Chapter 4. Message Structure

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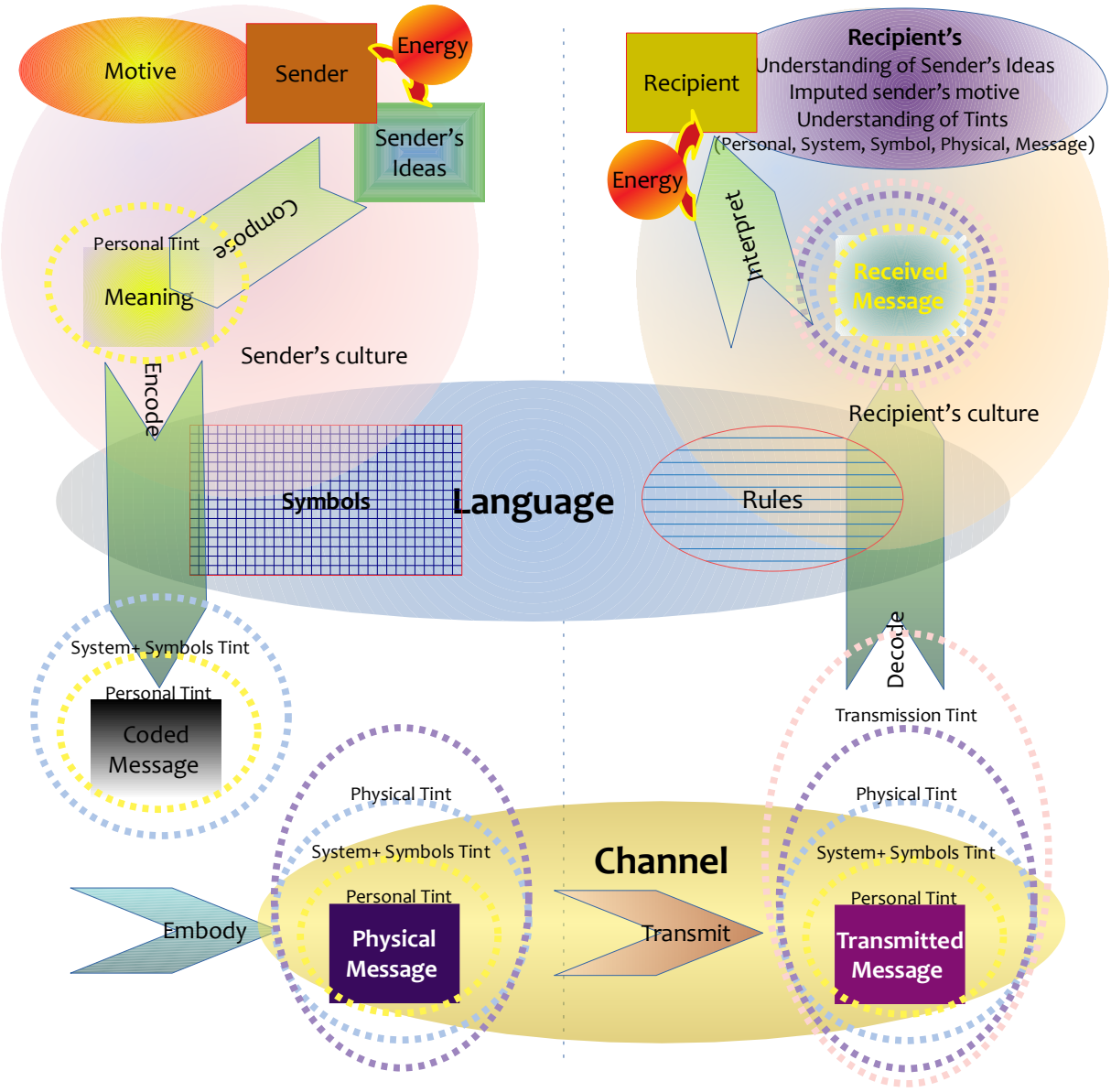
4.1. Overview



Dρ 4.1: Nwehu Nuswei Communication Model

Nwehu Nuswei (NN) is based on a model of communication that hypothesizes the steps taken between the formation of the desire in one person to convey ideas, and the effort of another person to understand. A language is a link in the communication chain. Dρ 4.1 illustrates this model.

The communication model is discussed in more detail its own chapter. (Of course, other communication models have been proposed, and linguists are actively devising, debating, and exploring multiple ways of describing communication processes and structures.) The purpose of placing Dρ 4.1 here is to provide a framework for the following discussion of NN structure, in which the goal is to provide as simple and comprehensible an explanation as possible, avoiding (to the extent practical) theoretical debates about how to explain the complexity of human language.

According to the model shown in 𝔇ρ 4.1, the sender's motives lead to taking IDEAS and shaping them into a form that can be shared. Like all mental processes, this requires energy – expenditure of mental effort. The **IDEAS** must then be **ENCODED** as a linear series of SYMBOLS in a language, using the language's symbol-set according to the language's organizational RULES.

A language provides abstract sets of SYMBOLS and RULES governing their use. When two people share these SYMBOLS and their organizational RULES, it is possible for these people to transmit IDEAS to each other by employing these SYMBOLS and RULES to ENCODE the ideas. However, the SYMBOLS of a language are abstract mental constructs, so it is necessary **EMBODY** them in a physical **CHANNEL** in order to physically transmit them to recipients.

EMBODYING is the process of converting abstract symbols into physical (transmissible) symbols.

A CHANNEL is a physical medium that is utilized for transmitting language by providing a set of physical symbols in that medium, and organizational rules for their use.

Common CHANNELS include the audio and visual CHANNELS, each of which can be transmitted by more than one means. Sounds can be transmitted though air or by electronic means; visible shapes can be written, typed, on paper, carved in stone, or converted to electrical pulses. For each physical CHANNEL, there is a corresponding set of SYMBOLS and systems for transmission. The CHANNEL enables the SYMBOLS to arrive at a "receiver", who can then attempt to DECODE them and reconstruct the sender's message. So there are actually different sets of SYMBOLS and RULES at several steps in the process. We have already explained two of these SYMBOL-sets: the writing system for the visual CHANNEL and the sound system for the audio CHANNEL.

But before a message is EMBODIED, it must be ENCODED during a step that takes place entirely in the mind of the sender. And when the physical message arrives at receivers, they need to engage in the mental process of DECODING. Since ENCODING and DECODING use RULES and SYMBOLS that are contained within the mind, they are somewhat challenging to pin down in natural languages, which are created, shaped and transmitted from mind to mind by an almost mystical process through generations of human beings and cultures. Linguists must try to understand the shifting complexities of systems which are not effectively controled by anyone; but an artificial language like NN has an advantage: its SYMBOLS and RULES are largely under the conscious control of the inventor(s). Inventors have only to explain what they want the SYMBOLS and RULES to be.

So in this chapter, I – the inventor – explain the SYMBOLS and RULES of the more abstract, mental part of NN. I attempt to explain the SYMBOLS and terminology used as I go along, and avoid any that are controversial or not already widely used in explaining languages. In the following sections there is an attempt at using formal grammar notation (EBNF[5]) to define NN structure. If NN is actually adopted and used in some future culture, there is no doubt that the process of describing its use would become much more complex. A language in everyday use does not have to be logical – it just has to work. That is, its RULES and SYMBOLS have only to be shared, not understood logically or in terms of a theoretical framework.

5 EBNF: Extended Backus Naur Form. https://mrgregory.dev/posts/extended-backus-naur-form/

4.2. Symbolic Units

As mentioned, languages can be thought of (simplistically) as sets of SYMBOLS whose use is governed by a set of RULES. We'll start by discussing SYMBOLS – those used at the level of encoding IDEAS: "mental" or "abstract" symbols.

