INTRODUCING ORTHOGRAPHY AND WRITING SYSTEMS

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"If you talk to a man in a language he understands, that goes to his head. If you talk to him in his language, that goes to his heart."

Nelson Mandela

1.1 Introduction

In this study unit, we look at orthography and writing systems for different languages. First, we look at the definition of language, we move on to the description and origin of the notion of orthography as particular conventions of using a writing system for a particular language, and then we identify some of the features of spelling in various languages. We draw a comparison between the disjunctive and conjunctive writing conventions in various languages, with a specific focus on African languages. For purposes of this discussion, we select one of the standardised orthographies in the Sotho languages group (Sepedi, Setswana or Sesotho), Xitsonga or Tshivenḓa to represent the disjunctive orthography and one of the standardised orthographies in the Nguni languages group (isiZulu, isiXhosa, siSwati or isiNdebele) as an example of a conjunctively written language. We then look at how writing systems have constantly been changed, adapted and repurposed to different contexts. We then cover some of the different writing systems in the languages of the world. Finally, we focus on systems that originated in Africa and a description of a siNtu featural syllabary.

1.2 Defining Language

Language is one of the main attributes that makes humans special (along with our large brains relative to our body weight, our ability to walk upright and our ability to change our environments to suit our needs). Language enables us to express our thoughts and feelings, build relationships, pass on knowledge to others, entertain ourselves and work together. Although we take it for granted, knowing and using language are in fact a very complex ability that requires an enormous amount of knowledge about words, their pronunciation and meanings, and how to combine words into meaningful sentences and use those sentences in appropriate ways. In this module, we want to open your eyes to the nature and scope of this human faculty that you have probably been taking for granted.

Linguists view language as a system of conventional connections between grammatical expressions and their meanings and uses. Something is "conventional" when it has been in use for some time, and a convention is something which most people (in this case, the speakers of the language) more or less agree on and abide by. It is a useful analogy to think of language as a coin with two sides: the one side reflecting the structure of the grammatical expressions (their **form**) and the other side reflecting their meanings and uses (their **function**). For example, the form of the expression *Good morning!* can be described by saying that it consists of an adjective *good* and a noun *morning*. However, the function of this expression is best described as a morning greeting and not really a description of a type of morning. Just as the two sides of a coin can never be separated, the two aspects of language (form and function) can never be separated. And even though in this module we focus mainly on the

structure of grammatical expressions (their form), it is important that we do not lose sight of the fact that grammatical expressions are used to convey meanings they have a function).

> You will notice that we always print **technical terms in bold print**, whereas *example words are printed in italics*. This is a necessary convention, since we use language and words to speak about language and words! Italics is also used for emphasis.

A linguistic expression always has many different levels: the sounds, the words, the sentence structure, the meaning and so on. Linguists may be interested in any or all of these aspects of language. As an example of these various levels of language, let us take a look at the following expression in English:

The children are ungrateful.

If you say this sentence out loud, you can hear that it is made up of different sounds (which are different from the letters of the alphabet), for example the *th* at the beginning of *the* is actually a single sound, and in South African English, the vowel at the end of *the* is the same as the vowel in the word *sit*. Now say *The adults are ungrateful* out loud, not too slowly – just at normal speaking speed – and listen carefully to the vowel sound at the end of *the*. Is it the same as the vowel at the end of the first word of *the children*? In fact, we pronounce the word *the* differently, with a longer "ee" sound, if it occurs before a vowel. Note that we are not concerned with the meanings of the words here; we are simply discussing the different sounds and how they are pronounced in different positions. This is the first level of linguistic analysis and is investigated in the area of linguistics known as **phonetics** and **phonology**. The study of sounds is not covered in this module but is covered in LIN2058 *Sounds and sound structure*.

The next level of investigation in linguistics is to look at building words out of smaller parts of a word that can convey meaning. For example, we can say that *grateful* is the basic building block from which the more complex word *ungrateful* has been formed (by adding *un-*). This level of investigation is studied in **morphology**.

On the next level of investigation, we look at how meaningful sound sequences like words are put together to form larger groups of words (which we call phrases). For example, we know that *the* and *children* together form a natural grouping that is similar to *the child* or *a child*. The study of how words are grouped together to form larger phrases and eventually full sentences is known as **syntax**. In this module, we focus on two levels of linguistic investigation, namely morphology (the study of the internal structure of words) and syntax (the study of the internal structure of sentences).

Another level of linguistic analysis (called **semantics**) is the level where the meanings of words and sentences are studied. For example, we can say that *ungrateful* has the opposite meaning from *grateful*. The semantic analysis of word and sentence meaning is covered in LIN3028 *Approaches in linguistics*. The last level of linguistic analysis is when we study the way in which sentences are put together to form texts, as in LIN3705 *Text structure and function*.

All these levels of linguistic analysis can be done in particular languages (that is, we can have a description of the phonetics and phonology of isiZulu, a description of the morphology of Japanese, a description of the syntactic structure of Danish or a description of the semantic

structure of Venda vocabulary). But bear in mind that the ultimate goal of linguistics is to form theories about what it means to know a language, to use a language and to acquire a language. In this module in general linguistics, we therefore focus on language in general rather than on any particular language.

1.3 Orthography

An **orthography** is a standardised system of spelling conventions. Standardisation here means an official decision was made by language regulatory bodies about how to write language that is widely conformed to. The word "orthography" comes from the Greek roots ὀρθός (*orthós*, meaning "straight") and γράφω (*gráphō*, meaning "write"). In linguistic scholarship, we use the triangular brackets ⟨ and ⟩ to indicate the orthographic representation, which is ordinary spelling according to established (standard) conventions from outside linguistics. Inside linguistics, we also use square brackets [and] to indicate **phonetic transcription**, which is how linguists record language exactly how it is *spoken* in real life rather than how it is *written*. With phonetic transcription, the detailed and precise representation of the spoken sounds is most important. For example, one could pronounce the word ⟨enough⟩ as [iˈnaf] – the triangular brackets indicate the ordinary standard spelling of the word, but the square brackets indicate the sound of the word as it is actually pronounced in practice by a speaker. Not everyone pronounces that word the same. So, phonetic transcription pays attention to all the differences in its pronunciation, whereas orthography spells them all the same.

Before we get into the details, we should clarify the terms:

The function and definition of writing are to represent language in graphic form. **Writing systems** are systems of graphic symbols by which this is achieved. **Orthographies** are conventions for using writing systems for particular languages, as standardised by institutions and/or used by the general public. **Phonetic transcription** is a type of writing system used in linguistics for accurately representing the actual sound of language in graphic form. It is a more detailed and precise system than an orthography for doing what most orthographies roughly do: they represent the sound of language visually.

But not all languages have sound, because not all languages are spoken – signed languages are those where words are composed of hand positions, their movements, and facial expressions that can give grammatical information. Spoken language only becomes visual when written, but signed languages are already visual by nature, even before they are written. They are not representations of spoken language, but language in themselves. The way language is written is dependent on its **modality** (for example spoken or signed) and its **structure** (that is, its grammar).

