AN INTRODUCTION TO

West Greenlandic

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This means 'at' in Greenlandic

And this means 'dot'

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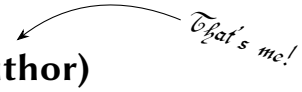
Preface

Dear reader!

If you want to learn Greenlandic – *Kalaallisut* – then this book is for you. Even if you already know the language, you might still find something of interest in it, if you have ever wondered *why* the words look and behave the way they do: Why do you say ***sulisarpoq*** but ***sinittarpoq***, and why is the language called ***kalaallisut***, when a single Greenlander is a ***kalaaleq*** with just a single 'l'? If *man* is ***angut***, and you express *I am an …* by adding *-**uvunga*** to a noun, how come then *I am a man* is ***angutaavunga***? If you have ever taken a course in Greenlandic, you'll know what I mean.

There is a pattern here, but most traditional Greenlandic course-books (and language courses!) will not tell you what this pattern is; the worst of them will tell you nothing at all, except that this is how it is, so you are left with no other option than to try to memorise these sound changes on a word-by-word, case-by-case basis. They will teach you some useful phrases, like *happy birthday* and *thanks for the coffee*, that you can repeat, parrot-like, on suitable occasions; but they will not help you infer how to construct *new* phrases, like *it is my birthday* or *I don't drink coffee*. At best, they can help you *pretend* to know some Greenlandic, but if that is not enough for you then you have to start somewhere else. That is where this book comes in.



About the book (and the author)

First of all, a warning: *I am **not** a linguist!*[1] I am a computer scientist and psychologist, who has happened to live in Greenland for a number of years, but I have neither studied Greenlandic formally, nor linguistics in general. This of course also means that you should be careful with citing the present work for academic purposes, or in general with trusting anything I say. What I *do* have, however, is a first-hand experience of actually learning Greenlandic.

[1] Indeed, I consider myself as something of an *anti-linguist*, mostly due to ideological differences. If you are a linguist yourself, you'll see what I mean. And if you're not, then it does not matter.

Also, I am not a parrot. I have attended some of the aforementioned 'parrot-courses,' but mostly I have taught myself Greenlandic, and in the course of doing so I have read through all the Greenlandic grammars I could get my hands on, in search of explanations for the patterns in the language; that is, precisely the kind of explanations that the parrot-courses *did not* give me.

Unfortunately, most Greenlandic grammars (with one notable exception) are written by learned academics, for the benefit of other learned academics, who seemingly have a preference for dreariness and convoluted sentence construction. Furthermore, every page in these books is usually lavishly sprinkled with technical terminology that none but these very learned academics can understand. It is almost as if these authors consider it a virtue for a book to be both boring and unreadable; at least within certain spheres of academia. The rule seems to be: if a book can bore the reader to tears, then it has to be serious work! In other words, most of these grammars are close to unreadable by ordinary people who just want to learn the language without having to struggle through pages of abstruse terminology.

I call this kind of technical language *'Grammaric'* – like 'Greenlandic' – because it really *does* seem like a whole new language one has to learn, in order to learn Greenlandic. But, as a frustrated learner once remarked to me, it surely ought not to be *necessary* to have a degree in linguistics just to learn Greenlandic! And so I began to wonder if it would be possible to present these patterns and explanations in a more natural style, using ordinary, everyday language; a book that could be read by anyone without special prerequisites, but, equally importantly, also without making the presentation superficial. This led to my writing of this book: *An Introduction to West Greenlandic* (through several iterations, including one major revision where I switched from Danish to writing in English).[2] As the title suggests, it is meant to be an *introduction* – not a course book, nor a traditional grammar. It is an attempt to describe the *rules and regularities* that pervade the language, written by someone (namely me) who has learnt the language and discovered for himself the usefulness of these rules. The central tenet is as follows:

> *Greenlandic is a highly* regular *language, and thus also* easy *to learn. In fact, it is so regular that one might even construct an* algorithm *for generating the language.*

You can think of the present book as just such an algorithm, given in a natural language.

In other words, you should not expect to *learn* Greenlandic, just by reading this book; for that you will have to rely on the parrots and their course materials, or whatever

[2]It occurred to me that there are very few accessible sources about Greenlandic available to people who do not happen to know Danish: Any non-Dane wishing to learn Greenlandic would likely need to firstly learn Danish in order to be able to read the books (written mostly in Grammaric!) about Greenlandic – a bootstrapping process that surely will deter many from ever even attempting. And thus I decided that rather than simply revising the Danish manuscript, I might just as well also translate it into English.

you have access to. But hopefully, my book will be a useful *supplement* to these parrot-materials, by providing the explanations that they often lack. *He who learns with parrots should see to it that he himself does not become a parrot*, and hopefully this book will help you avoid that fate. And hopefully also without being excessively Grammaric. After all, there is no point in writing a book in such a way that the intended audience cannot read it.

And thus we come to my assumptions about *you*, the reader, to whom I write.[3] You may, of course, be nothing like the ordinary 'average Joe' who abhors theoretic meanderings and just wants to get on to 'the practical stuff' of learning some words so he can start *using* the language. You may even have a deep interest in languages (and you probably do, since you are reading a book about an obscure language with only some fifty thousand of speakers); but I have nevertheless decided to *assume* that you do not have a background in linguistics, nor that you have any particular knowledge about grammar in general, other than what is normally taught in school. Of course, you *may* have, and therefore find some of my explanations tedious, but then you will probably be able to skip lightly over those parts.

In fact, during the course of writing, I have tried to imagine you sitting aboard the plane to Kangerlussuaq and reading this book: It is a four hour flight from Copenhagen, and since it is mostly over sea there is little of interest to see from the windows, except sea, sea and some more sea, until you suddenly reach the mountains on the east coast of Greenland. Then the monotonic blue is replaced by monotonic white, stretching on for about another hour of flight, before you finally reach Kangerlussuaq on the west coast. In other words, there is not much to do aboard the plane, and what better way to pass the time then, than by reading a book about the Greenlandic language?

These assumptions may of course be completely wrong without affecting your ability to read and use the book, but I found that it made the writing easier, especially with respect to the level of detail and amount of explanation, if I imagined you to be essentially in the same situation that I was in, when I first came to Greenland in 2011. I have since then pondered, how different my experience with learning the language would have been, if I had begun by reading a book that clearly explained to me how different Greenlandic is from all the European languages I had previously learnt; pointed out the common pitfalls, and in general given me *some advice on how I should go about learning the language*. This is precisely what I have attempted to do with the present book: To write an introduction to Greenlandic that I believe I myself would have found both useful and enjoyable to read, when I sat aboard the plane, back then in 2011. How well I have succeeded, though, will be for you to judge.

[3] I see no point in pretending that the reader does not exist, so I shall write directly to you, as if we were having a conversation, and in general try to avoid the dreary and artificially impersonal academic style that effectively puts most ordinary people to sleep.

How (not) to learn Greenlandic

I came to Greenland in 2011 with (amongst other things) a clear intention of learning Greenlandic. This clear intention led me to try all the usual tricks and techniques I had been taught in school for how one *usually* learns a foreign language: I tried reading books about Greenlandic, books *in* Greenlandic, and even newspapers and road signs. I listened to the language, to music, to the news. I tried to memorise some common phrases, and I worked my way through some of the course materials usually recommended to foreigners, available in the bookshop and the library. In short, I tried very hard for about a year, and achieved very little. But I was probably a great parrot.

And so I began to doubt myself. *Could it really be the case that I should be unable to learn this language? I, who had been taught both English, German, Spanish and Latin in school? What a disconcerting thought! No, that could not possibly be the case. Ah! It must be* the language *that is the problem. Surely, this language is* so *alien and difficult that it will require a super-human effort to learn, as obviously evidenced by the fact that no one else (apart from the native speakers!) seems to have managed to learn it either. Clearly, it is hopeless…*

I doubted myself. That's an unpleasant feeling, so I quickly switched to blaming the language instead, as I am sure many learners before me have done. However, it did not occur to me to doubt *the method* I was using; most likely because I was not even *aware* at that point that I was applying a particular method to the problem of learning Greenlandic, or that there even might *be* other ways of doing it. The turning point for me came, when a friend showed me a slim and somewhat tattered book he had found in the local library: it was Per Langgård's *Forsøg til en forbedret grønlandsk pædagogisk grammatica* (Langgård, 1997a), and I had myself, in fact, seen it in the library on a previous occasion, and cursorily flipped through its pages, but ultimately deciding that I would not bother borrowing it, because *surely* such a complex language as Greenlandic could not *possibly* be adequately described in so few pages. Instead I had opted for Stig Bjørnum's voluminous grammar (Bjørnum, 2003) with its endless tables of endings *ad nauseam* – more than fifteen hundred! – which (in hindsight) probably did as much to dishearten me as my lack of progress with all other methods combined.

The moral of this anecdote is that less sometimes *is* more: In his book Per describes a few, general rules for sound changes in the language, that (amongst other things) are responsible for generating the myriad of endings found in Bjørnum's grammar. The pattern was there all along, but rather than emphasising it, Bjørnum (and many other authors of books on the Greenlandic language) have obfuscated it completely by their insistence on showing only the generated forms, and not the *rules* that generated them.[4] Per's book provided me with the first stepping stone into the language, and the present book surely owes

[4] If you have no idea what I am talking about here, then do not worry; you will see soon enough.

English:	*My*	*name*	*is*	*Stian*	*and*	*I*	*am*	*28*	*years*	*old*
German:	*Mein*	*Name*	*ist*	*Stian*	*und*	*Ich*	*bin*	*28*	*Jahre*	*alt*
Danish:	*Mit*	*navn*	*er*	*Stian*	*og*	*jeg*	*er*	*28*	*år*	*gammel*
Greenlandic:	***Stianimik ateqarpunga***					***28-nillu ukioqarlunga***				

Figure 1: Comparison of the structure of an ordinary sentence in English, German, Danish and Greenlandic.

much to his work, although I have expanded on it and also draw on many other sources. You can find a complete list of these on page 351.

My point in relating this little story is to warn you of one of the most obvious pitfalls, as well as providing an argument for the way I've written this book. Despite my sarcastic remarks, the parrot-materials such as *Qaagit!* (Hertling, 1994) or Christian Berthelsen's *Kalaallisut Sungiusaatit* (Berthelsen, 1996) are not inherently bad. I am actually quite fond of *Kalaallisut Sungiusaatit*, and I gladly recommend it to people who are looking for suitable materials for self-study. The danger lies in trying to use them as simple phrase-books, with words and sentences to be memorised as you might do when learning some of the usual European languages, because that method does *not* work with Greenlandic.

Consider the example in figure 1. The structure of a Greenlandic sentence is completely unlike the corresponding translation in English, German, Danish etc., so you cannot simply rely on similarity of structure to help you deduce what each word in a Greenlandic sentence means. Furthermore, Greenlandic words are not *static*; they are constructed by the speaker, during the course of speech (or writing), and you therefore need to be able to *deconstruct* each word again, in order to understand what it means.

Structure of the book

Greenlandic is thus a curious language, because you could say it has *two* grammars: One for constructing words, and one for constructing sentences. This is reflected in the organisation of the book, which is in three parts:

Part I describes how *words* are constructed; that is, the fundamental rules for sound changes and word-formation in West Greenlandic. This part is thus absolutely essential, since it will allow you to understand how a word like ***ateqarpunga*** is built. My advice is therefore that you read this part before doing anything else, such that you will be able to dissect any Greenlandic word you subsequently will encounter. And I strongly advice you to do just that: You should never just memorise a Greenlandic word; instead, dissect it, understand how it is built, and ascertain that you can reconstruct it when you need it. Then there will be no need for memorisation of long, complex words.

Part II then deals with *sentence construction*: Once you understand how to build Greenlandic words, you will of course also want to put them together to form sentences, and as you can see in the aforementioned example, Greenlandic sentences are structured very differently than their English counterparts. In this part of the book, I therefore describe some common patterns in sentence construction. You can use this part in two ways:

- Either you can read it all first, and then move on to course/self-study materials like *Kalaallisut Sungiusaatit*, where you will hopefully be able to recognise the patterns described in this part.
- Alternatively, you can proceed straight to the course materials, if you like a more practical approach. Once you have read some texts (and dissected each of the words!) you can then return to this part, and then you will hopefully be able to recognise many of the patterns from the text you have already read.

Part III describes the system of endings for nouns and verbs, as well as the groups of pronouns and demonstratives. Greenlandic has a quite large number of endings; approximately five hundred – or *fifteen hundred* according to Bjørnum (2003) and others. However, there is a relatively systematic pattern in the *form* of these endings, and in this part I explain how you can derive these many endings (no matter how you decide to count them) from a small set of just around 60 'building blocks.' Similarly, the demonstratives and pronouns are also constructed systematically from smaller sets of building blocks, but unlike the construction of *words*, which is an ongoing, active process, the endings and pronouns are *frozen*. They have *historically* come to have a certain form, but this form does not change on a day-to-day basis. Thus you *may* simply ignore this part of the book altogether, at least initially, and just memorise endings as you encounter them. However, if you like systems (like I do), and would like some heuristics to aid your memory, or make it easier to *guess* (with much better accuracy than random) what an ending, a pronoun or a demonstrative means, then read this part.

* * *

Part I

Words

Or "How to say 'I have a dog' in Greenlandic"

CHAPTER 1

The units of meaning

If you know nothing about Greenlandic, then you might think it odd that I should devote several chapters just to the topic of *words*. After all, are they not merely bits of language that you have to memorise and gather in your mental dictionary, as many and as quickly as possible, before getting on to the *real* task of parsing and constructing sentences? How much can there be to say about words?

1.1 Problems posed by polysynthesis

As it turns out, there is quite a lot to be said about words, because Greenlandic is very different from all the Indo-European languages like English, German, French etc. that you may have studied in school: Greenlandic is a *polysynthetic* language, which means that words are constructed on-the-fly by the speakers, like we construct sentences when we speak e.g. English. This in turn implies (amongst other things) that there are *infinitely* many words in Greenlandic, just as there are infinitely many *sentences* in the English language: A single Greenlandic word can correspond to a phrase or entire sentence in English. Thus it is obviously hopeless to try to learn Greenlandic by merely memorising *words* – imagine attempting to learn English by memorising e.g. every sentence in the collected works of William Shakespeare! Instead, you need to learn the *rules* for constructing words, and how to take words apart again to find their constituents.

In a polysynthetic language like Greenlandic, words are composed of a set of basic building blocks, called *morphemes* in Grammaric, strung together in a particular order. Take, for example, the word

inuusuttooqqissuusaalaarallarlanga

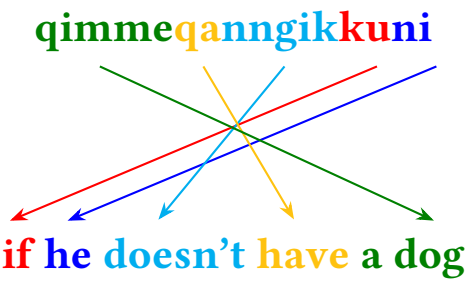


Figure 1.1: A Greenlandic word and the corresponding English sentence. Each coloured segment in the Greenlandic word is a morpheme, that corresponds to a word in the English sentence, as indicated by the arrows and matching colours. As you can see, the *order* of morphemes within a Greenlandic word is (almost) the exact opposite of the word order in English.

which is split in the following way:

inuusutto	o	qqis	su	usaa	laa	rallar	la	nga
young	is	again	one who	act like	a bit	for a while	let	me

If you think the 'translation' of the individual bits does not quite make sense, then try reading it in reversed order; that is, from right to left. The word means something like: *"Let me just for a while behave like I'm young again"* – a word I found on a friend's Facebook page, so this is an actual word and not just a contrived example – and *within* a Greenlandic word, the order of these 'building blocks' is almost exactly the reverse of the word order in the corresponding English sentence.

You can see another example of the internal order in figure 1.1, where I have tried to illustrate the relationship between each segment (morpheme) of the word ***qimmeqanngikkuni*** and the words in its corresponding English translation ('if he doesn't have a dog'). Notably, the order is not *random;* you cannot simply string the morphemes together in any order you like. In some cases a reordering of the morphemes will change the meaning of the word, but in most cases it will just turn out to be gibberish. Fortunately, as you will see later on, the ordering is governed by a few, simple and quite intuitive rules.

Another noteworthy point concerns the *form* of each morpheme within a word: For example, in the word ***qimmeqanngikkuni*** in figure 1.1 I translated the segment -qa- as 'have.' However, this morpheme can also have the form -qa**r**- depending on the *context*; that is, depending on the surrounding morphemes. In general, a sound may be deleted or (less commonly) inserted at the boundary between any two morphemes in a word. Whether and when this happens can be determined either by the morphemes themselves – some morphemes will always delete a preceding consonant, whilst others will inject one if the previous morpheme ends in a vowel – *or* by a set of 'sound laws' that govern the structure

of syllables in the language. The former is something you need to remember for each new morpheme you learn, along with its meaning, spelling etc., whilst the latter (in this case) amounts to a single, exceptionless rule: *A consonant cluster can* at most *consist of two consonants.* Easy, right? Look at the word in figure 1.1 again; there are never more than two consonants standing side by side.

Did you look? If so, then you might be wondering how the cluster nng fits with this so-called 'exceptionless' rule, because surely, that cluster consists of *three* consonants! But no, it does not. There are really only two consonant *sounds* in this cluster, the consonants /ŋŋ/, but they are spelt using the three consonant *symbols* nng in the Greenlandic orthography. This highlights yet another feature that you need to keep in mind: The difference between the individual *sounds* in a word, and the way they are represented in *written* form.

To expand a little further on this point, consider again the word

*inuusutto**o**qqissuusaalaarallarlanga*

where I translated the highlighted segment -o- as 'is' (or 'am' or 'are' – there is no distinction in Greenlandic). This is true, but it is not the *whole* truth, since this morpheme could also be spelt -u- or -a- depending again on the context. For instance, 'I **am** a Dane' (or 'I am Danish') would be ***qallunaaju**vunga*, whilst 'I **am** a man' is *angutaa**a**vunga*. It *is* the same morpheme in all three cases, but it is pronounced differently depending on the context, and thus also *spelt* differently, because the Greenlandic orthography was made to reflect pronunciation.[1] This is precisely one of the reasons why it is exceedingly difficult to learn Greenlandic just by *listening* to the language – the bits that *mean* the same do not at all *sound* alike!

In conclusion, these small (or rather, *long*) examples illustrate at least three morpheme-related features of the language that you need to come to terms with, if you want to learn Greenlandic:

1. The *order* of the morphemes (which can sometimes change)
2. The *form* of a morpheme (which can change, depending on context)
3. The *sounds* in a morpheme (which can change even more drastically)

The purpose of the entire Part I of this book is to help you do precisely that.

[1]Actually there are *two* official orthographies for Greenlandic. The one I employ throughout this book – because it is the most commonly used – is called 'the new orthography' and was introduced in 1973, but the 'old orthography' made by Samuel Kleinschmidt around 1800 has never been officially abolished, and some still prefer to use it (including me, as you will later see).

1.2 Morphemes and phonemes

The previous paragraph has hopefully convinced you that you cannot learn Greenlandic by merely memorising words. How often would you expect to need a word like *inuusuttooqqissuusaalaarallarlanga*? Probably never (unless you happen to be writing a book about Greenlandic), so memorising this word will contribute exactly *nothing* to your active vocabulary.

But you would certainly often need some of the *morphemes* used within that word, like for instance the one meaning 'is.' This however poses a new problem: Since this morpheme can take three different forms, -u-, -a- and -o-, depending on context, which form should you then learn? All three of them? Many morphemes can have three or four different forms (and some even more), so if you were to learn *all* forms of every morpheme *and* remember in which context to use each of the forms, you would likely soon run out of memory (or go mad).

As another example, consider the words *sinik**kusup**putit* (you **want to** sleep) and *ise**rusuk**kuit* (if/when you **want to** enter). The highlighted segments are actually the *same* morpheme (with the meaning 'want to'), but at first glance they look very different. However, these *sound changes* are extremely common in Greenlandic – they actually happen almost every time two morphemes are joined. Thus rather than writing both -kusup- and -rusuk- (and the many other forms this morpheme can take) I will instead use a kind of *base form*, written in curly braces {-}, whence you can *always* derive the correct form a morpheme should take in any context, by applying a small set of *sound rules*. For example, I will henceforth write the morpheme meaning 'want to' like this: **V**{(q)gusuk}**V**. The purpose of this and the following chapters is to introduce this notation and the sound rules, and show you how to use them. Aside 1.1 at the end of this chapter contains some further comments on the problem of how to represent morphemes.

Thus far I have also been using this fancy Grammaric term 'morpheme' as a kind of short-hand for 'word building-block' but without saying clearly what it is:

Definition 1.1 (Morpheme) *A* morpheme *is an indivisible* unit of meaning *within a word, and all words contain at least* one *morpheme. I denote by curly braces* {-} *the* root form *of a morpheme, which is an abstract representation of the morpheme as it exists in the mental lexicon of a speaker, prior to pronunciation. Examples include* {aŋutə} *(man),* {-qaq} *(have an N),* {-u} *(is an N) and* {vuŋa} *(I Vb).*

All words are made of morphemes; even words in English. Consider an expression like *The dog's tail.* It contains four morphemes, that is, four units of meaning:

{the} {dog}{s} {tail}.

Each morpheme has a definite meaning, and neither of them can be subdivided any further: {the} is the definite article, {dog} is a noun and so is {tail}, and {s} is the possessive marker.

Incidentally, the only word with more than one morpheme per word in this example is *dog's*, because the final 's' is in itself a morpheme marking the dog as the owner (or *possessor*) of the following noun; its tail. Thus you can also see that a morpheme does not have to be, or contain, a syllable; it can be multiple syllables or a single sound, or even *the absence* of a sound. This is also the case in Greenlandic, where morpheme boundaries in general do not coincide with syllabic boundaries. But as you can see, morphemes are not unique to polysynthetic languages; the difference between a polysynthetic language like Greenlandic and a language like English lies in the *ratio* of morphemes to words.

In the example above there was only one morpheme per word, except for 'dog's' that had two, but in a polysynthetic language you have a *high* morpheme-to-word ratio; 5-6 morphemes per word is certainly not uncommon in Greenlandic, whilst it is much more rare in English. But there *are* a few examples of words consisting of more than one or two morphemes: Consider for example the word *unbreakable*. Despite its meaning, we may precisely break this word into three morphemes

{un}{break}{able}

where {un} denotes negation ('breakable' is the opposite of '**un**breakable'), {break} is a verb, and {able} is a morpheme that turns a verb into a *property* that a noun may have; that is, it changes the word class from a verb to an *adjective*. Such 'class-altering' morphemes are particularly common in Greenlandic, as you will soon see.

Another point concerns my use of the word *indivisible:* In some cases a certain combination of morphemes has attained a special meaning that cannot be unambiguously determined from the parts alone. Consider a word like 'football' from {foot} and {ball}. This *could* hypothetically also mean e.g. a ball made from the foot of something, but instead it has become 'frozen' – or *lexicalised* in Grammaric parlance – as a word referring to a certain kind of ball-game, or the ball used in the game. Such words also exist in Greenlandic; for example the word ***inuusuttoq*** (a youth/young person) from {inuk} (human), {-u} (be), an ancient morpheme {suk} with unclear meaning, and lastly {ðuq} (someone who). In cases like this I shall treat the whole combination as a single morpheme and thus write {inuusukðuq} instead of the individual bits.

You might now be wondering about this strange-looking glyph 'ð' I used just before in the morpheme {ðuq}. Indeed, if words are built from morphemes, of what are morphemes themselves then made? Or posed differently: What do the letters/symbols/glyphs *represent*?

The answer, of course, is that the symbols represent *sounds*, just like letters usually do in writing.[2] However, since sounds can change (greatly) within a morpheme depending on the context, we must have per definition 1.1 that each symbol can represent a *group* of sounds, rather than just a single sound. Each symbol is an *abstraction* from this variation, and such an abstraction is called a *phoneme* in Grammaric:

Definition 1.2 (Phoneme) *A* phoneme *is an abstraction over a group of sounds, which the phoneme can take depending on context. It represents the concept of a consonant or vowel within the mind of a speaker, prior to pronunciation, and it is the smallest unit that may constitute the difference between two words. I denote a phoneme, or a string of phonemes, by forward slashes, /-/, such as the single phoneme* /u/ *or the string of phonemes* /ðuq/*.*

Definition 1.3 (Phones and allophones) *Any particular pronunciation of a phoneme is called a* phone*, but I shall commonly just speak of it as the* sound *or* pronunciation *of a phoneme. I denote pronunciation by square brackets,* [-]*, such as for example* [u] *or* [p]*. The sounds represented by a phoneme, if there are more than one, are called its* allophones.

To put it differently, *every* symbol within a morpheme – that is, within the curly braces in my notation – are *placeholders* for a sound. They each signify that *"in this position (which I occupy) shall* ***one*** *of the sounds that I represent be inserted, when the word is to be pronounced."*

To take an example from English, consider the words ***a****pe* and ***a****pple*. Both begin with an a-sound (according to the spelling, at least), but if you try to pronounce the words you will (hopefully) hear that the two a's do not sound exactly alike: the first is flat, whilst the second is more rounded. Now try to switch them around and pronounce *ape* with the a-sound of *apple*, and vice versa. Hopefully, you will agree that both words are still *understandable* as 'ape' 'apple' respectively, albeit you may have sounded like someone speaking with a rather heavy Australian accent (if your pronunciation is anything like mine). But the fact that the words remain understandable (and do not change meaning), when you switch the pronunciation around, shows that the a-sound of ***a****pe* and the a-sound of ***a****pple* are allophones of the *same* /a/ phoneme: The 'flat a' and the 'rounded a' are not two distinct phonemes in English.

Conversely, consider the words ***b****in* and ***p****in*. Here, the difference between the pronunciation of 'b' and 'p' *does* indeed constitute the smallest difference that distinguishes these two words. Such a word-pair is called a 'minimal pair' and it precisely shows that /b/ and /p/ indeed represent distinct phonemes in English.[3]

[2] This is, of course, only moderately true in English, where 'tough' rhymes with 'stuff' because they end on the same *sounds* although they are spelt very differently for no obvious reason. This is one of the great absurdities of the English language.

[3] But, as you will see later, they do *not* in Greenlandic! Here, [b] and [p] are allophones of the *same* phoneme.

To return to Greenlandic, the strange-looking glyph ð is thus a phoneme /ð/, and it can take either an sh-like sound [ʃ] (like in the word '**sh**e') or a d-like sound (like in the word '**d**oor') as well as a couple of other sounds, depending on context. So [ʃ] and [d] are allophones of the phoneme /ð/. How exactly this [ʃ] or [d] sound is selected is not important here; it is determined by the *sound rules* that I describe in detail in chapter 3.

1.3 Levels in the language

Morphemes, phonemes and pronunciation; these concepts are so important in Greenlandic that I use three different sets of delimiting symbols to distinguish between them: Curly braces for the morphemes, forward slashes for the phonemes, and square brackets for pronunciation. You may actually consider them as three different *levels* in the description of the language, to which a fourth (and more recent) can also be added: *Writing*. When I want to emphasise that focus is on the way a word is *written* (or spelt), I shall henceforth use double quotation marks as delimiters, like "this".

Incidentally, these four levels also correspond to the four *stages in the production* of a word, which is the reason why I insist on distinguishing so explicitly between them: When you construct a word in Greenlandic you start out by selecting the morphemes with the appropriate meanings from your mental dictionary. Then you join them together, deleting or inserting phonemes at the boundaries according to the sound laws and *sandhi* (or 'join') rules, which yields a string of phonemes. Then you apply the *sound rules*, one by one, to this string to determine the correct sound/pronunciation for each phoneme. Now the word is ready to be pronounced; or you may instead optionally write it down, using the rules for spelling.[4] The procedure is really quite mechanical, and thus *easy*, since there is no ambiguity; only a finite number of discrete steps. You may have to practice it first on paper, but, believe it or not, once you have done it sufficiently many times you will be able to do it all in your head.

I have attempted to give a high-level illustration of the process in figure 1.2 with a very simple example: Suppose you wanted to express the sentence "I have a dog." You would then go through the following four stages:

1. From your mental dictionary you would select the three morphemes:
   - {qikmiq} (dog), a noun base
   - {-qaq} (to have an N), a derivational affix
   - {vuŋa} (I Vb), a verbal ending

[4] This last step is particularly easy, if you use the new orthography, since, as I have previously mentioned, it was constructed such as to reflect the pronunciation.

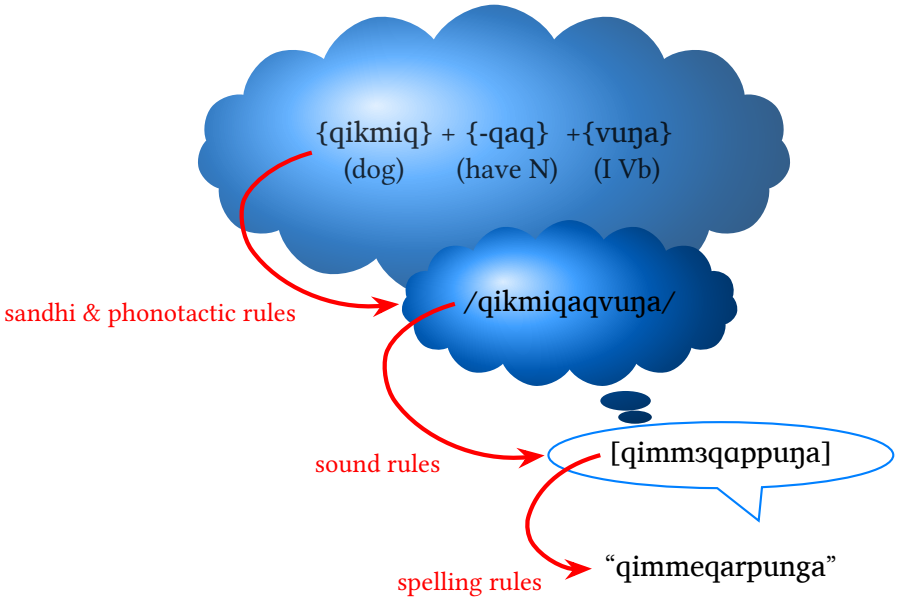


Figure 1.2: Stages in the production of the word *qimmeqarpunga* (I have a dog).

2. By joining the three morphemes together, you obtain the string consisting of the phonemes /qikmiqaqvuŋa/. As you can see, a /q/ has been removed, but otherwise this string is simply the concatenation of the three morphemes.

3. After application of the sound rules the string is transformed into the pronunciation: [qimmɜqɑppuŋa]. Observe in particular that there has been an *assimilation* of consonant clusters such that no two different consonant sounds occur within the same cluster.

4. Lastly “qimmeqarpunga” may be obtained by transforming the pronunciation into writing. There are a few differences: most notably, [ŋ] is spelt “ng”, using *two* symbols although they only represent a single sound, and [ɑpp] is spelt “arp”, but otherwise this last transformation is fairly obvious.

My point with this extended example is merely to emphasise that *whenever we move from one level to another, we apply a set of transformation rules.* To construct a word from a selection of morphemes you perform this procedure forward, like I have just described, and to *parse* (or understand) a word, you perform the procedure in reverse. In both cases you must move between the levels of morphemes, phonemes, pronunciation and spelling. So, to summarise the concepts I have introduced so far:

- *Morphemes* are the building blocks of words; they are indivisible units of *meaning*. I write morphemes in curly braces, such as {-qaq} (have an N), {suli} (to work), {qikmiq} (dog) and {vuŋa} (I Vb).

- *Phonemes* are placeholders for sounds; they are abstractions over a group of *actual* sounds (phones/pronunciations), such that the phoneme may come to be pronounced with any of these sounds. I write phonemes between forward slashes, like for example /aəiu/, which is a string consisting of all vowel phonemes in Greenlandic, or /qikmiq/ which is a string of mixed consonant and vowel phonemes that happen to exactly match the morpheme {qikmiq}.

- *Pronunciations* (or phones) are the actual sounds selected for each phoneme within a word. As is customary, I write pronunciations in square brackets, e.g. [qimmɜq]. The symbols *within* the brackets represent actual sounds, and thus each symbol must be associated with *one and only one* sound. For this purpose I *could* have decided to use the International Phonetic Alphabet, but since that would have required you to learn yet another system of notation, I have instead decided to write pronunciation in a way that is *as close as possible* to the way words are actually spelt, using the new orthography, but without compromising the requirement that each symbol shall describe one and only one sound.

- *Spellings* (also called *graphemes*) are the forms we use to represent words in ordinary writing, and when I wish to emphasise that focus is now on the *spelling* of a word, I use double quotation marks as delimiters. In this book I shall primarily use the *new orthography* of 1973, since it is the most commonly used today, and thus for example I shall write "qimmeq" (new orthography) rather than "ĸingmeĸ" (old orthography).

There is a good deal of Grammaric terminology here, even though I try to keep it at a minimum. Unlike many other writers on this subject, I see no point in making Greenlandic even more inaccessible by lavishly sprinkling the text with needlessly obscure, esoteric terminology, which (I suspect) is first and foremost intended to ensure that none but the learned academics from the ivory halls of Linguistics shall be able to understand what is written.

Nevertheless, it is very difficult to describe a language, wholly different from English, without concepts to capture the differences, so I hope that you by now at least are comfortable with the concepts of morphemes, phonemes and sound.

1.4 Types of morphemes and the structure of a word

Hitherto, I have been speaking rather loosely about morphemes like {qikmiq}, {-qaq} and {vuŋa}. I said earlier that {qikmiq} was a *noun base*, {-qaq} a *derivational affix* and {vuŋa} a *verbal ending*, so even though they all are morphemes, they are not morphemes of the same *type*. The time is now come to be a little more specific about what these different types are, and to introduce some more notation to make the distinction explicit:

Definition 1.4 (Morpheme type) *There are five* types *of morphemes in Greenlandic: A morpheme can be either a* base*, an* affix*, an* ending*, an* enclitic *or a* particle*, and these categories are mutually exclusive, so a morpheme can have only one type.*[5]

A morpheme cannot be both e.g. a base and an affix, and thus every morpheme will belong to exactly one of these categories. For example, {qikmiq} and {suli} are both bases; {ðuq} and {-qaq} are both affixes, and {vuŋa} is an ending. Being a base means that the morpheme can *only* occur as the very first morpheme within a word, whilst an affix can *only* occur after a base or another affix. Then, an ending can (obviously) *only* occur at the end of a word – that is, after a base or an affix – and there must be one and only one ending on each word. Lastly, *enclitics* can be added onto any 'finalised' word, including onto other enclitics; some very common examples include {lu} (and), {li} (but) and {luunniit} (or). This means that words in Greenlandic have a very definite structure:

Definition 1.5 (Structure of a word) *A* word *is built from* one *and only one base, followed optionally by zero-to-many affixes, and then* one *and only one ending, followed optionally by zero-to-many enclitics. The combination of base and optional affixes is also called the* stem *of the word. When a stem is combined with an ending, it cannot have any further affixes added onto it, and then I say that the word is* finalised*.*

I have attempted to illustrate the structure of a word in figure 1.3. As you can see, one base and one ending are mandatory components of every word, whilst affixes and enclitics are optional – at least as far as word formation is concerned.

Lastly, I should also mention that the category of *particles* does not quite conform to this pattern. Particles are usually small words like *aamma* (and) and *kisianni* (or) that have become 'frozen' (or lexicalised) into this one particular form. That is, they can have neither affixes nor an ending added onto them, so they too are, in a sense, finalised words. However, like other finalised words they can still optionally have a number of enclitics attached to them at the end.

[5] Actually, there *are* a few examples of Greenlandic morphemes that arguably could be said to belong to more than one category, such as for example the particle {una} which can also be used as an enclitic. But these cases are so rare and exceptional that I have simply decided to consider them as two distinct morphemes (with a common origin) instead.

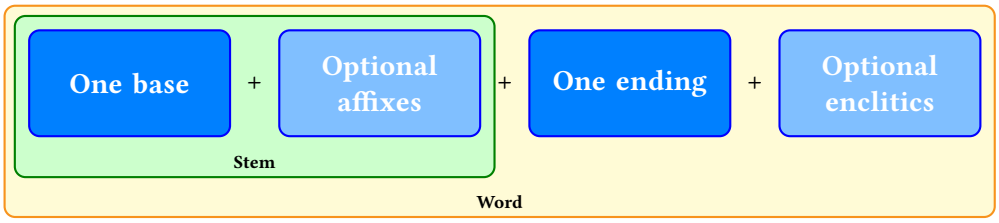


Figure 1.3: The structure of a word. The light-blue segments may be repeated zero to many times, and are thus in effect optional, whilst the darker blue segments must appear exactly once, and are thus mandatory.

1.5 Join markers

Given the structure of a word that you saw in the previous section, it should now be clear that all morphemes are not of the same type, and, more importantly, that the *type determines where in a word the morpheme can occur.* Obviously (I hope), if you have the morphemes {qikmiq}, {-qaq} and {vuŋa}, then there is only *one* correct order in which you can join them together. {qikmiq} is a base, so it can only ever have anything joined onto its *right* end, whilst {vuŋa} is an ending, so it can only ever be joined onto something at its *left* end (except for enclitics). And {-qaq} is an *affix*, occurring as part of the stem, so it will always be joined to other morphemes on *both* its sides.

These three types of morphemes have different *join patterns*, consisting of the point(s) at which the morpheme may be joined onto other morphemes, and we can encode the differences between the morpheme types by adding symbols around the morphemes to denote its join pattern. I call such symbols *join markers*, and I use them to visually distinguish bases, affixes and endings from each other:

Definition 1.6 (Join markers) *A* join marker *is a symbol that denotes the* join pattern *of a morpheme; i.e. the point(s) where a morpheme may be joined with another morpheme within a word. Let + be a join marker: Then* {base}*+ is a base morpheme,* +{affix}*+ is an affix morpheme, and* +{ending} *is an ending.*

As you can see, if is a fairly simple idea, but it still captures precisely what each of the three types denote: A base is a morpheme that must always occur at the 'head' (or left-most position) in a word, so it can only have a join marker at its right side; an ending is its converse, and an affix combines the two patterns. Thus, I can now write {qikmiq}+, +{-qaq}+ and +{vuŋa} instead, and you can clearly see how they can be joined. And even more importantly, you can see that there is only *one* possible way of joining them, because each + must be joined onto another +, like pieces in a jigsaw puzzle.

My choice of + as join marker was also quite arbitrary: one could just as well use other symbols (and indeed I shall do so in a little while). For instance, we could choose another symbol, such as * to denote morphemes that are added onto *finalised* words; that is, we could use *{enclitic} to denote enclitics (and indeed, I shall henceforth do so).[6]

1.6 A bit of automata theory

The structure of a word (except perhaps for the particles) suggests a nice and *graphical* way of illustrating the process of Greenlandic word formation. Specifically, I shall use a device called a *finite automaton*, which you can think of as a kind of 'map' of the process of building a Greenlandic word. Semi-formally:[7]

Definition 1.7 (Finite automaton) *A* finite automaton *is a directed graph, consisting of a finite set of nodes (vertices) and a finite set of arrows (edges), connecting the nodes. The nodes are called* states*, and there must be exactly one* initial state*, and some number of* final states*. The arrows are called* transitions*, and each transition is labelled with a symbol.*

A path *through the automaton is any sequence of transitions, starting from the initial state and ending in one of the final states. A* word *generated*[8] *by an automaton consists in the symbols, added in order, from the transitions along a path. The set of all words generated by a finite automaton is the* language *of the automaton.*

This may all sound rather abstract and arcane, but the idea is quite simple: We want an automaton that generates the set of all 'legal' ways of combining the morphemes from our little morpheme typology; that is, the set of all the ways of building a well-formed Greenlandic word, so we label the transitions with precisely the morpheme types from the previous section. And indeed, this is precisely what the automaton in figure 1.4 does. Try also to compare it to the drawing of the structure of a word in figure 1.3; hopefully, you can see that the automaton is just another way of representing the same thing.

I like this visual representation with arrows better than the block diagram in figure 1.3, because it suggests that you build a word by adding one piece at a time by following the transitions.

The initial state is the left-most node, labelled *start*, with an arrow coming out of nowhere. Initially, when you build a word, you start out with nothing (or a blank piece of paper), so the initial state represents precisely that no part of the word has yet been added. The first transition adds a {base}+ type morpheme, and since we now have a *stem*

[6] Think of * as a kind of 'wildcard character' denoting that the morpheme may be 'added onto anything.'

[7] I shall forgo the full formal definition. A semi-formal, intuitive definition will do, and I think there are already more than enough abstract symbols in this chapter.

[8] Or *recognized*. Usually, finite automata are used as *recognizing*, rather than *generating* devices, but that distinction is not important here.

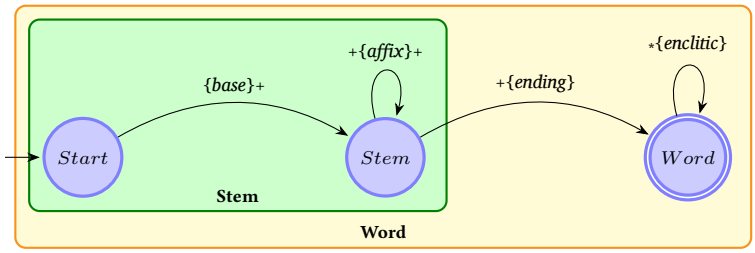
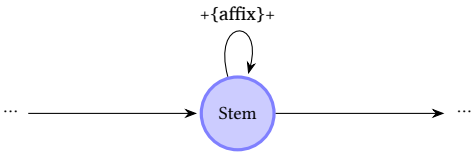


Figure 1.4: A finite automaton generating all legal combinations of the four types of morphemes.

then the second state represents precisely this. I have also tried to indicate this with the green-coloured background, encompassing both the *start*- and *stem*-states.

In the *stem*-state we have *choice:* We can either proceed directly to the *word*-state by adding an ending, thereby finalising the word, *or* we can take the looping transition, labelled with +{affix}+, that takes us from the *stem*-state and back to the *stem*-state again, because an affix added onto a stem yields again a stem. Intuitively, this makes sense (I hope) because you can have zero-to-many affixes in a word, and a loop on a state in this graphical notation, such as



corresponds precisely to the expression *zero-to-many*, because we can choose either to proceed straight through the *stem*-state, *or* we can instead go through the loop once, twice, up to n times, thereby adding up to n affixes.

And finally, an +{ending} labelled transition takes us from the *stem*-state to the *word*-state, because adding an ending onto a stem yields a finalised word. Thus, the *word*-state is also a final state, which is denoted by a double ring. However, you do not necessarily have to stop at a final state immediately, when you reach it, so I have added one final loop to the final state, labelled with *{enclitic}, to signify that a number of enclitics may be added onto the finalised word.

1.7 Classes of morphemes

There are many word classes in English; for example *nouns, verbs, adjectives, adverbs, conjunctions* etc., each with their own set of rules, endings and whatnot. In Greenlandic it is much easier; there are only three classes of words: *Nouns, verbs* and *particles.* However,

since the units here are *morphemes* rather than whole *words*, we should instead speak of 'nominal morphemes' and 'verbal morphemes' etc. Examples of nominal morphemes would be {qikmiq}+ (dog) and {əŋlu}+ (house),[9] but also +{ðuq}+ (someone who Vb's); whilst examples of verbal morphemes are {suli}+ (to work) and +{-qaq}+ (have an N).

This is important, because you obviously cannot add an affix like +{-qaq}+ (have an N) onto a verbal stem like {suli}+ (to work), because it only makes sense to say that you have a *noun*, just as it only makes sense to add a verbal ending like +{vuŋa} onto a verbal stem. Both affixes and endings are very particular about what class of stem they join onto, and it therefore makes sense to represent this too in the morphemic notation.

Specifically, I shall henceforth replace the generic join marker + with two new symbols, **N** (for '**n**oun') and **V** (for '**v**erb'), just like I used the special symbol * to represent enclitics. The idea is quite straightforward: An **N** may (only!) be joined onto another **N**, and a **V** may (only!) be joined onto a **V**, and using this succinct notation we can encode both the type (base, affix, ending) and class (nominal, verbal, particle) of a morpheme:

- A *nominal base* is written {base}**N**, and a *verbal base* as {base}**V**, and since the join markers only occur on the *right hand* side of the morpheme, we can immediately see that these morphemes are *bases*, because these morphemes can only occur at the head (the left-most position) of a word, just as before.

- An *affix* is written with join markers on *both* sides of the morpheme. Here, the left-hand join marker denotes the *class of the stem* onto which the affix can be added, whilst the right-hand join marker, like above, shows what class of morpheme it is (nominal or verbal). Thus **V**{affix}**N** and **N**{affix}**N** will both form nominal stems (because **N** stands on the right), but **V**{affix}**N** may only be added onto a verbal stem (and thus forms a nominal stem from a verbal stem), whilst **N**{affix}**N** may only be added onto a nominal stem (thus forming a new nominal stem). Conversely, both **N**{affix}**V** and **V**{affix}**V** form verbal stems, but the first forms it from nominal stems, whilst the latter forms it from another verbal stem.

- An *ending* is the mirror image of a base; it is written **N**{ending} for an ending forming a *noun*, and **V**{ending} for an ending forming a *verb*. Again, these morphemes must obviously be endings, because the join marker only appears on the *left hand* side, and thus nothing (save only enclitics) could be added onto them. They finalise the word, and once a stem has received an ending I shall speak of it as a 'noun' or 'verb' proper (compared to 'nominal' and 'verbal').

[9] Fun fact: {əŋlu}+ is spelt *igdlo* in the old orthography, and this word was actually borrowed into English as *igloo* (a snow hut), although *igdlo* just means any kind of house in Greenlandic, and not in particular one made of snow.

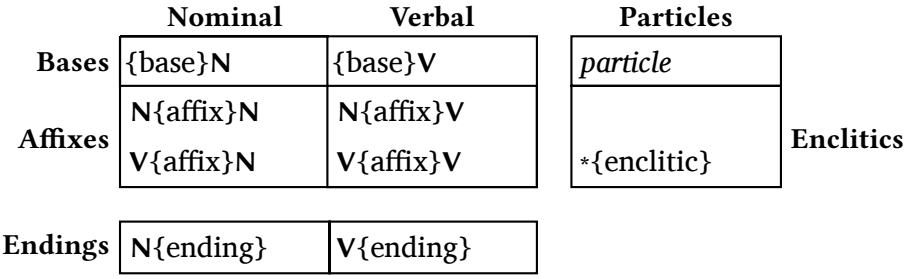


Figure 1.5: A schematic representation of the notation for types and classes of Greenlandic morphemes, illustrating the relationship between type/class of morphemes and the join markers.

- Lastly, *enclitics* may be added only onto finalised words, including onto other enclitics, and I denote them by *{enclitic}, just as before.

You can see a schematic representation of this whole setup in figure 1.5. Notice in the figure that I have *not* written particles as morphemes at all: This is because particles alone of all Greenlandic words are 'frozen' in one particular form: They do not change, and nothing can be added onto them, except for enclitics. This is thus the only class where it makes sense to regard (and list) the members as finalised words.

Another nifty feature of this notation is that it allows for a more compact representation without any loss of information, by letting us write a set of morphemes as explicitly joined: we simply write the morphemes with join markers interspersed, instead of repeating them. Thus, consider again the example sentence 'I have a dog' which we can now write in either of two ways, according to taste:

{qikmiq}**N** + **N**{-qaq}**V** + **V**{vuŋa}

↓

{qikmiq}**N**{-qaq}**V**{vuŋa}

The latter way is even more compact, and now it actually begins to resemble a word, rather than separate building blocks; but as you can see, the information about type and class is still preserved. I call this 'train notation,' because it reminds me of a train with one locomotive at the head (the base), followed by a number of waggons (the affixes) securely locked together by the **N**s and **V**s.

Lastly, we can now also update our word-generating automaton from figure 1.4 to also take the classes of morphemes into account, which I have done in figure 1.6. As you can see, there are now two states representing stems: **N**-*stem* for a nominal stem, and **V**-*stem* for a verbal stem. Both have the same kind of 'self-loop' for adding an affix that

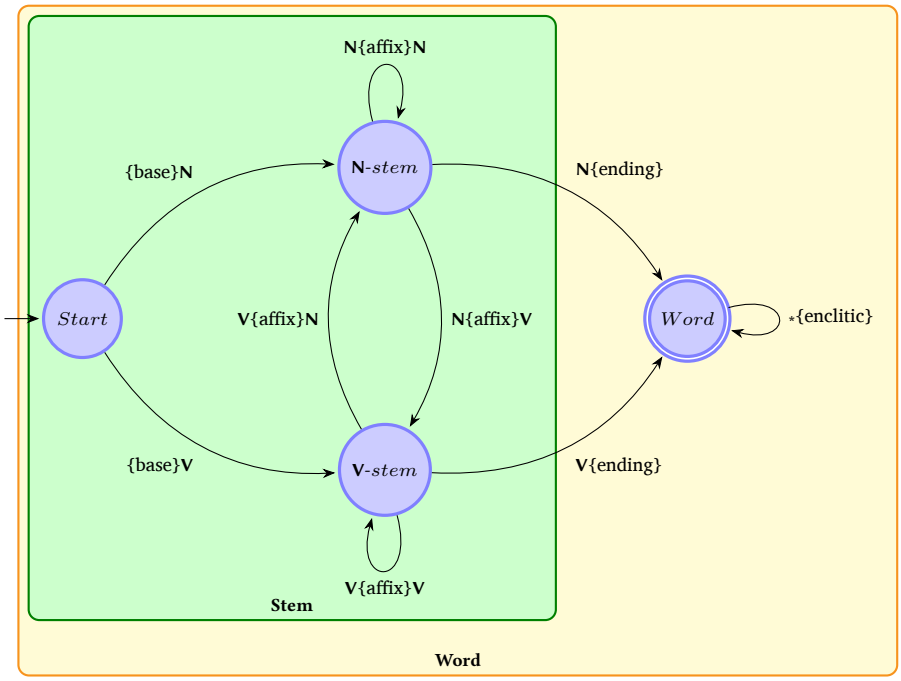


Figure 1.6: A finite automaton that generates the language of joined morphemes according to both types and classes.

you also saw in the simpler version, but now there is also another kind of cycle between the two states, with an **N{affix}V** labelled transition going from **N**-*stem* to **V**-*stem*, and a **V{affix}N** labelled transition going in the opposite direction. These transition represent class-switching affixes like **N{-qaq}V** (have an N) and **V{ðuq}N** (one that Vb) that are very common in Greenlandic: You can easily find examples of words that switch back and forth between a nominal and a verbal stem two or three times during the process of word-generation.

I began this chapter by stating that there are *infinitely* many Greenlandic words, which therefore makes it a hopeless endeavour to try to learn the language just by memorising words. Hopefully, you can now see why this is the case: You can create arbitrarily long, and thus infinitely many, 'words' by tracing out paths through the automaton, just like there are (at least theoretically) infinitely many possible Greenlandic words. But fortunately, this does not mean that words are just *random* strings of letters. On the contrary, I hope my little automaton here has also convinced you that word formation in Greenlandic is a well-structured process, and in fact so simple that it can be done automatically.

1.8 Ordering affixes

This section is somewhat of an aside; i.e. it may not be of paramount importance that you understand it, if you are only just beginning to look into learning Greenlandic. In fact, if that is the case, then you should probably skip it and proceed straight to the next chapter. Still, I thought it might be relevant to provide some comments on the *ordering* of affixes within a word (because often there will be more than just one affix in a stem, unlike the simple examples I have shown you so far), and I could find not better place to include it than here, in the chapter on word formation.[10] So caveat lector: This section may seriously confuse you!

But anyway, consider the verbal base {uqnək}**V** (approach), and the verbal ending **V**{vara} (I Vb him). There is obviously only one way to correctly combine them:

{uqnək}**V**{vara} (I approach him)

and this is clear from, and completely determined by, the join markers. As long as we only have a base and an ending, then there is no ambiguity. However, assume now that we want to add the two affixes **V**{sinnau}**V** (can Vb), for expressing ability, and **V**{ŋŋit}**V** (Vb not), expressing negation. What is the proper order in which these four morphemes should be joined? Obviously, the base and ending must still be first and last, respectively, but what about the relative order of these two affixes? Which of them should come first *within* the word? That depends on what you want to express. There are two possible combinations:

1. {uqnək}**V**{sinnau}**V**{ŋŋit}**V**{vara} (I cannot approach him)
2. {uqnək}**V**{ŋŋit}**V**{sinnau}**V**{vara} (I can refrain from approaching him)

The first possible combination, with **V**{sinnau}**V**{ŋŋit}**V**, means *I **cannot** approach him*, whilst the second possibility, with **V**{ŋŋit}**V**{sinnau}**V** instead, means *I **can refrain from** approaching him.*[11] So just by reversing the order of the two affixes, I obtain two words with very different meanings. In other words, the *ordering* of affixes matters. Sometimes a reordering will yield a word with a different meaning, as was the case here, but in other cases a reordering will simply not be possible; it will yield a meaningless word.

There is a simple rule of thumb for this ordering, which is often sufficient for words containing only a few affixes, but when words become longer, the need for a more detailed (and hence complicated) set of rules will become apparent.

Definition 1.8 (The simple rule) *The simple rule is simply this: The scope of an affix is the stem to which it is added.*

[10] Much of the contents of this section also appears in the first chapter of my affix-list (Lybech, 2020).

[11] This example is from Fortescue (1984, s. 313).

Or, stated in another way, when you join an affix onto a stem, the *meaning* of the affix will apply to the entire stem; that is, everything standing 'to the left' of the affix. This is the simple rule of thumb for ordering affixes within a word. For example, when you join {uqnək}**V** and **V**{sinnau}**V** you obtain a stem {uqnək}**V**{sinnau}**V**, meaning *can-approach*. It is a new verbal stem that expresses the *ability* of the subject to approach the object. By adding **V**{ŋŋit}**V** onto this stem, its entire meaning is negated, so the stem {uqnək}**V**{sinnau}**V**{ŋŋit}**V** means ***not**-can-approach* which we in ordinary English would express as *subject can**not** approach object*. It expresses now the ***in**ability* of the subject to approach the object.

Conversely, if you firstly joined **V**{ŋŋit}**V** onto {uqnək}**V**, you would instead obtain the stem {uqnək}**V**{ŋŋit}**V**, meaning *not-approach*. This stem expresses that the subject categorically does *not* approach the object, because the meaning of the negation is applied to {uqnək}**V** alone. When you then join **V**{sinnau}**V** onto this stem, you obtain a new stem, {uqnək}**V**{ŋŋit}**V**{sinnau}**V**, expressing the **ability** of the subject to *not-approach* the object. The subject is *able* to perform the act of *not approaching* the object, which we e.g. could render in ordinary English as *the subject **can refrain from** approaching the object*.

When you are constructing (or translating) a complex word, you should consider the meaning of the stem at each point in the construction: What does the base mean? What does the base plus the first affix mean? What does this complex stem plus the next affix mean? And so forth.

A Fortesquesque automaton (the complicated rule)

Even though affxes may be combined in different orders to yield words with different meanings, it does not mean that *any* ordering will always be possible. Consider for instance the two affixes **V**{ðaq}**V** (habitually Vb) and **V**{yumaaq}**V** (vague future, 'shall probably Vb'). *This* ordering, with **V**{yumaaq}**V** following **V**{ðaq}**V** is fine, but the reverse order is impossible.[12] In other words, you can express that someone probably, at some point in the future, will do something repeatedly/habitually, but you *cannot* say, that someone repeatedly probably will do something in the future. It might not be meaningful to try to express either, since it would imply a repetition of the future, but anyway, it is an example of an impossible ordering of affixes.

Fortescue (1984, p. 314) lists a set of quite complicated rules for ordering affixes. Or, he manages at least to express them in a quite complicated way, even though the idea is simple enough: The Greenlandic affixes can be *grouped* according to their meaning (or function), and certain groups always occur before others. For example, **V**{ðaq}**V** belongs

[12] This example is from Fortescue (1984, p. 314).

to a group called *verb-modifying* affixes, which always precede an affix of *time* such as **V**{yumaaq}**V**.

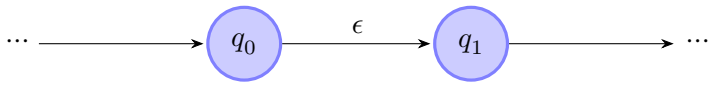
I shall omit the actual rules here (but see my affix list (Lybech, 2020, p. 4) if you want to gaze at them in all their gory details) and instead proceed exactly as I have hitherto done in this chapter: That is, I shall instead express these rules as an automaton. And to do that, we firstly need to know what our labels (i.e. affix types) should be.

Fortescue (1984, 1983) groups affixes into three high-level groups; *nominal, verbal* and *sentential* affixes, and these are again broken down into twelve smaller groups:

- Nominal affixes consist of *nominalisers*, nominal *extenders*, and nominal *modifiers*. A nominaliser creates a nominal stem from a verbal stem; a single, optional nominal extender can then be added, and then zero to many nominal modifiers.
- Verbal affixes consist of *verbalisers*, verbal *extenders*, *negations*, and verbal *modifiers*; all of them optional and occurring in this order. As with the nouns, modifiers can be added zero or more times.
- Sentential affixes are added onto a verbal stem *after* the aforementioned types, so they are also verbal affixes, but their scope is over the entire sentence, rather than just the stem itself. They consist of affixes for marking *time*, *modality*, *conjunction*, *negation* (again) and *colouration*; all of them optional and occurring in this order. Conjunctional affixes generally have a special meaning in combination with certain moods.

As you can see, several of these subgroups of affixes are optional, meaning that an affix from such a group may, or may not, be present in a stem; but at the same time there may not be *more* than one affix present from each of these groups. The situation is therefore not the same as with our previous automata, where we could encode the presence of 'zero-to-many affixes with a self-loop on a state. Before we can proceed to the actual automaton, we shall therefore firstly need a way to express the concept of 'optional' (i.e. zero-or-once):

Definition 1.9 (ϵ-transition) *Let the symbol ϵ (epsilon) denote the* empty string, *i.e. the string consisting of* no *symbols. Then, an ϵ-labelled transition*



will simply leave the string unchanged from q_0 to q_1.

In other words, taking an ϵ-transition will simply add *nothing* to the word you are constructing. This is useful, because it precisely allows us to express that an affix of some type may be optional. Consider the following small fragment of an automaton:

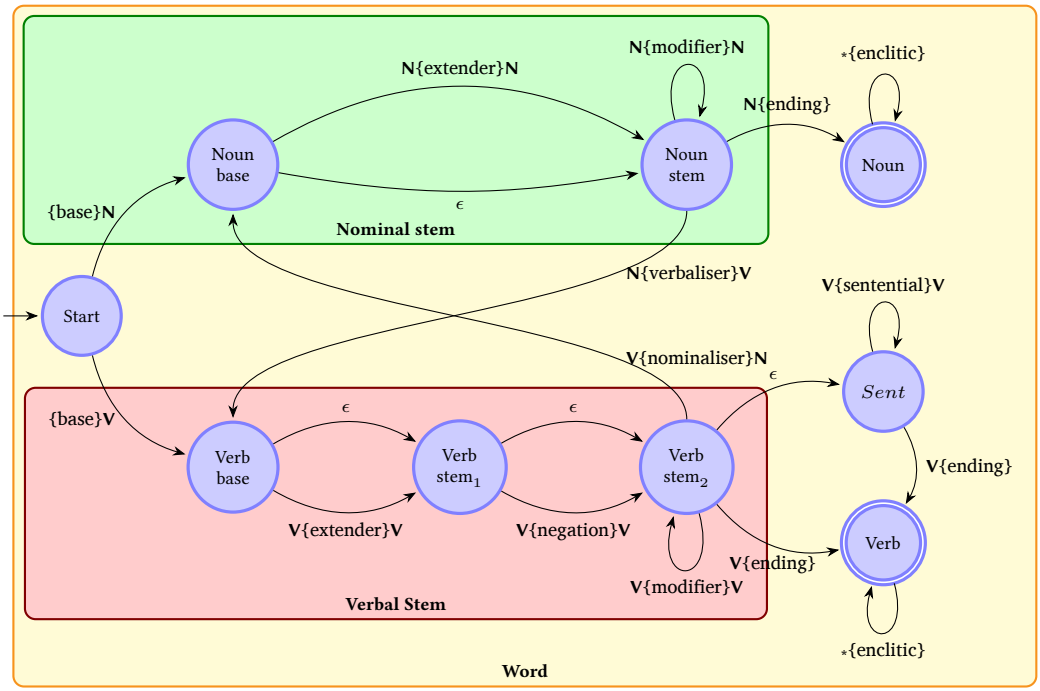
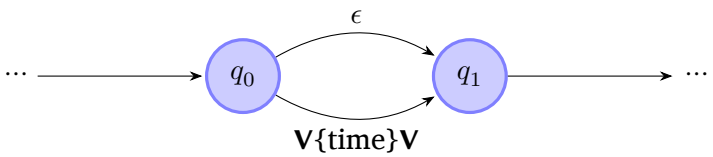


Figure 1.7: Illustration of the formation rules for nouns and verbs, according to Fortescue (1984, p. 314). These rules give a more detailed view of the word-internal order of affixes; in particular, that 'sentential affixes' will always follow verbal extenders and modifiers. ϵ-labelled transitions add nothing to a word; they are used to represent optional parts.



In going from state q_0 to q_1 we have a *choice:* We can either add an affix from some group called '**V{time}V**', or we can just take the ϵ-transition instead, thus adding nothing. In other words, this construction makes it *optional* to add an affix of type **V{time}V** at this point. However, it says more than that: This construction also expresses that an affix of type **V{time}V** can appear *at most once* in this position. It can be omitted, if you take the ϵ-transition, or it can be added *once* if you take the other transition, but you cannot add e.g. five affixes of this type.

Now, figure 1.7 then illustrates the process of word formation based on Fortescue's groups. You start at the leftmost state, labelled *Start*, and proceed through the automaton

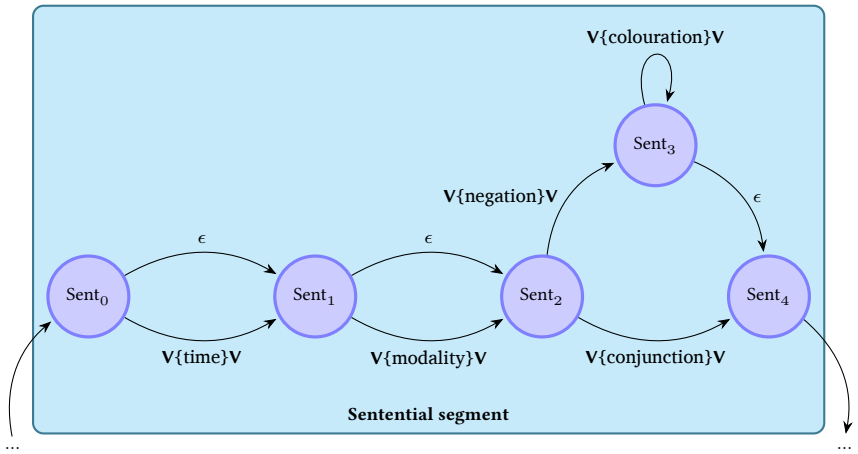


Figure 1.8: An expansion of the state labelled *sent* in figure 1.7 into a number of sub-states, giving a detailed view of the ordering of sentential affixes.

by taking transitions from state to state, adding morphemes according to the labels as you go along, just as in the previous, and much simpler, automaton. You may still be able to recognise the alternation back and forth between verbal and nominal stems, but otherwise this complicated figure bears little resemblance to the automaton in figure 1.6.

However, we can complicate it even further: At the end of the verbal stem, the single state labelled *Sent* (for 'sentential stem') has a self-loop allowing an (initially) arbitrary number of *sentential* affixes **V{sentential}V** to be added to the verbal stem. But this group can be further sub-divided and ordered, and we may therefore correspondingly replace the single state *Sent* and its self-loop with the 'sub-automaton' in figure 1.8.[13]

The most important thing to notice here is probably that *once you proceed to the sentential segment Sent, you cannot go back.*[14] This explains why **V{yumaaq}V**, which is a sentential affix belonging to the group **V{time}V**, must come *after* an affix like habitual **V{ðaq}V**, which is a verbal affix belonging to the group **V{modifier}V**. The reverse order is impossible, because you cannot 'get back' to a place where you can add a **V{modifier}V** once you have passed into the sentential segment. In fact, the only kind of affixes that can

[13]Another way to view this is to think of figure 1.8 as a 'subsystem' placed *inside* the *Sent* state: One state can be an abstraction over a whole sub-automaton, which may be expanded or collapsed depending on the desired level of detail.