4.2.1. Symbols

First, what is a "symbol"? For purposes of this discussion a

SYMBOL is a physical or abstract entity used to refer to something else.

Physical SYMBOLS include speech sounds, written character shapes, and anything else that can be pressed into service to convey ideas from one person or place to another.

Abstract SYMBOLS are more complex to define, but are quite common. Words are SYMBOLS; but so are creations within literature, art, music, religion, and science. A SYMBOL's usefulness lies its ability to represent something else in a form that can be more easily manipulated, transmitted, and shared.

4.2.2. Ideas

As diagrammed in 𝔇ρ 4.1, language can be invoked when a sender desires to convey IDEAS. Oceans of ink have been deployed to try to explain what an "idea" is. It's difficult to explain because IDEAS occur in the privacy of one's own mind. As an approximation, we can say that certain IDEAS represent perceptions of things external to the mind. (Some people have contested the claim that anything outside the mind actually exists, but when inventing a language, pragmatism requires that we accept external reality at least as a working hypothesis.) Other IDEAS are the result of processes that occur mostly or totally within the mind, and may or may not claim to have any connection with "external reality". The term "concept" can be used as a synonym for many, if not all, IDEAS.

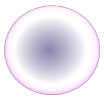
So from the perspective of this model of communication, an IDEA is simply something abstract that arises in the mind of a "sender", which the sender is motivated to transmit to others.

4.2.3. Particle, Wave, and Field

One of the recurring themes in NN is the use of the concepts PARTICLE, WAVE, and FIELD to explain language functions, introduced in §1.3.1. In formulating NN, it has been useful to categorize IDEAS in this way:

- WAVE: **an idea considered as an action, change, or process;** 

- PARTICLE: **an idea considered as an entity – physical or abstract;**
- FIELD: **an idea considered as a quality, attribute, condition, location, manner, or other descriptive aspect of an IDEA.**



4.2.4. Message

The first step in communication is the mental process of bringing various IDEAS together in such a way as to create "information". Within this model,

INFORMATION **is any conglomeration of IDEAS that has some significance to the sender.**

Conscious processes are continually associating IDEAS with other IDEAS to produce INFORMATION. At this stage, the INFORMATION'S IDEAS may be thought of as being associated with each other in a multi-dimensional, non-linear cloud. If the sender is motivated to share the INFORMATION with others through language, the IDEAS that make up the INFORMATION must be shaped into a one-dimensional (linear) space, because human language is based on transmission through time – which is a single dimension. This process is called COMPOSING. (Transmission of IDEAS through diagrams, art, or drama is not necessarily constrained to a single dimentsion.)

COMPOSING **is the process of organizing IDEAS into a linear format that can be encoded using language.**

ENCODING **is the process of taking composed (linearly organized) ideas and assigning language symbols to them using the rules of a particular language.**[6]

What I mean is this: before INFORMATION can be transmitted, it seems a mental process needs to shape the "raw" INFORMATION – some collection of IDEAS – into something that can be transmitted. Each individual tends to put together the IDEAS in their own way, influenced by personality and culture. So in order for any INFORMATION to become an embriyonic MESSAGE, its ideas must be organized. Social, environmental, and practical factors need to be considered, including potential CHANNELS for transmission. This is the process of COMPOSITION. Because COMPOSITION is pre-verbal, preceeding ENCODING in language, it is challenging to observe, describe, or understand; but it is certainly an essential part of communication. In any event, a

MESSAGE IS **INFORMATION that has been COMPOSED into a form that can be expressed to others using a language.**

Once a MESSAGE is composed, the process of ENCODING can begin.

6 Are COMPOSING and ENCODING two separate processes, or simply two aspects of one process? As far as I know, this is currently a matter for speculation. Fortunately, this issue does not affect the description of NN structure.

We start explaining the Nwehu Nuswei language ENCODING by cataloging the SYMBOLS available for representing IDEAS.

4.2.5. Basic Symbols

The basic unit for ENCODING meaning in NN is the WORD. A

WORD is an entry in the NN lexicon that represents one or more IDEAS; WORD is the basic symbol of Nwehu Nuswei.

NN words are systematically organized by into sixteen FAMILIES, each of which consists of sixteen GENI ("genuses"), which in turn consist of sixteen SPECIES made up of sixteen WORDS. This is detailed in the following chapter, "Families of Words". FAMILIES, GENI, and SPECIES are organized according to systematic **semantic categories** of IDEAS. This is to meet the first principle of the language, "**Related words have related sounds**".

The **form of** WORDS in NN is defined by this series of RULES:

```
The CONSONANTS are:
      Nwehu Nuswei symbols: 𐤄 𐤋 𐤍 𐤎 𐤓 𐤒 𐤕 𐤔 𐤉 𐤊 𐤌 𐤀 𐤈 𐤅 𐤆 𐤁
      Latin writing equivalents: H X S F R Y N M K C T P G D J B

The VOWELS are:
      Nwehu Nuswei writing:  𐤄 𐤃 𐤇 𐤅 𐤐 𐤃 𐤈 𐤇 𐤂 𐤅 𐤄 𐤅 𐤐 𐤈 𐤐 𐤅
      Latin writing symbols: U I E EI A AI O OI W WI WE WEI WA WAI WO WOI

A DELIMITER is a written symbol including space, comma, period, semicolon, colon,
question mark, exclamation mark, single quote, double quote;

The form of a WRITTEN WORD is: consonant, vowel, consonant, vowel, delimiter;

The form of a SPOKEN WORD is: consonant, vowel, consonant, stressed-vowel; there are
no delimiters between spoken words.
```

These are basic WORD forms; there are rules for variant types: MARKERS, EXPANSION-WORDS, and COORDINATE-SYSTEM-WORDS. These are explained in other sections and chapters.

4.3. Word Roles

4.3.1. Roles of Words in a Message

In addition to a WORD's relation to other WORDS in its semantic category, each WORD in a MESSAGE has a ROLE that determines its relationship to other WORDS in that MESSAGE. This is important because the language's

rules apply to words according to their ROLE in the message. ROLE in a message is only partly determined by a WORD'S semantic category, so we'll turn to ROLE now.

The **ROLE** of a word is **the part it plays in building the structure of a MESSAGE**.

4.3.1.1. Roles based on Ideas

Some ROLES are **inherent in the IDEAS** the WORDS represent:

- **VERB**: **an idea that serves as the principle structural connection between other IDEAS in the MESSAGE**
- **FOCUS**: **an IDEA which the sender considers most important in the MESSAGE** (in traditional grammar sometimes described as "subject" or "nominative" case)
- **ACTOR**: **an IDEA which causes an action** ("ergative" case)
- **RECIPIENT**: **an IDEA which receives an action** ("direct object", "accusative" case)
- **BENEFACTIVE**: **an IDEA which is the beneficiary of an action or in a possessive relationship with another entity** ("indirect object", "dative" case; "genetive" case)
- **ATTRIBUTE**: **an IDEA which describes a quality or aspect of another IDEA in a message** ("adjective" or "adverb")

4.3.1.2. Roles Assigned by Rule

Other ROLES are specific to the WORDS themselves, and are **assigned by the RULES of the NN language**:

- **FUNCTIONAL**: **a WORD which performs a function within a message, to describe or clarify the MESSAGE or a part of it**
  - **MARKER**: **a type of FUNCTIONAL which is appended to a WORD to describe or clarify the WORD**
- **DEICTIC**: **a WORD which points out the location, situation, or identity of an IDEA in a MESSAGE**. There are four sub-types of WORDS which can be considered DEICTICS in NN:
  - **PERSONAL PRONOUN**: **a WORD which substitutes for a PARTICLE-type IDEA in the context of a given MESSAGE**
  - **RELATIVE PRONOUN**: **a WORD that links to a PARTICLE-type IDEA in a subordinate MESSAGE**

- ARTICLE: **a WORD which links a PARTICLE in a MESSAGE to entities in related MESSAGES, possibly also clarifying its roles and relationships**
- LOCATIVE DEICTIC: **a WORD pointing to a PARTICLE by location**

4.4. Types of Messages

The structure of a MESSAGE depends partly on its purpose, so we'll look now at different types of MESSAGES. Then we can explore the different SYMBOLS and symbolic units of NN, and define the simpler RULES by which ideas are combined into common language structures. Since one overarching goal of NN is **"Allowing – but not forcing – people to express things in ways similar to how their native language does it"** (§1.1), we'll outline the mechanism that allows speakers to be free of prescribed structure without losing intelligibility.

