Interstellar Common Reference Grammar v5.1

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1 – Introduction

1.1 – Historical Background and Scope

Interstellar Common is a *lingua franca* of the galactic community, used to communicate among different species, especially those who do not have regular contact with one another. Machine translation can overcome a lot of language barriers and is ubiquitous in one-on-one communication. However, informal one-to-many communication such as you might find in a public market is more difficult, as visitors might not have the local language in their database. AI agents can handshake and exchange translation information in real time, but this is more difficult when the computer protocols themselves may be completely alien. In practice, this is also not feasible for one-to-many.

The solution was an actual shared language. Interstellar Common was (mostly) not developed deliberately on a wide scale, but grew organically out of individual species-to-species first contacts, spreading across the galaxy in waves over millions of years. (Faster-than-light ships can cross the galaxy in only a few years, but languages and cultures spread much more slowly).

First contact with a newly spacefaring civilization begins with the exchange of contact packages that build up a shared symbology of mathematics and basic sciences. Since different species usually cannot replicate and often cannot even understand each other's spoken languages, this symbology tends to linger and even grow into a more complex pidgin of their respective writing systems, even after translation protocols are established. When either species then contacts other nascent civilizations, even centuries later, they will tend to use the same contact packages that they already have in their historical database.

By today, these contact packages have been refined and copied, refined and copied, again and again for longer than any individual civilization has existed. Spacers living thousands of years later would find that their peers from other civilizations are using similar (though not identical) pidgins from star to star. Long-range traders and travelers, a few of whom do cross the entire galaxy in the course of their careers, spread the symbols far enough that any region can influence any other region within the course of a human lifetime (albeit rarely).

This means that Interstellar Common is different everywhere—sometimes very different—both because its local history is different everywhere and because individual species, and indeed *people*, will, consciously or unconsciously, tend to incorporate features from their own languages. This would seem to negate the language's very name; yet, Common has converged on some near-universal features. Just as the genetic code (the actual coding table from RNA to proteins) is near-universal among Earth species (and elsewhere via panspermia), some parts of the language are conserved enough that they form a backbone that applies almost anywhere in the galaxy.

There is no "standard" form of Common because there is nothing even close to a galactic authority that can standardize it. Or more precisely, there are *many* "standard" forms of Common, each compiled (or imposed) by local governments or dedicated linguists based on their

particular region of the galaxy, which really means they are only regional dialects. Theories about "Galactic Standard Common" or "Universal Grammar," even when well-founded on good research, are as numerous and contradictory as these regional dialects, if not more so.

This document is a synthesis of grammars compiled by linguists and governments, both human and non-human, from reports by human abductees and their descendants throughout the Orion Arm. It can be regarded as fairly reliable within a sector of Sol (roughly 7.2 kly or 2.2 kpc), but users should exercise increasing caution if they venture farther from home.

1.2 – General Characteristics and Vocabulary

Because Common is used by species with incompatible vocal apparatuses, it is a strictly written language, with no verbal component. Moreover, its writing system is strictly logographic, with no rebus or other phonological cues. These characteristics, along with the language's origins in contact packages, are reflected in its grammar and lexicon, especially as nouns are easier to express than verbs, and users will favor reusing an old glyph over creating a new one.

Interstellar Common is highly analytic and isolating, with no inflection on words. Its lexicon is, for practical purposes, relatively limited, favoring the use of modifiers over a proliferation of nouns and strongly favoring light verb constructions, with verbs being a *de facto* closed class. However, readers should be cautious in that *no* word class in Common is truly closed. New glyphs are created with each retransmission of the language to a new species as civilizations add the glyphs they think are important, and rich inventories of verbs can be found in many dictionaries. But in standard usage, the light verb forms dominate.

As a logographic writing system, Common is typically read in one's own native language (albeit with non-native grammar), similar to Chinese script. The writing direction is not fixed, and it is customary to indicate the writing direction using an arrow at the beginning of a document. Some glyphs, especially logical operators, may rotate with the writing direction. Any mathematics can be assumed to use right-handed axes, again unless indicated otherwise.

Loanwords and proper names often cannot be expressed in Common, as they are dependent on their local context to a particular society, or on their phonology, respectively. Both loanwords and proper names are written in cartouches, which may be represented in inline text with curved brackets, ( ).

Proper names may be written in their original script (as there is no way to represent phonology in Common), or with a glossing of their meaning into Common. For example, the name "Isaac" may be written as (`Isaac`) or as (步乐), which literally means "they (s.) are amused."

Loanwords may use a translation if one is available, but more often, they are translated as a word or phrase that fills a similar societal role. Thus, "dog" may remain as (`dog`) or may be translated as 犭区, "companion animal," if the context allows—or a longer phrase if more specificity is needed.

1.3 – Orthography and Derivation

Interstellar Common glyphs fit on a square grid. There may be spaces between the lines, stretching the grid vertically, but there do not need to be.

Individual glyphs vary in width, but only according to a subgrid. Full-width glyphs are square, that is, equal in width and height, and most glyphs are full-width, especially for content words. All other glyphs are a whole number of quarter squares in width. Many function words and punctuation (classes not clearly distinguished from each other) are narrow glyphs.

Common is written without spaces, although following the grid means it will have a ragged trailing edge. There are three "dummy" glyphs that can optionally be placed at the end of a line to square up the line, similar to an end-of-line hyphen in English. These glyphs are relatively variable, being largely decorative, but a common set is:  ,  , and  .

There are few hard rules for how Common glyphs must look. They are typically drawn with a pen or stylus, so they must consist entirely of lines and not wedges or other filled areas. Dots are always drawn as short diagonal lines, as true dots are too easily missed. And they must be simple enough to draw with a reasonable degree of manual dexterity. A handful of patterns in the derivation of Common glyphs are used consistently, albeit not universally.