[14]Actually, you can. According to Fortescue (1984, p. 314) the affixes **V{niraq}V** (subject says that object Vb's), **V{surə}V** (subject thinks that object Vb's), **V{ðuq}N** (one who Vb's) and **V{-ðaq}N** (one that is Vb'ed) may even follow a sentential affix, thus allowing the process to start all over again. I have not drawn this in figure 1.7, to avoid complicating it even further. Note also that the ordering within *lexicalised* words may not always follow these rules.

appear *both* in the verbal stem *and* in the sentential segment are the *negations*; that is why the group **V**{negation}**V** appears twice in the automaton.

You will probably not be able to just memorise this complicated figure right away, but by using it to generate words you may hopefully get a sense of *where to expect* certain affixes to occur within a word. This can especially be useful when you need to *split* a word and figure out from which morphemes it was built. You will likely soon discover that there is often more than one way to do this; many Greenlandic words are *ambiguous* due to the many sound changes that occur when morphemes are joined, but knowing approximately where in a stem to expect a certain morpheme may make this disambiguation process easier.

However, to actually be able to *use* this automaton, you will of course also need to know which affixes belong in each of the categories denoted by the transition labels. Unfortunately, that is beyond the scope of this book (lest this chapter should be 40 pages longer), but the labels themselves should provide some indication of the meaning of affixes in each group. Otherwise, you should consult my affix list (Lybech, 2020), where I have listed all the Greenlandic affixes I know according to Fortescue's grouping.

Aside 1.1: How to make a Greenlandic dictionary

I am certainly not the first to propose a notation for morphemes; on the contrary, it can often seem like every author invents his own notation. The problem pertains particularly to *dictionaries*: Since there are infinitely many words, a dictionary cannot be a list of *words* like in e.g. English; it must be a list of *morphemes*. But since morphemes, as you have seen, can adopt very different forms, a choice must be made: Should all forms be listed as separate entries, or only one 'canonical' form? And in the latter case, which form should it be?

The currently most popular dictionary, DAKA,[a] is based on the new orthography. It has adopted the first approach and lists *all* forms, but always using the same ending (the 3rd person, indicative). Thus you would find -rusuppoq, -kkusuppoq for the morpheme I write as **V**{(q)gusuk}**V**.

I find this choice particularly stupid, because it repeats information and doubles (or triples) the number of entries. Furthermore it makes the dictionary almost *useless* for someone who wants to learn the language, because the entries only show, in a rather implicit fashion, when each form should be used.

A very different approach is taken by Fortescue et al. (2010) in their *Comparative Eskimo Dictionary*: Here entries are given in a reconstructed language called 'proto-eskimoic' that supposedly diversified into the current inuit languages; and in this ancestor-language the morpheme **V**{(q)gusuk}**V** had a form which these authors have decided to represent as 'yuɣ' in their phonemic orthography. It bears little semblance to the forms in modern-day Greenlandic, even if written with the ordinary, corresponding letters in the Greenlandic alphabet (which would be 'jug'), so even though this dictionary undoubtedly is useful, if you want to understand the etymology of a morpheme, it is fairly difficult to use as a source of morphemes that you can just readily learn.

My own morpheme notation tries to navigate somewhere between the Scylla of DAKA and the Charybdis of the CED. It is sometimes quite close to the notation used by Fortescue et al. (2010), albeit adapted specifically to Greenlandic, and by learning it you might even find that you will also be able to decipher words from some of the other inuit languages, like for instance *Inuktitut*. The idea of adding join-markers '**V**' and '**N**' around the braces is, however, from Langgård (1997a), although I have expanded on its usages. Langgård (1997a) also adopts the approach of using one 'basic' form for each morpheme, albeit with a somewhat different notation, that in some cases also carries slightly less information than mine.

[a] 'DAKA' is an acronym for 'Dansk/Kalaallisut.' Incidentally, in Denmark it is also the name of a destruction facility for dead farm animals. The two are presumably unrelated. You can find the DAKA dictionary online at `https://iserasuaat.gl/daka/`

CHAPTER 2

Sandhi rules and sound laws

The previous chapter introduced the idea of 'levels' or stages in the production of a word (see figure 1.2 again, if this does not ring a bell), where you apply a set of *transformation rules* whenever you move from one level to the next. This chapter then deals with the first transformation, from a list of isolated morphemes to a single string of phonemes.

2.1 Phonemes in Greenlandic

In the previous chapter I introduced you to the notion of phonemes; the *abstract placeholders for sounds*. What I mean by this phrase is really just that a phoneme is a 'mark' that denotes 'insert one of my sounds here.' What these possible sounds are, and how a specific sound is chosen, is determined by the *sound rules*, which are the subject of the next chapter, so I will postpone the description of the actual sounds until after their introduction, and instead treat the phonemes as a set of more or less abstract symbols for now. These symbols are:

Definition 2.1 (Greenlandic phonemes) *Greenlandic phonemes belong to one of two sets: The set of* vowel phonemes $\mathcal{V}$*, or the set of* consonant phonemes $\mathcal{C}$*, where* $\mathcal{P} = \mathcal{V} \cup \mathcal{C}$ *denotes the set of* all *phonemes:*

- /aəiu/ *are the* vowel phonemes. *I also use the symbol* v *to refer to an arbitrary vowel phoneme, i.e.* $v \in \mathcal{V}$.
- /cðgjklmnŋpqrstvy/ *are the* consonant phonemes. *Here I use the symbol* c *to refer to an arbitrary consonant phoneme, so* $c \in \mathcal{C}$

I may furthermore use an index on v and c to indicate whether I speak about the same *or two* different *phonemes from the group. Thus e.g. c_1c_2 would mean two* different *consonant phonemes, whilst c_1c_1 would mean two of the* same *phoneme.*

Thus, an example of a cluster c_1c_2 could be the pair /km/, whilst c_1c_1 could be e.g. /pp/, and likewise for the vowels; v_1v_2 could the pair /iu/ whilst v_1v_1 could be /aa/.

I hope, the difference between the fonts I use is enough to ensure that you can distinguish between c and v on the one hand (i.e. the 'placeholder symbols' for any consonant/vowel phoneme) and then c and v on the other hand, which are the two *actual* phonemes /c/ and /v/ (both consonant phonemes).

2.2 The laws of sound

You will probably agree that *angst* sounds like an English word, but that e.g. *ngast* does not. This is because no proper English word can begin with the sound [ŋ], denoted by the spelling 'ng.' However, in other languages (particularly some of the Asiatic languages) it is perfectly normal to have [ŋ] appearing in a syllable-initial (and thus also word-initial) position. The *phonotactics* of a language is the set of rules for where the different sounds may appear in a word (and syllable): I call these rules the *sound laws*, and you need to know two of them, because they directly influence how phonemes sometimes *must* be deleted or inserted at the boundary between two morphemes.

Definition 2.2 (Morpheme-final phonemes) *The first sound law is as follows: A morpheme may* only *end in a vowel v or a stop: That is, only* /aəiu/ *or* /ptkq/.

In particular, this law implies that no *word* can ever end in anything but one of these eight phonemes. It follows, because the rule must apply to every morpheme in a word, including the last one, and thus it also applies to the word as a whole.

In fact, when we only look at whole words, rather than the morphemes within them, this rule becomes even more restrictive: No *word* may end in any other *sound* than [a], [i], [u] or [t], [k], [q] – and *very rarely* [p]. There exists *one* grammatical ending for nouns, that ends in a [p], but this is the only case where [p] can appear in this position.[1]

An obvious consequence of this rule is that my name cannot be a Greenlandic word: My name is *Stia**n***, and 'n' is not amongst the allowed word-final sounds, so to actually say my name in Greenlandic I need to add a sound at the end. My name thus becomes *Stian**i***. In fact, whenever a foreign name or word is used in Greenlandic, it must be 'Greenlandised' in this way:

[1] Notice that when I switched to speaking of words rather than morphemes, I also switched to speaking of *sounds* rather than phonemes. Morphemes and phonemes are abstract entities existing in the head of the speaker. Words and sounds are 'real' in the sense that they have either been uttered or written down.

- Nouns, including names, are nowadays almost always Greenlandised by adding an /i/, if the word does not already end in a vowel or one of the allowed stops. In some cases, the final sound is reinterpreted as one of the allowed sounds, so e.g. *whiske**y*** is allowed, even though 'y' is not a vowel in Greenlandic, because it is *pronounced* like an [i]. This is also the case for many Danish loan-words that end in an 'e' such as e.g. *æbl**e*** (apple); the 'e' is reinterpreted as an /i/, so the word becomes ***iipili***.
- Verbs, including nouns used as verbs, are Greenlandised by first adding /i/, if the word does not already end in a vowel, and then always adding a /q/. Thus e.g. to drive a car (from the Danish noun 'bil') becomes {bii**liq**}**V**.[2] First, an /i/ is added to the end to Greenlandise the word, and then a /q/ on top of that to turn it into verb.

The second sound law concerns the structure of syllables: Every syllable in Greenlandic follows a very simple pattern, consisting *always* of a vowel phoneme, that may be single or optionally doubled, and with a *single, optional* consonant at the beginning and/or at the end. We can represent this pattern in the following way:

Definition 2.3 (The structure of a syllable) *Every Greenlandic syllable is of the form*

$$(c)v_1(v_1)(c)$$

where the parentheses indicate optional parts.

Thus, the smallest possible syllable consists in a single vowel. A word such as ***uia*** (her husband) therefore consists of *three* syllables: [u-i-a].[3] Another word such as ***Nuuk*** (the capital city of Greenland) consists of a single syllable; the doubled /u/ is one long sound [uu], not two discrete sounds.

This rule also implies that there can *never* be a consonant cluster consisting of more than *two* consonants in a Greenlandic word: Since there can at most be *one* consonant at the beginning of a syllable, and at most *one* at the end, then *no* combination of any two syllables can possibly result in more than two consonants standing directly beside each other. There is no way

$$(c)v_1(v_1)(c)(c)v_2(v_2)(c)$$

can ever yield a consonant cluster larger than two, regardless of which of the optional parts you decide to include or omit.

[2] The /i/ in 'b**i**l' is doubled to ***bii**l**i*** because Greenlandic uses doubling to denote long sounds. This has nothing to do with the /i/ added to end of the word.

[3] Notice that syllables are *actual* sounds, so when I speak about syllables, I am referring to the pronunciation level.

Another important implication of this rule is, that *no morpheme can ever* end *in a consonant cluster*. Or in other words, *every* morpheme must end in v or vc. Can you see why this must be true?[4]

2.3 Phonotactically truncative morphemes

Morpheme boundaries do not have to coincide with syllable boundaries: For instance, many morphemes begin with a consonant cluster, like **N{kk**ut**}** (through N) and **V{ss**a**}V** (shall Vb/future). However, when these morphemes are joined onto other morphemes, the resulting word must still abide by the sound laws, and thus a morpheme like **V{ss**a**}V** cannot be added directly onto a morpheme like {sinə**k**}**V** (sleep), since this would yield the consonant cluster /kss/ at the boundary, which does not follow the syllable structure. There is one consonant too many.

The solution to this is brutally simple: The final consonant /k/ is exterminated by the /ss/. Or deleted. Or *truncated*, if you like. This leads to a general rule that follows directly from the structure of a syllable:

Definition 2.4 (Phonotactic truncativity) *Any morpheme beginning with a consonant cluster can* only *be joined onto a vowel phoneme. If the preceding morpheme ends in a consonant phoneme, that phoneme is deleted.*

Morphemes beginning with two consonants are thus 'phonotactically truncative' – they are truncative, that is, they delete a preceding consonant, because phonotactics dictate that they *must* do so. For example, to say *I shall sleep* you join the morphemes {sinək}**V** (sleep), **V**{ssa}**V** (shall Vb) and **V**{vuŋa} (I Vb) in the following way:

$$\{\text{sinək}\}\mathbf{V}\{\text{ssa}\}\mathbf{V}\{\text{vuŋa}\} \implies /\text{sinəssavuŋa}/$$

Notice the arrow $\implies$ in the above example: This arrow is pronounced 'yields' or 'derives' and I use it whenever I apply a rule, transforming a string of symbols into a new string. Similarly, I use $\implies^*$ to mean 'yields in a number of steps' if I do not write out every step explicitly.

2.4 Sandhi or 'joining' rules

Some morphemes have a built-in preference as to whether they will join onto a consonant or a vowel. This preference is *not* determined by the morpheme's *form*, such as was

[4] Any morpheme could in principle come to stand as the last in a word (since there exist null-morphemes, consisting of nothing). Thus the last part of any morpheme could form the last syllable of a word, but since *every* syllable ends in $v(c)$, then so must every morpheme.

the case with phonotactically truncative morphemes, and thus (unfortunately) *not* something for which you can learn one general rule, like 'does the morpheme begin with two consonants or not?' Instead, you must learn the morpheme's preference, along with its meaning, spelling, type and class (i.e. join markers). I use the Grammaric term *sandhi* ('joining') to denote this built-in preference, and I mark it on the morphemes by using a few extra symbols:

Definition 2.5 (Sandhi) *Let $S \in \mathcal{P}^*$ be an arbitrary string of phonemes that form (part of) a morpheme, and let $\bullet$ be an arbitrary join marker (i.e. either* **N** *or* **V***):*

- *Some morphemes are* sandhi truncative*, meaning they will only be joined onto a* vowel*, thus deleting a consonant phoneme, if the preceding stem ends in a consonant. I use the symbol '-' to denote this. You have already seen two examples of sandhi truncative morphemes, namely the morpheme* **N{-qaq}V** *(have an N) and* **N{-u}V** *(be an N). Abstractly expressed:*

$$\begin{aligned} \{S_1 c\}\bullet\{\text{-}S_2\} &\rightarrow /S_1 S_2/ \quad && \textit{Delete final } /c/ \\ \{S_1 v\}\bullet\{\text{-}S_2\} &\rightarrow /S_1 v S_2/ \quad && \textit{Attach to final } /v/ \end{aligned}$$

- *Some morphemes have the opposite preference; they are* sandhi epenthetic*, or 'sound inserting', meaning they will only be joined onto a* consonant*, and if the preceding stem ends in a vowel, these morphemes will therefore* insert *their own consonant phoneme. I use the symbol (c) to denote this preference, where c is the consonant to be optionally inserted. Sometimes this consonant can be completely arbitrary, whilst it in other cases is a particular consonant (very often /q/).*[5] *An example of such a morpheme is the ending* **V{(v)vut}** *(they Vb). Abstractly expressed:*

$$\begin{aligned} \{S_1 c_1\}\bullet\{(c_2)S_2\} &\rightarrow /S_1 c_1 S_2/ \quad && \textit{Attach to final } /c_1/ \\ \{S_1 v\}\bullet\{(c_2)S_2\} &\rightarrow /S_1 v c_2 S_2/ \quad && \textit{Inject } /c_2/ \textit{ after vowel} \end{aligned}$$

- *Lastly, some morphemes do not care whether they are joined onto a consonant or a vowel.*[6] *I might occasionally use the symbol '+' to denote sandhi additivity, if I wish to emphasise that a morpheme uses this joining strategy, but, in general, I shall not be using any symbol to mark it, since sandhi additivity is the most obvious, default way of joining two morphemes. An example is the morpheme* **V{ðuq}N** *(one who Vb's), and the ending* **V{vuq}** *(he/she/it Vb's). Abstractly expressed:*

[5] You can think of these morphemes as like a guest who brings his own folding chair to a party, ready to set up if there is no chair of his preferred type to sit on.

[6] If sandhi denoted morphemic sexual orientation, these morphemes would be bisexuals.

$$\{S_1 c\}\bullet\{S_2\} \rightarrow /S_1 c S_2/ \quad \textit{Attach to final } /c/$$
$$\{S_1 v\}\bullet\{S_2\} \rightarrow /S_1 v S_2/ \quad \textit{Attach to final } /v/$$

Notice that I here used a different kind of arrow, $\rightarrow$. I use $\rightarrow$ in the *definition* of a rule, to distinguish it from the *application* of a rule, where I use $\Longrightarrow$.

Anyway, here are a few examples to illustrate these different joining strategies: I shall need a few new morphemes for the illustration, **{aŋutə}N** (a man), **{suli}V** (to work), **{sinək}V** (to sleep) and **{ukiuq}N** (a year), as well as some that you have already seen; **N{-qaq}V** (has an N), **N{-u}V** (is an N), **V{vuŋa}** (I Vb), **V{vuq}** (he Vb's) and **V{(v)vut}** (they Vb). You should make a note of these morphemes, because I shall also need them in future examples.

Firstly, consider the two cases for sandhi truncative morphemes. Suppose you want to express, that 'I have some (number of) years' (i.e. 'I am X years old'), and 'I am a man' respectively; then you must perform the two following joins:

$$\{\text{ukiuq}\}\text{N}\{\text{-qaq}\}\text{V}\{\text{vuŋa}\} \Longrightarrow /\text{uki}\mathbf{uq}\text{aqvuŋa}/$$
$$\{\text{aŋutə}\}\text{N}\{\text{-u}\}\text{V}\{\text{vuŋa}\} \Longrightarrow /\text{aŋut}\mathbf{ə u}\text{vuŋa}/$$

The morpheme **N{-qaq}V** is sandhi truncative, so it deletes the final /q/ in **{ukiuq}N**. **N{-u}V** is also sandhi truncative, but in this case there *is* a vowel, /ə/, to join on, so nothing needs to be deleted.

Next we have the two cases for sandhi epenthetic morphemes; suppose you want to express 'they sleep' and 'they work' respectively:

$$\{\text{sinək}\}\text{V}\{\text{(v)vut}\} \Longrightarrow /\text{sinə}\mathbf{k}\text{vut}/$$
$$\{\text{suli}\}\text{V}\{\text{(v)vut}\} \Longrightarrow /\text{sul}\mathbf{iv}\text{vut}/$$

In the first case, there *is* a stem-final consonant phoneme, /k/, so the epenthetic /(v)/ is not inserted, whilst in the second case, the stem ends in a vowel /i/, thus triggering the insertion of /(v)/.

Lastly, to illustrate the two cases for the sandhi additive morphemes, we can reuse the bases above, but just say 'he' instead of 'they':

$$\{\text{sinək}\}\text{V}\{\text{vuq}\} \Longrightarrow /\text{sinə}\mathbf{k}\text{vuq}/$$
$$\{\text{suli}\}\text{V}\{\text{vuq}\} \Longrightarrow /\text{sul}\mathbf{iv}\text{vuq}/$$

Clearly, this example is the easiest, because as you can see, it makes no difference whether the stem ends in a consonant or a vowel. **V{vuq}** joins onto both in the same way.

Intermediate cases: g-sandhi

A small handful of morphemes are neither clearly additive nor truncative; that is, on some stems they behave additively, and on others truncatively. This group includes all morphemes beginning in /g/ *that attach to noun-stems*. Their sandhi rules are as follows:

Definition 2.6 (g-sandhi)

$\{S_1\text{k}\}\textbf{N}\{\text{g}S_2\} \rightarrow /S_1\text{g}S_2/$ *truncative on /k/ stems (special!)*
$\{S_1\text{q}\}\textbf{N}\{\text{g}S_2\} \rightarrow /S_1\text{qg}S_2/$ *additive on /q/ stems (as usual)*
$\{S_1v\}\textbf{N}\{\text{g}S_2\} \rightarrow /S_1v\text{g}S_2/$ *additive on vowel stems (as usual)*

In other words, these morphemes behave like normal, additive morphemes, *except* on stems ending in /k/. There they behave like sandhi truncative morphemes instead and delete this /k/. Some very common examples include **N{ga}** (my N) and **N{gə}V** (have as N). As an example, compare how **N{ga}** attaches to {panik}**N** (daughter, a k-stem) and {aliqaq}**N** (older sister to a boy, a q-stem):

{pani**k**}**N{ga}** $\Longrightarrow$ /pani**g**a/ (my daughter, delete /k/)
{aliqa**q**}**N{ga}** $\Longrightarrow$ /aliqa**qg**a/ (my sister, attach to /q/)

Most endings and affixes that attach to *verbal stems* do *not* behave in this way; they behave instead like completely normal morphemes, using the ordinary sandhi rules. One of the few verbal affixes that *does* behave in this odd, intermediate way, is the affix **V{gə}V** (think it is so Vb), but notice that it, apart from its join markers, looks completely similar to the aforementioned **N{gə}V**, which is probably also why it behaves in the same way.

In general, for affixes that begin in /g/ and attach to *noun stems*, I shall use no explicit symbol to denote that they use this special sandhi rule, because they *all* use it. It is the regular default behaviour for them. On the other hand, for morphemes beginning in /g/ that attach to *verbal stems*, I *shall* explicitly note, if they use this special sandhi rule, since for them it is a deviation from the default.

Most, if not all, of these oddly-behaving g-initial affixes actually used to have an initial /k/ instead, in the reconstructed 'proto-eskimoic' language according to Fortescue et al. (2010), whilst the normal-behaving g-initial affixes also then had an inital /g/. Thus, I suspect that this may be basis for the difference in behaviour, even though both types of affixes nowadays begin with a /g/. One way to handle this difference would be to posit that there are *two* kinds of g-phonemes in Greenlandic; a 'weak/fusional' /g/, and a strong/truncative /g/, but I think that would be to complicate matters beyond necessity. After all, this only concerns a small handful of morphemes, so you will probably quickly be able to learn the few cases where a g-initial affix displays this deviant behaviour.

So, which morphemes are sandhi-truncative?

One of the main issues for any student of Greenlandic is to remember which affixes are truncative. Actually, my reason for distinguishing between phonotactic truncativity and sandhi-truncativity is precisely to make this task easier, because in the case of the phonotactically truncative morphemes you can infer it directly from the form of the morpheme itself. Whenever you learn a morpheme that begins with a double consonant, there is no point in *also* learning (as a separate fact) that it is truncative, because it cannot be anything *but* truncative.

But what about the sandhi-truncative morphemes? This is still a quite large group, and here you *do* have to learn their sandhi-behaviour as a separate fact for each morpheme, because I cannot derive a rule from the syllable structure that would let you infer its sandhi-behaviour. However, in place of an exact rule, a good rule of thumb may be the second-best option:

Definition 2.7 (Sandhi-truncative morphemes)

- All *affixes and endings beginning in a vowel are sandhi-truncative.*
- All *affixes and endings beginning in one of* /kŋpqr/ *are sandhi-truncative.*
- Most *affixes beginning in* /l/ *are sandhi truncative.*

2.5 Phonotactic epenthesis

As you have seen, morphemes can delete a stem-final consonant phoneme *either* because of their own preference (the sandhi truncative) *or* because phonotactics dictate that they must (the phonotactically truncative). In a similar fashion, morphemes can also be forced by phonotactics to *insert* phonemes, and just like phonotactic truncativity this follows directly from the structure of a syllable. Imagine what would happen if you had a morpheme ending in /uu/, and you tried to add another morpheme *beginning* with /u/ onto that: That would result in /uuu/, but by the law of syllable structure (definition 2.3), a vowel may be *single* (v) or doubled (v_1v_1), but never *more* than that. It cannot be tripled.

Here, the solution is that a phoneme must be inserted at the boundary between the morphemes, such that the new, adjoining /u/ can isolate itself from the preceding /uu/. In this case, a /j/ is inserted, so the result is /uuju/. This 'sound insertion' can *only* happen before a morpheme *beginning* with a vowel phoneme, and it is *this* vowel phoneme that determines which consonant phoneme must be inserted. The rule is as follows:[7]

[7] There is *one* notable exception to this general rule: The morpheme **N**{innaq}**N** (just an N) and its verbal counterpart **V**{innaq}**V** (just Vb'ing) insert a /g/ instead of the expected /v/, but this is precisely an *exception*, not a *rule*, and thus you should not waste your time on actively trying to *learn* this. You will pick it up eventually. I always advocate this principle of learning the general rules before the infrequent exceptions.

Definition 2.8 (Phonotactic epenthesis)

/uu.u/ → /uu**j**u/ *(insert /j/ before /u/)*
/ii.i/ → /ii**v**i/ *(insert /v/ before /i/)*
/aa.a/ → /aa**v**a/ *(insert /v/ before /a/)*

Here I have used the symbol '.' to indicate the morpheme boundary, where optionally a consonant phoneme may have been removed.

As you can see, the rule itself is quite simple: A /j/ is inserted before a /u/. Otherwise a /v/ is added; that is, before /a/ or /i/. However, there is one major complication with this rule, concerning *when* this insertion happens: A vowel-initial sandhi truncative morpheme like e.g. **N**{-a} (his N) will delete a stem-final consonant, but if the vowel *before* that consonant is long (that is, doubled) such as in the morpheme {q**aa**q}**N** (surface), then (depending on the combination of vowels) one of the three aforementioned situations could arise, as it does in this case, since:

{qaaq}**N**{-a} ↛/q**aaa**/

A triple-vowel is disallowed by the syllable pattern (definition 2.3), and thus in order to avoid violating the sound laws of the language a *new* consonant phoneme must be inserted again, by the present rule. This is actually my reason for the *order* in which I have described the rules in this chapter – phonotactic truncation, sandhi rules, and lastly phonotactic epenthesis – because this is the order in which you must *apply* the rules. If you do that, then everything I have said in this paragraph will follow obviously from the rules.

We should also have some examples, and for this purpose I shall yet again need a few new morphemes: {ǝlitniaqnǝqtuuq}**N** (a student), {politiiq}**N** (a policeman, a loanword from Danish, in plural meaning 'the police'), {qavlunaaq}**N** (a Dane) and the ending **N**{-i} (its Ns). The following two examples then illustrate the normal cases of phonotactic epenthesis or 'forced sound insertion' where a /j/ or /v/ is inserted:

	{ǝlitniaqnǝqtuuq}**N**{-u}**V**{vuŋa}	(I am a student)
⟹	/ǝlitniaqnǝqt**uu.u**vuŋa/	(sandhi: Delete /q/)
⟹	/ǝlitniaqnǝqt**uuju**vuŋa/	(epenthesis: Insert /j/)
	{politiiq}**N**{-i}	(its Police (e.g. the city's))
⟹	/polit**ii.i**/	(sandhi: Delete /q/)
⟹	/polit**iivi**/	(epenthesis: Insert /v/)
	{qaaq}**N**{-a}	(its surface)
⟹	/q**aa.a**/	(sandhi: Delete /q/)
⟹	/q**aava**/	(epenthesis: Insert /v/)

There is also another complication, caused by one of the sound rules to be described in the following chapter: It is a rule saying that *any vowel following an* [a] *will itself become an* [a]. Thus, if the preceding vowel is, *or will become*, a double [a], then the present rule must also be invoked to ensure that a triple-a *sound* will not arise. Consider what would happen, if we added the morpheme **N**{-i} to {qaaq}**N**:

{qaaq}**N**{-i} $\Longrightarrow$ /q**aai**/ $\nRightarrow$[q**aaa**]

The /q/ would be deleted, thus leaving /i/ to directly follow the double /aa/, but because of the aforementioned sound rule, this *would* cause the /i/ to become [a], which again would leave us with [aaa], violating the syllable structure. Therefore we must also use epenthesis *whenever the combination otherwise* would have *violated the syllable structure*; that is, whenever you join a morpheme beginning with a vowel unto a stem, that ends in, or *will come to end in*, a double [a].

The next two examples illustrate the 'special' cases where we also need to insert a phoneme after a double /a/ to avoid ending up with a triple [aaa] once the sound rules are applied:

	{qaaq}**N**{-i}	(its surfaces)
$\Longrightarrow$	/q**aa.i**/	(sandhi: Delete /q/)
$\Longrightarrow$	/q**aavi**/	(epenthesis: Insert /v/)
	{qavlunaaq}**N**{-u}**V**{vuŋa}	(I am a Dane)
$\Longrightarrow$	/qavlun**aa.u**vuŋa/	(sandhi: Delete /q/)
$\Longrightarrow$	/qavlun**aaju**vuŋa/	(epenthesis: Insert /j/)

Notice in all cases – both the 'normal' and the 'special' – that the phoneme to be inserted is determined by the *adjoining* vowel phoneme – /j/ before /u/, and /v/ before /a/ and /i/ – and not by the preceding vowel phonemes onto which it it joined.

Admittedly, this does sound somewhat complicated, because it requires a bit of 'look-ahead' to see what the result after a number of steps will be. However, I believe you will find this more intuitive once we have actually been through the sound rules. I have also added an aside 2.1 with an extended discussion of why it makes sense to learn these abstract rules, even though they may seem complicated at first.

* * *

In this chapter I have presented the rules for joining morphemes to form a single string of phonemes, a kind of 'proto-word' that is the first step in producing an actual word from a train of morphemes, as you can see from figure 1.2 back on page 10. All that now remains is to figure out how the word is to be pronounced; that is, which sound shall be assigned to each phoneme. For this, you need the sound rules; the topic of the next chapter.

Aside 2.1: A note on other grammars

No other grammar or self-study materials I have seen distinguish between morphemes that are truncative because phonotactics dictate that they *must* be, and morphemes that are truncative for their own reasons; that is, between phonotactically truncative morphemes and sandhi truncative morphemes. In books like Stig Bjørnum's grammar (Bjørnum, 2003) they are all just called 'truncative' no matter the *reason* for their 'truncativeness.' This is also true for the DAKA-dictionary, Estrid Janussen's grammar, *Håndbog i grønlandsk grammatik*, (Janussen, 1987) and the affix list, *Grønlandsk tilhængsliste*, of Olsen and Hertling (2011), except that they do not use the word 'truncative' – in fact, they use no word at all, but only mark affixes by either - or +, or, in the case of DAKA, by '-' or '-:'.

Why does it matter? Am I not just making things overly complicated by my insistence on making the distinction? Consider for instance the morpheme **N{-u}V**: To *learn* this morpheme, you will have to remember its meaning (is an N), its type/class (the join markers) *and* its join pattern (truncative). That is *three* pieces of information. Now consider a morpheme like **V{ssa}V**: You still have to remember its meaning (shall Vb/future) and type/class, but by learning *one* abstract rule about syllable structure (that you are going to need later on anyway), you can tell *just by looking* at the morpheme that it *must* be truncative, because it begins with a double consonant. There is no reason to spend mental resources on *actively* remembering this fact.

A similar reasoning underlies my distinction between sandhi-epenthesis and phonotactic epenthesis: Both the DAKA and Olsen and Hertling (2011) (and indeed every book I have seen that uses the new orthography) lists *two* entries for the morpheme **N{-u}V**; both "-uvoq" and "-juvoq", and without any explanation for when and why this /j/ appears.[a] To learn this morpheme by their method you would thus have to actively remember *both* forms *and* when to use which form. I hope you will agree that this is a pointless waste of your mental resources.

Abstract rules may seem difficult at first, but their purpose is to help you by *reducing* the amount of information you have to remember. This is my reason for giving a rule-based presentation of the Greenlandic language.

[a] They actually also list a third form, "-avoq", but more on that later.

CHAPTER 3

Sound rules

Sound rules in Greenlandic – everything has to do with sound. Thus, in this chapter I introduce the *sound rules* that determine how a string of phonemes is transformed into pronunciation. And as you will hopefully discover, these rules are sound; i.e. they generate only legal pronunciations. These rules will tell you how to assign a specific sound to each of the phonemes in strings such as /qikmiqaqvuŋa/ or /aŋutəuvuq/, thus transforming them into actual, pronounceable words; i.e. the second transformation in figure 1.2.

The sound rules are not my invention; I first learned of them from Per Langgård's book (Langgård, 1997a), and the presentation I give in this chapter is very much based on his presentation. My main contribution in this regard, apart from some changes of notation and extended examples, has been to find an *ordering* for the rules, such that they can be applied mechanically, in a stepwise fashion. This is also the order in which I will present the rules here.

For each rule I shall give one or more examples of their usage, including intermediate steps in the process. Rather than simply reading the rules, I will encourage you to take out a sheet of paper and for each example try to do the derivation yourself. In that way you can relatively easily acquire some skills in using the rules and become accustomed to applying them in a step by step fashion, in the proper order. This is, unfortunately, the only kind of training I can recommend, since you will almost certainly not find any exercise books or other self-study materials that use the sound rules – apart from Per's own, of course. I have written some further comments on this situation in aside 3.1. To illustrate the usages I shall also introduce a number of (very) commonly used morphemes, so if you have not done so already, you should also reserve another sheet of paper for noting these down. In that way you can create your own mini-dictionary and use it to build up your vocabulary.

Aside 3.1: On the works of Graphemists

The sound rules are not common knowledge. Despite their supreme usefulness, you will not find any mention of them in many of the grammars or self-study materials that are usually recommended to foreigners wanting to learn Greenlandic, including the grammars of Bjørnum (2003) and Janussen (1987), the (in)famous *Qaagit!* book by Hertling (1994) or *Qanoq* by Brochmann (1998).[a]

Common to all these books is that they describe the language solely on the level of *spelling*, using the new orthography from 1973, and as I have previously mentioned, this writing system is constructed such as to reflect the *pronunciation* of words; not the underlying *phonemes*. But the sound rules operate on strings of phonemes, transforming them *into* pronunciations; they belong on a level *before* (or below) the pronunciation and spelling level. Thus the aforementioned books could not use the sound rules, due to their choice of language description level, even if their authors knew *of* the sound rules' existence (which I doubt). I call this tradition, of describing the language on the spelling level, for the *Graphemistic Tradition*, and its adherents the *Graphemists*, from the Grammaric term 'grapheme' which is the unit of spelling/writing (i.e. the letter).

These Graphemistic books have dominated the scene of Greenlandic foreign language teaching for quite a number of years now; you should not be surprised to find that even people who *teach* Greenlandic today may themselves have been taught using these very same materials, which of course implies that they, in turn, most likely know next to nothing about sound rules and underlying phonemes. It is as if all knowledge of underlying phonemes – or perhaps even of phonemes in general – was eradicated in the spelling reform of 1973.

Therefore, if you happen to be taking a course in Greenlandic and ask your teacher about anything from my book, you should not be surprised if she has no idea what you are talking about.[b]

[a] One notable exception is a recent book, *Vestgrønlandsk grammatik*, by Nielsen (2019). He gives a brief description of the sound rules, based on Per's work, but his presentation is condensed and technical, yet lacking a clear ordering of application. It is hardly readable by an ordinary person – in my opinion it is about as Grammaric as a book can get.

[b] Unless of course she happens to be teaching by Per's materials.

3.1 The ð-rule

The first sound rule is also one of the most important of all the sound rules, because it concerns the /ð/ phoneme, and many frequently used affixes and endings begin with precisely this phoneme:

Definition 3.1 (ð-rule) *Whenever the phoneme /ð/ follows any* consonant *phoneme c, it becomes a /t/, but if it follows any* vowel *phoneme v, it becomes a /c/. Abstractly expressed:*

$$/c\text{ð}/ \rightarrow /c\text{t}/$$
$$/v\text{ð}/ \rightarrow /v\text{c}/$$

/ð/ is an ancient consonant phoneme that at some point lost its own pronunciation, and instead 'borrowed' the pronunciation of other consonant phonemes depending on context. It became a *variable* phoneme. This rule detailing its behaviour is extremely important in Greenlandic, because many morphemes – both endings and affixes, including some of the most commonly used – begin with this variable phoneme. Examples of very common affixes include **V{ðaq}V** (habitually Vb) and **V{ðuq}N** (one who Vb's). In the following examples I use the ending **V{ðuŋa}** (that I Vb) as well as some verbal bases you already know:

	{sinək}**V**{ðuŋa}	(that I sleep)
$\Longrightarrow$	/sinə**kð**uŋa/	(sandhi additive)
$\Longrightarrow$	/sinə**kt**uŋa/	(this rule: /kð/ $\Longrightarrow$ /kt/)
	{suli}**V**{ðuŋa}	(that I work)
$\Longrightarrow$	/sul**ið**uŋa/	(sandhi additive)
$\Longrightarrow$	/sul**ic**uŋa/	(this rule: /ið/ $\Longrightarrow$ /ic/)

Note that Langgård (1997a) uses the symbol 'T' for this variable phoneme, and likewise does Nielsen (2019). However, Fortescue et al. (2010) use the symbol 'ð' and I have decided to follow them, to keep my notation in accordance with the entries in their Comparative Eskimo Dictionary. Using different symbols for the same thing is of course unfortunate, but now at least you know what to look for, in case you read these works. Other works, such as Bjørnum (2003), Janussen (1987), Brochmann (1998), Hertling (1994), the affix list by Olsen and Hertling (2011) and, of course, the DAKA, make *no* distinction between affixes beginning with /ð/, and affixes beginning with a 'real' /t/. Thus, these works would list e.g. the morpheme **V{ðaq}V** as both '+tarpoq' and '+sarpoq', side by side with other morphemes beginning in 't' or 's' that do *not* alternate.

3.2 The t-to-s rule

The second rule concerns a process that *used to* be regular, but which, for various reasons, is falling out of use today, and therefore is a source of great confusion, because some use it, whilst others do not (or use it wrongly or inconsistently). Still, it has, at least historically, been an important process that is the source of many otherwise inexplicable alternations between t's and s'es in writing, so therefore you ought at least to know about it. I have also written a longer aside about this towards the end of this chapter (see aside 3.4). The rule is as follows:

Definition 3.2 (t-to-s rule) *A* /t/ *following an* /i/ *– optionally with* one *consonant phoneme in-between them –* and *followed by a vowel, is changed to an* /s/.[1] *Abstractly expressed:*

$$/\text{i}(c)\text{t}v/ \rightarrow /\text{i}(c)\text{s}v/$$

The condition that the /t/ must be followed by a vowel is just another way of saying that this /t/ cannot be the last sound in the word. This follows from the sound laws (see definition 2.2), since no word can end on an [s] sound. There is actually a further condition, that *if* v = /ə/ *then* this /ə/ must also be followed by another phoneme (it does not matter which one; any phoneme will do). The reason for this, as you will see below, is that a word-final /ə/ will disappear, which again would leave us with a word-final [s].

In these examples I use the base {pəkkurik}**V** (is proficient/good at s.t.), {kavvi}**N** (coffee, a loan-word from Danish), and the affix **N**{tuq}**V** (eat/drink N):

	{kavvi}**N**{tuq}**V**{vuŋa}	(I drink coffee)
$\Longrightarrow$	/kavv**itu**qvuŋa/	(sandhi additive)
$\Longrightarrow$	/kavv**isu**qvuŋa/	(this rule: /itu/ $\Longrightarrow$ /isu/)
	{pəkkurik}**V**{ðuŋa}	(that I am proficient)
$\Longrightarrow$	/pəkkur**ikðu**ŋa/	(sandhi additive)
$\Longrightarrow$	/pəkkur**iktu**ŋa/	(The ð-rule: /kð/ $\Longrightarrow$ /kt/)
$\Longrightarrow$	/pəkkur**iksu**ŋa/	(This rule: /iktu/ $\Longrightarrow$ /iksu/)

It should come as no surprise to you that I in the second example *first* need to apply the ð-rule, and then apply the present rule to the result. This is precisely why an *ordering* of the rules is necessary to ensure that you obtain the correct result. If the rules had been applied in the opposite order, nothing would have happened by the present rule, because there would have been no /t/ to operate on.

[1] This process is also called *assibilation* in Grammaric.

3.3 The y-rule

There seems, at least historically, to have been a rule that made an initial /j/ – written /y/ in the Comparative Eskimo Dictionary (Fortescue et al., 2010) – alternate with a /g/, whenever it is added onto a *consonant*.[2] This behaviour is not *regular* – it certainly does not happen with *all* /j/ phonemes – but there are a handful of very common morphemes that display this alternating pattern, and you will encounter the sooner or later. Therefore I have decided to use an extra symbol to denote such an 'alternating /j/' phoneme, which I, following Fortescue et al. (2010), write as /y/. It behaves as follows:

Definition 3.3 (y-rule) *A* /y/ *becomes a* /j/ *when following any vowel phoneme* v*, but it becomes a* /g/ *when following any consonant phoneme* c*. Abstractly expressed:*

$$/v\text{y}/ \rightarrow /v\text{j}/$$
$$/c\text{y}/ \rightarrow /c\text{g}/$$

An example of a very common affix using this rule is **V**{yuma}**V** (would like to Vb):

	{sinək}**V**{yuma}**V**{vuŋa}	(I would like to sleep)
$\Longrightarrow$	/sinə**ky**umavuŋa/	(sandhi additive)
$\Longrightarrow$	/sinə**kg**umavuŋa/	(this rule: /ky/ $\Longrightarrow$ /kg/)
	{suli}**V**{yuma}**V**{vuŋa}	(I would like to work)
$\Longrightarrow$	/sul**iy**umavuŋa/	(sandhi additive)
$\Longrightarrow$	/sul**ij**umavuŋa/	(this rule: /iy/ $\Longrightarrow$ /ij/)

[2]Which, as you will see soon, is precisely the cases when /g/ will be changed by other sound rules, because there are only three possibilities: It can be added onto a vowel, a /q/ thus becoming /r/ by the g-rule, or onto any other consonant, thus becoming [kk] by first the consonant rule and then the fricative rule.

3.4 The ə-rule

This rule concerns another case of an ancient phoneme that has lost its own individual sound, and now instead borrows the basic sounds of other phonemes. This vowel, for which I use the symbol 'ə', is traditionally called *schwa* in the 'phoneme-aware' parts of the literature, e.g. Fortescue et al. (2010).[3]

Definition 3.4 (ə-rule) *When /ə/ is followed by any* consonant *phoneme c, it takes the sound* [i]*, but when it is followed by any* vowel *phoneme v, it takes the sound* [a]*. There is also an addendum: Many noun bases end in /tə/, but when /tə/ is not followed by anything, here denoted by the symbol ∅, called 'null', 'nil' or 'nought,' then t/ə/ takes no sound at all; it becomes silent:*

$$/\text{ə}C/ \rightarrow [\text{i}C]$$
$$/\text{ə}V/ \rightarrow [\text{a}V]$$
$$/\text{tə}\emptyset/ \rightarrow [\text{t}]$$

For this example I shall use two nominal endings, **N**{ga} (my N) and **N**{-a} (his/her/its N). The base {aŋutə}**N** normally means *a man*, but with one of these endings, it becomes a formal expression for *father*. Lastly, the ending **N**{∅}, an ending consisting of nothing, just denotes 'singular noun':

	{aŋutə}**N**{ga}	(my father)
$\Longrightarrow$	/aŋut**ə**ga/	(sandhi additive)
$\Longrightarrow$	[aŋut**i**ga]	(this rule: /əg/ $\Longrightarrow$ [ig])
	{aŋutə}**N**{-a}	(his father)
$\Longrightarrow$	/aŋut**ə**a/	(sandhi truncative, nothing deleted)
$\Longrightarrow$	[aŋut**a**a]	(this rule: /əa/ $\Longrightarrow$ [aa])
	{aŋutə}**N**{∅}	(a man)
$\Longrightarrow$	/aŋut**ə**∅/	(sandhi additive)
$\Longrightarrow$	[aŋut]	(this rule: /tə∅/ $\Longrightarrow$ [t])

The ə-rule neatly explains a phenomenon that often baffles foreigners trying to learn Greenlandic by the Graphemistic method: The sudden appearance of an 'i' or an 'a' in places where no vowel seemingly was before. You can read more about this in aside 3.2.

[3] Whilst it is sometimes known as 'i_2' in the Graphemistic tradition (e.g. (Bjørnum, 2003)), if it is known at all.

The ə-rule and the t-to-s rule

One reason why the ə-rule must appear *after* the t-to-s rule is that only *real* /i/ phonemes can change a /t/ to an /s/, but the ə-rule makes an /ə/ appearing before a /t/ indistinguishable from a real /i/. The t-to-s rule *must* therefore be applied first.

This is also the reason for that somewhat cumbersome extra requirement on the t-to-s rule that *if* the vowel *following* /t/ is a /ə/, *then* some other phoneme must follow /ə/ if the rule is to be applied. Consider a base like {aulla**itə**}**N** (a rifle) with the null-ending **N**{∅} for singular. Without this extra requirement we would get */aulla**isə**∅/ by the t-to-s rule, and then *[aulla**is**] by the ə-rule. But by the first sound law, no Greenlandic word can end on an [s]-sound! (see definition 2.2).

The cleanest solution would probably be to choose another symbol, instead of [i], to represent the sound taken by /ə/ before consonants, and then switch the order of the two rules. It would however require extra rules to handle the pronunciation of this new symbol, and so for the sake of simplicity I decided against this solution, because it seemed to add too much complexity for the sake of handling a marginal case.

The interplay between the ə-rule and the t-to-s rule (and the ð-rule, for that matter) is certainly a complicated affair, but it would be no less complicated if we simply forgot about the rules and only considered the way words and affixes are *written* like the Graphemists do. To me, this is perhaps the strongest argument for a rule-based approach, and I have added no less than two extended asides about it at the end of this chapter (on page 57 and page 60).

When schwas don't matter

Consider a base like {əŋlu}**N** (house): This /ə/ can never become anything but an [i]; it stands too far to the left in the morpheme. As a general rule, if the morpheme cannot be subdivided into smaller, recognisable morphemes, then only a /ə/ in the *last* syllable will make any difference. Thus, I might as well write this morpheme as {iŋlu}**N** instead.

Still, I like to keep these old phoneme distinctions around, because they often make it clearer to see how words are related. But whether you want to do the same is up to you. You could equally well decide to learn this morpheme as {iŋlu}**N**[4] instead; that is, you could learn a form of all morphemes with all sound rules 'pre-applied' to all but the last syllable, because only the last syllable will (normally) change when you add another morpheme at the end. Indeed, this is the way Langgård (1997b) has decided to follow in his morphemic notation. Personally, I have found that it paradoxically *aids* my memory to keep this extra information about old phonemes; perhaps because it also makes the difference between otherwise similar-looking stems and affixes greater. But you should decide for yourself what works best for you.

[4] Or even {illu}**N**, as you will see below

Further complications of the ə-rule

This section may seriously confuse you. Read on at your own peril!

The ə-rule is mainly relevant for stems that end in /tə/, i.e. nouns ending in 't' according to the DAKA dictionary, and to distinguish between the 'true' /i/ phonemes that may cause assibilation (transform a /t/ to an /s/); the so-called i_1's according to Bjørnum (2003), and those that may not (i.e. the schwas or i_2's in Bjørnum's terminology).

The alternations between [i], [a] and null are actually *only* happening when schwa is stem-final; that is, when it is the last sound in a morpheme, such as is the case for all morphemes ending in /tə/. When a /ə/ is stem-*internal*, it will historically have taken on one particular sound, and it will then keep this sound despite later changes to the stem caused by e.g. deletion of a final consonant phoneme. As an example, consider the base {atəq}**N** (a name). Here the /ə/ is stem-internal, so it will take the sound [i] regardless of what may happen to the final /q/. If you wanted to say e.g. 'it is a name', adding the affix **N**{-u}**V** (is) and **V**{vuq} (it Vb's), then the result will be [at**iu**vuq], and not *[at**aa**vuq]. The schwa is 'frozen' into the sound of [i], so to speak.

It would undoubtedly be much clearer, if I had written the base as *{atiq}**N** instead. Despite the benefits, one of my reasons for *not* doing this is that it would make you think a morpheme beginning in /t/, that is added onto *{atiq}**N**, should be subjected to the t-to-s rule. But this is *not* the case. Even when schwas historically have taken the sound [i], they *still* cannot cause assibilation.

There is also another (small!) group of morphemes, where the phonotactics has forced a stem-final /ə/ to take a sound. The most common examples are {puicə}**N** (a seal), {nipə}**N** (a voice), {tipə}**N** (a smell) and {inə}**N** (a room), where in each case the /ə/ cannot become silent, because the final sound would then *not* be one of [t], [k] or [q] or a vowel, as required by the phonotactics. There is also {uqalukðə}**N**[5] (an interpreter), where the stem would end in a double consonant /kt/ *if* the schwa were to have become silent, which again is disallowed by phonotactics. In each of these cases the /ə/ takes the sound /i/, but here the /ə/ *is* stem-final, so it is *still* subject to alternation by the ə-rule. Thus, for instance {inə}**N**{-a} (his room) becomes [in**aa**].

This may also have happened in *endings*, where e.g. the ending **N**{vta} (our N's s.t.) actually comes from the morpheme {vtə}. Here again the /ə/ could not have become silent because of phonotactics, since it is preceded by the consonant cluster /vt/, and final consonant clusters are not allowed. However, here it has instead taken the sound [a], and this is generally the case within *endings*. Fortunately, unlike normal words, endings are not subject to arbitrary recombination of morphemes, so this is not something you have to worry about, but if I *should* formulate a general rule for this, then it seems to be something like: When forced by phonotactics, schwas will take the sound [i] in *stems*, but [a] in *endings*.

In general, schwas are a source of great confusion, even when we know what they are.

[5] Formed from {uqaluk}**V** (speak) + **V**{ðə}**N** (active participle, 'one who Vb's for someone').

Aside 3.2: 'i$_2$' and other misnomers

Bjørnum (2003) and other Graphemists occasionally refer to the existence of an 'i$_2$' although they do not explain what it is. As you may well have guessed, an 'i$_2$' is really a schwa: To call it 'i$_2$' seems at best an arbitrary choice, since it might just as well have been called 'a$_2$'[a] Worse still, they make no distinction in their notation between the true i's and this mysterious i$_2$.[b] Neither does the DAKA dictionary, so a base like {aŋutə}N will be listed as ***angut*** with no indication whatsoever that the 't' is followed by a silent vowel. In fact, *every* noun listed in the DAKA, that *appears* to end on a 't' in singular is really a schwa-stem; that is, it ends in /tə/!

Imagine the confusion caused by this kind of 'explanation' when students are told e.g. that the plural marker for nouns is 'to add t to the stem' – that is, N{t} in my notation. An exchange between a teacher an student might then proceed along the following lines:[c]

Teacher: " 'A man' is *angut* but 'men' is *angut**it***."

Student: "But where did that extra 'i' suddenly come from?"

Teacher: "Well, that is just an *injected i*" the teacher would answer with an indulgent smile.

Student: "Then what about when I want to say *I am a man?* Then I would add *-uvunga* to *angut*, right? So it becomes *anguuvunga*?

Teacher: "No, that is wrong. 'I am a man' is *angut**aa**vunga*.

Student: (now looking thoroughly confused) "*Anguta-a-a-a-vunga*?! Why is there now suddenly an 'a'?"

Teacher: (the smile now slightly strained) "But dear Student, that 'a' is a *supporting vowel*!"

Student: "So an 'i' appearing out of thin air is an 'injected i' but an 'a' is a 'supporting vowel' ... so how do I know when i's are injected and a's turn up to support?"

Teacher: "An 'i' is injected after 't', and you use *-aavunga* on angut; that's what you are supposed to learn! And now let us proceed to something else..."

[a] Or even 'u$_2$' since /ə/ can also (in a few special cases) take the sound of [u]!

[b] In all fairness, neither did Kleinschmidt or the users of the old orthography.

[c] Any likeness to real events is probably intended.

3.5 The a-rule

In section 2.5 I mentioned a rule that would make any vowel phoneme, following directly after an [a]-sound, itself take the sound [a]. This is the rule.

Definition 3.5 (a-rule) *Any vowel phoneme v following an* [a] *sound, will itself become an* [a] *sound. Abstractly expressed:*

$$[\mathrm{a}v] \rightarrow [\mathrm{aa}]$$

You could say that [a] sounds are contagious; they *assimilate* other vowel sounds progressively. This of course also happens if the vowel bearing the [a] sound is in reality a /ə/, that has *taken on* the sound [a] precisely *because* it is followed by a vowel. This two-step pattern is quite common, and it is another example of the necessary ordering inherent in the sound rules.

For this example I shall need but one new morpheme, the base {aqnaq}**N** (a woman). We shall see how to say 'I am a woman' and 'I am a man' respectively:

	{aqnaq}**N**{-u}**V**{vuŋa}	(I am a woman)
$\Longrightarrow$	/aqn**au**vuŋa/	(sandhi truncative, delete /q/)
$\Longrightarrow$	[aqn**aa**vuŋa]	(this rule: [au] $\Longrightarrow$ [aa])
	{aŋutə}**N**{-u}**V**{vuŋa}	(I am a man)
$\Longrightarrow$	/aŋut**əu**vuŋa/	(sandhi truncative, nothing deleted)
$\Longrightarrow$	[aŋut**au**vuŋa]	(ə-rule: /əu/ $\Longrightarrow$ [au])
$\Longrightarrow$	[aŋut**aa**vuŋa]	(this rule: [au] $\Longrightarrow$ [aa])

3.6 The t-rule

The sound of a Greenlandic [t] is normally unaspirated; that is, it sounds like 'd' in the words '**d**uck' and '**d**oor.'[6] The present rule then says that when a /t/ stands before an [i] sound (whether from a schwa or a true /i/), it gets a little s-like sound added to it. This means it comes to sound much more like the way we are used to have t's sounding in English; something like the 't' in '**t**urn' and '**t**ime.'

Definition 3.6 (t-rule) *When a* [t] *sound is followed by an* [i] *sound, it becomes* aspirated, *written* [tˢ]. *Abstractly expressed:*

$$[\text{ti}] \rightarrow [\text{t}^{\text{s}}\text{i}]$$

For this example, you only need to know that the morpheme **N**{-qaq}**V** (have N) can also mean "there are N" when used with the so-called 3rd person singular ending **V**{vuq} (he/she/it Vb). Suppose then that you wanted to say "There are men":

	{aŋutə}**N**{-qaq}**V**{vuq}	(There are men)
$\Longrightarrow$	/aŋutəqaqvuq/	(sandhi truncative, nothing deleted)
$\Longrightarrow$	[aŋut**iq**aqvuq]	(ə-rule: /əq/ $\Longrightarrow$ [iq])
$\Longrightarrow$	[aŋut$^{\text{s}}$**i**qaqvuq]	(this rule: [ti] $\Longrightarrow$ [tˢi])

Here /ə/ firstly takes an [i] sound, because it is followed by a consonant (cf. the schwa rule in definition 3.4), and since the /t/ is now followed by an [i] sound, then the present rule applies.

[6] It is a well-known joke that you can pronounce something that closely resembles ***Itt**oqqortoormiit* – the name of an East-Greenlandic town, in East-Greenlandic – by saying "ea**t** **d**uck cut **d**oor meat."

3.7 The g-rule

This rule is another very common (and thus important) rule, because many frequently used affixes, and nearly half of all verbal endings begin with a /g/ phoneme. The rule is as follows:

Definition 3.7 (g-rule) *Whenever a* [g] *sound follows a* [q] *sound, they fuse to form an* [r] *sound. It always happens, unconditionally. Abstractly expressed:*

$$[qg] \rightarrow [r]$$

To illustrate this rule I shall need two new morphemes; {niri}**V** (eat <something>) and **V**{(q)gusuk}**V** (want to Vb):

	{niri}**V**{(q)gusuk}**V**{vuŋa}	(I want to eat <something>)
$\Longrightarrow$	/niri**qg**usukvuŋa/	(sandhi epenthesis: /q/ is inserted)
$\Longrightarrow$	[niri**r**usukvuŋa]	(this rule: /qg/ $\Longrightarrow$ /r/)

If you think it seems arbitrary that [qg] should become [r], then consider the following: The sound of [q] is a *uvular plosive* in Greenlandic (but certainly not in English!), and the sound of [g] is a *palatal fricative* (again, unlike in English). The fusion combines the *place* of pronunciation from [q] (uvular) with the *method* of pronunciation from [g] (fricative), thus yielding a *uvular fricative* which is exactly the basic sound of [r] in Greenlandic (completely unlike in English).[7]

[7] And if this all sounds like Greek to you, then do not worry: It will hopefully make sense when you have read chapter 4 on pronunciation.

3.8 The vowel rule

Both [r] and [q] are *uvular* sounds in Greenlandic; that is, they are pronounced at the very *back* of your mouth (and none of them sound anything like what you are used to associate with these symbols in English). This rule then says that when a vowel sound – either a single or a double – stands before one of these uvular sounds, then the vowel sound becomes *open*. It literally means that you must pronounce the vowel sound with a more open mouth. It will feel quite natural, once you know how to pronounce [r] and [q], since it is almost impossible to pronounce a preceding vowel *without* making it open.

I use the symbol [e] to signify the open variant of [i], and [o] to signify the open variant of [u]. Unfortunately, our alphabet has no conventional symbol that can be used to represent the open variant of [a], so for this I use the standard IPA[8] symbol for this sound, which is [ɑ].

Definition 3.8 (Vowel rule) *Whenever a vowel sound is followed by an* uvular *sound (either an* [r] *or a* [q]*), then the vowel sound becomes* open *(uvularised). Abstractly expressed:*

$$\begin{aligned} [(a)ar] &\to [(ɑ)ɑr] & [(a)aq] &\to [(ɑ)ɑq] \\ [(i)ir] &\to [(e)er] & [(i)iq] &\to [(e)eq] \\ [(u)ur] &\to [(o)or] & [(u)uq] &\to [(o)oq] \end{aligned}$$

For this example, I shall skip the derivational steps and only look at three nominal bases: {aqnaq}**N** (a woman), {iqnəq}**N** (a son), and {uqcuq}**N** (blubber):

$$\begin{aligned} [\mathbf{aq}naq] &\implies [\mathbf{ɑq}nɑq] && \text{(this rule: [aq] } \implies \text{ [ɑq])} \\ [\mathbf{iq}niq] &\implies [\mathbf{eq}neq] && \text{(this rule: [iq] } \implies \text{ [eq])} \\ [\mathbf{uq}cuq] &\implies [\mathbf{oq}coq] && \text{(this rule: [uq] } \implies \text{ [oq])} \end{aligned}$$

Note also that if the vowel is *long* (i.e. double), then the rule applies to both vowels, as signified by the parentheses above, because a double vowel v_1v_1 is pronounced as *one long* sound, rather than as two distinct sounds. Thus for example we also have that [qavlun**aaq**] becomes [qavlun**ɑɑq**] by this rule.

If, on the other hand, the two vowels are *different*, then this rule only applies to the last vowel. That is, two different vowels will belong to different *syllables*, and this rule only affect the single syllable immediately preceeding the [r] or [q] sound. Thus for example to say 'she has a husband,' with nominal base {ui}**N** (husband), **N**{-qaq}**V** (has an N) and **V**{vuq} (she Vb's), you obtain the following:

$$/\text{uiqaqvuq}/ \implies [\mathbf{ueq}ɑqvoq]$$

As you can see, the /u/ in /uiq/ is unaffected because it belongs to a different syllable.[9]

[8] International Phonetic Alphabet

[9] The syllables would be [u-e-qɑp-poq], but more on that later.

3.9 The consonant rule

This rule is fairly simple, but with profound consequences for the way words are pronounced. It says that whenever two consonants, c_1 and c_2, stand next to each other, then the *first* consonant, c_1, will take the sound of the *last* consonant, c_2. It is *regressively assimilated*[10] and we thus always end up with two of the last sound.

Definition 3.9 (Consonant-rule) *All consonant clusters c_1c_2 are regressively assimilated to c_2c_2. Abstractly expressed:*

$$[c_1c_2] \rightarrow [c_2c_2]$$

For this example, we shall need the nominal ending **N**{mut} (to N), and the verbal base {aglak}**V** (write).

	{Nuuk}**N**{mut}	(to Nuuk)
$\Longrightarrow$	/Nuu**km**ut/	(sandhi additive)
$\Longrightarrow$	[Nuu**mm**ut]	(this rule: [km] $\Longrightarrow$ [mm])
	{aglak}**V**{vuŋa}	(I write s.t.)
$\Longrightarrow$	/a**glak**vuŋa/	(sandhi additive)
$\Longrightarrow$	[a**llavv**uŋa]	(this rule: [gl] $\Longrightarrow$ [ll]; [kv] $\Longrightarrow$ [vv])
	{uqcuq}**N**{∅}	(blubber)
$\Longrightarrow$	/**uqcuq**/	(sandhi additive)
$\Longrightarrow$	[o**qc**oq]	(vowel rule: [uq] $\Longrightarrow$ [oq])
$\Longrightarrow$	[o**cc**oq]	(this rule: [qc] $\Longrightarrow$ [cc])

Notice in the last example with {uqcuq}**N** how a vowel, that has become open by the vowel rule because, it stands before an uvular consonant, *remains* open, even when that uvular consonant is subsequently assimilated to some other, non-uvular sound, like in this case a [c]. That is why the vowel rule *must* come earlier in the process than the present rule.

[10] 'Regressive' here means 'going from right to left.' Conversely, 'progressive' means 'going from left to right.' Thus, the a-rule describes *progressive* assimilation by [a] sounds, and the consonant rule describes *regressive* assimilation by any consonant sound.

3.10 The fricative rule

This very important rule says that *whenever a voiced fricative sound is doubled, it must become voiceless.* In Greenlandic, the *voiced fricatives* are the sounds [v], [g], [l], [j] and [r], and the present rule says that whenever one of these sounds becomes *doubled*, e.g. because of the consonant rule, then it must become one of its corresponding *unvoiced* sounds. This process is very common, and hence this rule is very important, often occurring several times within a single word.

Definition 3.10 (Fricative rule) *Whenever a voiced fricative sound is doubled, it is devoiced and becomes either the corresponding voiceless fricative, or corresponding plosive sound:*

[vv] → [pp] or *(rarely)* [ff]
[gg] → [kk] or *(rarely)* [xx]
[ll] → [ɬɬ]
[jj] → [cc] or [$t^s t^s$]
[rr] → [qq] or *(rarely)* [XX]

Without going too much into details about pronunciation at this point, a *voiced* sound is any sound that you produce by using your voice, and conversely, a *voiceless* sound is one that you make *without* use of your voice. Try placing your fingers on your throat and say a prolonged [llllll]. You should be able to feel a slight vibration, made by your vocal cords. The sound [l] is *voiced*.

Conversely, try saying a prolonged [ssssss]. You should not be able to detect any vibration, because the sound [s] is *unvoiced*. For another example, try comparing the 'w' in ***w**itch* and ***w**hich*. In English, 'unvoicedness' is typically marked by an 'h', so you should be able to detect a difference in the two pronunciations of 'w' – at least if you are a moderately conservative speaker.

A *fricative* is a consonantal sound produced by restricting the air-flow, compressing it through a narrow channel that you form on the point of articulation by using your lips, teeth or tongue. For instance, [f] is one of these sounds; it is impossible to say an [f] with wide-open mouth (try it yourself!).

A *corresponding* consonantal sound is (in this case) any consonantal sound that is produced at the same *point* of articulation in the mouth, but using a different *manner* of articulation. For instance, the Greenlandic [v] is produced with both lips, almost like the English 'w' (in 'witch', *not* in 'which'). The sound [p] is *also* made with both lips (the point of articulation), but instead of merely restricting the air-flow, you stop[11] it completely by closing your lips tight for an instant, before letting the air-flow pass again. The point of articulation is the same for [v] and [p], but the manner is different.

[11] And for this reason, [p] is called a *stop* sound. Stop sounds are also called *plosives* in Grammaric.

In other words, the sound changes dictated by the present rule are not merely arbitrary substitutions, although they may seem so to you at the moment, if you are not familiar with phonetics, the subject of human speech. In that case, it will hopefully make more sense after you have read the next chapter, where I describe the actual pronunciation of these symbols.

When to choose which sound

As you may have noticed, the present rule gives *two* possible transformations, a common and a rare, for each of the doubled, voiced fricatives, except for [ll] that always, unconditionally becomes [ɬɬ]. These correspond to the common and rare *reasons* for the formation of the doubled sound:

- [vv] is most commonly formed in verbal stems by the consonant rule. For instance, a good number of common verbal affixes and almost half of all verbal endings begin in a /v/, and whenever these are added onto a stem ending in a consonant, [vv] will be formed by the consonant rule. Thus, in these (very!) common cases, [vv] becomes [pp].

  [vv] is *rarely* formed in nominal stems, and when they are, it is almost solely because of a single affix, **V**{(v)vik}**N** (a place where <someone> Vb's). Thus, within nominal stems [vv] becomes [ff]. There also exists a rare sound process called *gemination* or consonant-doubling, where the addition of a morpheme causes a consonant somewhere in the preceding stem to become doubled. If a [vv] is formed in this way, then it also becomes [ff].

- [gg] is also most commonly formed in verbal stems by the consonant rule, because, again, many common verbal affixes, and more than half of all verbal endings, begin in /g/. Thus, in these (again very!) common cases, [gg] becomes [kk]. Another semi-common place is in nouns that end in /**g**aq/. Gemination is much more common in nouns than in verbs, and here this single /g/ will also be doubled to /gg/ whenever certain endings are added to the noun stem, and by the present rule this /gg/ will also become [kk].[12] A very common example is ***atuagaq*** (a book) which in plural (i.e. with the ending **N**{t}) becomes ***atuakkat***.