Hurford (1994:251) points out that "the languages of the world differ radically in how they organize the words in their grammars". For example, a language like English uses four words to express the phrase "*I will help you*". Many of the African languages spoken in South Africa would write this same phrase as a single word, for example the isiXhosa equivalent is *ndizokunceda* ("I will help you"). These languages are known as **agglutinating languages** because all the morphemes associated with a verb or noun are attached to the stem as a string of affixes. The most dominant indigenous languages in South Africa are syllabic, agglutinating languages with a transparent orthography. See http://en.wikipedia.org/wiki/Agglutinating on myUnisa under **Additional Resources** for further elaboration on agglutination.

Other language types are **isolating languages** like Chinese languages and Vietnamese (in which all the words are invariable and no affixes are used at all) and **synthetic languages** like Latin, Greek and Arabic (which use an extensive system of inflectional affixes to express grammatical relationships) (Crystal 1997:295). In a synthetic language, a single affix often carries several inflectional meanings, for example in Latin the suffix *–o* in *amo* "I love" means first person singular present tense.

English does not fall neatly into any of these three categories, but has some characteristics of an isolating language in that word order is the basis of the grammar and some characteristics of a synthetic language in that there are a few inflectional endings (Crystal 1997:295).

Read the following extract from a reference grammar of Tshivenḓa (Poulos 1990:6–8).

In carrying out a linguistic analysis of a language such as Tshivenḓa, one has to be careful not to be completely influenced by the orthography of the language. This is because Tshivenḓa adopts the so-called "disjunctive" system in its writing, whereby certain elements that may belong to one and the same word category are written as separate words. By way of illustration, we can look at the following example:

Ndi ḓo ni thusa

These are four *orthographic* words, but one *grammatical* word which translates to the English sentence "I will help you" which co-incidentally also consists of four words. In this English translation, we can identify the following constituent parts:

I	–	pronoun, 1st person
will	–	auxiliary verb
help	–	Verb
you	–	pronoun, 2nd person

The Tshivenḓa situation is very different from the English, in the sense that the four words involved are all part of one word category, namely *the verb*.

The form ***ndi-***, which translates "I", is not an independent pronoun in Venda. It cannot stand on its own nor can it be shifted around in position – features which *independent words* do have. This ***ndi-*** has to occur together with other forms. In other words, it is a type of prefix rather than a fully-fledged word.

Similarly, the form *ḓo* is not an independent auxiliary verb; for example, it cannot be shifted around, like "will" can in English, e.g. "Will they come?" where "will" is placed at the beginning of a question. In Tshivenda, one cannot say "*ḓo **vha ḓa?***"; *ḓo* always occurs after some or other prefixes, e.g., ***Vha ḓo ḓa***?

In the same light, the form ***ni*** functions as a type of object prefix; its position is fixed, namely it has to occur immediately before a verb stem. ***Thusa*** is the verb stem, which itself is made up of a root element ***thus-*** and a suffixal element *-**a***. In other words, ***thus-*** forms the core of the whole verb. It carried the basic meaning, namely that of "help", yet *it cannot occur on its own* in the language. It has to combine with other elements or forms before it can be used.

Thus, in a strict linguistic analysis, the four words in the Tshivenḓa example above are all constituent parts of *one word category or part of speech*, *namely a verb*. It is clear then that in the above example, a one-to-one correlation does not exist between the actual words and the word category that is presented; there are four orthographic words but *only one word category* – and this kind of anomaly has to be borne in mind when one is carrying out a linguistic analysis of the different word categories in the language.

In the extract from Poulos (1990), we see that the issue of orthographic systems plays a role in determining the words in a language. The term **disjunctive orthography** means that the various elements of a word (such as a verb and its person) are written *separately* from each other (as Poulos [1990] says), while a **conjunctive orthography** puts these elements *together* as one word. (Note how the beginning elements of these words *(con-* and *dis-)* contribute to the meaning of the terms.) For example, in Tshivenḓa the phrase *Ndi ḓo ni thusa* (I will help you) is written as four words even though they are all bound morphemes associated with the main verb. Tshivenḓa therefore has a disjunctive standard orthography. The isiXhosa equivalent is written conjunctively as *Ndizokunceda* (I will help you). In both languages, there is only actually one morphological word, since these languages have the same word grammar; but because of differing established standards of orthography, the Tshivenḓa written standard is represented with separate orthographic words, leaving spaces between word parts, making them appear like separate words.

1.4 Writing Systems

We have seen clearly that there is a difference between the way that a language is commonly written (its orthography) and the way it actually is spoken and structured. The Ancient Greek Philosopher Ἀριστοτέλης (Aristotle) identifies the relationship between written and spoken symbols in this passage of a text called Περί ερμηνείας (On Interpretation) 16a:

κα τ γραφόμενα τν ν τ φωνῇ. κα σπερ οδ γράμματα πσι τ ατά, οδ φωναὶ α αταί

"written marks [κα τ γραφόμενα] are symbols of spoken words. And just as written marks are not the same for all people, neither are spoken sounds [φωναὶ]."

He explains that language is an ordered system of (spoken) signs that is used to represent our thoughts, perceptions and feelings; and writing is an ordered system of (graphic) signs that in turn represent language. In other words, writing is a graphic encoding of language. This encoding is not part of language itself, but is a cultural technology specifically designed by people to represent language. By "technology" we mean a knowledge system developed for a practical purpose. The purpose of a writing system is to convey culture as embedded in language as a graphic representation thereof, and this technology is also part of the culture.

As you can see, Aristotle's text is written in the **Ελληνικό αλφάβητο** (*Ellinikó alfávito*, "Greek alphabet"). The culture of this Ancient Greek literature is conveyed in the Greek writing system which is structured as an alphabet. An alphabet is one type of ordered system of graphic symbols devised for the purpose of representing language – it is an example of one kind of

writing system. But there are many other kinds of writing system in the world, and we cover some of them below.

Not all writing systems are alphabets; in fact, most writing systems in the world are *not* alphabets. An alphabet is a kind of writing system where the letters represent individual speech sounds. The name "alphabet" actually comes from the first two letters of the Greek writing system – **α** (alpha) and **β** (beta).

Over the history of written language, many different systems besides alphabets have been developed to represent the diversity of language in the world, and they operate in different ways – they are different cultural technologies. For example, while alphabets have symbols that represent speech sounds, in syllabaries each symbol represents one syllable.

What is a syllable? There is no easy definition of this, but the meaning is quite intuitive – speakers tend to unconsciously divide words of language into timed units, most often centred around a vowel sound like [a] or [i]. Together with the consonants like the [n] and [f] that may come before or after it, we identify the unit of the syllable. For example, the word ⟨enough⟩, which we might pronounce as [iˈnaf] is composed of two syllables:

$$⟨{}^1e . {}^2nough⟩ = [{}^1i . {}^2ˈnaf]$$

Linguists use the full stop to indicate the syllable boundary. For example, the names "Dimakatso", "Nolwazi" and "Rudzani" (from Setswana, isiZulu and Tshivenḓa respectively) would be divided into their constituent syllables in the following way:

<div align="center">

Di.ma.ka.tso   No.lwa.zi   Ru.dza.ni

</div>

As you can see, in these language traditions, each syllable ends in a vowel sound. We say that these languages are CV languages, with the capital C standing for "consonant" and the capital V standing for "vowel".