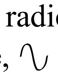
A circle drawn around a glyph often acts similar to a proper article, indicating a specific noun. However, it can have several other uses:

- A proper name, e.g.  means "galaxy," while  means "Milky Way."
- A special instance of a thing, e.g.  means "year," while  means "*this* year."
- The thing as a concept, e.g.  means "zero," while  means "the empty set."
- Nominalization, e.g.  means "before" (a modifier), while  means "the past" (a noun).
- A noun indicating a physically round thing, such as an atom or a planet.

A line drawn through a glyph is in some ways the reverse, creating a less definite form of a glyph. It can also have several uses:

- Converting a modifier to a verb, e.g.  means "large," while  means "to grow."
- Converting a noun to a modifier, e.g.  means "fear," while  means "afraid."
- Converting a noun to a more general form, e.g.  means "ocean," while  means "body of water."

An arrow,  , as part of a glyph often indicates a verb or a locative modifier. (The bare line is the head; the cross is the tail.) For example,  means "leg" or "appendage," while  means "to walk" or "to move."

Many glyphs are compounds, similar to combining Chinese radicals. Compounds may be horizontal, vertical, diagonal, or even overlaid. For example,  means "light," and  means "light-year."

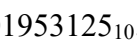
2 – Mathematical Notation

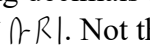
2.1 – Number System

Common's numeral system is base-12. This is a surprisingly universal fact across the galaxy, mainly a result of incompatible numeral systems clashing at borders, where one of them tends to eventually win out over the other. (However, no one is sure why base-12 won out over the other plausible choices of base-6, base-8, and base-16.)

Common has symbols for digits, powers of 12, important mathematical constants (using *tau* instead of *pi*), arithmetic operations, and an exponential (scientific) notation:

0		12		12^{-1}	
1		12^2		12^{-2}	
2		12^3		12^{-3}	
3		12^4		12^{-4}	
4		12^8		12^{-8}	
5		12^{12}		12^{-12}	
6		12^{16}		12^{-16}	
7		12^{20}		12^{-20}	
8		E			
9					
10		*e*		*i*	
11		*τ*		∞	

Numbers are written with the most significant digit first and digits separated in groups of four. The radix point resembles an apostrophe. The digit separator resembles a comma, but it is used on both sides of the radix point, so  corresponds to 12345.00346_{12}, or $24{,}677.001953125_{10}$.

Repeating decimals are written between vertical bars. So, 1/5 is $0.\overline{2497}$ in base-12 and is written as  . Not that the vertical bar is different from the full stop, which is also a vertical line, but is half-width.

Exponents are written after the digits, in part because they correspond linguistically to the phrase "with N zeros," which makes them the less significant digits. Unlike in English, this "E-notation" is used exclusively instead of our "$\times 10^{N}$" notation. Powers of 12 symbols are also placed after the written digits, as they can effectively replace "E-notation" for those powers.

Basic mathematics is in some sense "upstream" of conventional grammar, as it is normally the first thing to appear in contact packages, and that is the case here; the order of mathematical symbols is governed only by what the original authors thought made mathematical sense. Yet, this notation is already the basis for Common's grammatical rule of placing modifiers after the words they modify.

2.2 – Operators

Common uses mathematical operators broadly similarly to English mathematical notation. However, these operators prefigure multiple classes of words in Common's grammar, including verbs, conjunctions, and comparative modifiers. The syntax for operators depends on their valency (properly, "arity"), which much like the numerical notation carries over into the broader grammar. Binary operators are placed between their arguments (a pattern that follows from equality naturally working that way). Unary operators are placed in front of their arguments. (This is the origin for negation preceding content words Common where other modifiers do not.) And nullary operators are constants and so can be treated more or less like numbers.

The "standard" table of mathematical operators is given below:

Nullary			
TRUE		FALSE	
NULL			
Unary			
Unary Positive (+)		Unary Negative (–)	
Plus-or-Minus (±)			
PROP		NOT	
Binary			
Addition (+)		Subtraction (–)	
Multiplication (×)		Division (÷)	
Exponentiation (^)		Logarithm (ln)	
Equal (=)		Not Equal (≠)	
Approximately Equal (≈)			
Less-or-Equal (≤)		Greater-or-Equal (≥)	
Less Than (<)		Greater Than (>)	
Least/Minimum		Greatest/Maximum	
AND		NAND	
OR		NOR	
XOR		XNOR/IFF	
IMPLY		NIMPLY	
CONV		NCONV	
N-ary			
Minimum		Maximum	
AND		NAND	
OR		NOR	
XOR		XNOR/"All-or-Nothing"	
IMPLY/ordered list			

Common does not have a fixed order of operations for arithmetic. (Even in English, people frequently argue about order of operations on social media; it's much worse cross-linguistically.) There is a general convention for lower arity to precede higher and for arithmetic operators to precede logical and comparative ones. However, for anything complex, it is preferred to use brackets. The default brackets in Common for lists and equations are square brackets, [ ] (resembling a box). These may be doubled for nested brackets: ⟦ ⟧. The N-ary logical operators are created by combining the binary operators with an open bracket.

Items in a list are separated by a delimiter, which resembles a middle-height comma, although the delimiters may be omitted if every item in a list is a single character or is otherwise unambiguous. A second-order delimiter is also available, which resembles a colon. Thus, a list such as [7 ' ㄋ ⁏ ξ ' ↾] may be translated as: "one, two and three together, and four."

Notes:

The NULL character ◯ is a dummy, used as a placeholder for any content character or characters, much like __ or … would be used in English.

The glyph ⎕] closes all open brackets in the text. It is not considered "standard" mathematical notation, but it sees occasional use to end a complex nested logical structure unambiguously. It can also be used as a rhetorical device in natural language cut off a long-winded passage.

In standard usage, Common lacks a direct translation of the English conjunction "but." Instead, these forms are simply translated with ⋞ (AND). This seems jarring to English speakers because of the lack of sentential adverbs in Common to contrast items, but it still conveys the meaning accurately. It is also possible to attach a modifier indicating contrast, surprise, or exception to the second item.