The structure of a message depends on its purpose. The types are:

- STATEMENT: **the sender intends to convey INFORMATION**.
  STATEMENTS can be extremely simple – only one WORD – or long and complex, consisting of multiple connected MESSAGES. The structures employed in STATEMENTS are the also used and modified in the other STATEMENT types, so the majority of the discussion of structure will focus on STATEMENTS.
- QUESTION: **the sender requests information**.
  A STATEMENT form is used with a marker indicating request for information, either attached to the VERB or to some other key WORD in the MESSAGE.
- COMMAND or admonishment: **the sender advises or directs taking specific action**.
  COMMANDS use STATEMENT forms with a MARKER attached to the VERB, and optionally FUNCTIONALS in other parts of the MESSAGE that reinforce it.
- EXCLAMATION: **the sender utters an automatic vocalization or brief expression of opinion or feeling**.

Each type of MESSAGE is discussed below in the context of its associated SYMBOLS and structures. We begin with EXCLAMATIONS because they are the simplest type of MESSAGE; then we discuss the many structures for STATEMENTS; and finally the variations used for creating QUESTIONS and COMMANDS.

4.5. Exclamations

People often react to situations vocally. Many of these reactions are inarticulate – grunts, screams, or noises impelled by primitive parts of the brain. NN does not attempt to organize these.

Other times, reactions are aided and accompanied by rational processes, simple ENCODING of feelings and general thoughts, one WORD or a short group of WORDS. NN provides a SPECIES to express many of these – in fact, the very first series of words beginning with the word whose value is 0 (zero). EXCLAMATIONS are not structured MESSAGES, although conventionalized groups of words are sometimes used as EXCLAMATIONS; the individual words are considered FUNCTIONALS, so they are listed in the chapter "Functional Words", and are listed here but not be considered further in this chapter. They are:

4.5.1.1. 𐑣 𐑥 *Hu 0: Exclamations*

Display 4.2: Exclamation Words

Latin	IPA	NN	Semantics
huhu	hə'hə | ʱə'hə | əə	𐑣𐑣	Uncertainty, hesitation
huhi	hə'hi | ʱə'hi | i	𐑣𐑤	Yes
huhe	hə'hɛ | ʱə'hɛ | ɛɛ	𐑣𐑦	Perhaps, maybe
huhei	hə'hɛj | ʱə'hɛj | ɛj	𐑣𐑧	Interest, getting attention
huha	hə'ha | ʱə'ha | a	𐑣𐑨	Pleasure, mirth
huhai	hə'haj | ʱə'haj | aj	𐑣𐑩	Greeting
huho	hə'hɔ | ʱə'hɔ | ɔɔ	𐑣𐑪	Surprise
huhoi	hə'hɔj | ʱə'hɔj | ɔj	𐑣𐑫	Pleasant surprise
huhw	hə'hu | ʱə'hu | u	𐑣𐑬	No
huhwi	hə'hwi | ʱə'hwi | uj	𐑣𐑭	Questioning (general)
huhwe	hə'hwɛ | ʱə'hwɛ| wɛ	𐑣𐑮	Negative questioning (really?)
huhwei	hə'hwɛj | ʱə'hwɛj | wɛj	𐑣𐑯	Annoyed questioning
huhwa	hə'hwa | ʱə'hwa | wa	𐑣𐑰	Disappointment, resignation (*sigh*)
huhwai	hə'hwaj | ʱə'hwaj | waj	𐑣𐑱	Anger
huhwo	hə'hwɔ | ʱə'hwɔ | wɔ	𐑣𐑲	Dismay, alarm
huhwoi	hə'hwɔj | ʱə'hwɔj | wɔj	𐑣𐑳	Fear, pain

4.6. Statement Structures

We start with the simplest statement and work our way up to greater complexity.

4.6.1. One-Word Statements

Any single WORD of any type can be a STATEMENT. This is because by nature people try to conserve mental energy. Communication is usually an attempt to fill the gap between IDEAS the recipients already know about, and the IDEA the speaker wants to impart to them. Recipients also want to conserve time and energy in the DECODING process, and may become impatient or even annoyed if a sender spends too much time repeating IDEAS they already share. The context of an exchange of MESSAGES always includes a general cultural environment and often previous MESSAGES in the SESSION. Assumptions have to be made about what to fill in and what is already known; though erroneous assumptions are frequent sources of miscommunication, such assumptions are essential to effective use of time and energy. So it often happens that a sender will try to fill the gap with a single WORD.

We can illustrate a word in a message with one of these symbols:

Sentence structure is illustrated using a consistent example:

𐤉𐤕𐤄.

Yite.

Horse (female)

'Mare'

4.6.1.1. Adding Markers

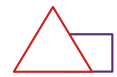
As defined above, a MARKER is a type of FUNCTIONAL WORD whose ROLE in the MESSAGE is defined by RULE, which is:

> The **role of a MARKER** is to clarify or amplify the role or meaning of another word by attaching it to the end of that word.
>
> The word to which a MARKER is attached is its **HEADWORD**.
>
> A **MARKER is attached to its HEADWORD in writing** by appending a hyphen to the HEADWORD and placing the MARKER with no DELIMITER before or after the hyphen; a DELIMITER is placed after the MARKER.

> `A` **`MARKER is attached to its HEADWORD in speech`** `by silencing any initial H, silencing the first vowel, and giving the final syllable secondary stress.`

The effect of adding a marker to a word in speech is to create a three-syllable word whose final syllable receives secondary stress: CV ˈCV ˌCV.

We can illustrate a PARTICLE-word with a MARKER attached using this symbol:



In a formula, the combination is written this way:

> `Particle-Marker`
>
> ⊏ᒐꓘꟻ-ɪꞮ⅄ᒥ. /ʒiˈtɛˌfa/
>
> *Yite-hufa.*
>
> Mare-mine
>
> ‘My mare’

4.6.2. Discourse Connectives

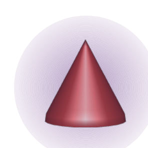
SESSIONS are often bound together by inserting words into statements to provide transitions and logical structures.

As STATEMENTS are put together to form SESSIONS, these DISCOURSE connectives are usually inserted at or near the beginning, though they may be placed anywhere, including the end. Almost always, they are put at the beginning or end of a PHRASE or clause so as not to disrupt the form of these grammatical structures. Having said this much, their placement will not be integrated into the overall grammar of NN statements. Placement of DISCOURSE connectives is one of several rhetorical tools in the toolchest of effective speakers.

Words available for connecting DISOURSE sessions are discussed in Chapter 9, “Discourse”.

