this root are patterned after the root [-K-](#)

-KK'- business partnership — The stems of this root are patterned the same as the root [-Kh-](#).

-KL- 'WATER IN NATURAL MOTION'			
INFORMAL Stems		FORMAL Stems	
1. a flow of water / to flow or run		1. river / to flow as a river / to run as a river	
2. sprinkle / shower; to sprinkle or shower upon		2. rain(fall); to rain	
3. cascade / pour [= free falling of water]		3. waterfall	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. water component of a flow of water	1. channel or course of a flow of water	1. water component of a river	1. channel or course of a river

2. water component of a sprinkle/shower	2. trajectory or course of a sprinkle/shower	2. water component of rain	2. "path" or course of a rain shower
3. water component of a cascade or pouring of water	3. trajectory or course of a pouring of water	3. water component of a waterfall	3. channel or "groove" of a waterfall

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: flood, downpour, to rain “cats and dogs”, brook, stream, rivulet, arroyo, floodplain

-KLW- ‘TURQUOISE’ patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-KM- ‘WEIGHT/MASS’ The pattern of stems for this root follows that of the root [-KV-](#).

KN- ‘SNAKE’			
INFORMAL Stems		FORMAL Stems	
1. member of mammalian/avian/reptilian genus		1. member of genus as resource	
2. male member of genus		2. male as resource	
3. female member of genus		3. female as resource	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. wild member of genus	1. bred or domesticated member of genus	1. member of genus as food/prey	1. member of genus as derived resource or processed product
2. wild male member of genus	2. bred or domesticated male member of genus	2. male as food/prey	2. male as derived resource or processed product
3. wild female member of genus	3. bred or domesticated female member of genus	3. female as food/prey	3. female as derived resource or processed product

KP- ‘LENGTH’			
INFORMAL Stems		FORMAL Stems	
1. degree of (static) dimensional property (e.g., short/long)		same as INFORMAL stems but in reference to an applied contextual gestalt (e.g., the vicinity, the depths, the expanse, the interregnum, the surroundings, the perimeter, etc.)	
2. dynamic decrease in degree of dimensional property (e.g., shorten/ing)			
3. dynamic increase in degree of dimensional property (e.g., lengthen/ing)			
COMPLEMENTARY Stems			
same as above 3 stems applied to spatial context	same as above 3 stems applied to temporal context		

-KR- TOOL/INSTRUMENT			
INFORMAL Stems		FORMAL Stems	
1. tool, instrument, implement as extension of bodily appendage(s) (e.g., as per force, strength, precision, reach, pressure, instrument as labor-saving or efficiency-increasing means etc.)		1. utensil, specialized implement for assisting in refined task	
2. tool, instrument as means of “defying nature” (e.g., wheel, wedge, fulcrum, etc.)		2. mechanical/motorized/electric/electronic implement/device	
3. supply-like resource/implement used by itself or in association with specific tool (e.g., nail, tack, clothespin, hook)		3. supply-like resource/implement used as fuel or input for mechanical/electrical/electronic implement/device	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to thing	Same as above 3 stems referring to function/use thereof	Same as above 3 stems referring to thing itself	Same as above 3 stems referring to function/use thereof

Morphological Derivatives: equipment, gear (collection of associated tools/supplies), apparatus, appliance, paraphernalia, machine
 SSD derivatives for Informal Stem 1: awl, pliers, screwdriver, wrench, pick, shovel/spade, chisel, file, stick/pole/bar
 SSD derivatives for Informal Stem 2: wheel, jack, wedge, fulcrum, pulley, sling, lever, gear, spool
 SSD derivatives for Informal Stem 3: nail, tack, clip/fastener, hook, screw, bolt, nut, piece of wire, screwdriver bit/head
 SSD derivatives for Formal Stem 1: anvil, fork, spoon, scissors, vice/clamp, plane, saw, tweezers, puncher
 SSD derivatives for Formal Stem 2: drill, power saw, engine/motor

SSD derivatives for Formal Stem 3: drill bit,

-KS- 'TWO/DUALITY'	
INFORMAL Stems	FORMAL Stems
1. a set of two / a duo; to be two in number	FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7
2. be/make dual / having 2 uses or aspects / bi- / twofold	
3. second one in a sequence; be/make second in a sequence	
COMPLEMENTARY Stems	
1. twice the number of something; to double / multiply by two	1. half; halve / divide by or into two
2. two times [= iterations] / twice; to be/make/do twice	2. be of or make into two parts; bifurcate(d)
3. to the second power / squared; to square / raise to the second power	3. to the negative second power / inverse square; to divide by the square of

-KSF- 'POSITION BETWEEN / AMIDST / AMONG [volume-based 3-dimensional context, e.g., sky crowded with balloonists] PATTERNED AFTER ROOT F-:

-KSL- '-X/0/+Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT F-; BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-KSP '-X/+Y/+Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT F-; BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-KSR- '0/0/-Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT F-; BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-KSS- HADRONS (COMPOSITE FERMIONS OR COMPOSITE BOSONS)			
INFORMAL		FORMAL	
baryon (including nucleons, hyperons, and charmed particles)			meson
nucleon			light unflavored meson / effect (i.e., nuclear interaction [strong and weak nuclear force])
hyperon or charmed particle			high-energy flavored meson / effect
COMPLEMENTARY STEMS		COMPLEMENTARY STEMS	
ordinary (positive) baryon	anti-baryon	vector meson	pseudoscalar meson
proton	neutron	light unflavored meson	effect of light unflavored meson (i.e., nuclear interaction [strong and weak nuclear force])
hyperon	charmed particle	high-energy flavored meson	effect of high-energy flavored meson

The PLV1/1 suffix is used for these stems where applicable to convey the corresponding antiparticle. The PLV1/5 suffix is used for these stems where applicable to convey the corresponding neutral (non-charged) particle.

SSD1 suffix forms applied to Informal stem P1/S3 to indicate particular types of hyperons and charmed particles:

- 1) lambda particle
- 2)
- 3) sigma particle
- 4)
- 5) xi particle
- 6)
- 7) delta particle
- 8)
- 9) omega particle

SSD1 suffix forms applied to Formal stem P1/S1 to indicate particular types of mesons:

- 1) pion
- 2) rho meson
- 3) omega meson
- 4) phi meson
- 5) J/psi meson

- 6) upsilon meson
 7) D meson
 8) B meson
 9) kaon

-KST- '+X/+Y/+Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-KSW- '-X/0/-Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-KS- 'FOOL/CLOWN'			
INFORMAL Stems		FORMAL Stems	
1. fool(ish); dupe		1. town fool, village idiot	
2. buffoon, laughingstock		2. clown	
3. nerd, dweeb		3. jester	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems in non-serious context of "in fun" or "for laughs"	Same as above 3 stems in poignant, sorrowful, pathetic context	Same as above 3 stems in context of entertainment	Same as above 3 stems in context of parody or as a foil for society

-KSP- '-X/-Y/+Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-KST- '+X/-Y/+Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-KT- 'ROCK/MINERAL-BASED SOIL/GROUND'			
INFORMAL Stems		FORMAL Stems	
1. stone [as substance/material or substrate/ground]		1. rock(y) [= specific natural embodiment of stone]	
2. sand [as substance/material or substrate/ground]		2. gravel	
3. clay [as substance/material or substrate/ground]		3. lava [w/ CPT = volcanic rock/lava-based rock]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on substance	Above 3 stems used to identify material nature of the substrate, ground or firmament	Same as above 3 stems w/ focus on substance	Above 3 stems used to identify material nature of the substrate, ground or firmament

-KT' - 'PRESSURE-BASED or REACTION-BASED or GRAVITATION-BASED EQUILIBRIUM/MOTION/PROPULSION'	
INFORMAL Stems	FORMAL Stems
1. something hovering or floating; for something to hover, float, or be suspended upon (based on equilibrium, via pressure or volume-dispersion, against other medium such as air, water, gas, vapor, etc.) [both the object hovering/suspended + the act of suspension/hovering/floating]	The Formal stems for this root are identical to the Informal roots in meaning, with the distinction of referring specifically to man-made, mechanical means/vehicles/vessels or contexts involving reaction-based (i.e., fuel-driven) propulsion, as opposed to the naturally occurring or non-mechanical contexts implied by use of the Informal stems.
2. something hovering or floating; for something to hover, float, or be suspended upon (based on gravitational equilibrium or nullification, e.g. at the top of an arc of trajectory or at a La Grange point) [both the object hovering/suspended + the act of suspension/hovering/floating]	

3. something in orbit around another body; to orbit
 [both the object hovering/suspended + the act of suspension/hovering/floating]

COMPLEMENTARY Stems	
Same as the above 3 stems but with specific reference to the object which hovers, floats, or is suspended	Same as the above 3 stems but with specific reference to the act or state of hovering, floating, or suspension

-KT^h- ATOM / NUCLEUS / ELECTRON CLOUD

INFORMAL		FORMAL	
atom		instance of chemical element	
atomic nucleus		nuclide (i.e., specific configuration of Z-value, N-value, and energy state for a particular atomic nucleus)	
atomic electron cloud		orbital state (i.e., state and behavior of an electron based on its orbital probability distribution)	
COMPLEMENTARY STEMS		COMPLEMENTARY STEMS	
physical atom itself	behavioral state/effect of physical atom	physical instance of chemical element	effect of physical instance of chemical element
atomic nucleus itself	behavioral state/effect of atomic nucleus	specific nuclide configuration	effect of specific nuclide configuration
atomic electron cloud itself	behavioral state/effect of atomic electron cloud, i.e., photon-mediated attractive force (Coulomb force)	orbital state	effect of orbital state

The following important notes apply to use of the above stems:

SSD1 suffix derivatives for Formal P1/S2:

- 1) isotope
- 2) isobar
- 3) nuclear isomer / nuclear energy state
- 4) stable nuclide
- 5) isotope
- 6) ground state of nuclide
- 7) excited state or nuclide
- 8) mirror nucleus
- 9) unstable/radioactive/radionuclide

-KT- 'SIMILARITY/SAMENESS'

INFORMAL Stems		FORMAL Stems	
1. similar(ity) to oneself (on another occasion)		1. same (= selfsame)	
2. similar(ity) to (an)other entity/instance		2. same (= identical to (an)other entity/instance)	
3. remind (one) of / reminder		3. same (= copy/replacement)	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on appearance or superficial impression	Same as above 3 stems w/ focus on function, purpose or behavior	Same as above 3 stems w/ focus on identity or appearance	Same as above 3 stems w/ focus on function, purpose or behavior

-KTR- 'EAGLE'

INFORMAL Stems		FORMAL Stems	
1. member of mammalian/avian/reptilian genus		1. member of genus as resource	
2. male member of genus		2. male as resource	
3. female member of genus		3. female as resource	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. wild member of genus	1. bred or domesticated member of genus	1. member of genus as food/prey	1. member of genus as derived resource or processed product
2. wild male member of	2. bred or domesticated	2. male as food/prey	2. male as derived resource

genus	male member of genus		or processed product
3. wild female member of genus	3. bred or domesticated female member of genus	3. female as food/prey	3. female as derived resource or processed product

-KV- 'QUALITY OR PROPERTY OF MATTER'

INFORMAL Stems		FORMAL Stems
1. degree of quality/property of matter		same as INFORMAL stems except that degree of particular quality/property is unusual, abnormal, unexpected, or has been changed from expected norm
2. decrease in degree of quality/property of matter		
3. increase in degree of quality/property of matter		
COMPLEMENTARY Stems		
Same as above 3 stems referring to organic-based substance	Same as above 3 stems referring to non-organic or synthetic substance	

The stems of this root are commonly used with the SUF, EXD, FLC, PTW and Intensity affixes.

-KW- 'COLOR/HUE'

INFORMAL Stems		FORMAL Stems
1. something having a color plus the color		same as INFORMAL stems but tinted/painted/stained, etc.
2. something light-colored plus the color		to have other than its natural color
3. something dark-colored plus the color		
COMPLEMENTARY Stems		
1. something having a color	1. a color	
2. something having a light color	2. a light color	
3. something having a dark color	3. a dark color	

NOTE: This stem patterns for the above root are a template for all other roots denoting a specific color.

-KY- 'COFFEE PLANT'

INFORMAL Stems		FORMAL Stems	
1. genus of branched tree/bush and/or leaved plant		1. wood product	
2. leaf		2. leaf product	
3. bark		3. bark product	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. wood	1. seed/fruit/nut	1. wood as resource	1. seed/fruit as food or resource
2. root	2. flower/blossom	2. root as food or resource	2. flower as food or resource
3. branch	3. sap	3. branch as resource	3. sap product/syrup

-K- 'LIGHT / RADIANT ENERGY'

INFORMAL Stems		FORMAL Stems	
1. ray of sunlight		1. ray of radiant light or energy (non-solar)	
2. the Sun / Sol		2. flame / "tongue" of fire	
3. star		3. artificial source of light or energy	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. light from a ray of sunlight	1. heat from a ray of sunlight	1. ray of light (non-solar)	1. ray of energy/heat (non-solar)
2. the Sun as light source	2. the Sun as energy/heat source	2. ray of firelight	2. flame as energy/heat source
3. starlight	3. energy of a star	3. lamp light / light from artificial source	3. energy/heat from artificial energy/heat source

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: fire, sunshine, illuminate, light a fire, flare (up), lamp, fireplace; galaxy, heater, to warm, warmth, to melt, to smelt, to expose [via illumination], burn

-Kh- 'SOCIAL INTERRELATION/INTERACTION'

INFORMAL Stems	FORMAL Stems
1. act/state of social interaction/interrelation + benefits, consequences, or implications thereof	1. expected/natural role of member of a relationship + benefits, consequences, or implications thereof
2. act/state of "dominant" or initiating partner in social interaction/relationship	2. expected/natural role of "dominant" or initiating partner of a relationship + benefits, consequences, or implications thereof
3. act/state of "passive" or secondary/complementary partner in social interaction/relationship	3. expected/natural role of "passive" or secondary or complementary partner of a relationship + benefits, consequences, or implications thereof
COMPLEMENTARY Stems	COMPLEMENTARY Stems
Same as above 3 stems with focus on act/state of social interaction or interrelation itself	Same as above 3 stems w/ focus on benefits, consequences, or implications of act/state of social interaction or interrelation
	Same as above 3 stems with focus on act/state of social interaction or interrelation itself
	Same as above 3 stems w/ focus on benefits, consequences, or implications of act/state of social interaction or interrelation

Note: The above root (and those roots which follow the same pattern of stems) are likely to be used in conjunction with the various Valence categories (see [Section 6.2](#)) to specify the exact nature of the relationship between the parties involved. Note also that, for relationships where the parties are acting in equivalent roles or positions of equal stature (i.e., no "dominant" vs. "passive" roles), use of Stems 2 and 3 above would be inapplicable.

-K^hW- 'PURPLE' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-L- 'SPEAK/VOICE/ORAL SOUND/INTERPRETATION'			
INFORMAL Stems	FORMAL Stems		
1. vocal utterance / oral sound; utter	1. meaning or interpretation of vocal utterance; to mean or signify		
2. talk / speak / spoken utterance [parole]	2. meaning or interpretation of word; to mean or signify		
3. rhetorical utterance / express [langue]	3. meaning or interpretation of sentence or phrase; to mean or signify		
COMPLEMENTARY Stems	COMPLEMENTARY Stems		
same as above 3 stems referring to physical production of sound	same as above 3 stems referring to communication/conveying of content	same as above 3 stems referring to objective meaning, signification or denotation	same as above 3 stems referring to subjective interpretation, connotation or "impact"

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: voice, (a) language, linguistic(s), yell, shout, cry, bark/meow/bleat/neigh, etc., [vocal] message, account, recount, story, tell, eloquence, glib(ness), smooth-talk, rhetoric, speech, dialect, slang

-LB- DIMENSIONAL/SPATIO-TEMPORAL RELATIONS			
INFORMAL Stems	FORMAL Stems		
1. degree of (static) dimensional property (e.g., short/long)	same as INFORMAL stems but in reference to an applied contextual gestalt (e.g., the vicinity, the depths, the expanse, the interregnum, the surroundings, the perimeter, etc.)		
2. dynamic decrease in degree of dimensional property (e.g., shorten/ing)			
3. dynamic increase in degree of dimensional property (e.g., lengthen/ing)			
COMPLEMENTARY Stems			
same as above 3 stems applied to spatial context	same as above 3 stems applied to temporal context		

The stems of this root are commonly used with the SUF, EXD, FLC, PTW and Intensity affixes.

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: big/large, small/little, shrink, expand, grow, diminish, huge, immense, tiny, enormous, shallow

-LBW- 'WHALE' (the stems of this root are patterned after the root [-SK-](#))

-LC- 'PROXIMITY/DISTANCE' The stems of this root are patterned after the root [-LB-](#)

INFORMAL Stems	FORMAL Stems
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1. upright/erect position or orientation (relative to long axis of object) / stand (up)	1. vertical (i.e., parallel to gravity or plane of earth's surface)
2. stick up or out/ protrude	2. occupying position of maximum contrast to a position of repose; position of maximum "alertness" or readiness or action
3. perpendicular / position or orientation at right angles to background firmament (relative to long axis of object); be or stand on end	3. stretch(ed) outward; pull(ed) or configure(d) to maximum height perpendicular to background firmament
COMPLEMENTARY Stems	COMPLEMENTARY Stems
same as above 3 stems with focus on the position itself as an abstract concept	same as above 3 stems with focus on object/thing in that position
same as above 3 stems with focus on the position itself as an abstract concept	same as above 3 stems with focus on object/thing in that position

LC- 'PLANARITY/FLATNESS RELATIVE TO OBJECT ITSELF' The stems of this root are patterned after the root [-LB-](#)

-LÇ- 'WIDTH (= "SLENDERNESS")' The stems of this root are patterned after the root [-LB-](#)

-ŁČ- 'GIRTH (= 2-DIMENSIONAL X-PLANAR DIMENSION)' The stems of this root are patterned after the root [-LB-](#)

-ŁČ'- 'SHARPNESS/DULLNESS OF AN EDGE' The stems of this root are patterned after the root [-LB-](#)

-LD- 'AMPLITUDE (= 2-DIMENSIONAL Z-PLANAR DIMENSION)' The stems of this root are patterned after the root [-LB-](#)

-LDh- 'REACH' (= 2-DIMENSIONAL Y-PLANAR DIMENSION)' The stems of this root are patterned after the root [-LB-](#)

-LDR- 'BOAR' (the stems of this root are patterned after the root [-SK-](#))

-LDW- 'CHEETAH' (the stems of this root are patterned after the root [-SK-](#))

-LF- 'DEPTH' The stems of this root are patterned after the root [-LB-](#)

-LFW- 'FROG' (the stems of this root are patterned after the root [-SK-](#))

-LG- 'INTERVAL/GAP' The stems of this root are patterned after the root [-LB-](#)

-LGW- 'OTTER' (the stems of this root are patterned after the root [-SK-](#))

-LK- 'HEIGHT (= "TALLNESS" – RELATIVE TO GRAVITY) The stems of this root are patterned after the root [-LB-](#)

-LK'- 'STRAIGHTNESS/LINEARITY RELATIVE TO OBJECT ITSELF' The stems of this root are patterned after the root [-LB-](#)

-LK^h- master/servant — The stems of this root are patterned the same as the root [-Kh-](#).

-LK^hW- mint — The pattern of stems for this root follows those of the root [-QW-](#)

-LL- 'ONE/UNITY'			
INFORMAL Stems		FORMAL Stems	
1. one			1. single entity / single / singular
2. (something) alone/lone/sole			2. (something) isolated
3. (something) unique			3. (something) independent / self-reliant / self-sufficient
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. unit (in terms of being unduplicated, copied, or their being no other instance/example thereof)	1. unify/unite; unit (in terms of being indivisible)	Same as above 3 stems in terms of there being no other instance/example thereof	Same as above 3 stems in terms of entity being indivisible
2. alone/lone/sole (in terms of being unduplicated, copied, or their being no other instance/example thereof)	2. alone/lone/sole (in terms of being indivisible)		
3. unique (in terms of being unduplicated, copied, or their being no other instance/example thereof)	3. unique (in terms of being indivisible)		

EXAMPLES OF MORPHOLOGICAL DERIVATIONS: individual(ity), solitude, lonely, loneliness

INFORMAL Stems		FORMAL Stems
1. musical note or tone / produce [i.e., play] musical note or tone [sound + its playing]		Same as INFORMAL stems except that they apply to the production of song, i.e., vocal music or for voice with musical accompaniment
2. consciously select musical note [for purpose of composition] + sound of note		
3. a musical beat or measure [sound + its playing]		
COMPLEMENTARY Stems		
1. sound of musical note or tone	1. producing/playing of musical note or tone	
2. sound of selected musical note	2. conscious selection of musical note [for purpose of composition]	
3. sound of a musical beat or measure	3. production/playing of a musical beat or measure	

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: piece of music, melody, music [abstract concept], composition, musical instrument, musician, composer, rhythm, band, orchestra, song

-LMZ- 'DOLPHIN' (the stems of this root are patterned after the root [-SK-](#))

-LN- 'front [relative to directional orientation or primary interface]' The pattern of stems for this root follow those of the root [-G-](#).

-LNTW- 'NIGHTINGALE' (the stems of this root are patterned after the root [-SK-](#))

-LP- 'SPEED/VELOCITY/ACCELERATION' The stems of this root are patterned after the root [-LB-](#)

-LP'- 'VOLUME (= 3-DIMENSIONAL SIZE)' The stems of this root are patterned after the root [-LB-](#)

-LP^hW- 'WALRUS' (the stems of this root are patterned after the root [-SK-](#))

-LQ- 'SHARPNESS/DULLNESS OF A POINT' The stems of this root are patterned after the root [-LB-](#)

-LQ'- 'RECTILINEAR/POLYHEDRAL/STRAIGHT-ANGLED' The stems of this root are patterned after the root [-LB-](#)

-LQ^h- 'CLASSES OF WATERLIFE'		
INFORMAL Stems		FORMAL Stems
1. skeletal/vertebral waterlife form		Same as INFORMAL holistic stems referring to tamed, domesticated, bred, etc. individual
2. exoskeletal/arthropod form		
3. soft-bodied waterlife form		
COMPLEMENTARY Stems		COMPLEMENTARY Stems
1. jellyfish-like lifeform	1. gilled/finned fish	Same INFORMAL complementary stems referring to tamed, pet, domesticated, bred, etc. individual
2. crustacean	2. "non-standard"-shaped fish (e.g., ray, eel, squid, octopus, etc.)	
3. shellfish	3. sea mammal (e.g., whale, seal, walrus, etc.)	

MORPHOLOGICAL DERIVATIONS: fisherman, whale hunter, aquarium, fishery, fish hatchery

-LR- 'SPHERICALNESS/ROUNDNESS' The stems of this root are patterned after the root [-LB-](#)

-LR- 'CLASSES OF MAMMAL'		
INFORMAL Stems		FORMAL Stems
1. marsupial		Same as INFORMAL stems referring to tamed, domesticated, pet, bred, etc. individual
2. egg-laying mammal, ovoviparous mammal		
3. placental mammal		
COMPLEMENTARY Stems		
Same as above 3 stems referring to male	Same as above 3 stems referring to female	

-LS- 'FLATNESS/LEVELNESS (RELATIVE TO GRAVITY)' The stems of this root are patterned after the root [-LB-](#)

-LSKW- 'ANTELOPE' (the stems of this root are patterned after the root [-SK-](#))

-LŠ- 'PERIPHERY/CIRCLE/RING' The stems of this root are patterned after the root [-LB-](#)

-LT- 'WRITE/INSCRIBE/DOCUMENT'			
INFORMAL Stems		FORMAL Stems	
1. inscribe [= make written symbol]; written symbol		1. written record / thing containing writing	
2. write message; written content		2. document	
3. "write" [= compose via writing] / to author		3. "page" of writing / "page" of a written work ["page" = visible interface]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to physical act of inscription	same as above 3 stems referring to communication/conveying of content	same as above 3 stems referring to the physical document	same as above 3 stems referring to the content

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: book, treatise, manuscript, author, archive

-LTW- 'GOAT' (the stems of this root are patterned after the root [-SK-](#))

-LT'- 'PERPENDICULARITY/UPRIGHTNESS' The stems of this root are patterned after the root [-LB-](#)

-LT ^h - 'DEITY / SPIRITUAL ENTITY / SUPERNATURAL ENTITY'			
INFORMAL Stems		FORMAL Stems	
1. (a) spirit / supernatural entity		1. angel	
2. deity / god / "overseer" spirit		2. God / Supreme Being / Creator deity	
3. demon		3. the Devil / Satan	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to male gender	same as above 3 stems referring to female gender	same as above 3 stems referring to male gender	same as above 3 stems referring to female gender

-LT- 'CONCAVITY/DEPRESSION' The stems of this root are patterned after the root [-LB-](#)

-LTR- 'TURTLE' (the stems of this root are patterned after the root [-SK-](#))

-LV- 'EVEN' (= SMOOTH-SURFACED IN PLANAR CONTEXT) The stems of this root are patterned after the root [-LB-](#)

-LX- 'CONVEXITY/ROTUNDITY' The stems of this root are patterned after the root [-LB-](#)

-LWX- 'RABBIT' (the stems of this root are patterned after the root [-SK-](#))

-LXh- 'BROWN' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-LZ- 'EVEN' (= SMOOTH-EDGED IN LINEAR CONTEXT) The stems of this root are patterned after the root [-LB-](#)

-LZW- 'GOOSE' (the stems of this root are patterned after the root [-SK-](#))

-Ł- 'SPECIALIZED VOLITIONAL BODILY SOUNDS'			
INFORMAL Stems		FORMAL Stems	
1. non-linguistic sound made by mouth (i.e., tongue, teeth, lips)		1. consonant	
2. non-linguistic sound made from throat or vocal chords		2. vowel	
3. sound made by non-oral, non-vocal part of the body		3. phoneme	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to act of producing the sound	Same as above 3 stems referring to the sound itself	Same as above 3 stems referring to act of producing the sound	Same as above 3 stems referring to the sound itself

SSD Derivations from Informal Stem 1: 1) whistle 2) hum 3) "raspberry" 4) hoot/whoop 5) non-avian animal call 6) bird call 7) scream 8) click-sound (i.e., w/ ingressive airstream) 9) non-phonemic consonantal gibberish sound

SSD Derivations from Informal Stem 3: 1) slap 2) rubbing sound 3) footfall (→ stomp) 4) snap of fingers 5) finger tap 6) toe/foot tap 7)

suction-based sound (e.g., "armpit fart") 8) knuckle crack 9) other joint cracking

-L^W- 'GILA MONSTER' (the stems of this root are patterned after the root [-SK-](#))

-L^Z- 'ELASTICITY / STRETCH CAPACITY' The stems of this root are patterned after the root [-LB-](#)

-L- 'BREATHE/RESPIRATION'			
INFORMAL Stems		FORMAL Stems	
1. respire/inhale or exhale; a breath		1. inflate (w/ air)	
2. yawn		2. blow (passage of air under pressure through narrow opening)	
3. pump (by air)		3. suck/suckle/siphon	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on external/internal transfer of air/gas	Same as above 3 stems w/ focus on physiological action or motion involved	Same as above 3 stems w/ focus on external/internal transfer of air/gas	Same as above 3 stems w/ focus on physiological action or motion involved

MORPHOLOGICAL DERIVATIVES: breathe, pant, gasp, suffocate, suffocation, asphyxiate, asphyxiation, drown

-L^{K^h}- 'ECRU [color]' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-L^L- flabbiness <-> cohesiveness / compactness — The pattern of stems for this root follow that of the root [-TQ-](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum

-L^M- springiness/spring <-> inertness/immobility — The pattern of stems for this root follow that of the root [-TQ-](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-L ^N - 'CLASSES OF LAND/AIR ANIMAL'					
INFORMAL Stems		FORMAL Stems			
1. mammal		Same as INFORMAL stems referring to domesticated, tamed, bred, pet, etc. individual			
2. non-mammalian, non-avian, non-reptilian animal, i.e., insect/arthropod/arachnid/worm/mollusk					
3. avian or reptilian lifeform					
COMPLEMENTARY Stems					
1. insect	1. mollusc				
2. worm	2. bird				
3. arthropod/arachnid	3. reptile				

-L^P- sponginess <-> stiffness/rigidity — The pattern of stems for this root follow that of the root [-TQ-](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-L^P- buoyancy — The pattern of stems for this root follow that of the root [-TQ-](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-L^{P^h}- 'OCHRE [color]' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-L^Q- Tin — Pattern of stems is the same as [-XL-](#)

-L^Q- spreadability — The pattern of stems for this root follow that of the root [-TQ-](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-L^{Q^h}- deformability / "dentability" — The pattern of stems for this root follow that of the root [-TQ-](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-L^W- elasticity <-> stiffness/rigidity — The pattern of stems for this root follow that of the root [-TQ-](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-M- 'APPEARANCE/SEMBLANCE/IMPRESSION'			
INFORMAL Stems		FORMAL Stems	
1. appear to be/seem/look as if/give (off) the impression of; appearance/semblance/impression		1. ostensible/ostensibly	

2. on the face of it, on first blush	2. resemble, look like		
3. on the surface/superficially/seemingly	3. façade, veneer		
COMPLEMENTARY Stems	COMPLEMENTARY Stems		
Same as above 3 stems w/ focus on thing giving off the impression or appearance	Same as above 3 stems w/ focus on affective impression to the observer	Same as above 3 stems w/ focus on thing giving off the impression or appearance	Same as above 3 stems w/ focus on affective impression to the observer

-MB- 'GEOGRAPHICAL/GEOPOLITICAL ELEMENTS'			
INFORMAL Stems		FORMAL Stems	
1. geographical feature or element		1. geopolitical feature or element	
2. geographical area / "land"		2. geopolitical area / "land" or "country"	
3. natural piece of territory		3. (piece of) property	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on geophysical feature or element	Same as above 3 stems w/ focus as natural habitat	Same as above 3 stems w/ focus as political entity	Same as above 3 stems w/ focus on political boundaries/borders

-MC- 'DURABILITY/FRAGILITY' (= CAPACITY FOR BEING DAMAGED) The pattern of stems for this root follows that of the root [-KV-](#). follows that of the root [-KV-](#).