3 – Locatives and Quantifiers

3.1 – Coordinate Systems

After basic mathematics, contact packages will usually continue with units of measure and basic concepts from physics, astronomy, and chemistry. However, these can be expressed with basic nouns. Meanwhile, there is another category of mathematical or math-adjacent notation that is given priority because it is important for interstellar navigation: coordinate systems.

To be used effectively on galactic scales, Common needs to be able to describe position and direction unambiguously in rectangular, cylindrical, and spherical coordinates, as well as in time. It also needs to be able to describe them relative to the observer and relative to some fixed reference frame. These, combined with a neutral form, make up a standard Table of Locatives. (Asterisks indicate usages that are non-standard to English. Shaded entries are duplicates.)

These locatives are also a type of operator, but they are syntactically modifiers.

	Neutral		+*Relative*		−*Relative*		+*Absolute*		−*Absolute*	
x	Transverse		Right		Left		Starboard		Port	
y	Longitudinal		Forward		Backward		Fore		Aft	
z	Vertical		Up		Down		**North*		**South*	
r	Lateral		**Away*		**Toward*		Rimward		Hubward	
θ	Azimuthal		**Right*		**Left*		East		West	
ρ	Radial		Away		Toward		Outward		Inward	
φ	Altitudinal		**Up*		**Down*		North		South	
t	Temporal		After		Before		Future		Past	
d	Distance		Far		Near		Long		Short	
N	Number		More		Fewer		Many		Few	
σ	Amount/Degree				Less		Much		Little	

3.2 – Aspectual Locatives

Coordinate locatives apply when relating two points. However, they are insufficient when one or both of their arguments are extended areas, such as regions of space with defined borders or verbs in an imperfective aspect. To address this, Common has a second set of locatives that deal with different types of overlaps between regions. These locatives do not distinguish spatial dimensions (***s***) and are used in compounds for that purpose, but there are a separate set for time (***t***), which form a surprisingly rich tense-aspect landscape for verbs.

Earlier	***s***	***t***	**Neutral**	***s***	***t***	**Later**	***s***	***t***
			Inside					
			While					
At Start			At			At End		
Starting from			Against Wall			Up to		
			Through					
Through to End			To Far Wall			Out from Start		
Into			Crossing Border			Out of		
Until			Adjacent			From		
Before			Outside			After		

Note: while the "spatial aspects" are normally used alongside the coordinate locatives as separate glyphs, some specific compounds are in common use, most notably  (ON), which often needs to be distinguished from "above."

Note: This table is heavily incomplete.

3.3 – Indefinite Quantifiers

Numbers and coordinates serve well for specifying exact quantities. However, language often involves less precise information, or even logical quantifiers that do not refer to exact values, such as the "for all" and "there exists" of second-order logic. Common has a number of modifiers that serve the semantic role of these sorts of quantifiers and similar roles that are filled by determiners in English.

This is the first clear example of categories of words in Common that cannot be fully enumerated, i.e. they are open classes, as the indefinite quantifiers are not clearly distinguished from other modifiers, and which ones are in use depends on the dialect. Virtually any word that can be considered a determiner in some natlang can be interpreted as one of these "indefinite quantifiers."

However, a few forms are effectively universal. These include the demonstratives  (THIS), "near the speaker" and  (THAT), "near the listener" (other degrees of deixis are handled by pro-forms), the interrogative  (WHICH), the universal  (ALL), the distributive  (EACH), iterative (AGAIN), elective (ANY), and alternative (OTHER).

The plural also falls in this category. However, the standard plural marker in most dialects is the coordinate locative (FEW) even when the number involved is very large. (MANY) is only used when the largeness needs to be particularly emphasized.

Possession may also be interpreted as a kind of indefinite quantifier (even if "qualifier" might be more accurate), but it is unique in that it is a binary operator and must have a possessor. Possession is marked by a transitive modifier (OF).

4 – Word Classes and Word Order

4.1 – Word Classes

On the most basic level, words in Interstellar Common can be grouped into **arguments** and **operators**, not unlike variables and functions in a programming language (even though Common shares little similarity with conventional programming languages). Arguments are roughly equivalent to nouns, while operators may be verbs, modifiers, locatives, or any of the mathematical operators listed previously. However, for the purpose of forming clauses and sentences, it is more productive to say that Common has five word classes: **nouns**, **pro-forms**, **verbs**, **modifiers**, and **conjunctions**. For obvious reasons, **all words in Common are non-inflecting**.

Nouns: the simplest word class, basically the same as nouns in most other languages, representing people, things, concepts, etc. Note that nouns are by far the most "developed" word class in Common because they are easy to portray and ubiquitous in contact packages.

Pro-forms: again, similar to pronouns in other languages, but more complex than most in that they have an elaborate animacy hierarchy and clusivity system, and they extend to other parts of speech.

Conjunctions: operators that connect arguments of syntactically similar types: subjects to subjects, verbs to verbs, clauses to clauses, etc. Logical operators are a very common example.

Modifiers: operators that alter the meanings of other words. Note that Common does not distinguish adjectives from adverbs, nor indeed adjectives and adverbs from adpositions. All of these are grouped together as modifiers, and they may be used transitively or intransitively as long as it is semantically valid. (Compare how some Earth linguists classify adpositions as "transitive adverbs" or adverbs as "intransitive adpositions.")

Verbs: operators that describe an action, or more formally that connect subjects to predicates. Note that because of the difficulty of portraying many verbs in a pure logography, verbs are a closed class in standard usage, with most verbs being compounds. Compound verbs can consist of a light verb followed by a either a noun or a modifier, depending on the desired meaning. Verbs can also be classified based on their valency patterns, which influence clause formation.

Lists: Any content word in a clause may be replaced with a list enclosed with square brackets, [ ]. The list is parsed as an AND by default, so the N-ary AND operator is optional at the beginning and usually omitted. However, any N-ary logical operator may be used syntactically.