But consider the word *nna* (me), as used in other languages in the Sotho language group, which you would use to refer to yourself. How many syllables are in this word?

We would break this into its constituent syllables in the following way:

<div align="center">

n.na

</div>

In this case, we have two syllables [ṇ] and [na]. We say that the first consonant – which is the nasal [ṇ] – is a syllabic consonant, and in this case it is a syllabic nasal. The small line underneath the letter tells us that this consonant is pronounced as its own syllable. The second [n] in the word [ṇ.na] does not have the line because it is part of the second syllable, which is composed of [n] and [a]. In the **alphabetic writing system**, there are three symbols here – "n", "n" and "a" – that represent the individual segments of these two syllables, syllabic "n" and "na". But in a **syllabic writing system** *only two* symbols are used, corresponding with two syllables.

Here is how the same word would be written in **Ditema tsa Dinoko,** a siNtu writing system where each separate symbol represents exactly one syllable:
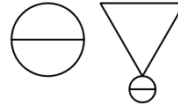
[n̩] [na]

The word *dinoko* refers to syllables. Another name for this system of writing is ***Isibheqe Sohlamvu***. The word ***uhlamvu*** refers to a syllable. This is a syllabic way of writing. Another syllabic way of writing is with the Japanese systems of **Katakana** and **Hiragana.** Taking the South African place name "Tsutsumani", we can write it in the Japanese Katakana system in the following way:

ツツマ二
tsu tsu ma ni

As you can see here, each symbol represents exactly one syllable. The Japanese writing system is a compound system. It also uses another syllabic system, called Hiragana, and the same word written in this system is as follows:

つつまに
tsu tsu ma ni

But Japanese also uses a third writing system, and this one is called **Kanji**. This is actually the Chinese writing system, and together with Japanese syllabaries, it is adapted to Japanese language, creating the compound system. In Chinese we have a **logographic writing system**, where each symbol represents one word.

你　好　吗
how　are　you

Chinese writing (汉字 – *Hànzì* – "Han characters") is one logography where the character 人 is, for example, the word *rén* "person" in Mandarin Chinese. However, it would be read as *jan* in Cantonese or *nyin* in Wu language – the meaning of all these words is "person". That means that if we read 人 in Xitsonga, we would read it as *munhu*!

Nsibidi is another example of a logographic writing system (where one symbol equals one word). It comes from the Cross River region, on the border of present-day Nigeria and Cameroon, and was used for hundreds of years in the secret society called the Ekpe or Leopard/Panther Society. This writing system was cleverly applied in the first *Black Panther* movie – it is written on the pillars in one of the scenes and on the poster. The symbols below show a symbol-word system:

words　group　chief

Above the level of the word is the level of the phrase or sentence that expresses an *idea*. So, another kind of writing is an **ideographic writing system** or a system of **ideograms**. Rather than sounds, syllables or words, these symbols represent **whole ideas or concepts** that might take a sentence or two to describe. One of the most common ways of writing using this type of system that you will be familiar with is the use of **emojis**. One emoji can represent a

whole concept, using a picture symbol. The word "emoji" comes from Japanese and literally means "picture character" – え (e, "picture") + もじ (moji, "character"). We all know what "🏃" means, though its meaning may change according to context. It represents a concept, not a word, syllable or sound segment. Therefore, we would call it an ideogram. This system of ideograms, through emojis, can be used to represent proverbs and sayings – a single emoji or a series of emojis are used to communicate proverbial meanings. Below are examples from English, Xitsonga, Tshivenda and Sepedi respectively.

Ideogram	Proverb
	A drowning man will clutch at a straw.
	hi ta ku i timangwa loko hi vona mavala We will say it is a zebra when we see colours actions speak louder than words.
	tshaṋḓa i ya, tshaṋḓa vhuya hand go, hand come back You scratch my back, I'll scratch yours.
	khudu ga e lahle legapi la yona A tortoise does not throw away its shell. (A leopard doesn't change its spots.)

In Ghana, there is a system of ideograms called the **Adinkra symbols**. These symbols represent whole proverbs and sayings – what we would call *izisho nezaga* or *izaci namaqhalo*. Below is an example of one of them.

 This symbol is called Funtumfunefu Denkyemfunefu – two crocodiles with one shared stomach.

The proverb goes: *Funtumfunafu Denkyemfunafu, wowo yafunu koro nanso wonya biribi a wofom efiri se aduane no de no yete no wo menetwitwie mu*. (Funtumfunafu and denkyemfunafu share a stomach but when they get something [food], they fight over it because the sweetness of the food is felt as it passes through the throat). This popular symbol is a reminder that infighting and tribalism are harmful to all who engage in it.

In Southern Africa (also known as *Azania*), we also have systems of traditional ideograms which are sometimes known as **izimpawu zesintu**. In the book *Indaba, my children* by the famous sanusi (diviner) Vusamazulu Credo Mutwa, the ideograms are listed with meanings in English.

You can see that different writing systems can use different units of representation, which correspond to different levels of language structure: the individual sound (*segment*) in the case of an alphabet, the *syllable* in the case of the syllabary, the *word* in the case of the logography and a *sentence* in the case of ideograms.

1.5 Decolonial Literacy – African Writing Systems
Throughout the history of writing, writing systems have constantly been changed, adapted and repurposed to different contexts. Look at the chart here: https://usefulcharts.com/blogs/charts/evolution-of-the-english-alphabet – it shows how the Latin or Roman alphabet that we are most familiar with developed into a series of adaptations stretching back to ancient hieroglyphic symbols.

New writing systems have also constantly been invented to serve different purposes. You may have invented one yourself. Maybe you invented it just for fun, to write secret text or as part of a fiction story you were creating. In the late 1980s, two teenagers in Guinea (West Africa) invented a script for their home language of Fulfulde and they called it ADLaM:

It is now widely used around the world; the name means "the alphabet that protects the peoples from vanishing". This became one of the many local African writing systems that are used for writing African languages. African writing systems are a good way of giving importance to African languages on their own terms, and from their own graphic and linguistic traditions. In this way, cultures can assert themselves as being important and of both practical and symbolic value – they can be "protected from vanishing".

The images used in this section can be found at this link: https://commons.wikimedia.org/w/index.php?title=Special:ListFiles/Gwaza&ilshowall=1

1.5.1 Local African traditions
Food for thought – Look at the map below which lists a small sample of African writing systems that are used around the continent.

أَرَابِيسِي أَفْرِيكَانْس

كِنْوَهِيلِ

اف سومالى

You might ask why the map is "upside-down". Consider that it is actually the right way up – we are here in the South and there is no reason why we should not orient things from this perspective. The way that the map is oriented is just a convention; it is not a fact about the world. It can be adjusted to suit the context in which we are. In a similar way, we can reorient how we see writing in Africa. Writing does not always need to be in the way that it was brought to Africa through the European-style education systems. Writing can and does take African forms, derived from local African traditions.

You will notice that the map includes some Arabic abjad items. These are adaptations of the abjad developed through usage with African languages over the centuries. For example, on the East Coast, the trade language of KiSwahili was originally written like this, with the Arabic letters adapted by Africans for the purpose of writing African languages.