-MF- 'GLOVE' The stems of this root are patterned after the root [-GV-](#)

-MG- 'PEACH' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-MK- 'ASPECTS/METHODS OF INGESTION/FEEDING'			
INFORMAL Stems		FORMAL Stems	
1. bite/bite down; a bite		1. place in mouth	
2. masticate/ruminate/chew (on); act of chewing [naturally iterative root]		2. swallow	
3. suck (on); act of sucking		3. taste = roll around in mouth/on palate	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same w/ focus on phys process/mouth	same w/ focus on the morsel, bit, or amount of liquid being consumed	same w/ focus on phys process/mouth	same w/ focus on the morsel, bit, or amount of liquid being consumed

Derivations: gnaw, snap w/ jaws at, sip, nip, gulp, devour, nibble, graze, munch, bolt, shovel in, savor

-MK'- Silicon — Pattern of stems is the same as [-XL-](#)

-MK^h- 'BEIGE/TAN' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-MK^{hW}- 'MAUVE' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-ML- 'FOOT' The stems of this root are patterned after the root [-PR-](#). --> SSD Derivatives: heel, ball of foot, upper side of foot, arch, plantar fascia, achilles tendon

-MM- 'NUCLEAR FAMILY MEMBER'			
INFORMAL Stems		FORMAL Stems	
1. nuclear family member		1. non-sanguine family member	
2. male family member		2. non-sanguine male family member	
3. female family member		3. non-sanguine female family member	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. parent	1. child/offspring	1. step-parent	1. step-child
2. father	2. boy child / son	2. step-father	2. step-son
3. mother	3. girl child / daughter	3. step-mother	3. step-daughter

-MN- 'AWE / BE OR FEEL IMPRESSED / HUMBLENESS IN FACE OF SOMETHING'

INFORMAL Stems		FORMAL Stems
1. non-volitional (i.e., affective) experience of awe; feel awe [state + content]		Same as INFORMAL stems except referring to a formal/institutionalized/symbolic expressions of awe, i.e., feeling of worship(fulness).
2. humbleness caused by non-volitional experience of state or feeling of awe		
3. cause or causal circumstance for non-volitional state/feeling or awe		
COMPLEMENTARY Stems		
Same as above 3 stems w/ focus on process itself	Same as above 3 stems w/ focus on experiential state/feeling itself	

-MP- 'SMELL/ODOR'			
INFORMAL Stems		FORMAL Stems	
1. to smell (= use olfactory sense) + odor smelled		1. examine or inspect via smelling + odor smelled	
2. nose (olfactory organ + facial proboscis)		2. device used to detect presence of odor or gas / olfactory instrument + odor detected	
3. imagine a smell (act + imagined odor)		3. create or manufacture an odor + odor created	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. to smell (= use olfactory sense)	1. whiff of odor, a smell; to give off a whiff of odor	1. examine or inspect via smelling	1. odor detected via inspection or examination
2. nose (= olfactory organ)	2. nose (= facial proboscis)	2. device used to detect presence of odor or gas / olfactory instrument	2. odor detected via olfactory instrument
3. imagine an odor	3. an imagined odor	3. create or manufacture an odor	3. manufactured odor

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: sniff, aroma, “bouquet”, perfume, stench

-MPY- squash — The pattern of stems for this root follows those of the root [-QW-](#)

-MP- 'ARCHITECTURAL COMPONENTS/FORMS'			
INFORMAL Stems		FORMAL Stems	
1. column/pillar		1. strut/buttress	
2. "side"/wall (external)		2. partition	
3. floor [= base/ground]		3. roof	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to physical shape/form	same as above 3 stems referring to function/purpose	same as above 3 stems referring to physical shape/form	same as above 3 stems referring to function/purpose

-MQ- romantic love relationship — The stems of this root are patterned the same as the root [-Kh-](#).

-MQ^{hw}- date (fruit) — The pattern of stems for this root follows those of the root [-QW-](#)

-MR- 'TRANSFER OF POSSESSION'			
INFORMAL Stems		FORMAL Stems	
1. temporary, circumstantial, incidental direct transfer of possession (i.e., give / take)		1. quasi-permanent or official transfer of possession (i.e., rendering/reception; render, receive)	
2. temporary, circumstantial, incidental indirect transfer (i.e., to leave for someone / to take based on discernment of availability)		2. quasi-permanent or official transfer (i.e., bestowal or bequest/acquisition; bestow/acquire)	
3. temporary, circumstantial, incidental transfer over distance (i.e., to bring something / to leave with something)		3. deliver/take ownership of	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. give, lend	1. take, borrow	1. donate; donation	1. receive; reception
2. leave (something for someone), make available	2. get, obtain	2. leave to heir	2. inherit; inheritance
3. thing given, gift (given)	3. thing taken, gift (taken)	3. bestow; bequest	3. acquire; acquisition

MORPHOLOGICAL DERIVATIONS: procure(ment), requisition, accept (= willingly receive)

-MR- 'TEN'	
INFORMAL Stems	FORMAL Stems

1. a set or group of 10; to be 10 in number	FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7
2. be/make ten-faceted / having 10 uses or aspects / deci- / deca- / tenfold	
3. tenth one in a sequence; be/make tenth in a sequence	
COMPLEMENTARY Stems	
1. 10 times the number of something; multiply by 10	1. atenth / divide by 10 or into 10 parts
2. 10 times [= iterations]; to be/make/do 10 times	2. be of or make into 10 parts; separate(d) into 10 parts
3. to the 10th power; raise to the 10th power	3. to the negative 10th power; to divide by the 10th power of

-MS- 'VALUE/WORTH/PRICE/COST'

(Often used in conjunction with various Quantifying and Modulative affixes from Sections 5.5.6 and 5.5.5 to show relative degree of value within context)

INFORMAL Stems	FORMAL Stems
1. be valuable/worthwhile, have value/worth [in terms of usefulness, convenience, efficacy, service, applicability]	1. cost appraisal, assessment, estimate, quote
2. be valuable/worthwhile, have value/worth [in terms of personal desire or emotional attachment]	2. cost, expense, expenditure [what is (to be) given up or released in exchange for something, either a commercial or non-commercial context]
3. be valuable/worthwhile, have value/worth [in terms of financial benefit or gain, profit, or remuneratively]	3. rate (of payment); formula/terms for determining payment
COMPLEMENTARY Stems	COMPLEMENTARY Stems
Same as above 3 stems w/ focus on intrinsic value	Same as above 3 stems w/ focus on actual value (i.e., degree to which the intrinsic value can actually be utilized, consumed or manifested)
	same as above 3 stems w/ reference to cost quoted or agreed to
	same as above 3 stems w/ reference to actual payment

SSD Derivatives for FORMAL Stem 2: 1) fee/toll or service charge 2) tithe 3) duty/tariff/levy 4) ransom 5) tax 6) dues 5) wage(s) 8) fare 9) price/charge [in money or legal tender]

-MS-: 'irregular/amorphous outline' The pattern of stems for this root follow that of the root [-GM-](#).

-MT- parent-child relationship — The stems of this root are patterned the same as the root [-Kh-](#).

-MT-'CLASSES OF ANIMAL'			
INFORMAL Stems	FORMAL Stems	COMPLEMENTARY Stems	
1. animal of land or air (i.e., "terroid")	Same as INFORMAL holistic stems but domesticated, tamed, captive, or bred		
2. waterlife (i.e., "aquoid")			
3. amphibian			
COMPLEMENTARY Stems	COMPLEMENTARY Stems		
same as above 3 stems but domesticable	same as above 3 stems but undomesticable	same as above FORMAL stems but as pets or tamed	same as above FORMAL stems but as resource (i.e., food, breeding stock, etc.)

-MT ^h - 'SOIL/GROUND/DIRT (MIXED ORGANIC + MINERAL)'			
INFORMAL Stems	FORMAL Stems	COMPLEMENTARY Stems	
1. dirt/ground/soil [=substance + function as substrate/firmament]	1. peat		
2. mud	2. dirt(y)/filth(y) [= soiled, unclean]		
3. ground cover [organic-based, e.g., carpet of leaves]	3. mulch/compost/fertilizer		
COMPLEMENTARY Stems	COMPLEMENTARY Stems		
same as above 3 stems referring to substance itself	same as above 3 stems referring to function as substrate/firmament	same as above 3 stems referring to substance itself	same as above 3 stems referring to function as substrate/firmament

-MT- 'AUTUMN/FALL' — The pattern of stems for this root follow that of the root [-MX-](#).

-MV- 'middle, center (as seen perpendicular to long axis of entity) The pattern of stems for this root follow those of the root [-G-](#).

-MW- 'TIGHTNESS/SLACK' (= TAUTNESS) The pattern of stems for this root follows that of the root [-KV-](#).

-MX- 'SEASON'			
INFORMAL Stems		FORMAL Stems	
1. season, time of year		1. social behavior/custom associated with particular season (e.g., celebration, recreation, vacation, etc.)	
2. weather associated w/ particular season / seasonal weather		2. weather-determined practice/behavior/custom associated with particular season (e.g., migration, mating, nesting, hibernation, etc.)	
3. cyclic state/condition of flora/fauna associated with a particular season		3. practice/behavior/custom relating to maintenance/upkeep of crops, game and other material resources associated with a particular season (e.g., foraging, hunting, planting, harvest, storage, etc.)	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to the timeframe itself relative to the greater annual cycle or calendar year	Same as above 3 stems referring to the context of the season itself irrespective of the greater annual cycle	Same as above 3 stems referring to the timeframe itself relative to the greater annual cycle or calendar year	Same as above 3 stems referring to the context of the season itself irrespective of the greater annual cycle

-MXW- cucumber — The pattern of stems for this root follows those of the root [-QW-](#)

-MXh- 'HORIZONTAL SUPPORTING SURFACE AGAINST GRAVITY'			
INFORMAL Stems		FORMAL Stems	
1. "ground"/firmament		1. floor	
2. table-like horizontal flat object / slab		2. table	
3. shelf-like flat object		3. shelf	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to physical gestalt/shape/form	same as above 3 stems referring to function/purpose as functional supporting surface against gravity	same as above 3 stems referring to physical gestalt/shape/form	same as above 3 stems referring to function/purpose as functional supporting surface against gravity

-MY- 'GRATITUDE/THANKFULNESS/PRAISE'			
INFORMAL Stems		FORMAL Stems	
1. thank(s) / offer gratitude due to unexpected favor or convenience performed		1. praise	
2. thank(s) / offer gratitude due to being relieved/rescued from negative situation		2. gratefulness; feeling or manifestation of being beholden to someone or something [feeling is justified and an honor to be feeling]	
3. thank(s) / offer gratitude within ironic circumstances or merely as a courtesy, i.e., where expectation of thanks is for an unwanted, unnecessary, or purely symbolic act or required little or no effort on doer's part		3. feeling or manifestation of being beholden or obliged to someone or something [feeling is resented and unwanted]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems with focus on intent to convey gratitude	same as above 3 stems with focus on actual display of gratitude	same as above 3 stems with focus on desire/intent to convey the feeling	same as above 3 stems with focus on actual display of the feeling

MORPHOLOGICAL DERIVATIONS: worship, indebted(ness)

-MZ- 'REMEMBER/RECALL/MEMORY/RECORD'			
INFORMAL Stems		FORMAL Stems	
1. memory; remember (= recall) [whether unwilling/affective or self -willed/voluntary]		1. trace/track/vestige	
2. retain / retention of something past into present		2. memorial (object/action formally recognizing or acknowledging something/someone past)	
3. remember [= commit to memory] / memorize		3. to record / a record	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	

1. a memory itself (i.e., the content thereof)	1. faculty of memory/recall (i.e., the process of using one's memory)	same as above 3 stems with focus on which the physical manifestation memorializes or gives evidence/remembrance of	same as above 3 stems with focus on the object/event/physical manifestation itself which conveys the memory or record
2. a memory retained or kept fresh (i.e., the content thereof)	2. a memory retained or kept fresh (i.e., the process thereof)		
3. thing remembered or memorized [=event/act/situation/state, etc. committed to memory]	3. process of committing something to memory		

MORPHOLOGICAL DERIVATIONS: recollect(ion), remind, memorize, memento, monument, archive, commemorate, commemoration, souvenir/keepsake, relic, to bear in mind, ponder/relish a memory, sear into one's memory

-MZ- 'GENDER'			
INFORMAL Stems		FORMAL Stems	
1. gender		1. psycho-sexual identity	
2. neuter		2. asexual / psychologically neuter	
3. androgynous		3. sexual preference/orientation	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. male (anatomically)	1. female (anatomically)	1. masculine (psycho-behaviorally)	1. feminine (psycho-behaviorally)
2. sterile (incapable of procreation)	2. genderless (neither male nor female anatomically)	2. celibate/chaste	2. asexual; devoid of sexual desire
3. androgyne / androgynous (difficulty for others to determine gender)	3. hermaphrodite / hermaphroditic (anatomically both male & female)	3. sexual preference or orientation psychologically	3. sexual orientation in actuality (as manifested)

SSD Derivatives for Formal Stem 3: homosexual, bisexual, heterosexual, bisexual with preference for heterosexuality, bisexual with preference for homosexuality, homosexual with preference for functioning in male role, homosexual with preference for functioning in female role

-N- 'exterior, outer/external part of, outside, "skin" The pattern of stems for this root follow those of the root [-G-](#).

-NC' - 'BANANA' The stems of this root are patterned after the root [-Ph-](#)

-NC^h- 'FIG' The stems of this root are patterned after the root [-Ph-](#)

-NC^hW- 'DUCK' (the stems of this root are patterned after the root [-SK-](#))

-NC- 'CHERRY' The stems of this root are patterned after the root [-Ph-](#)

-NCW- 'SWAN' (the stems of this root are patterned after the root [-SK-](#))

-NC̄- 'COCONUT' The stems of this root are patterned after the root [-Ph-](#)

-NC̄h- 'TANGERINE' The stems of this root are patterned after the root [-Ph-](#)

-ND- 'QUESTION/INQUIRY/ANSWER/RESPONSE'			
INFORMAL Stems		FORMAL Stems	
1. question & answer [statement requesting information + the answer reply/response thereto]		1. inquire/inquiry + answer	
2. query/investigate [investigative act + discovery made]		2. research + findings	
3. ponder/introspect [self-questioning + conclusion]		3. analyze + results of analysis	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. question [statement requesting information]	1. response reply/answer [information desired or given]	1. inquire/inquiry	1. answer [i.e., result of inquiry]
2. query	2. answer (to query) [i.e., cause/reason for what is being looked into or investigated]	2. research	2. finding(s)/discovery made via research
3. ponder/introspect; to question oneself mentally	3. conclusion [(desired) result of self-analysis]	3. analyze	3. conclusion/results of analysis

Morphological derivations: problem; solution; solve; resolution; resolve; elucidate

-NDR- 'FOX' (the stems of this root are patterned after the root [-SK-](#))

-NDW- 'MOOSE' (the stems of this root are patterned after the root [-SK-](#))

-NDh- 'PINEAPPLE' The stems of this root are patterned after the root [-Ph-](#)

-NL- 'HARD/SOFT (= MALLEABILITY)' The pattern of stems for this root follows that of the root [-KV-](#).

-NL- 'PLUM' The stems of this root are patterned after the root [-Ph-](#)

-NM- 'OLIVE' The stems of this root are patterned after the root [-Ph-](#)

-NN- 'ORANGE' The stems of this root are patterned after the root [-Ph-](#)

-NR-: 'circle/ellipse' The pattern of stems for this root follow that of the root [-GM-](#).

-NR- 'SPIDER' The pattern of stems for this root follows that of the root [-FT-](#) 'INSECT'

-NT- 'LEMON' The stems of this root are patterned after the root [-Ph-](#)

-NS- 'SEVEN'	
INFORMAL Stems	FORMAL Stems
1. a set or group of 7 / a septet; to be 7 in number	FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7
2. be/make seven-faceted / having 7 uses or aspects / septi- / sevenfold	
3. seventh one in a sequence; be/make seventh in a sequence	
COMPLEMENTARY Stems	
1. 7 times the number of something; to septuple / multiply by 7	1. a seventh / divide by 7 or into 7 parts
2. 7 times [= iterations]; to be/make/do 7 times	2. be of or make into 7 parts; separate(d) into 7 parts
3. to the 7th power; raise to the 7th power	3. to the negative 7th power; to divide by the 7th power of

-NST- 'RECLINE / PRONE POSITION OR ORIENTATION / HORIZONTALITY'			
INFORMAL Stems	FORMAL Stems	COMPLEMENTARY Stems	
1. recline(d) / prone position (relative to long axis of object) / lie (down) / lay (out)	1. horizontal (relative to gravity or plane of the earth's surface) / orientation perpendicular to direction of gravity		
2. recumbent position / position of relaxation relative to gravity --> sprawl, loll	2. occupying position of maximum repose or having a positional or dynamic orientation based on the path of least resistance relative to gravity		
3. flush / flat against / position or orientation level with some flat or even firmament / lay flat	3. flatten(ed); collapse(d) or configure(d) to minimum height perpendicular to background firmament		
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems with focus on the position itself	same as above 3 stems with focus on object/thing in that position	same as above 3 stems with focus on the position itself	same as above 3 stems with focus on object/thing in that position

-NSW- 'CHICKEN' (the stems of this root are patterned after the root [-SK-](#))

-NS- 'rear, back part of [relative to directional orientation or primary interface]' The pattern of stems for this root follow those of the root [-G-](#).

-NT- 'HEAR(ING)/SOUND'	
INFORMAL Stems	FORMAL Stems
1. hear a sound; aural faculty + sound heard	1. listen to a (specific) sound / discern aurally a (specific) sound
2. ear (aural organ + physical part of body, i.e., Spanish oido + oreja)	2. aural instrument / device for detecting sound waves + sound detected
3. imagine a sound (act + sound)	3. create or manufacture a sound + sound created

COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. to hear; aural faculty	1. sound	1. listen	1. (selected) sound
2. ear (aural organ)	2. ear (body part)	2. aural instrument	2. sound detected via aural instrument
3. imagine a sound / hear in one's mind	3. imagined sound	3. create or manufacture a sound	3. sound created

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: speaker, megaphone, telephone, stereo, microphone, hearing aid

-NT^h- 'PEAR' The stems of this root are patterned after the root [-Ph-](#)

-NT- close loving friendship — The stems of this root are patterned the same as the root [-Kh-](#).

-NV- 'PEACH' The stems of this root are patterned after the root [-Ph-](#)

-NW- 'APPLE' The stems of this root are patterned after the root [-Ph-](#)

-NY- 'CHOICE/ALTERNATIVE'			
INFORMAL Stems		FORMAL Stems	
1. choose/choice [from open selection]		1. select/pick [from limited selection]	
2. prefer(ence)		2. alternative/option	
3. settle (for)		3. vote [w/ CPT = elect]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on act of choosing/preferring	Same as above 3 stems w/ focus on choice or preference made	Same as above 3 stems w/ focus on act of choosing/preferring	Same as above 3 stems w/ focus on choice or preference made

-NZ- marriage — The stems of this root are patterned the same as the root [-Kh-](#).

-NŽ- 'LIME' The stems of this root are patterned after the root [-Ph-](#)

-Ň- '(ONE) HUNDRED'					
INFORMAL Stems		FORMAL Stems			
1. a set or group of 100; to be a hundred in number		FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7			
2. be/make 100-faceted / having 100 uses or aspects / hundredfold					
3. hundredth in a sequence; be/make hundredth in a sequence					
COMPLEMENTARY Stems					
1. 100 times the number of something; to multiply by 100	1. a hundredth / divide by 100 or into 100 parts				
2. 100 times [= iterations]; to be/make/do 100 times	2. be of or make into 100 parts; separate(d) into 100 parts				
3. to the 100th power; raise to the 100th power	3. to the negative 100th power; to divide by the 100th power of				

-ŇC- 'TICK' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-ŇČ- 'WATERBUG' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-ŇČ- 'NON-SANGUINE RELATION'			
INFORMAL Stems		FORMAL Stems	
1. member of godparent-godchild relationship		1. adoptive family member	
2. male member of godparent-godchild relationship		2. male adoptive family member	
3. female member of godparent-godchild relationship		3. female adoptive family member	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. godparent	1. godchild	1. adoptive parent	1. adopted child
2. godfather	2. godson	2. adoptive father	2. adopted son
3. godmother	3. goddaughter	3. adoptive mother	3. adopted daughter

-ŇČhw- bamboo — The pattern of stems for this root follows those of the root [-QW-](#)

-ṄF-: ‘sliver-moon shaped’ The pattern of stems for this root follow that of the root [-GM-](#).

-ṄG- ‘TEMPORARY ATMOSPHERIC PHENOMENA’			
INFORMAL Stems		FORMAL Stems	
1. momentaneous or short-lived atmospheric phenomenon [physical occurrence + manifestation/effect]		1. zone of high or low barometric pressure relative to surrounding pressure	
2. flash of lightning + peal of thunder [electrical phenomenon + associated sound]		2. cold or warm air front	
3. cloud [in the sky]		3. eye of a storm	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. momentaneous or short-lived atmospheric phenomenon [physical occurrence]	1. manifestation/effect of momentaneous or short-lived atmospheric phenomenon	1. low pressure zone	1. high pressure zone
2. flash of lightning	2. peal of thunder	2. cold air front	2. warm air front
3. cloud [in the sky] – physical occurrence	3. impact/effect of cloud [in the sky], e.g., its hiding of the sun, it causing zero visibility as a plane flies through it, etc.	3. eye of storm [physical occurrence]	3. short-lived calm/still conditions associated with the eye of a storm

-ṄGR- ‘BABOON’ (the stems of this root are patterned after the root [-SK-](#))

-ṄGW- ‘CHIMPANZEE’ (the stems of this root are patterned after the root [-SK-](#))

-ṄGY- ‘STICKY/ADHESIVE MATERIAL’			
INFORMAL Stems		FORMAL Stems	
1. sticky substance or material; to stick / to be mired in		1. adhesive substance material; adhere/stick (via adhesive)	
2. goo / ooze / slime		2. glue / liquid adhesive	
3. sap / resin		3. cement / mortar / grout	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to organic-based substance	Same as above 3 stems referring to non-organic or synthetic substance	Same as above 3 stems referring to organic-based substance	Same as above 3 stems referring to non-organic or synthetic substance

-ṄK- ‘ARCHITECTURAL COMPONENTS (ORNAMENTAL/SPECIALIZED)’			
INFORMAL Stems		FORMAL Stems	
1. tower		1. window opening	
2. dome		2. doorway	
3. spire/steeple		3. balcony/terrace	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to physical shape/form	same as above 3 stems referring to function/purpose	same as above 3 stems referring to physical shape/form	same as above 3 stems referring to function/purpose

-ṄKR- ‘LION’ (the stems of this root are patterned after the root [-SK-](#))

-ṄKW- ‘COW’ (the stems of this root are patterned after the root [-SK-](#))

-ṄKY- ELEMENTARY PARTICLES/FORCES OF PHYSICS (FERMIIONS & BOSONS)			
INFORMAL		FORMAL	
1. fermion (+ anti-fermion)		1. boson + its fundamental interaction or associated “force”	
2. quark (+ anti-quark)		2. “string” (from string theory) + its associated vibration	
3. lepton (+ anti-lepton)		3. acceleron (from dark energy theory) + dark energy	
COMPLEMENTARY STEMS		COMPLEMENTARY STEMS	
1. fermion	1. anti-fermion	1. boson	1. fundamental “force” (e.g., electromagnetism, strong, weak, gravity,

			dark energy)
2. quark	2. anti-quark	2. "string" (from string theory)	2. vibration of "string" (from string theory)
3. lepton	3. anti-lepton	3. acceleron (hypothetical particle associated with theories of dark energy)	3. dark energy (i.e., counter-gravitational "force" that is accelerating the expansion of the universe

The following important notes apply to use of the above stems:

P1/S2, P2/S2, and P3/S2 all have the following derivatives using the SSD1 suffix indicating a quark's "flavor" and "color":

- 1) up
- 2) charm
- 3) top
- 4) red
- 5) green
- 6) blue
- 7) bottom
- 8) strange
- 9) down

Informal stems P1/S3, P2/S3, and P3/S3 all have the following derivatives using the SSD1 suffix identifying the particular type of lepton (or anti-lepton):

- 1) muon
- 2) charged lepton (i.e., non-neutrino lepton)
- 3) tau lepton, tauon
- 4)
- 5) electron
- 6) electron neutrino
- 7) muon neutrino
- 8) tau neutrino
- 9) neutrino (i.e., any of the three types)

Formal stems P1/S1, P2/S1, and P3/S1 all have the following derivatives using the SSD1 suffix identifying the particular type of boson and/or its associated interaction or "force" :

- 1) graviton/gravity
- 2) weak gauge boson (i.e., either the W+, the W-, or the Z) / the weak interaction or force
- 3) photon [as associated with electrical phenomenon] / electricity
- 4) W+ boson / the weak interaction or force as mediated by the W+ boson (use PLV1/1 suffix to indicate the W- boson)
- 5) photon / electromagnetism
- 6) Z-zero boson / the weak interaction or force as mediated by the Z-zero boson
- 7) photon [as associated with magnetic phenomenon] / magnetism
- 8) Higgs boson / Higgs mechanism
- 9) gluon / the strong interaction or color force

Use of the SSD2/5 suffix with the above stems identifies the supersymmetrical partner of the particular particle (i.e., its "sparticle" counterpart), e.g., photino, gluino, gravitino, slepton, squark, sneutrino, etc.

It should be noted that when using the above stems to refer to forces (e.g., gravity or electromagnetism), one must realize that the individual stems refer to a particular instance of force/interaction from a single (i.e., particular) particle. One must inflect the stem appropriately as for Configuration, Association, Perspective, etc., when speaking of "the force of gravity" or "electricity" as a generic concept.

-ŃK^h- 'WHOLE NUMBER/INTEGER'		
INFORMAL Stems		
1. a (whole) number, numeral, digit, integer		Same as INFORMAL stems but applied to formal, authoritative, permanent context as per Section 3.7
2. having more than one aspect; multifaceted		
3. numerical series/sequence		
COMPLEMENTARY Stems		
1. multiply (by)	1. divide (by)	
2. consisting of more than instance; multiple instance(s) of	2. having more than one part; consisting of parts; non-unitary; non-unified	
3. exponential/logarithmic progression	3. negative exponential/logarithmic progression	

-ŃN- 'ANT' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-ŃQ^h- 'COCKROACH' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-ÑŔ- 'TERMITE' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-ÑŚ-: 'square/rectangle/rhombus' The pattern of stems for this root follow that of the root [-GM-](#).

-ÑŚW- 'GORILLA' (the stems of this root are patterned after the root [-SK-](#))

-ÑT^h- 'TROPICAL RAINY SEASON' — The pattern of stems for this root follow that of the root [-MX-](#).

-ÑV- 'GENERIC CRAWLING BUG' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-ÑW- 'FLEXIBILITY/RIGIDITY' The pattern of stems for this root follows that of the root [-KV-](#).

-ÑX- temporary or youthful romantic dalliance/lovers (with or without involving sex) — The stems of this root are patterned the same as the root [-Kh-](#).

-ÑXh- 'SPRING' — The pattern of stems for this root follow that of the root [-MX-](#).