4.2 – Word Order

- Common's basic word order is **SVO**, or more faithfully analyzed as **AVP** (agent-verb-patient). Because words never inflect, this word order is followed strictly to convey syntax.
- **Pronouns are placed *in situ*** where their referents would be otherwise (including for interrogatives).
- **Modifiers follow** the word they modify **and precede their objects**, if applicable (as in the object of a preposition).
- If multiple modifiers appear in sequence **without brackets**, each one modifies the word immediately prior to it, while a **bracketed list** all modify the word preceding the list. (This is one of the most common usages for nested lists.)
- In standard usage, **operators of polarity** (yes, no, not, etc.) break this pattern and **precede** the word they modify. However, many dialects allow broader classes of modifiers to precede, like numerals.
- In standard usage **modal modifiers precede** the verb. However, *which* modifiers are modal vary by dialect.
- It is possible to place **modifiers on pronouns** in the same way as on nouns, especially for quantifiers:
  - "We three kings"

    1PL.EXCL THREE EQUAL RULER
- Common is able to express **emphasis by reduplication**. Content words are replicated by themselves. However, function words may only be reduplicated together with an adjacent function word.
  - "We are **not** going there."
    
    1PL.INCL NOT GO NOT GO THERE
  - Note: emphasis may alternatively be expressed using the affirmative operator ⊢ (PROP), similar to do-support in English, but this is not allowed in negative clauses.

5 – Pro-Forms

Despite the simplicity of nouns and the lack of inflection, Common has a rich inventory of pronouns and related pro-forms that distinguish person, number, clusivity, animacy, and salience.

Three degrees of animacy are required and are widely used for pronouns and related forms and may inform word choice in other contexts. Each of these three are divided into three finer degrees of animacy, which are optional in most contexts and are never used in compounds in standard usage, but which form the backbone of a politeness system.

Required		**Optional**		**Examples**
	Sapient		Trans-Sapients	Deities, super-AIs, hive minds
			Basic Sapients	Humans and equivalent
			Near-Sapients	Chimpanzees, dolphins, elephants, corvids
	Animate		Work Animals*	Dogs, cats, livestock, cephalopods
			Companion Animals*	Rodents, songbirds, crocodilians
			Basic Animals	Fish, amphibians, lizards
△	Inanimate / Non-Thinking		Automatons	Insects, simple electronics
			Living Non-Animals	Plants, fungi, some simple machines
		△	Non-Living	Non-living matter, energy, concepts

*These are the literal meanings of these glyphs. They are used even for wild animals because virtually any animal can be modified for domestication with genetic technology.

Each class of content word (nouns, verbs, and modifiers), each degree of animacy, and each subtype of locatives has an indefinite pro-form, a proximate pro-form, and an obviate pro-form in the third person. In the case of pronouns, they also have singular and plural forms.

Interestingly, the generic animacy level used when the degree of animacy is not known and cannot be reasonably inferred is the *inanimate* level, △. This is because the corresponding pronoun ∧ is used in many compound glyphs.

The different parts of speech of pro-forms are considered to be on equal footing and are used in effectively the same way. For example, a resumptive pro-verb is required in some relative clauses, just as a resumptive pronoun is required in others.

The third-person pro-forms serve as the demonstrative pronouns. However, there is also a corresponding sequence of demonstrative determiners that can be used with other nominals.

Class	Indefinite	Singular Proximate	Plural Proximate	Singular Obviate	Plural Obviate
Determiner					
Trans-Sapient					
Basic Sapient					
Near-Sapient					
Work Animal					
Companion Animal					
Basic Animal					
Automaton					
Living Non-Animal					
Non-Living					
Verb					
Modifier					
Locative (Place)					
Locative (Time)					
Quantifier (Amount)					
Quantifier (Number)					

First-person and second-person pronouns, as well as certain “irregular” third-person pronouns, are more complicated because they make a distinction for clustivity. Unusually, every possible combination of clusivity is accounted for. In addition to the usual inclusive (1+2) and exclusive (1+3) first-person plurals, there is a “2+3” second-person plural, which is not attested in any Earth language. This form is used as a “generic you” or “one” pronoun.

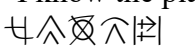
Even more unusual is the inclusion of a “1+1” first-person plural pronoun. No one is quite sure where this form or the 2+3 form comes from, but some authorities use it as a sort of “royal we” or “editorial we,” where someone speaks as the voice of an organization.

Also included in the personal pronouns are “irregular” third-person forms that can be said to have some degree of participant-centered deixis and/or a different salience level from the proximate and obviate forms. These are the reflexive and reciprocal pronouns, as well as singular and plural *antireflexive* pronouns, specifically signaling that the subject is not the same as the object.

	Singular	Plural		
1st Person		 (1+1)	(1+2)	(1+3)
2nd Person Trans-Sapient			(2+2)	(2+3)
2nd Person Sapient			(2+2)	(2+3)
2nd Person Animate			(2+2)	
3rd Person Reflexive				
3rd Person Antireflexive				
3rd Person Reciprocal				

6 – Verbs

While Common is an SVO language, one challenge of word order is that verbs must take modifiers, and some of these modifiers may be prepositional phrases. If the verb then has a direct object, there can be undesired sequential nouns whose syntactic roles are ambiguous. If the verb is also a compound, it can become even more complicated and ambiguous as to where the verb phrase ends. Normally, the agent, verb, and patient can be juxtaposed one after another, but when such ambiguity exists, the patient is preceded by the direct object marker, ⏜.

- "I know the plan."
  
  1SG KNOW DO PLAN.

Where "know" is literally "have information."

As verbs do not inflect, tense and aspect are marked by locatives following the verb as needed. (Tense and aspect are not truly distinguished from each other.) However, mood is more complicated (see Section 6.3).