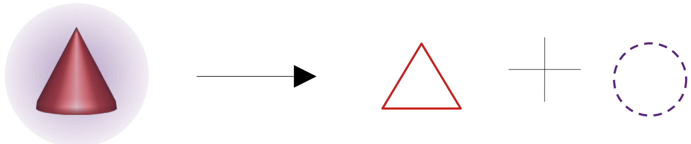
4.6.3. Noun Phrase Structure

4.6.3.1. *Particle + Field*



Beyond one WORD MESSAGES, the WORDS in a MESSAGE have relationships with each other. In two-WORD NN messages, the simplest relationship is that of a PARTICLE within a FIELD. Using grammatical terms, we might be tempted to say “a noun modified by an adjective”, but that would be inexact because in NN, STATIC VERBS also function as FIELDS. In spoke or written NN, PARTICLES are not represented inside FIELDS. Therefore, a RULE is needed to convert the unstructured multidimentional relationship between the two IDEAS, PARTICLE and FIELD, and the unidimensional space of NN messages. The

RULE for this structure specifies that the FIELD-WORD is placed after the PARTICLE-WORD. The basic form of this rule (which will be elaborated below) can be illustrated as in Dp 4.3 or formulated as follows:



Dp 4.3: Noun Phrase (basic)

```
Noun Phrase (NP) = Particle, (Field);
```

```
Particle-Marker, field
```

ᒪᒐᖽᔨ ᓯᒐᔭᕋ·

Yite nifwi.

Mare gray

'Gray mare'

Notice in Dp 4.3, the IDEAS are shown as three-dimensional figures (though that may not be clear in the rendering). WORDS, since they are part of a language, are unidimensional, so are shown as outlines.

There are a few additional concepts in this rule which should be explained here. Since the PARTICLE-WORD is the only required element in the structure, the FIELD-WORD is shown in the formula in parentheses, and in the display with a dotted line, to indicate that it's optional.

Since the purpose of the FIELD-WORD is to explain something about the PARTICLE, we consider the PARTICLE-WORD to be more important. The PARTICLE-WORD is considered the HEADWORD of the structure.

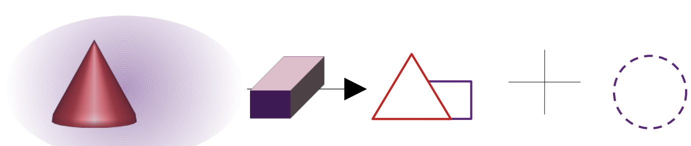
Since the PARTICLE-WORD (noun) is DOMINANT, we call this structure a NOUN PHRASE (NP), following traditional terminology. **Phrase** is the traditional term for **a group of words that forms a grammatical structure**.

A more complete definition of NOUN PHRASE:

NOUN PHRASE is a WORD structure within NN MESSAGES which is dominated by a PARTICLE-WORD or noun phrase and lacks a verb.

4.6.3.2. *Particle + Marker + Field*

It may be desirable to add a MARKER to a PARTICLE which is within a FIELD (Dp 4.4).



Dp 4.4: Noun Phrase with Field

```
Noun Phrase (NP) = Particle | Particle-Marker, (Field);
```

```
Particle-Marker, Field
```
ᒷᒐꓘᑯ-ɪꟾ⅄ᒋ ⅄ᒐ⅄ᓭ.

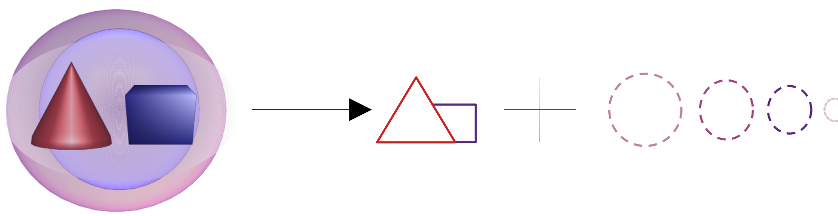
Yite-hufa nifwi.

Mare-mine gray

'My gray mare'or 'My mare is gray.'

4.6.3.3. Noun Phrase with More than One Field

Frequently, a PARTICLE is contained in multiple FIELDS, such as those describing size, color, age and shape. The FIELD-WORDS are then placed following the PARTICLE-WORD. If the PARTICLE has a MARKER, the FIELD-WORDS all follow the MARKER (Ɗρ 4.5)



Ɗρ 4.5: Noun Phrase with Multiple Fields

```
        Noun Phrase (NP) = Particle | Particle-Marker, ({Field});
Particle-Marker, field, field, field
```
ᒷᒐꓘᑯ-ɪꟾ⅄ᒋ ⅄ᒐ⅄ᓭ ɪꟾ⅄ᒷᒉ ɪꟾ⅄ᒐ.

Yite-hufa nifwi humw huci.

Mare-mine gray old dear

'My dear old gray mare'

4.6.3.3.1 Order of Field-words in a Noun Phrase

When multiple FIELD WORDS are placed in a NOUN PHRASE, the order is not prescribed by rule. However, good style in many languages calls for features which are most inseparable from an entity to be listed closest to the noun. This is probably a good practice to follow. NN acknowledges the importance of the relative inseparability of attributes by providing a SPECIES of FUNCTION WORDS ɪꟾ⅄ꟾ *hufu* to indicate several degrees of "possession" (§8.2.4); these can serve as a guide to FIELD WORD placement.

4.6.3.4. Noun Phrase with Locative Words

Nouns are often associated with other nouns in specific ways. The association is often expressed by means of what is traditionally called a "prepositional phrase". In NN, a prepositional phrase is introduced by the word which indicates spacial or temporal location, followed by one or more words indicating the place or time.

'My brother	in the house	is	ten years old'
𐑣𐑵𐑒𐑕𐑴-𐑣𐑵𐑓𐑩	𐑕𐑧𐑒𐑦 𐑮𐑴𐑣𐑵	𐑒𐑵𐑣𐑩	𐑑𐑦𐑣𐑢𐑧 𐑑𐑢𐑒𐑕𐑴.
Muxo-hufa	*seki rohu*	*xuha*	*tihwe twxo.*
brother-my	in house	is	10 years.

4.6.3.5. Noun Phrase with Article

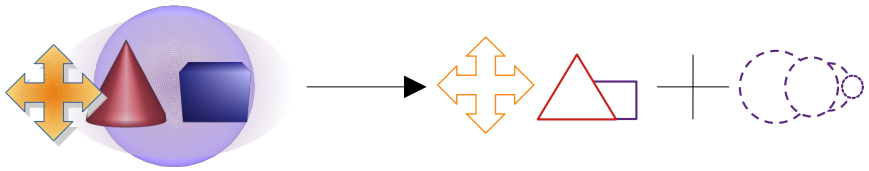
ARTICLES in NN are DEICTICS one of whose functions is to clarify whether an IDEA is being newly introduced into a discourse or has already been referred to; and whether the IDEA is a specific entity or a general concept. While many languages use "articles" in similar ways, others have different ways of relating concepts within a discourse. So in keeping with NN's principles, ARTICLES are optional.

In addition to relating message concepts to others in a discourse, NN ARTICLES express whether an IDEA is DEFINITE or INDEFINITE. DEFINITE IDEAS are those which the speaker considers to be specific – whether concrete or abstract; or that make up the sum of a collection of closely related IDEAS. INDEFINITE IDEAS are those which are non-specific or part of a loose collection of ideas. These definitions are somewhat vague, in part because languages using articles are not consitent in how they are used. This implies that speakers of NN will also be unlikely to be consistent in their use.

NN ARTICLES are capable of expressing several other aspects of a NOUN PHRASE in the sentence: ROLE, ANIMACY, NUMBER, and DISTANCE. (Many of these can be expressed with other FUNCTIONALS as well.) Further discussion is found in §7.5, "Articles".