-ÑZ- 'oil (fatty liquid derived from plants/animals)' — Pattern of stems is the same as [-XL-](#)

-ÑŽ- 'BEETLE' The pattern of stems for this root follows that of the root [-FT- 'INSECT'](#)

-P- [The CARRIER Root – see Section 9.3]	
INFORMAL Stems	
FORMAL Stems	
1. [carrier stem representing animate being]	
2. [carrier stem representing inanimate entity]	
3. [carrier stem representing abstract referent]	
COMPLEMENTARY Stems	
1. [carrier: human]	1. [carrier: non-human animate being]
2. [carrier: tangible/physical entity]	2. [carrier: intangible/subjective entity, e.g., thought, emotion, sensation, etc.]
3. [carrier: place name]	3. [carrier: abstract concept]

-PC- 'MARITAL/SPOUSAL RELATIONSHIP'			
INFORMAL Stems		FORMAL Stems	
1. state of marriage / marital state / state of being married			1. spouse
2. act of infidelity / extramarital liaison / to be unfaithful / to betray spouse			2. extramarital sex partner / mistress or gigolo
3. betrothal / engagement; be betrothed, be engaged			3. fiancé(e) / being a fiancé(e)
COMPLEMENTARY Stems			
1. formal/legal state of marriage	1. emotional bond of love/fidelity underlying marriage	1. husband	1. wife
2. physical act of infidelity/betrayal	2. breaking of emotional bond underlying marriage	2. gigolo, kept man (male equivalent of mistress)	2. mistress
3. formal/legal status of being betrothed/engaged	3. emotional bond of love/fealty underlying betrothal/engagement	3. fiancé	3. fiancée

-PC'- 'embarrassment at being unable to perform a task or activity as expected' The stems of this root are patterned after the root [-PK-](#)

-PC^h- 'feeling flustered at not knowing how to react or what to think' The stems of this root are patterned after the root [-PK-](#)

-PC- 'generic or oblique 3-dimensional range of motion / 3-dimensional pervasive movement / movement throughout or within 3-D volume.' The stems of this root are patterned after the root [-K-](#)

-PC̄T- cotton The pattern of stems for this root follows those of the root [-QW-](#)

-PC̄W- melon The pattern of stems for this root follows those of the root [-QW-](#)

-PC̄- 'repugnance, repellent feeling, disgust' The stems of this root are patterned after the root [-PK-](#)

-PC̄'- 'feeling of disappointment/let-down at one's own actions/behavior' The stems of this root are patterned after the root [-PK-](#)

-PC̄h- 'frustration; feeling of angry helplessness' The stems of this root are patterned after the root [-PK-](#)

-PC̄hW- cork The pattern of stems for this root follows those of the root [-QW-](#)

-PF- ‘depression / be or feel depressed’ The stems of this root are patterned after the root [-PK-](#)

-PG- ‘swooning, feeling of faintness due to emotional overload’ The stems of this root are patterned after the root [-PK-](#)

-PJ- ‘feeling of disappointment at being letdown by another’ The stems of this root are patterned after the root [-PK-](#)

-PK- ‘EXPERIENCE / UNDERGO A STATE OR FEELING’	
INFORMAL Stems	FORMAL Stems
1. non-volitional (i.e., affective) experience of a state/feeling/emotion; feel (an) emotion [state + content]	Same as INFORMAL stems except referring to a formal/institutionalized/symbolic expressions of the particular emotion.
2. act or action caused by non-volitional experience of state or feeling	
3. cause or causal circumstance for non-volitional state/feeling	
COMPLEMENTARY Stems	
Same as above 3 stems	Same as above 3 stems w/ focus on w/ focus on process itself
	experiential state/feeling itself

-PK'- ‘bother, annoyance at self due to one’s own actions/behavior’ The stems of this root are patterned after the root [-PK-](#)

-PK^h- ‘humiliation’ The stems of this root are patterned after the root [-PK-](#)

-PL- ‘regret, repining, ruefulness’ The stems of this root are patterned after the root [-PK-](#)

-PLW- ‘BURGUNDY [color]’ patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-PL- ‘SHIRT/BLOUSE’ The stems of this root are patterned after the root [-GV-](#)

-PM- ‘agitation/disquietude’ The stems of this root are patterned after the root [-PK-](#)

-PN- ‘woe, despair, desolation’ The stems of this root are patterned after the root [-PK-](#)

-PNY- grape The pattern of stems for this root follows those of the root [-QW-](#)

-PP- ‘hysteria/loss of control’ The stems of this root are patterned after the root [-PK-](#)

-PP'- sexual partners — The stems of this root are patterned the same as the root [-Kh-](#).

-PP^h- ‘WINTER’ — The pattern of stems for this root follow that of the root [-MX-](#).

-PQ- ‘worry / feel preoccupied’ The stems of this root are patterned after the root [-PK-](#)

-PQ'- ‘shock, reeling (e.g., from bad news or an unexpected discovery)’ The stems of this root are patterned after the root [-PK-](#)

-PQ^h- ‘embarrassment due to social faux pas, behavioral misstep, or others seeing through one’s façade or airs’ The stems of this root are patterned after the root [-PK-](#)

-PR- ‘LEG’	
INFORMAL Stems	FORMAL Stems
1. leg (as gestalt entity) [both physical body part and function]	FORMAL stems are the same as INFORMAL stems but applied to “arm” of a non-animal entity, e.g., a mechanical device, vehicle, plant, etc.
2. leg (as support) [both physical body part and function]	
3. leg (as ambulator, extension, limb) [both physical body part and function]	
COMPLEMENTARY Stems	
1. leg as physical body part	1. leg as manipulating body part (e.g., for kicking, stomping)
2. leg as or balancing appendage for body	2. leg as support against gravity
3. leg as limb/extension	3. leg as ambulatory organ

-PŘ- 'BLUE' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-PS- 'sorrow, lamentation' The stems of this root are patterned after the root [-PK-](#)

-PSB- Aluminum/aluminium — Pattern of stems is the same as [-XL-](#)

-PSF- 'INTERTWINED/INTERMINGLED/INTERMIXED POSITION/STATE' [individual components inseparable/mixed/permanently combined] PATTERNED AFTER ROOT [-F-](#):

-PSK '-X/+Y/-Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-PSL- '0/-Y/+Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-PSQ- Carbon — Pattern of stems is the same as [-XL-](#)

-PŠQ^h- Calcium — Pattern of stems is the same as [-XL-](#)

-PSR- '0/+Y/-Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-PST- '+X/+Y/-Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-PSW- '0/+Y/+Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-PSTW- '100 MILLION'		
INFORMAL Stems		FORMAL Stems
1. a set or group of 100 million; to be 100 million in number		FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7
2. be/make 100 million-faceted / having 100 million uses or aspects / 100 million-fold		
3. 100 millionth in a sequence; be/make quadrillionth in a sequence		
COMPLEMENTARY Stems		
1. 100 million times the number of something; to multiply by 100 million	1. a ten quadrillionth / divide by 100 million or into 100 million parts	
2. 100 million times [= iterations]; to be/make/do 100 million times	2. be of or make into 100 million parts; separate(d) into 100 million parts	
3. to the 100 millionth power; raise to the 100 millionth power	3. to the negative 100 millionth power; to divide by the 100 millionth power of	

-PŠ- 'HAPPEN/OCCUR(ENCE)/MANIFEST/EVENT'			
INFORMAL Stems		FORMAL Stems	
1. happen / occur / take place / to "pass"		1. step / act / action	
2. manifest / be or make real / reify		2. phenomenon	
3. event (spacio-temporal context)		3. incident	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on physical manifestation itself	Same as above 3 stems w/ focus on the effect or consequence	Same as above 3 stems w/ focus on physical manifestation itself	Same as above 3 stems w/ focus on the effect or consequence

Various derivations from the above stems: turn out, situation, chain of events, doings, process, phase, deed, result(s), consequence(s)

-PŠK- '-X/-Y/-Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-PŠK^h- Titanium — Pattern of stems is the same as [-XL-](#)

-PSP'- Selenium — Pattern of stems is the same as [-XL-](#)

-PŠQ'-Zirconium — Pattern of stems is the same as [-XL-](#)

-PŠT- '+X/-Y/-Z SPATIAL ORIENTATION/POSITION/DIRECTION W/ STEMS PATTERNED AFTER ROOT [-F-](#); BASED ON THE FOLLOWING 3-DIMENSIONAL NOTATIONAL SCHEMA: -X = LEFT, +X = RIGHT, -Y = BEHIND, +Y = AHEAD, -Z = BELOW, +Z = ABOVE, 0 = LEVEL WITH OR IN LINE WITH SPECIFIC X, Y, OR Z AXIS'

-PT- 'feel hurt/offended' The stems of this root are patterned after the root [-PK-](#)

-PT'- 'angst / weltschmertz' The stems of this root are patterned after the root [-PK-](#)

-PT^h- 'stoicism/repression' The stems of this root are patterned after the root [-PK-](#)

-PT- 'ANGULAR STRUCTURE / CORNER'	
INFORMAL Stems	
1. (two-dimensional) angle	FORMAL Stems
2. (three-dimensional) vertex	Same as INFORMAL stems but in reference to permanent, authoritative, formal contexts or to social or analogical contexts
3. angle-based constraint on access or movement	
COMPLEMENTARY Stems	
1. interior angle of two-dimensional surface or analog	1. exterior corner/vertex of two-dimensional surface or analog
2. interior vertex/corner of three-dimensional space	2. exterior corner/vertex of three dimensional space
3. corner as constraint	3. corner as opportunity for choice of movement

-PW- 'material lust, avarice, greed (not sexual lust)' The stems of this root are patterned after the root [-PK-](#)

-PX- 'FOUR'	
INFORMAL Stems	
1. a set or group of 4 / a quartet; to be 4 in number	FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.4
2. be/make four-faceted / having 4 uses or aspects / quadri- / tetra- / fourfold	
3. fourth one in a sequence; be/make fourth in a sequence	
COMPLEMENTARY Stems	
1. 4 times the number of something; to quadruple / multiply by 4	1. a fourth / divide by 4 or into 4 parts / quarter
2. 4 times [= iterations]; to be/make/do 4 times	2. be of or make into 4 parts; separate(d) into 4 parts
3. to the 4th power; raise to the 4th power	3. to the negative 4th power; to divide by the 4th power of

-PX^h- 'stress / feel pressured' The stems of this root are patterned after the root [-PK-](#)

-PY- 'bittersweet longing' (Portuguese "saudade") The stems of this root are patterned after the root [-PK-](#)

-P'- 'SEEK/SEARCH'			
INFORMAL Stems		FORMAL Stems	
1. search, seek, look for something unknown [i.e., location/existence uncertain]		1. hunt, hunt for [i.e., location/existence uncertain]	
2. search, seek, look for something lost [i.e., something known to exist which is missing]		2. pursue, track down [i.e., existence certain, location surmisable]	
3. inspect		3. quest / seek to accomplish/achieve something	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems w/ reference to search/quest itself	same as above 3 stems w/ reference to thing being looked for or sought	same as above 3 stems w/ reference to search/quest itself	same as above 3 stems w/ reference to thing being looked for or sought

Morphological Derivations: find, scan, reconnoiter, ransack, pry, ferret out, winnow through, fulfill a quest

-Ph- 'BRANCHED AND/OR LEAVED PLANT'			
INFORMAL Stems		FORMAL Stems	
1. genus of branched tree/bush and/or leaved plant		1. wood product	
2. leaf		2. leaf product	
3. bark		3. bark product	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. wood	1. seed/fruit/nut	1. wood as resource	1. seed/fruit as food or resource
2. root	2. flower/blossom	2. root as food or resource	2. flower as food or resource
3. branch	3. sap	3. branch as resource	3. sap product/syrup

SSD Suffix used as follows: 1) meat of fruit, 2) seed within fruit, 3) rind, 4) juice, 5) flavor, 6) odor of fruit, 5) oil, 8) [unassigned/specific to individual root] 9) fermented juice, i.e., wine

-PhW- 'PINK' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-Q- 'HIGHER ORDER ANIMAL LIFE'			
INFORMAL Stems		FORMAL Stems	
1. higher order being (i.e., large bilateral vertebrate with discrete organs)		1. authorized or officially designated person or animal/beast	
2. human, person		2. official, authorized person	
3. non-human higher order being or animal, beast		3. pet or zoo animal/beast	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. male higher order being	1. female higher order being	1. authorized male animal/ or officially designated man or beast	1. authorized or officially designated woman or female animal/ beast
2. human male, man	2. human female, woman	2. official, authorized man	2. official, authorized woman
3. male higher order animal or beast	3. female higher order animal or beast	3. male pet or zoo animal/beast	3. female pet or zoo animal/beast

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: boy, girl, child [developmentally, not as offspring], population, group of people, crowd, mob, assembly, people, masses, elder, crone, adult, youth, adulthood, fetus, adolescent, zoo

-QC- 'spice/herb/seasoning' — Pattern of stems is the same as [-XL-](#)

-QC^h- 'chalk' — Pattern of stems is the same as [-XL-](#)

-QC- 'RESPIRATORY PAROXYSM'					
INFORMAL Stems		FORMAL Stems			
1. affective (i.e., unwilling) cough [act + sound]		FORMAL Stems for this root have the same meanings as INFORMAL stems except that the act/sound is deliberate (i.e., volitional)			
2. affective (i.e., unwilling) sneeze [act + sound]					
3. affective (i.e., unwilling) hiccough [act + sound]					
COMPLEMENTARY Stems					
1. affective (i.e., unwilling) cough [act]	1. affective (i.e., unwilling) cough [sound]				
2. affective (i.e., unwilling) sneeze [act]	2. affective (i.e., unwilling) sneeze [sound]				
3. affective (i.e., unwilling) hiccough [act]	3. affective (i.e., unwilling) hiccough [sound]				

Morphological derivations: clear throat, harrumph, hacking cough, cough up

-QF- 'FOOTWEAR' The stems of this root are patterned after the root [-GV-](#)

-QFR- Radium — Pattern of stems is the same as [-XL-](#)

-QFR- Molybdenum — Pattern of stems is the same as [-XL-](#)

-QFW- Bismuth — Pattern of stems is the same as [-XL-](#)

-QL- 'LIQUID/FLUID'			
INFORMAL Stems		FORMAL Stems	
1. drop of liquid/fluid + liquid/fluid itself		1. Same as INFORMAL Stem No. 1 but referring to substance in an abnormal solid or gaseous state	
2. drop of liquid/fluid as derived from other substance + the derived liquid substance itself		2. thing/object composed of liquid + its function/purpose	
3. source of a liquid/fluid		3. status of substance/compound as being or not being in a liquid/fluid state	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. drop of liquid/fluid	1. liquid/fluid substance itself	1. substance in an abnormal solid (i.e., frozen) state	1. substance in an abnormal gaseous state (i.e., vapor)
2. drop of liquid/fluid as derived from other substance	2. the derived liquid/fluid substance itself	2. object created, molded or manufactured from a liquid	2. function/purpose of object created, molded or manufactured from a liquid
3. natural source of a liquid/fluid	3. derived or artificially created source of a liquid or fluid	3. liquid/fluid state	3. viscous state (quasi-liquid but able to be deformed/shaped; semi-solid)

The stem pattern of this root also applies to the root FÒ- 'liquid chemical'

-QLY- Manganese — Pattern of stems is the same as [-XL-](#)

-QM- 'COMPONENT OF BODY'S RESPIRATORY/CARDIO-VASCULAR SYSTEM'			
INFORMAL Stems		FORMAL Stems	
1. heart		1. lung	
2. vascular component		2. component of respiratory system	
3. (an amount of) blood		3. oxygen	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on the physical component(s) or tissue	Same as above 3 stems w/ focus on the function/purpose	Same as above 3 stems w/ focus on the physical component(s)/tissue	Same as above 3 stems w/ focus on the function/purpose

SSD Affix with Informal Stem 1: ventricle, atrium, vein, coronary artery, capillary,

SSD Affix with Informal Stem 2: blood vessel, vein, artery, capillary, aorta, vena cava

SSD Affix with Formal Stem 1: bronchus, bronchiolus, alveolar sac

SSD Affix with Formal Stem 21: nasal cavity, trachea

-QN- 'honey' — Pattern of stems is the same as [-XL-](#)

-QQ- 'interior, inner/internal part of, insides, innards' The pattern of stems for this root follow those of the root [-G-](#).

-QR- 'CELEBRATORY ACT/ CEREMONIAL RITE'			
INFORMAL Stems		FORMAL Stems	
1. act of jubilation (as manifestation of personal joy, contentment, freedom, self-indulgence, etc.) [both act + cause/reason]		1. solemn act of commemoration/memorial	
2. act of celebration (in positive recognition of something) [both act + cause/reason]		2. solemn act of recognition/acknowledgement	
3. joyful or celebratory symbolic/ceremonial rite [both act + cause/reason]		3. solemn symbolic/ceremonial rite	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to act itself	Same as above 3 stems referring to reason, cause or motive	Same as above 3 stems referring to act itself	Same as above 3 stems referring to reason, cause or motive

MORPHOLOGICAL DERIVATIVES: party, celebration, fête, festivities, ceremony

-QT- 'DEGREE OF PLEASURE/FULFILLMENT/SATISFACTION/HAPPINESS'

INFORMAL Stems		FORMAL Stems	
1. degree of physical/sensual pleasure [both feeling and cause]		1. degree of spiritual/value-based/philosophically-oriented pleasure/contentment [both feeling and cause]	
2. degree of emotional/psychological contentment/pleasure [both feeling and cause]		2. degree of happiness (spiritual/value-based/philosophically-oriented) [both feeling and cause]	
3. degree of physical satisfaction/satiety [both feeling and cause]		3. degree of emotional/psychological satisfaction and fulfillment [both feeling and cause]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to the affective state/feeling/experience itself	Same as above 3 stems referring to the cause or causal context, e.g., 'a pleasant visit' or 'a satisfying meal'	Same as above 3 stems referring to the affective state/feeling/experience itself	Same as above 3 stems referring to the cause or causal context, e.g., 'a happy home' or 'a fulfilling job'

Derivations: gratify/gratification, satiety, ecstasy, joy

-QT- 'SIBLING'

INFORMAL Stems		FORMAL Stems	
1. sibling		1. step-sibling	
2. brother		2. step-brother	
3. sister		3. step-sister	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. half-sibling [shared mother]	1. half-sibling [shared father]	1. step-sibling [stepmother is mother of other sibling]	1. step-sibling [stepfather is father of other sibling]
2. half-brother [shared mother]	2. half-brother [shared father]	2. step-brother [stepmother is mother of other sibling]	2. step-brother [stepfather is father of other sibling]
3. half-sister [shared mother]	3. half-sister [shared father]	3. step-sister [stepmother is mother of other sibling]	3. step-sister [stepfather is father of other sibling]

-QTL- Lithium — Pattern of stems is the same as [-XL-](#)

-QTŘ- Germanium — Pattern of stems is the same as [-XL-](#)

-QV- 'RESILIENCE/DELICATENESS' (= CAPACITY FOR RECOVERY) The pattern of stems for this root follows that of the root [-KV-](#).

-QW- 'FOOD PLANT'

INFORMAL Stems		FORMAL Stems	
1. plant grown/harvested/cultured as food source		1. food dish/serving derived from plant	
2. vegetable		2. food dish/serving derived from vegetable	
3. fruit		3. food dish/serving derived from fruit	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to plant itself	Same as above 3 stems referring to edible part of plant or plant in edible condition following any necessary processing	Same as above 3 stems referring to serving/dish itself	Same as above 3 stems referring to consumption/ingestion of the dish

SSD Derivatives for INFORMAL stems: stem, leaf, seed/nut, pod/fruit, flower, juice, sap, rhizome, root/tuber

SSD Derivatives for FORMAL stems: soup, stew, salad, sauteed, deep-fried, boiled, steamed, baked, fancy/other style of preparation

-Q- 'INTERIORITY / POSITION OR ORIENTATION INSIDE'

INFORMAL Stems		FORMAL Stems	
1. position/orientation somewhere inside (of), i.e., underneath or on other side of surface or boundary layer		1. entirety of an interior space/compartment (e.g., of house, car, device, etc.)	
2. position/orientation somewhere inside of (2-D context), i.e., within the area defined by a boundary line		2. entirety of an interior surface / functional planar area within the boundaries of	
3. position/orientation somewhere inside of (3-D context), i.e., within the volume set off by a boundary membrane, surface/wall, etc.		3. entirety of an interior volume / functional space within the boundaries of	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems with focus on interior position (i.e. position other	same as above 3 stems with focus on position on interior surface (i.e. position	same as above 3 stems with focus on interior position (i.e. position other	same as above 3 stems with focus on position on interior surface (i.e. position

than on inside surface of boundary between interior and exterior	on inside surface of boundary between interior and exterior	than on inside surface of boundary between interior and exterior	on inside surface of boundary between interior and exterior
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-Q^h- 'TRANSCENDENCE / SPIRIT / RELIGION'			
INFORMAL Stems		FORMAL Stems	
1. one's spirit or soul / transcendent "connection" to the universe		1. religious belief	
2. universal oneness / metaphysical interconnectedness between all things		2. feeling of religious fervor or zeal	
3. striving/quest for ultimate destiny/purpose/"Omega point"		3. striving/quest for salvation/redemption/enlightenment (specific to particular religion)	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to ontological nature	same as above 3 stems referring to belief/faith therein	same as above 3 stems referring to ontological nature	same as above 3 stems referring to belief/faith therein

-R- 'THOUGHT/IDEA/REASON'			
INFORMAL Stems		FORMAL Stems	
1. think / cogitate + thought or idea cogitated		1. to reason / use logic + content of reasoning	
2. consider + idea considered		2. analyze + object of analysis	
3. propose + argument or idea proposed		3. abstract (= to mentally construct) + concept	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. think / cogitate; an act of thinking	1. a thought / an idea	1. to reason / use logic; act of reasoning	1. object of reasoning
2. consider; an act of consideration	2. a thought or idea considered	2. analyze; act of analysis	2. object of analysis
3. propose / posit	3. a proposition or argument	3. to abstract / conceive / conceptualize; act of abstraction or conception	3. concept

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: ponder, deliberate/deliberation, plan, contemplate, theory, hypothesis, deduce/deduction, postulate, infer(ence), judge, conclude/conclusion

-RB- 'SPIRAL MOTION ALONG VERTICAL PLANE' The stems of this root are patterned after the root [-K-](#)

-RBW- 'LEOPARD' (the stems of this root are patterned after the root [-SK-](#))

-RC- 'ARC / PARABOLIC MOTION RELATIVE TO GRAVITY' The stems of this root are patterned after the root [-K-](#)

-RÇ- 'SWITCH BACK / VEER' The stems of this root are patterned after the root [-K-](#)

-RČ- 'CURVED MOTION / CURVE' The stems of this root are patterned after the root [-K-](#)

-RČP'- Cadmium — Pattern of stems is the same as [-XL-](#)

-RČT'- Boron — Pattern of stems is the same as [-XL-](#)

-RD- 'GENERIC OR OBLIQUE SPIRAL MOTION' The stems of this root are patterned after the root [-K-](#)

-RDh- 'BELT' The stems of this root are patterned after the root [-GV-](#)

-RDhŘ- Magnesium — Pattern of stems is the same as [-XL-](#)

-RDhV- Cobalt — Pattern of stems is the same as [-XL-](#)

-RDhW 'GULL' (the stems of this root are patterned after the root [-SK-](#))

-RF- 'CIRCULAR VECTOR MOTION' (i.e., "corkscrew" motion) The stems of this root are patterned after the root [-K-](#)

-RFQ- griddle -- The pattern of stems for this root follow that of the root [-SX-](#).

-RFŽ- Antimony — Pattern of stems is the same as [-XL-](#)

-RG- 'SPIRAL MOTION ALONG HORIZONTAL PLANE' The stems of this root are patterned after the root [-K-](#)

-RGY- Chromium — Pattern of stems is the same as [-XL-](#)

-RGZD- 'IGUANA' (the stems of this root are patterned after the root [-SK-](#))

-RGZW- 'CROCODILE' (the stems of this root are patterned after the root [-SK-](#))

-RJ- 'paint' — Pattern of stems is the same as [-XL-](#)

-RK- 'PLANAR RANGE OF MOTION' (= randomly directed movement within/throughout 2-dimensional horizontal plane) The stems of this root are patterned after the root [-K-](#)

-RKR- 'TIGER' (the stems of this root are patterned after the root [-SK-](#))

-RL- 'LINEAR/HORIZONTAL MOTION ALONG Y-AXIS RELATIVE TO TOPICAL REFERENT' The stems of this root are patterned after the root [-K-](#)

-RL- 'SPIRAL VECTOR MOTION (i.e., corkscrew motion with increasing or decreasing amplitude) The stems of this root are patterned after the root

-RM- 'LINEAR/HORIZONTAL MOTION ALONG X-AXIS RELATIVE TO TOPICAL REFERENT' The stems of this root are patterned after the root [-K-](#)

-RMKh- Palladium — Pattern of stems is the same as [-XL-](#)

-RMQ'- Zinc — Pattern of stems is the same as [-XL-](#)

-RMST- 'SEA LION' (the stems of this root are patterned after the root [-SK-](#))

-RMXh- Beryllium — Pattern of stems is the same as [-XL-](#)

-RN- 'GENERIC OR OBLIQUE CIRCULAR MOTION' The stems of this root are patterned after the root [-K-](#)

-RNR- Arsenic — Pattern of stems is the same as [-XL-](#)

-RNTR- 'SEAL' (the stems of this root are patterned after the root [-SK-](#))

-RP- 'VERTICAL RANGE OF MOTION' (= randomly directed movement within/throughout 2-dimensional vertical plane) The stems of this root are patterned after the root [-K-](#)

-RPC'-Vanadium — Pattern of stems is the same as [-XL-](#)

-RPČ'-Tungsten — Pattern of stems is the same as [-XL-](#)

-RPT^h- simmer -- The pattern of stems for this root follow that of the root [-SX-](#).

-RPT- sautee -- The pattern of stems for this root follow that of the root [-SX-](#).

-RPV- sun-dry -- The pattern of stems for this root follow that of the root [-SX-](#).

-RPX- slow-cook (e.g., in crockpot, Dutch oven, claypot, Tandoori pot, etc.) -- The pattern of stems for this root follow that of the root [-SX-](#).

-RP- 'BODY PART'

INFORMAL Stems		FORMAL Stems	
1. body part/component (e.g., appendage, section, organ, gland, tissue, fluid, etc.)		1. bodily tissue/flesh/sinew	
2. bodily organ		2. secondary organ/gland	
3. bone		3. bodily fluid/secretion	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to physical body part itself	Same as above 3 stems referring to function	Same as above 3 stems referring to physical body part itself	Same as above 3 stems referring to function

MORPHOLOGICAL DERIVATIVES: body, corpse

SSD Affix with Informal Stem 3: 1) spine 2) rib 3) skull 4) limb bone (tibia, femur, ulna, etc.) 5) bone of hand/foot 6) "shield" bone (e.g., patella, shoulder blade) 7) hipbone

SSD Affix with Formal Stem 1: 1) membrane 2) tendon 3) ligament 4) nerve 5) muscle 6) skin/integument 7) sphincter valve 8) marrow 9) fat/gristle

SSD Affix with Formal Stem 2: 1) gonad 2) esophagus 3) adrenal gland 4) bowel/intestine 5) brain 6) lung 7) kidney 8) pancreas 9) liver

SSD Affix with Formal Stem 3: 1) tear 2) bile 3) semen 4) pus 5) blood 6) mucus/mucal secretion 7) saliva 8) lymph 9) sweat/perspiration

-RP^h- 'TROPICAL DRY SEASON' — The pattern of stems for this root follow that of the root [-MX-](#).

-RQ- Silver — Pattern of stems is the same as [-XL-](#)

-RQ'- 'mineral' — Pattern of stems is the same as [-XL-](#)

-RQ^{hW}- 'CAMEL' (the stems of this root are patterned after the root [-SK-](#))

-RR- 'CAT'			
INFORMAL Stems		FORMAL Stems	
1. member of mammalian/avian/reptilian genus		1. member of genus as resource	
2. male member of genus		2. male as resource	
3. female member of genus		3. female as resource	
COMPLEMENTARY Stems			
1. wild member of genus	1. bred or domesticated member of genus	1. member of genus as food/prey	1. member of genus as derived resource or processed product
2. wild male member of genus	2. bred or domesticated male member of genus	2. male as food/prey	2. male as derived resource or processed product
3. wild female member of genus	3. bred or domesticated female member of genus	3. female as food/prey	3. female as derived resource or processed product

-RS- 'CIRCULAR MOTION IN HORIZONTAL PLANE' The stems of this root are patterned after the root [-K-](#)

-RSC- 'MAPLE' The stems of this root are patterned after the root [-Ph-](#)

-RSF- 'ASH' The stems of this root are patterned after the root [-Ph-](#)

-RSK- 'CYPRESS' The stems of this root are patterned after the root [-Ph-](#)

-RSL- 'BEECH' The stems of this root are patterned after the root [-Ph-](#)

-RSM- 'MAHOGANY' The stems of this root are patterned after the root [-Ph-](#)

-RSN- FLAX The stems of this root are patterned after the root [-Ph-](#)

-RSP- 'EUCALYPTUS' The stems of this root are patterned after the root [-Ph-](#)

-RSP^h- barbecue -- The pattern of stems for this root follow that of the root [-SX-](#).

-RSQ- 'MAGNOLIA' The stems of this root are patterned after the root [-Ph-](#)

-RSQ^h- Nickel — Pattern of stems is the same as [-XL-](#)

-RST- 'REDWOOD' The stems of this root are patterned after the root [-Ph-](#)

-RSTR- 'GAZELLE' (the stems of this root are patterned after the root [-SK-](#))

-RST'- flash-fry -- The pattern of stems for this root follow that of the root [-SX-](#).

-RSV- 'LARCH' The stems of this root are patterned after the root [-Ph-](#)

-RSX- pressure-cook -- The pattern of stems for this root follow that of the root [-SX-](#).

-RŠ- 'CIRCULAR MOTION IN VERTICAL PLANE' The stems of this root are patterned after the root [-K-](#)

-RŠČ- 'ELM' The stems of this root are patterned after the root [-Ph-](#)

-RŠF- 'POPLAR' The stems of this root are patterned after the root [-Ph-](#)

-RŠK- 'ALDER' The stems of this root are patterned after the root [-Ph-](#)

-RŠL- 'YEW' The stems of this root are patterned after the root [-Ph-](#)

-RŠM- 'ALMOND' The stems of this root are patterned after the root [-Ph-](#)

-RŠN- 'CHESTNUT' The stems of this root are patterned after the root [Ph](#)

-RŠP- 'SPRUCE' The stems of this root are patterned after the root [Ph](#)

-RŠQ- broil -- The pattern of stems for this root follow that of the root [SX](#).

-RŠQ^h- stew -- The pattern of stems for this root follow that of the root [SX](#).

-RŠT- parboil -- The pattern of stems for this root follow that of the root [SX](#).

-RŠT- grill -- The pattern of stems for this root follow that of the root [SX](#).

-RŠT^h- steam -- The pattern of stems for this root follow that of the root [SX](#).

-RŠT- poach -- The pattern of stems for this root follow that of the root [SX](#).

-RŠV- toast -- The pattern of stems for this root follow that of the root [SX](#).

-RT-'2-DIMENSIONAL EXTERNAL CIRCUMLATIVE MOTION / MOVEMENT AROUND/ALONG PERIPHERY OR OUTSIDE EDGE'
encircle, surround The stems of this root are patterned after the root [K](#)

-RTK- sear -- The pattern of stems for this root follow that of the root [SX](#).

-RTL- 'ORANGUTAN' (the stems of this root are patterned after the root [SK](#))

-RTN- brew -- The pattern of stems for this root follow that of the root [SX](#).

-RTP- smoke -- The pattern of stems for this root follow that of the root [SX](#).

-RTW- 'HORSE' (the stems of this root are patterned after the root [SK](#))

-RT- 'SUMMER' — The pattern of stems for this root follow that of the root [MX](#).