Then, in the extreme South at the Cape, we have the tradition of *toelies* ("writing") in **Arabic-Afrikaans** or Lisan-e-Afrikaans (لسان افركانس), also known as "Jawi". This too was the original way that the Afrikaans language was written, during its earlier history. Afrikaans was not written in the Latin alphabet at the beginning of its history, but rather its literature began in Islamic contexts in the former slave and exile communities of the Cape. The first writings in Afrikaans were Islamic literature and they were written using a cleverly adapted form of Arabic script. All ordinary Afrikaans writing was done in this way.

Let us now look at some other types of writing systems, focusing on the writing systems of the African continent. Consider the diagram below which shows different types of writing systems in the world – Izinhlobo Zohlelo Lokubhala:

IZINHLOBO ZOHLELO LOKUBHALA

Types of writing systems

देवनागरी ग**ऒ॥** Abugida	Ελληνικό ㅂㅂ⊐ Alphabetic	עִבְרִית العربية Abjad	汉 字 Logographic
カタカナ ᏴᏌ Syllabic	한글 Featural	圭 Satzschrift	

In the image above, the first alphabetic system shown in the block is the Greek alphabet, which is read from **left to right**:

E → λ → λ → η → v → ι → κ → ó

But let us look at an alphabetic system from West Africa. In the same block above, below the Greek alphabet letters, is another alphabetic system that is called the ߒߞߏ (N'ko) alphabet and this is written from **right to left**:

ߒ ← ߞ ← ߏ

N'ko is a system that was brought into use in 1949 in the West African country of Guinea by Solomana Kanté. In this system, letters are joined together forming **ligatures**. The writing system is dedicated to the sound systems of the Mande language group, including languages such as Bamanankan, Mandinkakan and Jula which are spoken over large areas of West Africa.

This **script** (another word for a writing system) is used widely in West Africa and around the world as an African alternative system that carries the Mande cultures and languages in their own way, rather than in the adapted Latin alphabet that entered the region as a result of European colonisation.

The N'ko writing system is part of **Unicode**, which is the international standard for text encoding of the world's writing systems online. For this reason, it is possible even to use the script in everyday contexts of social media.

Returning to the table of types of writing systems, in the box to the right of the Alphabetic box we have two **abjads** (which are also read from right to left). These are like alphabets, except they function such that vowels are only represented when absolutely necessary. This is largely done using **diacritics**, which are small marks placed above or below the letters. Remember the small line underneath the first "n" in the word [ṇna] "me"? That line is also an example of a diacritic, and we make extensive use of many such diacritics in phonetic transcription.

The abjad system works well for languages in the group **Semitic languages**, for example, because vowels in these languages change according to grammatical context in predictable

ways. The two Semitic languages shown in the images are עִבְרִית (*Ívrīt* "Hebrew") and الْعَرَبِيَّةُ (*Al-ʿArabiyyah* "Arabic").

1.5.2 Art in African writing systems

In the right way up African map, you will notice the triangular shapes of the **Ditema tsa Dinoko** or **Isibheqe Sohlamvu** writing system. This is the system used for writing all Southern African **siNtu** languages under one orthography. Below is an image of these two names of this system, written using it. The syllable blocks that each symbol represents can be combined into larger patterns for visual effect (as in the big text) or can be written in a linear way (as in the small text). The Latin alphabet **transliteration** is given underneath so that you can see the syllabic nature of the system again. Transliteration means converting one writing system into another one.
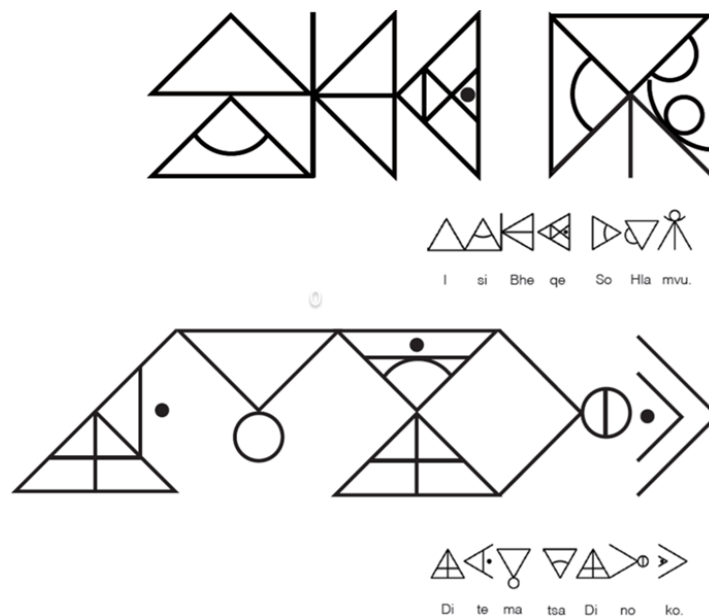
This writing system uses geometric forms; therefore, it has the potential to be used with colour, as in the example below. You might start to recognise the colour schemes and shapes as

having a similarity to the IsiNdebele or Sesotho traditions of art, which are usually called **umgwalo** and **ditema** (also spelled **litema**, especially in Lesotho).

i   si   bʰɛ   !ɛ   sɔ   ɬa   mvu
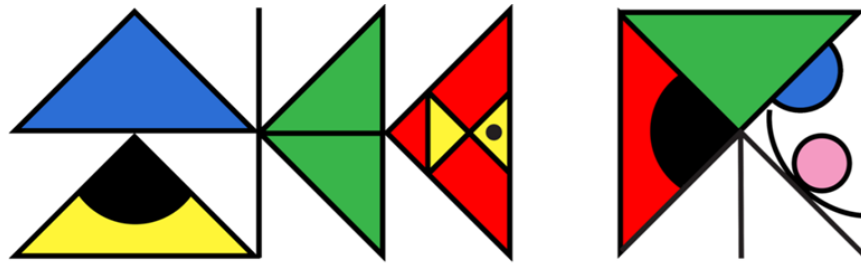
Because the writing system has geometric forms, it is also good for creating sculptural structure, meaning writing can become three-dimensional objects. Thus, the system can have multiple uses, serving both a literary and artistic function. Sesotho traditions of Ditema are mural art traditions used for adorning walls of buildings. The piece below was created by the artist Sandile Radebe. Then, in the jewellery design by Lilja Hastie alongside, we find the word "*mmogo*". As you would expect, the piece is about togetherness. The furniture piece below that, by the Johannesburg-based company Dokter & Misses, has a poem on it (written in columns from top to bottom and left to right) by the famous Sesotho language poet KPD Maphalla.