  [gg] can also arise through gemination in verbal stems, although this again is quite rare, and in these (few) cases [gg] becomes [xx]. There are also a few cases of stems, where this has happened historically, forming a morpheme where the sound [xx] is now 'frozen', for example the base {a**gg**iq}**V** (approach <something>). Here /gg/ will always become [xx], so we might just as well regard /x/ as an actual phoneme and write the base as {a**xx**iq}**V** instead.

[12] I will describe this in detail in chapter 6.

- [ll] always becomes [ɬɬ], so this case is easy.
- [jj] is a rare cluster that (at least as far as I know) solely arises through gemination. It can become both [cc] and [tˢtˢ], and there is, unfortunately no clear rule, so this is something you will have to learn for each morpheme where it might occur. They are, fortunately, a small group, so this is not something you should worry about presently.
- [rr] is also a quite rare cluster that only arises through gemination. It almost always goes to [qq], especially when gemination is caused by an ending on a noun, but there are some (very, very few!) cases of affixes that can also cause gemination, and here it goes to [XX]. One example is a variant of the 'place where' affix, **V**{'vik}**N**. Together with the base {**n**i**r**i}**V** (eat <something>) it has formed the word [ne**XX**ivik], meaning a (dinner)table (literally, a place where one eats something). This word has become lexicalised with this special meaning,[13] so we might again just as well regard /X/ as an actual phoneme, and consider this combination as a single morpheme {niXXivik}**N**.

In general, if you are going to memorise this rule, you should focus on the common cases; that is, remember that [vv] ⟹ [pp], that [gg] ⟹ [kk], and lastly always that [ll] ⟹ [ɬɬ]. The rest are unimportant details.

For the examples I shall use the base {aglak}**V** (write <s.t.>), the affix **V**{(v)vik}**N** (place where <s.o.> Vb's), and a new verbal ending, **V**{gama} (when/because I Vb'ed):

	{aglak}**V**{vuŋa}	(I write <something>)
⟹	/a**gl**a**k**v**v**uŋa/	(sandhi additive)
⟹	[a**ll**a**vv**uŋa]	(consonant rule: [gl] ⟹ [ll]; [kv] ⟹ [vv])
⟹	[a**ɬɬ**a**pp**uŋa]	(this rule: [ll] ⟹ [ɬɬ]; [vv] ⟹ [pp])
	{aglak}**V**{gama}	(when/because I wrote <something>)
⟹	/a**gl**a**k**gama/	(sandhi additive)
⟹	[a**ll**a**gg**ama]	(consonant rule: [gl] ⟹ [ll]; [kg] ⟹ [gg])
⟹	[a**ɬɬ**a**kk**ama]	(this rule: [ll] ⟹ [ɬɬ]; [gg] ⟹ [kk])
	{aglak}**V**{(v)vik}**N**	(place where <s.o.> writes <s.t.>, e.g. writing desk)
⟹	/a**gl**a**k**v**v**ik/	(sandhi epenthesis, (v) not inserted)
⟹	[a**ll**a**vv**ik]	(consonant rule: [gl] ⟹ [ll]; [kv] ⟹ [vv])
⟹	[a**ɬɬ**a**ff**ik]	(this rule: [ll] ⟹ [ɬɬ]; [vv] ⟹ [ff])

[13] Compare it with the 'usual' combination of these two affixes: {n**i**r**i**}**V**{(v)vik}**N**{∅} ⟹* [n**e**r**iff**ik] which would have the general meaning 'a place where someone eats'; i.e. it could refer to *any* such place, and not just a dinner table.

3.11 A contrived example

I have constructed one last extended example to illustrate (almost) all of the sound rules together. I have – because of limited page width – not written exactly *what* is changed by the application of each rule, although I have indicated the place(s) of application with bold text, so to test your knowledge you can also try to fill in these details yourself.

For this example I shall use the morphemes **{**aullaitə**}N** (a rifle), **N{**-qaq**}V** (have N), **V{**(q)gusuk**}V** (want to), **V{**niq**}V** (wonder/might), **V{**ðuŋa**}** (that I) to construct a single word with the, admittedly somewhat unusual, meaning "that I might want to have a rifle."

	{aullaitə}N{-qaq}V{(q)gusuk}V{niq}V{ðuŋa}	
⟹	/aullait**əqaqg**usu**kniqð**uŋa/	(sandhi)
⟹	/aullaitəqaqgusukni**qt**uŋa/	(ð-rule)
⟹	/aulla**isə**qaqgusukn**iqsu**ŋa/	(t-to-s rule)
⟹	[aullais**iq**aqgusukniqsuŋa]	(ə-rule)
⟹	[**aa**ll**aa**siqagqusukniqsuŋa]	(a-rule)
⟹	[aallaasiqa**r**usukniqsuŋa]	(g-rule)
⟹	[aallaas**eqɑr**usukn**eq**suŋa]	(vowel rule)
⟹	[aallaaseqɑrusu**nn**e**ss**uŋa]	(consonant rule)
⟹	[aa**ɬɬ**aaseqɑrusunnessuŋa]	(fricative rule)

* * *

I know this chapter, perhaps more than any of the others, may seem 'mechanical' or 'algorithmic' – you perform a number of sequential operations on your morphemes, step by step changing them into a pronounceable word. When I have presented this 'rule based' approach, people have sometimes commented that 'the language becomes like mathematics' – whereby the commenters apparently mean something like that it all becomes so logical that it becomes incomprehensible (!?). But that *is* how the language is, no matter what the Graphemists might say, and it is not just something I have invented. There are a number of simple rules that must be applied in sequence. And that is really all there is to it. But again, compared to English this kind of regularity must seem alien indeed – English is hardly a language in danger of becoming 'like mathematics.'

Aside 3.3: "Warning: Keep out of the reach of foreign learners"

I sometimes think that both the DAKA dictionary and the affix list (Olsen and Hertling, 2011) ought to bear a warning label with this inscription, because, whatever their other merits may be, they will certainly not be of much help to you, if you are trying to learn Greenlandic and want to understand what is going on with word formation.

As previously mentioned, these works are both Graphemistic: all entries are represented at the level of *writing*, according to the new orthography. For instance, the affix I write as **V{ðaq}V** (Vb habitually/repeatedly) is given[a] as both "-:tarpoq" and "-:sarpoq", and the only direction it gives, as to when you should use one form or the other, are some concrete examples of usage with no explanation:

-:sarpoq *o-o*
amiisarpoq plejer at male [usually paints]
anorlersarpoq det plejer at blæse [it is usually windy]
...
-:tarpoq *o-o*
ingittarpoq plejer at sætte sig ned [usually sits down]
nassartarpoq har altid noget med [usually brings s.t.]
tutsiuttarpoq lader som regel høre fra sig [usually keeps in touch]

I have added English translations in hard brackets, but the actual meaning of the words are not relevant here. The important point is: Do you believe that you – without knowing the sound rules – would be able to figure out when to use the form beginning with 's' and the form beginning with 't'? I doubt it. Note the following:

- All entries are given *with an ending* – here the ending **V{vuq}** (s/he/it Vb's) – even though the ending is not a part of the affix. That is why there is a 'poq' at the end in both cases. That is certainly both confusing and a waste of space, since it is quite unlikely that you will need this particular ending – or that there should be any ending at all; you might want to have 4-5 other affixes following it instead!
- In *amiisarpoq* the /ð/ has of course become a [c] by the ð-rule, and this sound is spelt 's' in the new orthography. But in the next example, *anorlersarpoq*, the affix *is* attached to a consonant! Here /ð/ has *first* become a /t/ by the ð-rule, and then subsequently an /s/ by the t-to-s rule. The two examples illustrate two different processes, but they still stand side by side!

Furthermore, both forms of the affix **V{ðaq}V** stand right beside the affix **N{tuq}V** (eat/drink N), that likewise is listed as both "-:torpoq" and "-:sorpoq":

-:sorpoq *t-o*
amersorpoq spiser fiskeskind [eats fish skin]
kaffisorpoq drikker kaffe [drinks coffee]
mannissorpoq spiser æg [eats eggs]

-:torpoq *t-o*
iffiartorpoq spiser rugbrød [eats rye bread]
inoruutitorpoq spiser noget som han har været vant til fra barn af
mattattorpoq spiser mattak [eats whaleskin]

Here the alternation between 't' and 's' has nothing to do with the ð-rule; it is caused solely by the t-to-s rule because of the presence or absence of a preceding 'true' /i/, but how on earth should a foreigner wanting to learn Greenlandic be able to perceive that, merely by looking at these examples? And it becomes completely impossible in the *inoruut**it**orpoq* example, where /t/ even appears to actually *be attached* onto an /i/, but this time *without* being transformed into an /s/.

This happens, of course, because it really is not an /i/ at all, but a /ə/; the base is **{inuruutə}N**. But how should you hope to realise this without knowing the ə-rule? Or even knowing that there are really *four* vowels, and not just three? The new orthography (in general), and the DAKA dictionary along with all the other Graphemistic works (in particular) have done much to obscure the patterns in the language and make it impenetrable to a foreigner trying to learn it.

V{galuaq}**V** (is/was Vb'ing, but…) and similar affixes beginning with a /g/ are also listed in no less than *three* forms – one for each form a /g/ can take – which seems even more unnecessary, because all these forms are regularly and completely determined by the g-rule, the consonant rule and the fricative rule. And to further increase the confusion, affixes with the alternating /j/ like **V**{yuma}**V** are of course listed in *four* forms – where one starts with a "j" and another with a "u" – side by side with an affix like **N**{-u}**V**, which is given in *three* different forms:

V{galuaq}**V** is listed with three forms:
-:galuarpoq (on vowel stems)
-kkaluarpoq (on consonant stems, except q)
-raluarpoq (on q-stems)

V{yuma}**V** is listed with four forms:
-jumavoq (on stems ending in "a" or "u")
-umavoq (on stems ending in "i")
-kkumavoq (on consonant stems, except q)
-rumavoq (on q-stems)

N{-u}**V** is listed in three forms:
-uvoq (following "i" or single "u")
-avoq (following "a" (and /ə/!))
-juvoq (following "uu" and "aa")

Unless you know the sound rules – or are uncommonly enlightened – you would surely have a hard time reaching the conclusion that the "j" in "+**j**umavoq" is an alternating

/y/, whilst the "j" in "**-juvoq**" is a meaningless consonant that has been injected solely for the sake of phonotactics. Nevertheless, this is precisely what the Graphemistic materials require you to do – but, of course, without telling you that there even *is* such a conclusion to be reached.

This issue is at the root of my aversion towards the Graphemistic tradition: The DAKA is not *useless*, but without any knowledge of the sound rules it will be a source of endless confusion and frustration for foreigners wanting to learn Greenlandic. But all the Graphemistic books precisely never *explain* (or even mention) the sound rules; and indeed they *could not*, by virtue of their Graphemism, because the sound rules operate at the phonemic level, which the Graphemistic tradition completely disregards. It leaves the student in a bizarre catch-22 situation (which he might not even be aware of), and I strongly suspect that this is the root cause of failure for many of the hopeful Danes who over the years have attempted to learn Greenlandic, only to conclude after months (or years) of trying that 'it is a hopeless language.'

Surely, greenlandic is not hopelessly impossible to learn. It is just a language, like any other. But if you start out from the *assumption* that Greenlandic is like any other indo-european language (which it is not), and therefore should be *learnt* as such (which it certainly should not); and if that assumption furthermore is reinforced by the materials you use, then your endeavour is almost certainly doomed to fail.

[a] The following examples are all taken from the DAKA dictionary. The affix list of Olsen and Hertling (2011) is made in exactly the same way and contains no explanations either.

Aside 3.4: How to eat a bicycle in Greenlandic

A final note of warning is in order: The t-to-s rule probably faces an uncertain future. The ə-rule, the a-rule and the new orthography together are conspiring to eradicate it. As you now know, only true /i/ phonemes can change a /t/ to an /s/ – *not* a schwa, even if it has taken on the sound of an [i]. The problem is that no one today can remember which [i] sounds are schwas and which are true /i/ phonemes. Not even Kleinschmidt recorded the difference.

Furthermore, the new way of spelling means that some /i/ phonemes (and /ə/ phonemes for that matter) are *written* as "a" because they have come to be *pronounced* as [a] by the a-rule, and thus only people who have learnt the old orthography will remember which "a" *letters* actually represent assimilated /i/ phonemes (because in the old orthography, these /i/'s and /ə/'s were still written as "i"). Remember that almost no one who has Greenlandic as his first language will ever have learnt, or even heard about, the kind of rule-based systematics I have presented in these chapters; they already know what the words should sound like, so they do not need to learn this abstract kind of rules.[a]

Thus, you are likely to experience an awful mess with respect to this rule. Many younger speakers (who have only learnt the new orthography) do not use it at all; or they use it only infrequently and irregularly, and you should therefore not be surprised if they 'correct' you when you say e.g. the (correct!) [pikkorissuŋa] – they might tell you it should be [pikkorittuŋa] instead! I have on several occasions found myself in a heated debate with someone, because I insisted on using the t-to-s rule, and they insisted that it was wrong. If there is one area where a Dane should tread carefully then it is on the subject of what anything is called in (correct) Greenlandic.

On the other hand, more conservative speakers – often the elderly, who were taught the old orthography in school – still use the rule. Thus, if you decide *not* to use the rule, then *they* will probably tell you that what you say is wrong. In other words, this rule puts you in a catch-22 situation: Whether you decide to use it or not, someone will likely tell you that you are saying something incorrect, or saying it incorrectly.

I cannot advise you on whom you should disagree with. You will have to decide this for yourself – or vary your language usage depending on whom you are talking to. But even if you decide not to *use* the t-to-s rule yourself, you will sooner or later encounter cases where it, at least historically, *has* been active, and thus you still need to *know of* the rule to see the pattern and understand what is (or has been) going on.

Let me give you a few examples: A rifle is ***aallaat*** in Greenlandic. You can deduce that the stem actually ends in a /ə/, so this should come as no great surprise. But when you add other morphemes onto it, strange things happen:

"A rifle" is ***aallaat***	
"*My* rifle" is ***aallaasiga***	(add **N**{ga})
"I *have* a rifle" is ***aallaaseqarpunga***	(add **N**{-qaq}**V** + **V**{vuŋa})
"Rifles" is ***aallaasit***	(add **N**{t})

Why is that? Why does the final "t" suddenly become an "s" when something is added

to this base? If you are thinking this has something to do with the t-to-s rule, then you are right: The morpheme is {aulla**itə**}**N**. When used on its own, the t-to-s rule cannot change the final /t/ to an /s/, because the final *sound* in the word then would be [s], which is disallowed by phonotactics. The rule is thus suppressed *until* something (affix or ending) is added onto this base. Then the rule is applicable, changing /t/ to /s/.

I have heard words like ***aallaat*** described as 'irregular', but this is really nonsense. The word behaves completely regular *if* you know the morphemic form. In fact, it behaves just like ***inats*it** (a law), ***ikits*it** (a match) and several others. Rather, the problem is that when the word is written using the new orthography, its behaviour is no longer *predictable* from the way it is spelt. This was not the case with the old orthography, where the word was spelt ***autdlait***.

Another example: I have often heard a mysterious 'myth' in the teaching of Greenlandic as a foreign language, that the 'consumption' affix **N**{tuq}**V** – which you saw in aside 3.3 – should have a certain 'delicious' form with "s" instead of "t" to be used with the four, traditionally luxurious, imported delicacies ***kaffi*** (coffee), ***kaagi*** (cake), ***viini*** (wine) and ***whiskey***. "I drink coffee" is, in fact, ***kaffi*sorpunga**.

This 'myth' is all nonsense, of course: The forms with "s" are all caused by the t-to-s rule. An /i/ has been added to these loan-words, triggering the rule when **N**{tuq}**V** is later affixed onto them, just as it does with other normal, Greenlandic stems like in ***amer*sorpoq** and ***mannis*sorpoq**, as you saw in the examples from the dictionary in aside 3.3. But this will presumably also happen when you consume other loan-words! Thus, if I eat a bicycle, it should (at least in principle) also be ***sikkili*sorpunga**, although this is unlikely to be a delicacy.

Or it might not be. I admit, the rule *is* no longer quite regular: For instance, when you drink tea, you say ***tii*torpunga**, so here the rule is *not* activated (or the two [i] sounds are not interpreted to be true /i/ phonemes). Reality is unfortunately not always quite as simple and predictable as our rules; but as long as the rules can help us predict and understand reality in *most cases*, then we are certainly still better off *with* the rules than without them.

[a] Or at least they *think* they know how the words should sound. Unfortunately, they do not always agree on it, which can put you in an awkward position as a foreigner wanting to learn the language, if you are of one opinion and those with whom you are speaking are of another.

CHAPTER 4

The spoken word

If you have followed the steps outlined in the previous chapters, you should now have a new string of symbols in hard brackets, like for instance

[aaɬɬaaseqɑrusunnessuŋa]

Each symbol represents one unique, distinct sound. But *what does it sound like?* The purpose of the present chapter is to answer that question.

Describing pronunciation by means of voiceless words on a page is, unfortunately, not a very efficient way of conveying to you the mapping of sounds onto symbols. It would be so much easier, if you could just listen to my voice. In other words, unless you are well-versed in phonetics, you should not expect to actually learn how to pronounce Greenlandic words just by reading this chapter. The best I can hope for is to provide you with an insight into the *systematics* of the pronunciation, because even when it comes to speech Greenlandic follows a set of regular, well-defined rules.

4.1 A note on notation

As you may have noticed, I have decided not to use the standard IPA[1] notation to describe pronunciations. There are two reasons for this choice: Firstly, as I said above, if you are not used to reading phonetics notation, it will look like a string of mostly unfamiliar symbols that will mean nothing to you. There are already many strange and abstract symbols in my presentation, and I saw no reason to increase their number further, when I could use (mostly) familiar symbols instead. And secondly, as you will see later, my way of

[1] International Phonetic Alphabet

writing pronunciation is *very* close to the way words are actually *spelt* according to the new orthography, which will make the last conversion, from pronunciation into writing, very easy. In fact, all I have done is to take the new orthography and patch it up with a few extra symbols (like [c], [ɑ] and [ŋ]) to ensure that each symbol corresponds to one and only one sound.

However, the IPA can still be useful in my presentation of the sounds in Greenlandic, because if my other attempts at describing a sound fail completely, then you can still look it up somewhere else and e.g. find a recording of its pronunciation. For this reason, I use [IPA: -] to indicate the corresponding IPA-notation. You can also click on the symbol; it is a hyperlink to a page on Wikipedia with further details on its pronunciation.

4.2 The long and the short of it

A sound in Greenlandic can be either *short* or *long*, in a literal sense: If you pronounce a short variant of a sound for e.g. n milliseconds, then you should spend $2n$ milliseconds on pronouncing the long variant. The intuition here is quite clear: A sound written doubly in my notation of pronunciation should of course take you twice as long to produce as a sound written singly; or, in other words:

Definition 4.1 (sound length) *A single sound is pronounced* short*, a double sound is pronounced* long*, and this applies to both vowel and consonant sounds. Thus e.g. both* [u] *and* [p] *are short, but* [uu] *and* [pp] *are long.*

This distinction is *very* important in Greenlandic, because it can be a *minimal difference* between two words; that is, it can be the only thing that distinguishes two words with very different meanings. Consider for example the pair [in**u**vik] (a real human, short [u]) and [in**uu**vik] (birthday, long [uu]).

To give another example; a common joke in Greenland is to ask a foreigner to pronounce the word "u**ss**uk" which is pronounced [u**cc**uk] and means a bearded seal. If the unsuspecting victim is used to Danish (or English) phonology, then he is likely to say this with a *short* (that is, single) [c], rather than the double [cc], because in Danish, as well as in English, a double consonant usually means that the *preceding vowel* must be pronounced short (and open), whilst it makes no difference for the length of the consonantal sound itself.

Consider a pair of words like *co**mm**a* and *co**m**a*. If your pronunciation is anything like mine, then you are saying the first word with a short, open o, and the second with a long, closed o, but the length of the 'mm' and the 'm' will be about the same. This is emphatically *not* how you should do it in Greenlandic, because if you do, you will be saying [u**c**uk] instead of [u**cc**uk]. And [ucuk] means penis.

4.3 Vowel sounds, open and closed

When it comes to pronunciation there are really only three vowel phonemes of interest; /a/, /i/ and /u/. Schwa does not count, since it always takes on the sound of one of the others.

As mentioned above, each of these can be short, or they can be long if two of them happen to stand next to each other, but that only affects the *length* of the sound, you should produce, and not the sound itself; that is, e.g. [u] and [uu] have the same *sound*, but just different *length*. This means we can ignore the length here and only concern ourselves with describing the actual sounds taken on by these phonemes; that is, I will describe only the single (short) phonemes (sounds), because the double variants are the same, just twice as long.

The phonemes /a/, /i/ and /u/ will normally take the 'usual' or *closed* sounds [a], [i] and [u], except when they are followed by one of the uvulars /r/ or /q/; then, by the vowel rule (definition 3.8), they take instead the *open* sounds [ɑ], [e] and [o]. In other words, we have six different sounds to worry about:

	/a/	/i/	/u/
closed	a	i	u
open	ɑ	e	o

The words 'closed' and 'open' refer[2] to the position of your lips when you pronounce the sounds: Closed sounds are pronounced with only a small opening of the lips, whilst open sounds are pronounced with a (relatively) greater opening. Both kinds of sounds also exist in English:[3]

- [a], [IPA: ɛ] like *f**a**t, h**a**t, c**a**t*. Greenlandic: [**a**n**aa**n**a**] (mom), [**a**t**aa**t**a**] (dad).
- [i], [IPA: i] somewhat like *b**ee**p* or ***i**terate*, with lips as closed as you can make it. Greenlandic: [**i**nuk] (human), [**ii**p**ili**] (apple, a Danish loan word).
- [u], [IPA: u] somewhat like *b**oo**t* or *t**oo**th*, again with lips as closed as you can make it. Greenlandic: [k**uu**k] (a small water stream), [in**u**k] (human).

The open sounds are pronounced (more or less) in the same position, but just with your mouth more open. Thus you may be able to find the sounds just by pronouncing the corresponding closed sound and then opening your mouth:

[2] This is not entirely in accordance with the way IPA use these terms. It holds for [i] vs. [e], and [u] vs. [o], but according to the IPA, the difference between [a] and [ɑ] is also a difference of *frontness* vs. *backness*, rather than (only) openness or closedness.

[3] Note, my point of reference here is British English, not American English.

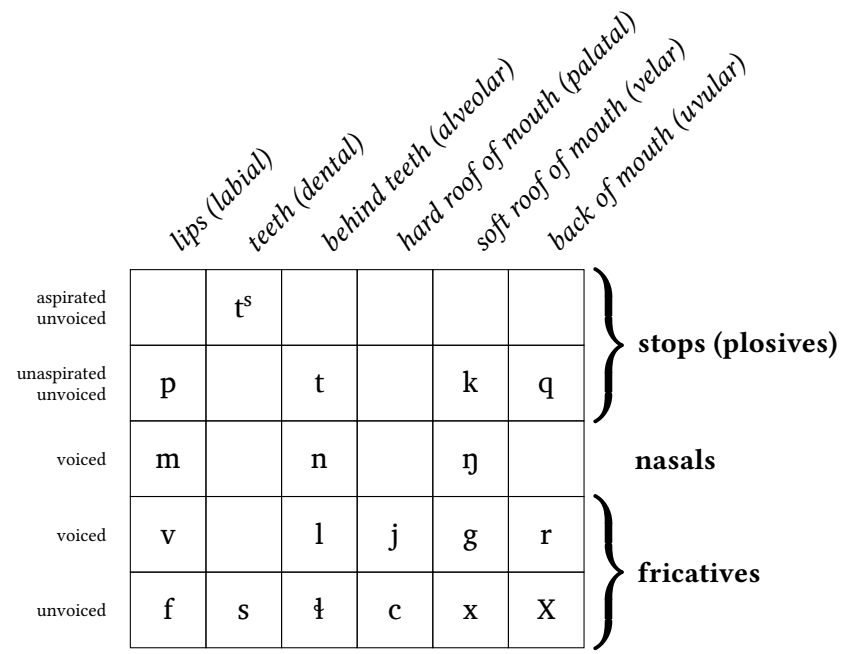


Figure 4.1: Approximate characterisation of the pronunciation of consonants. This is a simplified version of the IPA table; the sounds are organised in columns corresponding to the place of articulation within the mouth, and in rows corresponding to the manner of articulation.

- [ɑ], [IPA: ɑ] like ***a**rmour, c**a**rbon* Greenlandic: [**ɑ**nn**ɑ**q] (woman).
- [e], [IPA: ɜ] Something like 'i' in *b**i**rd* (in British, not american English), or like 'ai' in *h**ai**r*. Greenlandic: [enn**e**q] (son).
- [o], [IPA: ɔ] like 'ou' in *th**ou**ght*. Greenlandic: [**o**cc**o**q] (blubber).

4.4 Consonant sounds

We are come now to the description of consonant sounds. These can be organised into series, based on the *manner* of articulation, as well as in groups based on the *place* of articulation. This is depicted in figure 4.1, where the rows correspond to manner, and the columns correspond to place.

You should think of this figure as a depiction of your own mouth, viewed from the side (see also figure 4.2): Turn your face towards the left side of the page, and feel your way with the tip of your tongue along the upper part of your mouth: The first place of

articulation, corresponding to the first column, is the lips. Then come your upper front teeth (second column), and immediately behind them is the hard ridge of your gums; this is called the *alveolar* ridge, corresponding to the third column. After the ridge, the roof of your mouth caves upwards; this area is the *hard palate* (fourth column), and when it feels like your tongue stands at a nearly 90 degrees angle you can feel this roof of your mouth suddenly becoming soft; this piece of soft tissue is called the soft palate or velum, and sounds produced here are called *velars* (fifth column). Lastly, at the very back of your mouth, the velum drops downwards and becomes a droplet-shaped piece of tissue known as the uvula (sixth column). You will probably not be able to touch that with the tip of your tongue without feeling that you are about swallow your tongue.

The point of articulation is the place where you do *something* with your tongue (not necessarily the tip). The rows of the table in figure 4.1 then group the consonants into *series* depending on *what* it is you are doing: You can block the airflow from your lungs (stops), you can let it pass out through your nose instead (nasals), or you can restrict the airflow such that it can only pass through a narrow opening formed between your tongue and the point of articulation (fricatives). This last series can again be subdivided into two, depending on whether you pronounce them with or without the use of your *voice*. In the following sections I shall go through each of these series in turn.

4.5 First series: Stops

The *stops* (or plosives in Grammaric) are so named because you articulate them by completely stopping the airflow for a moment – either with your lips (in the case of [p]) or with your tongue – building up air pressure in your mouth which you then release by opening your lips or moving your tongue again, thus articulating the sound.

The Greenlandic stops are the sounds [p], [t], [tˢ], [k] and [q]. Of these, only [tˢ] is clearly *aspirated*, meaning that you release a noticeable puff of air when you say it. The others are *unaspirated*; that is, they are pronounced *without* this puff of air, which most likely is not what you are used to associate with these symbols: If you try saying e.g. a normal 'p' in English – for instance the word '**p**ost' – whilst holding your hand close to your mouth, you should be able to clearly feel it. You could probably blow out a candle by saying '**p**ost' close enough to the flame. This is because the consonant 'p' is aspirated in English. Now try the same with the word 's**p**ort' – the puff of air on the p-sound should be only barely detectable, and surely not enough to blow out a candle. This is because stops following an s-sound become *unaspirated* in English. However, in Greenlandic stops are *always* unaspirated, *except* for the sound [tˢ].

- [p], [IPA: p] like *s**p**oon, s**p**ort.* Greenlandic: [**p**u**p**ik] (mushroom).
- [t], [IPA: t] like *s**t**udy, s**t**one.* Greenlandic: [**t**u**tt**u] (caribou).

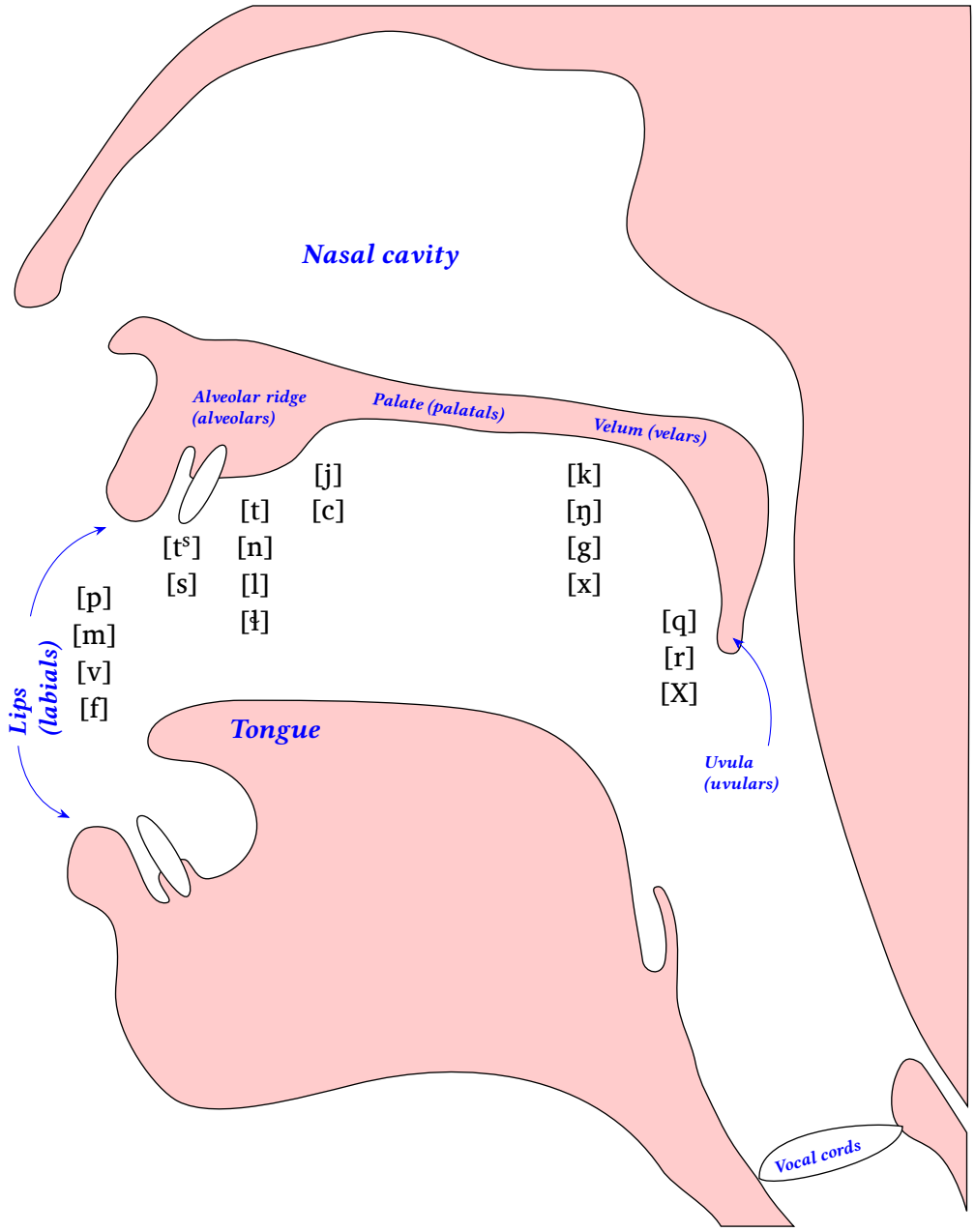


Figure 4.2: Cross-section of a mouth with approximate characterisation of the places of articulation for Greenlandic consonants. [Image modified from Wikipedia]

- [k], [IPA: k] like *s**k**y, s**k**ill.*[4] Greenlandic: **[kuuk]** (stream of water), **[kakkaak]** ('oh my...!', an exclamation).

- [q], [IPA: q] like nothing in the English language, unfortunately. Or in any of the other well-known European languages, for that matter. It is a sound made 'like' the aforementioned [k] sound, but farther back in your mouth: Notice that when you say the [k] sound, your tongue arches upwards such that approximately its middle area touches the roof of your mouth. To say the [q] sound, first let your mouth be wide open and *keep* it open; then try to say the [k] sound without moving your jaw. The easiest way to do this is by letting the back-part of your tongue block the airflow at the uvula. If you can manage this,[5] then you are actually saying the [q] sound. Greenlandic: **[qeqqa]** (its middle), **[qɑqqɑq]** (mountain), **[qɑqqɑqɑqɑɑq]** (there are an awful lot of mountains).

All the aforementioned sounds in the stops series were unaspirated, but there is one aspirated stop in Greenlandic pronunciation: The sound [tˢ]. As you may recall from the t-rule (see definition 3.6) any /t/ phoneme will take on this sound, if it stands before an /i/ phoneme (or a schwa that has taken on the sound of /i/). That is the most common way in which this sound can arise.[6]

- [tˢ], [IPA: tʰ] like ***t**ime, **t**urn* with a very clear pronunciation of the t-sound. This is probably the sound you are used to associate with the symbol 't' so it should be quite straightforward.

The sound of 't'

This is just a curious little example to show you how the ə-rule can make a /t/ alternate between the sounds [t] and [tˢ]. Consider the base {uqalukðə}**N** (interpreter, literally 'one who speaks for s.b'). If you wanted to say just the word 'interpreter' you would use the null-ending **N**{∅}, and thus the word becomes

[4] In English, this sound is very often spelt with a 'c' instead of a 'k', e.g. in *s**c**an, s**c**ore.* It is exactly the same sound, but English uses two different symbols for it.

[5] If you are doing this now and think that you sound as if you were trying to swallow a banana, then do not worry. Everyone sounds like that when they are trying to learn how to say the [q] sound. It does not actually sound like that – Greenlanders certainly do not go around sounding like they are swallowing elongated objects all the time – and with some practice you will hopefully be able to isolate the [q] sound from all the gagging sounds.

[6] There are also a few special cases where some morphemes beginning in /ð/ or /c/ are joined onto a morpheme ending in /t/, but these are, as I said, *special cases* and not even all dialects of West Greenlandic have them.

	{uqalukðə}**N**{∅}	(interpreter)
⟹	/uqalukðə/	(sandhi: additive)
⟹	/uqalu**kt**ə/	(ð-rule: /kð/ ⟹ /kt/)
⟹	[uqaluk**ti**]	(ə-rule: /ə/ must become [i])
⟹	[uqaluk**tˢi**]	(t-rule: [ti] ⟹ [tˢi])
⟹	[**oq**alukˢi]	(vowel rule: [uq] ⟹ [oq])
⟹	[oqalu**tˢtˢ**i]	(consonant rule: [ktˢ] ⟹ [tˢtˢ])

/ə/ *cannot* become silent here, even though it stands at the end of the string of phonemes, following a /t/, because that /t/ itself follows another consonant; that is, if /ə/ became silent, it would leave a consonant cluster at the end of the word, but that is disallowed by phonotactics (cf. definition 2.2). Thus /ə/ *must* become [i] here, by the 'extended' ə-rule (definition 3.4), and therefore [t] becomes [tˢ] by the t-rule (definition 3.6), which in turn assimilates the /k/ by the consonant rule (definition 3.9), so we get [tˢtˢi] at the end of the word.

Now suppose instead you wanted to say '*I am* an interpreter.' You would do this by joining **N**{-u}**V** (to be) and **V**{vuŋa} onto the base instead of the null-ending **N**{∅}:

	{uqalukðə}**N**{-u}**V**{vuŋa}	(I am an interpreter)
⟹	/uqalukð**əu**vuŋa/	(sandhi)
⟹	/uqalu**kt**əuvuŋa/	(ð-rule: /kð/ ⟹ /kt/)
⟹	[uqalukt**au**vuŋa]	(ə-rule: /əu/ ⟹ [au])
⟹	[uqalukt**aa**vuŋa]	(a-rule: /au/ ⟹ [aa])
⟹	[**oq**aluktaavuŋa]	(vowel rule: [uq] ⟹ [oq])
⟹	[oqalu**tt**aavuŋa]	(consonant rule: [kt] ⟹ [tt])

This time /ə/ is followed by a vowel /u/ and thus takes the sound [a], which in turn means that it does *not* cause the /t/ to take the sound [tˢ]. Instead /t/ just automatically takes its default sound [t], and it is now *this* sound [t], rather than [tˢ] that assimilates the preceding [k] sound.

The moral of this story is that even the same base can come to be pronounced in quite different ways depending on what is joined onto it. If you only consider the base part of the two words for a moment, then [oqalutˢtˢi] and [oqalutta-] will sound like two different words – especially to the untrained ear that knows nothing about sound rules.

4.6 Second series: Nasals

Nasals are a group of sounds that you pronounce a bit like the stops: You close off the stream of air at the point of articulation in your mouth, but instead of just blocking the stream and building up pressure, you let the air flow out through your *nose* instead; hence

the name *nasals*. These are thus the kinds of sounds you cannot say whilst holding your nose (or when you have a cold). They are also always *voiced* – if you put your fingers on your 'voice box' (larynx; front of your throat) whilst saying them, you should be able to feel the slight vibrations from your vocal cords. This may all sound fairly technical, but it is actually very easy: The Greenlandic nasals are [m], [n] and [ŋ], and they are pronounced exactly like in English.

- [m], [IPA: m] as in ***m**an*. Greenlandic: [**m**u**m**ik] (the reverse side of s.t., e.g. a page in a book).
- [n], [IPA: n] as in ***n**u**n**, ma**n***. Greenlandic: [**n**a**nn**ut] (polar bears).
- [ŋ], [IPA: ŋ] . This symbol represents the sound that is often *spelt* 'ng' in English, e.g. in *si**ng**er, ba**ng***. Greenlandic: [a**ŋ**uvu**ŋ**a] (I catch/caught a seal).

Notice that even though two *symbols* – 'n' and 'g' – are used in the English spelling, it only represents *one* sound. As you will see later, Greenlandic has adopted the same way of writing this sound, but even though it is *written* using two symbols, it still only represent a *single* phoneme, /ŋ/.

You might also want to check figure 4.1 and convince yourself that [m] and [p] are pronounced in the same *place*; that is, your mouth, lips, tongue etc. are in the exact same position when you pronounce the two sounds, the only difference being that you in the first case let the air pass through your nose, whilst in the latter case you block it off. You should also convince yourself that the same is true of the pair [n], [t], and the pair [ŋ], [k]. This *correspondence* between sounds within the same column is important, but also useful because you can use it to identify sounds you do not already know, by pronouncing a well-known sound in the same column and then changing the manner of articulation.

As a final exercise for the nasal sounds, try to pronounce word

[Nuu**mm**ii**ŋŋ**aa**nn**iit]

meaning 'from Nuuk', and see if you can also make the distinction clearly between short and long (i.e. single or double) sounds.

4.7 Third series: Voiced fricatives

Fricatives are a group of sounds you produce by forming a narrow channel (with your lips or tongue) at the point of articulation, such that the air flow becomes restricted and compressed. This group can be further subdivided into *voiced* and *unvoiced* fricatives, depending on whether you use your voice or not when you produce the sound. As you know from the fricative rule, this distinction between voiced and unvoiced is of great

importance in Greenlandic, so I shall consider the voiced and unvoiced fricatives as two different series, and only deal with the voiced fricatives in this section. The Greenlandic voiced fricatives are [v], [l], [j], [g] and [r].[7]

- [v], [IPA: β] . This sound does not exist in English. It is pronounced *somewhat* like the 'v' in ***v**ine, **v**enom*, but there is a difference: Notice when you say the 'v' in ***v**ine, **v**enom* that your lower lip touches your upper front teeth. Now try to say the words again, but this time with your lower lip touching your *upper lip* instead. The sound [v] is *bilabial* in Greenlandic, meaning it is produced with *both* lips.[8] Greenlandic: [sulivuŋa] (I work), [aŋutˢivik] (a real man).

- [l], [IPA: l] like ***l**ike, a**l**one* etc. It is the sound you would usually associate with the symbol 'l'. Greenlandic: [ulu] (a woman's knife).

- [j], [IPA: j] like 'y' in ***y**ou, **y**oung*. Note that this is most likely *very* different from the sound you would usually associate with the symbol 'j'. Greenlandic: [aja] (aunt), [ujɑrak] (a stone).

- [g], [IPA: ɣ] . This sound does not exist in English, but it exists in other languages like e.g. Spanish *i**g**ual*. You pronounce it 'like' the sound [k], but without stopping the airflow completely. You may be able to find the sound by pronouncing [k k k k …] and then relaxing your mouth and tongue slightly for each new [k]. At some point your tongue will no longer close completely against the soft tissue (velar), and you will now be pronouncing a fricative, rather than a stop. If you also use your *voice* whilst saying this sound, then you will be pronouncing the Greenlandic [g]. Greenlandic: [iga] (pot), [igaga] (my pot), [igagigiga] (that it is my pot).

- [r], [IPA: ʁ] . This sound does not exist in English either, unfortunately. It is, however, the standard pronunciation of 'r' in Danish, e.g. in *u**r**o*, or German ***R**itte**r***. In English, you will probably pronounce 'r' with your tongue positioned almost as if you were to say 'l'; that is, with a place of articulation near your front teeth (an alveolar sound). But here instead you must pronounce [r] at the very *back* of your mouth, almost in your throat. If you managed to find the [q] sound, then you can work your way towards the [r] sound by a procedure similar to the one I described above for [g], by saying [q q q …] and progressively relaxing your mouth and tongue. Otherwise you may also be able to find the sound by starting

[7] A phonologist might here object that I am mixing up fricatives and approximants. I know, and I do not care. The distinction is not important here.

[8] Conversely, the normal English 'v' is *labio-dental* meaning it is produced with lips *and* teeth. If the bilabial sound is too difficult for you, then you *can* use the labio-dental sound instead, until you master the correct pronunciation.

from the *unvoiced* velar fricative [X] (described below) and then just *adding* voice. Greenlandic: [ujɑ**ʁ**ak] (stone), [ujɑ**ʁ**ɑa**ʁ**aq] (small stone, pebble).

4.8 Fourth series: Unvoiced fricatives

The *unvoiced* fricatives form the last series of consonantal sounds in Greenlandic. With the exception of [s] and [c] (which can be single), these sounds arise because of the fricative rule, and thus they will always be doubled. This is also the only 'full' series with a sound for each place of articulation, as you can see if you refer back to figure 4.1 on page 66. The Greenlandic unvoiced fricatives are [f], [s], [ɬ], [c], [x] and [X].

- [f], [IPA: ɸ] . Recall that [v] was 'like' a normal English 'v' except that you pronounce it with your lower lip against your upper *lip*, rather than against your upper *teeth*. If you pronounce a normal, English 'f' as in e.g. ***f**ather* you will notice that you produce this sound in exactly the same way as your usual 'v'; that is, with your lower lip against your upper teeth. The only difference is, that when you say the English 'f' you do it without using your voice. Thus, to say the *Greenlandic* [f], you do the exact same as with [v]: You say an 'f' but with your lower lips against your *upper lips* instead. The sound is a *bilabial unvoiced fricative*. Greenlandic: [a**ff**ɑq] (a half), [sini**ff**ik] (a bed, literally 'a place where one sleeps').

- [s], [IPA: s] , like ***s**ing, **s**ang, **s**ung*, the usual sound you associate with the symbol 's'. Greenlandic: [su**ss**aaŋa] (I shall work).

- [ɬ], [IPA: ɬ] . Depending on your pronunciation you *may* have this sound in a word like *p**l**ace*, because 'l' may become devoiced after a plosive. Especially if you try to whisper the word. Another way to identify the sound is to begin by saying a prolonged [lllllllll] sound. Keep producing the sound. Now stop using your voice, and just blow air out, whilst still keeping your mouth and tongue in the same position as when you pronounce the normal [l]. If you can manage this, then you are now pronouncing the Greenlandic *unvoiced l* sound [ɬ]. Greenlandic: [i**ɬɬ**u] (house), [i**ɬɬ**it] (you), [i**ɬɬ**i**ɬɬ**u] (and you too).

- [c], [IPA: ʃ] , like 'sh' in ***sh**e, **sh**eep* etc. You may not be used to associate this sound with the symbol 'c'; however, I have chosen this symbol to keep my notation in accordance with the entries in the Comparative Eskimo Dictionary of Fortescue et al. (2010).[9] Greenlandic: [u**cc**uk] (a bearded seal), [piffi**cc**aq] (time), [ilulu**cc**at] (icebergs; also the name of town on Greenland's west coast near an ice fjord).

[9] In the old orthography this sound was spelt 'ss', e.g. *pivfigssaĸ* (time). However, I could hardly have done the same, since 'ss' in my notation would look like *two* phonemes – and thus a *double* sound – rather than a single phoneme with *one* sound.

- [x], [IPA: x] . This sound does not exist in English, but you have it in many other languages where it is often spelt with the double symbol 'ch', e.g. Scottish *lo**ch*** or German *Na**ch**t*. If you managed to find the *voiced* velar fricative [g] above, then you can find the *unvoiced* sound [x] in a manner similar to the one whereby you found [ɬ] from [l]. Conversely, if you know the sound [x], but could not find [g], then you may now be able to find [g] from [x] simply by saying [x] and then *adding* voice. Greenlandic: [i**xx**u] (how cute! an exclamation), [a**xx**eppuŋa] (I am approaching s.t.), *i**xx**avik* (kitchen, literally 'place where one cooks s.t.').

- [X], [IPA: χ] . This sound does not exist in English, but it is common in Spanish where you may have heard it in words like ***J**org**e**, Rio**j**a, **j**alapeño* etc. Like above, if you *did* manage to find the voiced uvular fricative [ʀ], you can thence find the unvoiced variant [X], and conversely, if you could not identify [ʀ] but know the sound [X], you can use it to find [ʀ]. Greenlandic: [ne**XX**ivik] (dinner table, literally 'place where one eats s.t.'), [ɑɑ**XX**it] (walruses).

4.9 Patterns in the fricative sound changes

In the preceding sections I have several times alluded to the correspondence between sounds within the same column; that is, sounds with the same *place* of articulation (but different *manner*). This correspondence is actually the basis for the sound changes induced by the fricative rule (see definition 53), which I have tried to illustrate in figure 4.3.

The arrows illustrate how each of the voiced fricatives changes when it becomes doubled, and thus by the fricative rule must become *unvoiced*. The red arrows depict the shift to *plosives* (or stops), so [vv] becomes [pp], [gg] becomes [kk] etc. The red arrows are also the most *common* change in the cases where there are two possibilities. The green arrows then depict the shift to *unvoiced* fricatives, so [vv] becomes [ff], [jj] becomes [cc] etc. The case of [ll] becoming [~~ɬɬ~~] is special in this regard, since it is not only the most common shift for a doubled [ll], but actually the *only* possible shift for this sound; [ll] *never* becomes a doubled plosive.[10]

The blue arrow also depicts a special case: As you can see from the figure, there is no plosive corresponding to [j]; that is, the column above [j] is empty. Instead, another plosive sound is chosen for [jj]; the sound [tˢtˢ]. You may think of this as a kind of 'search path' where we first search upwards in the column, and, when no suitable sound is found, we are forced to continue vertically to the nearest sound; in this case [tˢtˢ], which in fact is the only available choice in this row.

[10] At least not in *West* Greenlandic. However, in *East* Greenlandic we have the opposite: There [ll] *always* becomes [tt], and e.g. [vv] *always* becomes [pp]. Thus for instance /ka**vv**i/ (coffee) actually becomes [ka**pp**i] in East Greenlandic, instead of [ka**ff**i] in West Greenlandic.

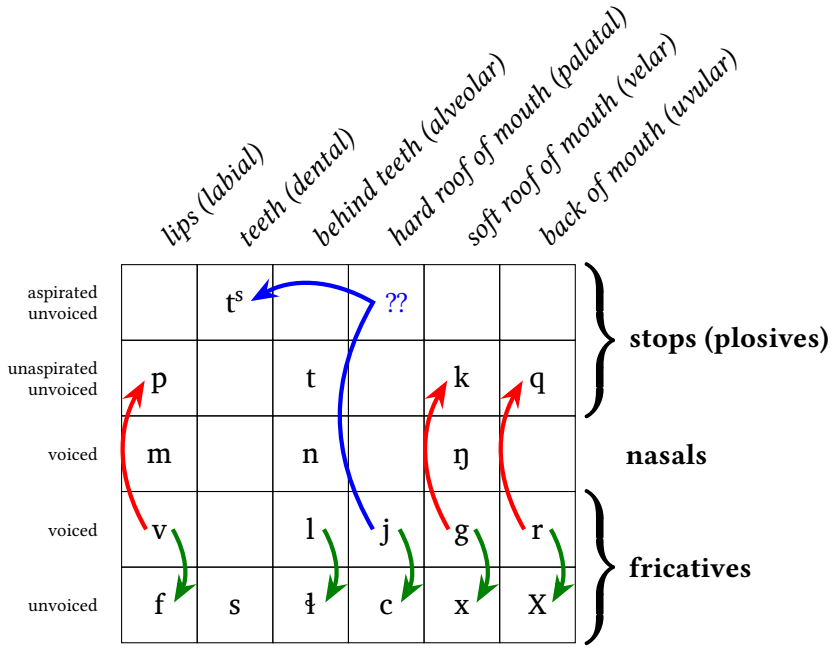


Figure 4.3: Visual illustration of the fricative rule: Red arrows represent shifts to stops (plosives), green arrows to unvoiced fricatives. The sound [j] has no immediately corresponding plosive, so when no usable sound is found by searching upwards, the nearest is chosen from another column; the sound [tˢ]. This 'search path' is represented by the blue arrow.

Hopefully, this little illustration will help to convince you that the sound changes induced by the fricative rule are not just arbitrary shifts, but generally patterned movements in this table of sounds. Furthermore, the concepts of *place* and *manner* of articulation will now also help you to better *remember* which sounds become what by the fricative rule.

4.10 The weight of a syllable

In English, the notions of accent, or *stressed* and *unstressed* syllables, also play an important role in pronunciation. It is something that must be learned for each individual word – at least when the word consists of two or more syllables. However, this is (as usual) *not* the case in Greenlandic: Consider a word like

[pisiniɑrumagaluɑqigama]

meaning something like 'because I would actually very much like to go shopping.' If you listen for any kind of stress in this word, you will find none. All the syllables are appar-

ently pronounced with the same stress. This is because Greenlandic does not use *stress* on syllables. Instead, syllables are pronounced with a different *pitch*; that is, the *height* of the tone of your voice, and (as usual) this 'tone-height' or pitch can be determined by using a small set of rules. These are known as *Kleinschmidt's Syllable Weights*.

The syllable weights rely on the pattern of syllables (cf. definition 2.3), which, as you may recall, is of the form $(c)v_1(v_1)(c)$. Each syllable is assigned a weight, based on the number of consonants and the length of the vowel, by the following rules:

Definition 4.2 (Kleinchmidt's Syllable Weights) *An initial consonant weighs 0. A single vowel weighs 2, and thus a double vowel weighs 4. A final consonant weighs 1. This yields four possible weights of a syllable, determined by its structure:*

$(c)v_1v_1c$	=	*5*	*(long, high)*
$(c)v_1v_1$	=	*4*	*(long, low)*
$(c)vc$	=	*3*	*(short, high)*
$(c)v$	=	*2*	*(short, low)*

The words in parentheses are just another way of referring to each type of syllable: I call a syllable with a single vowel short*, and with a double vowel* long*. If it ends in a consonant I call it* high*, because its weight will then be higher, and if it does not* low.[11]

To use the syllable weights you obviously first need to break up a word into syllables. This is relatively straightforward: A pattern like $(c)v_1v_2(c)$ is split into $(c)v_1$-$v_2(c)$; that is, when you have two different vowels next to each other, then they belong to different syllables. Thus e.g. [ui] (husband) consists of two syllables, [u-i]. Similarly, a pattern like $vccv$ is split into vc-cv; that is, you always split between two consonants, so e.g. [uccuk] consists of two syllables, [uc-cuk]. Both these cases are completely obvious; they can be inferred directly from the syllable pattern.

The only *unobvious* case is when you have a pattern like vcv; that is, with a single consonant between two vowels, like the word [iga] (a cooking pot). Should this consonant belong to the first or the second syllable? That is, should it be split like vc-v or v-cv? Both are 'legal' according to the syllable pattern, so here we need one extra rule:

Definition 4.3 (Syllable split) *A pattern of the form vcv is always split into v-cv. That is, a pair of syllables must always be split such that each syllable will have the lowest possible weight.*

[11] Other authors might use the terms 'open' and 'closed' instead of low and high, but I would rather not use these, since the word 'open' could be confused with the vowel quality of being 'open' (uvularised), which has nothing to do with the syllable structure.

An initial consonant weighs 0, so by splitting the pattern such that every single consonant between two vowels becomes syllable-initial, you keep the weights down. However you prefer to think of it, the word [iga] must therefore be split like [i-ga].

The purpose of all this is one simple rule of pronunciation: *The higher the weight, the higher the pitch.* A syllable with weight 3 must be pronounced using a higher tone than when pronouncing a syllable with weight 2, and so on. Each word becomes almost like a small piece of melody. Consider for example the first two lines from the traditional Greenlandic birthday song:

[inuuvicciottoq piłłuɑrit]
[qanottoq inuummessorit]

By breaking each word up into syllables and assigning each syllable its weight, you can actually visualise the rising and falling pitch in the pronunciation of each word, by writing the syllables lower or higher depending on their weights. By adding help lines between the strata of weights, you obtain something that looks almost like a few bars from a sheet of music:

5:															nuum			
4:		nuu																
3:			vic		ot	toq	pił			rit		not	toq			mes		rit
2:	i			ci				łu	ɑ		qa			i			so	

Statements and questions

There are a few minor complications to this general pattern of rising and falling pitch:

- The rule may not always be quite true for the *last* syllable in a word. In particular, if you have a word consisting of exactly two short, high syllables (a bi-syllabic word), with a double consonant, then you need to have a *falling* tone from the first syllable to the second, such that you say e.g.

uc		and	ił		etc.
	cuk			łu	

  This will also help you to more clearly pronounce the double consonant *as* double, such that you do not risk suddenly saying [ucuk] when you meant to say [uccuk].

- In a normal *statement*, you will generally have a *rising* tone on the last syllable, whilst in a *question* you have a *falling* tone on the last syllable. Greenlandic has a special set of verbal endings for questions, but they may not always be applicable, so

in some cases this falling tone may be the only thing that clearly marks an utterance as a question.

* * *

This has, admittedly, been a lengthy chapter: Describing pronunciation without the aid of the voice seems almost as difficult as describing colours to a colour blind person. If the feeling is mutual, then do not despair: You *will* need a proper course in pronunciation at some point,[12] if you want to use the language for more than reading and writing, and once your mouth has learned all the sounds, you may return to this chapter and hopefully discover that it all makes a lot more sense.

[12]If you do not have the option of participating in an actual, 'physical' course, then I can highly recommend the electronic materials from `learngreenlandic.com`. They are a digital reincarnation of Per Langgård's original teaching materials (Langgård, 1997a,b) with video lectures by the man himself.

Aside 4.1: Irrelevant sound rules

There are three further sound rules which I did not bother to include in the previous chapter for two reasons: Firstly, because it does not cause misunderstandings if they are not used, and secondly, because you will almost certainly *come* to use them quite automatically, even without knowing them, because they follow from the pronunciation. However, you might still want to know about them, and I have therefore shunted them aside into this aside instead.

Definition 4.4 (Irrelevant sound rule 1) *The sound* [v] *becomes inaudible between an* [u] *and an* [i] *or* [a] *sound, or their uvularised counterparts:*

$$[\text{uvi}] \,/\, [\text{uve}] \to [\text{u}^{\text{v}}\text{i}] \,/\, [\text{u}^{\text{v}}\text{e}]$$
$$[\text{uva}] \,/\, [\text{uv}\alpha] \to [\text{u}^{\text{v}}\text{a}] \,/\, [\text{u}^{\text{v}}\alpha]$$

Remember that [v] is a *bilabial* sound. You do *almost* the same with your lips when you pronounce it as when you pronounce the vowel [u]. This means that a solitary [v] following an [u] will tend to merge with it, especially when the following vowel is either [i] or [a], or their uvularised variants [e] or [ɑ]. Here [v] becomes an almost inaudible sound. This is not something you need to actively remember, though; you can hardly avoid saying [v] in this way, if your pronunciation of each of the sounds is correct. Thus e.g. [inu**uvi**k] (day of birth) actually comes to be pronounced like [inu**u$^{\text{v}}$i**k], and [at**uva**gɑq] (book) like [at**u$^{\text{v}}$a**gɑq].

Definition 4.5 (Irrelevant sound rule 2) *The sound* [j] *becomes inaudible following an* [i] *sound:*

$$[\text{ij}] \to [\text{i}^{\text{j}}]$$

This rule is very similar to the one above: Your mouth and tongue will be in almost the exact same position when you pronounce the vowel [i] and the consonant [j], and therefore any [j] following an [i] will tend to become almost inaudible. Thus e.g. [ilu**lij**ɑq] (iceberg) actually comes to be pronounced like [ilu**li$^{\text{j}}$**ɑq].

Definition 4.6 (Irrelevant sound rule 3) *The sound* [a] *becomes flattened to an æ-like sound in certain contexts:*

$$[c_1\text{a}c_2] \to [c_1\text{æ}c_2] \qquad \textit{where} \begin{array}{l} c_1 = [\text{m}] \textit{ or } c_1 \neq \textit{labial} \\ \textit{and } c_2 \neq \textit{labial or uvular} \end{array}$$

There is one sound for which I have not included a special symbol in my notation of pronunciation: It is a variant sound for the phoneme /a/, where the sound [a] has become 'squeezed flat', quite similar to the sound of 'e' in English words 'l**e**t' or 's**e**t' etc. Suppose for a moment that we introduced a new symbol for this sound, say, the symbol [æ]. This rule is then an extraordinarily complicated way of saying that a number of conditions must hold for this flattening to happen:

1. The [a] must be single and stand between two consonants, so [c_1ac_2].
2. The first consonant, c_1 can be any consonant sound *except* one of labial sounds [p], [v] or [f]. Any other consonant sound, including the labial [m] is fine, though.
3. The last consonant, c_2 must not be a labial or an uvular; that is, it must *not* be any of the sounds in the leftmost nor the rightmost columns in figure 4.3, page 75.

If all these three conditions hold simultaneously, the [a] becomes flattened to an [æ]. Thus, e.g. [so**qaŋŋ**ilɑq] (there is nothing) is actually pronounced like [so**qæŋŋ**ilɑq]; and [sulim**mat**] (when/because he worked) is pronounced like [sulim**mæt**], and [**tac**ca!] (that's enough!) like [**tæc**ca!].

If you listen to spoken Greenlandic you will undoubtedly soon notice this flattened [æ] sound, and now you know what it is. However, there is no need to waste your precious mental resources on trying to remember this complicated rule. The alternation between [a] and [æ] can *never* be a minimal distinction between words; that is, it will never cause a misunderstanding if you say [a] instead of [æ], so just keep saying the [a] sound. Sooner or later your mouth will automatically fall into the habit of saying [æ] in the right places. And if it does not, then it does not matter.

CHAPTER 5

The written word

We are finally come to the last transformation, from speech into writing. Compared to the other transformations, this is almost unbelievably easy, as long as you use the new orthography, because the words are almost spelt like my notation for pronunciation.

Almost, but not entirely, because the creators of the new orthography decided in some cases to use the *same* symbol to represent *more than one* sound (a usage I consider ambiguous), or to use *two* symbols to represent a *single* sound (a usage I consider confusing). This was done partly for historical reasons (a bad excuse) and partly to ensure the writing system would only use latin characters (a better excuse). However, if the goal was to create a writing system that clearly and unambiguously reflects pronunciation, then the result appears less than optimal. Thus *caveat lector*, there are a few oddities ahead.

5.1 Open vowels and assimilated uvulars

As you may recall, a vowel takes on an *open* (uvularised) sound when it stands before a /ɋ/, even if this /ɋ/ is later assimilated to some other, non-uvular consonant by the consonant rule. This rule then says that such an assimilated /ɋ/ is *written* as "r", even though – as you now know from the pronunciation rules – it is still *pronounced* like whatever consonant sound that follows it.

Definition 5.1 (Spelling uvulars and vowels) *An assimilated* /ɋ/ is *written* as an "r"*, unless the assimilating consonant is itself a* /ɋ/*, and the uvularised vowels* [e] *and* [o] *are written as* "e" *and* "o" *whilst* [ɑ] *is written as an* "a"*. Thus let* c *be any consonant sound* except [ɋ]*. The spelling rules are then:*

$$[\text{ɑ}cc] \rightarrow \text{“ar}c\text{”} \textit{ and } [\text{ɑ}] \rightarrow \text{ “a”}$$
$$[\text{e}cc] \rightarrow \text{“er}c\text{”} \textit{ and } [\text{e}] \rightarrow \text{ “e”}$$
$$[\text{o}cc] \rightarrow \text{“or}c\text{”} \textit{ and } [\text{o}] \rightarrow \text{ “o”}$$

This strange choice of how to spell an assimilated /q/ is certainly confusing enough, but furthermore the creators of the new orthography decided that *two* of the three vowels, /i/ (and /ə/) and /u/, should be written with the special symbols “e” and “o” when uvularised, just as I have done in my notation. However, for bizarre historical reasons,[1] an uvularised /a/, which I write as [ɑ], is *not* written with a special symbol; instead it is just written with the *same* symbol that is also used for the regular, *non-uvularised* [a]-sound, namely the symbol “a”.

The words [**ɑ**nn**ɑ**q] (woman), [**en**neq] (son), [**oc**coq] are thus spelt “**ar**na**r**q, e**r**neq, o**r**so**r**” by this rule. So beware; when you read written Greenlandic and see such an “r” in combination with another consonant, then remember that this “r” is not at all the *phoneme* /r/, but instead an *assimilated* /q/, that by the consonant rule must be *pronounced* like the following consonant. In case you are in doubt, I find this unfortunate decision to use special symbols for *some* open vowels, but not *all*, highly inconsistent and confusing.

5.2 First series: Stops

Regarding the stops there is only a single spelling rule:

Definition 5.2 (Spelling aspirated t) *A single, aspirated* [t^s] *is spelt* “t” *whilst a double* [$\text{t}^\text{s}\text{t}^\text{s}$] *is spelt* “ts”*:*

$$[\text{t}^\text{s}\text{t}^\text{s}] \rightarrow \text{“ts”}$$
$$[\text{t}^\text{s}] \rightarrow \text{“t”}$$

This rule says that a double [$\text{t}^\text{s}\text{t}^\text{s}$] (no matter how it may have arisen) is spelt “ts”. Any other remaining *single* [t^s] can only have arisen, because it stands before a /i/, or a /ə/ that has taken on the sound of [i] (possibly uvularised to [e]), and these are just spelt with a normal “t”.

If you instead consider this from the perspective of reading written Greenlandic aloud, then this rule simply says that any “ts” must be *pronounced* [$\text{t}^\text{s}\text{t}^\text{s}$], and any “t” that stands before “i” or “e” must be pronounced [t^s]. All other t’s are just pronounced in the usual way, as [t] (i.e. unaspirated). Thus e.g. [**t**$^\text{s}$imi] (body) is written “timi” and [nuna**t**$^\text{s}$**t**$^\text{s}$inni] (in our land) is written “nuna**ts**inni”.

[1] Kleinschmidt did the same in the old orthography. It was not a good decision then, and it has not become better by being imported into the new orthography.

In other words, when you see a written "t", you have to check the following sound to be able to determine if it should be pronounced like [t] or [tˢ]. A particularly unfortunate example is the word [ilinniɑtˢtˢitˢtˢicoq] (teacher) which is spelt "ilinniartitsisoq". Here you can see the conflict between the desire to use "r" to represent an assimilated /q/ and the idea of using "ts" to represent the sound [tˢtˢ], because how should [tˢtˢi] be written, when the first consonant is an assimilated [q]? Apparently as "rti".

5.3 Second series: Nasals

In the nasal series we also only need a single rule:

Definition 5.3 (Spelling ŋ) *A single* [ŋ] *is written* "ng" *but a* double [ŋŋ] *is written as* "nng"*:*

$$[ŋŋ] \rightarrow \text{“nng”}$$
$$[ŋ] \rightarrow \text{“ng”}$$

Given that [ŋ] is spelt "ng" we might reasonably have assumed that [ŋŋ] then should be written as *"ngng". But as you can see, then creators of the new orthography thought otherwise. Similar to the case above for [tˢtˢ] this also means that when the first consonant of such a cluster is an assimilated /q/, then it comes to be written as "rng" (although that is a rare combination). A few examples: [aŋivuŋa] (I am big) is written "angivunga" and [ajuŋŋilɑq] (it is OK) is written "ajunngilaq".