6.1 – Valency Classes

In English, verbs may be transitive, intransitive, or both, but they may also have different syntactical behavior within those classes. For example, "to appoint" is a traditional transitive verb; it is ungrammatical to use it without a direct object. On the other hand, "to attend" is semantically transitive; it must have an object somewhere in the surrounding context; but syntactically, it can be used intransitively, with the object omitted.

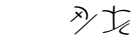
Interstellar Common with its rigid word order, handles verbs in a more complex way, in which each verb is sorted into a particular syntactical class based on its valency. Additionally, many verbs in Common are compounds; these compounds may have the form of "verb-noun" or "verb-modifier," and each of these has its own effect on the syntax as compared with simple verbs. Considered as a whole, Common may be said to have **split-S alignment**.

Paradoxically, both of the direct arguments of a verb (before and after) are always optional in Common, regardless of valency. They may be omitted from a transitive verb for valency-lowering, or added to an intransitive verb for valency raising. However, the valency classes determine the effects of these operations.

Transitive verbs are required to have both an agent and a patient, e.g. "to scratch."

- 
  ANIMAL SCRATCH TREE
  "The animal scratched the tree."

Omitting the agent creates a passive construction.

- 
  ANIMAL SCRATCH TREE
  “The animal scratched the tree.”
  =>
  
  SCRATCH TREE
  “The tree was scratched.”

Omitting the patient creates an antipassive construction.

- 
  ANIMAL SCRATCH **TREE**
  “The animal scratched the tree.”
  =>
  
  ANIMAL SCRATCH
  “The animal scratched something.”

Agentive verbs are required to have only an agent, but may add a patient normally, e.g. “to eat.”

- 
  ANIMAL EAT
  “The animal ate.”
  =>
  
  ANIMAL EAT **FOOD**
  “The animal ate the food.”

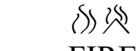
Omitting the agent again creates a passive construction, but they otherwise work as in English.

- 
  ANIMAL EAT FOOD
  “The animal ate the food.”
  =>
  
  EAT FOOD
  “The food was eaten.”

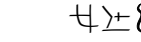
Patientive verbs are required to have only a patient, but may add an agent normally, e.g. “to burn.” In English, these are realized as labile verbs, but they work differently in Common in that the subject is in the patient position in both transitive and intransitive usage.

- 
  BURN TREE
  “The tree burned.”
  =>
  
  FIRE BURN TREE
  “The fire burned the tree.”

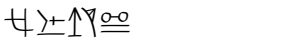
Omitting the agent again creates an antipassive construction.

- 
  FIRE BURN **TREE**
  “The fire burned the tree.”
  =>
  
  FIRE BURN
  “The fire burned something.”

Anticausative verbs take an agent when intransitive, but the subject shifts to the patient role in transitive usage, e.g. “to walk.” These correspond directly to English labile verbs.

- 
  ANIMAL WALK
  “The animal walked.”
  =>
  
  1SG WALK **ANIMAL**
  “I walked the animal.”

Alternatively, it can be said that anticausative verbs *cannot* take a patient, so the agent becomes the patient when a second argument is added, and a true semantic patient must be realized as an oblique argument.

- 
  *1SG WALK PATH
  “I make the path walk.”
  =>
  
  1SG WALK ON PATH
  “I walk the path.”

Deponent verbs take a patient when intransitive, but the subject shifts to the agent role in transitive usage. (With this usage, they might be more accurately called semi-deponent verbs.) Verbs that are semantically active, but passive in syntax are found in various languages like Ancient Greek, Latin, and Scandinavian languages. In Common, as in many Earth examples, they occur when the action involved is in some way passive, like “to hear” or “to remember.”

- 
  HEAR **1SG**
  “I hear.”
  =>
  
  1SG HEAR ANIMAL
  “I hear the animal.”

Alternatively, it can be said that deponent verbs *cannot* take an agent, so the patient becomes the agent when a second argument is added, and a true semantic agent must be realized as an oblique argument. This is especially important for constructions that English realizes as semi-copulae.

- 
  *ANIMAL HEAR LOUD 1SG
  “The animal loudly hears me.”
  =>
  
  HEAR LOUD 1SG ABOUT ANIMAL
  “The animal **sounds** loud to me.”

Impersonal verbs do not take an agent or a patient by default, e.g. “to rain.” Adding either an agent or a patient to an impersonal verb creates a causative construction.

- 
  RAIN
  “It is raining.”
  =>
  
  1SG RAIN
  “I’ll make it rain.”
- 
  RAIN
  “It is raining.”
  =>
  
  RAIN **1SG**
  “I was made to make it rain.”

Again, true semantic agents and patients are realized with oblique arguments.

- 
  *RAIN CONFETTI
  “Confetti was made to make it rain.”
  =>
  
  RAIN WITH.INSTR CONFETTI
  “It’s raining confetti.”

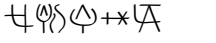
6.2 – Compound Verbs and Higher Valency Constructions

Verbs in Interstellar Common may have more than two arguments for multiple reasons.

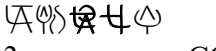
Ditransitives and multitransitives like "to give." Common is a **secundative** language, in which the recipient of a ditransitive verb is the direct object, while the theme of the verb is listed afterward, separated by the indirect object marker, ⍓.

- 
  1SG GIVE 3PL.SAP.PROX IO MONEY
  "I gave the money to them (pl.)"

Valency raising operations like applicatives and (where it cannot be incorporated as a direct argument) causatives:

- 
  1SG COOK FOOD FOR 3SG.SAP.PROX
  "I cooked the food for them."

Oblique arguments of verbs are preceded by a transitive (prepositional) modifier. It may be possible for the same semantic argument (such as a causative) to be placed in multiple syntactic roles, depending on the preposition:

- "I made them cook the food."
  
  1SG COOK **WITH.INSTR** 3SG.SAP.PROX FOOD
- "I made them cook the food."
  