The text of the poem verse on the furniture is below, with the transliteration in the Latin alphabet showing the syllable divisions.

ma hlo   a   ka   tu tu bo lo   ha

o   le ko le   tse   la   le fi fi ng   le   le tsho

fa tshe   le   na   ha se   la di fo   fu

le kga ntsha   se kgu kgu   ho tswe di pa   na
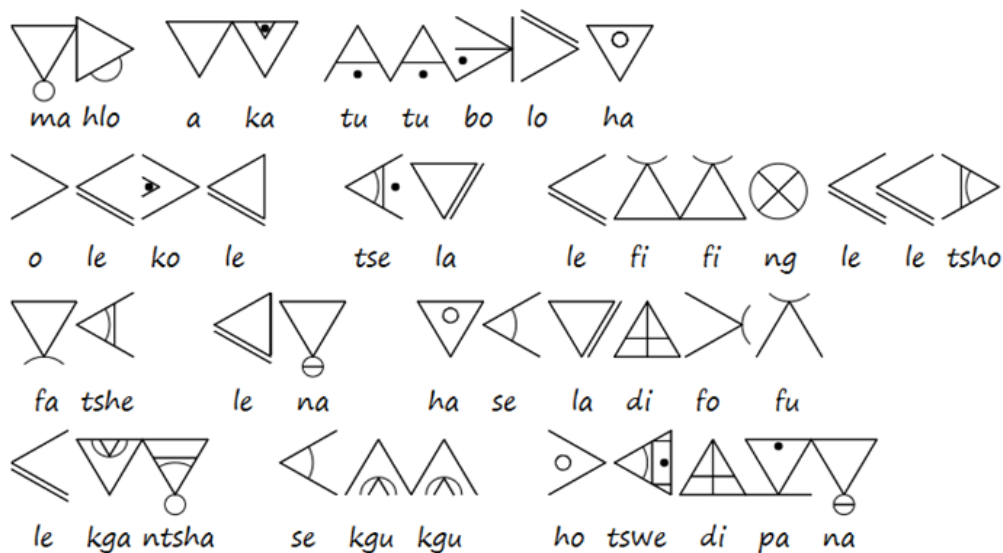
1.5.3 Linguistic structure in an African writing system

In this section, we look at how the Ditema tsa Dinoko or Isibheqe Sohlamvu writing system works, and show how it relates to the linguistic structure of Southern African SiNtu languages. We do this by focusing on some questions and answers, written with Ditema and Latin transliteration underneath, showing the syllable divisions.

How do the Ditema symbols work?

Ditema tsa Dinoko or Isibheqe Sohlamvu is a syllabic writing system where one symbol represents one syllable in the language. This writing system derives from traditions of decorative graphic symbolism. The characters are arranged in syllable blocks corresponding to the unit of the triangle (or chevron) that represents the vowel. The orientation of the triangle indicates the nature of the vowel. The writing of a syllable begins with the vowel (triangle or chevron shape):

Vowel graphemes

e   ε   i   a   u   ɔ   o
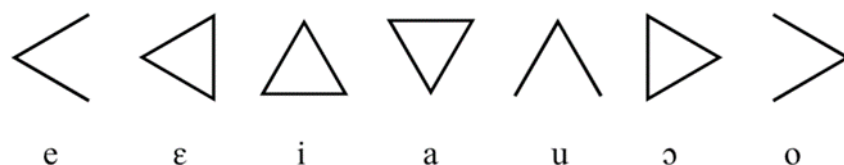
Notice above the symbols /ɛ/ and /ɔ/, which are the **phonetic transcription** symbols for the vowels represented in the orthography as ⟨ê⟩ (as in ⟨mahêtla⟩) and ⟨ô⟩ (as in ⟨matsôhô⟩).

It shows that the Ditema system has a separate symbol for each vowel, whereas the Latin orthography for languages like Sesotho usually just uses the symbols ⟨e⟩ and ⟨o⟩; and we must know from the context which vowel sound is intended, as you have seen in the previous exercises.

This is the same in English orthography, where the ⟨a⟩ in ⟨farm⟩ is a different vowel pronunciation from the ⟨a⟩ in ⟨fame⟩, yet they are both written with the same symbol, which is the letter A.

So, returning to the Ditema system: once the correct vowel has been captured, the consonant components are added to form syllables. Here is a Ditema consonant chart:

CONSONANTS	bilabial	labio-dental	dental	alveolar	post-alveolar	retroflex	palatal	velar	glottal	lateral (dental or alveolar)
plosive	pʰ		tʰ	tʰ			cʰ	kʰ		
fricative	ɸ	f		s	ʃ	ʂ		x	h	ɬ
approximant	w						j			l / ɭ
trill				r/R						
tap or flap					ɽ					
click			ǂ	ǃ						ǁ
nasals	m		n	n			ɲ	ŋ		
syllabic consonants	m̩			ŋ̩			ɲ̩ / ŋ̩			
			r̩							l̩

This chart is organised according to the **articulatory features** of the sounds, which is how we can describe speech sounds precisely, by breaking them down into components called features. For example, a /p/ sound is called a *bilabial* because it is pronounced using both lips (*bi-* "two" + *labial* "lips").

The image below illustrates the syllable formation of various languages using the Ditema system.
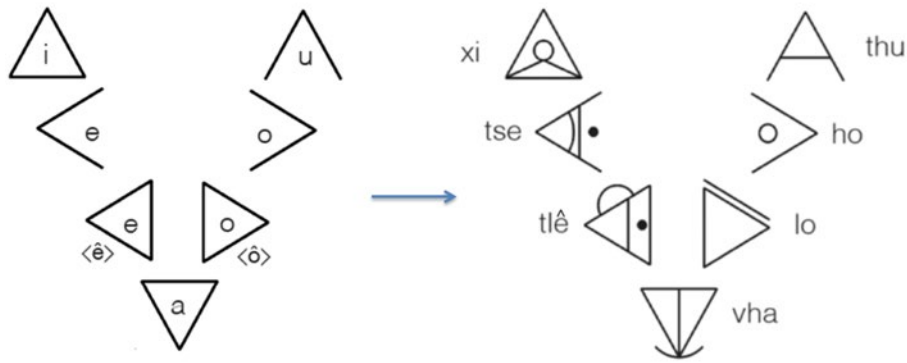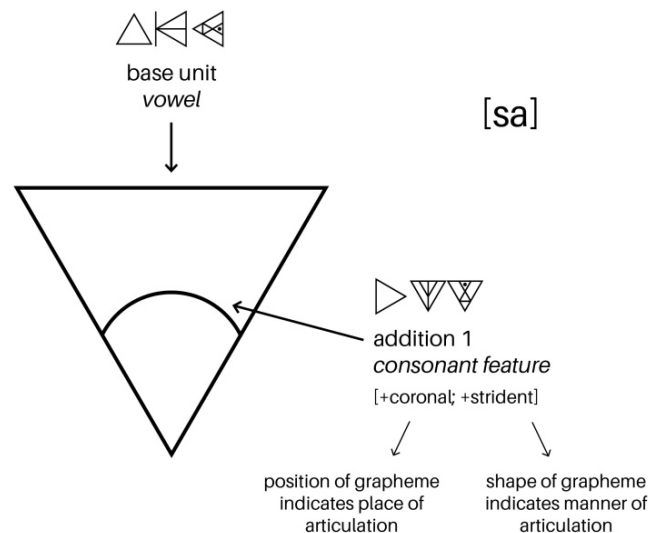
In the image above, the syllable ⟨xi⟩ is the Xitsonga pronunciation [ʃi] and the syllable ⟨vha⟩ is the Tshivenḓa pronunciation [βa]. Remember that the square brackets [ ] indicate the phonetic transcription (how it sounds) and the angle brackets ⟨ ⟩ indicate the orthographic transcription (how it is normally spelled).
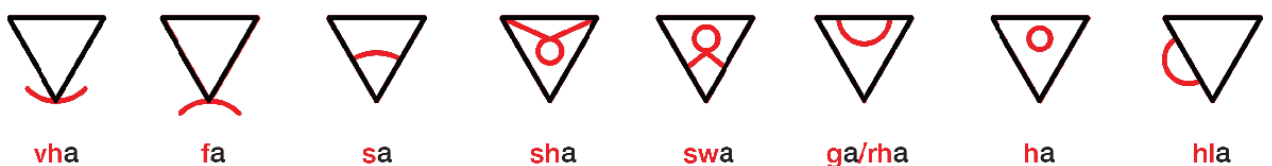