Unlike MARKERS and FIELD-words, ARTICLES are placed before their headword in a noun phrase (𐑛𐑐 4.6).

```
NP = (Article), Particle | Particle-Marker | Noun Phrase, (Field);
```



𐑛𐑐 4.6: Noun Phrase with Article

4.6.3.6. Noun Phrases with Other Deictics

If the information includes reference to something by location, situation, or identity, a DEICTIC can be used. PERSONAL PRONOUNS, RELATIVE PRONOUNS, and LOCATIVE DEICTICS can be used instead of a PARTICLE-WORD, with or without MARKERS.

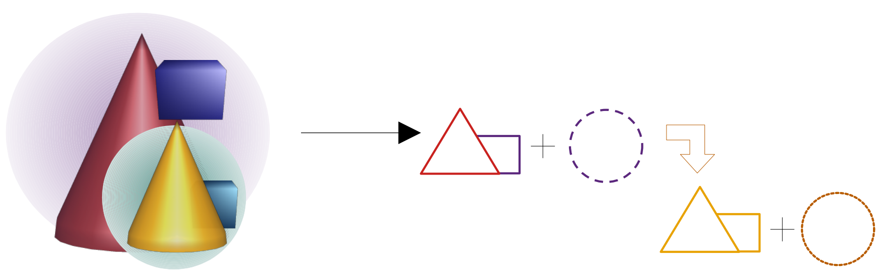
ARTICLES	PERSONAL PRONOUNS	RELATIVE PRONOUNS	LOCATIVE DEICTICS
ᵻᒐᑊᒐ ᒪᒐᛯᑯ ᏗᒐᏗᓭ ᙭ᑊᑊᑫ. *Hiri yite nifwi buhw~.* The (focus) mare gray sick 'The sick gray mare', OR 'The gray mare [is] sick'	ᵻᒐᑕᑯ ᏗᒐᏗᓭ· *Hime buhw~.* She (focus) *sick* 'She [is] sick'	ᒪᒐᛯᑯ ᑊᒐᑕᎲ ᙭ᑊᑊᑫ ᏗᒐᏗᓭ· *Yite hiyoi buhw~ nifwi.* Mare who (focus) sick gray '[The] mare who [is] sick [is] gray'	ᵻᒐᏗᎲ ᙭ᑊᑊᑫ. *Hinoi buhw~.* Yonder animate-being (focus) sick 'That (one) [is] sick'

An ARTICLE can be added before a PARTICLE in a NOUN PHRASE with optional MARKER and FIELD-WORDS (as above); alternatively, the ARTICLE and a MARKER can be used as a NOUN PHRASE:

> ᵻᒐᒥᒐ–ᑊᑊᏗᒋ.
> *Hiri-hufa.*
> The-mine (focus)
> 'Mine'

4.6.3.7. *Embedded Noun Phrase*

Since a NOUN PHRASE may take the place of a simple PARTICLE-WORD, NOUN PHRASES can be recursively embedded. Note that an embedded NOUN PHRASE may contain a VERB, making it a "clause" (in traditional terminology).



Dp 4.6: Noun Phrase with Embedded Noun Phrase

> ᒪᒐᛯᑯ ᏗᒐᏗᓭ ᑊᒐᑕᎲ ᙭ᑊᑊᑫ...
> *Yite nifwi hiyoi buhw~...*
> Mare gray Relative-Pronoun-animate-singular (focus) sick...
> 'The gray mare who [is] sick...'

In addition to RELATIVE PRONOUNS, embedded NOUN PHRASES can be introduced by several other types of words, including location or time, purpose or reason, and various other connections.

4.6.4. Predicate Structure

STATEMENTS in general take a FOCAL topic and provide INFORMATION about it. So far, our discussion about NOUN PHRASE structure has centered around the FOCUS (the "subject"), though of course NOUN PHRASES can be used in the part of a STATEMENT that provides INFORMATION about the FOCUS. We now turn to the second part of the

STATEMENT: providing INFORMATION about the FOCUS. We'll use the grammatical term

PREDICATE to mean **information that is provided about the focus of a statement.**

NN considers two kinds of INFORMATION about a statement FOCUS:

- **WAVE** INFORMATION: WAVES are ACTIONS
- **FIELD** INFORMATION: FIELDS are most often attributes or characteristics of WAVES or PARTICLES.

The structure of the PREDICATE varies depending on which kind of INFORMATION is being given, so let's take look at each type.

4.6.4.1. *WAVE Predicate Structure*

WAVES in NN represent actions, processes, and changes, as mentioned in §1.3.1. Often, the FOCUS of a MESSAGE is the instigator of the action, what we call the ACTOR, as in 'Dietrich kicked the ball'. However, the FOCUS may be the recipient of the action, as in ' The ball was kicked by Dietrich' or the speaker may not mention an ACTOR at all, simply mention an action in process, as in Spanish 'Llueve' (where in English it's customary to say 'It is raining', without specifying what 'it' is).

Regardless of how the FOCUS of a MESSAGE is handled, WAVE PREDICATES are built around an ACTION WORD:

ACTION WORD: **a word which refers to action, process or change.**

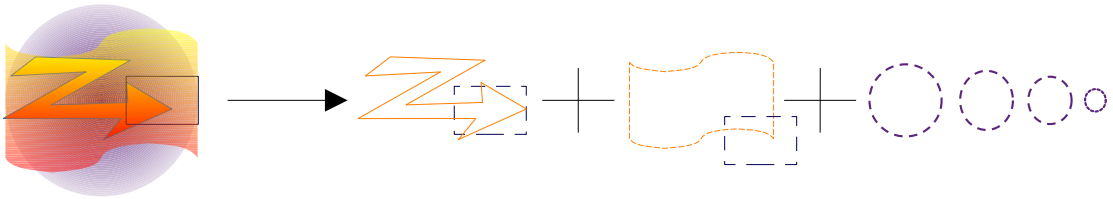
This type of PREDICATE then consists of a WAVE PHRASE followed by one or more NOUN PHRASES that refer to entities (PARTICLES) that participate the ACTION – either directly or indirectly.

WAVE PHRASE (VP^{w}): **a group of words forming a grammatical unit describing an action, process or change;**

We can formally state the WAVE PHRASE itself below, and in 𝔇ρ 4.7:

```
VPʷ = Action (+marker), (Verb-dynamic (+ marker)), ((field phrase), ...)
```

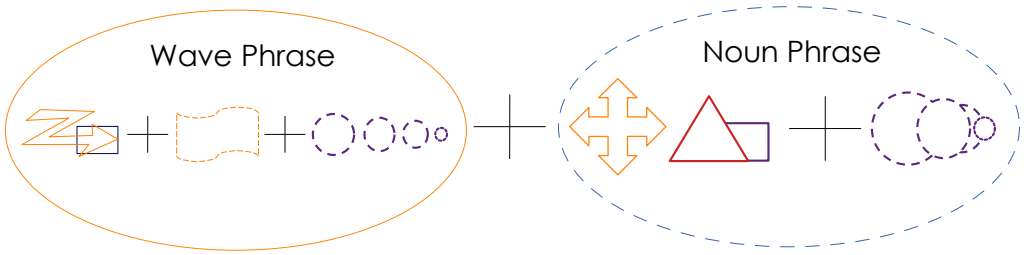
𝔇ρ 4.7: Wave Phrase



A WAVE and optional MARKER is optionally followed by the VERB itself, which can have an optional MARKER attached and be followed by one or more optional FIELDS, which may themselves be PHRASES.