For an example of that rare combination, the word [eŋŋup] (the water's <something>) is written "erngup". You can think of it as a two-step transformation:

	[eŋŋup]	(the water's <something>)
$\Longrightarrow$	"erŋup"	(Uvularised vowel: [eŋ] $\Longrightarrow$ "er")
$\Longrightarrow$	"erngup"	(This rule: [ŋ] $\Longrightarrow$ "ng")

Everywhere else the new orthography obeys the rule that *one symbol represents one phoneme*, so the use of a double symbol "ng" to represent a *single* sound [ŋ] is a very inconsistent and confusing choice. It is all too easy to mistakenly think "ng" represent *two* consonants, which of course wrecks havoc in the pronunciation; especially in the calculation of syllable weights. Thus beware when you read written Greenlandic: Whenever you see an "ng", you must *think* [ŋ].

5.4 Third series: Voiced fricatives

As I mentioned in aside 4.1 on page 79 the sounds of [v] and [j] automatically come to almost disappear in the pronunciation in particular contexts; namely between [u] and

either [a] or [i], in the case of [v], or after an [i] in the case of [j]. The present rule then simply says that these sounds, that have become almost inaudible, are not written at all.

Definition 5.4 (Spelling v and j) *A single* [v] *between an* [u]*, and either an* [a] *or an* [i]*, is not written, nor is a* [j] *following an* [i]*:*

$$[\text{uva}] \to \text{“ua”}$$
$$[\text{uvi}] \to \text{“ui”}$$
$$[\text{ij}] \to \text{“i”}$$

Thus by this rule, [at**uva**gɑq] (book) is written “at**ua**gaq”, [inu**uvi**k] (day of birth) as “inu**ui**k”, and [ilul**ij**ɑq] (iceberg) as “ilul**i**aq”. And the combination of {taku}**V** (subject sees object) and the endings **V**{vaa} (he Vb's it) and **V**{viuk} (did thou Vb it?) yields:

$$\{\text{taku}\}\mathbf{V}\{\text{vaa}\} \implies /\text{tak}\mathbf{uva}\text{a}/ \implies [\text{tak}\mathbf{u}^{\text{v}}\mathbf{a}\text{a}] \implies \text{“tak}\mathbf{ua}\text{a”}$$
$$\{\text{taku}\}\mathbf{V}\{\text{viuk}\} \implies /\text{tak}\mathbf{uvi}\text{uk}/ \implies [\text{tak}\mathbf{u}^{\text{v}}\mathbf{i}\text{uk}] \implies \text{“tak}\mathbf{ui}\text{uk”}$$

Given that the purpose of the new orthography is to represent pronunciation, the decision to not write these inaudible sounds seems rational. However, just because the sounds are not spoken does *not* mean that the underlying *phonemes* have disappeared, and it can be a source of great confusion when they suddenly show up, seemingly out of nowhere. You can read more about this in aside 5.1 on page 89.

5.5 Fourth series: Unvoiced fricatives

Lastly, the spelling rules for unvoiced fricatives consists in just four individual cases, which, with the exception of a detail about [c] can be summarised simply as: Whenever you see “ll” or “gg” or “rr” in writing, just remember to mentally apply the fricative rule, such that you will pronounce them as their unvoiced variants [ɬɬ], [xx] and [XX].

Definition 5.5 (Spelling unvoiced fricatives)

$$[\text{ɬ}] \to \text{“l”}$$
$$[\text{c}] \to \text{“s”}$$
$$[\text{x}] \to \text{“g”}$$
$$[\text{X}] \to \text{“r”}$$

I have a few extra comments for each of the four cases:

- [ɬ] is just written as "l". This does not obey the rule of 'one symbol for one sound', but it causes no ambiguity: A double [ll] *always* becomes [ɬɬ] by the fricative rule, with no exception. Thus, whenever you see a double "ll" in writing, you just have to remember to pronounce it unvoiced, as [ɬɬ]. This of course also includes the cases where the first sound is an assimilated /ɢ/; this is written as "**rl**" similar to the other cases, but it is still pronounced as [ɬɬ]. Thus e.g. the morpheme {ə**ŋl**u}**N** (house) comes to be pronounced as [iɬɬu], but it is written as "i**ll**u". The morpheme {kaŋ**iql**uk}**N** (fjord) comes to be pronounced as [kaŋe**ɬɬ**uk] but it is written as "kang**erl**uk".

- The new orthography does not distinguish between [c] and [s]. Both are just written as [s], and many speakers do not distinguish regularly between the two sounds either in their pronunciation; or they do not distinguish at all. This loss of a sound may not exactly have been *caused* by the new orthography, but I do not doubt that it has accelerated the process. Thus you may experience both speakers who still do distinguish regularly – often elderly people who where taught the old orthography in school – and speakers who never say the sound [c]. Here the new orthography will be of no help to you w.r.t. pronunciation, if you want to make the distinction yourself. "sulisarpunga" and "kaffisorpunga" are both spelt with the letter "s", but the first is a [c] whilst the latter is an [s].

- The sound I write as [xx] is spelt "gg" in the new orthography. This is not an entirely unreasonable choice, since the sound [xx] precisely *is* the sound of a double, unvoiced [g]. A written "gg" could never represent anything *but* the sound [xx], since this is the sound a doubled /g/ attains by the fricative rule – unless it becomes [kk], of course, but if it *had* become [kk] it would also be *spelt* as "kk". Similar to "ll" above, this decision to use "gg", to represent the unvoiced sound, does not cause any ambiguity w.r.t. pronunciation. Thus for instance [a**xx**eppuŋa] (I'm coming) is written "a**gg**erpunga".

- Exactly the same applies to [XX]. This symbol represents the doubled, unvoiced [r] sound, and it is therefore just written as "**rr**". Thus e.g. the word [ne**XX**ivik] (dinner table) is written as "ne**rr**ivik".

5.6 From morphemes to writing (and back again?)

The entire procedure of converting a train of morphemes into one pronunciation can actually be represented in a single figure. Let $S \in \mathcal{P}^*$ represent an arbitrary string of phonemes, that can form (part of) a morpheme, and let '.' denote the morphemic boundary, where two morphemes have joined. Then figure 5.1 shows the essential steps in the trans-

formations. There you have it; more than fifty pages of explanation neatly summarised in a single illustration. You could make a poster of it and hang it above your bed.

The spelling rules can be similarly summarised, as I have done in figure 5.2. In fact, the only reason why they are in a separate figure is because I could not exactly fit them on the same page as the other rules.

My reason for making these figures – apart from creating a handy place to set a bookmark – is to show you, that there really are not *that many* rules to remember. They just require an awful lot of explanation. But all the core concepts are here, condensed into this abstract notation of rewriting rules.

Your main problem at this point is *not* the transformation from morphemes to word per se; you will have to perform this procedure some number of times to become accustomed to it, but that is just a matter of practice. Rather, your main problem is that of *acquiring new morphemes* to build up your vocabulary. I have tried to provide you with many common morphemes during the course of this lengthy exposition, but this book is not a dictionary, so at some point you will have to start finding morphemes on your own.

This will be difficult because, as you can see, information is *lost* in every step of the transformation: Phonemes can be deleted by the phonotactics and sandhi rules; they can be changed or merged by sound rules, where especially the a-rule and consonant rule will completely obscure the true underlying phonemes. These rules in particular are the reason why it is said of Greenlandic, that 'any sound can become any other sound.'

If your sole source of new morphemes is a dictionary in the new orthography, like the DAKA, then you will often have to *infer* which rules were used to produce the final, written form – the *only* form in which entries in these dictionaries are given. There is a high level of *ambiguity* in the forms produced by the rules; or, in other words, it will involve a lot of *guesswork* on your behalf to find your way back to the morphemic form of a base or affix.

A *morphemic dictionary* would surely be the best possible source of new morphemes, but unfortunately, there does not exist a dictionary that exactly uses my morphemic notation. My affix list (Lybech, 2020) gives the morphemic forms for affixes, which certainly reduces the problem, since you mostly need to recombine affixes. But that still leaves you with the problem of finding the morphemic forms of new bases.

The best alternative is undoubtedly the Comparative Eskimo Dictionary of Fortescue et al. (2010), although it is also a both rare and expensive book. Another option would be to get your hands on one of the grammars or dictionaries written using the old orthography, such as (Schultz-Lorentzen, 1951) or (Schultz-Lorentzen, 1958), because the old orthography is 'phonemic' whilst the new orthography is 'phonetic' – that is, the old orthography retains more information on the underlying phonemes than does the new orthography, which on the other hand purports to reflect the pronunciation. In either case, a dictionary written using the *new* orthography, such as the DAKA, should be your very last resort!

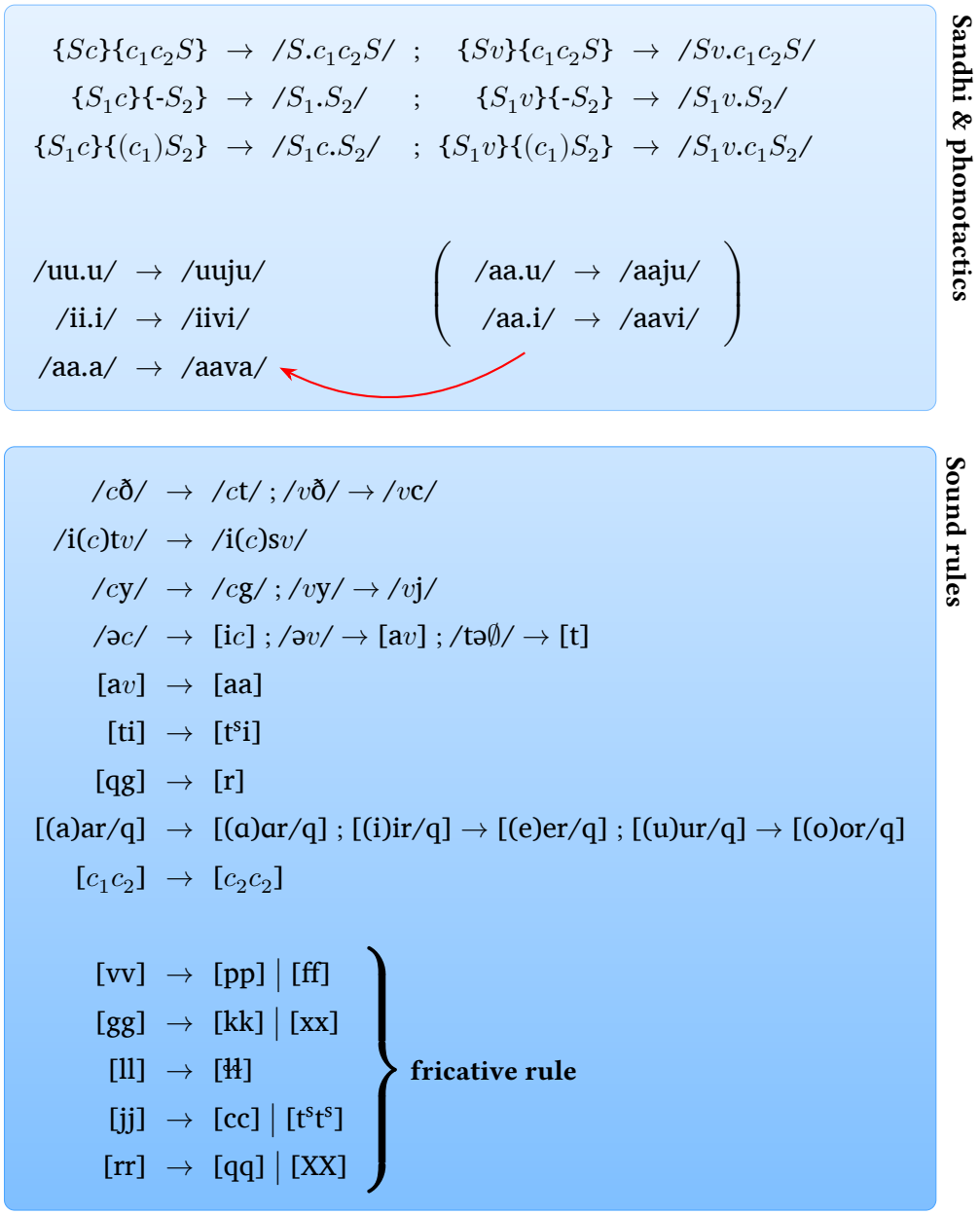


Figure 5.1: From morphemes to pronunciation on a single page. The special case of phonotactic epenthesis when a vowel follows a double [aa] is added in parentheses.

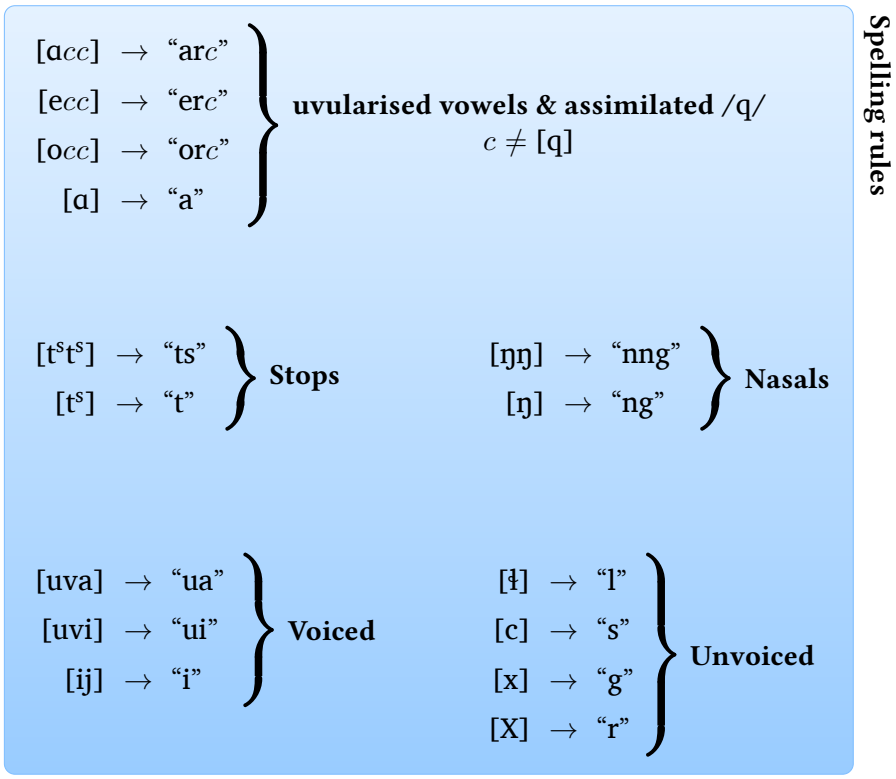


Figure 5.2: The spelling rules

Aside 5.1: The echo of a ghost sound

'An iceberg' is written as "ilu**lia**q" but 'icebergs' in plural is "ilu**lissa**t", which is also the name of a town on the west coast near the famous Ilulissat Icefjord. But where did this "ss" suddenly come from?

That is certainly a question I have heard more than once from Danes who have tried to learn Greenlandic by the teachings of Graphemists. Remember, all the Graphemists see are words in these *written* forms, so when a sound like [cc] (which is what this "ss" sounds like) suddenly shows up in the middle of a word, it seems almost like the appearance of a ghost.

This is not the only case where it happens either; Bjørnum (2003) gives a lengthy list of examples of these 'ghost sounds' that suddenly show up, e.g. when a noun is suffixed with the plural ending **N**{t}. It happens by a process called 'sound doubling' or *gemination* in Grammaric.[a] A seemingly 'invisible' sound stands betwixt the "i" and "a", but when it doubles, it suddenly becomes audible, like an echo of a ghost. It becomes the sound [cc].

This is another case of a regular sound change that has come to seem irregular because of the way words are written. The morphemic form of this word is {ilu**lij**aq}**N** and by the spelling rule for voiced fricatives (definition 5.4), this /j/ will not be written at all, because, as I mentioned in aside 4.1 a [j] after an [i] tends to become barely audible. But even though it may be neither heard nor written *it is still there.* Gemination causes this ghostly /j/ to double, becoming [jj], which by the fricative rule then becomes [cc], which then in turn by the new orthography is *written* as "ss".

Something similar may also happen in verbs: Consider the word "atuarpaa" (he reads it). Here "atuar-" is the stem, as a Graphemist would write it, and the rest is an ending. But I can add the affix **V**{'-t(ə)}**V** onto this stem, causing gemination of a weak sound within it, and suddenly the word becomes "atu**ff**appaa" (he reads for him); a word that at first glance hardly even seems recognisable as related to our stem "atuar-" above.

The morphemic form is actually {at**uva**q}**V** with a /v/ standing in-between the /u/ and the /a/. Again, by the aforementioned rules, this /v/ becomes almost inaudible and therefore not written, but when it is doubled to [vv] (by gemination), then [vv] becomes [ff] by the fricative rule. It has suddenly become audible where seemingly no sound existed before.

Many, who want to learn Greenlandic, initially think that the Graphemistic approach is easier because of the (fairly) close correspondence between spelling and pronunciation, and the new orthography certainly also makes it much easier to learn to read Greenlandic aloud, and to write Greenlandic words, *if you already know the words.* But as a learner, you obviously *do not* know the words, and as you can see, this ease of writing comes at the cost of making the behaviour of many words unpredictable from the way they are spelt.

[a] See further section 6.6 (page 105) about when and why gemination happens. It is not a general sound process, so it is not relevant for our purpose presently.

This chapter contains many peculiarities I have been sweeping under the rug until now. It may confuse you, crush your dreams of a nice and orderly world, and make you run away madly in all directions!

CHAPTER 6

Special sound and sandhi processes

In every step of the transformation from a train of morphemes to a finalised word there are a number of general sound processes involved; phonotactics, the sandhi rules and especially the sound rules. They are *general* in the sense that they always apply, everywhere in the language. Therefore, they are important. You cannot learn Greenlandic without also learning the rules of these sound processes. Even people who learn Greenlandic in the Graphemistic tradition will learn them – or give up trying. They just do not *know* that they are learning them, because the rules are not made explicit.

However, these sound processes are not the only ones in Greenlandic; there are also a few, special processes that you sooner or later will encounter. They are not necessarily rare – some apply quite frequently – but they are *special* in the sense that they only apply to a (small) group of morphemes, unlike the general sound processes that always apply.

This chapter is devoted to these special sound processes, and you may regard it as simply an extended aside: Unlike the general sound processes of the previous chapters, the special sound processes are not *important* – at least not from a communicational perspective – because it will hardly ever lead to misunderstandings, if you do not apply them. They are like the rule in English that says you must inject an 'n' between the indefinite article 'a' and a noun beginning in a vocalic sound. It would surely never lead to misunderstanding if somebody said "**a a**eroplane" instead of the correct 'an'. It just sounds wrong.

But, of course, if you are ever going to read or listen to *real* Greenlandic, produced by a native speaker, then you will certainly encounter the effects of these special sound processes, and you will therefore need to know something about them, to be able to understand what it going on.

6.1 Specialities versus irregularities

When you take a rule-based approach to language description, as I have done in this book, and say that word-forms are governed (or generated) by rules – whichever way you like to think about it – you will sooner or later come up against cases not covered by the rules. The question is: What to do about these cases? In English, for instance, we could make a rule saying that the *past tense* of a verb is formed by adding the morpheme {ed} to the verbal base. This rule will handle words like *work, work**ed*** and *look, look**ed***, but what about words like *wr**i**te, wr**o**te, wr**i**t**ten*** or *s**i**ng, s**a**ng, s**u**ng*? These are remnants of older systems: They are not *irregular* in the sense of 'not following *any* rules' but they certainly follow *other* rules than the general pattern. But the question remains: What to do about them?

From a communicational perspective, the simplest choice would be to do nothing at all: If I wrote *write**ed*** and *sing**ed*** instead of 'wrote' and 'sang' you would surely be able to understand what I meant.[1] The lack of a specific rule would not destroy our ability to communicate. If we were having a conversation, you might correct me, or simply use the correct forms in later sentences, and I would thereby soon acquire these special variations. After all, that is how children learn their first language: They certainly do not learn all the rules first, before starting to use the language!

Alternatively, we *could* just make more rules to handle the special cases. These rules would then only apply to a subgroup of words, as a kind of overlay to the general system; one pattern applied on top of another. In this way, no word is truly *irregular* in the sense of 'not following any rules', since *we* make the rules, and for every deviating word we could make a new rule to account for its behaviour. But when taken to its extreme this would defy the whole purpose of using rules in the first place, as a means to *simplify* the learning process, if the rules become as numerous as the words (or morphemes) in the language.

Some patterns are more important than others in a given language; and having rules for everything and insisting that people should be taught all the rules simultaneously, *as if* they were all equally important, is precisely the kind of approach to foreign language teaching that makes so many adults allergic to grammars, because they are reminded of unpleasant encounters with foreign language teaching in their schooldays. Or so I believe, anyway. I wish to stress this point, because you *will* sooner or later encounter morphemes that do not behave entirely according to the neat rules I have laid out in the previous chapters. Some of them will form subgroups which we can handle with just a few extra rules: I regard these as *specialities* and I try to cover a good number of them in this book, though always with an emphasis on the fact that these special patterns are *deviations* from the general, and thus should not be given as much attention as the general regularities.

However, when a subgroup becomes so small as to contain just a single morpheme, I shall instead regard it as an *irregularity*. A few of them are so frequently used as to be

[1] Unlike if I used the deviant pattern for *all* words and wrote e.g. **w**i**rk, *w**o**rk, *w**i**rk**ten*** instead!

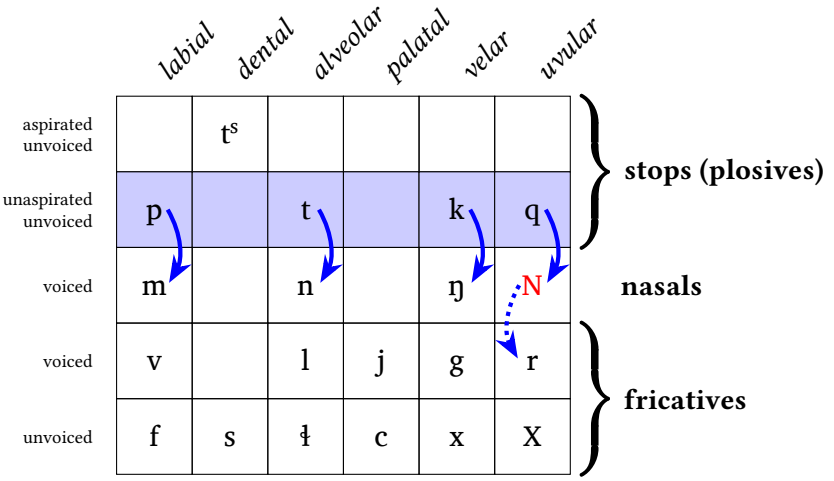


Figure 6.1: An illustration of nasalisation: The plosive sounds (highlighted row) are weakened to their corresponding nasals. However, [N], the uvular nasal corresponding to [q] may not necessarily be used, and instead [q] may go all the way to the voiced, uvular fricative [r], indicated by the dotted line.

unavoidable,[2] so I shall comment on these as well, where appropriate, but they should of course be given *even less* attention than the specialities. In general, though, I believe these irregularities belong in a dictionary of derivational morphemes, and not in a book about regularities.

6.2 Sound weakening (nasalisation)

The fricative rule is really a two-in-one: It describes both a *process* of 'sound strengthening' (or *fortition* in Grammaric), *and* it gives a condition for when this strengthening happens. The converse of this process is obviously called sound *weakening* (or *lenition* in Grammaric), and it also occurs in Greenlandic under some special circumstances. Here, plosive sounds, [p], [t], [k] or [q] – which are 'strong' sounds – are shifted to corresponding, 'weaker' sounds. This is usually a *nasal*, and this particular kind of weakening is hence called *nasalisation*.

Consider again our well-known table of sounds, given in figure 6.1. I have highlighted the row of plosives and drawn arrows to their corresponding nasal sounds: It illustrates

[2] Like for instance the future affix **V**{ssa}**V**, and in particular the negation affix **V**{ŋŋit}**V** since it takes a number of unique endings not used by any other morpheme. I describe this in section 14.8 on page 291.

that through nasalisation [p] will become [m], [t] will become [n] and [k] will become [ŋ].

A new sound in town

Now, what about [q]? If you recall the original table of sounds, the field for the uvular nasal, corresponding to [q], was empty. You *can* of course nasalise [q]; it becomes a sound that is usually written [IPA: N] and for want of a better symbol, I shall use this as well. As is usual with the uvular sounds, this one does not exist in English either, but you can find it quite easily: Just open your mouth as wide as possible and try to say the nasal [ŋ]. The sound [N] is made by closing off the air stream with your tongue against the uvula, so if you open your mouth wide enough and try to say [ŋ], your tongue will automatically reach the uvula first and close of the air stream there, before it can reach the velum (where you would normally be pronouncing [ŋ]).

An ambiguity in the new orthography

There is no Greenlandic phoneme with [N] as its default sound, and I did not include it in the original sound table, because not all speakers use it: Instead, when [q] is weakened, they will let it go all the way to [r]. Alternatively, depending on context, some speakers may instead pronounce a normal velar [ŋ] *but* simultaneously also uvularise a preceding vowel; that is, give it an 'open' pronunciation.

This rather confusing situation is reflected by a similar confusion in the orthography. The sound [N] is spelt "rng" but notice how this uses no less than *three* symbols for a single sound. The usual spelling rules say that "rng" should represent a double consonant [ŋŋ], where the first is an assimilated uvular; that is, a combination /**q**ŋ/, and it *does* represent that. However, this combination can also be realised as [NN] instead. A word like "e**rng**up" (the water's <something>) can thus be pronounced as *either* [e**ŋŋ**up] *or* [e**NN**up], depending on the speaker. So far, this is unproblematic; we can simply say that the latter is a variant pronunciation of the first (this is called an *allophone* in Grammaric).

However, it can also happen that a *single* [q] is weakened. If the speaker decides to weaken it to [N], rather than [r], then this *single* [N] would still have to be *spelt* as "rng" even though it only represents a *single* phoneme, and not two. For example, when the enclitic *{aasiit} (as usual) is added onto a word that ends in [q] like [oqɑppo**q**] (he said <something>), the final [q] will be weakened, and some speakers will say [r], whilst others will say [N]. The word for *he said <something> as usual* can therefore come to be pronounced, and thus also *spelt*, in either of two ways:

[oqɑppo**r**aasiit] ⟹ "oqarpo**r**aasiit"
[oqɑppo**N**aasiit] ⟹ "oqarpo**rng**aasiit"

In the second case, even though it is only *one, short* consonant sound, it must still be *spelt* as "rng", because there is no single symbol in the orthography for a single [N] sound. This is unfortunate, since it could lead us to believe that this particular "rng" should be pronounced as a double [NN] – or even a double [ŋŋ] – instead (which it should not). And even worse, we could conversely be led to believe that "e**rng**up" should be pronounced with just a *single* [N], as [e**N**up] (which it should not). The orthography is ambiguous with respect to this sound.

There is unfortunately no clean solution to this mess. My best advice is to use the following heuristic:

- Whenever you see "rng" *within* a word, like e.g. "e**rng**up" or "paa**rng**aq" (berry), assume it is a *double* consonant and pronounce it as [ŋŋ] (with uvularisation of the preceding vowel) or as [NN]. Either sound is fine, but it must be *double*.
- When you see "rng" at the *boundary* between a word and an *enclitic* like *{aasiit}, assume it is a *single* consonant, and pronounce it as [N] or, alternatively, as [ʀ], since it here represents a single, weakened /q/, and both [N] and [ʀ] are legal sounds for this weakening. Either sound is fine, but it must be *single*.

6.3 Enclitics and their sandhi

In the previous chapters I described how bases, affixes and endings are joined together to form complete words. I also briefly mentioned the existence of a small group of morphemes, called *enclitics*, that are joined onto *finalised* words, rather than onto a stem like affixes, but otherwise I have said very little about them. My reason for this omission is partly that enclitics are few in number, and they *mostly* behave like any other morpheme that is joined onto something, and partly because they sometimes have a few specialities. You can see a list of the most common enclitics and their meanings in figure 6.2, which will suffice for the purpose of this chapter. You can also find the full set in my affix list (Lybech, 2020).

As mentioned in my little 'rule of thumb' for sandhi truncativity (definition 2.7), almost all morphemes beginning in a *vowel* are sandhi truncative. However, the one major exception tois precisely the enclitics: All enclitics are *additive* – even those beginning in a vowel.[3] They are more like separate words, pronounced rapidly after the word to which

[3]There may even be apparent exceptions to this rule. Some finalised words (including ending) may have become lexicalised with a specific meaning, like ***nalinganut*** which means 'on the amount' – something you would say when you pay with a credit card. It is a noun, {nalək}**N** (value) bearing the ending **N**{anut} (to its N). But now people may even add the affix **N**{-innaq}**N** (just) on top of this to express "*only* on the amount" which thus becomes ***nalinganuinnaq*** with deletion of /t/. Should {-innaq} now be regarded as an affix (which cannot normally be added to endings) or as an enclitic? There is no clear answer, but people may do it anyway.

*{aasiit}	“as usual”
*{guuq}	“it is said” (note, nasalises [kk] $\implies$ [ŋŋ])
*{li}	“but”
*{lu}	“and” / “furthermore”
*{luunniit}	“or”
*{mi}	“indeed” / “what about – ?”
*{una}	“it is”

Figure 6.2: A list of some of the most common enclitics and their meanings.

they are added – some of them, like e.g. *{una} *are* even (also) separate words, although with a somewhat different meaning. Thus, their sandi behaviour is a little different from the affixes and endings.

Definition 6.1 (sandhi of enclitics) *Let S be a string of phonemes with c a consonant phoneme, v a vowel phoneme, and let P be a string of phones (sounds). Then *{cS} is a consonant-initial enclitic, *{vS} is a vowel-initial enclitic, and [P] may be a (part of a) finalised word. Their sandhi behaviour is then:*

$$
\begin{aligned}
[P]\,*\{cS\} &\to [PcS] && \textit{join directly}\\
[Pv_1]\,*\{vS\} &\to [Pv_1vS] && \textit{join directly}\\
[P\text{p}]\,*\{vS\} &\to [P\text{m}vS] && \textit{nasalise } [\text{p}] \textit{ to } [\text{m}]\\
[P\text{t}]\,*\{vS\} &\to [P\text{n}vS] && \textit{nasalise } [\text{t}] \textit{ to } [\text{n}]\\
[P\text{k}]\,*\{vS\} &\to [P\text{ŋ}vS] && \textit{nasalise } [\text{k}] \textit{ to } [\text{ŋ}]\\
[P\text{q}]\,*\{vS\} &\to [P\text{N}vS] && \textit{nasalise } [\text{q}] \textit{ to } [\text{N}]\\
[P\text{q}]\,*\{vS\} &\to [P\text{r}vS] && \text{or } \textit{weaken } [\text{q}] \textit{ to } [\text{r}]
\end{aligned}
$$

*i.e. consonant-initial enclitics *{cS} join directly onto any sound, and vowel-initial enclitics *{vS} join directly onto vowel sounds; but when the final sound is a* plosive*, then a vowel-initial enclitic will weaken the plosive to its corresponding nasal, or, optionally in case of* [q]*, to* [r].

You join enclitics directly onto finalised words; that is, you join *sounds*, not phonemes, so no final schwa will change its sound, no matter what enclitic you add onto it, and no [t] will change into an [s] etc. However, if you add a *vowel-initial* enclitic onto a *plosive*, then you weaken it by nasalisation – or, in case of [q] you can choose to weaken it to [r] instead. Notice that, since we join onto *finalised* words, then then only possible types of sounds

we *can* join onto, are vowel sounds or plosives, because no other type of sound can occur in this position, as a consequence of the first sound law (definition 2.2). Lastly, you apply the sound rules for *phones* as usual; that is, you just start with the a-rule (definition 3.5).[4]

Let me give you a few examples:

- ***angut*** "man" has base {aŋutə}**N** with a final schwa, that has become silent. "The woman **and** the man" is ***arnaq angullu***. Notice that ⁎{lu} is added onto the final *sound*, which is [t], and *not* onto the silent /ə/.
- "**It is** a man" is ***angununa***, with ⁎{una} added directly onto [t], which is a stop, so it is nasalised to [n].
- There exists a pronoun ***uanga*** meaning 'I' (or 'me'). "**It is** I (or me)" is then ***uangaana*** with the [u] in ⁎{**u**na} assimilated to [a] by the a-rule.
- ⁎{guuq} has the speciality that it will also nasalise any consonant onto which it is added, except [q], since [q] and [g] just merge to [r] as usual by the g-rule. ***Arnarooq*** thus means "It is said, that a woman…" but ***angunngooq*** means "it is said that a man…"

6.4 Nominal stem-types and their sandhi

In the previous chapters I have described all morphemes as generally alike, and to a large extent they *are*. However, some groups of *noun stems* display a few extra peculiarities when certain types of *endings* are added onto them. Furthermore, two of the special sound processes – sound displacement (metathesis) and sound doubling (gemination) – which I shall describe in this chapter, also concern *nominal stems* in particular: They *may* occur when certain endings are joined onto noun stems that end in certain phonemes.

Thus to provide a bit of context for the following descriptions we should begin by grouping the nominal stems by their final phonemes: At the highest level we have two groups, the *vowel stems*, which are all stems ending in one of /aəiu/ including those ending on /tə/; and the *consonant stems*, which are all stems ending in either /k/ or /q/.[5] The q-stems can further be divided into *weak q-stems* which end on a normal /q/, and *strong q-stems* which end on /əq/; these in particular may do odd things, so beware when you see this particular combination! Figure 6.3 then depicts this subdivision.

[4]The sound rules for *phones* are those that operate on actual sounds, i.e. symbols in square brackets, rather than forward slashes. If you check back to chapter 3, you will see that the first sound rules map strings of phonemes into strings of phonemes; i.e. they are of the form $/S_1/ \rightarrow /S_2/$. But the schwa-rule is of the form $/S/ \rightarrow [P]$ instead, mapping a string of phonemes into a string of phones (sounds); and all the following sound rules, starting with the a-rule, then map a list of phones into phones; i.e. $[P_1] \rightarrow [P_2]$.

[5]Since no *noun stem* can end in /t/ or /p/. A noun may come to end on the *sound* [p] or [t], but that is something altogether different.

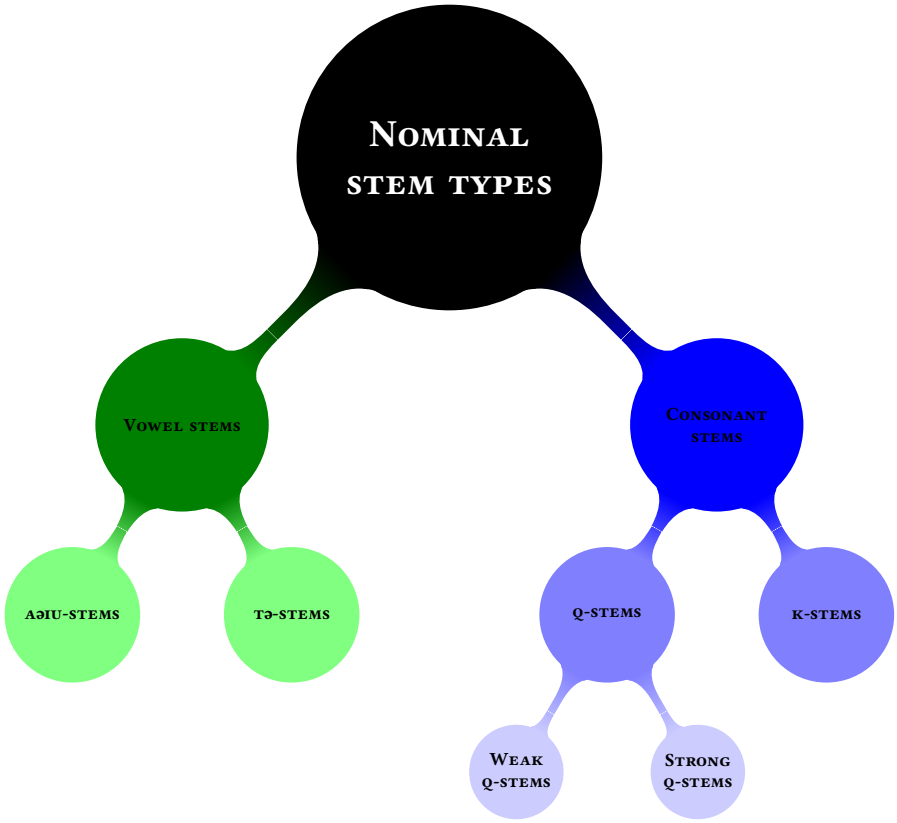


Figure 6.3: The division of noun stems into groups based on their final phoneme(s). The division is particularly relevant for the discussion of sound processes that occur when certain endings are joined onto certain types of stems (sound displacement and sound doubling), but also w.r.t. sound replacement which occurs when certain affixes are joined onto stems ending in /tə/.

Any *affix* you join onto any of these stem-types will be added according to the usual sandhi-rules, so here the distinction does not matter at all. However, with *endings* the case is not quite as simple: Here the relevant distinction lies in how these various stem-types take a *consonant-initial* ending like **N{mut}** (to N) and a *vowel-initial* ending like **N{-a}** (his N).

- The *vowel stems*, including those ending on /ə/, are stems like {əŋlu}**N** (house) and {inə}**N** (room) and many others. All endings are added in a completely regular fashion, like *illu, illu**mut**, illu**a*** etc.
- The *tə-stems* are all stems ending in /tə/, like {aŋutə}**N** (man), {aullaitə}**N** (rifle) etc. They are generally also completely regular and behave like any other vowel

stem, with endings added onto schwa (and thus making the /ə/ take a sound, to the great confusion of Graphemists), like ***angut, angutimut, angutaa*** and so forth.

There is one small complication: *Singular endings* beginning in a *nasal*[6] may *optionally* be added directly to /t/. This is called 'schwa elision' in Grammaric, but in reality it means that you *may* say (and hear) both ***angutimut*** and ***angummut*** (to the man), ***angutini*** and ***angunni*** (his own father)[7] etc.

- The *k-stems* which are generally every stem ending in /k/, like {kaŋiqluk}N (fjord), V{(v)vik}N (place where you Vb) and {panik}N (daughter), and many others. Endings are added according to the usual sandhi rules, although a few of them will have a special form, as I explain in section 6.7. However, for the present purpose it is enough to say that they also behave completely regularly, so by adding the aforementioned endings, we get ***panik, panimmut, pania*** etc.

These three groups of stem-types are all regular and thus easy to handle. The main difficulty lies in the two types of q-stems.

Weak q-stems

The *weak q-stems* are *almost* every stem ending in /q/, like {aqnaq}N, {aliqaq}N (older sister to a boy) N{miuq}N (a citizen of N), {kalaaliq}N (Greenlander), {qikmiq}N (dog), the name ***Piitaq*** and many, many more. In other words, *almost* all nouns that end on the sound [q] will actually be weak q-stems. I use no special notation to indicate that a stem is a weak q-stem, because this is by far the most common case. Thus, whenever you see a stem ending in /q/, you should simply assume that it is a weak q-stem.

The special thing about them (and the reason they are called 'weak') is that they will automatically *throw away* this final /q/ when a *consonant-initial ending* like N{t} (plural) or N{mut} (to N) is joined onto them, regardless of the ending's sandhi, so e.g. {qikmiq}N{t} $\Longrightarrow^*$ ***qimmit*** (dogs) and {qikmiq}N{mut} $\Longrightarrow^*$ ***qimmimut*** (to the dog). In both cases the stem-final /q/ has disappeared, even though the endings are not marked as sandhi truncative. We can capture this behaviour with an extra sandhi rule as follows:

Definition 6.2 (Weak q-stem sandhi) *Let S be any string of phonemes including possibly the empty string /∅/, and let c be any consonant phoneme. Then {Sq}N is a weak q-stem and N{cS} is a consonant-initial nominal ending. The sandhi of weak q-stems can then be abstractly expressed as:*

$$\{Sq\}N\{cS\} \rightarrow /ScS/$$

[6] That is, /m/ or /n/ here, since no ending begins with /ŋ/.

[7] Not 'his own man', because when you own a man in Greenlandic, then it is your father. And similarly, when you own a woman, then it is your mother.

Here {Sq}**N** is any weak q-stem, including stems built from any number of affixes, and when the consonant-initial ending **N**{cS} is joined onto it, the /q/ is removed. Another way of saying this is that weak q-stems behave exactly like *vowel stems*. However, remember that this is a *special* sandhi rule for this particular type of stem only, and that it *only* concerns *endings*; before normal affixes, the /q/ is retained or removed according to the usual sandhi rules.

There is also *one* notable exception to this pattern: The ending **N**{ga} (my N) is one of these few g-initial morphemes I mentioned in definition 2.6 that are truncative on *all but* q-stems, and this ending does *not* cause a weak final /q/ to disappear. Instead, it is added directly to /q/, so 'my older sister' is

{aliqa**q**}**N**{ga} $\Longrightarrow^*$ *aleqa**r**a*

with the usual fusion of /qg/ by the g-rule.

Strong q-stems

The *strong q-stems* are a smallish group of stems ending in /q/. They include {iqnəq}**N** (son), {atəq}**N** (name), {tupəq}**N** (tent) and the affix **V**{nəq}**N** (abstract noun, 'the act of Vb'ing'). They might, perhaps more appropriately, be called 'the əq-stems' because as far as I can tell, these stems all end in /əq/, and this second-to-final /ə/ in particular seems to be the source of their apparently erratic behaviour.

The special thing about these stems is that all *vowel initial* endings are added *directly onto* /q/, generally similar to to the way a vowel-initial enclitic would be added onto any word ending in [q]; that is, /q/ is not removed, but merely *weakened* to [ʁ], the corresponding voiced fricative. Even though these endings are normally sandhi truncative, they cannot remove this final /q/. The *consonant-initial* endings are however added in a completely normal fashion, using the ordinary sandhi rules, so in a sense these strong q-stems are the exact opposite of the weak q-stems, that behaved normally with vowel-initial endings, but did odd things with consonant-initial endings. Thus with e.g. ***erneq*** we get ***ernermut***, but {iqnəq}**N**{-a} $\Longrightarrow^*$ ***ernera*** and so forth. We can again capture this behaviour with a special sandhi rule as follows:

Definition 6.3 (Strong q-stem sandhi) *Let S be any string of phonemes including possibly the empty string /∅/, and let c be any consonant phoneme. Then* {Səq}**N** *is a strong q-stem and* **N**{vS} *is a vowel-initial nominal ending. The sandhi of strong q-stems can then be abstractly expressed as:*

{Səq}**N**{-vS} $\rightarrow$ /SərvS/

Here {Səq}**N** is a strong q-stem, and when any vowel-initial ending **N**{vS} is joined onto it, the stem-final /q/ is simply weakened to /ʀ/, but not removed, regardless of the ending's preferred sandhi, which normally would be truncative precisely since it is vowel-initial.[8] This rule capture the *regular* sandhi behaviour of strong q-stems. However, as you will see below, they may display even more complicated behaviour.

6.5 Sound displacement (metathesis)

Sound displacement is a process that does exactly what the name implies: It switches the order of certain phonemes within a stem. This is process is also known as *metathesis* in Grammaric, and it *may* occur when a *vowel-initial ending* is joined onto a *strong q-stem*.[9] You may thus regard the string /əq/ as an indication that a stem *may* display metathesis, but let me emphasise that you cannot be certain that all speakers will use this process. Metathesis is a remnant of an old system, and especially younger speakers will tend to forget it and simply add endings in a completely ordinary fashion.

So what does this sound displacement look like? Suppose I wanted to add the vowel-initial ending **N**{-a} (his N) to {atəq}**N** to say "his name". All vowel-initial endings are normally sandhi truncative, so using the ordinary rules we should expect that

$$\{\text{atəq}\}\mathbf{N}\{\text{-a}\} \Longrightarrow^{*} \textit{atia}$$

and that is also what you may hear some people say. If we instead applied the special sandhi rule for strong q-stems (see above), we should expect to get ***atera***, and that may also be a possibility with some speakers. But with metathesis, the result instead becomes ***aqqa***.

What happens is that a stem displaying metathesis will take the vowel-initial ending directly onto /əq/ like any other strong q-stem, but in addition /ə/ *disappears*, creating a consonant cluster, and then the usual sound rules then apply, such that you end up with ***aqqa***. The derivation thus proceeds as follows:

	{atəq}**N**{-a}	(his name)
$\Longrightarrow$	/a**tqa**/	(metathesis: /təqa/ $\Longrightarrow$ /tqa/)
$\Longrightarrow$	[a**qq**a]	(Consonant rule: /tq/ $\Longrightarrow$ [qq])
$\Longrightarrow$	[**ɑq**qa]	(Vowel rule: [aq] $\Longrightarrow$ [ɑq])
$\Longrightarrow$	***aqqa***	(spelling rules)

[8] A few vowel-initial affixes, most notably **N**{-u}**V** (is an N), behave similarly: Thus {Səq}**N**{-u}**V** $\Longrightarrow$ /Sə**r**u/.

[9] Or, in a few, extremely rare cases, in /ək/. Two examples are {kamək}**N** (boot), plural ***kanngit***, and {tipək}**N** (smell) with **N**{-a} (his N) becoming ***tikka***.

Strictly speaking, this process even violates the ordinary order of the sound rules, since the displaced /q/ will assimilate /t/ *firstly*, and then [a] will *afterwards* be uvularised by the [q] sound that used to be /t/. This is just an artefact of my fixing the order of application of the rules to allow me to describe it as a linear process. This ordering holds for the *general* (and thus most important) cases, but not quite for metathesis, as you can see.

In other cases, this stem-final /q/ can wander even further into the stem: Take a base like {imәq}**N** (water), and suppose you want to add the vowel-initial ending **N**{-up} (N's <something>) to it. Schwa still disappears, but here /q/ will move to stand *before* /m/, where it will be assimilated. It may even (optionally) also cause nasalisation of the consonant cluster to [NN]! Thus

$$\{\text{imәq}\}\mathbf{N}\{\text{-up}\} \implies /\text{i}\mathbf{qm}\text{up}/ \implies^{*} \textit{e}\mathbf{\textit{rm}}\textit{up}$$

or $\implies^{*}$ ***ern****gup*, depending on the speaker.

Lastly, /q/ may even retain its place of articulation, even though it is assimilated by another consonant, to yield a merge between the two. Take the base {aavәq}**N** (walrus) and add the plural ending **N**{-it}. This yields

$$\{\text{aavәq}\}\mathbf{N}\{\text{-it}\} \implies /\text{aa}\mathbf{q}\text{vit}/$$

which can *either* become ***aarfit*** by the usual sound rules, *or* ***aarrit*** – a double, unvoiced *uvular fricative* [XX], inheriting its *manner* of pronunciation from /v/ (fricative), but its place from /q/ (uvular). Both forms are possible; it is up to the choice of the speaker, although it is my impression that the latter is the most common form.

The previous three examples illustrate three slightly different patterns of sound displacement that nevertheless yield rather different outcomes. Which pattern is chosen is determined by the *type of consonant* preceding the /ə/:

- If the consonant is a *plosive*, like in {a**t**әq}**N**, then the only change is that /ə/ is deleted, yielding /tq/, and we thus get ***ateq, aqqup, aqqit, aqqa*** etc. Other common words following this pattern are {mi**t**әq}**N** (eider duck) becoming ***meqqit*** etc.; {i**t**әq}**N** (anus) becoming ***eqqit*** etc.; {tu**p**әq}**N** (tent) becoming ***toqqit*** etc.; and {qi**t**әq}**N** (middle) becoming ***qeqqit*** etc. The town centre of Nuuk is actually called ***Nuup Qeqqa***, literally "Nuuk's middle," and if you look at a map of Greenland, you might find ***Qeqqata Kommunia*** which is the name of one of the municipalities – the one in the middle.

- If the consonant is a *nasal*, like in {i**m**әq}**N**, then we get the slightly more complicated pattern where schwa still disappears, but /q/ furthermore is displaced to the *left* of the nasal, yielding /qm/, which may *optionally* also result in a merge between the two sounds' manner and place of articulation, such that we get *either*

[mm] (usual assimilation) *or* [NN], merging place (uvular) from /q/ with manner (nasal) from /m/. Nouns following this pattern are {i**m**əq}**N** (water) becoming either ***erm**up* (usual assimilation) or ***ern**gup* (merging), and many bases that were historically formed with the affix **V**{nəq}**N**,[10] like {siqinəq}**N** (the sun) becoming *seqer**n**up* or *seqer**n**gup*, and {apquci**n**əq}**N** (road). In Nuuk, there is a road named *Borgmesterip Anniitap Aqquser**n**ga* with the ending **N**{-a} (his N), literally "Mayor Anniita's Road."

- If the consonant is a *fricative* – or more specifically, if the stem ends in /**v**əq/ – then it behaves similar to the case of nasals above, but the end result is different, since the optional merge of /q/ and a fricative will yield [rr] (an uvular fricative) instead of [NN] (an uvular nasal). {aa**v**əq}**N** (walrus) will thus become ***aarf**it* (usual assimilation and fricative rule) or ***aarr**it* (merging), and similarly for a stem like {ili**v**əq}**N** (graveyard), which can become either *iler**f**up* or *iler**r**up*.

Figure 6.4 illustrates this process, where a vowel-initial ending is joined onto a noun-stem displaying metathesis: Here S represents any string of phonemes including the empty string /∅/, and the type of the consonant c – the third-to-last sound in the stem – determines the pattern. We can express the same with rewriting rules as follows:

Definition 6.4 (Metathesis) *Let $S \in \mathcal{P}^*$ be any string of phonemes, and let v be a vowel phoneme. Then* **N**{vS}*is a vowel-initial nominal ending. Furthermore, let $p \in$ /ptkq/ be any plosive phoneme and $n \in$ /mnŋ/ be any nasal phoneme. The sandhi patterns for metathesis in noun stems are then as follows:*

$$\begin{aligned}
&\{Sp\text{əq}\}\mathbf{N}\{vS\} \to /Sc\text{q}vS/ && \textit{Plosives: delete /ə/}\\
&\{Sn\text{əq}\}\mathbf{N}\{vS\} \to /S\text{q}nvS/ && \textit{Nasals: delete /ə/ and move /q/ inwards}\\
&\{S\text{vəq}\}\mathbf{N}\{vS\} \to /S\text{qv}vS/ && \textit{Fricatives: delete /ə/ and move /q/ inwards}
\end{aligned}$$

In case of nasals and fricatives, /q/ may optionally merge its pronunciation with the following consonant phoneme, yielding

$$\begin{aligned}
&/S\text{q}nvS/ \to [S\text{NN}vS] && \textit{Nasals merge to [NN]}\\
&/S\text{qv}vS/ \to [S\text{XX}vS] && \textit{Fricatives merge to [XX]}
\end{aligned}$$

This may all sound rather complicated when we try to capture it with rules, but it is really a lot easier than it may seem. However, if you find this rule too confusing, you can also decide to simply ignore it. Instead, whenever you have a stem displaying metathesis, you just have to remember its metathetic form along with its usual morphemic form: If

[10] Only historically. Today, this affix behaves less radically with vowel-initial endings: The stem-final /q/ is just weakened to [r], so it becomes *-ne**q**, -ne**r**up, -ne**r**it, -ne**r**a* etc.

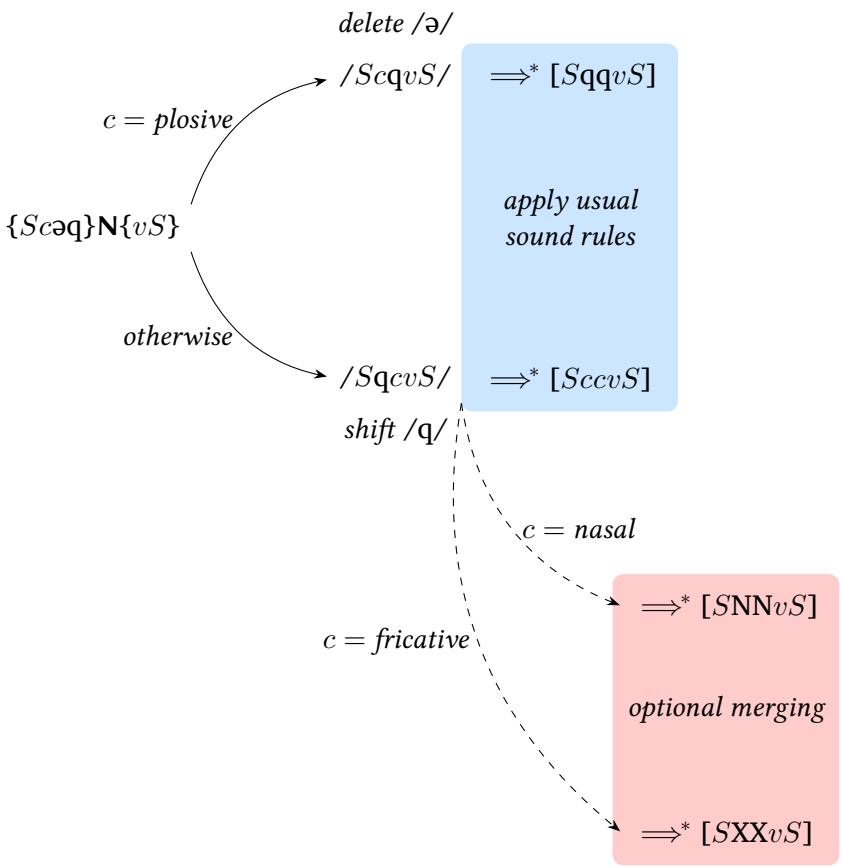


Figure 6.4: The process of metathesis in noun-stems: S can be any string of phonemes including /∅/, and the pattern is determined by the type of the consonant c. The dashed arrows represent the optional possibility of merging, which may yield a consonant cluster of either [NN] if c is a nasal, or [XX] if c is a fricative.

you know e.g. {qitəq}**N** becomes [**qeqq**a] with the vowel-initial ending **N**{-a}, then you can simply learn this 'metathetic stem' [qeqq-] and use it whenever you add *any* vowel-initial ending, because the stem will *always* take this form. In this case the rules may be more complicated than simply remembering this extra piece of information, but now at least you know how the process of metathesis produces these (sometimes radically) altered forms.

6.6 Sound doubling (gemination)

Sound doubling, also known as *gemination* in Grammaric, is a process that also does exactly what the name implies: One (usually consonant) sound is doubled, becoming two sounds. There are a few affixes that may cause gemination in the stem they are joined onto,[11] but the process most commonly (and regularly) occurs when *consonant-initial endings* are joined onto nominal *weak q-stems*. For example, the noun base {mii**r**aq}**N** (child) is such a weak q-stem, and the plural ending **N**{t} is (obviously) a consonant-initial ending. If I join them together to construct the word for *children*, the result is

$$\{\text{mii}\mathbf{r}\text{aq}\}\mathbf{N}\{\text{t}\} \Longrightarrow^{*} \textit{mee}\mathbf{qq}\textit{a}\mathbf{t}$$

/r/ is doubled to /rr/ which then by the fricative rule then becomes [qq].

Gemination *regularly* occurs *precisely* when weak q-stems throw away their final /q/; that is, before a consonant-initial ending. The rule for *regular* gemination is then as follows: If the *third-to-last* sound in the stem is a *single, voiced fricative*, i.e. one of /vljgr/, then this sound will be doubled, and then later strengthened by the fricative rule:

Definition 6.5 (Regular gemination) *Let $S \in \mathcal{P}^*$ be any string of phonemes including /∅/, and let $f \in$ /vljgr/ be any of the voiced fricatives, with c a consonant phoneme and v a vowel phoneme as usual. Then* {$Svfv$q}**N** *is a nominal weak q-stem where the* third to last *sound is a single, voiced fricative, and* **N**{cS} *is a consonant-initial nominal ending.* Regular gemination *can then be captured by the following rule, which is an elaboration of the special sandhi rule for weak q-stems:*

$$\{Svfv\text{q}\}\mathbf{N}\{cS\} \rightarrow /Svffvc S/$$

N{cS} is a consonant-initial ending, and when it is joined onto the weak q-stem {$Svfv$q}**N** /q/ disappears as is always the case for weak q-stems, but here in addition /f/ is doubled to /fff/. This rule thus explains why a base like {atuva**g**aq}**N** (book) in plural becomes *atua**kk**at*, and {ilul**ij**aq}**N** (iceberg) becomes *ilulis**s**at* etc. See aside 6.1 for another very common example of this process.

[11] Especially **V**{'-vik}**N** which is a variant of **V**{(v)vik}**N** (place where <somebody> Vb's), and also **V**{'-t(ə)}**V** which is a variant of **V**{-ut(e)}**V** (does Vb with it).

Aside 6.1: Why is the language called *Kalaallisut*?

Consider the word "Engli**sh**". The emphasised segment is a morpheme {(i)sh} meaning 'like', just like in 'noun-ish', 'small-ish' etc., so the word "English" literally means 'like English(men),' because English is *like* how the Englishmen speak. Greenlandic has an *ending* for nouns with this 'like' meaning: The so-called *equative case* ending **N**{tut}, so e.g.*illu**tut*** means 'like a house/houses' or 'house-ish' for short.

Now, the base {kalaa**liq**}**N** means 'a Greenlander'. It is a weak q-stem, displaying gemination of the /l/, and the last vowel is a true /i/ that will activate the t-to-s rule. Thus, when we add the ending **N**{tut} to {kalaaliq}**N**, we obtain a word meaning 'like the Greenlanders (speak)' and the derivation proceeds as follows:

	{kalaaliq}**N**{tut}	('like the Greenlanders')
$\Longrightarrow$	/kalaa**ll**itut/	(gemination: /l/ $\Longrightarrow$ /ll/)
$\Longrightarrow$	/kalaall**i**sut/	(t-to-s rule: /it/ $\Longrightarrow$ /is/)
$\Longrightarrow$	[kalaaɬɬisut]	(fricative rule: [ll] $\Longrightarrow$ [ɬɬ])
$\Longrightarrow$	"kalaa**ll**isut"	(spelling rule: [ɬɬ] $\Longrightarrow$ "ll")

So the word *kalaallisut* is literally just "Greenlandic" translated into Greenlandic! The names of other nations and languages are often borrowed into Greenlandic from Danish,[a] like e.g. "spans**k**" (Spanish), where the equivalent of the English {(i)sh} is {sk}. Such a word must of course be 'Greenlandized' by adding an /i/ to the base, but even though the word already contains this notion of 'like-ness' the **N**{tut} ending is still added on top of it to produce a word denoting the language. Thus ***spanski**sut*** would be understood as the name of the language Spanish.

[a] One notable exception is actually the word for English: An Englishman is a {tuluk}**N**, and the language English is thus {tuluk}**N**{tut} $\Longrightarrow^*$ *tuluttut*.

When sound doubling does *not* occur

Gemination is a tricky issue, because the rule for *when* gemination happens actually is quite complicated. By definition 6.5, gemination happens when a *consonant-initial ending* causes a geminating *weak q-stem* to throw away its final /q/, so there are a number of conditions that must be satisfied simultaneously; and when any of them are not, then there is no gemination.

Firstly, note that gemination is only triggered by *endings*, not by affixes, regardless of whether they are truncative or not. For example, the affix **N**{ŋŋuaq}**N** (a small N) is (phonotactically) truncative, but we still get

{mii**r**aq}**N**{ŋŋuaq}**N**{∅} $\Longrightarrow^*$ *mee**r**anngguaq*

with no doubling of /r/ even though the final /q/ *is* removed, precisely because this is an *affix*, and not an ending.

Secondly, the ending must be *consonant-initial* as stated in definition 6.5, so an ending like **N**{-a} (his N) will not trigger gemination either, even though it too will remove the final /q/. Thus we also get

{miiraq}**N**{-a} $\Longrightarrow^*$ *meeraa*

again without any doubling of /r/.

Thirdly, a handful of nominal endings are *sandhi epenthetic* (cf. definition 2.5) with /q/ as their epenthetic consonant, and they do not trigger gemination either. These endings are **N**{(q)vut} (our N), **N**{(q)si} (your N) and **N**{(q)tik} (their own N), and possibly also the variant ending **N**{(q)vit} (thy N's <something>) for those who use this variant. Thus we also get

meerara, meerarput, meerarsi, *meerartik*

without doubling of /r/. You can think of it as if this epenthetic /q/ somehow *suppresses* gemination, because it takes the place of the stem-final weak /q/, or that these endings simply do not cause the weak /q/ to fall away. Regardless of how you like to think of it, they do not trigger gemination.

And lastly, as I mentioned above, below definition 6.2 of the sandhi rule for weak q-stems, the ending **N**{ga} (my N) does *not* cause the stem-final /q/ to disappear, even though it is a consonant-initial ending, since /g/ instead fuses with the stem-final /q/ to yield /r/ by the g-rule. This also means that the ending **N**{ga} does *not* trigger gemination, so we also get that

{miiraq}**N**{ga} $\Longrightarrow^*$ *meerara*

Thus, if you have a geminating stem like {miiraq}**N**, and you can use the following checklist to decide whether the *next* morpheme you join onto this stem will trigger gemination:

1. Is it an *affix* like **N**{ŋŋuaq}**N**? $\Longrightarrow$ *no* gemination.
2. Is it a *vowel-initial* ending like **N**{-a}? $\Longrightarrow$ *no* gemination.
3. Is it a *sandhi epenthetic* ending, i.e. one of **N**{(q)vut}, **N**{(q)si}, **N**{(q)tik}, and **N**{(q)vit}? $\Longrightarrow$ *no* gemination.
4. Is it the ending **N**{ga}? $\Longrightarrow$ *no* gemination

Irregular sound doubling

The regular gemination rule from definition 6.5 describes a pattern for stems that *regularly* display gemination; that is, stems of the form /$Svfv$q/. Unfortunately, this pattern does not capture all types of noun stems that may display gemination, when consonant-initial endings are added to stems. Other consonants than voiced fricatives may geminate, and it may also happen with other types of stems, apart from weak q-stems; usually with vowel-stems, but even in a few cases also with k-stems. I call these occurrences *irregular* gemination, but since some of them are quite frequent I shall (for lack of a rule) instead give you an incomplete list of the some of the most common cases:

- The affix **N**{-taq}**N** geminates /t/ to /tt/. This affix is also used in a number of common words like *ilaqu**taq*** (family member) and *nalunaaqu**taq*** (a clock), which thus e.g. in plural become *ilaqu**tt**at, nalunaaqu**tt**at*.

- The affix **V**{-u**c**iq}**N** (manner of Vb'ing) and its variant **V**{cc**u**ciq}**N** (Vb-ness) both geminate /c/ to /tt/ (pronounced [t^{s}t^{s}] because of the following /i/). They also occur in some common words like *ata**as**eq* (the number one), so with an ending like **N**{mut} it becomes *ataa**ts**imut* (one o'clock). In fact, all stems ending in /ciq/ will behave in this way.

- Nasals may also geminate, so {na**n**uq}**N** (polar bear) becomes *na**nn**ut* in plural, {i**m**aq}**N** (sea, contents of <something>) becomes *i**mm**at* (seas, contents), and the stem {qi**ŋ**aq}**N** (nose) becomes *qi**nng**at* (noses). There are also examples of vowel stems geminating in this way: {isu**m**a}**N** (mind) becomes *isu**mm**at* (minds).

- Even plosives may geminate: {nia**q**uq}**N** (head) and {u**q**aq}**N** (tongue) will both geminate this single /q/ to /qq/, thus becoming *nia**qq**ut, o**qq**at*, and similarly will the affix **N**{-tu**q**aq}**N** (an old N), so *illuto**qq**at* means "old houses."

- Lastly, there are also a few cases of k-stems that display gemination and throw away their final /k/ as if they were weak q-stems. The most common examples are probably {isi**g**ak}**N** (foot) $\Longrightarrow^{*}$ *isi**kk**at* (feet), and {uja**r**ak}**N** (stone) $\Longrightarrow^{*}$ *uja**qq**at*.[12]

Gemination is not exactly a nice and well-behaved phenomenon, and even though you may use the regular rule as a heuristic to capture *many* of the occurrences, there will also

[12] There is also the affix **N**{-**l**ək}**N** (equipped with N), which in plural becomes *-**ll**it*, but unlike the others this affix does *not* in general throw away its final /k/ and geminate /l/ before consonant-initial endings; only before plural **N**{t} and ergative singular **N**{p}. In other words, it is *-lik, -**ll**ip, -**ll**it*, but *-**lim**mut, -**lin**nik* etc., with endings like **N**{mut} and **N**{nik}. This confusion is probably caused by this stem originally having displayed *k-metathesis* instead, so /k/ moved to stand before /l/ and /ə/ disappeared, so e.g. **N**{-lək}**N**{it} $\Longrightarrow$ /-klit/ $\Longrightarrow^{*}$ *-llit*, but people nowadays use it as if it displayed gemination instead. A base like {malək}**N** (wave) behaves similarly.

be some cases not covered by it. I might therefore use an apostrophy before the geminating consonant, and thus write e.g. {mii'raq}N and {kalaa'liq}N, to indicate gemination. However, as you have also seen, some affixes like N{-taq}N also display gemination, and it may not in general always be possible to insert (or make do with) a simple apostrophe. A complete description of which stems display gemination and what the geminating consonant becomes, is, in my opinion, best achieved in a proper, morphemic dictionary. Unfortunately, such a dictionary does not exist.