  3SG.SAP.PROX COOK **BY 1SG** FOOD

And most commonly, **compound verbs** can syntactically take additional arguments. Most verbs in Common in standard usage are compounds, usually consisting of a light verb followed by a more content-heavy word. These may take the form "**verb-modifier**," as in  , "to swim" (literally "WALK WET"). Or they may take the form "**verb-noun**," as in  , "to hunt" (literally "ACT PREDATOR").

Additional modifiers are always **placed after the compound**, not in the middle of it. Other than that, verb-modifier compounds always behave like normal verbs.

Verb-noun compounds are syntactically similar to ditransitive verbs, except that instead of a direct and indirect object, the first object is a part of the verb, and the second object is the direct object. If the two objects are not separated by a modifier, then the direct object must be preceded by the **direct object marker**, ⍐.

6.3 – Mood and Modality

Grammatical mood in Common is marked by particles that developed from the modifiers used to signal modality, which themselves were extensions of the modifiers of polarity, ⊢ (PROP) and ⊣ (NOT). While these are the only true logical operators of polarity, it was natural for them to be extended to include other truth values and consequently modalities, such as truth uncertain (dubitative), 𐋏; truth requested (interrogative), 𐋐; and truth mandated (imperative), 𐋑.

Other moods are also common, such as conditional, hypothetical, precative, propositive, and gnomic. In fact, most moods attested in natlangs can be found in some dictionary or other, but these are not normally standard usage.

The most important feature of modal modifiers is that they precede the verb instead of following it, because just like polarity, it may be important to know other modalities earlier in the sentence.

However, this same tendency toward fronting negatives led to an alternative construction where a TRUE or FALSE operator is placed before the entire clause, separated by the complementizer \, making it technically a separate, standalone clause:

- 𐋔𐋓𐋕𐋖𐋗
  1SG NOT WALK UP TREE
  “I did not climb the tree.”

  =>

  𐋘\𐋔𐋕𐋖𐋗
  FALSE COMP 1SG WALK UP TREE
  “It is false that I climbed the tree.”

While this construction originally used FALSE instead of NOT, it wasn’t a stretch to use NOT in the same position:

- 𐋓\𐋔𐋕𐋖𐋗
  NOT COMP 1SG WALK UP TREE
  “Not that I climbed the tree.”

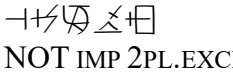
From, here, people could use other modalities similarly, including the interrogative, thus creating an interrogative particle for yes-no questions.

- 𐋏\𐋙𐋕𐋖𐋗
  INT COMP 2SG WALK UP TREE
  “Did you climb the tree?”

Most authorities consider this to be “standard” usage, in part to avoid having to reanalyze the parts of speech, and because it is used even in formal situations. However, it is *very* common, so common as to be the *de facto* standard, to omit the complementizer and convert the modal modifier into a sentence-initial particle:

- 𐋏𐋙𐋕𐋖𐋗
  INT 2SG WALK UP TREE
  “Did you climb the tree?”

Compound modal modifiers are possible, particular when combining another mood with a negative—for example the prohibitive (negative imperative) mood:

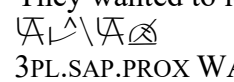
- “Do not enter.”
  
  NOT IMP 2PL.EXCL.SAP GO INSIDE

Note also that Common’s strict word order does not allow dropping the subject of an imperative. In this case, the “generic you” (2+3) clusivity is used. This is the most common construction for imperative clauses, but any personal pronoun may be used.

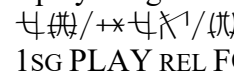
6.4 – Strategies for Non-Finite Verb Forms

Because verbs in Common do not inflect and do not have systematic ways to change parts of speech, there are no non-finite verb forms. When translating non-finite forms from other languages, a dependent clause is most often used, but there are sometimes other strategies available, such as demotion of a core argument to an oblique or a shift in modality. Several common strategies for non-finite forms are listed below.

Complement clause:

- “They wanted to leave.”
  
  3PL.SAP.PROX WANT COMP 3PL.SAP.PROX LEAVE.

Adverbial clause:

- “I play the game to win.”
  
  1SG PLAY REL FOR 1SG WIN REL GAME.

Relative clause:

- “I saw a flying animal.”
  
  1SG SEE ANIMAL REL 3SG.ANIM.PROX FLY.

Demotion to oblique:

- “That made me consider the idea.”
  
  1SG CONSIDER BY 3SG.INAN.PROX IDEA

Modal shift:

- “You should consider the idea.”
  
  PROPOS 2SG.SAP CONSIDER IDEA

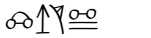
7 – Modifiers

7.1 – The Zero Copula

Interstellar Common has a zero-copula construction. A noun followed by modifiers with no verb is considered a valid sentence equivalent to an English sentence using “to be” followed by a predicate adjective:

- “The car is fast.”
  
  LAND-VEHICLE FAST

The zero copula can also apply to nouns as the objects of transitive modifiers. These can include prepositional phrases:

- “The car is on the road.”
  
  LAND-VEHICLE ON ROAD

And they can include noun complements (predicate nominatives in English) using the EQUAL operator:

- “They are a friend.”
  
  3SG.SAP.PROX EQUAL FRIEND

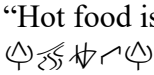
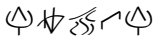
The equality can be replaced with any other comparative if it is semantically valid:

- “They are more than a friend.”
  
  3SG.SAP.PROX GREATER FRIEND

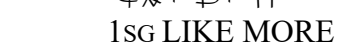
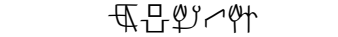
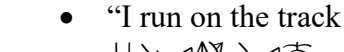
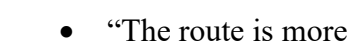
7.2 – Comparison

Comparative modifiers may be applied to nouns, verbs, and other modifiers whenever it is semantically valid. This flexibility results in a certain degree of complexity in their usage.