-RT^hW- iridium — Pattern of stems is the same as [XL](#).

-RT-'2-DIMENSIONAL INTERNAL CIRCUMLATIVE MOTION / MOVEMENT AROUND/ALONG BOUNDARY OR INSIDE EDGE' The stems of this root are patterned after the root [K](#). The stems of this root are patterned after the root [K](#)

-RTK- 'BIRCH' The stems of this root are patterned after the root [Ph](#)

-RTL- 'TOAD' (the stems of this root are patterned after the root [SK](#))

-RTM- 'CEDAR' The stems of this root are patterned after the root [Ph](#)

-RTN- 'OAK' The stems of this root are patterned after the root [Ph](#)

-RTQ- 'PINE' The stems of this root are patterned after the root [Ph](#)

-RTQ- Gallium — Pattern of stems is the same as [XL](#).

-RTT- Phosphorus — Pattern of stems is the same as [XL](#).

-RTV- 'PALM' The stems of this root are patterned after the root [Ph](#)

-RTW- 'WALNUT' The stems of this root are patterned after the root [Ph](#)

-RV- 'PREGNANCY/GESTATION'	
INFORMAL Stems	FORMAL Stems
1. pregnancy/gestation	Same as INFORMAL stems but referring exclusively to human pregnancy/gestation
2. manifestation of morning sickness	
3. contraction during labor	
COMPLEMENTARY Stems	
Same as above 3 stems referring to physical condition/state	Same as above 3 stems referring to psycho-physiological effect/impact

Morphological Derivatives: conception, labor, birth/delivery

-RVP- Rubidium — Pattern of stems is the same as [XL-](#)

-RX- 'OBLIQUELY LINEAR MOTION (relative to XYZ grid) The stems of this root are patterned after the root [K-](#)

-RXh- 'COMPONENT OF NERVOUS SYSTEM'	
INFORMAL Stems	FORMAL Stems
1. component of CNS	1. brain
2. neurological process	2. spinal cord
3. component of peripheral nervous system	3. nerve
COMPLEMENTARY Stems	COMPLEMENTARY Stems
Same as above 3 stems w/ w/ focus on physical tissue	Same as above 3 stems w/ focus on neurological function
Same as above 3 stems w/ focus on physical tissue	Same as above 3 stems w/ focus on neurological function

sympathetic nerve, parasympathetic nerve, vegus nerve

neuron, neuron firing, synapse, synaptic uptake, axon, dendrite, glial cell-->blood-brain barrier

-RZ- '3-DIMENSIONAL EXTERNAL CIRCUMLATIVE MOTION / MOVEMENT AROUND/ALONG PERIPHERY OR SURFACE OF'

-RZD- 'ALLIGATOR' (the stems of this root are patterned after the root [SK-](#))

-RZW- 'YAK' (the stems of this root are patterned after the root [SK-](#))

-RŽ- 'SARI' The stems of this root are patterned after the root [GV-](#)

-RŽW- 'LIZARD' (the stems of this root are patterned after the root [SK-](#))

-RŽ- '3-DIMENSIONAL INTERNAL CIRCUMLATIVE MOTION / MOVEMENT AROUND/ALONG INTERNAL 3-D BOUNDARY OF' The stems of this root are patterned after the root [K-](#)

-R- 'POSSESSION / OWNERSHIP'	
INFORMAL Stems	FORMAL Stems
1. have/possess; physical possession (temporary/circumstantial and alienable – e.g., a library book in one's hand)	1. have/possess/own; possession, piece of property (alienable but quasi-permanent by law/right and in one's immediate possession-, e.g., a hat I bought and am wearing)
2. have/possess; possession (circumstantial and affective + (quasi-) inalienable, either permanent or temporary – e.g., a medical condition, an office at work I occupy, a seat at a cinema showing)	2. have/possess/own; possession, piece of property (alienable but quasi-permanent by law/right, not necessarily in one's immediate possession -, e.g., a hat I bought/own but am not necessarily wearing)
3. have/possess; possession (genetic, intrinsic and inalienable, but not considered property – e.g., a sibling, a child, a limb, a memory)	3. have/possess/own; possession, piece of property (quasi-permanent and legally inalienable except through formal/legal separation process – e.g., a house I own, a pet dog I registered)
COMPLEMENTARY Stems	COMPLEMENTARY Stems
Same as above 3 stems referring to act/state of possession	Same as above 3 stems referring to thing possessed
Same as above 3 stems referring to act/state of possession/ownership	Same as above 3 stems referring to thing owned; piece of property

-ŘB- lumpy texture/sensation -- the stems of this root are patterned after the root [Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘBG- 'LEMUR' (the stems of this root are patterned after the root [SK-](#))

-ŘC- hard + natural mix of smooth/rough (like a rock) texture/sensation -- the stems of this root are patterned after the root [Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘC'- marinade -- The pattern of stems for this root follow that of the root [SX-](#).

-ŘČ- 'GASTRO-INTESTINAL/UROLOGICAL COMPONENT'	
INFORMAL Stems	FORMAL Stems
1. gastrointestinal component (body part + function)	1. urological component (body part + function)

2. gastrointestinal process / digestive process / digest(ion) (physical process + nutritive function)	2. urological process (physical process + waste elimination function)		
3. (amount/piece of) feces, dung, excrement	3. (an amount of) urine, piss, pee		
COMPLEMENTARY Stems	COMPLEMENTARY Stems		
Same as above 3 stems referring to physical body part/process itself	Same as above 3 stems referring to function/purpose	Same as above 3 stems referring to physical body part itself	Same as above 3 stems referring to function

MORPHOLOGICAL DERIVATIVES: gastrointestinal tract

SSD Affix with Informal Stem 1: esophagus, stomach, guts/viscera/intestine, jejunum, ilium, colon, rectum, small intestine/bowel, anus

SSD Affix with Formal Stem 1: kidney, ureter, adrenal gland, bladder, urethra

-ŘČ- coarse (like handling gravel) texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘČ^h- numbing (= loss of sensation) texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘD- 'GASTRONOMIC PAROXYSM'	
INFORMAL Stems	FORMAL Stems
1. affective (i.e., unwilling) burp/belch [act + sound]	FORMAL Stems for this root have the same meanings as
2. affective (i.e., unwilling) vomiting [act + sound]	INFORMAL stems except that
3. affective (i.e., unwilling) fart [act + sound]	the act/sound is deliberate (i.e., volitional)
COMPLEMENTARY Stems	
1. affective (i.e., unwilling) burp/belch [act]	1. affective (i.e., unwilling) burp/belch [sound]
2. affective (i.e., unwilling) vomiting [act]	2. affective (i.e., unwilling) vomiting [sound]
3. affective (i.e., unwilling) fart [act]	3. affective (i.e., unwilling) fart [sound]

-ŘDR- Krypton — Pattern of stems is the same as [-XL-](#)

-ŘDW- soggy/waterlogged/moist texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘD^h- liquidy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘF- gooey texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘG- 'TUNIC' The stems of this root are patterned after the root [-GV-](#)

-ŘGL- plastic-like texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘGR- 'PANTHER (PUMA/COUGAR)' (the stems of this root are patterned after the root [-SK-](#))

-ŘGR- downy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘGW- 'PANTHER (JAGUAR)' (the stems of this root are patterned after the root [-SK-](#))

-ŘGZ- 'GIRAFFE' (the stems of this root are patterned after the root [-SK-](#))

-ŘJ- gritty (like fine sand) texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘJW- 'ELK' (the stems of this root are patterned after the root [-SK-](#))

-ŘK- hard + semi-smooth (like wood) texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŘKW- 'TURKEY' (the stems of this root are patterned after the root [-SK-](#))

-ŘK'- "cobwebby"/like cotton-candy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-**ŘK^h**- rough (like sandpaper) texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-**ŘL**- ice-cold, numbing cold texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-**ŘL**- chewy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-**ŘM**- 'silk' — Pattern of stems is the same as [-XL-](#)

-**ŘMN**- Osmium — Pattern of stems is the same as [-XL-](#)

-**ŘN**- gummy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-**ŘQR**- metallic texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-**ŘSW**- 'LAVENDER' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-**ŘThW** 'OSTRICH' (the stems of this root are patterned after the root [-SK-](#))

-**ŘZW** - 'BISON/BUFFALO' (the stems of this root are patterned after the root [-SK-](#))

-S- 'CHANGE/ALTER/DEVIATE'			
INFORMAL Stems		FORMAL Stems	
1. change (from one state to another) [both appearance/structure and behavior/function]		1. alter, modify; alteration, modification [both appearance/structure and behavior/function]	
2. vary; variety, variation [both appearance/structure and behavior/function]		2. diversify, permute; permutation, diversification [both appearance/structure and behavior/function]	
3. deviate; deviation [both appearance/structure and behavior/function]		3. modulate, control variance in the state of; modulation [both appearance/structure and behavior/function]	
COMPLEMENTARY Stems			
same as above 3 stems with focus on appearance/structure	same as above 3 stems with focus on behavior/function	same as above 3 stems with focus on appearance/structure	same as above 3 stems with focus on behavior/function

Derivations: mutate, convert, shift, tamper with, transform, transition

-**SC^h**- 'GRAY' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-**SF**- 'bottom, lowest part of, foundation' The pattern of stems for this root follow those of the root [-G-](#).

-SK- 'GENERIC MAMMAL/AVIAN/REPTILE'			
INFORMAL Stems		FORMAL Stems	
1. member of mammalian/avian/reptilian genus		1. member of genus as resource	
2. male member of genus		2. male as resource	
3. female member of genus		3. female as resource	
COMPLEMENTARY Stems			
1. wild member of genus	1. bred or domesticated member of genus	1. member of genus as food/prey	1. member of genus as derived resource or processed product
2. wild male member of genus	2. bred or domesticated male member of genus	2. male as food/prey	2. male as derived resource or processed product
3. wild female member of genus	3. bred or domesticated female member of genus	3. female as food/prey	3. female as derived resource or processed product

MAT Suffix used to indicate life stage: e.g., foal, fawn, yearling, adult, etc.

SSD Suffix used as follows: 1) egg, 2) milk, 3) oil/secretion/venom, 4) fat, 5) skin/hide, 6) tail, 5) tusk/horn, 8) fur/feathers 9) flesh/meat

-SK^h- 'PATH/WAY/COURSE'			
INFORMAL Stems		FORMAL Stems	
1. course/way [taken]		1. route [taken]	
2. [marked] path [taken]		2. road [taken]	
3. trajectory; move(ment) along a trajectory / "sail" / arc		3. channel [taken]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to the course/way/path/trajectory itself	same as above 3 stems referring to following or travelling along the course/path/trajectory	same as above 3 stems with focus on the route/road/channel itself	same as a stems with focus on following or travelling along the route/road/channel

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: walkway, sidewalk, highway, street, slide, tunnel, conduit

-SK^hW- 'ROBIN' (the stems of this root are patterned after the root [-SK-](#))

-SL- 'GAS / FLUME'			
INFORMAL Stems		FORMAL Stems	
1. cloud/flume of gas/vapor + gas/vapor itself		1. Same as INFORMAL Stem No. 1 but referring to substance in an abnormal solid or liquid state	
2. cloud/flume of gas as derived from other substance + the derived gas itself		2. thing/object composed of gas + its function/purpose	
3. source of a gas		3. status of substance/compound as being or not being in a gaseous state	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. cloud/flume of a gas or vapor	1. gas/vapor itself	1. substance in an abnormal solid (i.e., frozen) state	1. substance in an abnormal liquid state
2. cloud/flume of gas as derived from other substance	2. the derived gas itself	2. thing created, molded or manufactured from a gas	2. function/purpose of thing created, molded or manufactured from a gas
3. natural source of a gas	3. derived or artificially created source of gas	3. gaseous/vapor state	3. semi-gaseous state (combination or gaseous + non-gaseous state, e.g., as w/ CO ₂ vapor rising from dry ice)

-SM- 'TERRAIN-BASED/GEOGRAPHICAL ELEVATION'			
INFORMAL Stems		FORMAL Stems	
1. relative elevation in comparison to other geological feature/terrain		FORMAL Stems for this root have the same meanings as INFORMAL stems except that context is geo-political or in terms of formal property [geographic ownership]	
2. geological layer/stratum			
3. flatland area/plain			
COMPLEMENTARY Stems			
1. valley / geographic depression relative to surrounding terrain	1. hill / upland / raised geographic feature relative to surrounding terrain		
2. deep underground	2. near-surface / shallow [in terms of depth underground]		
3. plateau / raised flat-topped geographic feature relative to surrounding terrain	3. ridge / crest / flat-linear edge between different geographic/geologically-based elevations		

-SN - 'SENSE OF TASTE / THE TASTE OF SOMETHING'			
INFORMAL Stems		FORMAL Stems	
1. to taste a taste (taste faculty + flavor tasted)		1. to taste for an anticipated/expected flavor	
2. tongue/palate (tissue containing taste buds + taste buds themselves)		2. instrument/device for detecting flavor + flavor detected	
3. imagine a taste (act + the flavor imagined)		3. create/manufacture a flavor + flavor created	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. to taste; faculty of taste	1. flavor	1. to taste	1.

2. tongue/palate (as sensory organs of tasting)	2. taste bud	2. instrument for detecting flavor	2. flavor detected via instrument
3. imagine a taste in one's mind	3. an imagined taste	3. create/manufacture a flavor	3. flavor created

MORPHOLOGICAL DERIVATIVES: tasty, savory, flavorful

SSD Derivatives: 1) bitter 2) chemical-like taste 3) salty 4) foul/rancid taste 5) sweet 6) sweet & sour 7) sour 8) hot (spicy) 9) umami

-SP- 'EXCHANGE/PURCHASE'

Note: The stems below are generally used in conjunction with PROCESSUAL versus COMPLETIVE version (See Secs. 5.3.1 and 5.3.2) in order to distinguish an offer of exchange from a completed exchange. Alternately, the distinction between MONOACTIVE and COMPLEMENTARY valence (Sec. 5.2) can be used for the same purpose.

INFORMAL Stems		FORMAL Stems	
1. exchange / swap		1. act of trade / act of barter	
2. substitute / transpose / interchange		2. purchase / commercial transaction; buy(ing) and sell(ing)	
3. change out / supplant / replace		3. invest(ment)	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. exchange (focus on entity given)	1. exchange (focus on entity taken)	1. to trade for / acquire through trade; act of acquiring via trade	1. to trade away / give up through trade; act of giving away via trade
2. substitute / transpose / interchange (focus on entity substituted into new function/place)	2. substitute / transpose / interchange (focus on entity substituted out of old function/place)	2. buy; acquisition via purchase	2. sell; act of selling
3. change out / supplant / replace (focus on entity taken out of action)	3. change out / supplant / replace (focus on entity taken newly placed)	3. acquire via investment; act of acquisition via investment	3. release interest in / sell one's investment

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: commercial venture, a purchase, acquisition via trade, acquisition via investment; purvey, goods, thing sold, market, warehouse, buyer, seller, agent, business

-SP- 'DEGREE OF BODILY SLENDERNESS/FATNESS'

INFORMAL Stems		FORMAL Stems
1. degree of slenderness/fatness		same as INFORMAL stems
2. decrease in degree of slenderness/fatness; lose weight; become thin(ner); slenderize		except that degree of particular quality/property is unusual, abnormal, unexpected, or has been changed from expected norm
3. increase in degree of slenderness/fatness; gain weight; become fat(ter); fatten up		
COMPLEMENTARY Stems		
Same as above 3 stems referring specifically to physical size/girth/volume	Same as above 3 stems referring to psycho-physiological effect/impact	

The stems of this root are commonly used with the SUF, EXD, FLC, PTW and Intensity affixes.

MORPHOLOGICAL DERIVATIVES: skinny, rail-thin, obese, plump

-SP^h- 'carbon dioxide' — Pattern of stems follows those of the root: [SL- 'GAS / FLUME'](#)

-SP^hW- lettuce (plant/leaves of genus Lactuca) The pattern of stems for this root follows those of the root [QW-](#)

-SQ - cook (= prepare food using heat) The pattern of stems for this root follow that of the root [SX-](#)

-SQW- tomato The pattern of stems for this root follows those of the root [QW-](#)

-SQ^h- oxygen — Pattern of stems follows those of the root: [SL- 'GAS / FLUME'](#)

-SQ^hW- cabbage (plant/leaves of sp. Brassica oleracea capitata) The pattern of stems for this root follows those of the root [QW-](#)

-SR- 'LATITUDE / NORTH-SOUTH'

INFORMAL Stems		FORMAL Stems
1. north-south axis/orientation/direction/areal designation		1. latitude

2. north axis/orientation/direction/areal designation	2. north latitude		
3. south axis/orientation/direction/areal designation	3. south latitude		
COMPLEMENTARY Stems	COMPLEMENTARY Stems		
1. north-south axial direction or orientation	1. north-south geographical or geopolitical areal designation	1. polar area	1. parallel [= line of latitude]
2. north direction or orientation	2. north geographical or geopolitical areal designation	2. north polar area (Arctic)	2. Northern Hemisphere
3. south direction or orientation	3. south geographical or geopolitical areal designation	3. south polar area (Antarctic)	3. Eastern Hemisphere

-SR- 'COLLATERAL FAMILY MEMBER/RELATIVE'			
INFORMAL Stems		FORMAL Stems	
1. paternal collateral relative		1. maternal collateral relative	
2. paternal male collateral relative		2. maternal male collateral relative	
3. paternal female collateral relative		3. maternal female collateral relative	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. paternal nephew/neice	1. paternal aunt/uncle	1. maternal nephew/neice	1. maternal aunt/uncle
2. paternal nephew	2. paternal uncle	2. maternal nephew	2. maternal uncle
3. paternal neice	3. paternal aunt	3. maternal neice	3. maternal aunt

-SS- air — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-ST- 'COMPARISON/MEASUREMENT/WEIGH'			
INFORMAL Stems		FORMAL Stems	
1. compare/contrast		1. measure	
2. discriminate/distinguish		2. discern	
3. "weigh"/ponder choice/pro-con analysis		3. relate/collate/determine relationships between	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems but w/ focus on act	Same as above 3 stems but w/ focus on purpose or desired outcome	Same as above 3 stems but w/ focus on act	Same as above 3 stems but w/ focus on purpose or outcome

-STR- diamond — Pattern of stems is the same as [-XL-](#)

-STW- rice (plant/seed of sp. Oryza sativa) The pattern of stems for this root follows those of the root [-QW-](#)

-STY- bean (lima/snap/etc.: plant/seed of genus Phaseolus or similar) The pattern of stems for this root follows those of the root [-QW-](#)

-ST' 'metal/ore' — Pattern of stems is the same as [-XL-](#)

-ST'W- peanut (plant/seed/pod of sp. Arachis hypogaea) The pattern of stems for this root follows those of the root [-QW-](#)

-ST^h- boil -- The pattern of stems for this root follow that of the root [-SX-](#).

-ST- 'FIVE'			
INFORMAL Stems		FORMAL Stems	
1. a set or group of 5 / a quintet; to be 5 in number		FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7	
2. be/make five-faceted / having 5 uses or aspects / quint- / pent- / fivefold			
3. fifth one in a sequence; be/make fifth in a sequence			
COMPLEMENTARY Stems			
1. 5 times the number of something; to quintuple / multiply by 5	1. a fifth / divide by 5 or into 5 parts		
2. 5 times [= iterations]; to be/make/do 5 times	2. be of or make into 5 parts; separate(d) into 5 parts		
3. to the 5th power; raise to the 5th power	3. to the negative 5th power; to divide by the 5th power of		

-ST^hW- 'SPARROW' (the stems of this root are patterned after the root [-SK-](#))

-SV- 'FEAR/FRIGHT'	
INFORMAL Stems	FORMAL Stems
1. non-volitional (i.e., affective) experience of a state/feeling/emotion; feel (an) emotion [state + content]	Same as INFORMAL stems except referring to a formal/institutionalized/symbolic expressions of the particular emotion.
2. act or action caused by non-volitional experience of state or feeling	
3. cause or causal circumstance for non-volitional state/feeling	
COMPLEMENTARY Stems	
Same as above 3 stems	Same as above 3 stems w/ focus on w/ focus on process itself/experiential state/feeling itself

Derivation: panic

-SW- 'PLANETARY BODY'			
INFORMAL Stems	FORMAL Stems		
1. planet/planetary body	1. The Earth/Terra		
2. moon/satellite of planetary body	2. The Moon/Luna		
3. other spatial body	3. artificial satellite		
COMPLEMENTARY Stems	COMPLEMENTARY Stems		
Same as above 3 stems referring to physical body	Same as above 3 stems referring to human interaction with (i.e., sighting, influence by, speculation upon, contact with, experimentation involving, etc.)	Same as above 3 stems referring to physical body	Same as above 3 stems referring to human interaction with (i.e., sighting, influence by, speculation upon, contact with, experimentation involving, etc.)

SSD Derivatives for Informal Stem 3: asteroid, comet, cosmic dust, cosmic gas, cosmic ray, component of Oort Cloud, cosmic string, quantum filament

MORPHOLOGICAL DERIVATIVES: Gaia, Gaia Principle/Hypothesis

-SX- 'BAKE/SOMETHING BAKED'			
INFORMAL Stems	FORMAL Stems		
1. bake (something); something baked [method + result]	Same as INFORMAL stems except that context is that of a commercial venture, i.e., food for sale, as in a restaurant or grocery store		
2. oven [= environment or primary infrastructure used for baking]			
3. baking pan [= primary supporting interface for manipulating the food being baked]			
COMPLEMENTARY Stems			
1. bake; baking (as a cooking method)	1. food cooked by baking; something baked		
2. oven (as primary baking environment)	2. oven (as functional heating/cooking means)		
3. baking pan (as supporting interface within the oven)	3. baking pan (as primary accessory/tool needed for manipulating, removing, shaping the baked food)		

Derivatives: baked goods, bakery, baker

-SX^hW- 'DISEASE/DISORDER/MALADY'			
INFORMAL Stems	FORMAL Stems		
1. chronic systemic illness/condition/ailment; to suffer from	1. acute abnormal/unhealthy condition/illness/malady/ailment; "come down with"		
2. chronic illness/condition/ailment – infectious in origin; to suffer from a chronic infectious illness	2. infection; infect(ed), to "catch" a disease		
3. chronic illness/condition/ailment – ideopathic, genetic/neoplastic, or unknown origin	3. acute illness/condition/ailment – ideopathic, genetic/neoplastic, or unknown origin		
COMPLEMENTARY Stems	COMPLEMENTARY Stems		
same as above 3 stems w/ focus on underlying condition itself	same as above 3 stems w/ focus on physical effect, impact, symptoms, manifestation	same as above 3 stems w/ focus on underlying condition itself	same as above 3 stems w/ focus on physical effect, impact, symptoms, manifestation

-SY- 'MANNER/CONDUCT/BEHAVIOR/DEMEANOR'

INFORMAL Stems	FORMAL Stems
1. manner (= the way something or someone acts or behaves)	1. method, the way something happens, course of action; conduct
2. guise, form; to take the form/guise of	2. behave/comport/conduct oneself = outward display of one's personality/thoughts/emotions/motives; behavior/conduct/deportment
3. practice/policy	3. bearing/carriage/demeanor
COMPLEMENTARY Stems	COMPLEMENTARY Stems
Same as above 3 stems w/ focus on the manner/form/practice itself	Same as above 3 stems w/ focus on the effect, impact or outcome
	Same as above 3 stems w/ focus on the method or behavior itself
	Same as above 3 stems w/ focus on the effect, impact or outcome

Morphological Derivatives: process, procedure, regimen, strategy

-Š- 'TEXTURE/TACTILE SENSATION'

INFORMAL Stems	FORMAL Stems
1. texture, tactile sensation (tactile sensation + physical-emotional reaction)	1. act/process to render (an object/entity having) a particular texture (tactile sensation + physical-emotional reaction)
2. material impact/benefit/effect of a particular texture to the object/entity having that consistency	2. psychological or emotional impact/benefit/effect of a particular texture to the object/entity having that consistency
3. material impact/benefit/effect of having a particular texture to consumer/user/owner of object/entity having that texture	3. psychological or emotional impact/benefit/effect of having a particular texture to consumer/user/owner of object/entity having that texture
COMPLEMENTARY Stems	COMPLEMENTARY Stems
1. object having a particular texture	1. the texture itself
2. assumed, expected, potential, or theoretical material impact, benefit, effect of a particular texture to the object/entity having that texture	2. actual material impact, benefit, effect of a particular texture to the object/entity having that texture
3. assumed, expected, potential, or theoretical material impact/benefit of a particular texture to consumer/user/owner of object/entity having that texture	3. assumed, expected, potential, or theoretical psychological or emotional impact/effect of a particular texture to consumer/user/owner of object/entity having that texture
	1. act/process designed to render a certain texture
	2. assumed, expected, potential, or theoretical psychological or emotional impact, benefit, effect of a particular texture to the entity having that texture
	3. actual results of an act or process to render a certain texture
	2. actual psychological or emotional impact, benefit, effect of a particular texture to the entity having that texture
	3. actual psychological or emotional impact/effect of a particular texture to consumer/user/owner of object/entity having that texture

SSD suffix specifies reaction: sensuous, delightful/fun, soothing, as-expected, surprising/positive, surprising/negative, annoying/irritating, painful

-ŠČ- 'being ultra-alert with senses heightened' The stems of this root are patterned after the root [-PK-](#)

-ŠČ' 'spite' The stems of this root are patterned after the root [-PK-](#)

-ŠČ^h 'feeling of surprise, revelation and self-growth upon discovering that achievement of long-awaited vengeance or vindication is hollow and meaningless due to personal maturation or present irrelevance of original circumstances' The stems of this root are patterned after the root [-PK-](#)

-ŠF- 'feeling of "devilishness" and spontaneous non-conformity' The stems of this root are patterned after the root [-PK-](#)

-ŠK- 'ARM'

INFORMAL Stems	FORMAL Stems
1. arm (as gestalt entity) [both physical body part and function]	FORMAL stems are the same as
2. arm (as holder, support, carrier) [both body part and function]	INFORMAL stems but applied to
3. arm (as protective extension of body) [both body part and function]	"arm" of a non-animal entity, e.g., a

COMPLEMENTARY Stems		mechanical device, vehicle, plant, etc.
1. arm as single body part	1. arm as reacher or manipulator	
2. arm as limb (focus on part/whole relation to body)	2. arm as holder/carrier	
3. arm as extension of body	3. arm as natural protective/defensive implement of body	

-ŠKČ- 'PIGEON' (the stems of this root are patterned after the root [-SK-](#))

-ŠKT- bicarbonate of soda — Pattern of stems is the same as [-XL-](#)

-ŠKY- pea (plant/seed of sp. Pisum sativum) The pattern of stems for this root follows those of the root [-QW-](#)

-ŠK^h- 'feeling of surprise, revelation and self-growth upon discovering that one can get past, and need not succumb to, feelings of defensiveness or "victimhood" upon being criticized, maligned, slandered, or disrespected. The stems of this root are patterned after the root [-PK-](#)

-ŠK^hW- corn, maize (plant/seeds of sp. Zea mays) The pattern of stems for this root follows those of the root [-QW-](#)

-ŠL- 'HUMOR/WIT/JEST'			
INFORMAL Stems		FORMAL Stems	
1. something funny or humorous = comical		1. a jest or prank; make a jest or pull a prank = act or situation designed to evoke humor	
2. something witty = subtly and cleverly humorous		2. a joke; make a joke = communicated situation or message designed to evoke humor	
3. something farcical = something humorous based in irony		3. something sardonic = double-edged humor based in sarcasm	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems but w/ focus on the joke or source of humor	Same as above 3 stems but w/ focus on the humorous effect/impact	Same as above 3 stems but w/ focus on the joke or source of humor	Same as above 3 stems but w/ focus on the humorous effect/impact

SSD derivatives: pun, riddle

-ŠM- 'lower part or "half"' The pattern of stems for this root follow those of the root [-G-](#)

-ŠNY- brine — Pattern of stems is the same as [-XL-](#)

-ŠP- 'BINARY REVERSAL / POLARITY'			
INFORMAL Stems		FORMAL Stems	
1. switch to opposing or complementary value		FORMAL stems for this root have the same meanings as	
2. switch or reverse [linear] direction		INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Sec. 3.7.	
3. toggle between active/positive or inactive/negative state			
COMPLEMENTARY Stems			
1. set to positive, primary, or initial value	1. set to negative, secondary, or complementary value		
2. change current course or direction	2. reverse course or direction		
3. active / activate / turn on / render active / on / positive state	3. inactive / deactivate / turn off / render inactive / off / negative state		

-ŠPR- marble — Pattern of stems is the same as [-XL-](#)

-ŠP'- 'HUNTING & GATHERING/PLANTING & HARVESTING/SUBSISTENCE FROM THE LAND'			
INFORMAL Stems		FORMAL Stems	
1. searching for and gathering/collection of plants, vegetable matter for purposes of sustenance		1. plant/sow and harvest an annual crop	
2. nomadic hunting/harvesting, subsistence-style nomadic sustenance [practices + products]		2. plant/sow and harvest a permanent seasonal crop (e.g., vines, trees, bushes, etc.)	