Fortunately, though, you can handle gemination in much the same way I recommended you might handle metathesis: You have to remember the *geminated stem-form* along with the usual morphemic form – e.g. [meeqqa-] alongside {miiraq}N – because the geminated stem will *always* take this form, no matter which consonant-initial ending you add onto it.

6.7 p-declined and up-declined stems

As I mentioned above, all endings do not join onto all nominal stems in the same way. Their sandhi-rules are *stem-dependent*, rather than purely dependent on the ending itself. I have already described this at length in section 6.4, where I divided nominal stems into groups on the basis of their final phoneme(s): In particular, we had a group of *vowel stems* that included stems ending in /tə/, and a group of *consonant stems* with stems ending in either /k/ or /q/, and this latter group could again be subdivided into so-called *weak q-stems* and *strong q-stems*.

In this section I will present a related way of dividing the stems into groups, based on the form of one particular nominal ending; the so-called the unpossessed, ergative singular ending. This is a common, grammatical ending for nouns, used to indicate that the noun either *owns* another noun, or that it *acts* upon another noun.

On some stems, this ending appears as N{p}, and these are therefore called the *p-declined stems*; whilst on others, it has the form N{-up} instead, and these are likewise called the *up-declined stems*. Note that the *meaning* of these endings is irrelevant here, although you might want to re-read this section, after you read chaper 13 on nominal endings. All you presently need to know is that there exists a pair of endings for nouns, which either has the form N{p} in singular and N{t} in plural; *or* N{-up} in singular and N{-it} in plural. Some stems use only the first pair, other stems use only the other, and this distinction between stems that use N{p}, N{t}, and stems that use N{-up}, N{-it} also reveals how the stems behave w.r.t. all other types of nominal endings.

The table in figure 6.5 summarises how each of the stem-types looks in the unmarked form of absolutive singular, N{∅}, with the ergative singular and plural endings, N{p} or N{-up}, and N{t} or N{-it} respectively, and with a consonant-initial and vowel initial ending, here arbitrarily chosen to be N{mut} (unpossessed allative, singular) and N{-a}

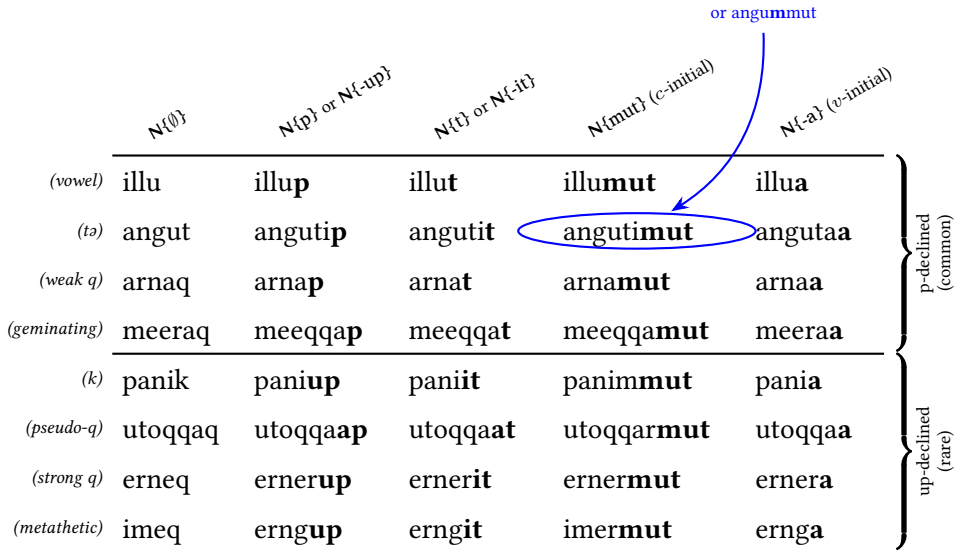


Figure 6.5: An overview of the way p-declined and up-declined stems take their endings. The two main distinctions are whether the stem takes the endings N{p} and N{t}, or N{-up} and N{-it}, and whether consonant-initial endings like N{mut} are added to the final *vowel* or the final *phoneme* of the stem.

(possessive absolutive, 3p.sg/sg). I add some further comments to each of the groups in the following subsections, and in figure 6.6 at the end of this section, you will see how the p/up-division is related to the division from figure 6.3.

p-declined stems

Common to this group is that endings are added to the *final vowel*, so they take N{p} and N{t} in ergative and plural, and also N{t} in possessive absolutive 2p.sg/sg (thy N), since this ending is always equal to the unpossessed plural. This is by far the easiest and most straightforward way of adding endings, and this group is fortunately also the largest. The stems belonging to this group are:

- The *vowel stems* like {əŋlu}N (house), including the *tə-stems* like {aŋutə}N (man). They thus take their endings like *illu, illu**p**, illu**t**, illu**mut**, illu**a*** etc., and *angut, angut**ip**, angut**it**, angut**imut**, angut**aa*** etc.

  For your convenience, I repeat here the same small complication I mentioned in section 6.4 regarding the tə-stems: *Singular endings* beginning in a *nasal* (/m/ or /n/) *may* optionally be added to /t/ instead of schwa. That is, endings like N{mut} (to N)

and **N**{ni} (his own N), so you may hear (and say) both ***angut**imut*** and ***angu**mmut***, ***angut**ini*** and ***angu**nni*** and so on.

- The *weak q-stems* like {qikmiq}**N** (dog), {aqnaq}**N** (woman), {mii'raq}**N** (child) and many, many others. Since they automatically throw away their final /q/ before consonant-initial endings, they behave exactly like vowel-stems taking **N**{p} and **N**{t} etc., so we get e.g. ***arna**q, arna**p**, arna**t**, arna**mut*** and so forth.

The weak q-stems may regularly display *gemination* (sound doubling, see section 6.6 above) of their second-to-last consonant, when /q/ is removed before a consonant-initial ending. An example of such a geminating weak q-stem is {mii**r**aq}**N** (child), which thus becomes ***mee**raq, mee**qq**ap, mee**qq**at, mee**qq**amut*** etc. with consonant-initial endings, but ***mee**raa*** with the vowel-initial ending **N**{-a}.

up-declined stems

Common to this group is that endings are added to the final *phoneme* in the stem, but the ergative and plural endings, and also the possessive absolutive 2p.sg/sg **N**{t} (thy N) will here appear as **N**{-up} and **N**{-it}. The stems belonging to this group are:

- The *k-stems* like {panik}**N** (daughter), {kaŋiqluk}**N** (inlet) and {nuu**k**}**N**[13] (headland). The aforementioned three endings appear with the extra vowel, as **N**{-up} and **N**{-it}, and these are truncative, as all morphemes beginning in a vowel generally are. Thus we get e.g. ***pani**k, pani**up**, pani**it**, pani**mmut**, pani**a*** etc.

- The *pseudo-q stems* is a very small group of stems ending in /q/, but behaving exactly like the k-stems, meaning they take **N**{-up} and **N**{-it} and do *not* automatically throw away their final /q/, so endings are added to /q/ according to the usual sandhi rules. I may indicate this in the notation of morphemes by adding an asterisk after the final /q/, following the notation in Fortescue et al. (2010). Two of the most common examples that you will probably see, are the base {utuqqaq*}**N** (an elderly/old person) and the affix **N**{innaq*}**N** (just an N). Here we thus get ***utoqqa**q, utoqqa**ap**, utoqqa**at**, utoqqa**rmut**, utoqqa**a*** etc.

- The *strong q-stems* like {iqnəq}**N** (son), {atəq}**N** (name) and {iməq}**N** (water). They also take the endings **N**{-up} and **N**{-it}, but recall from section 6.4 that strong q-stems *ignore* the usual truncativity of *vowel-initial* endings, which of course includes **N**{-up} and **N**{-it}. Thus we get e.g. ***erneq, erne**rup, erne**rit**, erne**rmut*** and with **N**{-a} ***erne**ra***. Note that the consonantal endings behave normally, so we

[13] When you add **N**{-up} to this base, it becomes ***nu**up***; one of the three u's is simply removed (elided). The base still belong to the up-declined stems, though, because the plural is completely regular: ***nu**uit***.

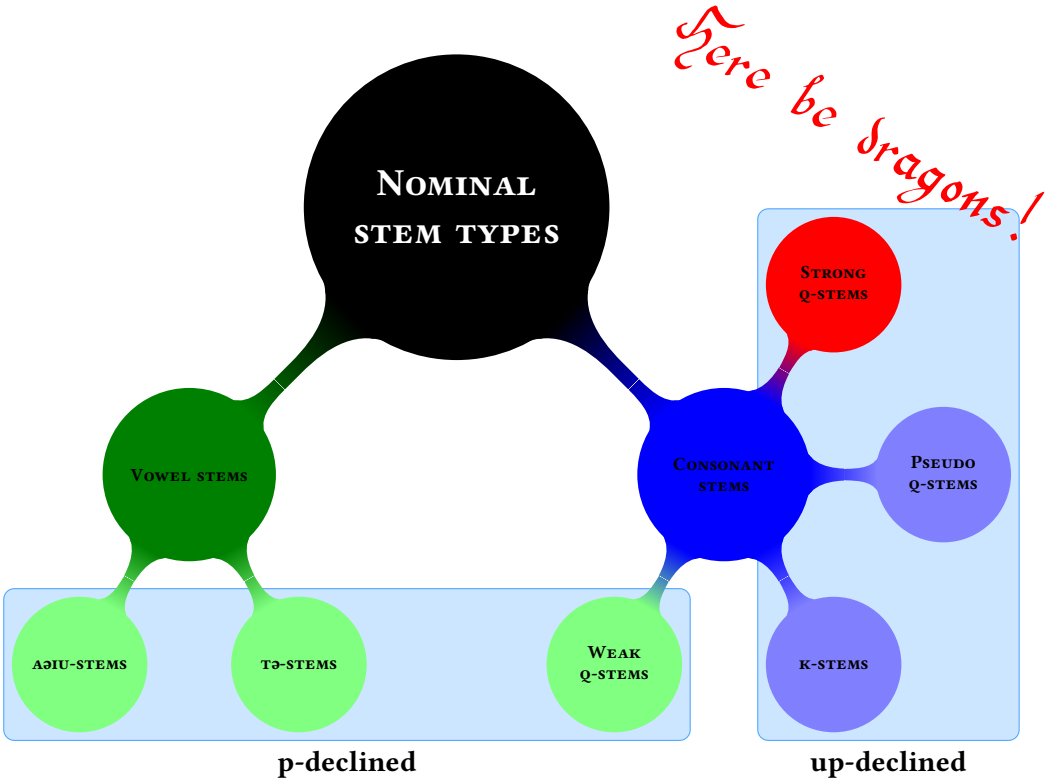


Figure 6.6: The relationship between the divisions according to stem-final phonemes and the categories of p-declined and up-declined stems. This figure is a slightly modified version of figure 6.3 (page 98) that illustrates how the division between p-declined and up-declined stems *almost* follows the division between vowel stems and consonant stems, with the exception of weak q-stems that behave like vowel-stems.

> also get ***ernerma*** with singular **N**{ma} (which is additive), but ***ernima*** with plural **N**{-ma} (which is truncative). If it is any help, you can imagine this 'strong q' as fighting valiantly to protect the /ə/ from coming into contact with another vowel.

Some of the strong q-stems *may* also display metathesis (sound displacement, see section 6.5) with vowel-initial endings, so e.g. with {iməq}**N** we get ***erngup, erngit*** and with **N**{-a} ***ernga***. I do not explicitly mark in my notation, whether a strong q-stem also displays metathesis or not. It is a feature of the stem, but it belongs more appropriately in a dictionary than here, and it may even vary from speaker to speaker. In general though, you should be wary, when you see a nominal stem ending in /əq/. Consider it a warning sign, akin to a medieval cartographer's warning: "Here be dragons!"

As is usual, the division of stem-types described here is the truth, but it is not the *whole* truth. There are a few stems that may take their endings in even stranger ways, often with a special (and lexicalised) meaning. For instance, {nukək}N (power, strength, muscles) is normally an ordinary k-stem with /ə/ 'frozen' as [i], so ***nukia*** with N{-a} means just 'his strength'. However, this stem once belonged to a group of 'strong k-stems' behaving like the strong q-stems, where /k/ was weakened before vowel-initial endings, instead of being deleted. With N{-a} it thus became ***nuk<u>ing</u>a*** instead, and this form has now been lexicalised with the specialised meaning 'energy'. Thus e.g. ***erngup nukia*** has the ordinary (general) meaning of 'the power of water' whilst ***erngup nuk<u>ing</u>a*** is hydroelectricity.

I believe these marginal subgroups and special cases are more appropriately handled with individual, morpheme-specific sandhi-rules, given in the entries in a morphemic dictionary. However, since unfortunately no such dictionary exists, a good alternative is the grammar by Nielsen (2019), that contains many further subgroups and details.

6.8 Sound replacement (replacivity)

This is another special kind of sandhi process that concerns a particular type of nominal stem; the *tə-stems*. However, unlike the previously described processes, sound replacement regularly occurs when a certain kind of *affix* (rather than ending) is added onto these stems. These are *most* (but not all)[14] sandhi-truncative affixes beginning in a *single /l/ phoneme*, such as N{-liq}V (equips the object with N) and N{-liaq}N (an artificially made N), and the speciality consists in the combination /təl/ being replaced with a *single* /s/. The special sandhi rule for this process thus looks as follows:

Definition 6.6 (Replacivity) *Let $S \in \mathcal{P}^*$ be a string og phonemes, and let • be any join marker. Then* {Stə}N *is a nominal tə-stem and* N{-lS}• *is a truncative /l/ inintial affix of any class, attaching to noun stems. The sandhi rule for replacivity is then*

$$\{S\text{tə}\}\text{N}\{\text{-l}S\}\bullet \rightarrow\ /S\text{s}S/$$

Here • denotes any join marker (either '**N**' or '**V**') since these affixes can be both N{S}N and N{S}V. Consider for example the stem {qarasaq}N{-utə}N (a brain, 'owned' like a tool). By joining the affix N{-liaq}N onto this, we obtain, by the present rule the word

$$\{\text{qarasaq}\}\text{N}\{\text{-utə}\}\text{N}\{\text{-liaq}\}\text{N}\{\emptyset\} \implies /\text{qarasau}\mathbf{\text{s}}\text{iaq}/ \implies^* \textit{qarasaa}\mathbf{\textit{s}}\textit{iaq}$$

which means something like 'an artificially made tool-brain.' This is, incidentally, also the word for *computer*.

[14] One commonly used affix which does *not* follow the replacivity rule, is the affix N{-lək}N (<something> equipped with N). This affix joins onto tə-stems in a completely ordinary fashion.

The replacivity rule is not mandatory: You can forget all about it and join affixes onto tə-stems by using just the ordinary sandhi rules. However, it *is* still used, both in lexicalised words like ***qarasaasiaq***, and in ordinary speech, so you may sooner or later need to at least know that this phenomenon *can* occur, to be able to segment certain words into their constituent morphemes.

6.9 Sandhi fusion (a dead rule)

Consider words such as for example ***meeqqerivik*** (kindergarten), ***ujaqqerisoq*** (stonemason) and ***naalakkersuisoq*** (minister). The nominal bases of these words are **{mii'raq}N** (child), **{uja'rak}N** (stone) and **{naala'gaq}N** (master/lord)[15] respectively. There is something odd about these words: The second-to-last consonant in the bases seems to be geminated, and the /aq/ seems to have disappeared.

These words have all been formed through a process of *sandhi fusion* between the base and the next morpheme in the stem, which has caused both gemination and the deletion of the final /aq/ in the base. Note first of all that this is certainly *not* a regular way to form words nowadays; these words are all lexicalised with their particular meaning; that is, they exists as entries in the dictionary, so you are not supposed to be able to *derive* their meaning by splitting them up into their constituent morphemes, nor to form new words by joining morphemes in the same fashion. Still, a good number of very common words *have been* formed in this way, so I mention the process here, in case you are curious about their relationship to other stems.

The words have been formed according to the following rule: The aforementioned truncative affixes, beginning in /l/, that can fuse with /tə/ to yield /s/, can also fuse with stems ending in /$c$aq/, and (irregularly) /$c$ak/ in the case of **{uja'rak}N**, since it behaves like a weak q-stem, even though it ends in /k/. Here both the final /aq/ and the initial /l/ are deleted, and *if* the stem is geminating, then it also triggers the sound doubling.[16] A rule for this process could look something like the following:

Definition 6.7 (Sandhi fusion) *Let $S \in \mathcal{P}^*$ be a string of phonemes, with c a consonant phoneme, and let • be any join marker. Then* {S(')$c$aq}N *is a nominal stem, ending in /$c$aq/, where (') indicates the possibility of c being a geminating consonant; and* N{-lS}• *is a truncative /l/ inintial affix of any class, attaching to noun stems. The rule for sandhi fusion is then*

$$\{S(')c\text{aq}\}\text{N}\{\text{-l}S\}\bullet \rightarrow\ /S(c)cS/$$

[15] Also used as a word for (the christian) "God" similar to how he in English is referred to as "Lord". I have occasionally also heard it used of a school's principal. It is actually a verbal base {naalak}V (obey) with a certain special morpheme V{-gaq}N added, creating a nominal stem meaning 'one to be obeyed.'

[16] This observation is due in part to Nielsen (2019, p. 108).

where the (') becoming (c) represents the possibility of a geminating consonant.

For example, the word ***meeqqerivik*** is formed with the affix **N{-lirə}V** (work with N) and **V{vik}N** (place where <somebody> Vb's):

$$\text{\{mii'}\mathbf{\text{raq}}\text{\}N\{}\mathbf{\text{-l}}\text{irə\}V\{vik\}N\{}\emptyset\text{\}} \Longrightarrow^{*} \textit{mee}\mathbf{\textit{qq}}\textit{erivik}$$

so a kindergarten is literally 'a place where somebody works with children.' Similarly, ***ujaqqerisoq*** is also formed with **N{-lirə}V** and then the affix **V{ðuq}N** (<someone> who Vb's), so a stonemason is literally 'someone who works with stone.'

There are also cases with non-geminating stems; e.g. **{aniŋaas*aq*}N** (coin), which when joined with **N{-livik}N** (a container for N) yields ***aningaasivik*** (a wallet; literally a container for coins). Actually, this 'container for N' affix is formed from a combination of **N{-liq}V** (equips with N) and **V{-vik}N**, so we could equally well say that the combination of **N{-lirə}V** and **V{vik}N** – that is, **N{-lirəvik}N** – is 'a place where somebody works with N.' Using this shorthand, can you then guess what an ***aningaaserivik*** might be?

A third example of fusion, that you may commonly see, is with the affix **N{kcaq}N**, which means something like 'a future N' or 'something which in the future will be used as N.' If you are producing a commodity then you would use this affix to describe the result. But 'to produce something' can be expressed with the affix **N{-liuq}V** (make N), which is precisely one of these replacive/fusional affixes, so we can 'preprocess' this combination of affixes to create the compound

$$\text{N\{kc}\mathbf{\text{aq}}\text{\}N\{}\mathbf{\text{-l}}\text{iuq\}V} \Longrightarrow /\text{kciuq}/$$

by the present rule. This combination is common, but completely unobvious by the ordinary rules, so we ought perhaps to treat it as a separate morpheme and say that **N{kciuq}V** is an affix that means 'make future N.' For instance, **{nukək}N** is (electrical) power, and the name of the company producing and delivering electricity in Greenland is

$$\text{\{nukək\}N\{kciuq\}V\{(v)vik\}N\{-it\}} \Longrightarrow^{*} \textit{Nuki}\mathbf{\textit{ssior}}\textit{fiit}$$

with the aforementioned **N{kciuq}V** affix, the regular variant of the 'place-where' affix, **V{(v)vik}N**, and the plural ending **N{-it}**. So the name literally means 'places where future electricity is produced.'

Other common examples are with ***atuagaq*** (book) that becomes e.g. ***atuakkiorpoq*** (he writes a book) with **N{-liuq}V**, and ***atuakkiaq*** (a book one has written) with **N{-liaq}N**. There are undoubtedly also many other examples that you will be able to discover, now that you know how this process works.

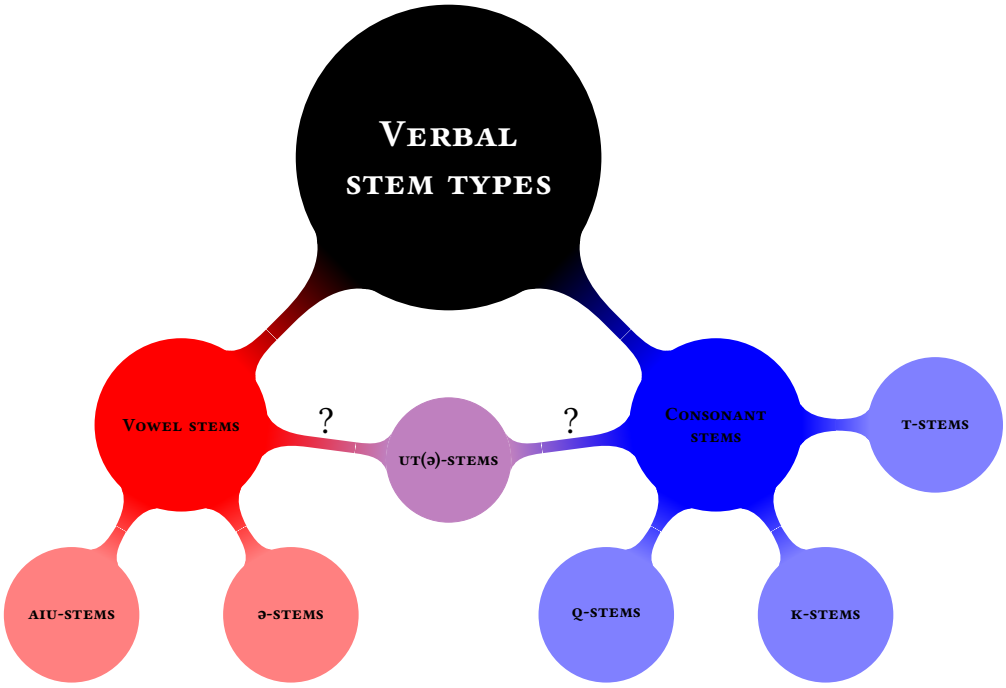


Figure 6.7: A categorisation of verbal stems, based on their stem-final phoneme. The group of ut(ə)-stems do not clearly belong to either the consonant stems or the vowel stems, but display a mixture of characteristics from both categories.

6.10 ut(ə)-stems and their sandhi

The processes described so far have mostly pertained to different types of nominal stems. We can make a similar subdivision of *verbal* stems into vowel-stems, k-stems, q-stems and t-stems (see figure 6.7), but there is hardly any need for this, since the behaviour of verbal stems is far more regular than the nominal stems. The only 'major' group displaying any kind of stem-dependent sandhi-behaviour is the group of *schwa-stems* that uses a few extra rules with certain groups of endings. However, these rules will not really make sense until you know how the system of verbal endings is constructed, so I have deferred this topic to section 14.7 (page 287).

There is, however a group of verbal stems that do not clearly belong to *either* the consonant stems or the vowel stems, sometimes behaving like one or the other, depending on the context: They end on /tə/, which thus *should* mean they are vowel stems, but this /ə/ will often disappear, thereby making the stems seemingly end on /t/ instead. I indicate this by writing /(ə)/, with the erratic schwa in parentheses.

This group of stems are all formed by the affix **V**{-ut(ə)}**V** (does Vb with it) or one

of its many variants, such as **V**{'-t(ə)}**V** (same meaning), **V**{kkut(ə)}**V** (thinks that he Vb's), **N**{qqut(e)}**V** (moves in the N of it), **V**{ccut(ə)}**V** (does Vb for him) and possibly others. A good number of stems in the dictionary are actually formed by derivation with one of these affixes; for example {iŋiqlat(ə)}**V** (drives/works with it), {pitcit(ə)}**V** (buys <something> for him), {majuut(ə)}**V** (carries it up) and many others. Thus, this group of stems is called the *ut(ə)-stems*.

The rule governing the behaviour of these ut(ə)-stems is actually simple to formulate: The (ə) disappears before *additive* morphemes (both affixes and endings!), but it reappears before *truncative* morphemes (whether sandhi- or phonotactically truncative). You can think of it as if this (ə) acts as a kind of buffer, ensuring that /t/ will never be deleted. Formally, this special sandhi rule for ut(ə)-stems is as follows:

Definition 6.8 (Sandhi of ut(ə)-stems) *Let $S \in \mathcal{P}^*$ be any string of phonemes, and let $\circ$ be any join marker,* including *the empty string (i.e. no join marker). Then* {St(ə)}**V** *is an ut(ə)-stem;* **V**{$-S$}$\circ$ *is any* truncative *affix or ending (both phonotactically and sandhi-truncative), and* **V**{$+S$}$\circ$ *is any* additive *affix or ending (including sandhi epenthesis). The sandhi rules for ut(ə)-stems are then:*

$$\{S\text{t(ə)}\}\mathbf{V}\{-S\}_\circ \rightarrow /S\text{tə}S/$$
$$\{S\text{t(ə)}\}\mathbf{V}\{+S\}_\circ \rightarrow /S\text{t}S/$$

Here {St(ə)}**V** is an ut(ə)-stem which is followed by either a truncative or an additive morpheme, and in this case I do *not* distinguish beween phonotactically or sandhi-truncative morphemes, since both join onto ut(ə)-stems in the same way; and likewise I do *not* distinguish between the additive and sandhi-epenthetic morphemes, since they also join onto ut(ə)-stems in the same way.

Let us have a few examples to illustrate this process. Suppose I wanted to join either the additive affix **V**{galuaq}**V** (actually Vb but ...), or the truncative affix **V**{ssa}**V** (shall Vb) onto {iŋiqlat(ə)}**V**. To make a complete word, I will also add the ending **V**{vaa} (he Vb's it), though that is not the main point. These derivations proceeds as follows:

	{iŋiqlat(ə)}**V**{galuaq}**V**{vaa}	(additive case)
$\Longrightarrow$	/iŋiqla**tg**aluaqvaa/	(this rule: Additive, so delete (ə))
$\Longrightarrow^*$	*ingerla**kk**aluarpaa*	

	{iŋiqlat(ə)}**V**{ssa}**V**{vaa}	(truncative case)
$\Longrightarrow$	/iŋiqla**təs**savaa/	(this rule: Truncative, so insert (ə))
$\Longrightarrow^*$	*ingerla**tis**savaa*	

As you can see, in the first case /g/ comes to stand directly after /t/, thereby assimilating it like any other consonant stem, whilst in the second case a [ti] suddenly appears

in the middle of the word, before the next affix, as if it were a vowel stem. ut(ə)-stems are both, and neither.

How to recognise an ut(ə)-stem

Suppose I joined the ending **N**{vaa} directly onto {iŋiqlat(ə)}**V** with no affix in-between. The ending is additive, as are almost all verbal endings, so the result is obviously

{iŋiqlat(ə)}**V**{vaa} $\Longrightarrow^*$ *ingerla**pp**aa*

(ə) disappears, and /tv/ is assimilated to [vv], which becomes [pp] by the fricative rule, like any other ordinary consonant stem. And that is the problem.

As I have mentioned before, a Graphemistic dictionary like the DAKA lists all entries at the level of *writing*, and since all words must have an ending to actually *be* a complete word, this obviously implies that all entries in the DAKA, and in particular all *verbs*, are listed with an ending. This is almost always the so-called 'indicative, third person, singular' ending, which can be either **V**{vuq} or **V**{vaa}, depending on the meaning of the stem. In the case of {iŋiqlat(ə)}**V** it is **V**{vaa}, so you can actually find an entry for the word *ingerlappaa* in the DAKA.

Now consider another entry; the word *naala**pp**aa* (he obeys him), also bearing the ending **V**{vaa}. Compare it to *ingerla**pp**aa*. Can you tell the difference? Supposedly not, because there is no difference to be seen, although there *is* a major difference: The word *naala**pp**aa* is a true consonant stem, and *not* an ut(ə)-stem. Its base is {naala**k**}**V** (a k-stem), so if you joined a truncative morpheme like **V**{ssa}**V** onto it, the result would be

{naala**k**}**V**{ssa}**V**{vaa} $\Longrightarrow^*$ *naala**ss**avaa*

with no mysterious appearance of a [ti], because this is just a completely ordinary consonant stem.

Do you see the problem now? The two stems both *look* like ordinary consonant stems, when you only consider the entries in the DAKA, but they *behave* radically different, because one is an ut(ə)-stem whilst the other is not. Their different behaviours are easy enough to predict, when you *know* the morphemic form, but how are you supposed to figure out which consonant stems are really ut(ə)-stems, if you have nothing but the DAKA entries to go on?

This is obviously another example of my critique of the Graphemistic tradition, but, in this case at least, the DAKA actually *does* contain some hints that you may be able to use to distinguish between ut(e)-stems and true consonant stems. First of all, there exists something called 'half-transitive' morphemes, or HTR for short, that are used to change the 'form' of the stem without changing its meaning. It is beyond the scope of this chapter to explain the purpose of these morphemes (and it is not really relevant either), but

suffice to say, it means that a stem like {iŋiqlat(ə)}**V** can come to take the ending **V**{vuq} instead of **V**{vaa} without changing the meaning of the word. Now, different stem-types have a preference for just *one* of these HTR-morphemes, and ut(ə)-stems in particular always prefer the morpheme {ci}. It is additive, so when added to {iŋiqlat(ə)}**V** it will join directly onto /t/, which will be assimilated, thus creating a new stem {iŋiqla**cci**}**V** that can take the ending **V**{vuq}, yielding the word ***ingerlassivoq*** (he drives <something> forward).

If you look at the DAKA entry for an ordinary consonant stem like ***naalappaa***, it will look like this:

naalappaa *o*[17] adlyder ham [obeys him][18]

Just a single word, a symbol denoting that it is a verb, and the Danish translation. However, when you look at the entry for an ut(ə)-stem such as the aforementioned ***ingerlappaa***, it will *generally* look like this instead:

ingerlappaa, **ingerlassivoq** *o* driver det frem, arbejder med det, arbejder på det
[drives it forward, works with/on it]

The entry contains *two* forms; both the ut(ə)-stem itself *and* the form with the HTR-morpheme {ci} (which is just an ordinary vowel stem). This is the main hint you can use to identify ut(ə)-stems in the DAKA dictionary, because the entry will also contain this secondary form, ending in "-ssivoq".[19]

6.11 {aq} the friendly ghost-morpheme

Some morphemes – both bases and affixes – may end on a /*v*aq/, where the last syllable seems to be a separate morpheme {aq} with a tendency to disappear before certain other morphemes. Per Langgård has apparently dubbed it 'a ghost-morpheme' because of this tendency. This is rather confusing, because you have already seen *one* kind of disappearing /aq/, in the string /(')*c*aq/ I described above in section 6.9. The present ghost-morpheme is a different kind of {aq}, appearing (and disappearing) instead in strings of the form /*v*aq/: It has a vowel instead of a (possibly geminating) consonant, and it can appear in both nouns and verbs. Furthermore, the business with this ghost-morpheme is still

[17] The little *o* in italics is short for ***oqaluut*** (verb), indicating that the word is a verb.

[18] This English translation in hard brackets is not a part of the entry. I have just added it for your benefit, in case you do not understand Danish.

[19] Alternatively, if you have a dictionary using the old orthography, like Schultz-Lorentzen (1958), look for an acute accent on the last vowel in the stem. Using the old orthography, the ut(ə)-stem ***ingerlappaa*** would be written as ***ingerdlápâ***, with the acute accent indicating that the assimilated consonant is a /t/. Unfortunately, this does not clearly distinguish ut(ə)-stems from true t-stems, so in this case the old orthography is only slightly better than the new (which says nothing at all about what the assimilated consonant may be).

very much an active process; that is, it still disappears today during word-formation, so unfortunately you cannot wholly ignore it.

The ghost-morpheme {aq} *generally* disappears before *vowel-initial* affixes and endings, but with much irregularity, so you should consider this as more like a rule of thumb. In case of the *nominal stems*, this is in particular the affix **N**{-u}**V** (is an N), and the endings **N**{-up} (N's), **N**{-it} (plural), **N**{-a} (his N) etc. that you also saw in section 6.7. For the *verbal stems* the case is easier since there are no vowel-initial endings, but {aq} may still disappear before vowel-initial *affixes*; in particular the affixes **V**{-ut(ə)}**V** (Vb's for him, Vb's with it) and **V**{-utə}**N** (tool/means for Vb'ing).

Nominal ghost-stems

Amongst the *nominal stems* there are two very frequent affixes, **N**{(q)cu**aq**}**N** (big/bad N) and **N**{ŋŋu**aq**}**N** (cute/little N), as well as a relatively rare one, **V**{galu**aq**}**N** (one that formerly Vb'ed).[20] They behave like *k-stems* in the sense that they take the endings **N**{-up} and **N**{-it}, so they are *up-declined* (cf. section 6.7); and since both these endings are vowel-initial, they will cause the {aq} to disappear. These affixes thus appear as *-(r)su**aq**, -(r)su**up**, -(r)su**it**, -(r)su**a*** etc., and *-nngu**aq**, -nngu**up**, -nngu**it**, -nngu**a*** and so forth.[21]

Similarly, with **N**{-u}**V** they become

$$\mathbf{N}\{(q)cu\mathbf{aq}\}\mathbf{N}\{-u\}\mathbf{V} \Longrightarrow^{*} \textit{-(r)su}\mathbf{\textit{u}}\textit{-}$$
$$\mathbf{N}\{ŋŋu\mathbf{aq}\}\mathbf{N}\{-u\}\mathbf{V} \Longrightarrow^{*} \textit{-nngu}\mathbf{\textit{u}}\textit{-}$$

respectively. Thus e.g. *illo**rsuaq*** is a **big** house, and *illu**nnguaq*** is a **small** house, but with **N**{-u}**V** and the ending **V**{vuq} (it Vb's) we get *illo**rsu**uvoq* meaning "it is a **big** house", and similarly *illu**nngu**uvoq* meaning "it is a **small** house".

Verbal ghost-stems

Amongst the *verbal stems* are e.g. the base {maju**aq**}**V** (ascend, go upwards), and the affix **V**{ni**aq**}**V** (future/try to Vb) as well as (obviously) all other bases formed with this affix, like for instance {ilitni**aq**}**V** (learn). Here, deletion especially occurs before the affixes **V**{-ut(ə)}**V** (Vb's for him, Vb's with it) and **V**{-utə}**N** (tool/means for Vb'ing).

Thus, 'he goes up' is {maju**aq**}**V**{vuq} $\Longrightarrow^{*}$ *majuarpoq*, but 'he goes up **with it**' is

[20] Exclusively used following **N**{-u}**V** (is an N) or **N**{gə}**V** (subject has object as his N) or possibly other stems that express 'to be' in some form; i.e. what in Grammaric is called *copula*.

[21] However, to make the confusion complete, **N**{(q)cuaq*}**N** and **N**{galuaq*}**N** are actually *pseudo-q* stems, whilst **N**{ŋŋuaq}**N** is a *weak* q-stem. And since this business with the ghostly {aq} only concerns *vowel-initial* morphemes, these three affixes will still behave according to their respective stem types when a *consonant-initial* ending like **N**{mut} is added. Thus we get *-(r)su**armut*** and *-galu**armut***, but *-nngu**amut***.

{maju**aq**}**V**{-**ut(ə)**}**V**{vaa} $\Longrightarrow^*$ *maju**u**ppaa*[22]

and similarly, 'he studies something' is {əlitni**aq**}**V**{vuq} $\Longrightarrow^*$ *ilinniarpoq*, but

{əlitni**aq**}**V**{-**utə**}**N**{t} $\Longrightarrow^*$ *ilinni**ut**it*

means 'materials for studying' (here with **N**{t} for plural). This is by the way also the word for a *textbook*, such as the one you are reading right now.

* * *

If I managed to convince you, during the first five chapters, that Greenlandic is a highly regular language, then the present chapter may completely have shattered that vision. If that is how you feel about it now, then just remember that the processes described in the present chapter are all variations on, and deviations from, the general pattern. Some of them are rare, and you may never need to use them at all. You just need to know *of* their existence, in case you encounter them some day, but you do not need to actively *remember* them to learn ordinary Greenlandic.

[22] In case you are wondering: The change of ending, from **V**{vuq} to **V**{vaa}, has nothing to do with the deletion of {aq}. It is just a necessity, because **V**{-ut(ə)}**V** changes the meaning of the stem. I explain why in part III, but the explanation itself is not really relevant here, so I shall not go into details now.

Part II

Sentences

CHAPTER 7

Basic concepts

Greenlandic is a curious language, because it has *two* grammars, rather than just one. The first is the grammar of *words*, describing how to correctly form words from morphemes, and so we might also refer to this as the *internal grammar*. Word formation was the subject of Part I, but now that you know how to build single words, you will undoubtedly also want to know how to use these words to form *sentences*. Sentence construction might then be called the *external grammar* of Greenlandic, and this is likely the kind of grammar that you are used to associate with the word 'grammar.' This is the subject of the present part.

Sentence construction is unfortunately not nearly as neat and orderly a process as word formation. There are many more types of sentences than types of words; there are idiomatic expressions, and affixes with special (and completely unobvious) meanings in particular contexts or before certain endings. In short, there is no way I can hope to give a *complete* description of sentence construction in Greenlandic without turning this book into an encyclopedia of sentence examples that you likely will not be able to remember anyway.

Instead, I shall aim for a more modest goal: To give an account of some of the most *common* patterns in sentence construction, that I think you are most likely to encounter when learning Greenlandic. It will not cover everything, but hopefully it will cover *enough* to give you a *usable*, basic understanding of how to construct and understand Greenlandic sentences. The rest are details that you will likely be able to discover on your own, if or when you need them. Otherwise, see for example the grammar by Fortescue (1984), which I believe aims to be a complete account.[1]

[1]But by no means a *readable* account. As I have stated here, completeness often leads to unreadability, because the reader is drowned in details.

7.1 The basic structure of a sentence

In English we would probably say that a sentence is a collection of words that are grammatically related, constituting an utterance that is *complete* in the sense that it can be understood (and analysed) on its own; i.e. without depending on other information. For example, the collection *'and then he'* does not form such a complete utterance, because we lack information about what came before the *'and,'* and most importantly, we lack information about what it was that he did; that is, we lack a *verb*.

In other words, a minimal English sentence must contain at least a (main) *verb* and a *subject*, such as for example the sentence *He sleeps*. Here *He* is the *subject*, i.e. the actor performing the verbal action, and *sleeps* is the main verb describing the action performed by the subject. Of course you can have all sorts of other elements in the sentence, extending or clarifying the meaning of both the subject and the main verb, as well as specifications of the time, place or cause for the verbal action etc., but the subject and the main verb are the most basic constituents.

The situation is similar in Greenlandic, but even simpler, because, as you may have noticed, *verbal endings contain information about who the subject is*. For example, the ending **V**{vu**ŋa**} means ***I*** *Vb*, but **V**{vu**q**} means ***he*** *Vb's*,[2] so

$$\{\text{sinək}\}\mathbf{V}\{\text{vu}\mathbf{ŋa}\} \Longrightarrow^{*} \textit{sinippu}\mathbf{\textit{ŋa}}$$
$$\{\text{sinək}\}\mathbf{V}\{\text{vu}\mathbf{q}\} \Longrightarrow^{*} \textit{sinippo}\mathbf{\textit{q}}$$

means ***I*** *sleep* and ***he*** *sleeps* respectively, and both are examples of meaningfully complete utterances. That is, both are whole sentences. In other words, *a minimal sentence in Greenlandic consists of a main verb* and nothing more.[3]

I shall return to the issue of what exactly is implied by the phrase '*main* verb' later, but here it suffices to note that some verbal forms cannot form a whole sentence, just as in English, even if you add a subject. For example, the word *sleeping* cannot form a sentence, even if you add a *he* or *Peter* or some other explicit subject, but *"he **is** sleeping" is* a complete sentence.

Of course, there can be many other elements in a Greenlandic sentence than just the main verb, although even just a single verb can have a quite complicated meaning on its own, due to the use of affixes. But you cannot have *everything* embedded in just a single

[2] Or ***she*** *Vb's*, or ***it*** *Vb's* but I shall in general just write *he*. There is no distinction in Greenlandic, no 'grammatical gender,' so people obsessed with gender fluidity and woke-ism should feel right at home with this language. Some 'progressive' authors find it fashionable to alternate between 'she' and 'he' in every other sentence, but I find this kind of political correctness utterly ridiculous. Surely, strong, independent women can write their own books, using 'she' as much as they like, if they think the word is under-represented in the literature.

[3] Or, in a few cases, of some other kind of morpheme with a verbal meaning, most notably the enclitic ⁎{una} (it is ...), but more on that later.

word. Some of the elements you would commonly have in a sentence, besides the main verb, are *specifications* of the *subject* and (if possible) the *object* of the main verb, which I, for lack of a better term, collectively shall refer to as as the *arguments* of the main verb. For example, in the sentence

Peter	shoots	the dog
×	○	△

Peter is the subject, denoted by the symbol ×; *the dog* is the object, denoted by △, and lastly *shoots* is the main verb, denoted by ○.[4] But as stated above, these elements (i.e. the arguments) are *optional* in the Greenlandic sentence, because they only serve to further clarify the identity of the generic subject and object marked in the verbal ending. With {aullai}**V** (subject shoots object) and the verbal ending **V**{vaa} (he Vb's it) we can construct these four different sentences, with each of the optional elements either present or absent:

		aallaavaa	=	he shoots it
		○		
Piitap		*aallaavaa*	=	Peter shoots it
×		○		
	qimmeq	*aallaavaa*	=	he shoots the dog
	△	○		
Piitap	*qimmeq*	*aallaavaa*	=	Peter shoots the dog
×	△	○		

Here {qikmiq}**N**, *dog*, is marked with the null-ending **N**{∅}, consisting of the empty string, because it is the object of the sentence; and {Piitaq}**N**, *Peter* is marked with the ending **N**{p} because he is the subject of a sentence with an object. As you can see, both *Piitap* and *qimmeq* just specify who the 'he' and the 'it' denoted by the verbal ending **V**{vaa} are.

Note also the *order* of the arguments: The subject precedes the object if both are present, so the standard *word order* in Greenlandic sentences is SOV; that is

subject object verb

Other commonly occurring elements are specifications of the *time* and/or *place* of the verbal action, or the *cause* for, or *conditions* when, the verbal action takes place. I shall, again for lack of a better word, collectively refer to these as *context* specifications of the

[4] This kind of notation with ×, △ and ○ is used in the Danish school system to teach children about grammar – or at least it was when I went to school. I still find it handy, as a way to indicate who is doing what in a sentence.

verbal action. For example, *ippassaq* means *yesterday* and *igaffimmi*[5] means *in the kitchen*, so you could also say e.g.

ippassaq Piitap igaffimmi qimmeq aallaavaa

to specify that Peter shot the dog yesterday (time) in the kitchen (place).

With context specifications, the word order matters less, although the specification of time usually will precede the specification of place. But either or both specifications can appear before or after the arguments, or even interspersed with them as in the above example. This is then our basic model of a Greenlandic sentence:

Definition 7.1 (Basic sentence structure) *Let context denote the specifications of time, place, cause and condition for the verbal action. The basic structure of a Greenlandic sentence consists of a main verb, preceded by an optional specification of arguments (subject and possibly object), with optional context specifications interspersed. The structure is thus*

[context] [subject [context] object] [context] verb

where the optional elements are written in hard brackets. Within the [context] specifications, time usually precedes place if both are present. A specification can only occupy one slot within a sentence, so e.g. time cannot both occur before and *after the subject.*

7.2 Valency and transitivity

With {sinək}**V** I have hitherto used the endings **V**{vuŋa} and **V**{vuq}, that seem a bit alike, because they both begin with the phoneme string /vu/; but with {aullai}**V** above I used instead the ending **V**{vaa}. Both **V**{vuq} and **V**{vaa} denote that the subject of the sentence is *he*, but **V**{vuq} means just *he Vb's* whilst **V**{vaa} means *he Vb's* ***it***, so the difference is that the latter ending explicitly specifies the *object* (as well as the subject), whilst **V**{vuq} only specifies the subject.

Obviously, a stem like {sinək}**V** would not make sense with an object specification. You cannot say e.g. **Peter sleeps* ***the dog***,[6] so {sinək}**V** could never take an ending like **V**{vaa}, but only endings like **V**{vuŋa} and **V**{vuq}. Conversely, the meaning of a stem like {aullai}**V** seems to imply the existence of an object, whether or not you mention it explicitly. In English you can say *he shoots* or *he shoots* ***the dog***, so even though you may decide to leave it out, the act of shooting still allows the *option* of having an object, whilst the act of sleeping cannot. This difference has to do with the two related concepts of *valency* and *transitivity*, and it is so important that Greenlandic has two separate *sets* of

[5] From {iga}**V**, *cooks food*; **V**{(v)vik}**N** *place where (someone) Vb's*; and **N**{mi} *in N.*

[6] Note, I use an asterisk to indicate an impossible or ungrammatical form.

verbal endings to handle it, with **V**{vuŋa} and **V**{vuq} belonging to one set, and **V**{vaa} belonging to the other.

Definition 7.2 (Valency) *The* valency *of a verbal stem is the number of logical (or semantic) roles implied by the verbal action.*

This may sound gnomic and obscure, but it is really just another way of stating precisely the difference between {sinək}**V** and {aullai}**V**:

1. {sinək}**V** is a predicate, i.e. a description of a state or action involving only a *single* role, whom I simply refer to as the *actor*. It cannot be *directed at* anyone: There is someone who is sleeping, and that is all. Note that it does not matter whether you want to use the word to say ***he** sleeps* or ***we** sleep* or ***all the students** sleep* in any specific sentence: There is still only *one* logical role implied by the verbal action, regardless of the number of people who are sleeping in any specific situation. The valency of {sinək}**V** is therefore 1; i.e. it is ***mono**valent*.

2. {aullai}**V** describes a relation between *two* roles: There is an *agent* who is doing the shooting, and there is a *patient* who is being shot *at*. Whether or not you decide to actually specify both participants in a sentence is irrelevant. The point is that the verbal action denoted by {aullai}**V** *allows* for these two roles, so the valency of {aullai}**V** is 2; i.e. it is ***di**valent*.

Definition 7.3 (Semantic roles) *The most important semantic (or logical)* roles *implied by Greenlandic verbal stems are the roles of* actor, agent *and* patient*:*

- *The ⟨actor⟩ is the single role implied by a verbal action that cannot be logically directed* at *something*.
- *The ⟨agent⟩ is one of the roles implied by a verbal action that logically* can *be directed at another entity, and here the agent is the* doer *(or performer) of the action.*
- *The ⟨patient⟩ is the converse of the agent role; it is the* recipient *of a directed verbal action.*

If all this talk of roles and entities seems completely absurd to you, then imagine if you were to *mime* the meaning of a verbal base. What would be the minimal number of actors needed? One for sleeping, two for shooting. The role for sleeping needs just one actor, who acts for himself; whilst the roles for shooting need both an agent to fire the shot, and a patient to be hit by it.

There are even stems with higher valencies, such as {tunə}**V**, *⟨agent⟩ gives ⟨something⟩ to ⟨patient⟩* with a valency of 3, and certain affixes can even increase the valency of a stem,

such as **V**{qqu}**V**, ⟨*agent*⟩ *bids/asks* ⟨*patient*⟩ *Vb*, so it is possible to construct a stem with up to *four* logical roles; that is, a valency of 4. However, I shall not need to give explicit names to these third and fourth roles.

Conversely, some stems have no valency at all, such as {sialliq}**V** (it rains). Arguably, you could claim that *the weather* here is the actor performing the action of raining, but regardless, it would hardly make sense to say e.g. ***we** rain.*[7] The possible valencies in Greenlandic and their Grammaric names are therefore:

- valency 0 = *avalent*, e.g. {sialliq}**V**
- valency 1 = *monovalent*, e.g. {sinək}**V**
- valency 2 = *divalent*, e.g. {aullai}**V**
- valency 3 = *trivalent*, e.g. {tunə}**V**
- valency 4 = *quadrovalent*, e.g. {tunə}**V**{qqu}**V**

The concept of *valency* derives from the *meaning* of a base or stem. You cannot tell, just by looking at a base, what its valency is. You have to know what it *means*. However, the most important distinction is between the monovalent and divalent stems; or rather, between stems with a valency of 1 or less on one hand, and between stems with a valency of 2 or more on the other hand. And the reason this concept is of such immense importance in Greenlandic has to do with the concept of transitivity:

Definition 7.4 (Transitivity) *A verbal ending denoting only* one *grammatical person (subject) is called an* intransitive *ending, and a verbal ending denoting* two *grammatical persons (subject, object) is called a* transitive *ending.*

- *A completed verb is* intransitive *if it carries an intransitive ending, and a completed verb is* transitive *if it carries a transitive ending.*
- *If the main verb of a sentence is intransitive, then I call it an* intransitive sentence*, and conversely, if the main verb is transitive then I call it a* transitive sentence.

So this distinction describes the difference between the endings **V**{vuŋa}, **V**{vuq} on one hand, and the ending **V**{vaa} on the other hand. As previously mentioned, the {ŋa}-part of the ending **V**{vu**ŋa**} denotes that ***I** Vb*, whilst {q} in **V**{vu**q**} denotes that ***he** Vb's*. {ŋa} and {q} are therefore called *personal markers*, since they show *who* (that is, which grammatical *person*) the subject of the sentence is. Both these endings thus contain only *one* personal marker, so they are both *intransitive* endings, and ***sinippunga*** and ***sinippoq*** are both *intransitive* verbs; and by extension e.g. ***Piitaq sinippoq*** is an *intransitive* sentence.

[7] Except of course that I just said it. So maybe it *does* make sense. At least, if you are writing a book about grammar and semantics.

On the other hand, **V**{vaa} means *he*$_1$ *Vb's it*$_2$, so this ending describes *two* grammatical persons. What exactly the person markers are in this case is not important.[8] All that matters here is that **V**{vaa} is a *transitive* ending, and ***aallaavaa*** is therefore a *transitive* verb. And like above, by extension, ***ippassaq Piitap igaffimmi qimmeq aallaavaa*** is a transitive sentence.

And now, at last, for the point of these theoretical meanderings. It is a simple rule that nevertheless is of immense importance:

Definition 7.5 (Valency and transitivity) *The logical roles in the verbal action described by the stem are mapped to grammatical persons denoted by the ending. Thus,* the transitivity of the ending must match the valency of the stem.

This may seem completely obvious (and, to some extent, it is), but I still believe that it is important to distinguish between the logical (or semantic) *roles* (which has to do with the *meaning* of a verbal stem), and the *grammatical functions* (subject, object) denoted by the person markers in the endings. Normally, this mapping is straightforward, as in

Piitap	*qimmeq*	*aallaavaa*
×	△	○

with ***Piitap*** (the grammatical subject ×) taking the role of ⟨agent⟩, and ***qimmeq*** (the grammatical object △) taking the role of ⟨patient⟩, but as you will later see, this mapping can be altered by affixes that decrease or increase the valency of {aullai}**V**.

In any case, this issue with valency and transitivity explains why a monovalent stem like {sinək}**V** can never take a transitive ending like **V**{vaa}; because the stem contains only a single logical role, but the ending provides two persons to fill it, which is one too many. Conversely, a divalent stem like {aullai}**V** *can* actually take an intransitive ending such as **V**{vuq}, *he Vb's*. Here there is only a single person, the subject *he*, so *both* the ⟨agent⟩ *and* the ⟨patient⟩ are mapped to the grammatical subject. *He* has to play both roles, both the shooter and the target, so ***aallaavoq*** therefore comes to mean ***he*** *shoots him****self***.

7.3 Person and number

With the confusing business of valency and transitivity out of the way, we can move on to another important piece of terminology, namely that of *person*. As you have already seen, a Greenlandic verb can correspond to a full sentence in English, because much of the information for which you would use separate words in English, is given in the *ending*. As I mentioned above, the person markers {ŋa} and {q} in endings such as **V**{vu**ŋa**} and **V**{vu**q**} denote *I* and *he*, respectively.

[8] You can read about this in chapter 14 where I describe how the verbal endings are constructed.

Definition 7.6 (Person and number) *Greenlandic distinguishes four* persons*, the first, second, third, and the fourth (or reflexive third); and two* numbers*, the singular and the plural, denoted as follows:*

singular	*1.sg*	=	*"I"*
	2.sg	=	*"thou"*
	3.sg	=	*"he"*
	4.sg	=	*"he himself"*
plural	*1.pl*	=	*"we"*
	2.pl	=	*"you"*
	3.pl	=	*"they"*
	4.pl	=	*"they themselves"*

I is traditionally called the *first person, singular*, which I abbreviate to *1.sg*. Conversely, *we* is the first person *plural*, which I abbreviate to *1.pl*. Thus, it does not matter whether I write 'I' or '1.sg.' They both mean the same, and I shall commonly use this shorthand to avoid the ambiguity of the English pronouns.

At some point in history, the Englishmen decided that it was much more polite to say 'you' instead of 'thou' when they spoke to someone, and as a result the word 'you' today is ambiguous, since it can refer both to the *second person, singular* and the *second person, plural*. This is rather inconvenient, so I shall prefer to be impolite and use *thou* (and *thee* and *thy*) to unambiguously refer to the second person *singular*, abbreviated *2.sg*, and exclusively use *you* to refer to the second person *plural*, abbreviated *2.pl*.

The *third person, singular*, or *3.sg* is *he*. The 3.sg can be a man, a woman, a dog, a house etc. – anything you can point at – and it is all marked in the same way. And the *third person, plural*, or *3.pl*, is of course just *they*, i.e. a group of *hes*.

Now consider a sentence like ***he*** *thought* ***he*** *was going to faint*. Is this the *same* 'he' who thinks and faints? Or is it one man observing the apparent fainting of another man? The sentence is ambiguous, so there is no way of telling. Similarly, ***he*** *loved* ***his*** *wife* could either describe a faithful husband or an adulterer, depending on whether the wife is the wife of the man who is doing the loving, or the wife of some other 'he'. Again, the sentence is ambiguous.

However, in Greenlandic these sentences would *not* be ambiguous, because Greenlandic has a special, *reflexive* third person, commonly known as the *fourth person*, whom I abbreviate as *4.sg* and *4.pl*, to denote that the *he* doing something in the first sentence (or 'main clause') is the *same* as the one who is doing something in the second sentence (or

'subordinate clause'). You can think of 4.sg as *he **himself*** or *his **own***, and if we substitute these words for the *he* in the subordinate clauses, the sentences are no longer ambiguous: *He thought **he himself** was going to faint* and *he loved **his own** wife* both unambiguously identify the 'he' as the *same* person. The same can be done for the 4.pl (*they **themselves*** and *their **own***).

In summary, I can now just speak of **V**{vuŋa} as a *1.sg ending*, and of **V**{vaa} as a *3.sg/3.sg ending*, which is a very common way to refer to endings in the literature on Greenlandic.

7.4 The moods of verbs

As I mentioned before, the {ŋa} part of the ending **V**{vu**ŋa**} denotes the first person, singular (1.sg, *I*), and the {q} in **V**{vu**q**} denotes the third person singular (3.sg, *he*). So what about the {vu}-part? What does this morpheme denote?

The first part of any verbal ending, before the personal marker(s), is called the *mood marker*, so in the case of **V**{**vu**ŋa} and **V**{**vu**q} the mood marker is {vu}. Mood markers are grammatical morphemes that denote what *kind of expression* the verb is; whether it is a statement, a question, a command, and so forth. For example, the morpheme {vu} marks the verb as a *statement*, such as *Peter sleeps* or *it rained yesterday*.

There are nine such *moods* in Greenlandic, each with its own more or less cryptic name, and they are usually grouped into three classes, as I have attempted to illustrate in figure 7.1:

- The *independent moods* are the *indicative* (for statements), the *interrogative* (for questions), the *imperative* (for direct commands) and the *optative* (for expressing wishes like ***let** me help you* etc.). Common to these four is that they can all form a full, grammatically complete sentence. They are quite like their English counterparts.

- The *subordinate moods* are the *contemporative* and the *participial*. The first corresponds more or less to the English verb form *Vb'ing*, e.g. *aterput kuffertit aa**llugit***, *they went down, fetch**ing** the suitcases*, and generally denotes a sense of concurrent action, somewhat like the word *while*. The latter can best be translated as a *that*-sentence, that usually follows some statement of thought, opinion, or similar; for instance *I think **that** you are clever*. Common to both of these moods is that they form 'half-sentences' that *extend* other sentences. They cannot themselves form full sentences, quite like in English.

- The *dependent moods* are comprised of three moods: The *causative*, sometimes called the "**be**causative" because its meaning is 'because/when'; it is used to express the (past) time when, or reason why, something has happened. Its counterpart is the

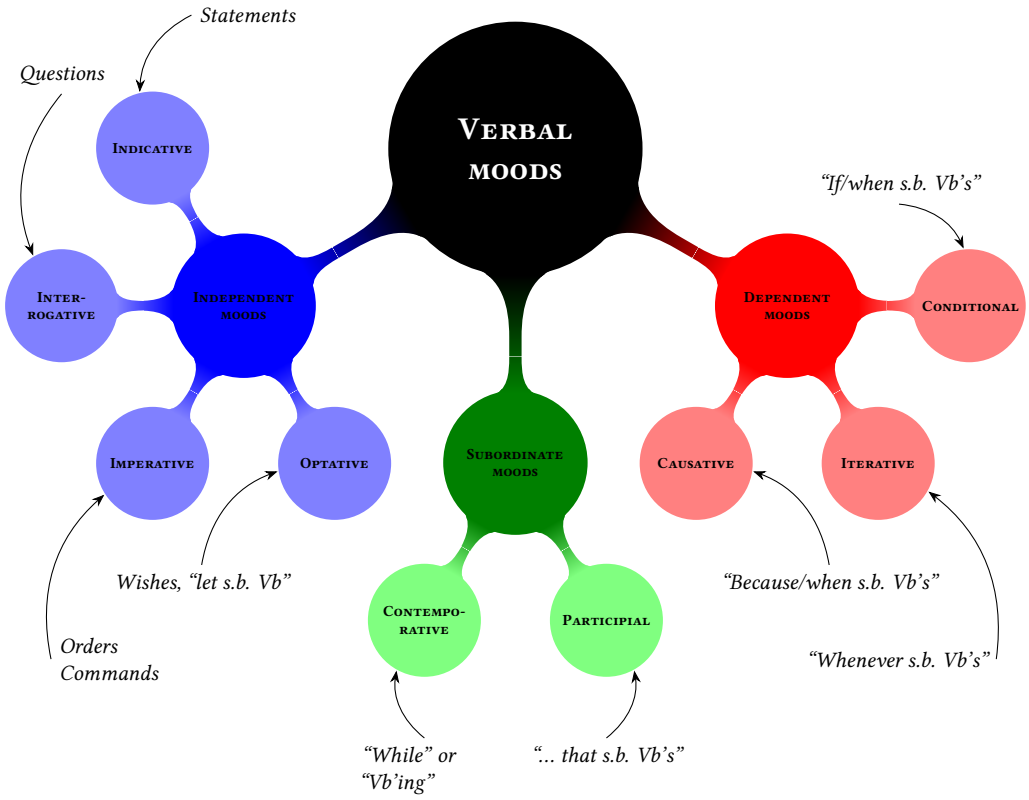


Figure 7.1: An overview of the moods of verbs in Greenlandic. The annotations give the 'most common' translation of each mood, but note that some of them may have multiple meanings.

conditional, usually translated as 'if/when', because it is used to express some (future) time when, or condition for, an event will occur.[9] Lastly, the *iterative* denotes habitual/recurrent action; it can often be translated as *every time* or *whenever* or similar.

Common to these three is the notion of *when* (including ***when****ever*); a past or future cause. They are used to describe other verbal actions, and thus they cannot by themselves form complete sentences.

I mention this here at the outset just so you know other moods exist, and I shall get

[9]English is an impractical language here, because the word 'when' can refer both to an event in the past and in the future. Compare: ***When*** *you came home, I made some coffee* (past or reason), versus ***When*** *you come home, I'll make some coffee* (future or condition). These two different meanings of *when* are covered by two different moods in Greenlandic: The causative (for the past/reason) and the conditional (for the future/condition).

to them at some point. But for the sake of simplicity I shall stick to using only indicative sentences for the first three chapter, because the constructions I shall describe therein do not depend on the specific mood used. There will be more than enough other concepts to understand anyway, so I saw no point in complicating it further by bombarding you with many different verbal endings also. However, I have added an aside at the end of this chapter (aside 7.1), where you can read more about what the numbers of moods and persons imply about the total number of endings in Greenlandic.

7.5 The grammatical cases

One of the places where the concepts of valency, transitivity and person come together is in the so-called *grammatical cases* of noun endings. As I have often stated, all noun stems (and verb stems too) must have an ending to form completed words, and the purpose of some of these endings is to show what the noun is 'doing' in the sentence; that is, what *role* it plays. Consider again the sentence

Piitaq	*sinippoq*	(Peter sleeps)
×	○	

Here *Piitaq* is the subject of the sentence, and the subject plays the single role of actor in the verbal action of {sinək}**V**. Now compare it to the sentence

Piitap	*aallaavaa*	(Peter shoots it)
×	○	

Again, the subject is Peter, but this time the subject plays the role of *agent* in the verbal action of {aullai}**V**, and this is marked in the Greenlandic sentence by the ending **N**{p}. Thus, the name *Piitaq* now takes the form *Piitap* to denote that he is the shooter (rather than the one being shot).

Conversely, the name *Piitaq* also carries an ending in the first sentence, but it is the ending **N**{∅} consisting of no phonemes; an empty string. This ending marks Peter as the *actor*, but *only* because the sentence *Piitaq sinippoq* is intransitive. If instead you had used this form in a *transitive* sentence, and e.g. said *Piitaq aallaavaa*, then **N**{∅} would instead denote that Peter played the role of *patient*; that is, he would now be the *object* of the sentence. In other words, *Piitaq aallaavaa* means *he shoots **Peter***.

This may seem confusing, because the same symbol × is used for both the subject of intransitive and transitive sentences, whilst the *ending* changes, depending on precisely the transitivity of the sentence. We should therefore distinguish between transitive and intransitive subjects; and actually also objects, as you will see later:

Definition 7.7 (Notation for transitivity) *An* intransitive subject *is the subject of an intransitive sentence, and a* transitive subject *is the subject of a transitive sentence. Similarly, an* intransitive object *is the object of an intransitive sentence*[10] *and a* transitive object *is the object of a transitive sentence. I use the following notation:*

- *Intransitive subjects are marked with $\times_i$, and transitive subjects are marked with $\times_t$. The symbol $\times$ then denotes either type of subject.*
- *Intransitive objects are marked with $\triangle_i$, and transitive objects are marked with $\triangle_t$. The symbol $\triangle$ then denotes either type of object.*

All I have done, in other words, is to add a little i as a subscript to the symbols for *intransitive* subjects and objects, and a t as subscript to the *transitive* subject and object symbols. Thus I can now instead write

Piitaq	*sinippoq*		*Piitap*	*aallaavaa*
$\times_i$	○	and	$\times_t$	○

and now the distinction is hopefully much clearer.

Nominal endings are commonly divided into sets called *cases* in Grammaric, and in particular the sets used to mark nouns filling the grammatical functions of *subject* and *object* in a sentence are called the *grammatical cases*. Some languages may have other grammatical functions, and but in Greenlandic only the *subject* and *object* matter, because they are the only two that may be explicitly marked in the ending of a verb. In other words, the grammatical case endings used on nouns in a sentence must 'match up' or *agree* with the person (or persons) mentioned in the verb, as well as their *number*. They must be *congruent*, as it is called in Grammaric.

Definition 7.8 (Grammatical cases) *The* grammatical cases *in Greenlandic are the* absolutive *and* ergative *cases:*

- *Absolutive case is used for the* intransitive subject $\times_i$ *and the* transitive object $\triangle_t$.
- *Ergative case is used for the* transitive subject $\times_t$.