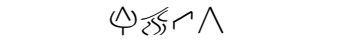
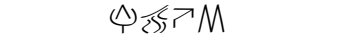
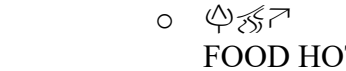
If there are multiple properties involved, the one being compared is placed last:

- “Hot food is better than cold food.”
  
  FOOD HOT GOOD MORE FOOD COLD
- “Good food is hotter than bad food.”
  
  FOOD GOOD HOT MORE FOOD BAD

The complication arises when the things being compared are phrases where a single comparative would be ambiguous. In such cases, the comparative is used twice: after the property being compared and again between the things being compared:

- “I like meat more than vegetables.”
  
  1SG LIKE MORE MEAT MORE VEGETABLE (Modifying “like.”)
- “We need more meat than vegetables.”
  
  1PL.EXCL NEED MEAT MORE VEGETABLE (Modifying “meat,” not duplicated.)
- “I run on the track more than the trail.”
  
  1SG RUN MORE ON TRACK MORE TRAIL (Modifying “run.”)
- “The route is more on land than water.”
  
  ROUTE ON MORE LAND MORE WATER (Modifying “on.”)

Comparison involves two arguments, so formally, a pronoun is required for an argument not specified, even for superlatives. If neither item being compared is specified, such as in questions, this is accomplished with the antireflexive pronoun  (OTHER.PRO). However, the compared pronoun is often dropped in practice:

- “The food is hotter (than that).”
  
  FOOD HOT MORE 3SG.INAN.PROX
  - 
    FOOD HOT MORE
- “The food is the hottest (of the set).”
  
  FOOD HOT MOST 3PL.INAN.PROX
  - 
    FOOD HOT MOST
- “Which one is stronger than the other?”
  
  INT PERSON WHICH STRONG MORE OTHER.PRO
  - 
    INT PERSON WHICH STRONG MORE

8 – Clause Formation and Syntax

8.1 – Dependent and Independent Clauses

While Interstellar Common can be analyzed in terms of sentences like English, it is often analyzed instead in terms of clauses. All clauses in Common have the same internal syntax, but they vary in what role they play in the external syntax, and each type of clause is marked differently in terms of "punctuation."

Copular clauses consist of a noun and its associated modifiers with no verb. While they may be used as complete sentences, they are also the "standard" arguments in verbal clauses and are not marked.

Verbal clauses (more accurately termed independent clauses) correspond to simple sentences, consisting of a verb and its arguments. Verbal clauses are marked by either the full stop, which takes the form of a vertical line, |, or by a logical operator (conjunction) joining two clauses.

Noun clauses (also called complement or content clauses) take the syntactic role of a noun, but unlike copular clauses, they contain an internal verb of their own. Thus, they must be separated from the main clause to make it clear which argument is attached to which verb. Noun clauses are marked by the complementizer particle, \.

Modifier clauses take the syntactic role of a modifier. This may be either an adjectival (relative) clause or an adverbial (subordinate) clause. Because subjects cannot be omitted in Common without changing the meaning of the verb, modifier clauses are headed by a resumptive pro-form (usually a pronoun for adjectival clauses and a pro-verb for adverbial clauses) unless they fill an oblique role. Both forms are marked by the relativizer particle, /.

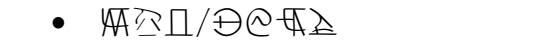
The usual concept of punctuation does not apply to Common. All glyphs are equal, and in a purely logographic language, there's no functional difference between writing a full stop and the emphatic construction in English of speaking the word "period." However, the clause markers in particular are consider to be a form of *brackets*, and this has implications for how they are used.

In standard usage, dependent clauses are placed *in situ* where they would syntactically fall in the sentence. They are headed by the relativizer or complementizer bracket as appropriate, but the bracket is also repeated at the end of the clause, unless this is also the end of the main clause, in which case a full stop is used. Nested clauses are marked by doubled brackets, ∥ and \\.

Strategies for clauses nested more than two layers deep vary by dialect and may include tripled brackets, repeated doubled brackets, alternating single and doubled brackets, or simply discouraging tripled nesting. (This issue is uncommon to begin with, but can arise in complex "I know you know I know" or "He said she said they said" constructions.)

Most authorities consider it to be standard usage for the full stop to be placed at both the beginning and the end of a sentence, fulfilling its role as a bracket. However, this is another instance where it is very common, verging on standard in itself, to place the full stop *neither* at the beginning nor end by default, but only *between* sentences, so that both the beginning and end of a passage will be unmarked.

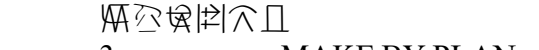
In regard to syntax, the standard usage remains widespread. However, because dependent clauses are marked with both a bracket and a resumptive pro-form, many dialects allow them to float to a different position, usually the end of a sentence.

- “They built the building while we moved.”
  
  3PL.SAP.PROX MAKE REL PRO.V DURING 1PL.EXCL MOVE REL BUILDING
- 
  3PL.SAP.PROX MAKE BUILDING REL PRO.V DURING 1PL MOVE

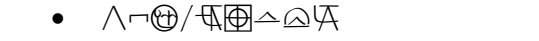
Note also that it is important to use the correct resumptive pro-form in this situation, as a different pro-form would have a different referent:

- * 
  *3PL.SAP.PROX MAKE BUILDING REL 3PL.SAP.PROX DURING 1PL MOVE
  “They who were at the same time as us moving built the building.”

This also allows for a prepositional phrase attached to the verb to be converted to a less awkward relative clause at the end of the sentence.

- “They built the building according to plan.”
  
  3PL.SAP.PROX MAKE BY PLAN DO BUILDING
- 
  3PL.SAP.PROX MAKE BUILDING REL PRO.V BY PLAN

If the relative clause fills an oblique role, the resumptive pro-form may be somewhere other than the head of the clause.