The structure of a WAVE PREDICATE can be expressed this way, and diagrammed in 𝔇ρ 4.8:

```
Predicate^w = VP^w, ((NP),...)
```



𝔇ρ 4.8: Wave Predicate

We continue by discussing NN's VERB, since understanding its purpose and limitations will help understand the rest of the VERB PHRASE.

4.6.4.2. The Verb

As part of the NN vocabulary, the VERB itself is a FAMILY of words whose meanings cluster around the English concepts of 'be' and 'do'. The VERB has its own chapter, "6: The Verb, Connecting Concepts", so here we will focus on its role in the structure of NN messages, and functions that are related to the difference between WAVE PREDICATES and FIELD PREDICATES.

4.6.4.2.1 Functions of the Nwehu Nuswei VERB

The primary purpose of the NN verb is to provide a rich description of the connection between the FOCUS of the MESSAGE and the new information contained in the MESSAGE. VERBS in NN divide themselves into either WAVE VERBS or FIELD VERBS. As you would expect, a WAVE VERB functions within a WAVE PREDICATE. Either type can also express these concepts, detailed "The Verb" chapter:

- Time DIRECTIONALITY (past – present – future)
- Time SPAN (immediate, mid, long)
- Time FRAME (primary and two others)
- COMPLETION (completed, ongoing)
- CONTINUITY (punctual, progressive, durative-repetitive)
- CONDITIONAL (factual, speculative)
- EVIDENTIALITY (certainty, possibility, doubt)
- Clause SUBORDINATION (main clause, subordinate clause)

This set of functions is intended to provide a powerful yet compact tool for expressivity. However, one thing it does not attempt is to provide a range of action-types. That is to say, the NN VERB can say a lot of things

about an action, but not what the action itself is. For this reason, a WAVE word is necessary in a WAVE PHRASE, and is placed directly before the VERB.

Further WAVE PHRASE expressiveness is provided through the use of MARKERS and FIELDS, which we take a look at next.

4.6.4.2.2 Markers for VERBS

The list above (§4.6.4.2.1) of what VERBS can express leaves out quite a few functions that verbs in other languages may perform. In order to express these functions, there are several MARKERS available (which can be attached to other types of words as well). These are listed here, and discussed in greater detail in §6.4:

- MESSAGE function (question, request or suggestion, command): ɬɪꓘ- *Hut-*
- Politeness (informal, formal): ɪɪꓘᒐ *huti* and related forms
- Bio-social status (age, gender, social status): ɬɪ⅄- *Hum-*
- Assertion-Negation: ɬɪꓘ- *Hut-*
- Voice (active, passive, middle): ɬɪ⅄- *Hus-*
- ANIMACY and POTENCY: ʌɪꓘ - *Sup-*

Many of these MARKERS may be attached to the VERB or, if the speaker prefers, to other relevant words in the MESSAGE.

4.6.4.2.3 Fields for VERBS

It's often useful to express manners, locations, and other factors relevant to an action. This is done in NN by placing FIELD-words or PHRASES after the VERB. Examples of such fields in English:

- Ahmed left <u>yesterday</u>
- Gita sewed <u>skillfully</u>
- Vlad sang <u>baritone</u>
- Hitomi drank <u>deeply</u>
- Alonso lived <u>honorably</u>
- Lina played <u>like a mother</u> with her doll
- James kicked <u>like</u> <u>a mule</u>
- Olaf scored <u>in Munich</u>
- Mignonne walked <u>in</u>

The <u>underlined</u> words in examples above would all be placed after the VERB in NN.

In principle, most words in NN can be used as PARTICLE, WAVE, or FIELD according to what the speaker needs to express. Some words are defined as specific types – all DYNAMIC forms of the VERB, for example, as WAVES by definition. There are some SPECIES which are organized DIMENSIONALLY, such that words ending with *-e*, *-ei*, or *-wei,* are defined specifically as expressing WAVE concepts, while those ending with *-a, -ai, -wai* express related FIELD concepts, and *-o, -oi, -woi* express PARTICLE concepts related to the SPECIES. Other words by their meaning are PARTICLES by definition, such as words for animals, minerals, and family relatives. However, such words can be made into FIELDS for VERB PHRASES by adding a MARKER:

- 𐤋𐤕𐤋𐤃 'mother' + "field marker" in English gives 'motherly', in NN 𐤋𐤕𐤋𐤃-𐤉𐤕𐤋𐤍 *mume-husa*
- 𐤅𐤍𐤋𐤕 'mule' + "field marker" in English gives 'mule-like' (or 'mulish'), in NN 𐤅𐤍𐤋𐤕–𐤉𐤕𐤋𐤍 *yicu-husa*

4.6.4.3. *WAVE Words in WAVE PREDICATES*

The type of action in a WAVE PREDICATE is expressed by a WAVE WORD at the head of the PREDICATE. As mentioned above, there are some words which by default express actions because of their meaning. Some examples:

- In the 𐤂--- *R*--- FAMILY, are the following GENI which refer to tools, machines, and their actions. Placing the name of a tool at the head of a WAVE PHRASE evokes its action, similar to the way English 'comb' can be a noun or a verb depending on its position:
  - 𐤂𐤕-- *Ru*--: Personal objects
  - 𐤂𐤅-- *Ri*--: Materials by purpose
  - 𐤂𐤄-- *Rei*--: Small tools
  - 𐤂𐤓-- *Ra*--: Tools by purposes
  - 𐤂𐤃-- *Rai*--: Medium and large tools
  - ...and several more
- In the 𐤍--- *N*--- FAMILY, there are action GENI:
  - 𐤍𐤃-- *Nai*: Bodily actions
  - 𐤍𐤏-- *No*--: Movements
  - 𐤍𐤐-- *Noi*--: goal-directed action (social & mechanical)
  - 𐤍𐤖-- *Nwi*--: Non-moving action
  - 𐤍𐤘-- *Nwo*--: General kinds of violent actions
  - 𐤍𐤒-- *Nwoi*--: Gestures and Postures
- In the 𐤊--- *K*--- and 𐤈--- *G*--- FAMILIES "Arts and Sciences" there are many areas that include potential acton words:
  - 𐤊𐤅-- *Ki*--: Elements and Common Compounds, such as 𐤊𐤅𐤊𐤏 *Kito* 'salt' can have their meaning extended to an action by their common usage
  - Applied sciences (𐤋𐤗-- *kwei*-- 'Applied Mathematics', 𐤋𐤖-- *kwai*--: 'Applied Physics', 𐤋𐤒-- *kwoi*-- 'Applied Chemistry'): all describe techniques and processes which are actions
  - 𐤈𐤕-- *Gu*--: Physical Interactions
  - 𐤈𐤄-- *Gei*-- and 𐤈𐤃-- *Gai*--: Engineering Practice
  - 𐤈𐤋-- *Gw*-- and the following 8 GENI: These represent Artistry and literary, visual decorative, auditory, and performing arts and music, with their various techniques and activities
- In the 𐤎--- *S*--- family, locations in space and time are represented. These are divided in half, such that one half represents STATIC spaces and times, while the other half are DYNAMIC – representing movement to and from those spaces. Each of the DYNAMIC space-time words is considered by default to be a WAVE, and can be used as the head of a WAVE PHRASE to indicate movement.
- This is not an exhaustive list: many other words have meanings which make them WAVES by definition.

4.6.4.4. *Wave Phrases Without a Verb*

Though the action word is required in a WAVE PHRASE, the VERB is optional. Since the purpose of communication is to fill in the gaps in the receiver's information, it is often possible to do so simply by naming an action in the WAVE PHRASE.