base unit
vowel

[a]
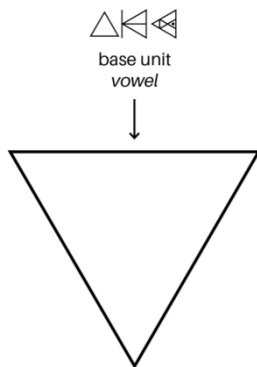
We begin with the base unit that is called *ibheqe* and represents a particular vowel (in this case, the vowel [a] – which is called the *open vowel* or *low vowel* in phonetics).

base unit
vowel

[sa]

We then add a consonant **grapheme**.

A grapheme is the smallest unit of representation in a writing system. The grapheme in this case represents the consonant called the alveolar fricative [s]. Together, these form a syllable [sa].

addition 1
consonant feature
[+coronal; +strident]

position of grapheme indicates place of articulation

shape of grapheme indicates manner of articulation

The shape of the grapheme corresponds with the manner of its pronunciation:

vha   fa   sa   sha   swa   ga/rha   ha   hla

The above consonant graphemes all have a curved shape and they are all **fricatives** (sounds where there is a turbulance in the airstream that causes a "hissing sound" – imisindo ehlihlizayo).

The places where graphemes are located in the ibheqe correspond with the place in the mouth where the sounds are articulated.

We can say that the Isibheqe forms have a degree of articulatory **iconicity** – the graphic form of the symbol roughly resembles the shape of the mouth when pronouncing the sound.
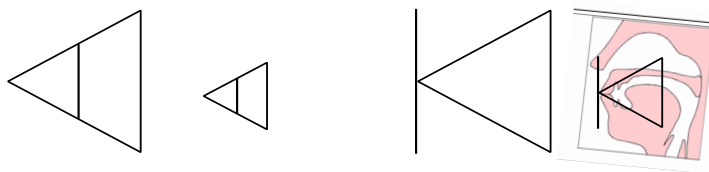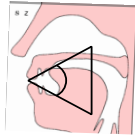
Iconicity in general is when the form of a sign resembles its meaning in some way. For example, **onomatopoeia** is when the sound of the word resembles what it represents, for example the rooster says *kukurukuku*, or the GTi says *vrrrpha* and so the car acquires that as its name.

Likewise, the Isibheqe characters above show a degree of iconicity, with the triangle representing the mouth; its apex the lips; its base the back of the oral cavity, including the **velum** ("soft palate") and **uvula**; and the space in the middle inside the form representing the alveolar area and palate ("hard palate").

So, for example, **labial** sounds like [p], [f]. [w] or [b] – those that use the lips as articulators – will be represented with forms at the apex of the triangle, as in the diagrams above. In the same way, **lateral** sounds like [l] – those that are produced with air flowing past the side of the tongue – will be found on the side of the triangle, as in the examples below. Here the straight line parallel to the side indicates the **lateral approximant** [l]; the arc on the side represents the **lateral fricative** [ɬ]. which is written in orthography as ⟨hl⟩; and the hourglass shape at the side indicates the **lateral click** [ǁ], which is usually represented in orthography as ⟨x⟩.

⟨la⟩
[la]

⟨hla⟩
[ɬa]

⟨xa⟩
[ǁa]
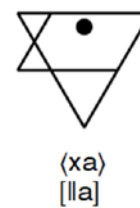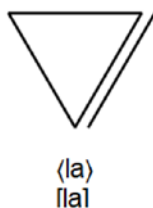
However, in the last character, you can also see the line across the middle of the triangle from side to side, which indicates that the sound also has an *alveolar* articulation. In addition, it is

connected to the base of the triangle inside it, which shows that is has a velar articulation as well.

The alveolus (or alveolar ridge) just behind your teeth and the velum or "soft palette" are the precise areas of the mouth involved in the pronunciation of this sound (that is, its articulation).

All this describes the click sound as

1. released at the side of the mouth
2. involving closure of the tongue tip against the alveolar ridge
3. involving closure of the back of the tongue on the velum (that is, the back of your tongue is also raised to your soft palette when you pronounce the sound)

This click sound is thus produced by forming a subcavity (a smaller space) using the tongue, which lies simultaneously at the closure at the alveolar ridge and at the velum. The tongue is then sucked inwards, and the pressure is released out of the *side* of the tongue. This sucking action is characteristic of click consonants, and in fact the Afrikaans name for click sounds is *suigklanke* ("sucking sounds"). (The click consonants are represented in the phonetic transcription with the following symbols: ! ǀ ǁ ǂ ʘ.)

What is important to note in the above description is that we can break a single sound segment into its **constituent features**, which in linguistics we call **phonological features**. They describe how a single segment (the smallest unit of speech sound) is built up from various parts of articulation, which are the features. Now, what is equally important to note is that the forms of the Ditema tsa Dinoko system equally show finer detail than segments – they show the constituent *features* thereof.

For this reason, the writing system is considered a **featural writing system**. But because it shows combined features that form segments, and combined segments that form syllables, it is called a **featural syllabary**.

Probably the most famous example of a featural syllabary in the world is the Korean writing system, which is called 한글 (Hangeul), shown in the block:


It also combines segments into syllable blocks which form the individual characters.

Shown here is the word "Hangeul", consisting of two characters that correspond with the two syllables of the word, and with each character having its consonant and vowel components. The system also has a degree of iconicity in its construction.

**Open Education Resources: Unisa Open Teaching and Learning Materials**
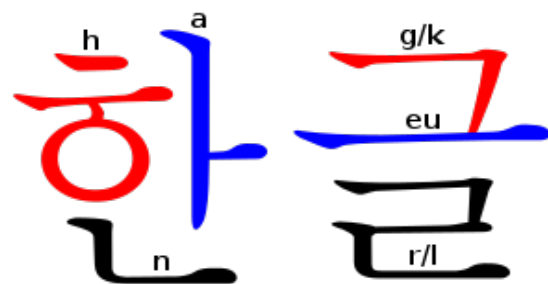
In Ditema tsa Dinoko, not only is there iconicity with consonants but also with vowels. For example, when the vowel [a] is pronounced, the chin goes down and so does the tongue. For this reason, the grapheme that represents this vowel is the downward pointing triangle. This ibheqe is called "isoka" or "insizwa".In contrast, when pronouncing the vowel [i], the tongue goes to the top of the mouth and the jaw moves upwards. This is why that vowel is represented with the upward facing triangle. This ibheqe is called "intombi".