Both intransitive and transitive subjects, and transitive objects, must match in number (singular or plural) with the number of the person marker (or markers) in the verb ending.

[10] You have not yet seen an example of an intransitive object, and the concept might seem strange to you. After all, were the intransitive sentences not exactly those that did *not* have objects? Not quite, as it turns out. Intransitive sentences do not have objects explicitly marked in the *verbal ending*, but they can still have objects. For example, *qimmi**mik** aallaannip**poq*** is an intransitive sentence (as you can see from the ending), but it still has an object. It means *he shot **a** dog* (rather than ***the** dog*).

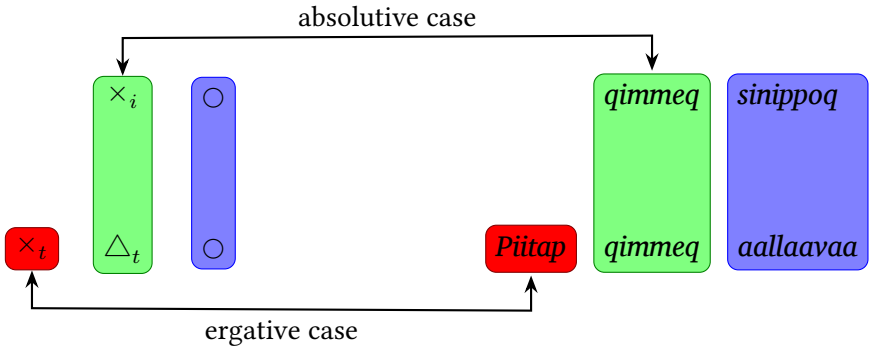


Figure 7.2: An illustration of the usage of the two grammatical cases, absolutive and ergative. On the left is the general pattern, and on the right are two example sentences: ***qimmeq sinippoq*** means *the dog sleeps* and ***Piitap qimmeq aallaavaa*** means *Peter shoots the dog*.

Thus, if the verbal ending is e.g. **V**{vuq} (3.**sg**) and you decide to specify the actor with an explicit noun, then that noun must (obviously) also be singular, as in ***qimmeq sinippoq***, *the dog sleeps*. You cannot just change ***qimmeq*** to plural ***qimmit*** in that sentence without also changing the verbal ending to **V**{(v)vut} (3.**pl**). So ***qimmit sinipput***, *the dogs sleep*, but ****qimmeq sinipput*** and ****qimmit sinippoq*** would both be ungrammatical. And the same of course applies in a transitive sentence where both the subject and object specifications must match the numbers in the verb ending. Thus, ****qimmit aallaavaa*** would be likewise ungrammatical.

The null ending **N**{∅} belongs to the absolutive case, and the ending **N**{p} belongs to the ergative case. In fact, **N**{∅} is the *absolutive singular* case ending, and **N**{p} is the *ergative singular* case ending. So they both mark that the noun is *singular*, but they denote different grammatical functions for the noun. I have tried to illustrate the situation in figure 7.2.

Both the absolutive and the ergative case use the ending **N**{t} in plural, so e.g. ***qimmit***, *dogs*, could be either absolutive or ergative. So if you see a noun in plural, you will instead have to rely on other hints, such as the word order or the verbal ending, to decide whether it functions as subject or object of the sentence. Furthermore, both the endings **N**{p} and **N**{t} have variant forms **N**{-up} and **N**{-it} that are used on *k-stems*,[11] so e.g. ***inuk***, *human*, would become ***inuup, inuit*** in ergative singular and plural. Thus to summarise, I have tabulated the grammatical case endings for Greenlandic nouns for you in figure 7.3.[12]

So with e.g. the divalent base {taku}**V**, ⟨*agent*⟩ *sees* ⟨*patient*⟩ and the verbal ending

[11] And a few other stem types; see section 6.7 on page 109.

[12] Or rather, the *unpossessed* case endings. There are many more endings in each of the cases, but they are only used when the noun is also *owned* by some other person, so we can safely ignore that for now.

	Singular	Plural
Absolutive:	**N**{∅}	**N**{t} or **N**{-it}
Ergative:	**N**{p} or **N**{-up}	**N**{t} or **N**{-it}

Figure 7.3: The singular and plural forms of the two grammatical cases. The variant forms **N**{-up} and **N**{-it} are used on k-stems and a few others.

V{vaat}, *3.pl/3.pl, they Vb them* you could construct the sentence

qimmit takuaat[13]

that can mean either *they saw the dogs* (with *qimmit* in absolutive plural) or *the dogs saw them* (with *qimmit* in ergative plural). The sentence is ambiguous without further information.

7.6 The prepositional cases

The absolutive and ergative cases are used to mark nouns as *specifications* of the persons mentioned in the verb ending. But Greenlandic also has other endings for nouns besides those belonging to the two grammatical cases. You have already seen one example, the ending **N**{mi}, *in N* used in the word *igaf**im**mi*, ***in*** *the kitchen.* This is a so-called *locative* case ending (in fact, it is the unmarked locative singular ending), and it is used to express the equivalent of English words such as *in, on, at* etc.; that is, everything to do with being *located* somewhere.

The locative case is unaffected by the number(s) mentioned in the verb ending. The locative *plural* is **N**{ni}, *in Ns*, and it makes no difference for neither the verb ending nor the dog if it sleeps in one or several kitchens: Both *qimmeq igaffim**mi** sinippoq* and *qimmeq igaffin**ni** sinippoq* are equally grammatical.

The locative case could therefore be called an 'ungrammatical' case, but the proper Grammaric term is *oblique*. There are six such oblique cases in Greenlandic, but rather than using the Grammaric term I shall instead refer to them as the *prepositional cases*, because they are commonly[14] used to convey the same meanings as English prepositions; that is, words like *in, to, from, by* and so on. You can see a list of their names and the singular and plural form of each case in figure 7.4, as well as an example of the meaning of each case.

[13]Remember the spelling rule for voiced fricatives (definition 5.4, page 84): /uva/ is pronounced [u^{v}a] and therefore written as just "ua", so {taku}**V**{vaat} $\Longrightarrow$ /tak**uva**at/ $\Longrightarrow^{*}$ *tak**ua**at*.

[14]But not *exclusively*. Many of them have several uses besides their prepositional function.

	Singular	Plural	Meaning
Instrumental:	**N**{mək}	**N**{nək}	with N
Locative:	**N**{mi}	**N**{ni}	in/at/on N
Allative:	**N**{mut}	**N**{nut}	to N
Ablative:	**N**{mət}	**N**{nət}	from N
Vialis:	**N**{kkut}	**N**{təgut}	by N, through N
Equalis:	**N**{tut}	**N**{tut}	as N, like N

Figure 7.4: The (unmarked) singular and plural endings for the six prepositional cases in Greenlandic, along with some examples of the meaning of each case.

So if you for example wanted to say that *Peter saw the dog* ***through*** *the door*, then you would use the vialis singular ending **N**{kkut}, because there is only a single door, and add it to the base {matu}**N**, *door* to obtain the sentence

*Piitap qimmeq matu**kkut** takuaa*

7.7 Verbalisation of the prepositional cases

Affixes normally only attach to *stems*, and never to completed words. However, there is a small handful of affixes or 'affix-like' morphemes that exclusively attach to the prepositional case endings. Their effect is to turn the noun (with case ending and all) into a *verb*; thus they are called *verbalisations* of the prepositional cases.

All the prepositional cases can be verbalised, some of them even in more than one way, with slightly different meaning. You can see the full list of verbalisations in chapter 13. However, three of these verbalisations are particularly common (and useful), so I will list them for you here:

Definition 7.9 (Verbalisations) *Let* **N**{ALL} *denote any* allative *case ending;* **N**{ABL} *any* ablative *case ending; and* **N**{LOC} *any* locative *case ending. These three cases can then be verbalised with the following three morphemes:*

- **N**{LOC}{ət}**V**, ⟨actor⟩ is (located) in N
- **N**{ALL}{-kaq}**V**, ⟨actor⟩ goes/travels to N
- **N**{ABL}{ŋaanniiq}**V**, ⟨actor⟩ is/originates from N

Here are three example sentences illustrating their use:

*igaffim**mi*** $\Longrightarrow$ *Piitaq igaffimi**ippoq***
*Nuum**mut*** $\Longrightarrow$ *Piitaq Nuummu**karpoq***
*Nuum**mit*** $\Longrightarrow$ *Piitaq Nuummin**ngaanneer**poq*

	Absolutive		Ergative		Instrumental	
	sg	pl	sg	pl	sg	pl
1.sg	N{ga}	N{kka}	N{ma}	N{-ma}	N{mnək}	
3.sg	N{-a}	N{-i}	N{-ata}	N{-isa}	N{-anək}	N{-inək}
1.pl	N{(q)vut}	N{-vut}	N{mta}		N{mtənnək}	
3.pl	N{-at}					

Figure 7.5: Some examples of possessive endings in the absolutive, ergative and instrumental case. I have purposefully not included all persons or cases, nor filled out all fields in the table. See chapter 13 for the full list.

*Piitaq igaffimmi**ip**oq* means *Peter **is in** the kitchen*; *Nuummu**kar**poq* means *he **goes** (or* travels*) to Nuuk*; and lastly, *Piitaq Nuummin**ngaanneer**poq* means that *Peter **is from** Nuuk*, for example if that is where he grew up.

In these examples I have only used the singular, unmarked prepositional case endings N{mi}, N{mut} and N{mət}, but this is not a requirement. The verbalisation morphemes can be used on *any* ending of the respective cases, so for example *Piitaq illu**nu**karpoq* means *Peter goes to(wards) the house**s***, with the allative plural ending N{nut}.

7.8 Possession

In English we have pronouns, like *I, you, we* etc. to denote the persons participating in verbal actions; but although Greenlandic also has pronouns they are of limited use, because, as you have seen, this information is instead encoded in the verbal endings. However, pronouns in English are also used to denote *ownership*: We say ***my** dog*, ***thy** house*, ***his** rifle* and so on; and words like *my, thy, his, our* etc. are called *possessive pronouns* in English.

As usual, there is no corresponding word class of possessive pronouns in Greenlandic. Instead you express *my* or *his* by adding an *ending* containing a personal marker, denoting the person of the owner, onto the owned noun. For example, *my dog* is *qimme**ra*** with the ending N{ga}, *my N*; and *his house* is *illu**a*** with the ending N{-a}, *his N*.

These endings are called *possessive endings*, but they express more than just the owner (or rather *possessor*) of the noun onto which they are attached: they also have to denote the *case* of the noun, because *all* nouns in a sentence must have a case marking. Thus, there is one set of possessive markers for the absolutive case, and another set for the ergative case, and a third set for the instrumental case, and so on. This is why I have hitherto spoken of case endings like N{p}, N{nut}, N{mi}, N{kkut} etc. as *unmarked* case endings; because these endings do *not* contain a possessive person marker.

As with the verb endings we can therefore also now begin to refer to noun endings with a person/number/case specification, and thus e.g. say that N{-a} is the absolutive **3.sg/sg**

case ending, because **N{-a}** denotes that the *possessor* is 3.sg, *he*, and the *possessed noun* itself is singular and is in the absolutive case. Similarly, **N{kka}** is absolutive **1.sg/pl** *my Ns*, because the possessor is 1.sg, *my*, and the possessed noun is plural; so e.g. *qimmi**kka*** means ***my** dog**s***. I have included a small sample of some common possessive endings in figure 7.5, just to give you an impression of what they look like.

Note that you can also use the verbalisation morphemes from definition 7.9 on all of the *possessive* prepositional case. For example, **N{-anut}** means *to his N* (allative), and **N{mtənni}** means *in our Ns* (locative), so you can also say e.g.

*illu**anukar**punga* = *I **go to his** house*
*illu**tsinniip**putit* = *thou **are in our** house*

and so on. I shall have more to say about these *possessive noun phrases* in chapter 8.

* * *

If you have been through this chapter, then you should hopefully now be able to understand sentences like

Qimmeq igaffimmiippoq. Igaffimmi sinippoq. Piitaq igaffimmukarpoq.
Piitap qimmeq takuaa. Piitap qimmeq matukkut aallaavaa.

Both *how* they are constructed, including the word order, and *why* each word has its particular ending. It may not seem like much, after this long and technical chapter, but the concepts involved are very general so they will reappear again and again in the following chapters, and I therefore needed to present them as early as possible, to get a foundation to build on.

However, it *does* mean that this chapter may seem to have been more about Grammaric than Greenlandic. There have been many general concepts, and few examples of how to actually apply them. Especially the stuff about valencies and logical roles may seem abstract and abstruse, and indeed, I have never seen another book about Greenlandic be so explicit about it. Yet my hope is that it will later help you understand how the meaning of a stem changes when valencies are altered by affixes and the logical roles implied by the verbal action get shifted around.

Aside 7.1: How many endings are there?

How many endings are there in Greenlandic, either for nouns and verbs? If you take e.g. Stig Bjørnum's grammar (Bjørnum, 2003) with its innumerable tables of endings, you can (if you bother!) count approximately 625 endings for nouns and 906 endings for verbs (give or take a few – I may have miscounted). In total, 1.531 endings! This absurdly high number results from the fact that Graphemists (by virtue of their Graphemism) represent the endings on the level of writing, just like the DAKA dictionary does with the bases and affixes. In other words, every form an ending can take, through the changes induced by the sound rules, is listed separately. Thus for instance the ending **V{vuŋa}** is listed *thrice* – as "+vunga" (on vowel stems), as "-ppunga" (on consonant stems), and as "-rpunga" (on q-stems). What an utter waste of time (and paper)! Just consider the following:

	vowel stem e.g. ***suli***voq	*consonant stem e.g.* ***sinip***poq	*r-stem e.g.* ***atuar***poq	*As morphemes*
I (1.sg)	+vunga	-ppunga	-rpunga	**V{vuŋa}**
thou (2.sg)	+vutit	-pputit	-rputit	**V{vutət}**
he (3.sg)	+voq	-ppoq	-rpoq	**V{vuq}**
we (1.pl)	+vugut	-ppugut	-rpugut	**V{vugut}**
you (2.pl)	+vusi	-ppusi	-rpusi	**V{vusi}**
they (3.pl)	+pput	-pput	-rput	**V{(v)vut}**

Here you see the full set of intransitive endings for the indicative verbal mood, written out in this Graphemistic style. There are 18 endings, but as I hope you can readily see, this number can be reduced to a *third*, if we instead switch to using the morphemic form, listed on the right. You know the sound rules and the spelling rules, and by using them you can easily derive all forms on the left from this much smaller set. In this way we can reduce the number of endings for verbs to about one third, and for nouns to about one fourth!

So how many endings are there really for verbs, if we avoid the folly of the Graphemists and just stick to counting morphemes? Well, As you already know (from definition 7.6) there are 4 persons in Greenlandic, who can be either singular or plural, thus giving a total of 8 personal markers. Theoretically, each of these can appear as the marker in an intransitive ending, and with 9 moods we thus get $8 \cdot 9 = 72$ intransitive endings.

But the *transitive* endings contain *two* person markers; one for the subject and one for the object, so this gives us $8^2 = 64$ possible combinations *for each mood.* In total, we thus have

$$(8^2 + 8) \cdot 9 = 648$$

possible combinations of mood markers, numbers and person markers. But fortunately, the true number of verbal endings is much lower, because not all combinations of persons are allowed in all moods. In reality, I count around 370 verbal endings, which is still a high number, but certainly much more manageable.

The situation is similar for nouns: There are 8 cases in Greenlandic; the two grammatical cases (absolutive and ergative), and six prepositional cases (instrumental, locative etc.), and each case has two unmarked endings: one for singular, and one for plural, thus giving us $8 \cdot 2 = 16$ unmarked endings.

Furthermore, a noun can be *owned* by each of the 8 person markers, as well as be either singular or plural, so *for each case* you then have a set of 16 case endings *with* possessive markers, besides the two *unmarked* case endings for singular and plural that I listed in figures 7.3 and 7.4. In total:

$$(2 + 16) \cdot 8 = 144$$

different nominal endings. Thus, the challenge you face is no longer 1.531 endings, but 144 endings for nouns, and 370 for verbs; in total 514 endings.

If you think this sounds like a frightening number, then don't worry. Most of the endings, both for nouns and verbs, actually have a logical structure that makes it easy to predict and remember the correct form, as I describe in chapters 13–14. Pity instead the students of Graphemists like Stig Bjørnum, who insists on listing the endings *for each possible stem type*, thereby (at least) *quadrupling* their numbers, because some of them might come to be spelled slightly differently due to the sound rules.[a]

[a] For example, N{ga} on a vowel stem is *illu**ga***, but on a q-stem it becomes *qimme**ra*** by the g-rule. There is no surprise in this for us, but to a Graphemist *-ga* and *-ra* look totally different and must therefore be listed as two separate forms.

CHAPTER 8

a Bestiarium of Noun phrases

Many sentence structures involve nouns, because nouns can appear in all the slots of our basic sentence structure from definition 7.1 except of course the *verb* slot. However, nouns need not be alone, when they fill a slot in the sentence structure. You can have several nouns that *together* make up the subject, or object, or context specification, just as in English: *The little girl who lived in the big, red house saw the man who had recently shot his dog.* Here, the complex construction *the little girl who lived in the big, red house* as a whole constitutes the subject of the sentence. It is not just a single noun, but a *noun phrase* (at least in Greenlandic, albeit not in English):

Definition 8.1 (Noun phrase) *A* noun phrase *is a group of grammatically related nouns that are treated as a single unit in the sentence. It consists of a* head noun *and a number of other, secondary nouns that extend or modify the meaning of the head noun.*[1]

In Greenlandic you can likewise create complex noun phrases consisting of several nouns, and the whole phrase can then fill any of the context, subject or object slots in our basic sentence structure. There are two types of noun phrases:

1. *Possessive noun phrases*, consisting of a *head noun* and a chain of other nouns, each owning the next in the chain, and the last being the head; for example *Peter's father's dog.* Here with *dog* is the head.

[1] There is also a slightly different type of noun phrases, usually consisting of names and titles such as ***Ilinniartitsisoq Jensen***, *Teacher Jensen*; or ***Borgmesteri Aniita*** *Mayor Aniita* etc., where you could arguably say that either the name or the title could be regarded as the head noun. However, this type of noun phrase does not behave differently from the one with only one head noun, so I shall not distinguish between them.

2. *Modifier noun phrases*, consisting of a *head noun* and one or more modifiers, extending the meaning of the head; for example, *the red house* or *the tiny, aggressive dog*. Here *house* and *dog* are the heads, and *red, tiny, aggressive* are modifiers.

Both types of noun phrases are important, because they are used in some very common and useful constructions: For example, you use them to describe *directions*; to speak of a *part* of some larger whole; and to create subordinate clauses, such as the highlighted segment of the phrase *the little girl* ***who lived in the big, red house***.

As I said in the beginning, such noun phrases can appear in all slots, except for the *verb* slot – except that they *can*. Or at least, they can appear *inside a verb*, which means that a Greenlandic sentence can be structured very differently from its English counterpart. This is undoubtedly one of the first, and most common pitfalls when you are learning Greenlandic sentence construction. You have already seen a glimpse of this with the verbalisations of prepositional cases in definition 7.9, but there are many other affixes that can build a verb stem from a noun. This is called *incorporation* in Grammaric, and the curious detail here is that you can use a special construction to incorporate not just a single noun, but an an entire modifier noun phrase. All this (and more) will be the subject of this chapter.

8.1 Possessive noun phrases

There is also another kind of noun phrase, consisting of nouns with possessive endings: Owning a noun is simple enough, when the owner is *my* (1.sg), *thy* (2.sg), *our* (1.pl) or *your* (2.pl), because there is no uncertainty about *who* the possessor is. It is expressed directly in the ending, as I described in section 7.8, page 140. But what about third person possessors? What if you not only want to say ***his*** *dog* (*qimmia*) but also want to state *who* this 'he' is, as e.g. in ***Peter's*** *dog* or ***the man's*** *dog*? For this, we need a new kind of noun phrase; a *possessive* noun phrase:

Definition 8.2 (Possessive noun phrase) *A* possessive noun phrase *consists of a head noun with a possessive ending* N{POSS} *of any case, and an optional* explicit possessor preceding *the possessed head noun:*

$$\underbrace{\textit{[possessor] head}}_{\textit{possessive phrase}}$$

where [possessor] *is itself a noun phrase.*

When the person marker is the third person *(either singular or plural), an explicit possessor can be specified with a noun phrase in the* ergative case*, here denoted* **N**{ERG}.[2] *Thus:*

{possessor}**N**{ERG} {head}**N**{POSS}

In other words, ***Peter's*** *house* (in absolutive singular) is ***Piitap illua***. The head noun is {əŋlu}**N**, and the phrase as a whole is absolutive singular, because the possessive ending **N**{-a} is absolutive singular (his N).

And now for the fun part: The explicit possessor specification can *itself be* a possessive noun phrase! It just has to be in the ergative case. You can consider its construction as a series of steps, for example:

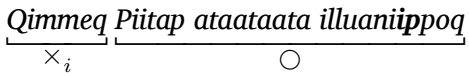
- *illu**a*** = ***his*** *house*
- *qimmi**p** illu**a*** = *the dog**'s** house*
- *qimmi**ata** illu**a*** = ***his*** *dog**'s** house*, with ergative 3.sg/sg **N**{-ata}
- *ataat**ap** qimmi**ata** illu**a*** = *the father**'s** dog**'s** house*
- *ataat**ama** qimmi**ata** illu**a*** = ***my*** *father**'s** dog**'s** house*, with ergative 1.sg/sg **N**{ma}

Whenever you have an explicit possessor with an 'unmarked' ergative **N**{p} (or **N**{t}), you can replace this ending with a possessive ending instead, thereby creating a new possessed noun that in turn may take an explicit possessor specification. You can thus in principle continue this recursive construction indefinitely and say *my father's sister's husband's uncle's ...*, though of course only the first noun can be owned by anyone else than the third person (can you see why?)[3] and only the last noun (the head) can have any other case than the ergative.

The last noun in the phrase does of course not have to be in the absolutive case; it can have any case, as determined by the function of the phrase in the sentence. For example, with **N**{-ani}, *in his N* (locative 3.sg/sg), you can also say

*Piita**p** ataata**ata** illu**ani*** = ***in*** *Peter**'s** father**'s** house*

and so on. And since this phrase now is in the locative case (or rather, the head noun is), then you can of course also *verbalise* this whole phrase with **N**{LOC}{ət}**V** and say for instance



*= the dog **is in** Peter's father's house*

[2] If you find it odd that the *ergative* case is used to mark the explicit possessor, then just remember that the meaning of the ergative case is that a noun does *something* to (or towards) another noun. Either through a divalent verbal action, where ergative denotes the agent role; or, as you can see here, by *owning* the noun. Transitive verbs and possessed nouns can indeed seem rather alike in Greenlandic, as you will later see.

[3] By definition 8.2 only nouns possessed by a *third person* can have an explicit possessor specification

and similarly with the verbalisations for allative and ablative.[4] This is an incredibly useful and versatile construction.

8.2 Spatial nouns

In English you can say *above* and *below* to indicate where one noun is placed relative to another. In Greenlandic, such words are *themselves* nouns, representing a 'space' or area, and you use the prepositional case endings, often with possessive markings, to indicate that another noun *is in*, or *moves into*, or *moves out of* such a space.

For example, {kətə}**N** means *area to the **west** (of possessor)*, so ***kita**ani* literally means ***in its** west-area*, which we would probably express in English as *west **of it***.[5] And if you want to say what *it* is, then you can add it as an explicit possessor specification; thus ***illup kita**ani* means *west of the **house***. This is now a locative noun phrase, so it can fill a context slot of place specification in the sentence structure; thus you can for example express that *the dog sleeps **west of** the house* by saying

***illup kita**ani qimmeq sinippoq*

Alternatively, you can also verbalise this phrase with **N**{LOC}{ət}**V** and thus e.g. say

$$\underset{\times_i}{\textit{qimmeq}} \quad \underbrace{\textit{illup kita}\textbf{\textit{ani}}\textit{ippoq}}_{\bigcirc}$$

meaning *the dog is (located) west of the house.*

Of course it does not have to be located: It could also go *to* the west of the house with the allative ***kita**anut* instead, and this phrase can be verbalised with **N**{ALL}{-kaq}**V** as

*qimmeq illup kitaanu**kar**poq*

Nor does the possessor have to be a 3rd person: it could also be *thou* or *us* or whatever. If something is in the area *west of us*, then you just use the corresponding 1.pl possessive locative ending and say *kiti**tsinni**ippoq*.

There is a wealth of these spatial nouns; some of them can also be used as ordinary nouns, but most of them can only be used with prepositional case endings, and usually with a possessive marking. I have tried to illustrate just a few of them in figure 8.1. Here is a list with translations:

- {qulə}**N**, *area above (of possessor)*

[4] See definition 7.9, page 139.

[5] And if you look at a map of Greenland (with Greenlandic names), you'll see that *West Greenland* is called *Kalaallit Nunaata **Kitaa***, or maybe just *Kitaa* (the other elements being implied).

Figure 8.1: An illustration of the spatial nouns, with Peter sitting on the roof of his house, looking to the west. [Photograph taken by me]

- {atə}**N**, *area below (of possessor)*
- {kətə}**N**, *area west (of possessor)*
- {kujatə}**N**, *area south (of possessor)*
- {ətqaq}**N**, *area near/around (of possessor)*
- {silatə}**N**, *area outside (of possessor)*
- {avatə}**N**, *area off the coast (relative to possessor)*

Thus if Peter is sitting atop of his house, you could say that *illu Piitap ataaniippoq*, *the house is below Peter*; and if he jumped then he would be *moving into* the area above the house, which is *illup qulaanut*. He is also looking to the west, so he is looking in the direction *kitaanut*. The piles of snow are in the area around (or in close vicinity of) the house, so they are in the area *illup eqqaani*. Likewise, you could also say that they are in the area *illup silataani*, because they are outside of the house. And so on. You can undoubtedly think of many more examples yourself.

8.3 Partitive constructions

A *partitive* construction is a fancy, Grammaric term for when you want to speak of a *part* of some larger whole. Greenlandic has two special nouns, the *partitive nouns*, that you use to express such parts of wholes. There is also an affix, which we could likewise call the *partitive affix*, used to create nouns with this 'part of' meaning, and as you may already have guessed, you use possessive endings to denote the whole of which something is a part:

Definition 8.3 (Partitive nouns) *The* partitive nouns *in Greenlandic are used to refer to parts of a whole. They are:*

- {ila}**N**, *part, member (of possessor)*
- {aqlaq}**N**, *one (of possessor)*
- **N**{taq}**N**, *the N part (of possessor)*

They are used with possessive endings, where possessor (whether marked explicitly, or with an ending alone) denotes the whole of which the noun is a part.

For example, {nuna}**N** means *land* or *country*, so ***nunap ilaa*** literally means *the land**'s** (one) part*, or as we would say, *a part of the land*. Likewise, ***nunap ilai*** means *the land**'s** (several) parts*; that is, *part**s** of the land*.[6]

The possessor does not have to be a 3rd person: it can be anyone, so you can also say ***ilarput***, *our (one) part*, that is ***one** of us*; or ***ilavut***, *our (several) parts*, i.e. ***some** of us*. However, you will often see that possessor is *plural*, e.g. representing a group of entities, with this construction being used to refer to *one*, or *some*, of its members. This can quickly get complicated, since the partitive noun may be embedded in an arbitrarily long chain of possessive noun phrases. For example:

Piitap	*qimmiisa*	*ilaat*
ERG.sg	ERG 3.sg/pl	ABS 3.pl/sg

means *Peter**'s** (several) dog**s'** (one) part*, i.e. *one of Peter's dogs*. I have added the case and numbers of the person markers below each word, which hopefully makes it a little easier for you to keep track of who owns what, and how many they are. Peter, a singular 3rd person, owns the dogs, and they are plural, so the person marker on {qikmiq}**N** must be 3.sg/pl; and since the dogs themselves are an explicit possessor specification they must be in the ergative case: the ending is therefore ergative 3.sg/pl **N**{-isa}. And the dogs own one singular {ila}**N**, so *its* person marker must be 3.pl/sg; here I have chosen the

[6] Check figure 7.5 on page 140 if you need to refresh your memory of what the possessive endings are.

absolutive case ending 3.pl/sg **N**{-at}, but it could of course be any case, depending on the function of this noun phrase in the sentence.

You can also specify the *number* of parts explicitly, if they are plural, by adding a numeral as modifier of {ila}**N** as in definition 8.4. For example, suppose you wanted to speak of ***three*** *of Peter's dogs*: The numeral three is ***pingasut***, which is plural (because singular 3 does not make much sense); and since the dogs now own *several* parts, the ending on {ila}**N** must therefoer change to 3.pl/**pl**. This ending is **N**{-it} in absolutive, so it will actually end up looking like the singular form because of the a-rule. Thus:

$$\underbrace{\textit{Piita}\textbf{\textit{p}}\ \textit{qimmii}\textbf{\textit{sa}}\ \textit{ila}\textbf{\textit{at}}}_{\text{head}}\ \underbrace{\textit{pingasut}}_{\text{modifier}}$$

The other partitive noun, {aqlaq}**N**, works in the same way as {ila}**N**, but its meaning is more exclusive:[7] It emphasises the selected part (or parts) and *not* the rest; compare:

- *ullut* ***ila****anni*, *on one day*
- *ullut* ***arla****anni*, *on* ***one of*** *the days* (and not on any of the others)

Lastly, **N**{taq}**N** can be added onto any noun to denote a (sub)part or element of the possessor; for example ***angutitarput*** is *our (singular) male part*, i.e. *the man* ***amongst*** *us*, if there is one man in a group of women; or ***angutitavut***, *our (plural) male parts*, i.e. *the men* ***amongst*** *us*, if there is more than one man.

You can also use it with a singular possessor, in which case it means a (sub)part. For example, {qəcuk}**N** is *wood*, so ***illup qisuttaa*** is *the house's wooden* ***part***, or *the wooden part of the house.*

8.4 Noun phrases with modifiers

All our specifications of time, place and the grammatical functions of subject and object have hitherto only been single nouns or possessive noun phrases. You have seen Peter shoot the dog in the kitchen, and see it through the door etc. But what if he saw it through a *small* door, or in a *red* house? Or maybe it was just a *small* dog?

Such words as *small* and *red* that describe another noun are called *adjectives* in English, which is a distinct word class. But Greenlandic has no class of adjectives. Instead, these words are almost always *verbs* (or rather, verb *stems*) that have been converted to nouns with the affix **V**{ðuq}**N**, *one that Vb's.* For example, ***mikisoq*** means *small* (or rather *something that is small*), derived from the base {mikə}**V**, ⟨*actor*⟩ *is small*, and ***aappaluttoq*** means (something that is) *red*, derived from {aukvaluk}**V**, ⟨*actor*⟩ *is red.*

Thus, with {əŋlu}**N**, *house*, in absolutive singular, ***illu mikisoq*** is *a* ***small*** *house* and ***illu aappaluttoq*** is *a* ***red*** *house.* The words ***mikisoq*** and ***aappaluttoq*** are called *modifiers*

[7] According to Nielsen (2019, p. 252).

of the noun *illu*, and such a group of nouns, consisting of one 'primary' or *head noun* and a number of other nouns that modify or extend its meaning, is a *modifier noun phrase*.

There are two things to note about noun phrases and modifiers: Firstly, a modifier follows *after* the noun it modifies (so the head noun *illu* comes first in the noun phrase); and secondly, the modifier has the same *case* as the noun it modifies because they constitute a unit; e.g. in the aforementioned examples both *illu, mikisoq* and *aappaluttoq* carry the null ending N{∅}, which is absolutive singular.

The point about a noun phrase being a *unit* is simply that if you decide to move a noun phrase from one position in a sentence to another, then you have to move the *whole phrase* together, without breaking up, or switching around, the order of the elements. You could for example say

$$\textit{Piitaq } \underbrace{\textbf{\textit{illumi mikisumi}}}_{\textit{noun phrase}} \textit{ sinippoq} = \textit{Peter sleeps } \textbf{\textit{in the small house}}$$

with the noun phrase here filling the last *context* slot in our sentence structure; or you could instead move it to the first *context* slot and say ***Illumi mikisumi*** *Piitaq sinippoq*.[8] But you cannot just move one part of the noun phrase; so ****Illumi*** *Piitaq* ***mikisumi*** *sinippoq* is most definitely wrong. It is just like in English, where you can say *Peter sleeps* ***in the small house*** or ***In the small house*** *Peter sleeps*, but you cannot put Peter in the middle of the small house.

Definition 8.4 (Modifier) *A* modifier *is a noun (or noun phrase) that extends or modifies the meaning of a head noun. The modifier follows the noun it modifies, and it must have the same case and number as the noun it modifies. Together, they constitute a noun phrase with the structure*

$$\underbrace{\textit{head [modifier]}}_{\textit{noun phrase}}$$

where the [modifier] is an optional part.

This definition just reiterates what I said above about *illu**mi mikisu**mi***. The modifier must follow after the noun that it modifies, and if the noun is e.g. locative singular, then so must the modifier be. Again, they must be congruent; that is, they must *agree* on case and number. So *illu**ni mikisu**ni***, ***in*** *the small house**s*** is fine, but ****illu**ni mikisu**mi*** is clearly wrong.

Lastly, note also that a noun phrase with a modifier can be used for *any* of the noun slots (or functions) in our sentence structure, including subject and object. It does not have to be a specification of place. For example

[8] If you wonder why *mikis**oq*** becomes *mikis**umi***, and not e.g. ****mikis**orm**i***, check the sandhi rules for weak q-stems in definition 6.2, page 99.

$$\underbrace{\textit{Qimmi}\mathbf{\textit{p}}\ \textit{mikisu}\mathbf{\textit{p}}}_{\textit{noun phrase}}\ \textit{illu takuaa} = \mathbf{\textit{the small dog}}\ \textit{sees the house}$$

is also possible. Here I have used *the small dog* as the transitive subject, so it must be in the ergative case, and as you can see, both elements of the noun phrase therefore bears the ergative singular ending **N**{p}, because they must agree on case and number.

8.5 Incorporation with modification

You know how to say *Peter's house*, but consider now the sentence *Peter* ***has*** *a house*. Using the notation I have previously introduced for denoting subject, object and verb, we can analyse it like this:

Peter	has	a house
$\times_t$	$\bigcirc$	$\triangle_t$

Clearly, we would say that this sentence is transitive with *Peter* as the transitive subject and *a house* as transitive the object, so you might expect that it should be translated as something like

Piitap illu {verb meaning *to have*}**V**{vaa}

with Peter in the ergative singular case **N**{p}, and {əŋlu}**N**, *house*, in the absolutive singular case **N**{∅}, and some divalent verb stem meaning *to have* with the ending **V**{vaa} (3.sg/3.sg). But that is unfortunately *not* how you express *Peter has a house* in Greenlandic. Instead, you say

*Piita****q***	*illoqar****poq***
$\times_i$	$\bigcirc$

and as you can see from the verb ending **V**{vuq}, this sentence is clearly *intransitive*, with ***Piitaq*** in absolutive singular, taking the role of actor. In other words, you should not expect the valencies of English verbs to carry over directly into Greenlandic: You firstly need to know *how* to express some concept or action in Greenlandic, and *then* you can count the valency.

For example, in the case of *to have*, this is expressed with the affix **N**{-qaq}**V**, ⟨*actor*⟩ *has (an) N*, which, as you can see, has a valency of 1, so it will form an *intransitive* verb with the 'object' N (in the corresponding English sentence) appearing as the base (or 'head position') of the verbal stem:

{əŋlu}**N**{-qaq}**V**{vuq} $\Longrightarrow^*$ *illoqarpoq*, *he has a house*

This is called *noun incorporation* in Grammaric, which is just a fancy name for the use an **N**{S}**V** affix like **N**{-qaq}**V** to build a verb stem from a noun stem. There are many of such **N**{S}**V** affixes, as you will see in the following, and all provide examples of situations where you *might* have expected that the sentence should be transitive, because the corresponding English sentence is. But when instead it turns out that there is an **N**{S}**V** type affix for the verbal action, you get an intransitive sentence with an incorporated object, rather than a transitive sentence with an explicit object.

Now you know how to say that Peter has a house. But what if Peter has a *small* house? Or a *red* house? As you saw in the previous section, a single noun in a sentence can be replaced with a noun phrase, with modifiers like ***mikisoq*** or ***aappaluttoq***, but how do you incorporate such a structure?

There are actually two different ways of doing it, depending on the affix you use; or rather, depending on the *meaning* of the affix. A few form sentences where the noun phrase would correspond to a so-called *subject predicate* in English, whilst most instead form sentences where the noun phrase corresponds to an ordinary object in English. However, the two different types do not behave alike, so we should distinguish between them.

Stranded subject modifier

In English, a verb like *to be* obviously takes a subject, and, except in a certain play by Shakespeare, it is also followed by some other word that tells us *what* the subject is. For example, in the sentence

Peter	is	a skilled cook
×	○	⊗

we would not say that *a skilled cook* is an *object*. It is not something that Peter 'acts upon.' Instead, it is called a *subject predicate* in Grammaric, and I indicate it with the symbol ⊗. And verbs like *to be* that form these kinds of sentences with a subject and a subject predicate, rather than an object, are called *copulae* (again with a fancy Grammaric term).

There are in particular two common affixes that form copula sentences with the incorporated noun; **N**{-u}**V**, ⟨*actor*⟩ *is N*; and **N**{ŋŋuq}**V**, ⟨*actor*⟩ *becomes N*. To give an example of how they work in conjunction with modifiers, recall firstly that {əga}**V** means *to cook food*, so with **V**{ðuq}**N** we obtain the word ***igasoq***, literally 'one that cooks food' which obviously is a cook. And with **N**{-u}**V** we can then create the word ***igasuuvoq***, meaning *he **is** a cook*.

To be skilled/proficient at something is {pikkurik}**V**, so similarly, ***pikkorissoq***[9] means *one who is skilled*. Now, we could easily say that *Peter is skilled* (***Piitaq pikkorippoq***) or

[9] {pikkurik}**V**{ðuq}**N**{∅} ⟹ /pikkuri**kð**uq/ ⟹ /pikkuri**kt**uq/ ⟹ /pikkuri**ks**uq/, where the last step is by the t-to-s rule (definition 3.2, page 42).

Peter is a cook (***Piitaq igasuuvoq***) without having to deal with this business of modifiers. It is only when we want to combine the two expressions into one that the problem with modifiers appears. Consider now the following examples:

- *igasoq pikkorip**poq***, *the cook is skilled*
- *igasoq pikkoris**soq***, *a skilled cook*, i.e. a noun phrase with ***pikkorissoq*** as modifier.
- *igasu**uvoq** pikkorisso**q***, ***he is** a skilled cook*
- *igasu**upput** pikkorissu**t***, ***they are** skilled cook**s***
- ***Piitaq** igasuuvoq pikkorissoq*, ***Peter** is a skilled cook*, with the actual subject added.

As you can see, the solution is to incorporate the head noun ***igasoq*** with **N**{-u}**V**, and then leave the modifier ***pikkorissoq*** standing *after* the newly created verb ***igasuuvoq***. It is *stranded* in this position. Furthermore, the modifier must be in the absolutive case, and as you can see from the example ***igasuupput pikkorissut*** the modifier must also agree in number with the verbal ending; that is, **V**{(v)vut}, *3.pl, they Vb* is plural, so the modifier therefore also needs the absolutive *plural* ending **N**{t}.

Definition 8.5 (Stranded subject modifier) *Let p be any person (1, 2, 3, 4), and let n be any number (sg, pl): Then* **V**{$p.n$} *is any verbal ending with person marker p that may be either singular or plural. Let* **N**{ABS.sg} *be any singular absolutive case ending, and let* **N**{ABS.pl} *be any plural absolutive case ending: Then* **N**{ABS.n} *is any absolutive case ending of any number n.*[10] *The pattern for incorporating a noun phrase with modifier,* ***head modifier****, with an affix of 'being' or 'becoming' is then:*

{head}**N**{ABS} {modifier}**N**{ABS} $\rightarrow$ {head}**N**{-u}**V**{$p.n$} {modifier}**N**{ABS.n}

The ***head*** *is incorporated, and the* ***modifier*** *is* stranded *at the position following the verb and must be in the absolutive case, and the stranded subject modifier must agree in* number *n with the verbal ending.*

It sounds far more complicated than it really is, when spelled out in such detail, which is precisely the reason why I always try to provide some meaningful and memorable examples. They will likely be of more use to you than this condensed, abstract notation; at least until you have seen the structure in several different sentences and maybe would like to condense it yourself into one general pattern. See also aside 8.1 for a few more details about **V**{ðuq}**N** and **N**{-u}**V**.

[10] You might wonder why I say **N**{ABS.sg} and **N**{ABS.pl}, instead of just **N**{∅} and **N**{t}: The reason is that there are actually many more absolutive endings than just these two, and I would like to include all of them in the definition.

Aside 8.1: What's the difference?

Bases like {mikə}**V**, ⟨*actor*⟩ ***is*** *small*, and {pikkurik}**V**, ⟨*actor*⟩ ***is*** *skilled*, directly describe a quality or state of being of the actor, so they so they already have this kind of 'copula-like' meaning inbuilt. Notice that I use the word *is* in the translation of both. So what happens if I add **V**{ðuq}**N**{-u}**V** to them? What is the difference between saying ***Piitaq mikivoq***, *Peter is small* and ***Piitaq mikisuuvoq***, *Peter* ***is someone who*** *is small*?

The latter may seem like just an overly convoluted way of expressing the same as the former, but according to Fortescue (1984, p. 302) there actually is a difference:

- ***Piitaq mikivoq*** means just that Peter is (or seems) small *now*, in the current context, on this particular occasion, but
- ***Piitaq mikisuuvoq*** indicates that being small is a *characteristic trait* of Peter, or a permanent quality.

You would therefore also say that ***Kalaallit Nunaat angisuuvoq***, *Greenland is big*, with the base {aŋə}**V**, ⟨*actor*⟩ *is big*, because the country is not likely to suddenly change size. This difference between ***mikivoq*** and ***mikisuuvoq*** puzzled me for years, until I finally stumbled upon the explanation deep in Fortescue's abstruse writings, because none of the other Grammarians apparently bothered to write it down in plain words. And now you too know the answer, so you don't have to spend years searching for it.

Stranded object modifier

Besides talking about *being* (or becoming) some noun, you will very likely also want to express that you *have* a noun. Or even more generally: of *doing something* with a noun.

There is a host of such **N**{S}**V** affixes where the incorporated noun will correspond to the *object* (rather than the subject predicate) in the translated English sentence, with **N**{-qaq}**V** being the prime example. Here are a few other common examples that you will likely encounter:

- **N**{-liaq}**V** ⟨*actor*⟩ *travels to N*, with N e.g. a country or city name
- **N**{-lirə}**V** ⟨*actor*⟩ *works with (an) N*
- **N**{-liuq}**V** ⟨*actor*⟩ *makes (an) N*
- **N**{-qaq}**V** ⟨*actor*⟩ *has (an) N*
- **N**{siuq}**V** ⟨*actor*⟩ *seeks for (an) N*
- **N**{si}**V** ⟨*actor*⟩ *buys/gets (an) N*
- **N**{tuq}**V** ⟨*actor*⟩ *consumes (an) N*

As you can see, the element N corresponds to an *object* in each of the translations. Note also that I have put (an) in parentheses: This is just to give you an intuitive sense of the

incorporated noun as being indefinite, but I might just as well have written (some) rather than (an). The incorporated noun has no *number* (because it does not have an ending), so if you e.g. say *Piitaq **qimme**qarpoq* we cannot see whether he has *one* or *several* dogs. He just has *dog*.

So what if Peter has a *small dog*? Or, in other words, how do we incorporate a noun phrase like *qimmeq mikisoq* with one of these affixes where the incorporated noun corresponds to an object? The answer is not at all obvious: *Peter has a small dog* is expressed as

*Piitaq mikisu**mik qimme**qarpoq*

The modifier *mikisoq* is suddenly moved to stand *before* the verb containing the incorporated head noun *qimmeq*, and it furthermore now appears with the ending **N**{mək}, which is the *instrumental singular* prepositional case ending (see the table in figure 7.4, page 139). This is just one of the many uses of this versatile case.[11]

A useful consequence of this is that we can now see the number of dogs: With *qimmeqarpoq* we could not tell whether he had one or several dogs; but now, with a modifier, we *can* infer it from the number in the case ending. **N**{mək} is singular, so *mikisu**mik** qimmeqarpoq* means that he has just *one* dog. Conversely, **N**{nək} is plural, so with *mikisu**nik** qimmeqarpoq* he would have several dogs (at least two). In other words, the instrumental case does *not* have to agree with any number mentioned in the verb ending, in accordance with its being an 'un-grammatical' case (i.e. unlike the absolutive and ergative). It only relates to the incorporated noun stem inside the verb. Our pattern for this structure is therefore the following:

Definition 8.6 (Stranded object modifier) *Let* **N**{S}**V** *be an affix of* having *or* doing *something with N; and let* **N**{INST} *be any instrumental case ending. Incorporation of a noun phrase with modifier,* {head}**N**{ABS} {modifier}**N**{ABS}*, with an affix of having or doing (something) with N, then has the following structure:*

{head}**N**{ABS} {modifier}**N**{ABS} → {modifier}**N**{INST} {head}**N**{S}**V**

The modifier is moved to the position before *the incorporated head noun, where it appears in the instrumental case. The case ending* **N**{INST} *can be singular or plural, depending on the number of the incorporated head noun.*

[11] Calling it the 'instrumental' case is actually a bit of a misnomer. It *is* used to denote the instrument of a verbal action, like in latin and other languages with an instrumental case, but it is certainly not its primary usage in Greenlandic where it is most commonly used to mark intransitive objects, or, as here, modifiers of incorporated objects. A better name for it might therefore be the *objective* case, and that was indeed what I called it in a previous edition of this book.

Aside 8.2: Say my name

Greenlandic courses and course books always begin by teaching the students how to introduce themselves. It is not an unreasonable ting to do, but unless you understand the *structure* it just becomes a meaningless formula that you have to memorise. But now you *can* understand it.

{atəq}**N** is a name, so ***ateq Stiani*** is a noun phrase. To say that I *have* the name 'Stian' (which is how you express 'my name is') I will therefore say

ateq Stiani $\Longrightarrow$ *Stiani**mik ate**qarpunga*

with singular **N**{mək} because my name is obviously singular. Similarly, {ukiuq}**N** is a year, so ***ukiut 28-t*** [ukiut otteogtyvit] is a noun phrase meaning *28 years* (with plural **N**{t}, because 28 is obviously plural). Thus, if I am 28 years old, then I *have* 28 years, and I therefore say

ukiut 28-t $\Longrightarrow$ *28-**nik ukio**qarpunga*

Lastly, what happens if we again convert such a verb formed with **N**{-qaq}**V** into a *noun*, using **V**{ðuq}**N**? An **N**{-qaq}**V**{ðuq}**N** would be *someone who has an N*, so for example ***Stianimik ateqartoq*** is *someone whose name is Stian.* We can even turn this into a *new* noun phrase, for example with {aŋutə}**N**, *man*, as head, so

$$\textit{angut}\ \underbrace{\textit{Stianimik ateqartoq}}_{\textit{modifier}}$$

is *a man who has the name Stian.* And so the process recurs. There is also an **N**{S}**N** affix with the same meaning: **N**{-lək}**N**, *one who has N*, so **N**{-lək}**N** = **N**{-qaq}**V**{ðuq}**N**. Another way of expressing *a man named Stian* is therefore just ***angut Stianimik atilik***.

The modifier does not have to be *small* or *red* etc.; it could also be a number like ***marluk*** (two). *Two dogs* is then a noun phrase, ***qimmit marluk***, and if you want to specify that Peter owns exactly two dogs, then you would therefore say ***Piitaq marlun**nik qimme**qarpoq***. It is an immensely useful (and common) construction in Greenlandic, and I have added a few more examples of its usage in aside 8.2

8.6 Impersonal incorporation

The affix **N**{-qaq}**V** can also create a kind of completely impersonal sentences when used with a 3.sg ending and no explicit specification of the subject. It can then simply mean ***there is*** *N*, with the 'dummy' subject *there* who does not really refer to any person. The meaning is *avalent.* For example, ***illo**qar**poq*** can simply mean ***there is*** *a house* or ***there***

***are** houses*, since we have no modifier to indicate whether the incorporated noun {əŋlu}**N** is singular or plural.

However, you can add both a modifier and a context specification if you like, as long as there is no subject specification. Thus e.g.

*qaqqa**mi** aappaluttu**nik** illo**qar**poq*

means ***there are some** red houses **on** the mountain*, with plural instrumental **N**{nək} on the modifier indicating more than one house; and locative **N**{mi} marking {qaðqaq}**N**, *mountain*, as a specification of place. The format of this construction is thus:

Definition 8.7 (Impersonal incorporation) *The affix* **V**{-qaq}**N** *can have the avalent meaning* there is/are N *when used with a 3.sg ending* **V**{3.sg}*. The clause then has the form*

[context] [modifier] {noun}**N**{-qaq}**V**{3.sg}

where [context] and [modifier] are optional.

N{-qaq}**V** is by the way not the only noun-incorporating affix that can have an avalent meaning when used with a 3.sg ending; but it is the most generic, and this construction is undoubtedly also the most common.

8.7 The verbal possessive

You have now seen many examples of the use of both possessive constructions and noun incorporation; particularly with **N**{-qaq}**V** and **N**{-u}**V**. Both are useful and widely used in Greenlandic, but there are certain things you cannot do with them: Most notably, you cannot *combine* them, so you cannot e.g. just add *-uvoq* onto *qimmera* to express ***it is** my dog*.

Instead, Greenlandic has a particular *affix*, **N**{gə}**V**, with a curious meaning that is used to express precisely this kind of combined subject predicate and possessive construct. It is therefore sometimes known as the *verbal possessive:*

Definition 8.8 (Verbal possessive) *The* verbal possessive *is the affix*

N{gə}**V**, ⟨agent⟩ has ⟨patient⟩ as (his) N

corresponding to an English sentence of the form "P_1 is P_2's N" where "P_1" is the subject, and "P_2's N" is the subject predicate. The correspondence is obtained by rewriting the sentence according to the rule:

P_1	*is*	P_2*'s N*	$\rightarrow$	P_2	*has*	P_1	*as (his) N*
$\times_i$	$\bigcirc$	$\otimes$		$\times_t$	$\bigcirc$	$\triangle_t$	

The main difficulty with this affix resides in its meaning, as you can see, because it does not directly match the structure of the corresponding English sentence. Whenever you have an English sentence of the form P_1 *is* P_2*'s N* you will therefore firstly have to rewrite it to P_2 *has* P_1 *as (his) N* before you can translate it into Greenlandic.

The sentence structure changes completely: It is now clearly transitive, and P_1, the *subject* of the English sentence, becomes the *transitive object* of this 'pseudogreenlandic' translation, whilst P_2, who formerly was part of the subject predicate, now become the *transitive subject*.

But now at least the sentence has the right structure, so you can perform the actual translation, although you must also remember to add the proper case endings in case either the subject or the object appear as explicit specifications. I hope you will agree that this is most easily done in a stepwise fashion, with the 'pseudogreenlandic' translation as an intermediate step. Let us have an example:

Carl is Peter's father ($P_1 =$ Carl, $P_2 =$ Peter, N = father)
↳ *Peter has Carl as father* (pseudogreenlandic, Peter $= \times_t$, Carl $= \triangle_t$)
↳ ***Piitap Kaali ataatagivaa***[12] (Greenlandic)

Piitaq is now the transitive subject, so he takes the ergative singular case ending **N{p}**, whilst ***Kaali*** (Carl) is the transitive object, so he gets the absolutive singular ending **N{∅}**, and {ataata}**N**, *father*, is incorporated by **N{gə}V**.

It is somewhat simpler, if neither the subject nor the object appear as explicit specifications. Returning to the example of *it is my dog*, we can express it all in one word:

it is my dog ($P_1 =$ it (3.sg), $P_2 =$ I (1.sg), N = dog)
↳ *I have it as dog* (pseudogreenlandic, 1.sg $= \times_t$, 3.sg = $\triangle_t$)
↳ {qikmiq}**N{gə}V**{vara} $\Longrightarrow^*$ ***qimmerivara***[13]

All that was needed here was just to join the morphemes together, because both subject and object are expressed directly in the verb ending **V{vara}**, *I Vb him* (1.sg/3.sg). But again it was necessary (or at least useful) to firstly rewrite the sentence into pseudogreenlandic, to see that the verbal ending had to be one of the 1.sg/3.sg kind.

The verbal possessive is both a versatile and common construction; indeed, most of the possessive noun phrases (except for those involving spatial nouns) can be rewritten into a verbal form with **N{gə}V**. For example, you can use it with the partitive nouns (definition 8.3) to rewrite a partitive, possessive noun phrase in to a full sentence. Instead of saying just e.g. ***one of*** *Peter's dogs*, you can use **N{gə}V** thus

[12] Actually ***ataatagaa*** because **N{gə}V** and a few other schwa stems take some verbal endings in a slightly special way. But that is an unimportant detail at this point.

[13] Actually ***qimmeraara*** as previously noted.

Piitap qimmiisa ilaat $\Longrightarrow$ *Piitap qimmiisa ila**gi**vaat*[14]

to express that ***it is*** *one of Peter's dogs*. Literally (or in pseudogreenlandic), the sentence means that *Peter's dogs have it as their part*.

8.8 Participles

In other languages, participles are a kind of noun forms derived from verbs. Greenlandic has many **V**{S}**N** type affixes for creating nouns from verbs, so one might say that Greenlandic has many participles, if that was all we cared about. However, four of them are special, because they create nouns from verb stems representing the *roles* inherent in the verbal action; that is, nouns representing the ⟨actor⟩, ⟨agent⟩ and ⟨patient⟩, as well as the *verbal action* itself:

Definition 8.9 (Participles) *The Greenlandic participles are the following four* **V**{S}**N** *affixes, creating noun stems representing the logical roles of ⟨actor⟩, ⟨agent⟩, ⟨patient⟩ as well as the verbal action itself:*

- *The intransitive participle:* **V**{ðuq}**N**, one who Vb's = *the ⟨actor⟩ role*
- *The passive participle:* **V**{-ðaq}**N**, **V**{gaq}**N**, one who is Vb'ed = *the ⟨patient⟩ role*
- *The active participle:* **V**{ðə}**N**, a Vb'er = *the ⟨agent⟩ role*
- *The abstract participle:* **V**{nəq}**N**, the act of Vb'ing = *the verbal action*

The intransitive participle

The *intransitive participle* is none other than our well-known **V**{ðuq}**N** that you saw earlier in this chapter. It creates a noun representing the ⟨actor⟩ role, i.e. one who performs an action that is not *directed* at anything. It is therefore well-suited for verb stems like {mikə}**V** or {aŋə}**V**, describing the act of having certain characteristics (being small, being big), or {sinək}**V**, describing a state of being. But it would not make sense on a divalent stem like {aullai}**V**, because such a stem does not imply an ⟨actor⟩ role. To add it to this stem, you would first have to *decrease* the valency, which is a subject I shall return to later.

The passive participle

The *passive participle* is **V**{-ðaq}**N**, *one who is Vb'ed*, and it represents the role of the ⟨patient⟩; that is, it creates a noun from a divalent stem representing the thing or person at whom the verbal action is directed. You can think of it as being similar to the English *-ee* suffix, as in *employ**ee***, the person who is employed (by the ⟨agent⟩); or *train**ee***, the person who is trained (by the ⟨agent⟩) and so on. For example

[14] Actually *ila**gaat***, as noted before, which just makes the similarity to the noun phrase even greater.

- {taku}**V**, ⟨*agent*⟩ *sees* ⟨*patient*⟩ + **V**{-ðaq}**N** $\Longrightarrow^*$ ***takusaq***
  one/something seen (by the ⟨*agent*⟩*)*
- {asa}**V**, ⟨*agent*⟩ *loves* ⟨*patient*⟩ + **V**{-ðaq}**N** $\Longrightarrow^*$ ***asasaq***
  one/something loved (by the ⟨*agent*⟩*)*
- {suliqatə}**N**{gə}**V**{nəkuu}**V**, ⟨*agent*⟩ *once/formerly had* ⟨*patient*⟩ *as colleague* + **V**{-ðaq}**N** $\Longrightarrow^*$ ***suleqatiginikuusaq***
  someone formerly having been had as colleague (by the ⟨*agent*⟩*)*, or as we would say in ordinary English: *a former colleague (of the* ⟨*agent*⟩*).*

and so on. As you can see from the last example, the divalent verb stem can (and often will) have a complex meaning: Here I first combined the noun base {suliqatə}**N**[15] with the verbal possessive **N**{gə}**V** to yield a stem {suliqatəgə}**V** meaning ⟨*agent*⟩ *has* ⟨*patient*⟩ *as colleague*, and then added a time affix **V**{nəkuu}**V** meaning *has once/at some point in the past Vb'ed*, before finally adding **V**{-ðaq}**N**.

Besides having a meaning that can be difficult at first to wrap your head around, the passive participle affix also has some rather peculiar and idiosyncratic sandhi rules. I also describe them in my affix list (Lybech, 2020, p. 12), but here is a summary:

Definition 8.10 (Sandhi rules of V{-ðaq}N) *Let v be any vowel phoneme, and let c be any consonant phoneme* except /q/*. Then* {Sv}**V** *is a vowel stem, and* {Sc}**V** *is a consonant stem (k-stem or t-stem), whilst* {Sq}**V** *is a q-stem and* {St(ə)}**V** *is an ut(ə)-stem.*[16] *The* present day *rules for* **V**{-ðaq}**N** *can then be described as follows:*

{Sv}**V**{-ðaq}**N** → /Sv**c**aq/	*becomes* /caq/ *by ð-rule*
{Sc}**V**{-ðaq}**N** → /S**t**aq/	*becomes* /taq/ *by ð-rule, but deletes* /c/
{Sq}**V**{-ðaq}**N** → /S**g**aq/	*deletes* /q/ *and then becomes* /gaq/
{St(ə)}**V**{-ðaq}**N** → /S**cc**aq/	*becomes* /caq/*, elides (ə) and assimilates* /t/

Let us again have some examples:

- On *vowel stems* like {taku}**V** we get the expected ***takusaq*** as you saw above by ordinary application of the ð-rule.
- On *k-stems and t-stems* /c-**ð**/ becomes /c-**t**/ again by ordinary application of the ð-rule, *but* at the same time **V**{-ðaq}**N** is sandhi truncative (which is why I have written a -), so it *deletes* c, thereby violating our usual order of rule application. Thus e.g. with {tuqut}**V**, ⟨*agent*⟩ *kills* ⟨*patient*⟩, we therefore get ***toqutaq*** (and not **toqu**tt**aq*).

[15] Which itself is actually derived from {suli}**V**, ⟨*actor*⟩ *works* + **V**{-qatə}**N** *a fellow at Vb'ing.*

[16] See section 6.10 (page 116) for a description of the verbal stem types, and in particular the ut(ə)-stems.

- On *q-stems* **V{-ðaq}N** deletes /q/ and then becomes /**g**aq/, contrary to all rules. Thus with e.g. {naju**q**}**V**, ⟨*agent*⟩ *inhabits* ⟨*patient*⟩, we therefore get ***naju**gaq***, literally *something inhabited (by the* ⟨*agent*⟩*)*, which also is the word for a *place of residence* and thus a useful word to know. You can read more about the origin of this strange form of the affix in aside 8.3.[17]

- On *ut(ə)-stems* **V{-ðaq}N** firstly becomes /caq/ as usual on a vowel stem. But then (ə) is elided, again contrary to all rules, so /caq/ is joined directly onto the final /t/ which is then assimilated, such that we end up with /ccaq/. You can think of the process as a number of steps:

	{St(ə)}**V**{-ðaq}**N**{∅}	
$\Longrightarrow$	/St**(ə)**ðaq/	((ə) is inserted before truncative morphemes)
$\Longrightarrow$	/St**(ə)c**aq/	(/əð/ $\Longrightarrow$ /əc/ by the ð-rule)
$\Longrightarrow$	/S**tc**aq/	((ə) is elided, against usual rules)
$\Longrightarrow$	[S**cc**aq]	(/tc/ $\Longrightarrow$ [cc] by the consonant rule)

  Thus with e.g. {naŋsiut(ə)}**V**, ⟨*agent*⟩ *sends* ⟨*patient*⟩ *(to someone)* we get ***nassiu**ss**aq***, which is *something sent (by the* ⟨*agent*⟩*)*, i.e. a *shipment.*

V{-ðaq}N is a strange affix, because it both behaves truncatively on k-stems and t-stems, whilst at the same time beginning with a /ð/. Normally, /ð/ initial affixes are *never* truncative, because it would mean that /ð/ *always* would come to follow a vowel, because of the syllable structure, and thus /ð/ would *always* become /c/, in which case it would not make sense to describe the affix as /ð/ initial in the first place. Ordinarily, I would therefore just have written such an affix as {-cS} instead; that is, as truncative and /c/ initial. The only reason I write **V{-ðaq}N** as both truncative *and* /ð/ initial is precisely because it violates the order of application of sandhi- and sound rules.

Lastly, I should also mention some stems ending in /it/, such as **V{ŋŋit}V**, *negation*; and {tək**it**}**V**, ⟨*agent*⟩ *arrives at* ⟨*patient*⟩. They do not have any special behaviour not covered by our rule, but they still require a bit of careful thought: The stem-final /t/ is deleted and /ð/ itself becomes /t/ by the rules above, but the usual sound rules still apply, including specifically the t-to-s rule, so /S**ita**q/ then becomes /S**isa**q/. That is, we get ***-nngisaq*** and ***tikisaq***. To spell it out in minute detail, the derivation of ***tikisaq*** is thus:

[17] And one final peculiarity: When following the affix **V{ðaq}V**, *habitually Vb*, **V{ðaq}V{-ðaq}N** of course becomes *+**tagaq*** as expected – *except* when **V{ðaq}V** is added to a *vowel stem* {Sv}**V**, such that it becomes *+**sarpoq*** (in Graphemist notation) by the ð-rule. In this particular case **V{ðaq}V** is reduplicated, such that the result instead becomes *+**sarta**gaq*. As a sandhi rule we can express this as

$$\{Sv\}\textbf{V}\{\text{ðaq}\}\textbf{V}\{\text{-ðaq}\}\textbf{N} \rightarrow /Sv\text{caqtagaq}/$$

Aside 8.3: What the *gaq*?

This strange form {-gaq} appearing on q-tems was originally a completely different morpheme {-kaʁ} according to Fortescue et al. (2010), but with the same meaning as {-ðaq}. At some point, the two apparently became 'mixed up' leading to {-gaq} being used on some stems, and {-ðaq} being used on others. This is called *suppletion* in Grammaric, and you can find many examples of the same phenomenon in English, like *be/is/were*, or *go/went* which were originally distinct words that at some point became merged into one irregular paradigm.

Something similar happened in the inuit languages with {-gaq} and {-ðaq}, leading to much irregularity, as is usual when suppletion is involved. Even though {-gaq} *today* is the regular form on q-stems, this was not always the case: Once it was instead used on *k-stems*, and you can therefore find many lexicalised examples in the dictionary that do not conform to the rules I have presented here, such as ***naalagaq***, *master/lord*; ***ornigaq***, *destination*; and ***allagaq***, *letter*, from {naalak}**V**, ⟨*agent*⟩ *obeys* ⟨*patient*⟩; {uqnək}**V**, ⟨*agent*⟩ *approaches* ⟨*patient*⟩; and {aglak}**V**, ⟨*agent*⟩ *writes* ⟨*patient*⟩, respectively.[a]

Conversely, you can therefore also find lexicalised examples of {ðaq} occurring on q-stems, such as (plural) ***errortat***, *laundry* (after washing). There are even a few completely strange cases where this morpheme just appears as {aq} instead, notably ***sanaaq***, *something made* from {sana}**V**, ⟨*agent*⟩ *makes* ⟨*patient*⟩; and ***pisiaq***, *something bought/acquired* from {pisi}**V**, ⟨*agent*⟩ *buys/acquires* ⟨*patient*⟩.

[a] All forms with {-gaq} also regularly display gemination (see section 6.6, page 105), so e.g. in plural they become ***ornikkat, naalakkat*** and ***allakkat***.

$$\{\text{təkit}\}\mathbf{V}\{\text{-ðaq}\}\mathbf{N}\{\emptyset\} \Longrightarrow^{*} /\text{təkitaq}/ \Longrightarrow /\text{təkisaq}/ \Longrightarrow^{*} \textit{tikisaq}$$

which would have seemed completely arbitrary if you had not known about the sound rules.