Example:

> 𐤈𐤊𐤉𐤄 𐤎𐤉𐤄𐤅.
> *Yite seihw.*
> Horse (female) FRAME 1: CLOSE - COMPLETE - ENCLOSURE, DYNAMIC, DEPTH - OUTWARD MOTION.
> 'Mare outward (motion complete)' (i.e. 'Mare went out')

In this example, the word 𐤎𐤉𐤄𐤅 *seihw* represents a COMPLETED OUTWARD MOTION from an ENCLOSURE. Six useful items of information are represented in its two syllables (shown in SMALL CAPITALS in the example). Although time (past-present-future) is not represented directly, the idea of COMPLETION indicates that the motion occurred before the MESSAGE was sent. In this way, the sender has given enough information in four syllables for the receiver to comprehend the situation. The other six pieces of INFORMATION contained in the two syllables of the VERB (listed in §4.6.4.2.1 above) were not necessary for successful decoding of the MESSAGE, so the VERB was not used.

Other words are not as rich in information about the situation. For example, if a sender chooses to use the word 𐤊𐤈𐤏 *kito* 'salt' in a brief STATEMENT, it would be possible to add a MARKER of the GENUS 𐤄𐤕𐤓- *Hud-* (one syllable) to indicate a time, let's say recent past 𐤊𐤈𐤏-𐤄𐤕𐤓𐤄 *kito-hudwe* /kiˈtɔˌ dwɛ/ meaning '...recently salted'.

An alternative with a slightly different meaning is to use a MARKER from genus 𐤄𐤕𐤉- *Hus-*. With this, the VOICE of the HEADWORD in the MESSAGE can be indicated (ACTIVE-MIDDLE-PASSIVE) and its STATE (WAVE-FIELD-PARTICLE). So 𐤊𐤈𐤏-𐤄𐤕𐤉𐤄 *kito-huse* /kiˈtɔˌ sɛ/ indicates 'salting as an action'; 𐤊𐤈𐤏-𐤄𐤕𐤉𐤅 *kito-husei* /kiˈtɔˌ sɛj/ 'imposing salt actively (on something)'; 𐤊𐤈𐤏-𐤄𐤕𐤉𐤄 *kito-huswe* /kiˈtɔˌ swɛ/ 'being salted (receiving salt)'; 𐤊𐤈𐤏-𐤄𐤕𐤉𐤅 *kito-huswei* /kiˈtɔˌ swɛj/ 'salting self (MIDDLE VOICE)'. No time (tense) is indicated in 𐤄𐤕𐤉- *Hus-* markers, but time FIELDS from GENI like 𐤎𐤃𐤍- *Sen-* or 𐤎𐤃𐤓- *Sed-* can be added if the sender prefers them to using a form of the VERB. (Details in Chapter 14, "Representing Space and Time".)

4.6.5. Field Predicate Structures

A FIELD PREDICATE'S purpose is to indicate that the FOCUS of the MESSAGE is within a certain FIELD. Or, in more traditional terms, the FIELD PREDICATE "modifies" or "imputes" a certain "quality" or "attribute" to the "subject" of the sentence.

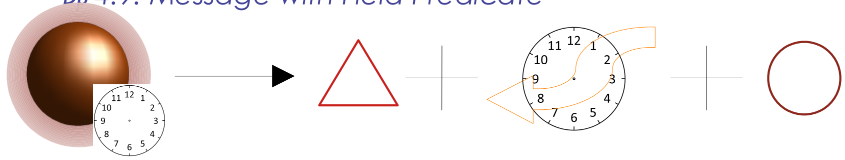
When a verb is used in a FIELD PREDICATE, it uses the STATIC form, signaled by the second consonant being voiceless. All oher features of the VERB listed in §4.6.4.2.1 are available for use.

4.6.5.1. Field Predicate Verbs

As a simple example, take the IDEA that a ball has the color-attribute 'brown'. Using NN terminology, we say that the PARTICLE 'ball' is associated with the FIELD 'brown'.

ΓᒐᏗㄐ ᒪ⇕Ꮧᒋ ᏗᒐᏗᖸ· *Rifw~ xufa nifwe.* '[The] ball is brown.'

Ꝺρ 4.9: Message with Field Predicate



This set of IDEAS can be encoded as

```
Noun phrase + verb-static + field
```

In Ꝺρ 4.9, the clock-face illustrates the element of TIME (past-present-future) embedded in the VERB. (Present TIME is shown in the example.) The STATIC VERB is represented as an arrow, pointing back from the FIELD-WORD to the PARTICLE-WORD.

Not illustrated here, but quite common: the VERB PHRASE can have its own FIELD attributes (with "adverbial" concepts like 'charmingly', ' temporarily', ...); and the FIELD can have its own modifiers (like 'dark', 'mottled', ...) filling out the formula to:

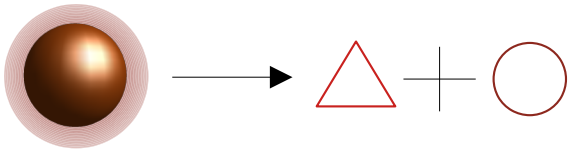
$$\text{Predicate}^{f} = \text{VP}^{s},\ ((\text{NP}),...)$$

4.6.5.2. Field Predicates Without Verbs

As discussed in the previous sections, the need for a VERB depends on the sender's judgment as to whether one of more of the verb's attributes is useful for successful decoding of the IDEAS. As a simple sentence, in the previous example the VERB encodes a present TIME. If that seems obvious and no other features of the VERB need to be transmitted, the message can perfectly well consist of only the NOUN PHRASE and FIELD PHRASE:

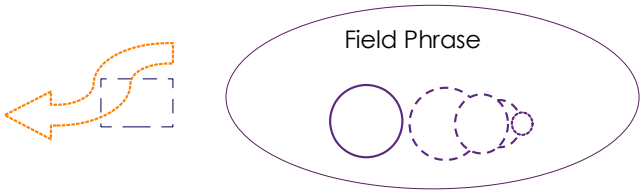
ΓᒐᏗㄐ ᏗᒐᏗᖸ· *Rifw~ nifwe.* 'Ball [is] brown' or 'Brown ball'

𝔇ρ 4.10: Message: Field Predicate without Verb



Field predicates can be summarized in 𝔇ρ 4.11 and the following formula:

```
Predicate^f = (Verb-static (+ marker)), field phrase, ..., (field phrase), ...)
```



𝔇ρ 4.11: Field Predicate

Summarizing all NN verb phrases:

```
VP =
        Wave (+marker), (Verb-dynamic (+ marker)), ((noun phrase), ...)
|       (Verb-static (+ marker)), field phrase, ..., (field phrase), ...)
```

and statement structure can be summarized as

```
Statement = NP + VP.
```

This concludes our discussion of STATEMENT structure. We turn now to QUESTIONS.

4.7. Questions

QUESTIONS use the same structures as STATEMENTS, with the addition of a word or words that indicate the senders request for a response from the receiver. While many languages (including English) change the structure of a statement to make it into a question, NN leaves the STATEMENT structure intact and adds a QUESTION-WORD.

4.7.1. Question Words

NN has two species containing words that indicate questions: ɬɪɾ- *Hun-* and ɬɪɣ- *Hut-*.

4.7.1.1. Discourse Link Questions

Species ᚼᚷᚴ- *Hun-* contains seven words that can be used as MARKERS or FUNCTIONALS to request information about anything within a DISCOURSE that has been difficult for the receiver to decode. When used as MARKERS appended to a word, they zoom in on that particular idea for more information. They can also be used more generally. They are shown in ᗞᑭ 4.12.