In SiNtu languages, the back vowels are pronounced with the lips rounded and the front vowels are pronounced with the lips spread. Back vowels are those where the tongue is pulled backwards in the mouth (that is, pulled in instead of pushed out). Front vowels are those where the tongue moves forward in the mouth. In the diagram and in the Ditema system, the front of the mouth is on the left and the back is on the right (see below).
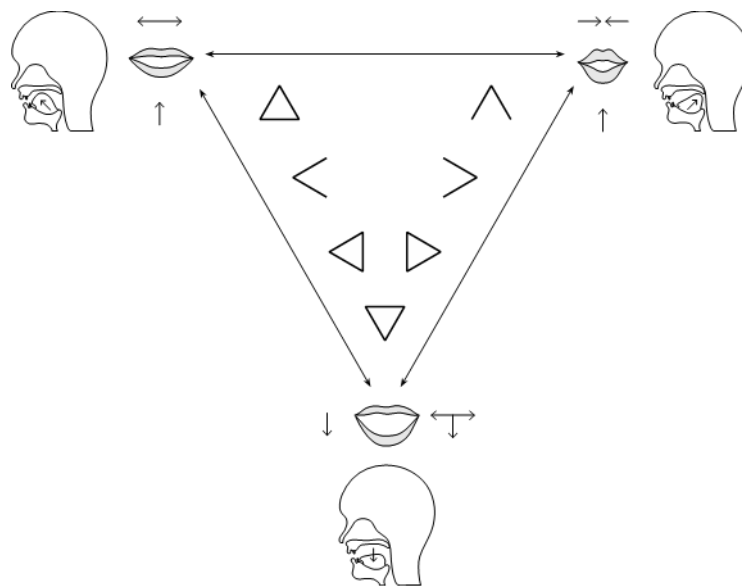

In the Isibheqe Sohlamvu or Ditema tsa Dinoko system, the distinction between voiced sounds is made by a line called **uphimbo** ("voice") that extends from the apex of the triangle to its base.

We take the example from before, beginning with the vowel [a], which is the downward facing triangle (isoka). We add the grapheme representing [s] – a curved shape that is in the alveolar region, which is from one side of the triangle to the other. The symbol then becomes [sa]. Then we modify this by adding the uphimbo or voicing line below, changing the syllable [sa] to [za]:


[a]   [sa]   [za]
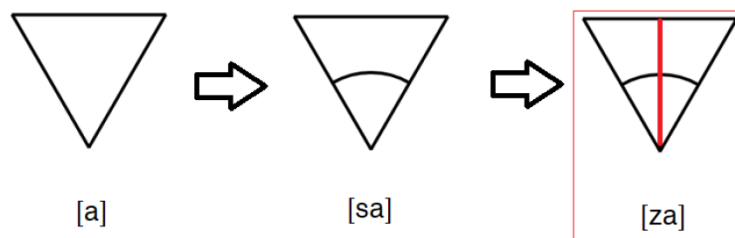
The above example shows how the Ditema system can add the fine detail of phonological features to the representation, in this case changing a voiceless sound to a voiced one.

In language traditions like Xitsonga, there is a distinction between *plain* **voiced consonants** and *breathy* **voiced consonants**. The voicing line can also show this difference. For example, take the two words ⟨miri⟩ meaning "bodies" and ⟨mhiri⟩ meaning "puff adder" (referring to the snake of that name). What is the difference between these two? Well, the second one is pronounced with a breathy voiced tone, and this is represented in Ditema orthography as follows:
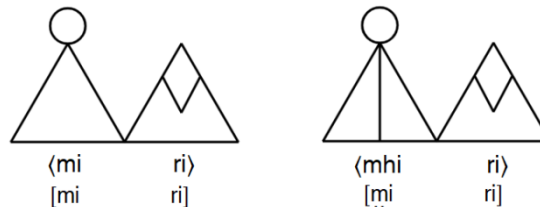
Notice the grapheme for the [m] sound above. This circular shape at the apex of the triangle is called **ingungu.** When it is on its own as a consonant grapheme, it represents a full consonant; but when it is added to other consonant graphemes, it signifies a constituent *feature*. The ingungu is a grapheme that adds a phonological feature of **prenasalisation.** Let us add it to the [sa] syllable to form [ⁿsa]:
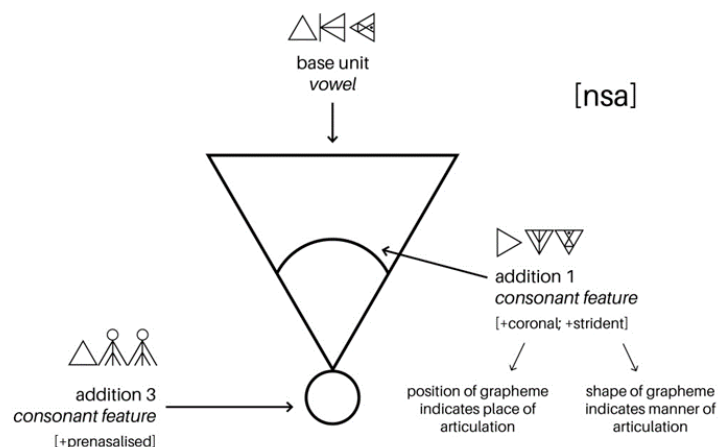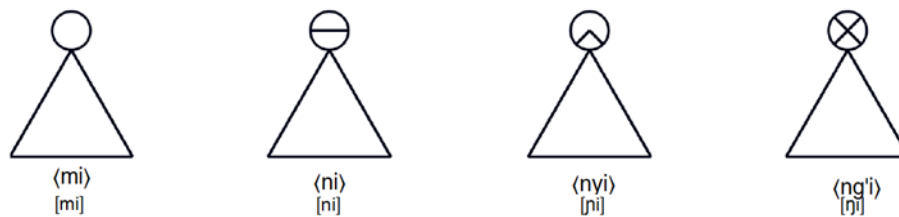

Prenasalisation means that the consonant is pronounced with a **nasal** component that comes before it. Nasal sounds are those where air travels through the nasal cavity, which changes the **resonance** of the sound, and is expelled through the nose. The place of articulation of the nasal constituent is **homorganic** with the consonant it precedes (that is, it has the same place of articulation). In fact, it is part of the same consonant. An example is the "m" in the two consonants, even though it is written with two symbols in the standard orthographies of SiNtu language.

Because the ingungu represents the feature of prenasalisation that is added to the consonant, it always has the same place of articulation as the consonant. For example, in the diagram above, it becomes an **alveolar nasal** component. But if the ingungu is the only consonant grapheme in the syllable, it becomes the **bilabial nasal** consonant [m].