3. live off the land [hunting/gathering practice + product(s) derived]	3. manage crop(s) and practice animal husbandry [sowing/raising + reaping/product(s) derived]
COMPLEMENTARY Stems	COMPLEMENTARY Stems

Same as above 3 stems w/ focus on the hunting or gathering process	Same as above 3 stems w/ focus on the products hunted or gathered	1. till/plow & plant seeds or seedlings	1. harvest/reap an annual crop
		2. raise/grow a permanent seasonal crop	2. harvest/reap a permanent seasonal crop
		3. raise/grow crop(s) & manage domesticated food-producing animal(s)	3. harvest/reap crop products and process/collect animal products

Morphological Derivations: to farm, a farm, practice agriculture

SSD Derivations: slash & burn, subsistence farming, commercial farming,

SSD Derivations for Formal Stems 2 and 3: transplanting, grafting, hybridization, genetic modification

-ŠP^h- 'mix of humor and shame one feels upon pulling a joke on someone or at their expense but the target doesn't "get it" or remains ignorant of the joke' The stems of this root are patterned after the root [-PK-](#)

-ŠP^hW- 'LARK' (the stems of this root are patterned after the root [-SK-](#))

-ŠQ- 'WAIT/AWAIT'			
INFORMAL Stems		FORMAL Stems	
1. wait (for), await; waiting, a wait		1. vigil/a watch; be vigilant/watchful	
2. expect; expectation; expected/impending		2. foresee; foresight; prospective/foreseeable	
3. predict; prediction		3. prognosticate, forecast	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems w/ focus on the process	same as above 3 stems w/ focus on what is awaited, expected, predicted	same as above 3 stems w/ focus on the process	same as above 3 stems w/ focus on what is awaited, expected, predicted

-ŠQ'- roast -- The pattern of stems for this root follow that of the root [-SX-](#).

-ŠQ^h- 'schadenfreude; malicious glee at another's (implicitly deserved) discomfort or inconvenience' The stems of this root are patterned after the root [-PK-](#)

-ŠR- 'discomfiture at having been socially snubbed or at being ill-prepared for a situation after believing that one was accepted or was well-prepared' The stems of this root are patterned after the root [-PK-](#)

-ŠR̄- 'impatience due to feeling that time/resources are being wasted' The stems of this root are patterned after the root [-PK-](#)

-ŠT- fry -- The pattern of stems for this root follow that of the root [-SX-](#).

-ŠTL- 'OWL' (the stems of this root are patterned after the root [-SK-](#))

-ŠT- 'ATTRACTION'			
INFORMAL Stems		FORMAL Stems	
1. feel/be attracted to (physical attraction to other person)		1. feel/be attracted/drawn to (emotional-philosophical attraction to inanimate thing or abstraction, e.g., a political platform, buying a certain car, etc.)	
2. feel/be attractive (physical attraction to other person)		2. be attractive/seductive (emotional-philosophical attraction to inanimate thing, idea or abstraction, e.g., a political platform, buying a certain car, etc.)	
3. act/gesture indicating or hinting of attraction to; "(give) clue/hint" (physical attraction to other person)		3. "selling point" / a "pro" (vs. "con")	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to viewpoint of others	Same as above 3 stems referring to viewpoint of party feeling attraction	Same as above 3 stems referring to viewpoint of others	Same as above 3 stems referring to viewpoint of party feeling attraction

MORPHOLOGICAL Derivations: seduce, seduction

-**ŠT^h**- 'anticipate a negative; dread' The stems of this root are patterned after the root [-PK-](#)

-**ŠT**- 'externally-induced feeling/sense of contemplation/re-evaluation upon discovering or hearing of an option/alternative not previously considered (stereotypically accompanied by scratching one's chin and/or frowning while uttering a prolonged "hmm")' The stems of this root are patterned after the root [-PK-](#)

-**ŠV**- 'solace, comfort in the face of sadness/grief' The stems of this root are patterned after the root [-PK-](#)

-**ŠX**- 'feeling of puzzlement and curiosity, a desire to solve a mystery' The stems of this root are patterned after the root [-PK-](#)

-**ŠX^h**- 'feeling of being "on edge"; at cusp of loss-of-control or loss of one's actions/inhibitions' The stems of this root are patterned after the root [-PK-](#)

-**ŠY**- 'wistfulness, bittersweetness' The stems of this root are patterned after the root [-PK-](#)

-T- 'ALIVE/LIVING THING/LIVING BEING'			
INFORMAL Stems		FORMAL Stems	
1. living thing; be alive / to live		1. domesticated or civilized being	
2. [wild] animal (all orders)		2. domesticated animal	
3. [wild] plant (all orders)		3. cultivated plant	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. male being	1. female being	1. domesticated or civilized male being	1. domesticated or civilized female being
2. male [wild] animal	2. female [wild] animal	2. male [domesticated] animal	2. female [domesticated] animal
3. male [wild] plant	3. female [wild] plant	3. male [cultivated] plant	3. female [cultivated] plant

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: life, vegetation, flora, fauna, wildlife; farm, farmer, breeder, livestock

-TF- 'PSYCHOLOGICAL or PSYCHO-LINGUISTIC MANIPULATION/TREATMENT'			
INFORMAL Stems		FORMAL Stems	
1. to fool someone (into doing/believing something); state of being fooled		1. state of delusion (both state + content)	
2. to "play games" (with someone) = mentally manipulate via words/behavior/actions; state of being toyed with mentally		2. means of psychiatric treatment; component of psychotherapy	
3. be mesmerized, entranced (by something)		3. hypnotic state; be hypnotized	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to state or process	same as above 3 stems referring to content thereof	same as above 3 stems referring to state or process	same as above 3 stems referring to content thereof

Derivations: to delude, to hypnotize, to "do a number" on someone mentally, to entrance

-**TFR**- ozone — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-**TK**- 'upper part or "half"' The pattern of stems for this root follow those of the root [-G-](#).

-**TKC**- mercury — Pattern of stems is the same as [-XL-](#)

-**TKR**- 'PIG' (the stems of this root are patterned after the root [-SK-](#))

-TK ^h - 'THREE-DIMENSIONAL SPHEROID SHAPES/FORMS'			
INFORMAL Stems		FORMAL Stems	
1. sphere(oid) [rigid or solid]		1. ball-like form [flexible/mutable or hollow]	
2. ovoid / ellipsoid / round [rigid or solid]		2. ovoid / ellipsoid / round [flexible/mutable or hollow]	
3. torus / toroid (hoop/ring-like form with circular/elliptical/oval cross-section) [rigid or solid]		3. torus / toroid [flexible/mutable or hollow]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to shape itself as	Same as above 3 stems referring to an object having	Same as above 3 stems referring to shape itself as	Same as above 3 stems referring to an object having

abstract archetype	that shape or form	abstract archetype	that shape or form
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-TL- 'salt' — Pattern of stems is the same as [XL-](#)

-TLW- 'TEAL' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-TL- '2-DIMENSIONAL CURVATURE/DISTORTION'			
INFORMAL Stems		FORMAL Stems	
1. curve/curl/bent formation in 2-dimensional planar surface or surface of 3-dimensional object [the curvature itself + object manifesting such curvature]		1. volume of space defined/bounded by curvature or bending of a 2-dimensional planar surface or surface of 3-dimensional object [the spatial volume itself + object manifesting such bounded space]	
2. dimple/depression in 2-D planar surface or surface of 3-D object [the depression itself + object manifesting the depression]		2. volume of space defined/bounded by a dimple or depression in a 2-dimensional planar surface or surface of 3-dimensional object [the spatial volume itself + object manifesting such bounded space]	
3. undefined distortion/blurring/anomaly in 2-D planar surface or surface of 3-D object [the distortion itself + object manifesting the distortion]		3. volume of space affected by the undefined distortion/blurring/anomaly in 2-D planar surface or surface of 3-D object [the spatial volume itself + object manifesting such bounded space]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. curve/curl/bent formation in 2-dimensional planar surface or surface of 3-dimensional object [the curvature itself]	1. object manifesting a curve/curl/bent formation in 2-dimensional planar surface or surface of 3-dimensional object	1. volume of space defined/bounded by curvature or bending of a 2-dimensional planar surface or surface of 3-dimensional object [the spatial volume itself]	1. object manifesting a volume of space defined/bounded by curvature or bending of a 2-dimensional planar surface or surface of 3-dimensional object
2. dimple/depression in 2-D planar surface or surface of 3-D object [the depression itself]	2. object manifesting a dimple/depression in 2-D planar surface or surface of 3-D object	2. volume of space defined/bounded by a dimple or depression in a 2-dimensional planar surface or surface of 3-dimensional object [the spatial volume itself]	2. object manifesting a volume of space defined/bounded by a dimple or depression in a 2-dimensional planar surface or surface of 3-dimensional object
3. undefined distortion/blurring/anomaly in 2-D planar surface or surface of 3-D object [the distortion itself]	3. object manifesting an undefined distortion, blurring or anomaly in 2-D planar surface or surface of 3-D object	3. volume of space affected by the undefined distortion/blurring/anomaly in 2-D planar surface or surface of 3-D object [the spatial volume itself]	3. object manifesting a volume of space affected by the undefined distortion/blurring/anomaly in 2-D planar surface or surface of 3-D object

Morphological Derivatives: crease, pleat, wrinkle(s), curl up, crumple(d), wad(ded), zig-zag, groove/furrow

-TM- 'SIGN/MARK/SYMBOL/VISUAL MEANS OF INDICATION/REPRESENTATION'			
INFORMAL Stems		FORMAL Stems	
1. sign, signal, gesture, indication (= general indication, not 2-D planar surface bearing graphic/written communication)		1. mark, token, single graphic representation	
2. track, print, trail (=naturally produced bodily trace)		2. symbol, emblem, device, insignia	
3. identifying characteristic or trait		3. formal representation	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems referring to the indicator/sign itself	same as above 3 stems referring to content/meaning thereof	same as above 3 stems referring to the indicator/sign itself	same as above 3 stems referring to content/meaning thereof

signal, sign (= placque/board)

-TN- 'LARGE IMPLEMENT FOR COUNTERING GRAVITY'			
INFORMAL Stems		FORMAL Stems	
1. ladder [object itself + use]		1. winch/windlass	
2. stair		2. expandable boom	

3. bridge; span	3. derrick
COMPLEMENTARY Stems	COMPLEMENTARY Stems
Same as above 3 stems referring to thing itself	Same as above 3 stems referring to function/use thereof

MORPHOLOGICAL DERIVATIVES: staircase, stairway

-TR- 'GREEN' patterned after the root XT- SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) -ish 7) translucent 8) opaque 9) extra dark

-TR- 'APPEAR/MANIFEST/SHOW/EXHIBIT/DISPLAY'			
INFORMAL Stems		FORMAL Stems	
1. appear/manifest/show = be/make observable to the senses of others; manifestation, appearance		1. exhibit; display	
2. expose; exposure		2. show off, flaunt	
3. bring/call attention to = make others aware of the appearance/showing of something		3. announce; advertise	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on act of manifestation/showing	Same as above 3 stems w/ focus on thing manifested or shown	Same as above 3 stems w/ focus on act of exhibiting or display	Same as above 3 stems w/ focus on thing exhibited or displayed

Morphological derivations: demonstrate, flourish, show off, display, spectacle, parade, promenade, procession, ostentation, gaudy, garish, pomp, pompous

-TT- 'SALUTATION/GREETING/ACKNOWLEDGEMENT'			
INFORMAL Stems		FORMAL Stems	
1. acknowledge/demonstrate awareness of		1. greet(ings) / salutation(s)	
2. hail / get attention of / bring attention to		2. formal welcome or farewell	
3. congratulate		3. socially introduce / to socially present	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/ focus on act	Same as above 3 stems w/ focus on purpose or desired outcome	Same as above 3 stems w/ focus on act	Same as above 3 stems w/ focus on purpose or desired outcome

SSD affix for FORMAL Stem Nos. 1 and 2 by degree: 1) bow upon arrival/introduction 2) shake hands upon arrival/introduction 3) wave hand or arm upon arrival/introduction/seeing 4) verbal salutation only upon arrival/introduction/seeing 5) words used in greeting/salutation/farewell 6) say goodbye 7) wave goodbye 8) shake hands upon farewell/leavetaking 9) bow upon farewell/leavetaking

-TW- 'OCCUPANCY/RESIDENCY'			
INFORMAL Stems		FORMAL Stems	
1. entity present + presence		1. tenant + domicile	
2. occupant + place occupied		2. resident + residence	
3. denizen + claimed property		3. citizen + property	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. entity present	1. presence of entity	1. tenant	1. domicile
2. occupant	2. place occupied	2. resident	2. residence
3. denizen	3. claimed property	3. citizen	3. property

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: dwelling, quarters, population, community, town, village, city, hamlet, county, geopolitical area, state/province, nation, geopolitical bloc; nest, lair, den

-TXh- SUBATOMIC PARTICLE			
INFORMAL		FORMAL	
subatomic particle + its interaction/effect (either elementary or composite particle)		hypothetical subatomic particle + its interaction/effect (either elementary or composite particle)	
elementary particle + its interaction/effect (either fermion or boson)		antimatter particle + its interaction/effect (either fermion or boson)	
composite particle + its interaction/effect (i.e., hadron, whether baryon or meson)		non-baryonic "dark matter" particle, (i.e., WIMP)	

COMPLEMENTARY STEMS		COMPLEMENTARY STEMS	
same as above three stems but with focus on the particle itself	same as above three stems but with focus on the particle's interaction/force or effect	same as above three stems but with focus on the particle itself	same as above three stems but with focus on the particle's interaction/force or effect

Formal stems P1/S1, P2/S1, and P3/S1 all have the following derivatives using the SSD1 suffix identifying the particular type of hypothetical particle and/or its associated interaction:

- 1) (Nambu-)Goldstone boson
- 2) (Nambu-)Goldstone fermion / goldstino
- 3) X boson
- 4) W-prime boson
- 5) tachyon
- 6) Z-prime boson
- 7) Y boson
- 8) gravscalar/radion
- 9) graviphoton/gravivector

Formal stems P1/S1, P2/S1, and P3/S1 all have the following derivatives using the SSD2 suffix identifying additional types of hypothetical particles and/or their associated interaction:

- 1) axion
- 2) axino
- 3) saxon
- 4) branon
- 5) dilaton
- 6) dilatino
- 7) majoron
- 8) plekton
- 9) anyon

The PLV1/1 suffix is used for the above stems where applicable to convey the corresponding antiparticle. The PLV1/5 suffix is used for these stems where applicable to convey the corresponding neutral (non-charged) particle.

-TY- 'SENSE OF WONDER/ENTHALLMENT'				
INFORMAL Stems		FORMAL Stems		
1. non-volitional (i.e., affective) experience of wonder/enthrallment; feel wonder/enthrallment [state + content]			Same as INFORMAL stems except referring to a formal/institutionalized/symbolic expressions of awe, i.e., feeling of worship(fulness).	
2. sense of magic caused by non-volitional experience of state or feeling of wonder/enthrallment				
3. cause or causal circumstance for non-volitional state/feeling or wonder/enthrallment				
COMPLEMENTARY Stems				
Same as above 3 stems w/ focus on process itself	Same as above 3 stems w/ focus on experiential state/feeling itself			

-T- 'EXTERIORITY / POSITION OR ORIENTATION OUTSIDE'			
INFORMAL Stems		FORMAL Stems	
1. position/orientation somewhere outside (of), i.e., beyond or on other side of surface or boundary layer			1. the space beyond/outside/excluded from an interior space/compartment (e.g., of house, car, device, etc.)
2. position/orientation somewhere outside of (2-D context), i.e., beyond/outside the area defined by a boundary line			2. an external surface / functional planar area beyond/outside the boundaries of (e.g., the "out of bounds" area of a tennis court)
3. position/orientation somewhere outside of (3-D context), i.e., beyond/outside the volume set off by a boundary membrane, surface/wall, etc.			3. the space beyond/outside an interior volume / functional space outside the boundaries of
COMPLEMENTARY Stems			
same as above 3 stems with focus on exterior position (i.e. position other than on outside surface of boundary between interior and exterior	same as above 3 stems with focus on position on exterior surface (i.e. position on outside surface of boundary between interior and exterior	same as above 3 stems with focus on exterior position (i.e. position other than on outside surface of boundary between interior and exterior	same as above 3 stems with focus on position on exterior surface (i.e. position on outside surface of boundary between interior and exterior

-Th- '(CRIMINAL) LAW/ADJUDICATION'

INFORMAL Stems		FORMAL Stems	
1. statute, a particular law		1. act of official law enforcement (enforcement authority + manifested act of enforcement/administration)	
2. applicability of a statute, law to a particular situation or geopolitical area, rule of law		2. jurisdiction/applicability of enforcement powers to particular situation or geopolitical area	
3. investigate an alleged violation of law; act of criminal investigation		3. try/adjudicate a criminal complaint, go to trial	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. statement (the wording) of a law or statute	1. application of, or compliance with a law or statute	1. authority to enforce law or statute	1. act/manifestation of enforcing/administering law or statute
2. applicability of a statute or law	2. state of being subject to, or required to obey/ comply w/ a statute or law	2. jurisdiction of law enforcement powers	2. state of being subject to the jurisdiction of a law enforcement entity
3. gather material evidence as part of criminal investigation, e.g., questioning of witnesses, viewing of records, inspecting clues and material evidence	3. act by law enforcement for purposes of criminal identification or apprehension, e.g., interrogation or component of sting-type operation, or legal "trap" set up	3. presentation of evidence in support of alleged crime; prosecution	3. formal weighing of evidence by judge or jury

Morphological Derivations: code of law, rule of law, rule on an adjudicatory matter, verdict, justice

SSD Derivatives for Formal Stem 1: obtaining of warrant/authorization to detain, seizure/detention of suspect, interrogation of suspect, gathering of evidence, arrest, detention in jail cell, indictment, preparation of prosecution, incarceration

SSD Derivatives for Informal Stem 3: stake-out/surveillance, reconnaissance, infiltration of mole, component of sting operation, identification of suspect

-T- 'HEAD'			
INFORMAL Stems		FORMAL Stems	
1. head (as gestalt entity) [both physical body part and function]			FORMAL stems are the same as INFORMAL stems but applied to "arm" of a non-animal entity, e.g., a mechanical device, vehicle, plant, etc.
2. head (as seat of brain/mind) [both body part and function]			
3. head (as entity's primary "interface" area of body)			
COMPLEMENTARY Stems			
1. head as physical body part	1. head as functional body part		
2. head as physical seat of brain/mind	2. head as functional seat of brain/mind		
3. head as "top" or "forward" part or "access" point	3. head as vital seat of identity		

SSD Derivatives = parts of head 1) cheek 2) chin 3) upper lip [plane between mouth and nose] 4) forehead 5) temple 6) crown of head 6) occipital area [back of head] 7) socket area around eye 8) upper part of back of head 9) cheekbone

-TB- bounce/recoil <-> inertness/immobility — The pattern of stems for this root follow that of the root -TQ-. This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-TC- 'AFFECTIVE/NON-VOLITIONAL MENTAL STATE/PROCESS'			
INFORMAL Stems		FORMAL Stems	
1. mood; be in a mood		1. rationalization; rationalize	
2. instinct; act/behave on instinct [state + content]		2. delusion; (be) delude(d)	
3. psychic phenomenon, altered state of consciousness		3. dream [state + content]	
COMPLEMENTARY Stems			
same as above 3 stems referring to state or process itself	same as above 3 stems referring to content thereof	same as above 3 stems referring to state or process itself	same as above 3 stems referring to content thereof

SSD Derivatives for Stem 3: 1) "high", under-the-influence of a psycho-active substance 2) hallucination; hallucinate, (observe) apparition 3) trance 4) instance of telepathy 5) (experience) premonition/vision 6) synaesthetic experience 7) sensory illusion 8) out-of-body experience 9) state of prescienceclairvoyance

-TC- 'DEGREE OF PAIN/LOSS/DISSATISFACTION/MISERY'

INFORMAL Stems	FORMAL Stems
1. degree of physical pain [both feeling and cause]	1. degree of spiritual/value-based/philosophically-oriented displeasure/discontent [both feeling and cause]
2. degree of emotional/psychological discontent/pain [both feeling and cause]	2. degree of unhappiness/misery (spiritual/value-based/philosophically-oriented) [both feeling and cause]
3. degree of physical dissatisfaction/lack [both feeling and cause]	3. degree of emotional/psychological dissatisfaction and loss/lack [both feeling and cause]
COMPLEMENTARY Stems	COMPLEMENTARY Stems
Same as above 3 stems referring to the affective state/feeling/experience itself	Same as above 3 stems referring to the cause or causal context, e.g., 'an unpleasant visit' or 'a terrible meal'
Same as above 3 stems referring to the affective state/feeling/experience itself	Same as above 3 stems referring to the cause or causal context, e.g., 'an unhappy home' or 'a miserable job'

-TK- 'THREE'

INFORMAL Stems	FORMAL Stems
1. a set or group of 3 / a trio / a triad; to be 3 in number	FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.5
2. be/make three-faceted / having 3 uses or aspects / tri- / threefold	
3. third one in a sequence; be/make third in a sequence	
COMPLEMENTARY Stems	
1. 3 times the number of something; to triple / multiply by 3	1. a third / divide by 3 or into 3 parts / trisect
2. 3 times [= iterations]; to be/make/do 3 times	2. be of or make into 3 parts; separate(d) into 3 parts
3. to the 3rd power; raise to the 3rd power	3. to the negative 3rd power; to divide by the 3rd power of

-TKL- laughing gas, nitrous oxide — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-TKR- Helium — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-TKY- wheat (plant/seed of sp. *Triticum aestivum*) The pattern of stems for this root follows those of the root [-QW-](#)

-TK^hW- spinach (plant/leaves of sp. *Spinacia oleracea*) The pattern of stems for this root follows those of the root [-QW-](#)

-TK'- 'commitment/loyalty' Derivations: 'intransigence', 'stubbornness' The stems of this root are patterned after the root [-PK-](#)

-TK^h- suppleness/pliancy/flexibility/ductility/bendability <-> stiffness/rigidity — The pattern of stems for this root follow that of the root [-TQ-](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-TL- 'numbness / emotional saturation' The stems of this root are patterned after the root [-PK-](#)

-TLW- Hydrogen — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-TLY- Chlorine — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-TM- 'TWO-DIMENSIONAL SHAPES/FORMS'

INFORMAL Stems	FORMAL Stems
1. strip [solid/rigid]	1. ribbon-like shape [flexible]
2. plane/planar [solid/rigid]	2. sheet-like shape [flexible]
3. tube/cylinder/cylindrical [solid/rigid]	3. tube-like shape [flexible]
COMPLEMENTARY Stems	COMPLEMENTARY Stems
Same as above 3 stems referring to shape itself as abstract archetype	Same as above 3 stems referring to an object having that shape or form
Same as above 3 stems referring to shape itself as abstract archetype	Same as above 3 stems referring to an object having that shape or form

-**TMW**- garlic The pattern of stems for this root follows those of the root [-QW-](#)

-**TMY**- 'carbon monoxide' — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-TN - 'TIME PERIOD/DURATION MORE THAN ONE DAY'			
INFORMAL Stems		FORMAL Stems	
1. expanse of time/period/duration more than 1 day		1. subjective long-term period/era	
2. lunar period / month		2. geologic era	
3. solar year		3. 'lifetime'; timespan from beginning to end of something	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above three stems w/ focus on elapsed time	Same as above three stems w/ focus on time during which	Same as above three stems w/ focus on elapsed time	Same as above three stems w/ focus on time during which

Use of SSD affix give equivalents to 'decade', 'century,' 'millenium', etc.

-**TNY**- lime (substance) — Pattern of stems is the same as [-XL-](#)

-**TPF**- talc or talcum — Pattern of stems is the same as [-XL-](#)

-**TPL**- methanol, methyl alcohol — Pattern of stems is the same as [-XL-](#)

-**TPR**- Nitrogen — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-**TPT**- Fluorine — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-**TP^h**- 'nonchalance/indifference' Derivations: 'callousness' The stems of this root are patterned after the root [-PK-](#)

-**TPW**- baking soda — Pattern of stems is the same as [-XL-](#)

-**TP^hW**- sorghum The pattern of stems for this root follows those of the root [-QW-](#)

-TQ - 'CONSISTENCY/MALLEABILITY/FLEXIBILITY/PLASTICITY/RHEOLOGICAL PHENOMENON'			
INFORMAL Stems		FORMAL Stems	
1. consistency, degree of malleability/flexibility/ plasticity		1. act/process to render (an object having) a certain consistency or degree of malleability / flexibility / plasticity	
2. material impact/benefit/effect of a particular consistency to the object/entity having that consistency		2. psychological or emotional impact/benefit/effect of a particular consistency to the object/entity having that consistency	
3. material impact/benefit/effect of having a particular consistency to consumer/user/owner of object/entity having that consistency		3. psychological or emotional impact/benefit/effect of having a particular consistency to consumer/user/owner of object/entity having that consistency	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. object having a particular consistency	1. the consistency itself	1. act/process designed to render a certain consistency or degree of malleability/plasticity	1. actual results of an act or process to render a certain consistency or degree of malleability/plasticity
2. assumed, expected, potential, or theoretical material impact, benefit, effect of a particular consistency to the object/entity having that consistency	2. actual material impact, benefit, effect of a particular consistency to the object/entity having that consistency	2. assumed, expected, potential, or theoretical psychological or emotional impact, benefit, effect of a particular consistency to the entity having that consistency	2. actual psychological or emotional impact, benefit, effect of a particular consistency to the entity having that consistency
3. assumed, expected, potential, or theoretical material impact/benefit of a particular consistency to consumer/user/owner of object/entity having that consistency	3. actual material impact/benefit of a particular consistency to consumer/user/owner of object/entity having that consistency	3. assumed, expected, potential, or theoretical psychological or emotional impact/effect of a particular consistency to consumer/user/owner of object/entity having that consistency	3. actual psychological or emotional impact/effect of a particular consistency to consumer/user/owner of object/entity having that consistency

-**TQF**- Radon — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-**TQT**- Argon — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-**TQ'**- tendency to disintegrate/crumble/fall apart <-> coherence/cohesiveness/compositional integrity — The pattern of stems for this root follow that of the root [-TQ](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-**TQ^h**- 'torpor/lethargy' Derivations: 'stupor', 'catatonia' The stems of this root are patterned after the root [-PK-](#)

-**TQ^hW**- lentil (plant/seeds of sp. *Lens culinaris*) The pattern of stems for this root follows those of the root [-QW-](#)

-**TR**- table sugar — Pattern of stems is the same as [-XL-](#)

-**TR̄**- 'edge' The pattern of stems for this root follow those of the root [-G-](#).

-**TT**- limpness/flaccidity <-> stiffness/rigidity — The pattern of stems for this root follow that of the root [-TQ](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-**TTL**- Neon — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-**TTR̄**- Xenon — Pattern of stems follows those of the root: [-SL- 'GAS / FLUME'](#)

-**TT^h**- brittleness <-> resiliency — The pattern of stems for this root follow that of the root [-TQ](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-**TT'**- flimsiness/fragility <-> resiliency/strength — The pattern of stems for this root follow that of the root [-TQ](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-**TV**- jiggliness <-> inertness/immobility — The pattern of stems for this root follow that of the root [-TQ](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-TW- 'WEATHER CONDITION'

INFORMAL Stems		FORMAL Stems	
1. (current) weather condition		1. adverse weather condition	
2. amenable weather condition (warm seasons)		2. adverse weather condition (warm seasons)	
3. amenable weather condition (cold seasons)		3. adverse weather condition (cold seasons)	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to condition itself	Same as above 3 stems referring to effect/impact	Same as above 3 stems referring to condition itself	Same as above 3 stems referring to effect/impact

MORPHOLOGICAL DERIVATIVES: climate, the weather, clime

SSD Derivatives for Informal Stem 2: mild, balmy, sunny, warm, still/quiet, gently breezy

SSD Derivatives for Informal Stem 3: brisk, cool, clear, still/quiet, crisp, light snowfall, drizzle

SSD Derivatives for Formal Stem 2: mugginess, heat, drought, summer rainstorm, summer flood, mud, hurricane, smog, hot wind

SSD Derivatives for Formal Stem 3: fog/mist, cloudy/overcast, wind, rain, snow, blizzard, rainstorm, tornado/twister, flood

-**TX**- squeezability/compressability <-> stiffness/rigidity — The pattern of stems for this root follow that of the root [-TQ](#). This root uses the EXTENT/DEGREE suffix to specify the point on a spectrum between the two extremes indicated.