I shall not pretend that this stuff is easy. The passive participle is both a very common affix, with a meaning that can be difficult to grasp, and, unfortunately also with highly irregular sandhi behaviour. It is a small comfort, though, that there are *very* few other affixes behaving as erratically at this one.

The active participle

The affix **V**{ðə}**N** is sometimes called the *active participle*, e.g. by Schultz-Lorentzen (1951), and it is in a sense the dual of the aforementioned **V**{ðaq}**N**, because it creates a noun from divalent stems corresponding to the ⟨agent⟩ role. Where **V**{-ðaq}**N** was comparable to the *-ee* suffix in English, **V**{ðə}**N** might then be compared to the *-er* or *-or* suffix, as in e.g. the word *employer*. Where ***naalagaq***, *master*, literally *one that is obeyed*, was the

passive participle of {naalak}V, ⟨*agent*⟩ *obeys* ⟨*patient*⟩, a ***naalatsi***, *subject/minion* is then literally *one that obeys (someone)* or *an obeyer* perhaps.

You can find several other lexicalised examples with this affix in the dictionary, such as ***oqalutsi***, *interpret**er***, literally *a speaker (for someone)*) and ***siunnersorti***, *advis**er***, but it is far less commonly used in ordinary, everyday word-production than the other participles. My impression is that people instead today prefer the intransitive participle **V**{ðuq}**N**, described above, both for monovalent and divalent stems (but in the latter case only after a required reduction of valency).

The abstract participle

Lastly, the *abstract participle* is the affix **V**{nəq}**N**, creating so-called *abstract nouns* from verb stems (hence, its name), used to refer to the verbal action itself. You can compare it to the English suffix *-ing* (and probably several others); thus ***iganeq*** is (the act of) *cook**ing***, ***sulineq*** is (the act of) *work**ing***, and so on.

Regarding its *form* though, you should note that it ends in /əq/. It is thus a *strong q-stem*, meaning that vowel-initial endings, and even a few vowel-initial *affixes* like **N**{-u}**V**, will join directly onto to final /q/ without being able to remove it. Check definition 6.3 (page 100) for the sandhi rules of these strong q-stems.

It is a common affix with many uses (some of which I shall return to later), but let me immediately mention a few peculiar constructions with this affix:

- With the *allative case* it means *at/for Vb'ing*; e.g. *iga**nermut** pikkorippoq*, *he is skilled **at cooking***.
- With the *ablative case*[18] it means *because of Vb'ing*; for example *mik**inermit***, *because it was small.*
- With a *possessive locative case* ending it means *during possessor's Vb'ing* or ***while** possessor Vb'ed.* For example *neri**nerani** aallaavara*, *I shot it **while it** ate.*

  If the verbal stem is *negated*, using the affix **V**{ŋŋit}**V**, then it means ***before** possessor Vb'ed.* Thus *neri**nnginnerani** aallaavara* means *I shot it **before it** ate.*
- With the *ergative singular* ending **N**{up}, acting as possessor of the noun ***nalaani***, which itself bears the 3p.sg/sg possessive locative ending **N**{-ani}, it means *during the Vb'ing.* This is somewhat similar to the meaning above, but this time there is no possessor of the verbal action, so the construction becomes impersonal: ***nerinerup nalaani*** just means *during eating* with no indication of what person or persons are performing the action.

[18] Or the allative case; or even the instrumental case

8.9 Subordinate clauses with modifiers

As you have seen, you can use the passive participle **V**{-ðaq}**N** to form nouns with quite complex meanings. In particular, they form nouns meaning

something Vb'ed (by the ⟨agent⟩)

such as ***takusaq*** (something seen) from {taku}**V**, *⟨agent⟩ sees ⟨patient⟩*. But notice that with ***takusaq*** we can no longer see *who* the agent is: Obviously 'something seen' must be seen *by someone*, but this information is not present in the word.

However, we can fill this slot again by using a *possessive* ending on the noun. The possessor will then take the role of ⟨agent⟩; that is, instead of having a noun meaning *something Vb'ed **(by the ⟨agent⟩)*** with the (by the ⟨agent⟩) part unspecified, we obtain a new noun meaning *something Vb'ed **by possessor***:

Definition 8.11 (Possessed passive participle) *A* possessed passive participle *(PPP) is a noun derived from a divalent verb stem with the passive participle* **V**{-ðaq}**N** *and a possessive ending* **N**{POSS} *of any case. Its meaning is* an N Vb'ed by possessor*, where N represents the ⟨patient⟩ role and possessor fills the ⟨agent⟩ role. The correspondence is thus:*

{⟨agent⟩ Vb's ⟨patient⟩}**V**{-ðaq}**N**{POSS}	=	*an N* ⟨*patient*⟩	*Vb'ed*	*by POSS* ⟨*agent*⟩

Here are some examples with the absolutive endings **N**{ga} (1.sg/sg, my N), **N**{kka} (1.sg/pl, my Ns), and **N**{-a} (3.sg/sg, his N) on the aforementioned ***takusaq***:

- {taku}**V**{-ðaq}**N**{ga} $\Longrightarrow^*$ *takusa**ra***, *something seen **by me***
- {taku}**V**{-ðaq}**N**{kka} $\Longrightarrow^*$ *takusa**kka***, *something**s** seen **by me***
- {taku}**V**{-ðaq}**N**{-a} $\Longrightarrow^*$ *takusa**a***, *something seen **by him***

In the last example, when the possessor is a 3rd person, we can of course also specify an explicit possessor in the ergative case, just as with any other possessive noun phrase. Thus:

- *Piita**p** takusa**a*** is *something seen **by Peter***
- *Ataata**ma** takusa**a*** is *something seen **by my father***

and so on. The word ***takusara*** is literally *my seen thing*, so the meaning is quite intuitive (at least to me).

These possessed passive participles (or just PPP for short) can in turn be used as modifiers in noun phrases, such as e.g. ***angut takusara***, *the man (whom) I saw*. When such a noun phrase is used to fill any of the slots in our sentence structure, the result will correspond to a *subordinate clause* in English; that is, a part of a sentence usually beginning with *that, which* or *whom*. For example

- *Peter shot the man* ***(whom) I saw****.*
- *Peter is the man* ***(whom) I saw****.*
- *Peter has a dog* ***(that) I saw****.*

In all three sentences, the phrase *(whom/that) I saw* is a subordinate clause; i.e. a phrase containing a subject and a verb but which nevertheless cannot stand alone. Incidentally, the three example sentences above also correspond to the three types of noun phrases with modifiers: The 'ordinary' noun phrases, appearing as subject, object or context specification; and the *stranded* modifiers of either an incorporated subject (those with **N{-u}V**), or an incorporated object (those with **N{-qaq}V**).

Consider first a few examples where the possessed passive participle appears as an ordinary modifier:

- *Piitap* ***angut takusara*** *aallaavaa*, *Peter shot* ***the man (whom) I saw****.*
  Here **{aŋutə}N**, *man* is the transitive object specification, so he appears in the absolutive case as ***angut*** with singular ending **N{∅}**. And ***takusara*** modifies ***angut***, so it too must be absolutive singular, thus bearing the possessive 1.sg/sg ending **N{ga}**, *my N.*

- ***Angutip takusama*** *Piitaq aallaavaa*, ***the man (whom) I saw*** *shot Peter.*
  Here **{aŋutə}N** specificies instead the transitive *subject*, so now he must be in the *ergative* case, with singular ending **N{p}**. And ***takusama*** still modifies ***angutip***, so now it bears the possessive ergative 1.sg/sg ending **N{ma}**, *my N.*

- *Piitaq* ***illumut takusannut*** *iserpoq*, *Peter entered* ***the house that I saw****.*
  {isəq}N means ⟨*actor*⟩ *enters (into something)*, where the (into something) element is an optional context specification given by a noun in the allative case. Thus ***illumut***, *(in)to the house*, bears the unmarked singular allative case ending **N{mut}**, *to N*, and the PPP modifies this noun, so it must agree with it on case and number: ***takusannut*** therefore bears the possessive allative 1.sg/sg ending **N{mnut}**, *to my N.*

And now, at last, consider these two examples where the PPP modifies an incorporated noun; i.e. it appears as a *stranded* modifier of an incorporated subject or object:

- *Piitaq* ***angutaavoq takusara***, *Peter is* ***the man (whom) I saw****.*
  The verb ***angutaavoq*** is formed with the copula affix **N{-u}V**, ⟨*actor*⟩ *is an N*, so **{aŋutə}N** is an incorporated *subject*, and ***takusara*** is thus a *stranded subject modifier* (see definition 8.5). It must therefore appear at the position *after* the verb, and be in the absolutive case: Hence, the ending is the possessive absolutive 1.sg/sg **N{ga}**, *my N.*

- *Piitaq takusa**nnik** qimmeqarpoq*, *Peter has a dog **that I saw**.* The verb *qimmeqarpoq* is formed with **N**{-qaq}**V**, making {qikmiq}**N** an incorporated *object.* The word *takusa**nnik*** is thus a *stranded object modifier* (see definition 8.6), and it must therefore appear at the position *before* the verb, and be in the instrumental case: The ending is therefore the possessive instrumental 1.sg/sg **N**{mnək}, *'with' my N.*

This last construction thus ties together all the seemingly disparate subjects I have hitherto presented in this chapter.

8.10 Nominal object clauses

The previous section dealt with a kind of 'nominal sentences' created from possessed forms of the passive participle. But you can also possess the *abstract participle* **V**{nəq}**N**, which yields a type of structure called a *nominal object clause.*

An *object clause* is just the Grammaric term for when an entire sentence (or at least a subject and a verb) is used as object for another verb; for example:

$$\begin{array}{ccc} I & saw & \underbrace{\textit{that Peter shot the dog}} \\ \times_t & \bigcirc & \triangle_t \end{array}$$

and you can create something similar by adding the abstract participle to the verb stem you wish to use as object. If the base is monovalent you can optionally add a possessive ending to denote the person filling the ⟨actor⟩ role. Thus you can e.g. transform the sentence *Piitaq sinippoq* like this

$$\begin{array}{ccccccc} \textit{Piita}\mathbf{q} & \textit{sinippo}\mathbf{q} & \Longrightarrow & \underbrace{\textit{Piita}\mathbf{p}\ \textit{sinin}\mathbf{nera}} & \textit{takuara} \\ \times_i & \bigcirc & & \triangle_t & \bigcirc \end{array}$$

which means *I saw Peter sleeping*, with absolutive 3.sg/sg **N**{-a} added to {sinək}**V**{nəq}**N** and *Piitap* now as explicit possessor specification.

You can also do it with a *divalent* stem like {aullai}**V**, but then there is a catch: When the stem is divalent, the possessor may sometimes denote the ⟨*patient*⟩ *role*, rather than the ⟨agent⟩ role that you might expect. For example:

*Piita**p** aallaa**nera** takuara*

means *I saw Peter being shot*, or literally *I saw the shooting **of** Peter.* If instead you want Peter to be the shooter, rather than the target, you have to use a special form of {aullai}**V**; a so-called *half-transitive* form {aullai**nnək**}**V**. Using this form, you can say

*Piita**p** (qimmimik) aallaannin**nera** takuara*

meaning *I saw Peter shoot (the dog)*. I shall return to the subject of these half-transitive forms, and when you need to use them, in chapter 9. Right now I shall limit myself to summarising this structure as follows:

Definition 8.12 (Abstract participle object clause) *A main clause can be turned into an* object clause *by adding the abstract participle* **V**{nəq}**N** *to the stem of the main verb:*

- *If the stem is* monovalent*, then a possessive ending is optional. If present, it denotes the person filling the* ⟨*actor*⟩ *role.*
- *If the stem is* divalent*, then a possessive ending is* required*, and it denotes the person filling the* ⟨*patient*⟩ *role,* unless *the stem is non-patient preserving; then it instead denotes the person filling the* ⟨*agent*⟩ *role.*

In case you are wondering, the 'non-patient preserving' stems are precisely those that do *not* require the use of this aforementioned special 'half-transitive' form. One example is {atuvaq}**V**, ⟨*agent*⟩ *reads* ⟨*patient*⟩, so

*Piitap (atuakkamik) atuar**nera** takuara*

means *I saw Peter reading (a book)*, with Peter as the person doing the reading, rather than being read.

8.11 Incorporation of participles

Throughout this chapter you have seen both how you can incorporate nouns and how you can modify them with participles. Now at last we shall return to the starting point of this chapter and consider a type of construction where you incorporate the participles themselves; specifically the intransitive and passive participles.[19]

Impersonal cleft sentence

Compare the following two sentences: *a man sleeps* and ***there is** a man **who/that** sleeps*. The latter is called a *cleft sentence* in Grammaric, and as you can see it consists of an ordinary, straightforward sentence that is 'broken up' into two parts, such that the former subject (*a man*) now is become a subject predicate instead; and a new, impersonal 'dummy subject' *there* is introduced in his stead. If you think it seems like a strange and convoluted thing to do to a sentence, then just read through this chapter again: I do it all the time to

[19]You can also incorporate the abstract participle: This creates the morpheme **V**{nəq}**N**{-qaq}**V** ⟹ **V**{nəqaq}**V**, but I shall postpone the description of this until chapter 9.

vary my language use and to emphasise the verbal action (or conversely to *de-emphasise* the subject).

You can create the same construction in Greenlandic by turning the sentence into a noun phrase with the intransitive participle **V**{ðuq}**N**, and then incorporating the resulting noun, using **N**{-qaq}**V** in the impersonal sense I described in definition 8.7 (page 159). Or more simply put: just add **V**{ðuqaq}**V** to the verbal stem, and convert any explicit subject specifications to stranded object modifiers by changing their case to the instrumental. Thus

angut sinippoq $\implies$ *anguti**mik** sinit**toqar**poq*

You can of course also have a context specifier, or change the modifier to plural if you like: *igaffim**mi** anguti**nik** sinit**toqar**poq* is equally possible. The transformation is thus as follows:

Definition 8.13 (Impersonal cleft) *Let the number n denote either singular or plural. A simple, intransitive sentence with a 3.n subject, meaning* the subject Vb*, can be transformed into a cleft sentence, meaning* there is/are a/some subject(s) who/that Vb*, by the transformation*

{noun}**N**{ABS.n} {verb}**V**{3.n} $\rightarrow$ {noun}**N**{INST.n} {verb}**V**{ðuqaq}**V**{3.sg}

Notice that this construction only works with *intransitive sentences*. This should come as no surprise, since you cannot add **V**{ðuq}**N** directly onto a divalent stem without firstly reducing its valency, which is a subect I shall return to in chapter 9. The important point here is just that this construction allows you to change the subject from being a rather *specific* person (e.g. ***the** man*) to a more vague, indefinite figure (e.g. ***a/some** man*).

Indefinite objects

You can also incorporate the passive participle: this is used in a somewhat peculiar construction to transform a transitive sentence with a definite object into an *intransitive* sentence with a kind of vague, indefinite object, like *some* or *any* in English. Here is an example of the transformation, spelled out in a number of steps:

qimmit takuakka = *I saw **the** dogs*
↳ *qimmit taku**sa**kka* = *the dogs I saw*, with *takusakka* as modifier.
↳ *qimmi**nik** takusa**qar**punga* = *I saw **some** dogs*,
with *qimminik* as stranded object modifier.

If you want, you can also negate this verb with **V**{ŋŋit}**V** to express that *I have **not** seen **any** dogs.*[20] We can again think of the participle and **N**{-qaq}**V** as one combined morpheme, **V**{-ðaqaq}**V**. Formally, the transformation is then:

Definition 8.14 (Some/any indefinite objects) *An object of a transitive sentence can be given the indefinite meaning* some/any *by incorporating the passive participle of the divalent verb stem, i.e. add* **V**{-ðaqaq}**V***, and changing the object to a stranded object modifier:*

{noun}**N**{ABS} {verb}**V**{TR} → {noun}**N**{INST} {verb}**V**{-ðaqaq}**V**{INTR}

where **V**{TR} *denotes a transitive ending, and* **V**{INTR} *an intransitive one.*

* * *

Even though the verb is arguably the most important element of a Greenlandic sentence, because it alone can form a main clause, there are still *many* things you can express, just by using nouns and noun phrases. The length of this chapter alone should make that clear. Nouns can appear in all the slots in our sentence structure, and in this chapter I have tried to describe the various ways in which they do that, and what the resulting structures mean.

Using the participles, especially **V**{ðuq}**N** and **V**{nəq}**N**, entire *clauses* with subjects, modifiers and all, can be turned into complex noun phrases, each having its own set of slots for arguments and modifiers. It can give rise to some very complicated structures indeed, which at first glance can seem like they defy the usual sentence structure by mixing the order of fields. For example

niviarsiaq mikisoq illumi aappaluttumi najugaqartoq takuara

means *I saw the little girl who lives in the red house.* Here, both ***mikisoq*** and the whole phrase ***illumi aappaluttumi najugaqartoq*** are modifiers to the subject ***niviarsiaq***; and the second modifier is actually a whole clause, ***illumi aappaluttumi najugaqar**poq***, which has been turned into a noun phrase by the intransitive participle **V**{ðuq}**N**.

I have purposefully tried to introduce as few new words as possible, and to reuse them over and over again, to allow you to focus on the structures rather than on learning vocabulary: there is already more than enough to remember in this chapter. Actually, I doubt you will be able to just memorise all these constructions, just by reading about them here: therefore, think of this chapter more as a bestiarium of noun phrases, where you can look up structures when you encounter them in real, Greenlandic texts.

[20] *Qimmi**nik** takusaqa**nngi**langa.* Ignore the weird ending **V**{-laŋa}; it is just an oddity of **V**{ŋŋit}**V** that it takes this ending, but the meaning is the same as our ordinary **V**{vuŋa}.

CHAPTER 9

Focus

One of the salient and most pervasive features of Greenlandic is of course the ability to build complex word stems by adding affixes. Not only can you build a verb stem by incorporating a noun, or create a noun from a verbal stem, but you can also extend the meaning of a verb stem, to the point of completely shifting around the roles implied in the verbal action. This has to do with the *valency* of verbal stems, which can both be increased and decreased by certain affixes. And as you saw in the previous chapters, the valency of a verbal stem will in turn influence the structure of the resulting sentence.

This may sound complicated but it is a very common thing to do in Greenlandic to change the *focus* in a sentence, e.g. by emphasising just the agent, or patient, in a verbal action. It can for instance be used to express something like *definiteness* in Greenlandic, which, as you may have noticed, lacks both an indefinite and a definite article.[1] This chapter is therefore dedicated to all such issues of changing valencies.

9.1 The passive construction

Consider the following sentences: *It was concluded that Peter had learning disabilities. It was decided that Peter needed special education. Taxes are raised to 65%.* Can you see what they have in common? Politicians and academics alike have a strong preference for sentences of this form, because they all *look* like statements of objective truth.

But looks can be deceiving: *Who* concluded that Peter had learning disabilities? Probably some educational psychologist. *Who* decided that he needed special education? Probably his teacher. *Who* raised the taxes to 65%? Some politicians, undoubtedly.

[1] The indefinite article in English is *a* (or *an*), and the definite article is *the*.

The common factor of these sentences is that they are all written in a form that *hides* the person or persons who actually perform the action. To be a little more specific, the verbal action of the main verb is *divalent* in all three cases (*conclude, decide, raise*), but the *agent* is unspecified. This 'secret agent' construction is called *passive*, and it allows politicians, educational psychologists, teachers and others to draw conclusions and make decisions without revealing that *they* are the ones who perform the verbal action. It is certainly a handy trick, if you want to make your personal opinion sound like an objective fact (as many academics have discovered).

Sarcasm aside, the passive construction *is* a useful way to vary your language, because it allows you to focus on the *patient* role in a divalent verbal action. Consider again our (by now) well-known example:

Peter	shot	the dog	$\Longrightarrow$	The dog	was shot	(by Peter)
$\times_t$	$\bigcirc$	$\triangle_t$		$\times_i$	$\bigcirc$	

Formally, what happens is that the transitive sentence *Peter shot the dog* is transformed into an intransitive sentence, *the dog was shot.* In the transitive sentence, *the dog* was the *object*, so it played the role of patient, but in the intransitive sentence *the dog* is now become the *subject.* But notice that it *still* plays the role of patient: even as a subject it is still being shot. This is the defining characteristics of the passive construction:

Definition 9.1 (Passive) *A* passive construction *decreases the valency of a divalent verbal action by removing the* agent*, transforming a transitive sentence into an* intransitive *sentence where the* subject *fills the role of* patient*. Thus:*

$\times_t$	$\bigcirc$	$\triangle_t$	$\rightarrow$	$\times_i$	$\bigcirc$	(by $\langle$agent$\rangle$)
@$\langle$agent$\rangle$		@$\langle$patient$\rangle$		@$\langle$patient$\rangle$		optional

where the @-annotation below the grammatical functions indicate the role to which the grammatical function refers in the verbal action of the stem.

Notice two things about this definition: Firstly, it only holds for *divalent* actions. There must be an agent and a patient in the verbal action (and this is true both in English and Greenlandic). You cannot decrease the valency of a monovalent verb in this way (try it, and you will see that it does not make sense).

Secondly, note the optional element *by* $\langle$*agent*$\rangle$ that I added in parentheses with a wavy underline. I use a wavy underline to denote a *prepositional phrase*, i.e. a noun phrase beginning with a preposition such as *by, in, on, to, from* etc. And after having removed the agent, you *can* precisely decide to add him into the sentence again with a prepositional phrase, i.e. ***by*** $\langle$*agent*$\rangle$. Or you can decide not to. This is exactly the point about passive sentences: You can say *the dog was shot* or *the dog was shot* ***by Peter***, with no change of

the verb. The dog is shot in either case, regardless of whether you decide to mention that it was done by Peter.

There is one further distinction you need to know about, which unfortunately is not as clear in English as e.g. in Danish or German (or Greenlandic). Compare the following two sentences:

1. *The dog is/gets shot* (by Peter)
2. *The dog is/was shot* (so now we need a new one)

In the former case you could replace *is* with *gets*, that is, *the dog **gets** shot (by Peter)*, and the sentence would still work. But in the latter case this would change the meaning of the sentence. This is because 'gets' (as well as 'is' in the first case) usually expresses a *dynamic* meaning; that is, focus is on the action *as it is being carried out*; whilst in the latter case the meaning is *static* in the sense that the verbal action has already happened, and focus is now on the state of being *after* the action.

These two forms of passive meaning are called *dynamic passive* (1) and *static passive* (2) respectively, and as I said, the distinction is unfortunately not very clear in English. But in Greenlandic they are, because you use two different affixes for their construction:

- **V**{nəq}**N**{-qaq}**V** $\implies$ **V**{nəqaq}**V** (dynamic passive, ⟨*patient*⟩ *is/gets Vb'ed*)
- **V**{-ðaq}**N**{-u}**V** $\implies$ **V**{-ðau}**V** (static passive, ⟨*patient*⟩ *is/was Vb'ed*)

As you can see, the dynamic passive is formed by a combination of the abstract participle **V**{nəq}**N**[2] and the affix **N**{-qaq}**V** nomally used for expressing ⟨*actor*⟩ *has an N*. Thus, the passive meaning is not at all obvious from the meaning of the two constituent morphemes, so I shall write this as a single morpheme **V**{nəqaq}**V** instead.

The static passive is likewise formed from two other morphemes you already know: the passive participle **V**{-ðaq}**N** (which unfortunately means that all the complications of its idiosyncratic sandhi rules carries over to the static passive as well), and the copula affix **N**{-u}**V** (⟨actor⟩ is an N). This at least makes some intuitive sense, since **V**{-ðau}**V** then literally means ⟨*actor*⟩ *is one that is Vb'ed*, but I shall nevertheless also write this as a single, combined morpheme. Our example sentence *Piitap qimmeq aallaavaa* thus becomes:

- *Qimmeq aallaa**neqar**poq* (dynamic, *the dog is/gets shot*)
- *Qimmeq aallaa**saa**voq* (static, *the dog is/was shot*)

where of course we now need to use an *intransitive* verb ending (here 3.sg **V**{vuq}) instead of a transitive one, because the valency has been decreased by the affixes. There are also other ways of creating a sentence with a passive meaning, but they are more like special cases that only work with certain verb stems, or also adds more to the meaning of the

[2] See definition 8.9, page 161 about participles.

Aside 9.1: Passive paasinarpa?

Some verbs may have an inherently passive meaning in certain constructions, without any additional morphemes. Just think of the verbs in English sentences such as *Peter* ***broke*** *the window* or *the sun* ***melted*** *the snow*. Here *broke* and *melted* are clearly active, with the agent (Peter, viz. the sun) clearly specified. But you could also say *the window* ***broke*** and *the snow* melted, and hocus pocus, now their meanings are passive. The former objects (the window, the snow) are now subjects of their respective sentences, but they are still patients of the *action*.

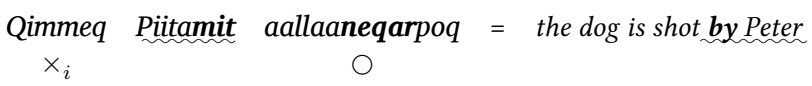
Some (but certainly not all!) Greenlandic divalent verb stems work in the same way. For example, {atuq}**V**, ⟨*agent*⟩ *uses* ⟨*patient*⟩ has this curious property. Thus, ***Piitap aallaat atorpaa*** means *Peter used the rifle*, but ***aallaat atorpoq*** means *the rifle* ***was used***. This stem gets a passive meaning just by switching the verb ending from transitive to intransitive.

There is also an affix, **V**{tət}**V** with a somewhat similar behaviour. With a transitive ending it means ⟨*agent*⟩ *lets/causes* ⟨*patient*⟩ *to Vb*, but with an intransitive ending its meaning can become passive: ⟨*actor*⟩ *is Vb'ed.* Thus e.g. with {kii}**V**, ⟨*agent*⟩ *bites* ⟨*patient*⟩ we get ***kiisippoq***, *he was bitten.* However, it can also imply some degree of wilfulness or purpose on behalf of the patient, as in ⟨*patient*⟩ ***lets himself be*** *Vb'ed.* Thus ***Piitap nanoq takuaa*** means *Peter saw the polar bear*, but ***nanoq takutippoq*** means that *the bear* ***let itself be*** *seen*.

A few other affixes can do something similar: Fortescue (1984, p. 265) mentions **V**{sima}**V** (perfective state) and **V**{ðariaqaq}**V**, *must/ought to Vb*, but I think they are mostly found in lexicalised constructs rather than in active use. At least, I have not seen (m)any examples of this. However, the affix **V**{naq}**V**, ⟨*actor*⟩ *is Vb'able* is a common example: E.g. with **V**{paasi}**V**, ⟨*agent*⟩ *understands* ⟨*patient*⟩ we get ***paasivaa***, *he understands it*, with a transitive ending, but ***paasinarpoq*** means ***it is*** *understan****able***. And so I hope it is.

sentence besides pure passivisation, whilst **V**{nəqaq}**V** and **V**{-ðau} are the canonical ways of doing it. They always work. I have written a little more about this in aside 9.1

We can also reintroduce the 'secret agent' Peter as in the English sentences, where he appeared as a prepositional phrase (***by*** *Peter*). You express this in Greenlandic with the prepositional case called *ablative*; that is, the endings **N**{mət} and **N**{nət} in unmarked singular and plural.[3] ***Piitaq*** is only a single person, so we use the singular ending:



The ablative is precisely one of the 'un-grammatical' cases, and the and the noun phrase ***Piitamit*** does not agree with anything in the verb ending. It is entirely optional, corresponding to the fact that *focus* in a passive construction is on the *patient-turned-subject*,

[3] See section 7.6, page 138

and the verbal action performed on him. Or stated in another way, we might say that focus is on those elements that are explicitly marked, or referred to, by a personal marker, e.g. in the verb ending. The former agent is no longer marked in the verbal ending **V**{vuq}, and he is therefore out of focus.

9.2 The antipassive construction

In the passive construction you decrease the valency and turn a transitive sentence into an intransitive one by removing the *agent*, and shifting focus to the *patient* by promoting him to the function of *subject*. But what if you wanted it the other way around? What if you wanted to focus on the *agent*, and thus decrease the valency by removing the *patient*? This is in a sense the opposite of the passive construction, and it is therefore (not surprisingly) called *the **anti**passive construction* in Grammaric.

Definition 9.2 (Antipassive) *An* antipassive construction *decreases the valency of a divalent verbal action by removing the* patient*, transforming a transitive sentence in to an intransitive sentence where the subject fills the role of* agent*. Thus*

$$\underset{@\langle\text{agent}\rangle}{\times_t} \quad \bigcirc \quad \underset{@\langle\text{patient}\rangle}{\triangle_t} \quad \rightarrow \quad \underset{@\langle\text{agent}\rangle}{\times_i} \quad \bigcirc$$

It might sound like a strange an exotic construction when stated in such a formal way, but it is actually such a common thing to do in English that you might not even be aware that it *is* a thing. At least, not until now. You can say *Peter kills **the dog*** or just *Peter kills* without doing anything special, other than leaving out the object (the dog).

But you cannot do that in Greenlandic. As you now know, a divalent stem requires a transitive ending – i.e. one with *two* person markers such as **V**{vaa} (3.sg/3.sg) – to specify the persons who shall play the roles of agent and patient, respectively. The persons can then be further specified with noun phrases acting as explicit subjects and objects (e.g. *Piitap* and *qimmeq* in my usual example), but even if you leave them out, the verbal ending itself still specifies who plays the role of patient. {tuqut}**V** means ⟨*agent*⟩ *kills* ⟨*patient*⟩, so *Piitap qimmeq toquppaa* means the expected: *Peter kills the dog*. But even if you remove the explicit object specification *qimmeq*, it does not remove the patient: *Piitap toqup**paa*** means *Peter kills **it***, and not just *Peter kills*.

Nor can you simply change the transitive ending to an intransitive one. It will *sometimes* work as expected: For example *neri**vaa*** means *he eats **it*** but *neri**voq*** just means *he eats*. But this is certainly not always the case, as you saw above: Giving {atuq}**V** an intransitive ending made the meaning passive, and with {tuqut}**V** it is even worse: *toqup**poq*** means *he kills **himself***, so here the meaning has instead become reflexive.

With the exception of bases like {nirə}**V** (***nerivaa, nerivoq***) that *do* form intransitive verbs directly, you have to add a special morpheme to the divalent stem to give it intransitive *form* without changing its *meaning*. Such a morpheme is called a *half-transitive* affix, often simply shortened to HTR, and there are really only two of them in productive use today: {nnək} and {ði}, although the latter also apears as {ci} and {-i}. For example, the HTR-stem of {tuqut}**V** is {tuqut**ci**}**V** i.e. *toqutsivoq*, *he kills (something)*; for {atuq}**V** it is {atu**i**}**V**, *atuivoq*, *he uses (something)*; and for {paasi}**V** it is {paasi**nnək**}**V**, *paasinnippoq*, *he understands (something)*.

The HTR-morphemes have unfortunately developed some strange sandhi-behaviour over time, so it is not always entirely predictable *which* morpheme a given stem prefers, nor what *form* the morpheme takes when added to the stem. Furthermore, most divalent stems only use *one* of the two (so you can rarely just choose arbitrarily between them), and you can therefore think of the 'half-transitive stem' (HTR-stem) as something you have to learn, along with the ordinary morphemic form, whenever you learn a new divalent base. However, there are still some rules of thumb you can use: they are not exact, but they will be correct in *most* of the cases, so you can focus on memorising just the deviations:

Definition 9.3 (HTR-morphemes) *The most common HTR-morphemes are* {nnək} *and* {ði} *with variants* {ci} *and* {-i}*, and they are most commonly used on stem types with these characteristics:*

- *Stems ending in /*rə*/ or /*gə*/ take* {nnək}*, including all stems formed with the affixes* **N**{gə}**V** *and* **V**{gə}**V**. *Examples:*

  {nuannarə}**V** → {nuannarənnək}**V** *(nuannari**nnip**poq)*
  N{gə}**V** → **V**{gənnək}**V** *(-gi**nnip**poq)*

- *Many (but not all) vowel stems take* {nnək}*. Examples:*

  {asa}**V** → {asannək}**V** *(asa**nnip**poq)*
  {taku}**V** → {takunnək}**V** *(taku**nnip**poq)*

- All *ut(ə)-stems take* {ði}*, where /*t(ə)ði*/* $\Longrightarrow^*$ */*cci*/.*[4] *For example:*

  {iŋiqlat(ə)}**V** → {iŋiqlacci}**V** *(iŋgerla**ssi**voq)*

- *Most t-stems take* {ði}*, where /*tði*/* $\Longrightarrow^*$ */*tci*/. Examples:*

  {tuqut}**V** → {tuqutci}**V** *(toqu**tsi**voq)*
  V{tət}**V** → {tətci}**V** *(+ ti**tsi**voq)*

- *Most k-stems take* {ci}*. For example:*

  {nuuk}**V** → {nuukci}**V** *(nuu**ssi**voq)*

[4] See section 6.10, page 116 about ut(ə)-stems and their sandhi.

- *Most q-stems take* {-i}*, but on stems ending in /*əq*/ or /*vvq*/ the final /*q*/ is not removed, but instead just weakened to /*r*/. Examples:*

  {atuq}**V** → {atui}**V** *(atu**i**voq)*
  q-stem case, use {-i}
  N{təq}**V** → **N**{təri}**V** *(+te**ri**voq)*
  */*əq*/ case, use* {i} *and weaken /*q*/ → /*r*/*
  V{saaq}**V** → **V**{saari}**V** *(+saa**ri**voq)*
  */*vvq*/ case, use* {i} *and weaken /*q*/ → /*r*/*

Both the DAKA and the older dictionary by Schultz-Lorentzen (1958) usually[5] list the HTR-stems of transitive verbs along with their ordinary, transitive form, *unless* it is of the {nirə}**V** type that does not require a HTR-morpheme. The DAKA entries for some of these stems thus look like this:

> **atorpaa, atuivoq** *o* bruger det, anvender det, benytter det
>
> **ingerlappaa, ingerlassivoq** *o* driver det frem, arbejder med det, arbejder på det
>
> …

It is of course an annoying complexity that you will have to learn *two* morphemic forms of certain stems, rather than just one, but it is hardly more difficult than learning that the plural of *foot* is *feet*, whilst the plural of *wood* is just *woods* (and not *weed*). Once you get used to the patterns of HTR-morphemes as described above, you will not have to learn the HTR-stem for *every* new divalent stem, but only for those that do *not* follow these patterns.[6]

You may now be wondering why you would ever even *want* to use the antipassive construction, and having to deal with confusing HTR-stems. The answer is once again to do with *focus*. Because just as in the aforementioned passive construction, you can here also choose to add the patient back into the sentence again, as an explicit object specification in one of the 'un-grammatical' cases. But for the antipassive construction we do not use the ablative case; instead we use the *instrumental* case, i.e. **N**{mək} and **N**{nək} in unmarked singular and plural. The object then becomes an *intransitive object*, which I mark as $\triangle_i$; and because it no longer is marked in the verbal ending, it is not in

[5] But not always, for bizarre, unknown reasons. Also, sometimes the HTR-morphemes can appear *after* other affixes, such as **V**{tuq}**V**, *repeated action* or **V**{niaq}**V**, *intends to Vb*, and their HTR-forms do not appear in the dictionary. In such cases, just use the rules in definition 9.3 and say **V**{tui}**V** (+*tuivoq*) and **V**{niai}**V** (+*niaavoq*).

[6] Two prominent examples are {aə}**V**, ⟨*agent*⟩ *fetches* ⟨*patient*⟩ which has the HTR-stem {aə**lliq**}**V** (*aa**ller**poq*), and {ujaq}**V**, ⟨*agent*⟩ *searches for* ⟨*patient*⟩, where the HTR-stem *today* is {uja**aci**}**V** (*uja**asi**voq*), but the alternative HTR-form {ujarliq}**V** (*uja**rler**poq*) also exists. A few other stems also use this strange HTR-morpheme {(l)liq}.

focus and thus its meaning becomes indefinite, whereas a transitive object is definite. In other words, you can use this to express e.g. that *Peter eats (some) cake* instead of *Peter eats **the** (whole) cake.* Here is how:

Definition 9.4 (Intransitive object) *A transitive sentence with a definite object is converted to an intransitive sentence with an indefinite object, by using the antipassive construction to decrease the valency of the verbal stem by removing the object. The agent role is then filled by the intransitive subject (in absolutive case), and the former transitive object can then be reintroduced in the instrumental case, thus:*

$$\underset{\times_t}{\{S_1\}\textbf{N}\{\text{ERG}\}}\ \underset{\triangle_t}{\{S_2\}\textbf{N}\{\text{ABS}\}}\ \underset{\bigcirc}{\{S_3\}\textbf{V}\{\text{TR}\}} \rightarrow \underset{\times_i}{\{S_1\}\textbf{N}\{\text{ABS}\}}\ \underset{\triangle_i}{\{S_2\}\textbf{N}\{\text{INST}\}}\ \underset{\bigcirc}{\{S_3\}\{\text{HTR}\}\textbf{V}\{\text{INTR}\}}$$

where **N**{ERG} *is an ergative case ending,* **N**{ABS} *an absolutive case ending, and* **N**{INST} *an instrumental case ending.* **V**{TR} *denotes a transitive verbal ending, and* **V**{INTR} *an intransitive one.* {HTR} *denotes a HTR-morpheme, or possibly* {∅} *if the stem does not require one to form antipassive.*

Let us have some examples:

Piita**p** nano**q** toqup**paa**	$\Longrightarrow$	Piita**q** nannu**mik** toqu**tsivoq**
*Peter kills **the** polar bear*		*Peter kills **a/some** polar bear*

The agent Peter becomes the subject of the antipassive intransitive sentence, so he must now appear in the absolutive case (as all intransitive subjects must), and the patient (and former transitive object), the polar bear, now becomes an *intransitive* object, so its ending changes to the instrumental case ending **N**{mək}. Similarly:

Piita**p** kaagi neri**vaa**	$\Longrightarrow$	Piita**q** kaagi**mik** neri**voq**
*Peter eats **the** cake*		*Peter eats **a/some** cake*

The stem {nirə}**V** does not require an explicit HTR-morpheme to form an antipassive, so you just change the transitive ending to an intransitive one. But otherwise the construction is exactly the same. If you like, you could think of it as if stems of this type simply take the empty morpheme {∅} as their HTR-morpheme.

9.3 Agent- and patient-preserving stems

A divalent verb stem, appearing with a transitive ending, maps the ⟨agent⟩ role to the transitive subject, and the ⟨patient⟩ role to the transitive object. This is the default, straightforward way of mapping the grammatical functions onto the roles: the subject is the doer

Diathesis	Form	Mapping	
Active	transitive	⟨agent⟩ = $\times_t$	⟨patient⟩ = $\triangle_t$
Passive	intransitive	⟨agent⟩ = optional (ABL)	⟨patient⟩ = $\times_i$
Antipassive	intransitive	⟨agent⟩ = $\times_i$	⟨patient⟩ = optional (INST)
Reflexive	intransitive	⟨agent⟩ = $\times_i$	⟨patient⟩ = $\times_i$

Figure 9.1: The four different possible mappings of the ⟨agent⟩ and ⟨patient⟩ roles onto the grammatical functions of subject and object. (ABL) indicates that the optional element, if present, is in the *ablative* case; and (INST) likewise indicates the *instrumental* case.

of the action, and the object is the recipient (or literally object) of the action. Such a mapping is called *diathesis* or *voice* in Grammaric, and this particular mapping is called *active diathesis*.

Adding certain affixes may change the mapping, as you have seen: The passive affixes **V{nəqaq}V** and **V{-ðau}V** decrease the valency by removing the ⟨agent⟩, thereby forcing the subject into the role of ⟨patient⟩, and this mapping is then called *passive diathesis*. Conversely, the HTR-morphemes decrease the valency by removing the ⟨patient⟩, such that the subject now instead is mapped to the ⟨agent⟩ role, and this mapping is called *antipassive diathesis*. Lastly, if an intransitive ending is added directly, without any valency-reducing morpheme, the subject may then be mapped onto *both* the ⟨agent⟩ and ⟨patient⟩ roles. This is the *reflexive diathesis*. I have summarised these four different mapping patterns in the table in figure 9.1.

However, as you have also seen, strange things may happen if you add an intransitive ending directly onto a divalent stem without first decreasing the valency, and the result may not always be reflexive. Some, like **{atuq}V**, get a passive meaning (subject is Vb'ed) where the subject is mapped to the patient role; whilst others, like **{nirə}V**, simply retain their ordinary active meaning (subject Vb's), so the subject is mapped to the agent role.

This difference in behaviour is an inherent property of the stem itself, so it is something that *ought to* be recorded in the dictionary for each entry of a transitive verb. Unfortunately (but sadly not surprisingly), it isn't, except in a rather indirect way, as I have hinted at above. As a rule of thumb, there will be separate entries for the divalent verb stems with intransitive endings, *if* the meaning becomes anything other than reflexive (and sometimes even if it *does* become reflexive). Thus the DAKA contain double entries for both **{atuvaq}V**, ⟨*agent*⟩ *reads* ⟨*patient*⟩, and **{atuq}V**, ⟨*agent*⟩ *uses* ⟨*patient*⟩. They look like this:

- **atorpaa** *o* bruger det, anvender det, benytter det
- **atorpoq** *o* er i brug, bruges, bliver brugt
- **atuarpaa** *o* læser det
- **atuarpoq** *o* læser

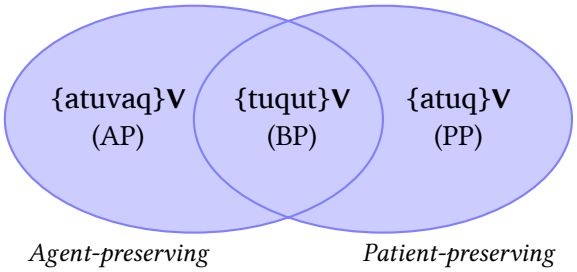


Figure 9.2: An illustration of the two overlapping types of divalent stems with examples: {atuvaq}**V** is agent-preserving, {atuq}**V** is patient-preserving, and {tuqut}**V** is agent- and patient-preserving.

I cannot give you a rule (not even a heuristic) for predicting how a divalent stem will behave. You just have to learn it for each individual stem, which of course is not exactly made easier by the rather indirect way in which the DAKA and other dictionaries have decided to record this information. The best I can do is to provide you with a way of *categorising* the stems, which I hope at least will make it easier for you to organise you knowledge of the divalent stems and their behaviour:

Definition 9.5 (Divalent stem types) *There are two overlapping types of divalent stems, determined by their behaviour when used with intransitive endings* without *a valency reducing affix:*

- *Agent-preserving* (AP) stems preserve the ⟨agent⟩ role.
  The subject is mapped to the ⟨agent⟩ role, so the diathesis is *antipassive*.
  Example: {atuvaq}**V** $\Longrightarrow$ *atuar**paa***, *he reads it*, but *atuar**poq***, *he reads*.
- *Patient-preserving* (PP) stems preserve the ⟨patient⟩ role.
  The subject is mapped to the ⟨patient⟩ role, so the diathesis is *passive*.
  Example: {atuq}**V** $\Longrightarrow$ *ator**paa***, *he uses it*, but *ator**poq***, *it is used*.
- Some stems are *both* (BP); they preserve both the ⟨agent⟩ and the ⟨patient⟩ role.
  The subject is mapped to both roles, so the diathesis is *reflexive*.[7]
  Example: {tuqut}**V** $\Longrightarrow$ *toqup**paa***, *he kills it*, but *toqup**poq***, *he kills himself*.

You can also see an illustration of this categorisation in figure 9.2. In relation to the issue with half-transitive morphemes, the point is thus that *only* patient-preserving *stems need HTR-morphemes to form intransitive verbs with antipassive diathesis*. And as you can

[7] The meaning might even be *reciprocal* rather than reflexive, if the intransitive ending is plural; i.e. *they Vb' **each other*** rather than *they Vb themselves (individually)*. However, I think it would be to complicate matters beyond necessity to distinguish this as a separate category.

see from the figure, this includes both stems like {atuq}**V** *and* {tuqut}**V**, even though the latter *also* is agent-preserving.

Non-patient preserving stems and the abstract participle

At last, I can return to our unfinished business from definition 8.12 (page 169) about the abstract participle **V**{nəq}**N** and the mysterious 'non-patient preserving' stems, because now you can finally see what they are: They are the *agent-preserving* stems, but *excluding* those that are also patient-preserving; i.e. AP excluding BP. In terms of figure 9.2, they are {atuvaq}**V**, but *not* {tuqut}**V** and {atuq}**V**.

As you may recall, the issue was whether a possessive ending on **V**{nəq}**N**, added directly onto a divalent stem, would come to represent the ⟨agent⟩ or the ⟨patient⟩ role. And the answer is thus that it will represent the patient *precisely when the stem is patient-preserving*, including when it is *also* agent-preserving; i.e. PP including BP. In other words,

- *Piitap atuar**nera*** = *Peter's reading* (e.g. of a book)
- *Piitap toqun**nera*** = *the killing of Peter*
- *Piitap ator**nera*** = *the (ab)use of Peter*

Peter, the possessor, is only mapped to the ⟨agent⟩ role in the first case; whilst instead being mapped to the ⟨patient⟩ role in the two other cases. Thus, the abstract participle works almost[8] like adding an intransitive ending to a divalent stem: If that would yield a sentence with antipassive diathesis, then the corresponding noun phrase is likewise 'antipassive' in a sense. You can even add an intransitive object in the instrumental case, like

*Piitap atuakka**nik** atuar**nera*** = *Peter's reading **of** books*

Notice how this construction corresponds to the antipassive construction *Piitaq atuakkanik atuarpoq*, *Peter reads (some) books*. You can also add intransitive objects to {tuqut}**V** and and {atuq}**V**, but only *after* they have undergone a valency reduction by having their respective HTR-morphemes added. Another way to think about **V**{nəq}**N** is therefore as an affix that can *incorporate an entire sentence*, rather than just a verbal stem:

Piitaq atuakkanik atuarpoq ⟹ *Piitap atuakkanik atuar**ner**a*
*Piitaq qimmimik toqut**si**voq* ⟹ *Piitap qimmimik toqut**siner**a*
*Piitaq aallaasimik atu**i**voq* ⟹ *Piitap aallaasimik atu**iner**a*

The two last examples now come to mean *Peter's killing of a dog* and *Peter's use of a rifle*, with Peter still filling the ⟨agent⟩ role. We can therefore also express the rule for the possessor of **V**{nəq}**N** in a simpler way: When **V**{nəq}**N** incorporates an antipassive

[8]But only *almost*. The meaning does not become reflexive when the stem is BP.

sentence, regardless of how it is obtained, then the ⟨agent⟩ is mapped to the possessor. Whether that requires addition of a HTR-morpheme or not depends on the type of the stem; i.e. AP or PP.

9.4 Agentive affixes and double-transitive sentences

Hitherto I have said quite a lot about decreasing the valency of a divalent stem, and how it can affect the mapping of the grammatical functions of subject and object onto the logical roles. But rather than *decreasing* the valency by removing either the ⟨agent⟩ or ⟨patient⟩ role, you can instead *increase* it by adding new roles.

Specifically, there are several affixes with a verbal meaning that imply an ⟨agent⟩ and a ⟨patient⟩ role by themselves. You could say that these affixes are *themselves* divalent, and when you add them onto a monovalent verbal stem, then its ⟨actor⟩ role will be equated with the ⟨patient⟩ role of the affix, whilst the ⟨agent⟩ role belongs to the affix alone. Thus the valency will increase from 1 to 2.

However, a small handful of these affixes are special, because they can also be added onto stems that already are divalent. In this case the ⟨patient⟩ role of the affix will be equated with the ⟨*agent*⟩ *role* of the stem. This ⟨agent⟩-turned-⟨patient⟩ becomes instead a kind of recipient of the verbal action of the affix – an *indirect* patient, if you will. Grammatically, he will correspond to the function of *indirect object*, which I denote with the symbol □.[9] Thus the valency increases from 2 to 3, which is more than the number of persons that can be marked in a verbal ending. The former ⟨agent⟩ (now indirect patient) goes out of focus, and the grammatical function of subject and object are instead mapped to the ⟨agent⟩ of the affix and the ⟨patient⟩ roles of the original stem.

I have tried to illustrate both situations in figure 9.3. Since we may now be dealing with up to two agents and two patients, I shall annotate their roles with an index: Thus I shall write $\langle \text{actor}_1 \rangle$ or $\langle \text{agent}_1 \rangle$ and $\langle \text{patient}_1 \rangle$ for the actor or agent and patient belonging to the *stem*; and $\langle \text{agent}_2 \rangle$ and $\langle \text{patient}_2 \rangle$ for the agent and patient belonging to the valency-increasing *affix*. As you can see, when the stem is monovalent the $\langle \text{actor}_1 \rangle$ and $\langle \text{patient}_2 \rangle$ have become linked, which I write as $\langle \text{actor}_1\text{=patient}_2 \rangle$, and this combined role is mapped to the grammatical function of transitive object $\triangle_t$, indicated with a dashed arrow. And when the stem is divalent it is instead $\langle \text{agent}_1 \rangle$ who becomes merged with $\langle \text{patient}_2 \rangle$, and *this* combined role is then mapped to an indirect object □, whilst $\langle \text{agent}_2 \rangle$ is mapped to the transitive subject and $\langle \text{patient}_1 \rangle$ to the transitive object. You can think of it in this way: The valency-increasing affix always adds a new *agent*, whilst the stem always gets to keep its own *patient*.

[9] If you are a bit rusty on Grammaric grammar terminology, then an *indirect object* is *Carl* in the sentence: *Peter gave* ***Carl*** *the dog*. *Peter* is of course the (transitive) subject, and *the dog* is the (transitive) object, as usual.

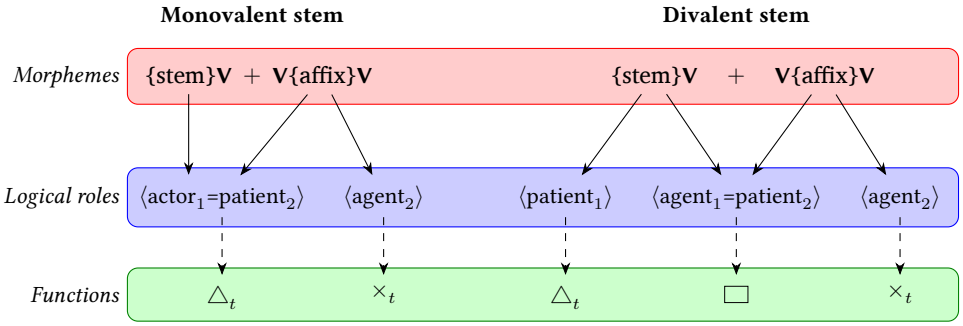


Figure 9.3: An illustration of how the roles change and are merged when a valency-increasing affix, **V{affix}V**, is added to either a monovalent or divalent stem **{stem}V**.

Here is an example: The affix **V{qqu}V** means ⟨*agent*$_2$⟩ *bids* ⟨*patient*$_2$⟩ *Vb*, and bidding (or asking) someone to do something is one of these verbal actions that itself necessarily implies both an agent and a patient role. With the monovalent stem **{sinək}V**, ⟨*actor*$_1$⟩ *sleeps*, we have only one role, the actor, who is equated with the patient of **V{qqu}V**. By combining them we thus get the stem

{sinək}V{qqu}V = ⟨agent$_2$⟩ bids ⟨actor$_1$=patient$_2$⟩ sleep

Thus e.g. ***Piitaq sinippoq***, *Peter sleeps*, has the subject ***Piitaq*** filling the ⟨actor$_1$⟩ role, and ***Piitaq sineqquaa*** therefore means *he* ***bids*** *Peter sleep*, where ***Piitaq*** is now instead filling the combined role of ⟨actor$_1$=patient$_2$⟩.

Consider now instead the divalent stem **{taku}V** (⟨agent$_1$⟩ sees ⟨patient$_1$⟩). This combination thus becomes

{taku}V{qqu}V = ⟨agent$_2$⟩ bids ⟨patient$_2$=agent$_1$⟩ see ⟨patient$_1$⟩

Thus ***Piitaq takuaa*** means *he*$_1$ *sees Peter*, but ***Piitaq takoqquaa*** means *he*$_2$ ***bids*** *(someone) see Peter*. ***Piitaq*** fills the role of ⟨patient$_2$⟩ in both cases, and now *he*$_2$ fills the role of ⟨agent$_2$⟩, so he is the one who is doing the bidding.

But the *he*$_1$ who sees in the first sentence disappears and is replaced by an anonymous, unspecified (someone) in the translation. He is no longer marked in the verbal ending and is therefore out of focus. He is become an optional element, although he optionally *may* be specified explicitly with a noun phrase. For this, the *allative* case is used; that is, for example the endings **N{mut}** and **N{nut}**, which are the unmarked singular and plural, respectively:

Definition 9.6 (Indirect object) *An* indirect object *specification is a noun phrase in the* allative *case, here denoted* **N{ALL}**, *which can be used to refer to an indirect patient. A sentence with all roles fully specified thus has the following pattern:*

{S}**N**{ERG}	{S}**N**{ABS}	{S}**N**{ALL}	{stem}**V**{affix}**V**{TR}
$\times_t$	$\triangle_t$	$\square$	$\bigcirc$
$@\langle agent_2 \rangle$	$@\langle patient_1 \rangle$	$@\langle agent_1 = patient_2 \rangle$	

where the @-annotation below the elements indicate the role to which each noun phrase refers in the verbal action of the combined stem.

Thus for an example of such a fully specified sentence, we could thus say:

Kaali**p**	Piita**mut**	qimme**q**	tako**qqu**aa	=	*Kaali bade Peter see the dog*
$\times_t$	$\square$	$\triangle_t$	$\bigcirc$		

A verb (or sentence) like ***takoqquaa*** is sometimes called a *double-transitive verb* (or sentence), e.g. by Bjørnum (2003); and the affixes that can create them, like the aforementioned **V**{qqu}**V**, are similarly called *double-transitive affixes*. However, I find this name inappropriate, because it confuses the logical *roles*, implied by the verbal action of these affixes, with the *form* of the resulting verb: After all, we would not say that ***sineqquaa*** is *double*-transitive, because here **V**{qqu}**V** has been added to a *monovalent* stem, rather than a divalent one. Instead I shall call these affixes *agentive*, because there effect is precisely to introduce a new ⟨agent⟩ into the verbal action.

There are only six of these agentive affixes, and of these only two are commonly used, with the remainder mostly occurring in some specialised constructions. They are as follows:

Definition 9.7 (Agentive affixes) *The* agentive affixes*, capable of forming double transitive verbs, are:*

- **V**{qqu}**V**, HTR: {ði} (*-qquaa, -qqusivoq*), $\langle agent_2 \rangle$ *bids* $\langle patient_2 \rangle$ *Vb*
- **V**{təṭ}**V**, HTR: {ði} (*+tippaa, +titsivoq*), $\langle agent_2 \rangle$ *lets* $\langle patient_2 \rangle$ *Vb*

These are the most commonly used. Of more specialised/marginal use are:

- **V**{saq}**V**, HTR: {-i} (*+sarpaa, +saavoq*), $\langle agent_2 \rangle$ *makes/causes* $\langle patient_2 \rangle$ *to Vb*
- **V**{saaq}**V**, HTR: {i} (*+saarpaa, +saarivoq*), $\langle agent_2 \rangle$ *tries to make* $\langle patient_2 \rangle$ *Vb*
- **V**{surə}**V**, HTR: {nnək} (*+soraa, +sorinnippoq*), $\langle agent_2 \rangle$ *thinks* $\langle patient_2 \rangle$ *Vb's*
- **V**{(t)ciq}**V**, HTR: {-i} (*(t)serpaa, (t)siivoq*), $\langle agent_2 \rangle$ *waits for* $\langle patient_2 \rangle$ *to Vb*
- **V**{t(c)aili}**V**, HTR: {i} (*+t(s)aalivaa, +t(s)aaliivoq*), $\langle agent_2 \rangle$ *prevents* $\langle patient_2 \rangle$ *from Vb'ing*[10]

[10]This affix has a special sandhi rule: It is epenthetic, but (c) is injected *within* the stem, rather than at the front, when this affix is added to a vowel stem, and also on *t-stems*. Thus we have *+**t**aalivaa* on q-stems and k-stems, but *+**ts**aalivaa* on vowel stems and t-stems. You can think of it as if this affix wants to have the form with -ts- if at all possible. It also has a variant form, **V**{t(c)aili**uq**}**V** (*+t(s)aali**or**paa*), with an added {uq} that seemingly does not contribute any new meaning to the stem. The variant behaves similarly and has the same meaning as the shorter form, but for some speakers the longer form is the most common.

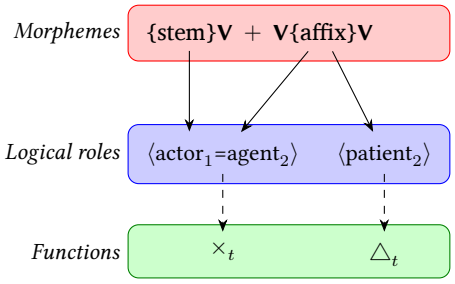


Figure 9.4: An illustration of how the roles are distributed when an affix with an implied *patient* role is added to a monovalent stem.

If you are just beginning to learn Greenlandic, you should probably just memorise **V{qqu}V** and **V{tət}V** and forget about the rest of these affixes, until some day when you actually encounter one of them. But now at least you know that they exist.

9.5 Patientive affixes

Another way to increase the valency of a verbal stem is to add a *patient* role, although this is only possible with stems that do not already have a logical ⟨patient⟩ implied in their verbal action; i.e. only monovalent stems (or possibly also agent-preserving, divalent stems). The ⟨actor$_1$⟩ role of the stem is equated with the ⟨agent$_2$⟩ role of the affix, whilst the ⟨patient$_2$⟩ just comes from the affix alone. And that's all there is to it. I have made an illustration of this in figure 9.4, similar to those for the double-transitive situation, but as you can see, this really is much simpler. There is nothing corresponding to the complications of agentive affixes and double-transitive stems here.

There are actually several affixes that can add an object to an intransitive stem: Most of them are just combination of a nominalising affix, i.e. one of type **V{**S**}N**, and then **N{gə}V**, and their meaning can reasonably easily be understood from the meaning of the constituent morphemes. For example, **V{-qatə}N** is *a fellow in Vb'ing*, so a ***suleqat*** is *a fellow in working*, or in other words, a *colleague*. Combine this affix with **N{gə}V** and you get **V{-qatəgə}V**, which then literally means ⟨*agent*⟩ *has* ⟨*patient*⟩ *as a fellow in Vb'ing*. But we would normally translate this as ⟨*agent*⟩ *Vb's* ***togeter with*** ⟨*patient*⟩, which (at least to me) does not seem unreasonably far from the literal translation.

Fortescue (1983) includes these affixes in a group he calls *relation shifters*, but I think *patientive affixes* is a more appropriate name for these particular affixes, since they add a ⟨patient⟩ role, just as the agentive affixes add an ⟨agent⟩ role. Here I shall just list a few that may require a little bit of extra explanation:

Definition 9.8 (Patientive affix) *A* patientive affix *add a ⟨patient⟩ role to a stem that does not already imply one; usually a monovalent stem. The most prominent examples are:*

- **V**{-qatigə}**V**, ⟨agent⟩ Vb together with ⟨patient⟩
- **V**{(v)vigə}**V**, ⟨agent⟩ Vb to ⟨patient⟩.
  This affix is formed from a combination of **V**{(v)vik}**N** *(place for Vb'ing) and* **N**{gə}**V**, *so /*(v)v*/ will become* [(f)f] *by the fricative rule. For example,* {uqaq}**V**, ⟨actor⟩ says (something) $\Longrightarrow^*$ ***oqarfigaa***, he says something **to** him.
- **V**{-utəgə}**V**, ⟨agent⟩ Vb with/because of ⟨patient⟩.
  This affix is formed from a combination of **V**{-ut}**N** *(means/cause/reason for Vb'ing) and* **N**{gə}**V**. *It has a variant form* **V**{**cc**utə}**N** *that in particular is used to mean* cause/reason, *and likewise* **V**{**cc**utəgə}**V** *is particularly used to mean* ⟨agent⟩ Vb **because** of ⟨patient⟩.
- **V**{-ut(ə)}**V**, ⟨agent⟩ Vb with/for/w.r.t. ⟨patient⟩.
  This affix, or one of its variants, are found in many lexicalised stems. They are the source of all the ut(ə)-stems in the dictionary.[11] *Variants include* **V**{ccut(ə)}**V** *used on vowel and t-stems, but also particularly in the sense* Vb **for***; and lexicalised* **V**{'-t(ə)}**V**, *causing gemination in the stem.*

The affix **V**{-ut(ə)}**V** or the geminating variant **V**{'-t(ə)}**V** are not commonly used to form new words today, but many lexicalised stems contain one of these morphemes. If you look in the dictionary, you will therefore often be able to observe that a monovalent stem will have a related divalent form that may (or may not) contain an extra vowel, and seems to end in a consonant, but which in reality is a /t(ə)/. And this divalent stem will often mean something with *for* or *with*.

For example, the DAKA has the entries ***kamappoq***, *he is angry*, and ***kamaappaa***, *he is angry* ***at/with*** *him*, and this highlighted segment is precisely the morpheme **V**{-ut(ə)}**V**. It also has ***pisivoq***, *he buys (something)* and ***pitsippaa***, *he buys (something)* ***for*** *him*, and this stem was formed with the variant **V**{'-t(ə)}**V** that has caused /s/ to geminate to [$t^s t^s$].

I mention this specifically to make you aware of how these stems are related, because the relationship is otherwise not so apparent if you just look in a Graphemistic dictionary like the DAKA. Words like ***kamappoq*** and ***kamaappaa*** can be difficult to tell apart, because the stems look so alike – at least, if you only see them spelled out in the new orthography. But knowing how the latter is derived from the former may hopefully make this a little easier for you.

[11] See section 6.10, page 116 for the special sandhi rules of this group of stems.

9.6 Switching focus

There are several stems that imply a kind of 'secondary patient' or object, besides the ⟨agent⟩ and ⟨patient⟩ roles. I think this is most common with stems that have to do with some kind of 'transferral of ownership' from the agent to the patient, but there may also be other kinds. For example, the stem **{naŋsit}V** means ⟨*agent*⟩ *sends* ⟨*something*⟩ *to* ⟨*patient*⟩, where the ⟨something⟩ role here precisely denotes such a thing or 'secondary patient' that is transferred from the ⟨agent⟩ to the ⟨patient⟩.

These stems are thus inherently trivalent (having a valency of 3), but the ⟨something⟩ role cannot be filled by a person explicitly marked in the verbal ending, since verbal endings at most can contain two person markers, and these are mapped to the ⟨agent⟩ and the (ordinary) ⟨patient⟩ roles respectively. In other words, this ⟨something⟩ is out of focus: ***nassippaa*** means *he sends (something) to him*, but we cannot see what this (something) is.

However, ⟨something⟩ may be specified explicitly with a noun phrase in the *instrumental* case. Such a sentence thus has the following pattern:

[...] {S}**N**{ERG}	[...] {S}**N**{ABS}	[...] {S}**N**{INST}	{S}**V**{TR}
@⟨agent⟩	@⟨patient⟩	@⟨something⟩	

where each of the noun phrases as usual may consist of several nouns, here indicated with [...]. Thus, these stems behave in a sense like stems with an incorporated object, formed with an affix like **N{-qaq}V**, that you saw in the previous chapter.[12] For example:

*Kaalip Piitaq qimmi**nik** nassippaa*

means *Carl sent **some dogs** to Peter*, with ***qimminik*** as an explicit specification of the ⟨something⟩ being sent. Note also that we can now see that Carl is sending *several* dogs, because the instrumental ending is plural, **N{nik}**, just as with the modifiers of incorporated objects.

But what if you instead wanted to focus on the object being sent, rather than on the recipient of the object? Something like saying *Carl sent (Peter) **the** dogs* instead of *Carl sent (some dogs) to Peter* in English. To achieve this you will somehow have to switch the roles of ⟨something⟩ and ⟨patient⟩, such that the thing being sent can be marked in the verbal ending, rather than the recipient of the object.

Here the aforementioned affix **V{-utə}V** comes into play again, because adding this affix to one of these stems has precisely the effect of switching the roles of ⟨something⟩ and ⟨patient⟩, where the latter now instead becomes an *indirect patient*. Now *he* is out of focus, but he can be explicitly specified in the *allative* case, just like the indirect patient in a double-transitive construction.

[12] See definition 8.6, page 157.