- 
  3SG.INAN.PROX EQ HABITABLE-PLANET REL 1PL.EXCL SEARCH AT-PLACE THERE.PRO 3SG.SAP.PROX
  “This is the planet where we searched for them (s.)”

8.2 – Other Types of Clauses

In addition to the fronted **modal modifiers** (e.g. ⦻\ for negative statements), several other expressions can be made by setting aside a single word or expression as a separate clause.

Vocatives are formed using a form of address (often a bare noun or pronoun) at the beginning of a sentence followed by the complementizer and the main clause:

- "Alice, please come here."
  (`Alice`) \ɤ⁄⍙)(
  (`Alice`) COMP PREC COME NEAR

This vocative form is usually analyzed as a contraction of an imperative clause, e.g. "You will hear that…" Forms of address can include proper names and various honorifics based on degree of animacy, social rank, formality, etc.

Interjections are formed by setting aside a word (or a small sentence fragment) as a separate clause marked with a full stop. Interjections are rejected entirely by some authorities, not as ungrammatical, but as a glossed form rather than being "native" to Common, given that they tend to be very specific to a source language and often idiomatic. However, one near-universal form used as an interjection is |⊣|, "No!"

Quotations are treated effectively as noun clauses, specifically objects of a verb such as)|θ (SAY), with the entire quote treated as a single object, regardless of internal syntax. Quotations are marked by angle brackets, 〈〉, with nested quotes marked with doubled brackets, 《》. Edge cases for quotation marks, particularly with regard to "scare quotes" and the use-mention distinction vary significantly in their usage, and any of these may use either the angle brackets or the curved "cartouche" brackets, ( ), depending on the dialect.

The strictest interpretation is to use angle brackets for scare quotes only the narrow case of reporting another person's literal usage that the writer wishes to highlight, then for the broader, ironic usage of scare quotes to use neither bracket and instead to use a modifier such as the uncertain/dubitative)|(, and for a use-mention distinction to use *doubled* curved brackets to distinguish it from proper noun formation. However, most dialects use a simpler system, allowing the meaning to be clarified by context.

8.3 – Questions

Given the strict word order of Common, questions use the same syntax as the indicative, except with the interrogative particle Ð|((INT) at the beginning of the sentence.

Yes/No questions are distinguished from the indicative only by the interrogative particle. Yes/No questions are properly answered with ∅̄ (TRUE) or ⦻ (FALSE).

Alternative questions are preceded by the interrogative particle, with the options in the question separated by ⋞ (OR) or ⵅ (XOR), as appropriate.

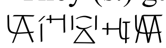
WH-questions also keep the same syntax and are preceded by the interrogative particle. The WH-question words are form as compounds of the appropriate indefinite pro-form and interrogative modifier  (WHICH). They are inserted at the corresponding syntactical location in the sentence:

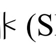
- "What is that?"
  
  INT 3SG.PROX.INAN EQU THING WHICH

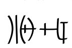
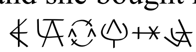
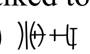
8.4 – Obviation

Third-person pronouns have a proximate-obviate distinction. (Strictly speaking, the "proximate" pronouns are of distal deixis by default—not near the speaker or listener—and can be made proximal or medial by the use of the demonstrative modifiers  (THIS) and  (THAT). However, this is separate from the concept of obviation.) The specific use of proximate and obviate pronouns is a matter of inter-clause semantics.

Proximate pronouns are the default, and obviation is not used when it is unneeded for clarification. For example, if two pronouns in a clause have different number or animacy, both are proximate:

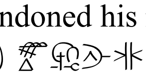
- "They (s.) gave the money to them (pl.)"
  
  3SG.SAP.PROX GIVE MONEY TO 3PL.SAP.PROX

If the pronouns in a clause have the same number and animacy, the subject of the **previous noun or verb clause** is proximate, while all others are obviate or take some other form such as the reflexive pronoun  (SELF). For example, the following two sentences differ only by reversing the salience of their pronouns:

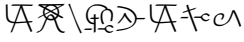
- "Alice talked to Bob, and she bought him dinner."
  (Alice)  (Bob) 
  (Alice) SPEAK TO (Bob) AND 3SG.SAP.PROX BUY FOOD FOR 3SG.SAP.OBV
- "Alice talked to Bob, and he bought her dinner."
  (Alice)  (Bob) 
  (Alice) SPEAK TO (Bob) AND 3SG.SAP.OBV BUY FOOD FOR 3SG.SAP.PROX

This is **not** the case for modifier and copular clauses. In **modifier clauses**, the resumptive pro-form is always proximate regardless of other considerations. Meanwhile, **copular clauses** are counted as part of their parent clause for the purpose of obviation.

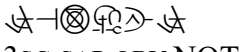
The subject of the **current** clause is marked by the reflexive pronoun:

- "Frankenstein abandoned his monster."
  (Frankenstein) 
  (Frankenstein) ABANDON MONSTER OF SELF

Proximate pronouns are used for the subject of the **previous** clause in all positions:

- “He believed his monster would kill him.”
  
  3SG.SAP.PROX BELIEVE COMP MONSTER OF 3SG.SAP.PROX KILL LATER 3SG.SAP.PROX

Obviate pronouns are used if the referent changes:

- “She did not know about his monster.”
  
  3SG.SAP.OBV NOT KNOW.INFO MONSTER OF 3SG.SAP.OBV

In this example, the subject of the previous clause (in this case a dependent clause) is MONSTER. Thus, both “she” and “his” must take obviate pronouns. They cannot have the same referent because SELF is not used. From context, it is clear that the subject is a new agent, while the oblique argument is a previously-described agent. However, ambiguities can still occur.

- “He did not believe it would kill her.”
  
  3SG.SAP.OBV NOT BELIEVE COMP 3SG.SAP.OBV KILL LATER 3SG.SAP.OBV

Here, each use of the obviate pronoun could syntactically refer to two different characters (or a new character), and the meaning has to be inferred from context. It is recommended to avoid using pronouns this heavily to reduce confusion.