-**TXhW**- yam, sweet potato The pattern of stems for this root follows those of the root [-QW-](#)

-**TY**- 'cordiality/benevolence' The stems of this root are patterned after the root [-PK-](#)

-V- 'PLAY/RECREATION/LEISURE'

(These stems are often used with the various Valence categories (Section 5.2) to specify the manner of participation)

INFORMAL Stems		FORMAL Stems	
1. play/recreate/amuse oneself (activity + feeling of enjoyment derived) = self-involved activity, e.g., play w/ a toy, play hide-and-seek, etc.		1. play/recreate (activity + feeling of amusement/enjoyment derived) = formal rule-oriented activity, e.g., a board game, a sport, etc.	
2. element of participatory or self-involved leisure activity (activity + feeling of enjoyment/relaxation derived), e.g., a dance, a hike, fishing, camping		2. attend/view a formal entertainment (activity + feeling of enjoyment/diversion derived), e.g., view a show, live performance, movie, a sporting event, etc.)	
3. practice hobby or pastime (activity + feeling of enjoyment/relaxation derived)		3. engage in (a) sport activity (activity + feeling of competitive spirit) for motive of formal competition, e.g., victory-oriented	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems w/	Same as above 3	Same as above 3 stems w/ focus	Same as above 3 stems w/

focus on the thing/activity being enjoyed, i.e., a toy, game or diversion	stems w/ focus on the feeling of amusement/enjoyment derived	on the thing/activity being enjoyed	focus on the feeling of amusement/enjoyment derived
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SSD Derivatives:
sports, toys, traditional board games, participitory outdoor games

-VBR- 'ELEPHANT' (the stems of this root are patterned after the root [-SK-](#))

-VDR- 'WOLF' (the stems of this root are patterned after the root [-SK-](#))

-VG- 'HELMET' The stems of this root are patterned after the root [-GV-](#)

-VGL- linoleum — Pattern of stems is the same as [-XL-](#)

-VGR- 'KANGAROO' (the stems of this root are patterned after the root [-SK-](#))

-VGR- graphite — Pattern of stems is the same as [-XL-](#)

-VGW- 'DEER' (the stems of this root are patterned after the root [-SK-](#))

-VGY- acetone — Pattern of stems is the same as [-XL-](#)

-VKR- 'ZEBRA' (the stems of this root are patterned after the root [-SK-](#))

-VKR- emery powder — Pattern of stems is the same as [-XL-](#)

-VKW- 'MULE' (the stems of this root are patterned after the root [-SK-](#))

-VKY- sesame (plant/seed of genus Sesamum) The pattern of stems for this root follows those of the root [-QW-](#)

-VL- 'CONTAIN / HOLD / CONTENTS'	
INFORMAL Stems	FORMAL Stems
1. contain(ment) via gravity (e.g., basin) + contents	Same as INFORMAL stems but in quasi-permanent context or by intrinsic nature as opposed to the INFORMAL stems which convey an incidental or circumstantial context
2. contain(ment) via enclosure / surrounding conveyance + contents	
3. contain(ment) via imbuement / as ingredient; to "carry" [as integrated component or ingredient] + contents	
COMPLEMENTARY Stems	
same as above 3 stems referring to contents	same as above 3 stems referring to the container

The SSD suffix provides the following distinctions: 1) bottle 2) jar/pot 3) barrel/cask 4) bin 5) vat / tub / basin [distinguished via SIZ affix] 6) can/tin 5) piece of furniture 8) purse/bag/satchel/pack 9) case/trunk

-VM- 'CURVATURE/BENDING/OPEN LINEAR FORMS OR SHAPES'			
INFORMAL Stems	FORMAL Stems		
1. linear curve/curl/bent line at obtuse/open angle or tangential rate [the line itself + object manifesting such a line]	1. obtuse angle [degree of size/openness + object or bounded space manifesting such an angle]		
2. linear curve/curl/bent line at acute/sharp angle or tangential rate [the line itself + object manifesting such a line]	2. acute angle [degree of size/narrowness + object or bounded space manifesting such an angle]		
3. linear curve based on mathematical function (e.g., algebraic or logarithmic) [the line itself + object manifesting such a line]	3. mathematically determined form made of lines (e.g., polygon, quadrilateral, etc.) [pattern + object having the pattern]		
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. linear curve/curl/bent line at obtuse/open angle or tangential rate [the line itself]	1. object manifesting a linear curve/curl/bent line at obtuse/open angle or tangential rate	1. obtuse angle [in reference to its size, i.e., degree of openness]	1. obtuse angled object or bounded space
2. linear curve/curl/bent line at acute/sharp angle or tangential rate [the line itself]	2. object manifesting a linear curve/curl/bent line at acute/sharp angle or tangential rate	2. acute angle [in reference to its size, i.e., degree of narrowness]	2. acute angled object or bounded space

	tangential rate		
3. linear curve based on mathematical function (e.g., algebraic or logarithmic) [the line itself]	3. object manifesting a linear curve based on mathematical function (e.g., algebraic or logarithmic)	3. mathematically determined form made of lines [the pattern]	3. object manifesting a mathematically determined form made of lines

Morphological Derivatives: fold, bend, pleat, zig-zag/"sawtooth"/serrated pattern, undulate/undulation, S-curve, wave(s)/wavy, bent, crooked, jagged, serrated, curvature

The above root use PHASE and the iterative series of affixes to specify extent/number/pattern of folds.

SSD Derivatives for INFORMAL Stem 3: parabola, hyperbola, exponential curve

-VN- 'DEGREE OF FUN/MERRIMENT/JOVIALITY'			
INFORMAL Stems		FORMAL Stems	
1. fun/ merriment; feel/be merry, have fun (both cause/source + feeling derived)		1. be jovial/jocular/jolly; express/manifest joviality, jollity	
2. frolic, skylark = aimless, innocent pursuit of fun and amusement (both cause/source + feeling derived)		2. formal amusement (activity or cause + feeling derived), e.g., from/at party, fete, show, performance, etc.	
3. whim, impulsive moment for purpose of amusement		3. revel; an instance of revelry	
COMPLEMENTARY Stems			
Same as above 3 stems w/ focus on the cause	Same as above 3 stems w/ focus on the feeling of merriment derived	Same as above 3 stems w/ focus on the cause	Same as above 3 stems w/ focus on the feeling of merriment/amusement derived

carouse, with wild abandon, spree, escapade, jaunt, romp, party, fete

-VPT- epsom salts — Pattern of stems is the same as [-XL-](#)

-VR- 'GENERIC WATERLIFE '			
INFORMAL Stems		FORMAL Stems	
1. member of genus		1. member of genus as resource	
2. male member of genus		2. male as resource	
3. female member of genus		3. female as resource	
COMPLEMENTARY Stems			
1. wild member of genus	1. bred or domesticated member of genus	1. member of genus as food/prey	1. member of genus as derived resource or processed product
2. wild male member of genus	2. bred or domesticated male member of genus	2. male as food/prey	2. male as derived resource or processed product
3. wild female member of genus	3. bred or domesticated female member of genus	3. female as food/prey	3. female as derived resource or processed product

SSD Suffix used as follows: 1) egg, 2) meat, 3) skin/shell, 4) fluid/ink, 5) smoked meat, 6) as bait, 7) as fodder, 8) as ingredient in food or as fishmeal 9) cooked meat

-VTY- millet -- The pattern of stems for this root follows those of the root [-QW-](#)

-VW- ' "HEART" / "ESSENCE" / VALUES'			
INFORMAL Stems		FORMAL Stems	
1. metaphorical/psychological seat of one's personality and emotions, i.e., "heart", "soul", mind		1. personal value(s)/ what one holds dearest or as most important	
2. degree/depth of one's emotions / "feelings" / experience a certain depth of emotion		2. personal virtues/ personality traits	
3. essence; essential subjective/intangible qualities of an entity		3. personal principles	
COMPLEMENTARY Stems			
same as above 3 stems referring to volitionally controllable aspect(s) thereof	same as above 3 stems referring to non-volitional aspect(s) thereof	same as above 3 stems referring to volitionally controllable aspect(s) thereof	same as above 3 stems referring to non-volitional aspect(s) thereof

-VY- 'GOOD/BENEFICIAL'		
INFORMAL Stems		FORMAL Stems
1. good [= beneficial to context]		Same as INFORMAL stems but applied to concrete, range-of-moment tangible contexts, whereas INFORMAL stems are applied to general, metaphysical contexts.
2. good [= morally right; beneficial metaphysically]		
3. good [= advantageous/effective]		
COMPLEMENTARY Stems		
Same as above 3 stems w/ focus on act, event or situation itself	Same as above 3 stems w/ focus on desired outcome/reward/benefit	

-VZY- potash — Pattern of stems is the same as [-XL-](#)

-VŽR- washing soda — Pattern of stems is the same as [-XL-](#)

-VŽV- zinc white, zinc oxide — Pattern of stems is the same as [-XL-](#)

-X- 'VISION/SIGHT'			
INFORMAL Stems		FORMAL Stems	
1. to sight (see + thing seen); sight		1. observe / visually examine + thing seen	
2. eye (functional organ + visible facial feature)		2. optical instrument + image	
3. visualize / imagine / picture a visual image in one's mind + image		3. create image / render an image	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. see; eyesight	1. a sight / image; to project an image	1. visually examine / observe	1. thing observed / visual evidence
2. eye (functional organ)	2. eye (visible facial feature)	2. optical instrument	2. thing observed via optical instrument
3. visualize / envision; act of visualization	3. an image / a vision (in one's mind)	3. create image	3. image created

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: look (at), view, glimpse, glance, ogle, gawk, stare, spy, espy, peep, voyeur, panorama, scrutinize (visually), camera, telescope, microscope, binoculars, magnifying glass, lens, glasses

-XC^hW- tea (plant/leaves of sp. Camellia sinensis) The pattern of stems for this root follows those of the root [-QW-](#)

-XC- 'WEAPON'			
INFORMAL Stems		FORMAL Stems	
1. hand-held or hand-thrown bladed weapon for cutting or stabbing [object + use]		1. ballistically launched projectile [projectile + use]	
2. pointed-tipped handheld or propelled weapon for piercing [object + use]		2. explosive/incendiary substance/device [substance/device + use]	
3. blunt force-driven hand-held or propelled weapon [object + use]		3. gaseous/chemical/other weapon [substance + use]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. bladed weapon itself	1. use/function of bladed weapon	1. ballistically launched projectile	1. use/function of ballistically launched projectile
2. pointed-tipped handheld or hand thrown weapon itself	2. use/function of pointed-tipped handheld or hand thrown weapon	2. explosive/incendiary substance/device	2. use/function of explosive/incendiary substance/device
3. blunt force-driven hand-held or hand-thrown weapon itself	3. use/function of blunt force-driven hand-held or hand-thrown weapon	3. gaseous, chemical or other weapon	3. use/function of gaseous/chemical/other weapon

SSD derivatives for Informal Stem 1: dagger, switchblade, axe, sword, scimitar, bayonet

SSD derivatives for Informal Stem 2: arrow, lance, spear, javelin, harpoon

SSD derivatives for Informal Stem 3: mace, club, hammer, catapult fodder, shot from slingshot, cudgel

SSD derivatives for Formal Stem 1: bullet, shell, shrapnel, cannonball, shot, rocket, self-propelled missile

SSD derivatives for Formal Stem 2: bomb, grenade, plastic explosive, firecracker, dynamite stick

SSD derivatives for Formal Stem 3: gas irritant/poison, poison chemical vapor, liquid irritant/poison, radioactive compound used as weapon

NOTE: In Ithkuil, guns, catapults, slings and all other firearms or devices for shooting/hurling projectiles utilize Degree 1 of the UTE suffix ('tool/implement for doing X'), as it is not the firearm/shooting device that kills but the projectile shot/fired from it. Thus a gun is a "bullet-implementer". Care must be taken in assigning appropriate noun Cases or verbal Formats to stems associated with ballistic aerial weapons to distinguish the fact that it is the projectile that is the actual "weapon" and not the object it was fired/projected from. This is the good old "shoot bullets" vs. "shoot guns" vs. "shoot bullets from a gun" vs. "shoot him with a gun" vs. "shoot him with bullets from a gun" problem. This would translate into Ithkuil as "I bulletted him due to/enabled by a gun" or incorporatively as "I gun-bulletted him" using either the RESULTATIVE Format (literally translating as "I bulletted him as a result of concurrently gun-activating") or the INSTRUMENTATIVE Format (literally translating as "I bulletted him by the enabling means of gun-activating").

-XČW- fluorspar — Pattern of stems is the same as [-XL-](#)

-XČ'W- gypsum — Pattern of stems is the same as [-XL-](#)

-XL- '(QUASI-)SOLID SUBSTANCE (i.e., non-liquid & non-gaseous)'			
INFORMAL Stems		FORMAL Stems	
1. elemental/fundamental manifestation (e.g., chunk, drop, flume, bit, piece, etc.) of a (quasi-)solid material substance/compound + substance/compound itself		1. Same as INFORMAL Stem No. 1 but referring to substance in an abnormal liquid or gaseous state	
2. elemental/fundamental manifestation (e.g., chunk, drop, flume, bit, piece, etc.) of a substance/compound derived from another substance + the derived substance itself		2. thing/object composed of a (quasi-)solid material substance/compound + its function/purpose	
3. source of a (quasi-)solid material substance / compound		3. status of substance/compound as being or not being (quasi-) solid	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. elemental manifestation (e.g., chunk, drop, flume, bit, piece, etc.) of itself	1. substance/compound	1. substance in an abnormal liquid state	1. substance in an abnormal gaseous state
2. elemental manifestation (e.g., chunk, drop, flume, bit, piece, etc.) of a substance/compound derived from refinement, distillation or processing of material substance or compound	2. derived substance / compound itself	2. object created, molded or manufactured from a material substance	2. function/purpose of object created, molded or manufactured from a material substance
3. natural source of a (quasi-)solid material substance / compound	3. derived or artificially created source of a (quasi-) solid material substance / compound	3. solid (= hard to the touch)	3. quasi-solid (= non-gaseous and non-liquid but not hard; able to be deformed by touch)

-XLW- 'YELLOW-GREEN' patterned after the root [-XT-](#) SSD derivatives: 1) extra light 2) pale (= mixed with gray) 3) clear, transparent 4) fluorescent 5) vibrant / bright 6) –ish 7) translucent 8) opaque 9) extra dark

-XM- 'NINE'				
INFORMAL Stems		FORMAL Stems		
1. a set or group of 9 / a nonet; to be 9 in number			FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7	
2. be/make nine-faceted / having 9 uses or aspects / nono- / ninefold				
3. ninth one in a sequence; be/make ninth in a sequence				
COMPLEMENTARY Stems				
1. 9 times the number of something; to nonuple / multiply by 9	1. a ninth / divide by 9 or into 9 parts			
2. 9 times [= iterations]; to be/make/do 9 times	2. be of or make into 9 parts; separate(d) into 9 parts			
3. to the 9th power; raise to the 9th power	3. to the negative 9th power; to divide by the 9th power of			

-XMY- lye or soda lye — Pattern of stems is the same as [-XL-](#)

-XN- 'BACK/DORSAL AREA OF BODY'				
INFORMAL Stems		FORMAL Stems		
1. back/dorsal area (both body part and function)			FORMAL stems are the same as INFORMAL stems but applied to the dorsal area of a non-animal entity, e.g., a mechanical device, vehicle, plant, etc.	
2. lower back/dorsal area (both body part and function)				
3. upper back & shoulder blade area				

COMPLEMENTARY Stems	
Same as above 3 stems referring to physical body part	Same as above 3 stems referring to function

NOTE: Due to the bilateral symmetry of this body part, the above stems are often used in the DUPLEX configuration, the UNIPLEX form referring only to one side of the bodily part or the other.

-XP- 'ONE-DIMENSIONAL (i.e., LINEAR) SHAPES/FORMS'			
INFORMAL Stems		FORMAL Stems	
1. point / dot [solid/fixed/rigid]		1. point / dot [flexible/movable/fluid]	
2. line / linear [solid/fixed/rigid]		2. line / linear [flexible/movable/fluid] / string-like	
3. hoop / ring [solid/fixed/rigid]		3. hoop / ring [flexible/movable/fluid] / loop	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to shape itself as abstract archetype	Same as above 3 stems referring to an object having that shape or form	Same as above 3 stems referring to shape itself as abstract archetype	Same as above 3 stems referring to an object having that shape or form

-XPW- onion The pattern of stems for this root follows those of the root [-QW-](#)

-XPhW- kelp (seaweed of orders Laminariales and Fucales) The pattern of stems for this root follows those of the root [-QW-](#)

-XP'W- oat (plant/seed of genus Avena) The pattern of stems for this root follows those of the root [-QW-](#)

-XR- Gold — Pattern of stems is the same as [-XL-](#)

-XT- 'EFFORT/WORK'			
INFORMAL Stems		FORMAL Stems	
1. exert / expend energy		1. perform / operate / act / function	
2. work / labor / effort		2. job task / employment-related task; perform job task	
3. handiwork / craftsmanship		3. act of industry or enterprise	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to activity itself	Same as above 3 stems referring to result/product	Same as above 3 stems referring to activity itself	Same as above 3 stems referring to result/product

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: strain, struggle, “fight”, toil, strenuous, persevere, operation, job, achievement, industry, enterprise, employment, employer, employee

-XTL- 'LIQUID (OTHER THAN WATER) IN STATIC SETTING' -- The stems of this root are patterned after those of the root [-XW-](#)

-XT- 'RED'			
INFORMAL Stems		FORMAL Stems	
1. something red plus the color red		same as INFORMAL stems but referring to something tinted/painted/stained red	
2. something light-red plus the color light-red			
3. something dark-red plus the color light-red			
COMPLEMENTARY Stems			
1. something red	1. red		
2. something light red	2. light red		
3. something dark red	3. dark red		

-XT ^h - 'MASTERY/AUTHORITY/SERVITUDE/OBEDIENCE'			
INFORMAL Stems		FORMAL Stems	
1. act/state of mastery/ownership/overlordship + servitude/subservience/subjugation to that mastery		1. military command/office + obedience/following of orders	
2. act/state of supervision or formal oversight + following of orders/instructions		2. lordship, class-based rule/oversight by noble right + recognition/submission to that rule	
3. take charge of; act/state of leadership + following that		3. formal authorization, appointed/elected authority /	

leadership	political authority; being official, being authorized + recognition/compliance with that authority		
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. act/state of mastery, ownership, overlordship	1. servitude, subservience, subjugation to mastery or overlordship	1. military command/office	1. obedience/following of military orders
2. act/state of supervision or formal oversight	2. following of orders or instructions from supervisor/overseer	2. lordship, class-based rule/oversight by noble claim or "right"	2. recognition/submission to claim of noble rule
3. take charge of; act/state of leadership	3. follow/obey a leader	3. formal authorization, appointed/elected authority / political authority; being official, being authorized	3. recognition/compliance with appointed, elected, official/political authority

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: boss, supervisor, master, owner, lord, commander, leader, person-in-charge, officer

SSD derivatives for Formal Stem 1: general, commodore, admiral, colonel, major, captain, lieutenant

-XT^hW- mustard (plant of sp. Brassica hirta / B. nigra / B. juncea) The pattern of stems for this root follows those of the root [-QW-](#)

-XW- 'WATER IN STATIC SETTING'			
INFORMAL Stems		FORMAL Stems	
1. container of water		1. (standing) body of water	
2. water/moisture located in confined space		2. ambient/atmospheric water/moisture	
3. (something) imbued/drenched with water; waterlogged		3. artificial body of water (e.g., reservoir)	
COMPLEMENTARY Stems			
1. some water in/from a container	1. holder/container which holds water	1. water component of a body of water	1. the basin or bed of a body of water
2. degree of moisture contained	2. the volume/space occupied by water/moisture	2. water/moisture in the air or atmosphere	2. volume of air(space) containing the water or moisture
3. the water imbued within an object, substance, or substrate	3. the object, substance or substrate imbued/soaked with water	3. water within an artificial body of water	3. the basis or bed of an artificial body of water, e.g., reservoir bed

MORPHOLOGICAL DERIVATIONS: lake, pool, pond, tern, tank, sink, canteen, cistern, puddle, sea, ocean, water vapor

-XX- 'REPUTE/NOTORIETY'			
INFORMAL Stems		FORMAL Stems	
1. repute/reputation		1. distinction/mark	
2. public image/persona		2. degree of eminence [= power or influence]	
3. notoriety [= degree of renown/recognition by others]		3. degree of prestige/status	
COMPLEMENTARY Stems			
same as above 3 stems referring to perspective of person reputed	same as above 3 stems referring to perspective of audience	same as above 3 stems referring to perspective of person reputed	same as above 3 stems referring to perspective of audience

This root is usually used in conjunction with the NOTORIETY affix.

-Xh- 'FACT/KNOW/LEARN/UNDERSTAND/EXPERTISE'			
INFORMAL Stems		FORMAL Stems	
1. ontological fact; observe/notice an ontological fact		1. study/practice [= formal process to acquire skill or knowledge]	
2. epistemological/conventionalized fact; know fact		2. realize/understand/comprehension via act of insight	
3. experience/proficiency [= know via familiarity]		3. understand [= know via sharing/communication of knowledge]	
COMPLEMENTARY Stems			
Same as above 3 stems w/ focus on act or faculty of	Same as above 3 stems w/ focus on the fact itself, the	Same as above 3 stems w/ focus on act or faculty of	Same as above 3 stems w/ focus on the fact itself, the

knowing	thing known	study/understanding	thing studied or understood
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INFORMAL Stem Derivations: find out, discover, determine, wisdom

FORMAL Stem Derivations: learn, insight, enlightenment, education, school, scholar, student

-XhC^hW- teff The pattern of stems for this root follows those of the root [-QW-](#)

-XhČW- ginseng The pattern of stems for this root follows those of the root [-QW-](#)

-XhL- 'oil (petroleum)' — Pattern of stems is the same as [-XL-](#)

-XhLY- RARE NATURAL ELEMENT FOUND ONLY IN COMPOUNDS OR MIXED ORES -- SSD Derivatives specify exact element: 1) Indium 2) Scandium 3) Yttrium 4) Tantalum 5) source compound for such elements 6) 7) 8) 9) primary source ore in which element is found — Pattern of stems is the same as [-XL-](#)

-XhM- 'rubber' — Pattern of stems is the same as [-XL-](#)

-XhMY- aspirin — Pattern of stems is the same as [-XL-](#)

-XhNW- hemp, marijuana (plant/material of sp. Cannabis sativa) The pattern of stems for this root follows those of the root [-QW-](#)

-XhNY- silica — Pattern of stems is the same as [-XL-](#)

-XhPŘ- saltpeter — Pattern of stems is the same as [-XL-](#)

-XhPW- soya, soybean (plant/seed of sp. Glycine max) The pattern of stems for this root follows those of the root [-QW-](#)

-XhP'- Potassium — Pattern of stems is the same as [-XL-](#)

-XhT- 'plastic' — Pattern of stems is the same as [-XL-](#)

-XhTR- pepper (hot/sweet/bell pepper -- plant/pod of genus Capsicum) The pattern of stems for this root follows those of the root [-QW-](#)

-XhTŘ- magnesia — Pattern of stems is the same as [-XL-](#)

-XhTW- tobacco (plant/leaves of sp. Nicotiana tabacum) The pattern of stems for this root follows those of the root [-QW-](#)

-XhT'- Copper — Pattern of stems is the same as [-XL-](#)

-XhT'W- amaranth The pattern of stems for this root follows those of the root [-QW-](#)

-XhT^h- Iron — Pattern of stems is the same as [-XL-](#)

-XhW- pepper (black -- plant/seed of sp. Piper nigrum) The pattern of stems for this root follows those of the root [-QW-](#)

-Z- 'MIND'			
INFORMAL Stems		FORMAL Stems	
1. mind / mental (faculty + use)			1. sentience / capacity for self awareness and self-identity + act of self-reflection
2. perception / awareness (faculty + use)			2. conscious + subconscious mind
3. instinct (faculty + practice)			3. intellect / wits /mind as efficacious tool
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. mental faculty / mind	1. application of mental faculty; act of mentation / use one's mind	1. feeling of sentience	1. act of self-reflection
2. faculty of perception or awareness	2. use of perception or awareness; to perceive / be aware of	2. conscious mind	2. subconscious mind
3. instinct	3. instinctual act; to act instinctively	3. intellect; use one's intellect	3. product of one's intellect / intellectual feat

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: philosophy, metaphysics

-ZB- 'CONFLICT-BASED HOSTILITY'	
INFORMAL Stems	FORMAL Stems

1. hostility / anger / be angry [both emotion and display/actions]	1. authoritative/official (i.e., police/military, etc.) use of force / act of aggression
2. threat(en) [reason for plus act]	2. threat of official/authoritative use of force
3. defend oneself / defense [reason for plus act]	3. official/authoritative defense
COMPLEMENTARY Stems	
1. feeling of anger	1. show/display of anger
2. cause/rationale for threat	2. effect of threat or being threatened
3. situation/rationale for defensive act	3. defend / take defensive action
1. rationale/cause behind military agression	1. official/authoritative act of force/agression
2. cause/rationale for official/authoritative/ military threat	2. effect of official/authoritative/ military threat or being threatened
3. situation/rationale for official/authoritative/ military defensive act	3. defend / take official/authoritative/ military defensive action

Derivations: peeved, conflict, intimidate, fight, battle, skirmish, military operation or campaign, war

-ZBŘ- iodine — Pattern of stems is the same as [-XL-](#)

-ZBW- hairy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ZD- 'MANNERS/DECORUM/DIGNITY'			
INFORMAL Stems		FORMAL Stems	
1. well-mannered, well-behaved; display a sense of manners		1. decorum/cultural appropriateness; have/display a sense of decorum, politeness and civility	
2. dignified; have/display a sense of dignity		2. courtly/stately/refined; stateliness	
3. noble, distinguished, cultivated; have/display a noble, distinguished or cultivated air		3. aristocratic, well-bred; having/displaying a sense of aristocracy, nobility and breeding	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems w/ focus on the cause	same as above 3 stems w/ focus on the effect	same as above 3 stems w/ focus on the cause	same as above 3 stems w/ focus on the effect

Morphological derivatives: polite(ness); courtesy/courteous

-ZDL- formalin, aqueous formaldehyde solution — Pattern of stems is the same as [-XL-](#)

-ZDR- 'BEAR' (the stems of this root are patterned after the root [-SK-](#))

-ZDŘ- milk of magnesium — Pattern of stems is the same as [-XL-](#)

-ZDW- 'COYOTE' (the stems of this root are patterned after the root [-SK-](#))

-ZDY- benzene — Pattern of stems is the same as [-XL-](#)

-ZG- 'TRAGICOMIC-BASED VOCAL/FACIAL GESTURE'			
INFORMAL Stems		FORMAL Stems	
1. smile [both physical process and emotional/social connotation]		1. frown [both physical process and social connotation]	
2. laugh [both physical process and the accompanying sound]		2. whine, moan [both physical process and the accompanying sound]	
3. "light up" (referring to one's face') [both physical process and emotional/social implication]		3. crestfallen look, look of dejection (referring to one's face') [both physical process and emotional/social implication]	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. smile [physical process]	1. smile [emotional/social connotation]	1. frown [physical process]	1. frown
2. laugh [physical process]	2. laugh [sound]	2. whine, moan [physical process]	2. whine, moan [sound]
3. "light up" (referring to one's face') [physical process]	3. "light up" (referring to one's face') [emotional/social implication]	3. crestfallen look, look of dejection (referring to one's face') [physical process]	3. crestfallen look, look of dejection (referring to one's face') [emotional/social implication]

SSD DERIVATIONS: scowl

-ZGR- ‘DONKEY’ (the stems of this root are patterned after the root [-SK-](#))

-ZGR- NATURALLY OCCURRING ACTINIDE OR UNSTABLE/RADIOACTIVE HEAVY ELEMENT -- SSD Derivatives specify exact element:
1) Actinium 2) Thorium 3) Protactinium 4) Neptunium 5) any radioactive isotope of an element 6) Astatine 7) Francium 8) Polonium 9)
Technetium — Pattern of stems is the same as [-XL-](#)

-ZGW- ‘SHEEP’ (the stems of this root are patterned after the root [-SK-](#))

-ZL- ‘INVERSION’	
INFORMAL Stems	FORMAL Stems
1. orientational inversion	FORMAL Stems for this root have the same meanings as INFORMAL stems except that context is formal/authorized/permanent/abstract as described in Sec. 3.7
2. unidirectional topological inversion [= mirror-image]	
3. three-dimensional topological inversion [= inside-out]	
COMPLEMENTARY Stems	
1. orientational inversion along y-axis [= backwards]	1. mirror-image inversion along x-axis [= lateral/sideways]
2. mirror-image inversion along y-axis [= backwards]	2. orientational inversion along z-axis [= upside down]
3. orientational inversion along x-axis [= lateral/sideways]	3. mirror-image inversion along z-axis [= upside down]

-ZM- ‘TEN THOUSAND’	
INFORMAL Stems	FORMAL Stems
1. a set or group of 10000; to be 10000 in number	FORMAL stems for this root have the same meanings as the INFORMAL stems except that they are applied in official, authorized, permanent contexts as described in Section 3.7
2. be/make 10000 -faceted / having 10000 uses or aspects / 10000-fold	
3. 10000th in a sequence; be/make 10000th in a sequence	
COMPLEMENTARY Stems	
1. 10000 times the number of something; to multiply by 10000	1. a 10000th / divide by 10000 or into 10000 parts
2. 10000 times [= iterations]; to be/make/do 10000 times	2. be of or make into 10000 parts; separate(d) into 10000 parts
3. to the 10000 power; raise to the 10000 power	3. to the negative 10000 power; to divide by the 10000 power of

-ZMY- rubbing alcohol, isopropyl alcohol — Pattern of stems is the same as [-XL-](#)

-ZN- burning, heat conductive texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽN- slimy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ZP- rubbery texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ZP'- carrot The pattern of stems for this root follows those of the root [-QW-](#)

-ZPh- asbestos Pattern of stems is the same as [-XL-](#)

-ZQ- slippery texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ZQ'- ‘brass’ — Pattern of stems is the same as [-XL-](#)

-ZQh- ‘vinegar’ — Pattern of stems is the same as [-XL-](#)

-ZR- ‘THROAT (interior tract of neck)/GULLET’	
INFORMAL Stems	FORMAL Stems

1. throat (= interior respiratory/digestive tract of neck)	FORMAL stems are the same as INFORMAL stems but applied to "throat/gullet" of a non-animal entity, e.g., a mechanical device, complex 3-dimensional form, plant, etc.
2. gullet (= tube- or trumpet-shaped digestive conduit from oral cavity)	
3. interior chamber of throat (containing pharynx, larynx, plus epiglottal and glottal structures)	

SSD derivatives: pharynx, larynx, syrinx, epiglottis, glottis, trachea/windpipe, vocal fold/chord, hyoid bone / "Adam's apple"

-ZT- 'coal' — Pattern of stems is the same as [-XL-](#)

-ZV- 'ROMANTIC AND/OR SEXUAL RELATIONSHIP'			
INFORMAL Stems		FORMAL Stems	
1. state of sexual/romantic relationship		1. significant other / boyfriend or girlfriend	
2. erotic/sexual act; engage in a sexual/erotic activity		2. lover / sex partner	
3. to date / to court; pursue romantic relationship		3. dating partner	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. sexual/romantic relationship itself	1. emotional / hormonal basis underlying sexual relationship	1. boyfriend	1. girlfriend
2. sexual/erotic act itself	2. feeling of lust or other motive underlying sexual act	2. male lover	2. female lover
3. particular act involved in dating or courtship	3. feeling of hope or long-term goal of monogamous relationship or marriage underlying pursuit of romantic relationship	3. male dating partner	3. female dating partner

have sex, make love, cheat, monogamous relationship

-ZW- NATURALLY OCCURRING ELEMENT FOUND ONLY IN COMPOUNDS OR MIXED ORES -- SSD Derivatives specify exact element: 1) Barium 2) Caesium (Cesium) 3) Hafnium 4) Niobium 5) Rhenium 6) Rhodium 7) Ruthenium 8) Strontium 9) Tellurium — Pattern of stems is the same as [-XL-](#)

-ZY- SYNTHETIC ACTINIDE ELEMENT -- SSD Derivatives specify exact element: 1) Americium 2) Curium 3) Berkelium 4) Californium 5) Einsteinium 6) Fermium 7) Mendelevium 8) Nobelium 9) Lawrencium — Pattern of stems is the same as [-XL-](#)

-ZW- 'top, peak, summit' The pattern of stems for this root follow those of the root [-G-](#).