To represent the other nasals as consonants on their own, lines are added inside the ingungu, with the same symbolism as they would have when in the word. "Uhlamvu" is not a consonant

on its own, but is part of the consonant it follows in the orthography. This means that ⟨mv⟩ is a *single consonant* in this case, the triangle. The nasal consonants are shown below.


| ⟨mi⟩ [mi] | ⟨ni⟩ [ni] | ⟨nyi⟩ [ɲi] | ⟨ng'i⟩ [ŋi] |

Let us now try to combine the consonant feature of prenasalisation with that of voicing. We begin with the syllable [nsa] as above. To show that the "n" in this case describes prenasalisation, we often put it as a superscript character as follows: [^{n}sa]. We then add the voicing line to this, forming the syllable [^{n}za]:
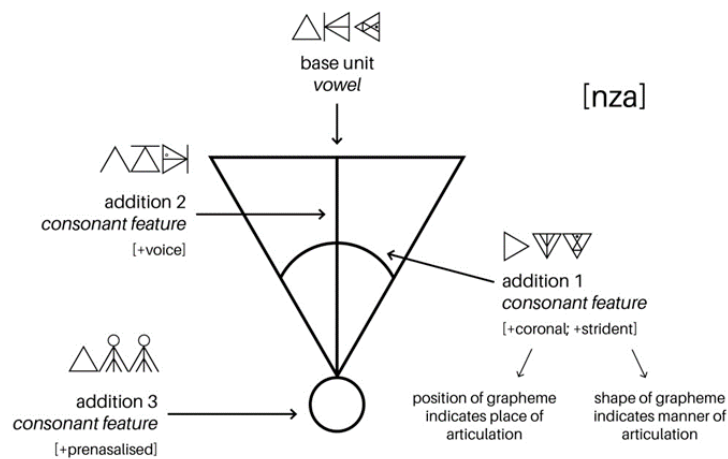
In the Ditema system, this syllable (with any vowel orientation) has its own special name because of what its shape resembles and the sound that it makes.

It is called **umakhweyana** (also known as **uhadi** or **thomo**). In Brazil, a similar instrument exists and it is called **berimbau**. Just as the gourd or calabash is an extra chamber that adds resonance to the sound of the string, so the nasal cavity engaged in prenasalisation is an extra chamber adding resonance.

ONGWAQA

umakhweyana

ⁿzi
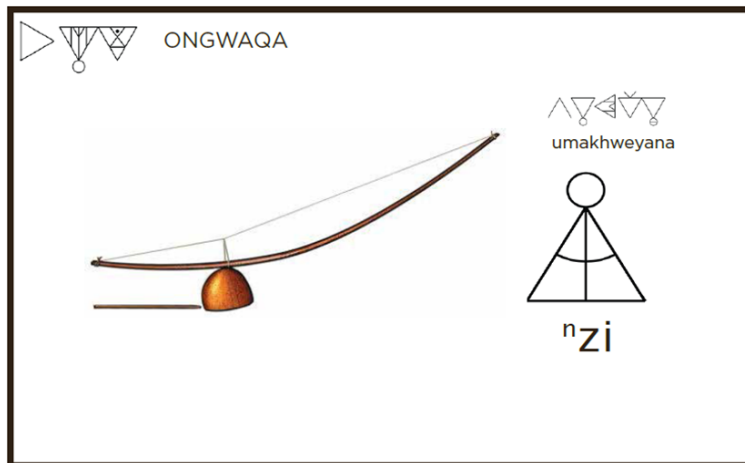
The final consonant grapheme we cover here is called **ingungwanyana**. This is in the form of a dot inside the triangle. The function of this grapheme is variable, but it relates to an important distinction in SiNtu languages – that between the **constricted glottis** and the **spread glottis**. This can be most simply exemplified as the difference between ⟨tata⟩ ("father") and ⟨thatha⟩ ("take"). As you can see in the orthography, the second word has an "h". This is the way the spelling system represents **aspiration**. Aspiration can be described as an extra puff of air that comes out as the consonant is pronounced. It also has the property of delaying the onset of the vowel slightly.

In contrast, the "t" sounds in the word ⟨tata⟩ are **ejectives**. Ejectives are produced by the glottis closing together with one other closure in the oral cavity (creating a sealed space between them). Then the glottis is pushed slightly upwards, which compresses the air in this space. Finally, the oral closure is released (in the case of ⟨tata⟩, it is an alveolar closure). This produces a sharper **plosive** sound that has a pop to it, which is called an **ejective plosive**.

The sound is used around the world in certain language traditions, but it is also familiar from the **beatboxing** technique. It is useful in this art form because it creates sharp popping sounds, but also does not use any air pushed from the lungs because the glottis is closed (which cuts off the lungs). For this reason, the ejective consonants are called **non-pulmonic** sounds (literally meaning "non-lung" sounds).

The phonetic symbols used to represent **ejective plosives** are, for example, [p'], [t'] and [k']; whereas the corresponding symbols used to represent **aspirated plosives** are [pʰ], [tʰ] and [kʰ].
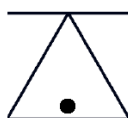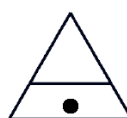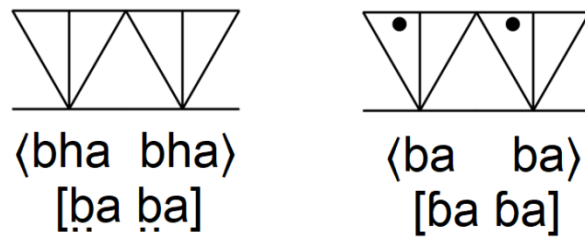
$p^h i$ $t^h i$ $k^h i$

$p'i$ $t'i$ $k'i$

Aspirated plosives are the default form in the Isibheqe representation,

with ejective plosives requiring the addition of the ingungwanyana dot which represents the constricted glottis. Note the diagram below that illustrates this.

⟨bha bha⟩
[ɓa ɓa]

⟨ba ba⟩
[ɓa ɓa]

The same pattern applies with voiced consonants, except the ingungwanyana dot here implies **implosives**.

An implosive is a consonant where the air is sucked in and the release of the oral closure is inward rather than outward.

You can feel it for yourself by pronouncing ⟨baba⟩ ("father") as it would be pronounced in standard isiZulu. Note that in the languages of the Sotho group, for example, implosives are not present, so the dot just represents a plain voiced consonant. When the ingungwanyana dot is not present, the breathy voiced consonant (equivalent to aspiration) is signified. In the orthography, an "h" is likewise used to represent this, for example ⟨bhabha⟩ "flap" (see the image above).

You have now learned how the Ditema system works. Here is a summary of a syllable table for the feature grapheme components from above:

1.6

e	ɛ	i	a	u	ɔ	o
se	sɛ	si	sa	su	sɔ	so
ze	zɛ	zi	za	zu	zɔ	zo
nze	nzɛ	nzi	nza	nzu	nzɔ	nzo

Conclusion

In this study unit, we looked at orthographies and writing systems for different languages. The definition and the origin of the notion of orthography were explained for better understanding. A comparison of the disjunctive and conjunctive writing conventions in various languages was drawn, with specific focus on African languages. We then looked at how writing systems have constantly been changed, adapted and repurposed for different contexts, and how writing systems that originated in Africa can serve as a decolonisation tool. Finally, attention was paid

to the Ditema tsa Dinoko or Isibheqe Sohlamvu featural syllabary as a locally relevant way of decolonising writing.

1.7   Reading for the study unit

Fromkin, V, Rodman, R, Hyams, N, Amberber, M, Cox, F & Thornton, R. 2022. *An introduction to language* (10th ed). Melbourne: Cengage Learning.

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Mutwa, V.C. 1964. *Indaba, my children*. Johannesburg: Blue Crane Books.