ᗞᑭ 4.12: "Discourse Link" Question Words

NN	Roman	Meaning	MARKER	FUNCTIONAL
ᚼᚷᚴᛋ	*hunw*	question	Attach to a word to request information about it	General request for information; 'what?'
ᚼᚷᚴᛒ	*hunwe*	repeat		Request to repeat the previous message (because receiver didn't hear it)
ᚼᚷᚴᚠ	*hunwa*	when?	Request for a word's temporal context	Request for a message's temporal context
ᚼᚷᚴᚱ	*hunwo*	where?	Request for a word's locative context	Request for a locative context
ᚼᚷᚴᚳ	*hunwei*	explain?	Request for more detail on the reason behind a word or idea	Request for more detail on the reason behind something
ᚼᚷᚴᚢ	*hunwai*	how?	Request for the manner of performing an action	Request for the manner of doing something
ᚼᚷᚴᚣ	*hunwoi*	with what?	Request for the instrument for performing an action	Request for the instrument for doing something

4.7.1.2. Message-Type Words Indicating Questions

Words in SPECIES ᚼᚷᚲ- *Hut-* indicate the type of MESSAGE being transmitted. They are generally attached as MARKERS to the VERB or WAVE word. However, speakers of some languages (such as Bahasa Indonesia and Japanese) may prefer to append them as FUNCTIONALS to the end of the MESSAGE, following a similar practice in their own language.

ᗞᑭ 4.13: "Message Type" Question Words

NN	Roman	Meaning
ᚼᚷᚲᛞ	*hute*	Question
ᚼᚷᚲᛃ	*hutei*	Polite question
ᚼᚷᚲᛒ	*hutwe*	Negative question (expects negative answer)
ᚼᚷᚲᚳ	*hutwei*	Polite negative question

4.8. Commands

COMMANDS, like QUESTIONS, follow the pattern of STATEMENTS, with the addition of a MARKER or FUNCTIONAL. As MARKERS, the MARKERS are attached to the VERB or WAVE word. As FUNCTIONALS, they are inserted, usually at the beginning or the end of the MESSAGE.

We would expect that COMMANDS would frequently consist simply of one ACTION word and its COMMAND-MARKER. For example, 'Leave!' is ⅄ɖɪᔕ–ɪɪꓘᑫ *Seihwa-huto* /sɛjˈhwaˌtɔ/.

The COMMAND vocabulary is:

Ɗₚ 4.14: "Message Type" Command Words

NN	Roman	Meaning
ɪɪꓘᑫ	*huto*	Command: 'Do it!'
ɪɪꓘᑰ	*hutoi*	Polite command: 'Please do it'
ɪɪꓘᕋ	*hutwo*	Negative command: 'Don't do it!'
ɪɪꓘᗸ	*hutwoi*	Polite negative command: 'Please don't do it'

4.9. Free Structure Options

Recent studies have revealed that only 35-40% of the world's languages use the SVO word order; unfortunately, I know of no surveys that include numbers of actual speakers of each word order. What is clear is that a large number of people speak languages that either use other defaults (SOV is apparently the most common) or with unfixed word order. This means that for speakers of the majority of languages, NN needs a way to let people use varying structures, and that's what we turn to here.

4.9.1. Background

Languages with relatively free word-order have systems for identifying the role of each part of the message. Most involve either words to identify the role, or changes to the shape (morphology) of words depending on their role. An example of the first is Japanese:

> 'The big bad wolf gave a birthday cake to my old grandma.'
> 大きくて悪いオオカミは、私の年老いたおばあちゃんに誕生日ケーキをあげました。
> [o:kikɯte warɯi o:kami wa wataɕi no toɕiota oba:tɕan ni tandʑo:bi ke:ki o agemaɕita]
>
> > は [wa] follows the "subject" of the sentence
> > の [no] follows the "possessor"

を [o] follows the "direct object" in the predicate of the sentence
に [ni] follows the "indirect object" of the sentence

An example of the second is Latin:

'The big bad wolf gave a birthday cake to my old grandma.'
Magnus malus lupus libum natalis vetus aviam meae dedit.

lupus 'wolf': -us ending indicates "subject"; if the wolf had received the cake it would be **lupo**
libum 'cake': -um ending indicates "object"; If this were the subject of the sentence, it would be **libus**
aviam 'grandma': -am ending indicates "indirect object" (receiver); if she was the subject, it would be **avia**
meae 'mine': -ae ending indicates "possessive"; if it were the subject, it would be **mea**

The use of linguistic devices like these allow speakers "poetic license" to vary word order for effect, without undue hinderance to intellegibility. NN devices for this purpose are introduced below, but we first need to point out some limitations in NN's freedom of word order.

4.9.2. Invariant Word Order

While NOUN PHRASES, PREDICATE PHRASES, and subordinate phrases and clauses can be moved around in an NN MESSAGE, not all words can be moved freely within each phrase . In particular:

- In NOUN phrases, the NOUN is **preceded** by the ARTICLE and **followed** by optional FIELDS;
- In PREDICATE PHRASES, any NOUN PHRASES may precede or follow the VERB PHRASE, but **their ROLE must be identified if they precede**;
- Within WAVE VERB PHRASES, the ACTION WORD is placed **first**, followed by an optional VERB and any FIELDS that apply to the action;
- Within STATIC VERB PHRASES, FIELD words may precede or follow the optional VERB.

4.9.3. Options for Signalling Roles in a Message

In NN, the order of the major parts of MESSAGE defaults to Subject-Verb-Object. If the order varies from the default, the role of principal nouns in the message must be identified. The roles are:

- ACTOR ("nominative case"): Instigator of the action in a MESSAGE with a WAVE VERB
- RECEIVER ("accusative case"): a PARTICLE that is acted upon by a WAVE VERB
- BENEFACTIVE ("dative case"): a PARTICLE that receives the benefit of certain types of WAVE VERBS

4.15 charts the use of words in the - *Hux*- and - *Huf*- SPECIES as MARKERS to indicate the role (and number) of words when word order varies from the default SVO. A somehat different approach is available using MARKERS from the - *Hus*- SPECIES, discussed in §8.2.3

4.15: Markers for Signalling Roles

ROLE			Singular	Plural	Group	Unspecified
ACTOR	"subject", "nominative case"	Focus	*huxoi*	*huxwo*	*huxwoi*	*huxo*
	"ergative case"	No Focus	*huboi*	*hubwo*	*hubwoi*	*hubo*
RECIPIENT	"direct object", "accusative case"	Focus	*huxei*	*huxwo*	*huxwei*	*huxe*
		No Focus	*hubei*	*hubwe*	*huxbei*	*hube*
BENEFACTIVE	"indirect object", "dative case"	Focus	*huxai*	*huxwa*	*huxwai*	*huxa*
		No Focus	*hubai*	*hubwa*	*hubwai*	*huba*
Possessor	"genitive"		*hufu**			

* *hufu* indicates a general relationship between the headword and something else. The rest of species - *Huf*- allows representing much more detailed relationships. See §8.2.4 for details.

In addition to the species - *Hux*-, species - *Hus*- allows marking roles in a message from a different perspective. (Speakers of languages classified as "ergative" (in some degree) may find these more intuitive to use.) These are listed in 4.16, and discussed in detail in §8.2.4.

4.16: Markers for Active - Passive - Middle - Partice - Wave - Field

ROLE		General	PARTICLE	WAVE	FIELD
(General)	Role or state of language element	*husu*	*huso*	*huse*	*husa*
ACTIVE	Engaged in activity which is usually directed at more passive elements	*husi*	*husoi*	*husei*	*husai*
PASSIVE	Receives an action	*husw*	*huswo*	*huswe*	*huswa*
MIDDLE	Engeaged in action directed at self	*huswi*	*huswoi*	*huswei*	*huswai*

This concludes discussion of message structure in Nwehu Nuswei.