-ZY- wispy/wafting texture/sensation -- the stems of this root are patterned after the root [-S-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ZZ- soft like a cushion texture/sensation -- the stems of this root are patterned after the root [-S-](#). This root is usually used with the DEGREE/EXTENT suffix.

-Z- 'DAY/NIGHT'			
INFORMAL Stems		FORMAL Stems	
1. day [= 24-hour period]		1. calendrical day; 24-hour day designated for some human-defined purpose or societal convention	
2. sky		2. the sky on a designated/calendrical day	
3. degree of sunlight [use with EXN, EXD, SUF affixes, etc. from Sec. 7.7.6]		3. degree of sunlight on a designated/calendrical day	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
1. daytime	1. nighttime	1. daytime of calendrical day	1. nighttime of calendrical day
2. daytime sky	2. nighttime sky	2. daytime sky of calendrical day	2. nighttime sky of calendrical day
3. daylight	3. natural darkness	3. daylight on a calendrical day	3. natural darkness on a calendrical day

EXAMPLE MORPHOLOGICAL DERIVATIVES FROM THE ABOVE STEMS: dawn, sunrise, daybreak, evening, sunset, twilight, morning, evening, afternoon, mid-day, noontime, midnight, the "wee" hours [= Spanish 'madrugada']

The SSD suffix used with FORMAL Stems is as follows: 1) day of the week, weekday 2) workday, working day 3) personal day off, personal holiday, vacation day 4) scheduled holiday, societal day off 5) day of month 6) day commemorating a person, place, event, etc. 7) one's birthday anniversary 8) cyclic/periodic day (e.g., "payday," "milking day," "visiting day," etc.) 9) day of the year

FORMAL Stem 1 of this root is used with the SPS/1 suffix to give the word for 'week' and the SPS/4 suffix to give the word for 'month.'

NOTE: Use of the FORMAL stems of this root is often in conjunction with Functional (FNC) Context, given that calendrical concepts and cyclic/periodic activities associated with particular days are societal conventions as opposed to being natural ontological phenomena.

-ŽB- 'tar' — Pattern of stems is the same as [-XL-](#)

-ŽG- 'steel' — Pattern of stems is the same as [-XL-](#)

-ŽK- complexly textured + hard/honeycombed (like handling a pine cone) texture/sensation -- the stems of this root are patterned after the root [-S-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽK'- prickly texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽN- 'GROWTH/CULTIVATION/HUSBANDRY'			
INFORMAL Stems		FORMAL Stems	
1. grow; stage of growth		1. stage of plant growth; grow (plant)	
2. raise; look after; foster; function as guardian		2. till/cultivate/raise crop; stage of cultivation (e.g., etc.)	
3. nurture / provide requirements for growth; husbandry		3. to garden/specialized act of plant nurturance (e.g., prune, graft, weed, etc.)	
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
Same as above 3 stems referring to act itself	Same as above 3 stems referring to (anticipated) result/effect	Same as above 3 stems referring to act itself	Same as above 3 stems referring to (anticipated) result/effect

Stems of this root are often used with the MAT suffix

SSD Derivatives for FORMAL Stem 2: plow, sow, irrigate, fertilize; hoe, reap, pick, dry, store

SSD Derivatives for FORMAL Stem 3: prune, graft, weed, transplant, thin out

Morphological Derivatives: shepherd, garden, gardener, field (of crop), crop, harvest, plow/plough, hoe, etc.

-ŽP'- 'jade' — Pattern of stems is the same as [-XL-](#)

-ŽPh- cartilaginous texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽQ- needle-like sharpness (e.g., a cactus) texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽQ'- Plutonium — Pattern of stems is the same as [-XL-](#)

-ŽQh- grainy/granular texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽR- 'quartz' — Pattern of stems is the same as [-XL-](#)

-ŽT- "pins & needles" sensation texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽR- bristly texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽV- potato The pattern of stems for this root follows those of the root [-QW-](#)

-Ž- 'LOVE/AFFECTION/EMOTIONAL BOND'		
INFORMAL Stems		FORMAL Stems
1. act of affection / display of fondness or endearment		1. like / value as source of emotional fulfillment
2. familial/genetically-tied bond of love		2. love of country, heritage, race, etc.
3. act/feeling of romantic love		3. love of or emotional allegiance to abstract idea (e.g., freedom, life, wealth)
COMPLEMENTARY Stems		COMPLEMENTARY Stems

Same as above 3 stems w/ focus on act or display	Same as above 3 stems w/ focus on the emotion/feeling itself	Same as above 3 stems w/ focus on act or display	Same as above 3 stems w/ focus on the emotion/feeling itself
---	--	--	--

Morphological Derivations: love, tenderness, infatuation, obsession, passion, passionate

SSD Derivatives from INFORMAL Stem 1: kiss, embrace, hug, hold hand, cuddle, caress, massage, pat, wink

-ŽB- feathery texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽBR- sponge-like texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽD- slushy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽDR- papery texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽDW- fluffy/puffy/airy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽG- mushy texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽGL- woolly texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽGR- dusty texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽGY- ammonia — Pattern of stems is the same as [-XL-](#)

-ŽK- viscous texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽLW- plaster of Paris — Pattern of stems is the same as [-XL-](#)

-ŽM- 'PRIDE/EGO/RESPECT'			
INFORMAL Stems		FORMAL Stems	
1. feel proud (of oneself); feeling of pride (in oneself)	1. self-esteem		
2. feel proud (of someone); feeling of pride (of someone)	2. respect/admiration		
3. one's feelings/sensibilities (e.g., to hurt one's feelings)	3. ego/sense of self-identity; to sense (some)one's ego / to gain an impression of someone's self-identity		
COMPLEMENTARY Stems		COMPLEMENTARY Stems	
same as above 3 stems w/ focus on the cause	same as above 3 stems w/ focus on the feeling	same as above 3 stems w/ focus on the cause	same as above 3 stems w/ focus on the feeling

Morphological Derivations: arrogance/arrogant, haughtiness/haughty, pomposity/pompous, put on airs, vainglorious; magisterial/imperious

-ŽMY- SYNTHETIC HEAVY ELEMENT -- SSD Derivatives specify exact element: 1) Rutherfordium 2) Dubnium 3) Seaborgium 4) Bohrium 5) Hassium 6) Meitnerium 7) Darmstadtium 8) Roentgenium 9) trans-Roentgenium synthetic element (i.e., Ununbium, Ununtrium, etc.) — Pattern of stems is the same as [-XL-](#)

-ŽNY- HEAVIER LANTHANIDE ELEMENT -- SSD Derivatives specify exact element: 1) Dysprosium 2) Holmium 3) Erbium 4) Thulium 5) Ytterbium 6) Lutetium 7) 8) 9) lanthanide-based compound — Pattern of stems is the same as [-XL-](#)

-ŽPh- powdery texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽQ- tingly texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-ŽQ- Uranium — Pattern of stems is the same as [-XL-](#)

-ŽQh- sticky texture/sensation -- the stems of this root are patterned after the root [-Š-](#). This root is usually used with the DEGREE/EXTENT suffix.

-**ZVW**- LANTHANIDE ELEMENT -- SSD Derivatives specify exact element: 1) Lanthanum 2) Cerium
3) Praseodymium 4) Neodymium 5) Promethium 6) Samarium 7) Europium 8) Gadolinium 9) Terbium — Pattern of stems is the same as [XL-](#)

-**ZW**- soft like fur texture/sensation -- the stems of this root are patterned after the root [-S-](#). This root is usually used with the DEGREE/EXTENT suffix.

-**ZY**- curvaceous/sensual (= soft/smooth/squeezable/rounded) texture/sensation -- the stems of this root are patterned after the root [-S-](#). This root is usually used with the DEGREE/EXTENT suffix.

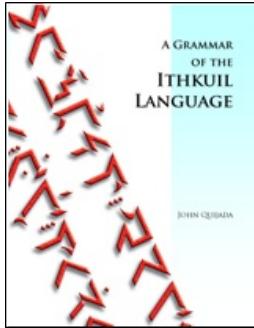
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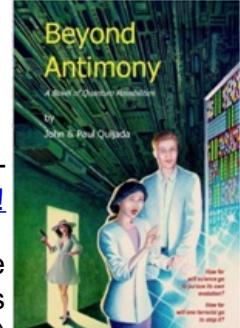
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Ithkuil: A Philosophical Design for a Hypothetical Language

இத்குயில் மொழி

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This page presents various texts in Ithkuil including interlinear morphological analyses similar to the examples in previous chapters. Additionally, a few narrative presentations are offered based on presentations the author has given in other venues or formats.

For the Monty Python Fans Out There...

இத்குயில்

Tí akt'asalb abjatjud.

1m-PRP STA-'hover'-OBL-NRM/PRX/M/CSL/UNI-CVY1/5 STA-'eel'-NRM/DEL/M/CSL/DCT-SUF1/9

My hovercraft is full of eels. [LISTEN](#) 

Opening Line from *Anna Karenina*

The following narrative presents the step-by-step procedure undertaken by the author in translating the opening line of Tolstoy's *Anna Karenina* into Ithkuil. It should be noted that I have used the English translation of the sentence instead of the Russian original as my translation source:

All happy families resemble one another, each unhappy family is unhappy in its own way.

STEP ONE: Semantic Analysis of Source Sentence

Before beginning translation, it is important to carefully analyze the actual meaning of the sentence from a cognitive

standpoint, i.e., what is the cognitive intent of the sentence as opposed to how it reads stylistically? This is important because Ithkuil must convey the underlying cognitive intent of the sentence. In this sentence, one might initially interpret the sentence to suggest that there are two different kinds of families, one happy, the other unhappy, and that happy ones can't ever be unhappy or vice-versa. But in fact, all families are capable of being happy or unhappy. Therefore, the Ithkuil translation will reword the sentence to convey that when families are happy, they resemble one another, whereas when they are unhappy they don't resemble one another. Secondly, we must analyze what is meant by the word 'resemble'. In English, 'resemble' refers to similarity in visual appearance or observed behavior. However, the intent of the sentence is that the similarity of behavior is intrinsic and occurs whether or not there is anyone available to visually observe it. Therefore, the Ithkuil translation must avoid use of any concept such as 'resemble' to imply visual observation of behavior. The behavior simply *is* similar or dissimilar, regardless of whether there is any visual comparison made. The Ithkuil translation will therefore simply distinguish between similarity in the manifestation/behavior of happiness in families versus dissimilarity in the manifestation/behavior of unhappiness in families. Finally, in the original sentence, the second clause is syntactically disguised as a co-equal main clause, however, cognitively it is a dependent clause in a contingent relationship to the first half of the sentence. The "missing" conjunction should be 'whereas' or 'as opposed to' or 'while on the other hand' since it is being contrastively compared to the first clause. Ithkuil provides a case-frame (the COMPARATIVE) for exactly these kinds of contrastive comparisons. Therefore the Ithkuil sentence will employ such a case-frame when translating the second half of the sentence. So at this point, what we will be translating into Ithkuil reads something like "*All families manifest happiness similarly, whereas they manifest unhappiness dissimilarly.*"

STEP TWO: Separating the Lexical from the Morphological

At this point, the original sentence must be analyzed to determine what Ithkuil lexical roots/stems will be necessary, as opposed to those words/concepts in the original which can be translated via morphological components instead of lexical roots/stems. We can see we are making a statement about families and are qualifying those families as happy or unhappy. Therefore it is likely we will need Ithkuil lexemes for 'family' and 'happy/happiness.' We have already determined above that we do not need a word for 'resemble' and words like 'all', 'one another', 'each', 'in its own way' carry little intrinsic meaning by themselves until they are used in conjunction with the main participants (nouns and verbs) of the sentence. We know from studying Ithkuil morphology that all of these words will be handled by morphological, not lexical means when translating. Therefore, we only need two main lexemes: 'family' and 'happy/happiness.'

STEP THREE: Analysis/Derivation Using Ithkuil Morphological Categories

Those who have studied the Configuration and Affiliation categories of Ithkuil morphology might recognize at this point that the concept 'family' is a composite sort of concept, indicating an entity composed of sub-components or sub-members, each one of whom is a 'family member.' Ithkuil tends not to lexify as discrete stems those words that are gestalt entities comprised of sub-components. Rather it is the sub-components that are lexified into stems and then morphologically modified via the various Configuration and Affiliation categories. The Ithkuil lexicon contains the Pattern 1, Stem 1, INFORMAL stem **amm** meaning a nuclear family member, derived from the root **-MM-** referring to the various sanguine members of a nuclear family (parent, child, mother, father, son, daughter, etc.). A family consists of various such members, each of whom are not identical in their attributes (e.g., gender, age, personality, talents, etc.). A gestalt composite composed of non-identical members who are not physically interconnected, is shown by the AGGREGATE [AGG] configuration in Ithkuil. Likewise, the resulting gestalt entity 'family' is more than the sum of its parts from a cognitive standpoint (i.e., it is capable of participating in events or being described in ways irrespective of its individual members), therefore it should be placed in the COALESCENT [COA] affiliation. Finally, the particular sentence being translated talks about families in a timeless cultural sense, describing families in an archetypal fashion. Such a sense can best be captured by use of the AMALGAMATE [AMG] context in Ithkuil. So far, the Ithkuil word for 'family' we are fashioning has been declined for Configuration, Affiliation, and Context. However, there are five remaining morphological categories for nominal formatives in Ithkuil. We must consider each of these:

PERSPECTIVE: The sentence is comparing every family against every other family, thus it is speaking of each family as a single discrete entity, not a collective concept. This is reinforced by the use of the word 'all' (which in the Ithkuil translation will appear as the Inclusive suffix [INL] in ninth degree, meaning 'each/every'). Thus the correct perspective is the default MONADIC perspective.

EXTENSION: Each family is being considered as an entire discrete entity within the context of the sentence, therefore the default DELIMITIVE extension is appropriate.

DESIGNATION: The stem **amm** is in the default INFORMAL designation, as indicated by its syllabic stress pattern (recall from [Section 1.3.3](#) that all monosyllabic stems are considered to have penultimate stress from a

morphological standpoint).

ESSENCE: The sentence refers to all families in the real world, not families in a hypothetical or contrary-to-fact context, therefore the default NORMAL essence is appropriate.

CASE: The word ‘family’ will be the “subject” of a verb complex meaning ‘manifests happy behavior’. The appropriate semantic role for the subject of a non-causal descriptive state is as CONTENT, shown by the default OBLIQUE [OBL] case in Ithkuil.

The concept ‘happy/happiness’ is given in Ithkuil by the Pattern 1, Stem 2, FORMAL stem **öqtá** which literally means ‘degree of happiness/joy’. This stem is derived from the root **-QT-** ‘DEGREE OF POSITIVE EMOTIONAL SATIETY/FULFILLMENT’. Qualitative concepts such as happiness are usually lexified in Ithkuil as a spectrum or range which then takes the Sufficiency [SUF] or Extent/Degree [EXN] suffix to indicate what particular amount/extent/degree of the quality is manifested, anywhere from none up to an overabundance. In this case, we will use the [**EXN1/6**] suffix indicating ‘an above-normal degree of’. Adjectives such as ‘happy’ don’t exist in Ithkuil; their equivalent is usually shown using a verbal formative declined into either the STATIVE [**STA**] function or the DESCRIPTIVE [**DSC**] function. The choice between using STATIVE or DESCRIPTIVE function for this translation is subtle. I have chosen [**DSC**] because it captures more of the sense of describing the nature of the family itself (which is what I think the author was trying to convey) rather than simply a state they are in. Verbal formatives are complex structures in Ithkuil, inflecting for 22 different morphological categories. So, besides the DSC function, the remaining 21 categories must be analyzed, as follows:

CONFIGURATION: Conceptually, ‘happiness’ is not a gestalt composite, therefore the default UNIPLEX value is appropriate.

AFFILIATION: The UNIPLEX configuration implies a default CONSOLIDATIVE affiliation, and the uses of the remaining three affiliations are inapplicable to the intended meaning of ‘happiness’.

PERSPECTIVE: The sentence is asserted as being true at all times, a “law of nature” about families, therefore the appropriate perspective is the NOMIC [N].

EXTENSION: The state of happiness being discussed is not described as having specific beginning or ending points, therefore the appropriate extension is PROXIMAL [PRX].

CONTEXT: Happiness as an emotional state exists irrespective of opinions, cultural ideas, social conventions, etc., therefore, the default EXISTENTIAL context is appropriate.

DESIGNATION: The stem is in the default INFORMAL designation, as indicated by its syllabic stress pattern.

ESSENCE: The sentence refers to happiness as a real-world state, not in a hypothetical or contrary-to-fact context, therefore the default NORMAL essence is appropriate.

ILLOCUTION: The sentence constitutes a propositional speech act, an utterance which is either true or false and can be either believed or disbelieved. Thus, the default ASSERTIVE illocution is appropriate.

VALENCE: The state of happiness is being compared between families, implying PARALLEL valence (i.e., one participant is engaged in or experiencing the same activity or state as the other). However, because the verbal formative will be carrying the [**SIM1/8**] suffix (meaning ‘very similarly’), the valence relationship between one family and another is already implied. This means that overtly showing the PARALLEL valence in this sentence is unnecessary (or at least optional).

VERSION: The utterance describes a non-hypothetical end-in-itself and is not goal-oriented, therefore the default PROCESSUAL version is appropriate.

FORMAT: There is no incorporated stem in this verb, therefore the showing of Format is inapplicable.

MODALITY: There is no modal or hypothetical content in this sentence, therefore there is no modality.

LEVEL: While one might consider translating this sentence using Ithkuil’s EQUATIVE level, its use would imply that families manifest happiness exactly the same way (as opposed to similarly). This is not the intent behind the word ‘resemble’ and therefore use of the [**SIM1/8**] suffix (meaning ‘very similarly’) is more appropriate. Therefore, the default INDETERMINATE level is appropriate.

CASE-FRAME: As previously mentioned, the second clause of this sentence will employ the COMPARATIVE

[CMP] case-frame to signify a “whereas X” or “as opposed to X” type of relationship.

VALIDATION: Since the statement is not an empirically verifiable statement, but is written as being a truthful assertion, the implied source of information behind the statement is as an inference on the part of the author based on his own intuition or feelings. Therefore the appropriate validation is the INFERENTIAL.

PHASE: The statement does not refer to any repetitive or iterative situation, therefore the default CONTEXTUAL phase is appropriate.

SANCTION: The statement constitutes an ontologically subjective assertion or allegation expressing an opinion or belief, potentially subject to challenge or refutation. Therefore, the appropriate sanction is the ALLEGATIVE [ALG].

ASPECT: The sentence contains no additional aspectual information.

MOOD: The sentence is an assertion of an alleged fact, therefore the default FACTUAL mood is appropriate.

BIAS: The utterance contains no overtly subjective attitude or bias.

STEP FOUR: Assemble the Ithkuil words

When putting these elements together to render the final Ithkuil sentence, I take the option to separate out some of the suffixes into affixual adjuncts for the sake of phonetic euphony. Here then, is the end result, accompanied by the most natural sounding literal translation into English:

Mmarnuq^ha t^han-n hwöeqtädhübüp öeqtóu'adhiböp.

STA-'nuclear.family.member'-OBL-NRM/DEL/M/COA/AGG-INL1/9-IFL ALG INF-DSC-'degree.of.happiness'-NRM/PRX/N/CSL/UNI-EXN1/6-SIM1/8-FML
FRAMED-DSC-'degree.of.happiness'-CMP-NRM/PRX/N/CSL/UNI-EXN1/1-SIM1/2-FML

All families are happy in the same way, while being unhappy in their own way.

[LISTEN](#)

Description of Marcel Duchamp's "Nude Descending a Staircase, No. 2"

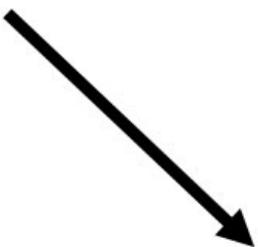
Ithkuil's ability to express subjective, non-linear, and synergistic gestalts as easily as objective, linear, discrete, componential phenomena allows it to describe phenomena such as artistic works succinctly but in great detail. For example:

-KKR- 'OBlique VERTICAL MOTION'

→ STEM: **okkr-** 'descend at oblique angle'

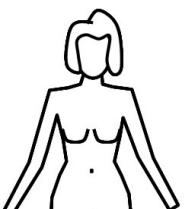
→ i-okkr-a-s → aukkas

DYN-'descend'-NRM/PRX/M/CSL/UNI-IFL
'descends'



-GV- 'CLOTHING'

→ STEM: **ovg-** 'article of clothing
as coverage
(as opposed to fashion)'

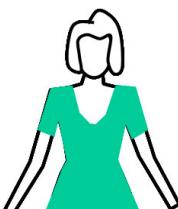


-Q- 'HIGHER ORDER LIFE-FORM'

→ STEM: **êq-** 'woman'

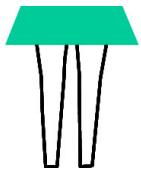
→ êq-u-tt → êquutta

STA-'woman'-IND-RPV/DEL/M/CSL/UNI-IFL
'imaginary representation of a woman'



→ ovvöüü

→ ovvöüü

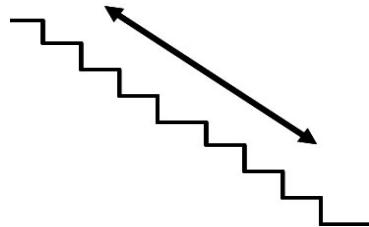


'as self-initiator of action'

→ **ugv-tuŋ**

→ **ugv-tuŋa**

STA-'article.of.clothing.as.coverage'-ABE-NRM/DEL/M/CSL/AGG-IFL
'without a set of clothing as coverage'
(i.e., 'nude')



-TN- 'SUPPORTING SURFACE AGAINST GRAVITY'

→ STEM: **etn-** 'stair'

→ **etn-ou'a-lkw-** → **tnou'elkwa**

STA-'stair'-NAV-RPV/PRX/M/ASO/COH-IFL
'along the directional vector of an imaginary representation of a staircase'



p - a - l-łš - i → **pal-łši** ITR-SQN-PRG

'in a repetitive series of single manifestations'
'one after the other'
'being in the midst of; ...-ing'

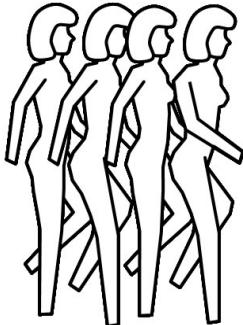


-GW- 'AMBULATION'

→ STEM: **ogw-** '(make) ambulatory bodily movement'

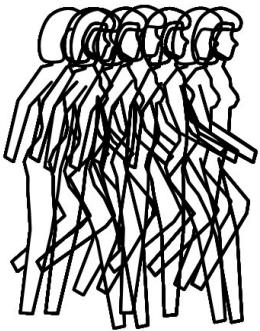
→ **i-ogw-ai-l** → **áugwaila**

FRAMED/IFL-DYN-'ambulatory.bodily.movement'-INS-NRM/DEL/M/CSL/UNI
'by means of making an ambulatory bodily movement'



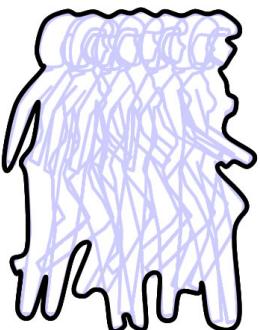
→ **áugwai-ňs-amb**

FRAMED/IFL-DYN-'ambulatory.bodily.movement'-INS-NRM/**PRX**/M/CSL/**COH-SEP1/5**
'by means of a tightly integrated set of ambulatory bodily movements'



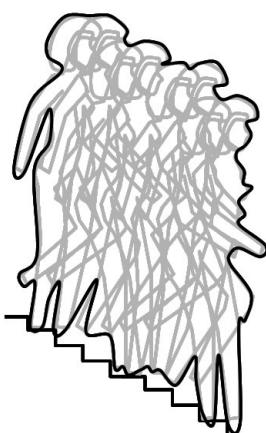
→ augwái-ňs-üln-amb

FRAMED/IFL-DYN-'ambulatory,bodily,movement'-INS-NRM/PRX/M/CSL/COH-WAK₁/8-SEP₁/5
'by means of a tightly integrated set of ambulatory bodily movements which combine into a three-dimensional trail/wake behind her'



→ augwai-kšt-üln-àmb-u

FRAMED/IFL-DYN-'ambulatory,bodily,movement'-INS-NRM/PRX/A/COA/COH-WAK₁/8-SEP₁/5-AMG
'by means of a tightly integrated set of ambulatory bodily movements which combine into a three-dimensional trail/wake behind her, forming a timeless, emergent whole to be considered intellectually, emotionally and aesthetically'



Aukras êquutta ogvëuJa tnou'elkwa pal-lši augwaikštülnàmbu.

DYN-'descend'-NRM/PRX/M/CSL/UNI-IFL STA-'woman'-IND-RPV/DEL/M/CSL/UNI-IFL
STA-'article.of.clothing.as.coverage'-ABE-NRM/DEL/M/CSL/AGG-IFL ITR-SQN-PRG
STA-'stair'-NAV-RPV/PRX/M/ASO/COH-IFL ITR-SQN-PRG
FRAMED/IFL-DYN-'ambulatory,bodily,movement'-NRM/PRX/A/COA/COH-WAK₁/8-SEP₁/5-AMG

LITERAL TRANSLATION:

'An imaginary representation of a nude woman in the midst of descending a staircase in a step-by-step series of tightly-integrated ambulatory bodily movements which combine into a three-dimensional wake behind her, forming a timeless, emergent whole to be considered intellectually, emotionally and aesthetically.'

[NOTE: Since I first encountered this painting as a teenager, I've always seen it as representing a woman. It wasn't until after I'd prepared the Ithkuil translation that someone pointed out to me that the original French title uses the masculine word "nu", implying an androgynous figure at best. Nevertheless, I've decided to keep the figure feminine.]

Aukras êquutta ogvëuJa tnou'elkwa pal-lši augwaikštülnàmbu.

'An imaginary representation of a nude woman in the midst of descending a staircase in a step-by-step series of tightly-integrated ambulatory bodily movements which combine into a three-dimensional wake behind her, forming a timeless, emergent whole to be considered intellectually, emotionally and aesthetically.' [LISTEN](#)





Marcel Duchamp: *Nu descendant un escalier, No. 2* — 1912

Basic Greetings and Conversational Elements

This section provides various formulaic statements and responses, both formal and informal, pertaining to some basic conversational elements.

Greetings/Salutations

The formal stem **attá-** is the general stem denoting ‘*salutation/greeting*.’ With the addition of the **SSD₁/6** suffix **-ûk** it conveys ‘*farewell/leavetaking*.’ The formal stem **edná-** ‘*peace through fellowship*’ and the informal stem **edn-** ‘*goodwill/kindness*’ are also used in greeting formulas. Many formal and informal phrases are possible using these stems, as shown by the following examples.

Ük^hu attál.
I bid you greetings.

Ki attàwîl.
Greetings to you.

Attál. / Attàwîl.
Hello!/Greetings!/Salutations!

Ki attàlûk.
Goodbye to you.

Attàlûk.
Goodbye.

Ük^hu ettál.
I bid you welcome.

Ük^hu ettàlûk.
I bid you farewell.

(In-n) ednal kù.
(May there be) goodwill to you.

(In-n) uhednál.
(May there be) peace through fellowship between us.

Ük^hu attál in-n uhednaláñ.
2m/DAT-1m-IND STA-'greet'-NRM/DEL/M/CSL/UNI-FML EXH RCP-CNF-STA-'peace.through.fellowship'-NRM/DEL/M/CSL/UNI-COO1/7/FML
I bid you greetings and may there be peace through fellowship between us.

How Are You?

The stem **glal** ‘*state of health/physical well-being*’ in conjunction with the suffix **-ač** ‘*acceptably good/well*’ are used to inquire about one’s well-being. As an affixual adjunct (see [Section 8.3](#)), the suffix **-ač** functions as a shortcut means of creating various informal expressions.

Ki glawulač?

How are you? (literally: Are you in acceptable health?)

En-n ki ač.

Hopefully, things are well with you.

Ti glalač.

I'm doing fine. (literally: I'm in acceptable health.)

Ti ač.

I'm fine.

Thanks/Gratitude

The “short” form of communicating thanks is **Tô myal**, meaning “my thanks” or more specifically “my offer of gratitude.” This phrase is an informal abbreviated form of the following formal sentences:

Auspal ük^hu tô myal.

DYN-'give.in.exchange'-NRM/DEL/M/CSL/UNI-IFL 2m/DAT-1m/IND 1m-ATT STA-'offer.of.gratitude'-OBL-NRM/DEL/M/CSL/UNI-IFL

I offer you my gratitude.

or

Uhispal ük^hu tô myal kô ednaul.

CPL-CNF-DYN-'exchange'-NRM/DEL/M/CSL/UNI-IFL 2m-ATT STA-'goodwill/kindness'-CMM-NRM/DEL/M/CSL/UNI-IFL

I offer you my gratitude in exchange for your kindness.

The above sentences are addressed to one single person. If the addressee is an UNBOUNDED party or an AGGREGATE group of people, then appropriate modifications of Perspective, Configuration, etc., should be made to the personal reference adjuncts within the sentence, e.g., **üp^hu**, **hük^hu**, **pô**, etc.

If the feeling/manifestation of gratitude is more formal, in response to an honor bestowed or to the extent that it leaves the grateful party feeling beholden to the addressee, the formal stem **ömyál** ‘gratefulness/feeling of being honored’ can be used in place of **myal**.

Variations on the above examples where the stems **asp-** or **osp-** are incorporated into the stem **amy-** are also possible.

The Lord's Prayer

Ömmële têhwei elt^hâ'âlôs

STA-'father'-VOC-NRM/DEL/M/CSL/UNI-RPS 1m-GEN-COA-CST STA-'creator.god'-LOC-NRM/DEL/M/CSL/UNI-PLA₂/7

Our father in heaven

în-n imnadh kô adal

EXH-FAC DYN-'worship'-NRM/PRX/N/CSL/UNI-FML 2m-ATT STA-'name'-NRM/DEL/M/CSL/UNI

hallowed be your name

îl-lm - euč'ane tehwei driocaipšé kû

EXH-CCL/FAC CPT-DYN-'imbue'-NRM/DEL/M/COA/UNI 1m-ABS-COA-CST STA-'rule'-CPS-NRM/DEL/A/CSL/UNI-UTE₂/8-RPS/FML 2m-PRP

May your kingdom come to exist among us

(Literally: May the [metaphorical] environment which fosters/sustains your rule eventually [metaphorically] permeate us)

Ôbartöák în-n - aipšalu

STA-'aspiration'-NRM/DEL/U/CSL/AGG-ATT/2m EXH-FAC CPT-DYN-'be.real'-NRM/DEL/M/CSL/UNI-AMG

*May your will be done
(Literally: As for your aspirations, may they be made real)*

Swā'ál elthā'älöñôs

STA-'Earth'-LOC-NRM/DEL/M/CSL/UNI STA-'creator.god'-LOC-NRM/DEL/M/CSL/UNI-CTR1/2-PLA2/7
on Earth, not just in heaven

ř uigrawulakkönurň

SOL STA-'food/drink'-DIR-NRM/DEL/M/CSL/UNI-TPR3/5-AGC1/2-IPT1/9
please be one who enables us to eat and drink our critical sustenance

lekčawelöň ok^hühwei ivyoerduap ^uhékčeöt no.

DYN-'forgive'-DIR-NRM/DEL/M/CSL/UNI-COO1/2-IFL 2:ERG-Referent1:1m/Referent2:2m-1:DAT-1:COA-1:CST
STA-'morally right'-REF-NRM/PRX/U/CSL/AGG-SIM2/1-IFL
FRAMED-CPL-CNF-DYN-'seek and grant pardon'-FUN-NRM/DEL/U/CSL/UNI-IFL 1+ua-ERG

And forgive us in regard to our moral transgressions in the way we grant and receive forgiveness amongst each other

uibawetâmziúrön

MNF-'unwilled.desire'-DIR-NRM/DEL/U/CSL/UNI-MOT2/5-NA13/5-AGC1/2-IFL
'be one who does not enable desires against better judgement to happen'

uilt^halainqärzönöň tehwei

MNF-'Devil'-NRM/DEL/M/CSL/UNI-OAU2/8-IMP1/5-AGC1/2-COO1/2-FML 1m-ABS-COA-CST
And deliver us from evil

(literally: and be one who enables us to successfully avoid ideas associated with the Devil)

Note that Line Eight could also be written **uibawetâmziúrön**. A different way to translate Line Eight that puts the responsibility for avoiding temptation on us instead of God [I know it's not how the original reads but personally it makes more sense to me], would be as follows:

în-n tihwei arz batâmz

EXH-FAC 1m-AFF-COA-CST IMP1/5 STA-'unwilled.desire'-NRM/DEL/U/CSL/UNI-MOT2/5-IFL

may we successfully avoid temptations (literally: may we successfully avoid having desires [that are] against our better judgement)

The “Litany Against Fear” from Frank Herbert’s *Dune*

Tei svasurſal.

1m-ACT STA-'fear'-NRM/PRX/M/CSL/UNI-MD071/9-NA21/5-IFL
I must not fear.

Svuic t^han-n izadhumsiūt.

STA-'fear'-DER-NRM/DEL/A/CSL/UNI-IFL ASR/CTX/ALG-FAC DYN-'mind'-NRM/PRX/N/CSL/UNI-AGN1/9-DEV2/1-IFL
Fear is the mind killer.

(literally: Fear, I allege, undoes the mind to maximal effect.)

Svac t^han-n uitacioxine icai'cök^hite.

STA-'fear'-OBL-NRM/DEL/A/CSL/UNI-IFL ASR/CTX/ALG-FAC MNF-'live'-NRM/DEL/A/CSL/UNI-SIZ3/3-AGC1/9-RPS-IFL FRAMED-DYN-'exist'-COR-NRM/DEL/A/CSL/UNI-CNQ1/8-DEV1/1-RPS-IFL

Fear is the little death that brings total obliteration.

(literally: Fear, I allege, is metaphorically the small undoer of life that utterly undoes existence.)

Eixalund te svaloit.

DYN-'visualize'-NRM/DEL/M/CSL/UNI-MD101/9-IFL 1m-ABS STA-'fear'-NRM/DEL/M/CSL/UNI-1m/ATT-IFL
I will face my fear.

(literally: I intend to mentally visualize my fear.)

Uetö ḫqe ḫiočqal ḫič'alaň.

NAV-1m-EFF mi-ABS CPT-DYN-'vector.motion.over/above'-NRM/DEL/M/CSL/UNI-IFL CPT-DYN-'pass.through'-NRM/DEL/M/CSL/UNI-COO1/5-IFL

I will permit it to pass over me and through me.

(literally: *I will enable it to pass over me and pass through me.*)

‑Qe ḫkéi'iulöt' izap'alarxondü tu skʰal ḫqau.

mi-ABS CPT-FRAMED -'move.away.from.nearer.point'-PCR-DYN-NRM/DEL/M/CSL/UNI-TPF1/2-IFL DYN-[incorp.stem: 'mind']-'pursue/track'-NRM/DEL/M/CSL/UNI-BOD1/5-MD101/7-SCH/RPS-IFL 1m-IND STA-'course'-NRM/DEL/M/CSL/UNI-IFL mi-COR

And when it has gone I will turn the inner eye to see its path.

(literally: *After it recedes I intend to metaphorically track mentally with my eyes its course.*)

‑Kâ'ıuta svelöt' e uicawíluad.

CPT-FRAMED -'move.away.from.nearer.point'-LOC-DYN-NRM/DEL/U/CSL/UNI STA-'fear'-NRM/DEL/M/CSL/UNI PRS MNF-'existent.thing'-DEC-NRM/DEL/M/CSL/UNI-SUF2/1-IFL

Where the fear has gone there will be nothing.

(literally: *In the place where the fear receded to I declare there will be nothing.*)

Iun-niu ti casexh.

ITV-CNT 1m-AFF STA-'exist'-NRM/PRX/M/CSL/UNI-SCO1/3

Only I will remain.

(literally: *I intend only my existence to continue.*)

The “Babel” Text (Genesis 11:1-9)

Here are the first four sentences of the Babel Text:

Ai'tilafxup embulięqtuqh.

DYN-CTX/ASR/PPS-RCP-'speak'-NRM/PRX/N/ASO/CST-SIM1/9-IFL

STA-'land'-IND-NRM/DEL/M/CSL/UNI-MET1/6-INL1/9-IFL

All the people of the land spoke the same language.

[LITERALLY: *Each person in the land spoke language in the same way to one another.*]

Unš ikàkč'êňž ču ḫip'ataspöň usmas īpual Šinar /qia aitwapkáň.

SQT1/9 DYN-'journey'-NRM/GRA/U/CSL/UNI-DSG2/3-FML Col-IND DYN-'seek'-CPT-NRM/DEL/U/CSL/UNI-DLB1/5-COO1/2-IFL STA-'plain'-NRM/PRX/M/CSL/UNI-IFL STA-[carrier:place.name.]-PAR-NRM/DEL/M/CSL/UNI-IFL "Šinar" mi-LOC DYN-'reside'-NRM/ICP/U/CSL/UNI-COO1/5-FML

Then wandering from the east they came upon the plain of Šinar and began to dwell there.

[LITERALLY: *Then wandering they inadvertently found the plain of Šinar and began to reside in it.*]

Ai'tilatunš ču iùktict'awélgümui no aň uok'auqvaludai ḫhe.

DYN-CTX/ASR/PPS-RCP-'speak'-NRM/DEL/U/CSL/UNI-SQT1/9-IFL Col-IND FRAMED:MNF-inc.stem:'stone'-'block'-OBL-DIR-NRM/PRX/U/ASO/DCT-ROL1/8-ISR-FNC/IFL 1m+ua/ERG COO1/5 DYN-inc.stem:'flame'-'resiliency'-OBL-NRM/DEL/M/CSL/UNI-SUF1/9-ISR-IFL ui-ABS

Then they said to each other: let us make bricks from stone and fire them to make them strong.

[LITERALLY: *They then said to each other let us be brick-makers using stone and make them super-resilient by means of fire.*]

Öň êktict'algui iktalgön öňgyé'c.

COO1/2 STA-inc.stem:'stone'-'block'-NRM/PRX/U/ASO/DCT-ISR-FNC/IFL

STA-'clay'-OBL-NRM/PRX/U/ASO/DCT-COO1/2-IFL STA-'mortar'-PUR-NRM/DEL/A/CSL/UNI-FML

And there was stone for brick and clay for mortar.

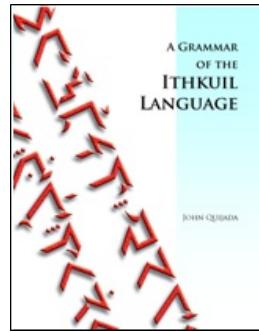
[LITERALLY: *And there were batches of stone blocks and there was clay for the purpose of mortar.*]

Examples of Ithkuil “Poetry”

[forthcoming]

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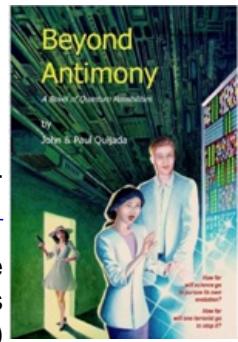
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For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)

And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)



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Ithkuil: A Philosophical Design for a Hypothetical Language



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Frequently Asked Questions

Below are some questions I've been asked over the years relating to my work. For those questions that are generic and not specific to Ithkuil, I've taken the liberty (i.e., the lazy person's approach) of linking elsewhere to someone who's already answered the question better than I could.

What is a constructed language or “conlang”?

See [here](#) for an explanation of constructed languages.

Why would anyone want to create their own language?

Please refer to David Peterson's "[Conlang Manifesto](#)."

How fluent are you in Ithkuil? Can you speak/read/understand it?

The only portion of Ithkuil in which I am “fluent” is the morphology. I have never tried to memorize the lexicon. I am fairly proficient in knowing the characters of the script but still need to look up the rules when writing it.

Are you a professional linguist? How many languages do you speak or understand?

I have a bachelor's (undergraduate) degree in linguistics. Poverty and circumstances prevented me from attending graduate school. Nevertheless, I have continued to study linguistics as a personal hobby my entire adult life. I am not a linguist professionally. Besides my native language English, I speak French, Spanish, Italian and Portuguese sufficiently well to converse with natives as long as the conversation doesn't get too technical or specialized. I speak enough fractured German to get myself in trouble. I also read Catalan and the auxiliary language Interlingua fairly well, although I do not speak them.

Is Ithkuil an attempt to create a working version of Robert Heinlein's Speedtalk language? Is conciseness the primary purpose of Ithkuil?

Many persons have compared Ithkuil to the “[Speedtalk](#)” language in Robert Heinlein's novella *Gulf*, in which every morpheme (meaningful word-part) is apparently represented by a single phoneme (sound). However, Heinlein's Speedtalk appears to focus only on the morpho-phonological component of language (i.e., the correspondence between sound and individual grammatical components) without any corresponding focus on the logical redesign of a language's [morphology, lexico-morphology, or lexico-semantics](#) to provide an equally “compressed” morpho-syntactical and lexical component. Ithkuil has been designed with an equal focus on these latter linguistic components. Additionally, the apparent purpose of Heinlein's language is simple rapidity/brevity of speech and thought, while Ithkuil is focused on maximal communication of cognitive intent in the most efficient manner, a somewhat different purpose, in which brevity *per se* is irrelevant.

Most descriptions of Ithkuil that I've read misrepresent the purpose of the language to be this sort of morpho-

phonological conciseness, i.e., the “Speedtalk” factor. In fact, Ithkuil’s primary purpose is to demonstrate how human language could be used to convey much deeper levels of human cognition and semantic nuance/exactitude than are found in natural human languages. As for morpho-phonological conciseness, it is merely a secondary goal to ensure that the greater amount of morpho-semantic information conveyed by the language (as compared to natural languages) does not cause phrases and sentences to become long-winded.

How did the idea of Ithkuil come to you? Have you worked on the language on a regular basis?

At university, I studied linguistics, and it was there that I gained the knowledge and tools for understanding how languages are structured. However, the more languages I read about and studied, the more I came to realize how inefficiently most languages function in terms of conveying thought in both a precise and a concise manner. I also noticed that certain languages were subjectively “better” than others in the manner that they were able to convey a specific task. For example, I noticed how elegant and efficient the three-letter root structure of Semitic languages like Arabic and Hebrew were as a means of building words compared to European languages. I noticed how the perfective versus imperfective verbal aspect of Slavonic languages like Russian were able to convey certain verbal distinctions easily which languages like English had to use whole phrases to convey. In other cases, I found certain languages that grammaticalized thoughts that most other languages did not (such as the “4th person” distinction of certain American Indian languages). I also fell in love with all the exotic and difficult-to-pronounce consonant sounds of Caucasian languages like Abkhaz and Ubykh, as well as the numerous vowels of Uralic and Altaic languages.

Anyway, the idea came to me that I might try to create a language which “combined” the most efficient and interesting features of all the languages I was familiar with. And so the seed of the language which eventually evolved into Ithkuil was born. The more I worked on it over the years, the more of my own ideas went into it, as opposed to simply borrowing ideas from existing languages. Then, during the 1980s, I discovered the new cognitive school of linguistics that was beginning to arise in the United States (specifically the writings of George Lakoff and Ronald Langacker). These writings opened up a whole new level of understanding regarding the relationship between human thought and language which led to a major overhaul and expansion of the language I was working on in my spare time. It was at this point that I got the idea that I would try to accomplish the seemingly incompatible goals of creating a language capable of conveying much more information than natural human languages do, while simultaneously being more brief and concise than natural human languages (previously, all versions of the language were very long-winded).

The work was slow, painstaking, and often frustrating. Between the mid-1980s and the mid-1990s, I abandoned the work at least a dozen times out of frustration (aggravated by the fact that every time I thought I was getting nearly finished, I would decide to scrap about 75% of what I had and start over with better ideas). Sometimes several months would go by before I would pick up where I left off. The breakthrough came around 1996 when my interest was re-ignited by discovery of the writings of two other cognitive linguists, Gilles Fauconnier and Len Talmy. Their research and findings on the structure of human thought and language renewed my interest in wanting to finish the project. By 1999, the grammar was about 95% finished and it was time to start finalizing the script and the lexicon. Incidentally, it was at this point that I discovered Robert Heinlein’s description of “Speedtalk” from his novella “Gulf.” At first I was surprised and mildly disappointed that someone had already thought of doing what I was working on, but then I realized that Speedtalk was only a shallow attempt which worked at the morpho-phonological level of language only, while the language I was creating took the same principles and applied them to all the different structural levels of language. It took me another four years to reach the point where I felt the work was complete enough to show the world, then it took me another year to write it all up formally on the computer (the language was developed entirely using pencil and paper) and create a website.

Some people have claimed that using Ithkuil, a person would be able to think five times faster. Do you believe this?

This oft-repeated claim apparently started with Stanislav Kozlovskiy in his 2004 article “The Speed of Thought” published in the Russian-language science magazine *Kompyuterra*. The question presupposes that thought is linguistic in nature, which is certainly debatable. Personally, I believe only complex conceptual thought is linguistic, not simple conceptual thought and certainly not thought at the perceptual level (i.e., I certainly don’t mentally say to myself “I’m in pain” when I stub my toe). At any rate, even if we grant that thought is linguistic, any supposed “speeding up” of thought using the concise morpho-phonology of Ithkuil would most likely be offset by the sheer volume of morphological information which Ithkuil requires one to express (and therefore

mentally consider when formulating a sentence). For example, merely saying (or thinking) that it's raining outside would require a hypothetical Ithkuil speaker to consider the evidential source of the information (direct observation? hearsay? inference?) and its reliability (Validation), the pattern and timing of the raindrops (Phase), the purpose/intent of the utterance (Sanction), whether the rainfall is being considered as a gestalt versus a sequence of discrete componential events (Configuration), whether the context of the thought/utterance is descriptive, purposefully important, metaphorical, or a component of a holistic situation (Context), and so on.

For these reasons, I believe use of Ithkuil would probably allow one to think more deeply, critically, and analytically; but think faster? I doubt it.

Assuming Ithkuil were to be used in the real world, wouldn't its complexity cause it to break down within one or two generations into a vulgar form which operates like natural languages, undermining the whole point of ithkuil's construction?

As for a hypothetical community of Ithkuil-speakers, I do not think Ithkuil would serve the purpose of being the primary day-to-day language, as I agree the language would quickly degenerate into a "vulgar" form due to its complexity. I see Ithkuil's hypothetical usage as being a specialized language for specific purposes where exactitude and clarity of cognitive intention is called for, and to make deliberate obfuscation difficult, e.g., political debate, the teaching and discussion of scientific disciplines, the discussion of philosophy, the written presentation and preservation of history. As such, it would be a "learned" language (like learning a computer programming language or the predicate calculus) whose structure would be consciously preserved by its speakers. An analogy might be the way that Classical Latin continued to be used for over a millennium after the death of its last native speaker for academic and religious purposes. A similar analogy is the use of Modern Standard Arabic (essentially a modernized version of Classical Arabic) in official and academic contexts.

Most Ithkuil morphemes (i.e., units of meaning) are only a single syllable, even a single phoneme, in length. Doesn't this lack of morpho-phonological redundancy create a problem given that ambient noise or mispronunciation could easily prevent comprehension or change the meaning of a word or sentence?

Other than the difficulty of pronunciation, the issues of signal-to-noise ratio and non-redundancy are the most frequent criticisms of the language. I don't consider these to really be a problem for the following reasons:

- (1) As stated in the answer to the previous question, I see the contexts in which a hypothetical Ithkuil-speaking community would utilize the language as very limited and highly specialized, in which there would be little, if any ambient, noise;
- (2) the issue of mispronunciation is no different than for any learner of a foreign language, and Ithkuil's inventory of 58 phonemes pales in comparison to the number of phonemes in several Caucasian languages or Khoi-San languages of Africa—if a person can pronounce Chechen or Abkhaz or !Xóõ, they can likely pronounce Ithkuil;
- (3) the precedent for a low signal-to-noise ratio and lack of morpho-phonological redundancy is well established in natural languages, e.g., the phonetic difference between English *I can do it* versus *I can't do it*, or *He's a natural* versus *He's unnatural*, or *I got him first* versus *I got in first*, or a *neurotic's mothering* versus *an erotic smothering*. And many languages (e.g., the [Northwest Caucasian languages](#)) are replete with single-phoneme morphemes, e.g., the Ubykh single-word sentence *want^Waan* *they give you to him*, which contains six phonemes, each of which is a separate morpheme:

- /w/ - 2nd singular absolute
- /a/ - 3rd singular dative
- /n/ - 3rd ergative
- /t^W/ - to give
- /aa/ - ergative plural
- /n/ - present tense

If such single-phoneme morphemes are good enough for real-world natural languages, they're good enough for Ithkuil.

How long and how hard have you practiced to pronounce Ithkuil sentences ?

The old version of the language would take me about three or four attempts to be able to speak an entire Ithkuil sentence without making a mistake, as often due to the tones as due to the “exotic” consonants. The problem with pronouncing tones correctly was especially acute for llaksh, which utilized tone shifts much more prominently than Ithkuil. The new version of the language is much easier to pronounce for me than either of its predecessors.

How long does it take for you to make an Ithkuil sentence?

It takes me up to ten minutes to translate a simple sentence if the necessary word-roots/stems already exist; much longer if new word-roots/stems are required, as the creation of roots takes careful thinking and planning (see the next question below). Long complex sentences can take up to half an hour. It then takes another five to fifteen minutes to look up the rules for writing the sentence in the script depending on the length of the sentence.

What is your criteria for choosing word roots ? How do you build the taxonomy of concepts ?

There are essentially two criteria: (1) adaptability to the derivational structures of the morphology and (2) consideration for what cognitive psychologists and cognitive linguists call “base-level” categorization.

The first criterion can basically be explained by performing the following analysis: say I need an Ithkuil translation for the English word X. Before I simply create a root meaning X, is there any way I can use Ithkuil morphological categories or the 150 or so suffix categories to derive this word from a more general or primary word? If so, can that more general or primary word in turn be derived from another? And so, before one goes and create an Ithkuil root for “book” one first remembers that a book is a collection or pages of writing bound together in a coherent fashion by which to convey a superset of information beyond the content of any specific page of the book. Well, Ithkuil morphology has all sorts of categories for designating coherent gestalt entities formed from interconnected subcomponents, so we realize we don’t need a word for book. Instead, all we need is the root for “writing/written message” declined into appropriate Configuration and Affiliation categories, with consideration for the Context category given that the resulting entity only functions within the context of human social structures, with consideration for an additional suffix indicating that the entity has a container-like covering, etc., etc.

As for the second criterion, base-level categorization, this is best explained by example. Let’s take animals. First of all, identifying animals means dealing with a hierarchical taxonomy ranging from general to specific, for example:

- mammal
- equine
- horse
- thoroughbred
- Arabian thoroughbred
- Arabian thoroughbred gelding

Another example:

- mammal
- primate
- monkey
- chimpanzee
- male chimpanzee
- pet male chimpanzee

So, how should Ithkuil deal with such hierarchies? Research by cognitive psychologists show that human cognition tends to manifest base-level categorization, where a particular element in the hierarchy is psychologically viewed as being the most easy concept to grasp and understand, and is usually the first concept of the hierarchy learned by children, and usually represents the shortest, most common word in the speaker’s language of all the elements in the hierarchy. This base-level category (what psychologists call the

most cognitively “salient” category level) usually appears in the middle of the range from general to specific. In the examples above, it would be the words “horse” and “monkey.” Therefore, a person is far more likely to spontaneously say “Hey, there’s a horse in my yard!” rather than “Hey, there’s an equine in my yard” or “There’s an Arabian thoroughbred.” Likewise, a child at the zoo is more likely to say either “I want to see the monkeys!” or “I want to see the snakes!” than “I want to see the primates” or “I want to see the rattlesnakes and the pythons!”

Secondly, one of the purposes of Ithkuil is efficiency in communication (you might think of this simplistically as the “Speedtalk” factor). Since base-level cognition implies that the concept “dog” or “spider” is going to be used by people more often and in more contexts than “canine” or “arachnid” it doesn’t make sense for Ithkuil to only have roots for “canine” and “arachnid” with the words for “dog” and “spider” being simply derivations of these roots. It defeats the purpose of morpho-phonological efficiency if to say “I fear spiders”, an Ithkuil speaker has to say literally “I fear the-most-common-arachnid-example.”

Now, the reader may think that surely Ithkuil’s 3600 roots do not allow for base-level naming all of the animals in the world. No, of course not. But there is no need. Despite the thousands of different names of animal species, only about fifty or so are common enough to qualify for such base-level naming. Other animals are simply not sufficiently common or well-known to require such. Therefore, it makes sense that Ithkuil have a root for “bear” but it can probably do without a separate root for “wolverine” which it can name by derivational means from another root (quite possibly “bear”). We see this in English with names of animals that are derivations or compounds such as “polar bear” and “sea lion” (the latter having nothing at all to do with a lion!). There simply aren’t any base-level single-word names for these animals in English. Finally, by establishing this base-level category at the level of the root in Ithkuil (instead of the stem), it allows me to use the stems to refer to contextual and complementary manifestations of the root, i.e., male versus female, wild versus domesticated, the animal itself versus its function as food/prey/resource. In turn, I can use the SSD derivational suffix to generate words for associated concepts and products such as eggs, oil, fat, fur/feathers, flesh/meat, etc.

Have you invented other languages?

Prior to beginning the language which eventually evolved into Ithkuil, I invented several sketches of other languages mostly for fun. They were not serious efforts to address the purposes which Ithkuil addresses. Since 1978, all my conlanging efforts have been oriented toward creating the language which eventually became Ithkuil.

Is the 2011 version of the language the final version of the language?

To the extent that I can foresee, yes, this new version for 2011 will be the final version of the language. I have neither the desire nor intention to redesign it again, especially given that I am finally pleased with this new revision (unlike the revision into llaksh, which I was never satisfied with).

Will you continue to work on the language?

I intend to continue adding more examples, enhance the explanations, and add new entries to the Lexicon on an ongoing (albeit perhaps infrequent) basis. I also plan on eventually developing a section on how Ithkuil handles mathematical concepts and equations.

Additionally, I will be adding longer texts to the [Texts](#) page of the site, as time and interest permit. This Texts chapter will eventually showcase original Ithkuil poetry that I envision composing in the next few years; it is my belief that the morpho-semantic flexibility, richness and conciseness of the language would allow for a kind of poetry not possible in other languages, and I am looking forward to exploring this.

What's with the clowns?

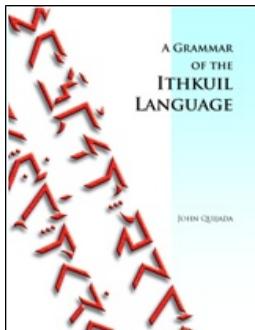
Just indulging my warped sense of humor. I am fascinated by all aspects of life that have a truth-is-stranger-than-fiction quality, and I consider the phenomenon of clowns to fall into this category. I mean, think about it ... really....



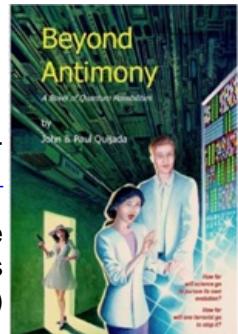
Anyway, I have peppered the Ithkuil grammar with their ridiculous and ghastly visages plus clown-related example sentences as a reminder not to take anything, including myself, too seriously.

Is your work on Ithkuil available in book form?

Funny you should mention it....



For those who would like a copy of the Ithkuil Grammar in book form, [it is now available!](#)



And while you're at it, you can check out the novel I co-wrote with my twin brother Paul, [also now available!](#)

(It's a political thriller/science fiction story that explores the philosophical implications of quantum physics, and features Ithkuil as a "para-linguistic" interface to a quantum computer.)

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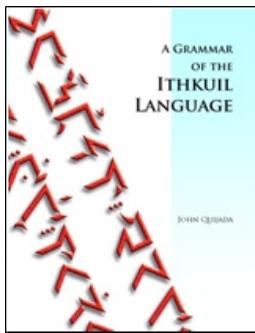
Ithkuil: A Philosophical Design for a Hypothetical Language

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My favorite sites of other conlangers (i.e., creators of constructed languages), plus conlanging resource sites:

- [David Peterson's page](#)
- [Kelen](#) by Sylvia Sotomayor
- [Teonaht](#) by Sally Caves
- [Kalieda](#) by Rik Roots
- [Virtual Verduria](#) by Mark Rosenfelder (a.k.a. Zompist)
- [Dritok](#) by Donald Boozer
- [Wenedyk](#) by Jan van Steenbergen
- [gjâ-zym-byn \(gzb\)](#) by Jim Henry
- [Qbyn|gài](#) by Henrik Theiling
- Example of a [Conlang Relay](#)
(Remember the old "telephone" game? We conlangers play it with entire languages!
Note: This relay from 2008 uses the old version of Ithkuil)
- The [Language Creation Society](#)
- The [Language Construction Kit](#)
- See [my talk on cognitive linguistics](#) from the First Language Creation Conference - 2006
- See [my talk on phonaesthetics](#) from the Second Language Creation Conference - 2007

Here are some eclectic web sites which I think reflect my geeky, somewhat nihilist, and occasionally romantic personality (with a little crass commercialism thrown in while I've got your attention!):

- [My favorite living fine artist](#)
- [Little Purple Circles](#) (my favorite alternative rock band)
- [Incredible images of the Martian surface](#)
- [A quick-and-dirty primer on quantum entanglement](#)
- [The ultimate smartphone!](#)
- [The annual Bulwer-Lytton Contest](#)
- [The Online Museum of Bad Art](#)

- [Despair.com](#)
- [The latest must-have gadget!](#)
- [What it means to be in Web Design](#)
- [The horrors of DHMO](#) (don't miss the FAQs!)
- [Misspelled tatoos](#)
- [Worst LP album cover art](#)
- [Awkward Family Photos](#)
- <http://snarxiv.org/vs-arxiv/>
- [The WolframAlpha Computational Knowledge Engine](#)
- [Survival Research Laboratories](#) (I've been a fan of these guys since the early 1980s)
- [Timecube](#) (ADVISORY: this site is a journey into the living hell of a very disturbed mind)

- Need a guide in Kyiv, Ukraine? Look up [Handy Andy](#) for all your tourism and interpreting needs!

- [A few of my favorite things . . .](#)

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