Definition 9.9 (Switch relation) *When* **V**{-ut(ə)}**V** *is added to a trivalent stem with an implied indirect object, denoted* ⟨*something*⟩*, it switches the role of* ⟨*something*⟩ *and* ⟨*patient*⟩*, with the latter instead becoming an* indirect patient *that may be explicitly specified in the* allative *case. The switch has the following pattern:*

$$\begin{array}{lllll} & \{S_1\}\textbf{N}\{\text{ERG}\} & \{S_2\}\textbf{N}\{\text{ABS}\} & \{S_3\}\textbf{N}\{\text{INST}\} & \{S\}\textbf{V}\{\text{TR}\} \\ & @\langle agent\rangle & @\langle patient\rangle & @\langle something\rangle & \\ \rightarrow & \{S_1\}\textbf{N}\{\text{ERG}\} & \{S_2\}\textbf{N}\{\text{ALL}\} & \{S_3\}\textbf{N}\{\text{ABS}\} & \{S\}\textbf{V}\{\text{-ut(ə)}\}\textbf{V}\{\text{TR}\} \\ & @\langle agent\rangle & @\langle indirect\rangle & @\langle patient\rangle & \end{array}$$

The indices on the three noun stems S_1, S_2 and S_3 just serve to indicate which stem what: As you can see, S_2 previously appeared in the absolutive case, so it was the transitive object that explicitly specified the ⟨patient⟩ role; but after the addition of **V**{-ut(ə)}**V** S_2 must now instead appear in the allative case, e.g. **N**{mut} or **N**{nut}, if it is to be mentioned at all. Conversely, the specification of ⟨something⟩ that previously appeared in the instrumental case is now instead become the specification of the ⟨patient⟩, and it must therefore now appear in the absolutive case. The ⟨agent⟩ specification, however, is unchanged.

Thus, to continue with the previous example, we can now instead say:

*Kaalip Piita**mut** qimmit nassi**u**ppai*[13]

meaning *Carl sends Peter **the** dogs.* Now *they* are in focus, and Peter is not.

Just as with the previous usage of **V**{-ut(ə)}**V**, new stems are seldom actively produced today: Instead, they usually just appear as lexicalised entries in the dictionary, so if you look in the DAKA, you will find both ***nassippaa*** and ***nassiuppaa***. And just as before, my point in mentioning this construction is therefore mostly just to make you aware of *how* these stems are related, and hopefully help you remember the difference in their meaning.

Furthermore, since these stems were formed with **V**{-ut(ə)}**V** in the past, some of them may also have been formed in a way that is not exactly regular today. For example, the ut(ə)-form of {tu**n**ə}**V**, ⟨*agent*⟩ *gives* ⟨*something*⟩ *to* ⟨*patient*⟩ is ***tunniuppaa*** with gemination of /**n**/. You should of course just learn {tunə}**V** and {tuniut(ə)}**V** as two distinct stems, rather than trying to make sense of this strange gemination; but I still hope that your knowledge of *how* **V**{-ut(ə)}**V** affects these stems will help you keep track of what is given to whom in sentences involving either ***tunivaa*** or ***tunniuppaa***.

[13] Note, I had to change the ending from **V**{va**a**} (3.sg/3.**sg**) to **V**{va**i**} (3.sg/3.**pl**), because the new object, *the dog**s***, is plural.

9.7 Indefiniteness

The purpose of focus, or rather of *defocusing* a role, is to make the person (or thing) filling that role indefinite. Or perhaps more appropriately, to express the *equivalent* of what you can achieve by saying 'a' instead of 'the' in English: e.g. if you want to be able to express that *Peter ate* ***some*** *cake*, instead of *Peter ate* ***the (whole)*** *cake*. In general, you have four options:

1. *Incorporation.* An incorporated object is always unfocused, so if there exists an affix of type **N**{S}**V** for expressing the verbal action you want to describe, then you can use that. For example, for expressing *eating* (or more generally *consuming*) objects, you can use the consumption affix **N**{tuq}**V**, ⟨*subject*⟩ *consumes N*, and thus say ***Piitaq kaagisorpoq***. Here Peter eats an entirely unspecified amount of cake.

2. *Incorporated participle.* If there is no affix expressing the action you want to describe, then you can use a verb stem describing the action instead, on to which you add either the intransitive participle **V**{ðuq}**N** (if the stem is monovalent) or the passive participle **V**{-ðaq}**N** (if the stem is divalent). And then you incorporate the resulting noun stem with **N**{-qaq}**V** and add the object as a modifier in the instrumental case.

   For example, {nirə}**V**, ⟨*agent*⟩ *eats* ⟨*patient*⟩, is a verbal stem describing the action we are interested in expressing. It is divalent, so we add the passive participle and obtain the noun stem ***nerisaq***. Then we incorporate this with **N**{-qaq}**V**, add ***Piitaq*** as an actor specification, and ***kaagimik*** as an object modifier, and thus we obtain the sentence ***Piitaq kaagimik nerisaqarpoq***, meaning again that Peter has eaten some unspecified cake (although we can tell from the instrumental ending, which here is singular, that it is only *one*, and not several, cakes he has eaten).

3. *Antipassive with intransitive object.* The last possibility is the antipassive construction. You decrease the valency by removing the ⟨patient⟩ role, either with an HTR-affix, or, in the case of a non-patient preserving stem like {nirə}**V**, just by giving it an intransitive ending. And then you add the object specification in the instrumental case. Thus, in the case of eating cake, we get ***Piitaq kaagimik nerivoq***. Just as above, we can however still tell from the instrumental ending that the cake is singular.

4. Lastly, if the verbal action is trivalent, usually involving some kind of transferral of ownership, then you have to choose the appropriate version of the stem, with or without **V**{-ut(ə)}**V**, depending on wheher you want to focus on the direct or indirect patient. Thus, if Peter *sends* an indefinite cake to someone, instead of eating it, then it is ***Piitap kaagimik nassippaa***. But if he sends *the* cake instead, the sentence becomes ***Piitap kaagi nassiuppaa***.

Incorporation and participles were the topics of the previous chapter, whilst this chapter has dealt with switching roles and decreasing valencies, and thus the two are inextricably linked. At least, I hope you now see the connexion between noun phrases, modifiers, and the roles implied in the verbal action of a stem. Now you can have your cake and eat it too.

* * *

Focus and valency are not exactly easy topics, and some might think I introduce them far too early in this tour through Greenlandic sentence construction. But switching roles is such a common thing to do in Greenlandic that it would be difficult to construct any meaningful text in Greenlandic, consisting of more than just a few disconnected sentences, without making use of some of the constructions described in this chapter. There really is no way of avoiding the issue, unless you only want to speak about very definite objects all the time.

In summary then, to make a *role* indefinite, you have to *avoid* filling it with a personal marker in the verbal ending; and conversely, to make a *noun* indefinite, you have to make it refer to one of these indefinite roles. This usually involves the use of the instrumental case, an HTR-morpheme or a participle, and possibly a noun-incorporating affix.

CHAPTER 10

Coreference

A sentence such as *Peter loves **his** wife* is ambiguous in English, because we cannot directly see whether 'his' refers to Peter or to some other man. Specifically, we cannot see whether the *possessor* of the noun 'wife' is equal to the *subject* of the sentence (here 'Peter'). Or even more specifically, whether or not there is *coreference* between the subject and possessor.

If Peter is a faithful husband, then Peter loves *his own* wife, and in Grammaric we would say that the possessor is coreferential to the subject. Conversely, if Peter loves *another man's* wife, then there is *no* coreference between the subject and possessor. In other words, *coreference* is just another way of saying that two specifications of a person in a sentence *refer* to the same individual. This is important in Greenlandic, because the form of some endings, both on nouns and verbs, may change depending on whether or not the persons mentioned in these endings are coreferential to the subject of the main clause.

10.1 Coreference and possession

As you may recall, I mentioned in definition 7.6 (page 132) that Greenlandic has this mysterious 'fourth person' whom I also described as the reflexive third person. He will seem familiar enough if you speak any of the nordic languages, but in English the fourth person is a totally alien concept.[1]

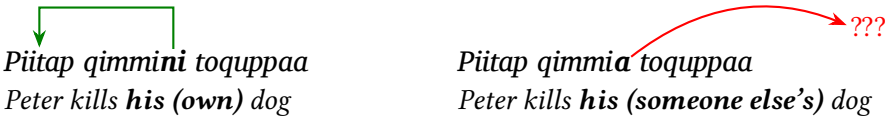
The fourth person is really a *third* person, who is coreferential to the subject of the sentence, and he has his own person markers, that can appear both in some verbal end-

[1]For example, in Danish we have *sig* and *sin* that work in the same way as the Greenlandic fourth person. Thus we say *sin* if the possessor *is* coreferential to the subject (*Peter elsker **sin** kone*), and *hans* if it is not (*Peter elsker **hans** kone*). But in English, we say *Peter loves **his** wife* in both situations.

	Singular N		Plural Ns	
3.sg	**N**{-a}	*his N*	**N**{-i}	*his Ns*
4.sg	**N**{ni}	*his (own) N*	**N**{-ni}	*his (own) Ns*
3.pl	**N**{-at}	*their N*	**N**{-i(t)}	*their Ns*
4.pl	**N**{(q)tək}	*their (own) N*	**N**{-tək}	*their (own) Ns*

Figure 10.1: The absolutive possessive endings for the third and fourth person.

ings, and as a *possessor* marking on nouns. For example, in figure 10.1 I have listed the fourth person possessive endings, as well as the third person endings for comparison. Now consider the following two sentences:



Piitap is obviously the (transitive) subject of both sentences, but in the first, the ending on {qikmiq}**N** is **N**{ni}, which is the absolutive 4.sg/sg ending. The dog is thus the (transitive) object, since its case is the absolutive, and furthermore, it is owned by the *same* third person who is also the subject; that is, *Peter*. The ending **N**{ni} *refers back* to him.

Conversely, in the second sentence, {qikmiq}**N** has the ordinary absolutive third person possessive ending, **N**{-a} (3.sg/sg), and *this* third person therefore refers to someone *else* than the subject. We cannot see whom in this sentence, because the possessor is unspecified, but whomever it is, it is not Peter.[2]

The endings in figure 10.1 are just for the absolutive case, but the fourth person do of course have endings in each of the eight cases. For example, consider the following sentence with {inə}**N**, *room*, and {isəq}**V**, ⟨*actor*⟩ *enters (into something)*:

Piitaq	*iniminut*	*iserpoq*	=	Peter entered **into his (own)** room
×		○		

Here you have the prepositional case ending **N**{minut}, *to his (own) N*, which is the *allative* case ending 3.sg/sg. In summary, you use the fourth person possessive endings when the following condition is satisfied:

[2]This is not entirely true: The second sentence is actually ambiguous, because *Piitap* could *also* be understood as an explicit specification of the possessor of *qimmia*, rather than the subject of the sentence. Thus, *Piitap qimmia toquppaa* could also mean *he killed Peter's dog*, where *Piitap qimmia* is understood as a single noun phrase that explicitly specifies the object of *toquppaa*, rather than as two distinct noun phrases.

Definition 10.1 (4th person with nouns) *When a 3rd person* possessor *of a noun is coreferential to the* subject *of the main clause, then the corresponding 4th person possessive endings are used.*

If the subject and/or possessor is anyone else than the third person, then you do *not* need to use the fourth person, because in these cases there is no ambiguity regarding who the possessor is. If ***I*** *love* ***my*** *wife* or ***thou*** *love* ***thy*** *wife* etc. there is no ambiguity, so here the possessive endings would just be the usual 1.sg/sg and 2.sg/sg, respectively.

10.2 Coreference and verbal moods

Hitherto I have only been using the so-called *indicative* verbal mood for my examples, i.e. verb endings with mood markers {vu} (for intransitive endings) and {va} (for transitive endings); but if you refer back to section 7.4 (page 133) you will see that there are no less than *eight* other verbal moods.

The indicative, interrogative, imperative and optative are *superordinate* moods, meaning that they all form *main clauses*. A sentence can ordinarily only have *one* main clause, or 'main verb' if you like, so there will only be one verb in one of these moods in each sentence. Now, the rule for using the fourth person marker is the same for verbs as for nouns:

Definition 10.2 (4th person in verbs) *When a 3rd person is coreferential to the* subject *of the main clause, then the 4th person is used.*

Thus, the fourth person marker can *never* appear in any of the verb endings for the superordinate moods. It *only* makes sense to use the fourth person in the 'non-superordinate' moods, precisely because the fourth person always *refers back* to the subject of a sentence in a superordinate mood.

The remaining five moods, i.e. the contemporative, participial, causative, iterative and conditional moods, all form *dependent clauses* (or subordinate clauses); that is, they do not form whole sentences on their own, but must (at least, in general) always be part of a sentence that has a main clause, formed by some other verb in one of the superordinate moods. This is where the fourth person comes into play.

As an example, consider the *causative* mood, which is used to express *when* or *why* the action in the main clause has happened. It can often be translated as a sentence beginning with *when* or *because*, and it can therefore fill one of the *[context]* slots in our basic sentence structure[3] with a time specification consisting of an entire verbal clause. Take the two intransitive endings, **V**{(m)mat} (3.sg) and **V**{gami} (4.sg), and compare the following two sentences:

[3] See definition 7.1, page 128.

*iser**mat** kaffiliorpoq* = ***when he**₂ entered, he₁ made coffee* ($\text{he}_1 \neq \text{he}_2$)
*iser**ami** kaffiliorpoq* = ***when he**₁ entered, he₁ made coffee* ($\text{he}_1 = \text{he}_1$)

with {isəq}**V**, ⟨*actor*⟩ *enters (into something)*; and **N**{-liuq}**V**, ⟨*actor*⟩ *makes N*. In the first sentence, both verbs use 3.sg endings, meaning that the *he*s mentioned in the two endings are two different persons, as indicated by the two different indices: The subject of ***iser**mat* is *not* the same as the subject of *kaffilior**poq***, so there is *no* coreference between the two subjects. An explicit specification of the two subject could therefore be

Kaali isermat Piitaq kaffiliorpoq (*Kaali* ≠ *Piitaq*)

where we can clearly see that they refer to two different persons.

Conversely, the second sentence uses instead the causative 4.sg **V**{ga**mi**}, meaning that the subject of ***iserami** is* the same as the subject of ***kaffiliorpoq***. Here we *do* have coreference, and if we want to specify the subject explicitly, we therefore only need to name him once; e.g. *iserami Piitaq kaffiliorpoq*.

Note also that there is no requirement that the sentences must be intransitive. Either or both could be transitive sentences, and the fourth person marker can appear as either subject or object of the dependent clause; but he still only refers to the *subject* of the main clause, regardless of whether *it* is transitive or intransitive. As an example, **V**{ga**mi**ŋa} is transitive causative 4.sg/1.sg, whilst **V**{gam**ni**} is 1.sg/4.sg., so with {naəpət}**V**, ⟨*agent*⟩ *meets* ⟨*patient*⟩ you can say either of these two sentences:

naapikkaminga Piitaq kaffiliorpoq = *because he met me, Peter made coffee*
naapikkanni Piitaq kaffiliorpoq = *because I met him, Peter made coffee*

In both cases, *he* refers to ***Piitaq***, regardless of whether *he* is subject or object of the dependent clause.

10.3 Participial mood and object clauses

One of the subordinate moods in particular is intimately tied to the concept of coreference: the participial mood. This mood is *only* used on verbs whose subject is *not* the same as the subject of the main clause.[4] Formally:

Definition 10.3 (Object clauses without coreference) *The participial mood forms subordinate,* verbal object clauses*, where the verb acts as a (transitive or intransitive) object of the main clause; its meaning is* "that." *The participial mood is only used when the subject is* not *coreferential to the subject of the main clause.*

[4]Or *almost* only. There may be a few odd exceptions: For example, many journalists apparently prefer to write their newspaper headlines entirely in participial mood. But in general, the rule of no coreference holds.

The participial mood is commonly used to form object clauses to main verbs that express a kind of sentiment, opinion, state of mind or some other form of mental activity; we might call them *cognitive verbs* for lack of a better term. For example, ***I think*** *(that) you understand it*, or ***thou saw*** *(that) Peter shot the dog* etc. Here *I think* and *thou saw* are the main clauses, and the rest of the sentences are their respective object clauses.

This kind of sentence structure is actually somewhat similar to the nominal object clauses constructed with the abstract participle **V**{nəq}**N** (see section 8.10, page 168), but more versatile because you here have a whole sentence that can have explicit specifications of time, place, subject (and object) etc. on its own. The meaning is likewise *"that"* although this word may usually be omitted in the English translation.

Here are the aforementioned examples in Greenlandic: The participial endings we shall need are 2.sg/3.sg **V**{gət} (*that thou Vb it*), and 3.sg/3.sg **V**{gəa} (*that he Vb's it*):[5]

*isumaqarpunga paasi**git*** = *I think (that) thou understand it*
*takuat Piitap qimmeq aallaa**gaa*** = *thou saw (that) Peter shot the dog*

Notice that in both cases there is no coreference between the subjects of the main and object clauses: In the first sentence, the subject of the main clause is 1.sg, *I*, whilst the subject of the object clause is 2.sg, *thou*. Similarly, in the second sentence, the first subject is 2.sg, *thou*, whilst the second is 3.sg, *he*, so the requirement for using the participial mood is satisfied. By the way, if you wonder who the *object* of ***takuat*** is in the second sentence, then have a look at aside 10.1.

Note also what this requirement implies about the person markers that can occur in participial endings: Since the participial mood can *only* be used when there is *no* coreference to the subject of the main verb, then you can also infer that the *fourth person* can never appear as *subject* in a participial mood ending. Because the fourth person can *only* be used when it *is* coreferential to the subject of the main clause. Thus participial endings with the fourth person as subject would never be usable, because the two requirements are mutually exclusive.[6]

Lastly, you may have noticed that these sentences violate our pattern for the basic sentence structure, because I have here placed the object sentences *after* the main verb, rather than before it, where the object usually would occur. Actually, both are possible: You can place the object sentence in the usual slot for objects before the main verb, or you can move it after the main verb. For example

takuat Piitap qimmeq aallaagaa
Piitap qimmeq aallaagaa takuat

[5] In case you are wondering: The mood marker for transitive participial is {gə}.

[6] At least not nowadays, but Fortescue (1984, p. 35) *does* mention an example of transitive participial endings with 4th persons as subjects that were used in some archaic expressions.

are both possible. We may therefore want to update our pattern for the sentence structure to reflect this possibility. Thus:

Definition 10.4 (Object clause sentence structure) *The basic sentence structure of definition 7.1 (page 128) may be extended with* object clauses*, that may occur either before or after the main verb:*

[context] [subject] [context] ***[object clause]*** *verb* ***[object clause]***

where the ***[object clause]*** *element itself may be a whole sentence with explicit subject, object and context specifications.*

I am not aware of any exact rule to determine whether or when you should use the first or the second slot for your object clause. However, I think a good rule of thumb is that if your object clause has its own arguments (i.e. subject, object and context specifications) then you might want to move it *after* the main verb to clearly indicate that the arguments belong to the object clause, rather than the main clause.

10.4 Participial mood and cleft sentences

Some particles and enclitics can form main clauses just by themselves, and these too may be extended with an object clause in participial mood. The common factor of these particles and enclitics is that they can be interpreted as a sentence meaning something along the lines of *"**it** is ..."* with a dummy subject *it* who does not correspond to any actual person. In other words, these verb-less main clauses are *avalent*, and the subject will therefore necessarily be different from the subject of of any object clause. And the object clause will therefore be in the participial mood.

Two common examples of these particles/enclitics with verbal meaning are:

- *soorlu*, ***it is*** *as if/like ...*
- *{una}, ***it is*** *...*

Particularly the latter is commonly used. For example, if somebody calls me, I might pick up my phone and say *Stianiuna*, ***it is*** *Stian.* Or even just *uangaana*, ***it is*** *I*, with *{una} here added to the explicit pronoun *uanga* (I/me), that is usually only used for emphasis. But now I could also add an object clause, like

uangaana Stianimik ateqartunga = ***It is*** *me* ***(who/that)*** *has the name Stian*

where I here use the intransitive participial ending **V{ðuŋa}** (1.sg), instead of the usual indicative **V{vuŋa}**.[7] Notice the transformation:

[7] And again, in case you are wondering: The intransitive participial mood marker is {ðu}.

Aside 10.1: Double reference

The *cognitive stems*, as I called them, are capable of taking object clauses, and they are *usually*, but not *always*, divalent. For example, while {taku}**V** and {nalu}**V**, ⟨*agent*⟩ *knows not* ⟨*patient*⟩, are obviously divalent, {isumaqaq}**V** and {nəriuk}**V**, ⟨*actor*⟩ *hopes (for something)*, are not. However, they all take object clauses in the same way, regardless of transitivity; e.g.

neriuppoq ornissaginni = he_1 *hoped (that) I should come to* him_1
naluaa ornissaginni = he_1 *knew not (that) I should come to* him_1

Here the object clause carries the transitive participial 1.sg/4.sg ending **V**{gəmni} in both cases, so the *object* (him_1) refers in both cases to the *subject* (he_1) of the main clause. But what does the *object of the main verb* refer to in the transitive case? ***naluaa*** carries the transitive indicative 3.sg/**3.sg** ending **V**{vaa}, so the word means *he does not know* ***it***. But what is **it** that he does not know?

Nowadays we would say that the object of the main verb is the whole object clause itself; thus the 3.sg object of ***naluaa*** becomes a kind of 'dummy object' that can never be anything but precisely the 3rd person singular, when the explicit specification of the object is an object clause.

However, this has not always been the case: In older (literary) or archaic writings, a different construction was (or is?) used, where the object marking on the main verb referred to the *subject* of the object clause, rather than being just a dummy marker for the object clause as a whole.[a] In the above example, instead of ***naluaa***, we would therefore have

naluaanga ornissaginni = he_1 *knew not (me, that) I should come to* him_1

with the 3.sg/**1.sg** ending **V**{vaa**ŋa**}, *he Vb's* ***me***, replacing the 3.sg/**3.sg** ending **V**{va**a**}: ***naluaanga*** thus means *he knows not* ***me***.

This construction creates a *double reference* back and forth in this case, because the subject of the main clause (*he*) is coreferential to the *object* of the object clause (*him*); whilst the *subject* of the object clause (*I*) is coreferential to the *object* of the main clause (*me*). It may seem convoluted, but it can actually be useful to disambiguate *who* the subject of an object clause it, by marking him twice in this fashion. Especially with an ending like ***-ginni***, which could be either **1.sg**/4.sg **V**{gə**m**ni} or **2.sg**/4.sg **V**{gə**k**ni}. Assimilations and the new orthography has made these endings ambiguous, but by marking the subject as the object of the main clause would remove this ambiguity: **V**{vaa**ŋa**} and **V**{vaa**tət**} are clearly distinct, so if I instead had written

naluaatit ornissaginni = he_1 *knew not (****thou****, that)* ***thou*** *should come to* him_1

there would be no risk of mistaking the subject of the object clause for being 1st person singular, even though the ending on ***ornissaginni*** looks exactly like before.

[a] This example is partly from Fortescue (1984, p. 37).

*(uanga) Stianimik ateqar**pu**nga* ⟹ *uanga**ana** Stianimik ateqar**tu**nga*
(my name is Stian) (it is *me* whose name is Stian)

The result is a *cleft sentence*, like those constructed with **V**{ðuqaq}**V**,[8] but the meaning is somewhat different: **V**{ðuqaq}**V** yields indefinite sentences with the vague meaning ***there** is/are some(body) who Vb*, whilst the meaning of ⁎{una} is the more definite ***it** is …* Indeed, the former construction with **V**{ðuqaq}**V** was used to defocus the subject, whilst this new construction with ⁎{una} is used to *emphasise* the subject (or object). Abstractly expressed, this cleft transformation is as follows:

Definition 10.5 (una-cleft) *A simple sentence with indicative ending* **V**{IND} *is rewritten to a corresponding* cleft sentence *with participial ending* **V**{PAR} *by adding the enclitic* ⁎{una} *to the explicit specification of the subject, or (if transitive) the object, and this must be the first element in the sentence:*

{noun}**N**{ending} […] {verb}**V**{IND} → {noun}**N**{ending}⁎{una} […] {verb}**N**{PAR}

where {noun}**N**{ending} *can be either a subject or an object specification, with* **N**{ending} *being either absolutive or ergative, depending on the transitivity of the sentence. **[…]** indicate optional elements. The transitivity is unaltered by this cleft transformation.*

The previous example was with an intransitive sentence, but this construction can equally well be used with transitive sentences, where you can use it to emphasise either the subject or the object specification. You just have to ensure that the emphasised element is the first word in the sentence, because it is onto this word that ⁎{una} must be added. Thus you can also say:

*Piitap qimmeq aallaa**vaa*** → *Piitam**una***[9] *qimmeq aallaa**gaa***
*qimmeq aallaa**vaa*** → *qimmer**una** aallaa**gaa***

meaning ***it was** Peter (who/that) shot the dog* and ***it was** the dog (that) he shot*, respectively. Notice how I in the last sentence left out the explicit subject specification ***Piitap*** to ensure that ***qimmeq*** instead becomes the first word, onto which ⁎{una} can be added.

The una-cleft is a highly useful construction, and it can even be used with question-words like *qanoq* (*how/what*). For example, *qanoq oqar**pu**nga?* (*how did I say?*) becomes *qanor**una** oqar**tu**nga* (*what **was it** (that) I said?*). I specifically recall this construction, because I once heard a former colleague say just that, when I asked her to repeat another sentence that she had said just before.

[8] See section 8.11, page 169

[9] If you wonder how ***Piitap*** becomes ***Piitamuna*** then check definition 6.1, page 96 for the sandhi rules of enclitics.

	Indicative {vu}	Participial {ðu}	Contemporative {(l)lu} and {na}	
{ŋa} 1.sg	**V**{vuŋa}	**V**{ðuŋa}	**V**{(l)luŋa}	**V**{naŋa}
{tət} 2.sg	**V**{vutət}	**V**{ðutət}	**V**{(l)lutət}	**V**{natət}
{q} 3.sg	**V**{vuq}	**V**{ðuq}		–
{ni} 4.sg	–	–	**V**{(l)luni}	**V**{nani}
{gut} 1.pl	**V**{vugut}	**V**{ðugut}	**V**{(l)lu**ta**}	**V**{na**ta**}
{si} 2.pl	**V**{vusi}	**V**{ðusi}	**V**{(l)lusi}	**V**{nasi}
{t} 3.pl	**V**{**(v)**vut}	**V**{ðut}		–
{tək} 4.pl	–	–	**V**{(l)lutək}	**V**{natək}

Figure 10.2: The intransitive endings for the indicative, participial and contemporative moods. In the indicative, 3.pl {t} makes /v/ geminate if it is not attached to a consonant stem; thus behaving as if the verb had been a weak q-stem. Contemporative uses {ta} as 1.pl person marker, where the others use {gut}.

10.5 Contemporative mood and object clauses

The contemporative mood is in a sense the dual of the participial, although it also has several other usages than the latter. It is used when the participial mood cannot be used; that is, when the subject *is* the same as the subject of the main clause:

Definition 10.6 (Object clauses with coreference) *The contemporative mood forms subordinate,* verbal object clauses*, where the verb acts as a (transitive or intransitive) object of the main clause; its meaning is* "that." *The contemporative mood is only used when the subject* is *coreferential to the subject of the main clause.*

As before, note what this implies about the person markers that can appear in contemporative endings: Since the contemporative is *only* used when the subject *is* coreferential to subject of the main clause, then the *third person* can never appear as a subject marker in the endings (although he *can* appear as *object* marker in transitive endings). So no third person as subject; only the fourth person. You can also see this in figure 10.2, where I have listed all the intransitive endings for indicative, participial and contemporative.

Another thing to note about figure 10.2 is that I have also added the mood markers {vu}, {ðu}, {(l)lu} and {na}, as well as the markers for each person. Hopefully, you can now begin to see a pattern in how these endings are constructed: they simply consist of the mood marker followed by the person marker, so to convert an ending from one mood to another you just exchange one mood marker for another. Once you understand how this system is built it becomes much easier to remember the endings, and suddenly the terrifying number of 370 verbal endings, that I mentioned in aside 7.1, looks a lot less frightening.

Note one detail about the contemporative endings: There are *two* sets of forms, one with {(l)u} and another with {na}. The latter is the so-called *negative contemporative*, which is used instead of the negation affix **V**{ŋŋit}**V**, whenever we have a negation in the contemporative mood; that is, whenever we want to express that *the subject does* not *Vb*. The former set, with {(l)lu}, is then sometimes called the *positive contemporative*, in contrast to the negative.

Besides this important difference in coreference, the contemporative mood is used just like the participial to construct object clauses meaning *that*, and the clause can likewise appear either before or after the verb, just as in the pattern of definition 10.4. Thus you can either say

*Piitap takuaa qimmeq aallaa**llugu*** or *Piitap qimmeq aallaa**llugu** takuaa*

both meaning *Peter saw (that) he (himself) shot the dog*. Here I of course had to use a *transitive* contemporative ending **V**{(l)lugu} since {aullai}**V** is divalent. This ending has 3.sg as *object*, but unlike other transitive endings, it does not have a person marker for *subject*. It is unnecessary, since the subject *always* is the same as the subject of the main clause, and thus **V**{(l)lugu} can mean ***I** Vb him*, or ***thou** Vb him*, or ***he***$_1$ *Vb's him*, or ***we** Vb him*, or ***you** Vb him*, or ***they** Vb him*. In other words, *any person* x *Vb him*, or just x/3.sg, as you can see:

*oqarpu**nga** qimmeq aallaa**llugu*** = ***I** said (that) **I** shot the dog*
*oqarput**it** qimmeq aallaa**llugu*** = ***thou** said (that) **thou** shot the dog*
⋮
*oqarpu**t** qimmeq aallaa**llugu*** = ***they** said (that) **they** shot the dog*

The ending is **V**{(l)lugu} regardless of the subject of the main verb. Thus the transitive contemporative endings are particularly easy to learn, because you get six endings for the price of one.

10.6 Object clauses of object clauses

A verbal object clause is a sentence, so it too follows the pattern of the sentence structure from definition 10.4; that is, too may have its own explicit specifications of context, subject and object, *including another object clause*. Sentence construction becomes recursive, because the main clause of an object clause may *itself* be an object clause for another main clause, and so on ad infinitum (although I think more than two levels of object clauses is rare). I have tried to illustrate this recursive nesting of object clauses in figure 10.3.

Now the issue of coreference may become a little more tricky, because it now becomes relative to the main clause *to which the object clause is related*, and not necessarily the main clause of the sentence as a whole. It may sound complicated, but I find it quite intuitive

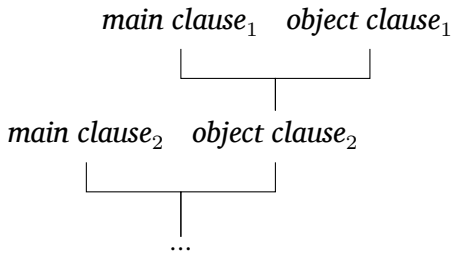


Figure 10.3: Object clauses are sentences that may themselves have object clauses; thus a main clause (of an object clause) may itself be an object clause of another main clause.

if we just look at the construction recursively, through a number of stages. Consider first the sentence

*Nuummi najugaqar**punga***
I live in Nuuk

This is a plain, indicative sentence, with 1.sg *I* as subject, built from {najugaq}**N** (*place to live*) and **N**{-qaq}**V**. Suppose then I *told* this to someone, with the verbal base {uqaluktuaq}**V**, ⟨*actor*⟩ *tells (something)*. Then we obtain the new sentence

*oqaluttuar**punga** Nuummi najugaqar**lunga***
***I** told (that) **I** live in Nuuk*

The person who lives in Nuuk and who tells about it is the same, namely *I*, so there is coreference between the two subjects, and the object clause must therefore be in the contemporative mood with the 1.sg ending **V**{(l)luŋa}. But now I may ask you whether you *recall* that I told you this fact, by using the base {ənqauma}**V** ⟨*agent*⟩ *recalls* ⟨*patient*⟩, and the transitive interrogative ending **V**{vijuk} (2.sg/3.sg, *thou Vb it?*). Thus

*eqqaama**viuk** oqaluttuar**tunga** Nuummi najugaqar**lunga***
*do **thou** recall (that) **I** told (that) **I** live in Nuuk?*

The person who recalls is 2.sg *thou*, but the subject of the object clause who does the telling is still 1.sg *I*. Thus there is *no* coreference between the two subjects, and the object clause must therefore be in the participial mood, with 1.sg ending **V**{ðuŋa}. But this only applies to the *main verb* *oqaluttuar**tunga*** of the object clause: *its* own object clause, ***Nuummi najugaqarlunga*** is unaffected, so it remains in the contemporative mood.

We could in principle continue this construction, but in reality few people will speak in such convoluted sentences with three or more levels of object clauses. However, I hope you can see how this example matches the tree structure in figure 10.3.

10.7 Conjunctions and lists of clauses

The contemporative mood has several other usages besides coreferential object clauses. As the name suggests, its main usage is actually to denote that the verbal action happens simultaneously with the action of the main verb, or following in close succession. In other words, you can use the contemporative mood to *join* two or more main clauses together, as long as they have the same subject. It works just like in English, where you can join two sentences by placing the word *and* between them. Thus, instead of saying

My name is Stian. I am 28 years old.

I can join the two sentences together and say

My name is Stian ***and*** *I am 28 years old.*

Hopefully you recall how both of these sentences are constructed.[10] Now to join them, we need the enclitic ∗{lu},[11] *and*, which must be added onto the word *before* which you would have the word *and* in the corresponding English sentence (insofar as the structure of the English and Greenlandic sentences are at all comparable). Thus *Carl* ***and*** *Peter* becomes *Kaali Piitar**lu***, for example.

However, when joining sentences you just add ∗{lu} onto the first word of the second sentence, like this:

*Stianimik ateqar**pu**nga. 28-nik ukioqar**pu**nga*
↳ *Stianimik ateqar**pu**nga 28-nil**lu** ukioqar**lu**nga*

The first sentence remains in the indicative mood, but the second is converted to contemporative. You can even use the same construction to join several sentences: just convert *all but the first* sentence to contemporative, and add ∗{lu} to the first word of the last sentence, just as you would do with commas and the word *and* in English to create a list of events. Thus

*Stianimik ateqar**pu**nga, 28-nik ukioqar**lu**nga Nuumi**lu** najugaqar**lu**nga*

means *my name is Stian, I am 28 years old* ***and*** *I live in Nuuk.*

[10] If not, see aside 8.2, page 158.

[11] There is also a particle, *aamma*, which can mean either *and* or *also*, and it too may be used to join elements, although my impression is that ∗{lu} is preferred for joining sentences.

10.8 Concurrent actions

As I mentioned above, the transitive contemporative endings do not contain a person marker for the subject, but only the object. Thus, a natural way to translate it may simply be *Vb'ing the object*, or perhaps ***while*** *Vb'ing the object*, like for example *Peter went downstairs,* ***fetching*** *his rifle.* To go down (e.g. a flight of stairs) is {atəq}**V**, and to fetch an object is {aə}**V**, so this sentence thus becomes

*Piitaq aterpoq aallaasini aa**llugu***

There are actually two examples of coreference in this sentence, because the rifle, {aullaitə}**N**, is owned by the subject of the main clause, *Piitaq*, who is a 3rd person, and thus it bears the 4th person possessive ending **N**{ni}.

Also the intransitive contemporative can be understood in this *(while) Vb'ing* sense, even though it does have an explicit subject marker. For example, {quŋujuk}**V** means ⟨*actor*⟩ *smiles*, so if Peter shot his (own) dog (while) smiling, using his (own) rifle, we can express this as

*qunguju**lluni** Piitap qimmi**ni** aallaavaa, aallaasi**ni** ator**lugu***

Here *qungujulluni* acts as a verbal modifier of the main verb, ***aallaavaa***, because it tells us something about *how* this act was carried out. Thus it fills one of the context slots of our sentence structure. I suppose you could compare it to an English adverb, so you might perhaps sometimes want to translate it as *Vb'ingly* instead.

10.9 Lexicalised contemporative constructions

The contemporative mood is used in a number of more or less lexicalised constructions or phrases, where it becomes quite unobvious (or downright absurd) to try understand *who* the coreferential subject really is. Furthermore, these constructions are quite common (some of them even *very* common); so you should be aware of this possibility of the sentence you are looking at being a lexicalised phrase, because you might otherwise end up with some really bizarre translations. I have therefore compiled a small list of such common phrases, which I think you are most likely to encounter (though there may of course be others):

Definition 10.7 (Lexicalised contemporative constructions) *Let* **V**{CONT} *denote the positive contemporative, and* **V**{NEG} *denote the negative contemporative. Both are used in special, lexicalised constructions with affixes* **V**{tət}**V**, ⟨agent⟩ lets ⟨patient⟩ Vb*;* **V**{qqu}**V**, ⟨agent⟩ bids ⟨patient⟩ Vb*;* **V**{surə}**V**, ⟨agent⟩ thinks ⟨patient⟩ Vb's*; and the 'dummy' verbal base* {pi}**V***:*

- **V**{CONT} *alone can be used as* imperative
- **V**{NEG} *alone can be used as a* negative imperative
- **V**{tət}**V**{CONT} = while ⟨patient⟩ is Vb'ing
- **V**{tət}**V**{NEG} = before ⟨patient⟩ Vb's
- **V**{-qqu}**V**{CONT} = in order for the ⟨patient⟩ to Vb
- **V**{-qqu}**V**{NEG} = in order for the ⟨patient⟩ **not** to Vb
- **V**{surə}**V**{CONT} = whether perhaps ⟨patient⟩ Vb
- {pi}**V**{CONT} = concerning the ⟨patient⟩

As you can see, the translation of contemporative in conjunction with these affixes has seemingly very little to do with the usual meaning of these affixes. I shall comment on each of them below.

Imperative contemporative

Greenlandic has a true, imperative mood, which is used for commands, but often the contemporative will be used instead; perhaps because it will seem less direct, and thus less impolite. Both the positive and negative, transitive and intransitive endings can be used in this sense, depending entirely on the valency of the stem: Intransitive contemporative commands the ⟨*actor*⟩ *to Vb*; whilst transitive contemporative is a command to *Vb the* ⟨*patient*⟩.

Furthermore, the negation affix **V**{ŋŋit}**V** cannot be used with the true imperative mood, so using the negative contemporative is one of the possible ways in which you may express a negative command. Here are two examples:

- *matu matu**llugu*** = *close the door* (positive)
- *matu matu**nagu*** = *don't close the door* (negative)

using, in both cases, the transitive ending with 3.sg as object. As the transitive contemporative endings do not contain a subject marker, the command can therefore be directed at any and everyone. You may likewise also commonly see ***eqqaamallugu*** *…*, *remember to …*, being used for reminders. The object, which is the thing someone is supposed to remember, will then often be a nominal clause created with **V**{nəq}**N**; for example

*eqqaamallugu qimmip aallaa**nissaa*** = *remember the (future) shooting of the dog*

which we in ordinary English might express as *remember to shoot the dog*. Here I have added the nominal future affix **N**{kcaq}**N** on top of ***aallaaneq***, but before the possessive ending **N**{-a}, to denote that this is a reminder of something that someone *shall* do, rather than of something that has already happened.

While and before

The affix **V**{tət}**V** is used in two special constructions with the positive and negative contemporative, to express *while* and *before*, and they can be used regardless of whether there is coreference to the subject in the main clause or not. The endings are transitive, *except* in the special case when there actually *is* coreference to the subject of the main clause; then the intransitive endings are used instead.[12] Here are some examples using ***qaqqami***, *(out) in the mountain(s)*, and the verbalisation of locative with **N**{LOC}{ət}**V**:[13]

1. *qaqqamiit**tillu**nga siallilerpo**q*** (no coreference)
   ***while I** was out in the mountains, **it** began to rain*

2. ***Piitaq** qaqqamiit**tillu**gu siallilerpo**q*** (no coreference)
   ***while Peter** was out in the mountains, **it** began to rain*

3. *qaqqamiit**tillu**ni Piitaq kaffiliorpo**q***
   ***while he**$_1$ was out in the mountains, **Peter**$_1$ made coffee*

siallilerpoq means *it began to rain*, which is an entirely avalent meaning; and ***kaffiliorpoq*** means *he made coffee*. As you can see in examples 1. and 2., the *object* of the sentence *qaqqamiitillu*{P} – whether {P} is {ŋa} or {gu} or any other person – corresponds to person mentioned in the English translation after *while*; that is *while **I*** and *while he* and so on. There is no coreference to the subject of the main clause, who here is the avalent 'dummy' subject *it*; and it makes no sense to try to interpret the sentence *as if* there were coreference.[14]

However, in the third example there *is* coreference between the object of the 'while-clause' and the subject of the main clause: Peter is out in the mountains, *and* Peter makes coffee. Thus the ending *has* to have a 4th person marking, and therefore the intransitive ending **V**{(l)lu**ni**} is used.

I think the easiest way to handle this strange construction and its convoluted use of coreference, is simply to think of it *as if* it were intransitive, and *as if* the intransitive contemporative mood had endings *both* for the 3rd and 4th persons. Figure 10.4 lists the construction with all possible endings; I have purposefully made it such as to be reminiscent of a table of intransitive endings, with markings for all persons, although in reality the list mixes endings from the transitive and intransitive sets.

[12] However, it hardly makes a difference, since they look mostly similar, except for the endings with the 4th person as subject, or 3rd person as object.

[13] A detail: **V**{tət}**V** is normally additive, but it is actually truncative on *t-stems and ut(ə) stems*. Thus we get e.g. {qaqqami}{ət}**V**{tət}**V**{(l)lugu} $\Longrightarrow^*$ *qaqqamiit**tillugu***, instead of the expected **qaqqamiit**tsillugu***.

[14] I picked this example from Bjørnum (2003, p. 49), because he has a wonderfully bizarre interpretation of this sentence, where it somehow is the *rainy weather* that lets me be out in the mountains.

1.sg	+*tillu**nga***	= *while **I** Vb'ed*
2.sg	+*tillu**tit***	= *while **thou** Vb'ed*
3.sg	+*tillu**gu***	= *while **he** Vb'ed*
4.sg	+*tillu**ni***	= *while **he (himself)** Vb'ed*
1.pl	+*tillu**ta***	= *while **we** Vb'ed*
2.pl	+*tillu**si***	= *while **you** Vb'ed*
3.pl	+*tillu**git***	= *while **they** Vb'ed*
4.pl	+*tillu**tik***	= *while **they (themselves)** Vb'ed*

Figure 10.4: The *while*-construction with **V**{tət}**V**, listed in Graphemist-style with all possible endings. Note that this is a mixture of transitive and intransitive endings.

The other construction, meaning *before*, works in exactly the same way, just using {na}[15] instead of {(l)lu}, but with the same person markers as in figure 10.4. Continuing with the previous examples, we could now take ***qaqqa**mut*** meaning ***to** the mountain(s)*, and verbalise the allative with **N**{ALL}{-kaq}**V**:

1. *qaqqamukar**tinna**nga siallilerpo**q*** (no coreference)
   ***before I** went to the mountains, **it** began to rain*

2. *Piitaq qaqqamukar**tinna**gu siallilerpo**q*** (no coreference)
   ***before Peter** went to the mountains, **it** began to rain*

3. *qaqqamukar**tinna**ni Piitaq kaffiliorpo**q*** (coreference)
   ***before he**$_1$ went to the mountains, **Peter**$_1$ made coffee*

Whether perhaps

Positive contemporative in combination with the affix **V**{surə}**V** yields a construction that may be translated as *whether (perhaps) ⟨patient⟩ Vb*, which can be useful for asking polite questions, or making polite requests. Although it is a divalent affix, it is used in the same 'pseudo-intransitive' way as **V**{tət}**V** in the while-construction above, and with the same mixture of transitive and intransitive endings. For reasons that are not incredibly important here, the combination **V**{surə}**V**{(l)lu} becomes /sur**al**u/, so to shorten the presentation (and gloss over this detail) I have again tabulated the possible combinations in Graphemist-style, along with their meaning, in figure 10.5.[16]

[15] Or even {ga}, though I believe this is exceedingly rare. But I *have* seen +***tiga**si* used in a text; notice that the forms with {ga} are actually *truncative*, as you can see here: The final /t/ in **V**{tət}**V** was deleted.

[16] The explanation is a special sandhi rule for schwa-stems in positive contemporative. I describe it in detail in chapter 14, section 14.7, page 287.

1.sg	+***soralunga***	= *whether **I** might Vb*
2.sg	+***soralutit***	= *whether **thou** might Vb*
3.sg	+***soralugu***	= *whether **he** might Vb*
4.sg	+***soraluni***	= *whether **he (himself)** might Vb*
1.pl	+***soraluta***	= *whether **we** might Vb*
2.pl	+***sorausi***	= *whether **you** might Vb*
3.pl	+***soralugit***	= *whether **they** might Vb*
4.pl	+***soralutik***	= *whether **they (themselves)** might Vb*

Figure 10.5: The *whether*-construction with **V**{surə}**V**, listed in Graphemist-style with all possible endings; again with a mixture of transitive and intransitive endings.

Let us again have some examples. This time I shall use {apirəjaqtuq}**V** as the main clause, which means ⟨*agent*⟩ *went over to ask* ⟨*patient*⟩ *(something)*; and as object clause I shall use {ilau}**V**, meaning ⟨*actor*⟩ *partakes (in something)* or *is a member (of something)*. The example is from Berthelsen (1996), where the main character is journing towards Uummannaq; he sees a man with a boat and goes over to ask him *whether (perhaps) he might come along*. To express *might* I shall therefore also add the affix **V**{sinnau}**V**, *can Vb*:

1. *aperiartor**para** ilaasinnaa**sora**lu**nga***
   ***I** went over to ask **him** **whether perhaps I** could come along*

2. *Piitaq aperiartor**para** ilaasinnaa**sora**lu**gu***
   ***I** went over to ask Peter$_1$ **whether perhaps he**$_1$ could come along*

3. *aperiartor**paa** ilaasinnaa**sora**lu**ni***
   ***he**$_1$ went over to ask **him**$_2$ **whether perhaps he**$_1$ could come along*

In examples 1. and 3. there *is* coreference, because the person who is going over to ask, and the person who wants to come along, is the same. And in particular, in example 3. we again need to use the intransitive ending with a marking for the 4th person, because the subject of the main clause is the 3rd person.

You can also use this construction with a *divalent* base; in that case you are actually creating a *'double-transitive'* construction, although we are fortunately here ignoring the ⟨agent⟩ role, and the ⟨patient⟩ role is unaltered by this construction.[17] So suppose for example that you call, {sianəq}**V** (e.g. an office), and want to speak to Peter. Using {uqaqvigə}**V**, ⟨*agent*⟩ *speaks to* ⟨*patient*⟩ as base for the object clause you could therefore say:

*Aluu, sianerpu**nga** Piitaq oqarfigisinnaa**sora**lu**gu**?*

[17] See definition 9.7, page 186 about how this mapping works.

meaning *hello, **I** am calling (to ask) **whether perhaps** it might be possible to speak to Peter?* It is a useful, albeit perhaps a little formal construction.

Concerning Peter

The base {pi}**V** has no real meaning of its own; it is used to allow the meaning of affixes or endings to be expressed in isolation, which can sometimes be useful. With contemporative endings, this has come to mean *concerning the ⟨patient⟩*, which is something you might see in the title of an email or a document; or, perhaps a little less formally, *about the ⟨patient⟩*. As in the previous cases, this expression is also best understood *as if* it were intransitive, although we use the same mixture of transitive and intransitive endings as before.

Here are some examples, where I shall use {uqaluktuaq}**V**, *⟨actor⟩ tells (something)*, as the main clause:

1. *Piitaq pillu**gu** oqaluttuarpu**nga*** (no coreference)
   I** told something about **Peter
2. *(imminut) pillu**nga** oqaluttuarpu**nga*** (coreference)
   I** told something about **me (or *myself*)
3. *Piitaq pillu**gu** oqaluttuarpo**q*** (no coreference, 3rd person)
   ***he**$_1$ told something about Peter$_2$*
4. *Piitaq (imminut) pillu**ni** oqaluttuarpo**q*** (coreference, 3rd person)
   Peter** told something about **him(self)

The principle is the same as before; when the subject of the main clause *is* a 3rd person, and there *is* coreference, then the subordinate clause has to have an ending with a 4th person marker.

By the way, the word *imminut*, which I have added in parentheses in the coreferential examples (2. 4.), means *self*, as in *my**self**, him**self*** and so on. However, it does not carry a personal marker, so whether it means ***my**self, **thy**self*, or ***him**self* etc. will depend on the personal marker used on the verb. It is optional, but commonly used to emphasise this reflexive, coreferential meaning, and it is therefore also known as the *reflexive pronoun*.

In order (not) to

The affix **V**{qqu}**V** usually means to bid/ask someone to do something, but it can also be used with the contemporative mood to denote a form of intentional causation; that is, *in order for the ⟨patient⟩ to Vb*. Or, if the *negative* contemporative is used instead, *in order for the ⟨patient⟩ **not** to Vb*, which you perhaps also could express as *to **avoid** the ⟨patient⟩ Vb'ing*.

Consider first this example with the two monovalent stems {iŋət}**V**, ⟨*actor*⟩ *sits down*; and {nəkuvət}**V**, ⟨*actor*⟩ *gets up* (from a sitting position). Using this construction with positive contemporative I can therefore say

Piitaq$_1$ *inge**qqu**llu**gu***$_1$ *nikuippunga*
I** got up, **in order for him$_1$ *(Peter) to sit down*

The endings are used in the same way as the previous constructions: {gu} refers to *Piitaq*, and there is no coreference to the subject, *I*, in the main clause. However, if we use this construction with a *divalent* stem such as {taku}**V**, ⟨*agent*⟩ *sees* ⟨*patient*⟩, we also get a 'double-transitive' construction, as we did above with **V**{surə}**V**. Unfortunately, this time we cannot just ignore the the underlying ⟨agent⟩ role of **V**{taku}**V**, since he will precisely be the person whom we are interested in causing to do (or not to do) something. We will therefore very likely like to mention him explicitly, and he must therefore appear in the *allative* case.[18] Consider it as a transformation:

*Piita**p** takuaa**nga***	→	*Piita**mut** tako**qqu**llu**nga***
*Peter sees **me***		**for** Peter to see **me**

The subject of *takuaanga* is *Piita**p***, who now is transformed into an *underlying subject* (or *indirect object*, whatever you like to call it), *Piita**mut***. But the *object* is unchanged: it is still *I*. And now you just need to add a main clause, which could be anything, and with any person, since these constructions do not care about coreference (except for the 3rd person). So an example of a main clause could be

*Piita**mut** tako**qqu**llu**nga** nikuippu**nga***

meaning ***I** got up, (in order) for Peter to see **me***. Or perhaps ***to let** Peter see me* might sound more natural in English. Here are two further examples, using the negative contemporative instead:

1. *Piita**mut** takoqqu**na**nga ingippunga*
   *I sat down, (in order) to **avoid** Peter seeing me*

2. *Piitaq*$_1$ *Kaali**mut** takoqquna**ni***$_1$ *ingippo**q***$_1$
   Peter$_1$ *sat down, (in order) to avoid Kaali seeing **him***$_1$

In the second example we *do* have coreference, *and* the subject of the main clause is the 3rd person *Piitaq*, and thus we must use a 4th person marker on the subordinate clause. Here, the person markers in both the endings **V**{vu**q**} and **V**{na**ni**} refer to *Piitaq*, as I have tried to indicate with subscripted numbers.

[18] See page 186 and the following text.

* * *

Coreference and 4th persons can seem like alien and confusing concepts, when you are used to a language like English that has none of this. But at least Greenlandic uses the concept of a 4th person *consistently*, across both nouns and verbs, as I have hopefully managed to show in this chapter.

The contemporative mood in particular is *very* commonly used, both for object clauses, lists of actions (first I did this, then I did this, and then I did this), or even as a kind of adverbial modifier of another verb. In all these cases, coreference is used to relate the contemporative clause to the main clause and show who the subject is.

However, in the *lexicalised* contemporative constructions, it seems as if coreference is completely ignored, except in the special case with 3rd persons. There may be many more constructions of this type than those I have mentioned here, so just beware; if you are looking at a sentence with a contemporative clause, and coreference does not seem to make any sense, then consider the possibility that you are looking at some kind of lexicalised construction. If so, you may be lucky that it will be listed (with endings and all) in the dictionary.

CHAPTER 11

Time

In English we say we look *forward* to the future, and *backwards* into the past. The future is *before* us, and the past *behind* us. But in Greenlandic, this orientation is reversed. In Greenlandic, you stand with your back to the future, staring into the past. The future is yet unknown, so it lies behind your back, out of sight, whilst the past is known, and therefore visible before your face.

Greenlandic is a so-called *irrealis* language, where the past and present are more or less considered alike, because both *have already* become reality; whilst the future is distinctly marked as something that *has not yet* been realised. It is quite the opposite of English, where the past is clearly distinguished from the present (e.g. *I* ***leave*** vs. *I* ***left***), whilst the future is only indirectly distinguished from the present with a time specification (e.g. *tomorrow*) or an auxiliary verb (*will* or *shall* etc.). In *I* ***leave*** *now* and *I (shall)* ***leave*** *tomorrow* the main verb *leave* has the same form.

These are but some of the curious ways in which time in Greenlandic differs from the way you express (and perhaps even *think* about) time in English.[1] The purpose of this chapter is therefore to describe the most common, time-related structures that most likely will seem alien to you, if your first language is English or if it views time in a similar way.

[1]Yes, I adhere to the Sapir-Whorf hypothesis. I believe our thought processes are shaped by the languages we speak or know. Thus I admire the diversity of languages, and lament when this diversity is diminished, such as when people idly borrow words and structures from other languages instead of making novel innovations on their own. Ideologically, I am therefore a prescriptivist, and thus a heretic in the eyes of the sanctimonious descriptivists, who see any and every language change as equally interesting. But honestly, would you even bother learning Greenlandic, if it had been all but assimilated by e.g. English? Perhaps with a few extra q's thrown in here and there, and some assimilation of consonant clusters. If not, then grant unto every other language the same admiration for its difference from other languages, including your own.

11.1 Time and aspect

Greenlandic verb stems describe either a single action happening once, like {aullai}**V** ⟨*agent*⟩ *shoots* ⟨*patient*⟩, or a state of being, such as {aalakuuq}**V** ⟨*actor*⟩ *is drunk*.[2] Actually, you can make many further subdivisions if you like, but for the purpose of expressing time, this is the principal distinction.[3] This is strictly speaking not an issue of *time*, but rather of something called *aspect* in Grammaric, which you can also read more about in aside 11.1, but the two concepts are closely related through the following relationship:

Definition 11.1 (Time and aspect) *Greenlandic verbal bases either describe a* state of being *(statal verbs); or a* transition *from one state to another (transitional verbal base):*

- *The action of a* statal verbal base *can be understood as either* past or present *tense.*
- *The action of a* transitional verbal base *is always* past *tense.*

{aalakuuq}**V** clearly describes a state of being, so ***Piitaq aalakoorpoq*** can, on its own, be understood as meaning either *Peter **is** drunk* or *Peter **was** drunk*. Conversely, {aullai}**V** describes a transition from one state (before the shot was fired) into another (after the shot was fired), so it can only be past tense: ***Piitap qimmini aallaavaa*** therefore means *Peter **shot** his dog* and not that he is shooting his dog *right now*.

Greenlandic has several affixes that you can use to locate or shift an action around in time: The important point to note here is that *transitional* bases will need an affix to mark the action as occurring in the present (i.e. if Peter *is shooting* his dog); and *both* statal and transitional bases will require an affix to mark the action as occurring in the *future*.

Past

Even though all verbal bases can be past tense on their own, you can also use a few affixes to make this more explicit. Three very common examples are:

- **V**{nəkuu}**V**, *has once/ever Vb'ed*
- **V**{-riiq}**V**, *has (already) Vb'ed*
- **V**{sima}**V**, *has Vb'ed*

Thus for example ***Piitaq aalakoornikuuvoq*** means *Peter **has once been** drunk*; and using instead the intransitive interrogative 2.sg ending **V**{vət} I can also use it to pose a question, such as ***aalakoornikuuit?***, meaning ***have** you **ever been** drunk?*. Likewise e.g.

[2] There are several stems for expressing that the actor is drunk/intoxicated besides {aalakuuq}**V**. I suspect this stem is actually just a greenlandised, verbalised form of the word *alcohol*.

[3] E.g. Nielsen (2019, pp. 261–263) goes through numerous categories with dark, Grammaric names, but I must admit I never understood why this detailed categorisation should be relevant (or necessary); at least not from the point of view of someone who is interested in *learning* the language, rather than just describing it.

Aside 11.1: More about aspect

Aspect is not exactly simple or straightforward in Greenlandic, as e.g. Nielsen (2019, p. 262) makes abundantly clear. But for the purpose of just *learning* the language it may not be incredibly important either. However, knowing just a little about it may help you remember the difference between a number of verbal stems that otherwise can seem very alike.

Specifically, there are handful of affixes with an aspectual meaning, most of which are no longer used productively in everyday word-formation, but which can be found in many lexicalised stems. For example the affix **V**{'-q}**V**, which also may have caused gemination in the stem: it denotes a *resultative aspect*, which I suppose you can translate as *has become Vb'ed.* This affix is the source of many pairs of stems that you may find in the dictionary; for example

*qaa**m**avoq*	→	*qaa**mm**ar**p**oq*
it is light		*it **has become** light*

As you can see, the single /m/ has doubled to /mm/ by the addition of this morpheme. You can find many other examples, e.g. ***aa**l**a**voq, aa**ll**ar**p**oq* (*moves about* vs. *has left*); and ***amm**avoq, **amm**ar**p**oq* (*is open* vs. *has become open*). In the last example, /mm/ was already double, so there was no room for gemination.

Another group of morphemes are **V**{ma}**V**, **V**{ŋa}**V** and **V**{qqa}**V**. Of these, only the last is still used in everyday word-formation. Their meaning is in a sense the opposite of **V**{'-q}**V**: they denote a *stative aspect*, i.e. they make the stem denote a state of being.

For example, {matu}**V**, ⟨*agent*⟩ *closes* ⟨*patient*⟩ is a patient-preserving stem, so ***matu**voq* means *it **was** closed (by someone)*, i.e. it describes the *result* of someone having closed something. Thus, the aspect is inherently resultative, without the need of **V**{'-q}**V**. But with **V**{qqa}**V** we get instead ***mato**qq**a**voq*, meaning *it **is (in a state of being)** closed.*

The difference is approximately like the difference between *the door was closed (e.g. by Peter)* and *the shop is closed (e.g. until tomorrow).* In the latter case we are not implying that the shop has been closed *by* anyone in particular, but just that it is in a state of being closed, which is a state of being of a certain length or duration.

For a clearer example, you can even say that *Piitaq **mato**qq**a**voq*, meaning that *Peter is a closed person*, but I doubt it would make any sense to say that *Piitaq **matu**voq*, unless you want to imply that he is like a door that was closed by someone.

*aallaa**reer**paa* means *he **has (already)** shot it*, which thus implies that he is now done with the action; i.e. it must therefore reside in the past.

The meaning of the last affix, **V**{sima}**V**, is a little more difficult, because it has more than one meaning. Some use it like **V**{-riiq}**V**, but for actions they have not themselves witnessed; you could perhaps translate it as *has **apparently** Vb'ed*. But it may also just mean what the Grammarians call *perfective* aspect; i.e. that the verbal action is ended; which is somewhat like what **V**{nəkuu}**V** also means. For example, *ilinniarpoq* means *he studies (something)*, but *ilinniar**sima**voq* means *he has graduated* (so he no longer studies).

Because of this ambiguity, some speakers today may prefer **V**{nəkuu}**V**, or even **V**{-riiqnəkuu}**V**, to express the purely perfective aspect; and only use **V**{sima}**V** for the 'apparently' (or 'reported') perfective aspect. For example, {aŋiqlaq}**V** means ⟨*actor*⟩ *went home*, so many will say that

- *Piitaq angerla**reer**poq* means *Peter **has (already) gone** home*, and it is implied that the speaker here has observed the event, e.g. he may have seen Peter leaving.
- *Piitaq angerlar**sima**voq* means *Peter **has (apparently)** gone home*, and it is implied that the speaker has not witnessed this himself, but just assumes it is true, e.g. because Peter is no longer present.

Conversely, some (probably more conservative) speakers dislike the sound of the affix **V**{nə**ku**u}**V**, because it contains the morpheme **N**{-kuq}**N**, which is *an old/discarded N*.[4] So these speakers will tend to prefer **V**{sima}**V** instead.

This is unfortunately rather confusing. But just remember that *all* bases can be past tense, just by themselves, so strictly speaking you do not need to use any of the three affixes.

Present

The statal bases can be both past and present tense by themselves, but the transitional bases are only past tense.

There is one affix, **V**{-liq}**V**, denoting that a verbal action *begins* in this very moment. On a statal base it thus denotes that this state of being *has just begun*, and on a transitional base it denotes that the transition *has just occurred*. Thus you can use this affix to move a verbal action very close to the present. If Peter is going home and is just about to leave, you can therefore say

*Piitaq angerla**ler**poq*

if he e.g. is just on his way out.

[4] **V**{nəkuu}**V** is actually formed by a combination of **V**{nəq}**N**{-kuq}**N**{-u}**V**.

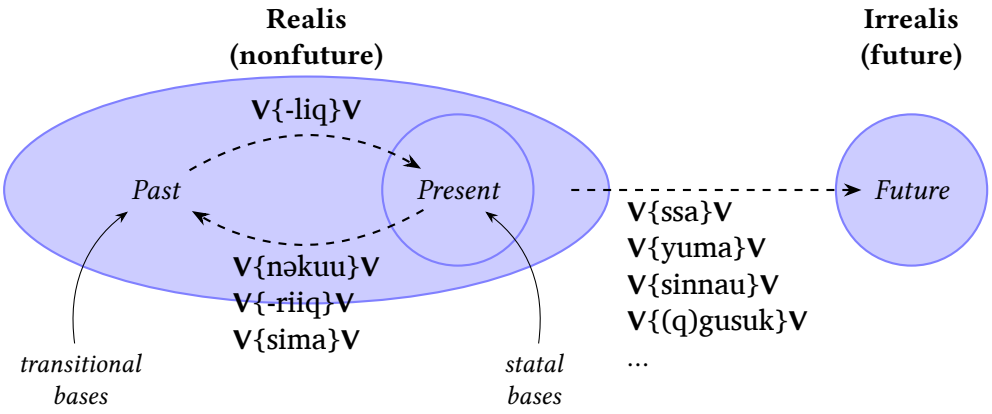


Figure 11.1: An illustration of the relationship between the two types of verbal bases, and how they may be located in time by addition of various affixes.

Future

There are many affixes that denote, in one way or another, that an action has not yet taken place, thus locating the action in the future. Or rather, in the *possible* future, because the future is not always certain. Here is a list of some of them, although there are probably several others:

- **V**{yuma}**V**, *will/want to Vb*
- **V**{yumaaq}**V**, *will (certainly) Vb*
- **V**{niaq}**V**, *will/intends to Vb*
- **V**{(q)gusuk}**V**, *will like/desires to Vb*
- **V**{ssa}**V**, *future, shall Vb*
- **V**{ðariaqaq}**V**, *must Vb* (by necessity)
- **V**{sinnau}**V**, *can/is able to Vb*
- **V**{ðukcau}**V**, *ought to Vb* (it is intended that ...)

As you can see, they all mean something along the lines of *can, shall, will, may, must, ought to.* However, the prime example here is **V**{ssa}**V**, which just means *future* or *shall Vb* (not necessarily by necessity). This affix has a quirky irregularity in intransitive indicative (and nowhere else!) where it deletes the single /v/ from the mood marker {vu}; thus e.g. **V**ssa**V**{v**uq**} $\Longrightarrow^*$ ***-ssaaq*** by the a-rule, but apart from this detail it behaves just like any other affix. You can read more about this unimportant irregularity in aside 11.2

Thus, if Peter *shall be* shooting his dog (e.g. when he gets home) you therefore say

*Piitap qimmini aallaa**ssa**vaa*

Aside 11.2: An irrelevant irregularity

If you are following a typical (Graphemistic) course in Greenlandic, you might also very soon come across an oddity with the 'future' affix **V**{ssa}**V**. This affix will delete the *single* /v/ from intransitive indicative {**vu**}, but *not* the doubled /(v)v/ in **V**{**(v)vut**}. In sandhi rule notation:

$$\mathbf{V}\{\text{ssa}\}\mathbf{V}\{\text{vu}\}\{P\} \rightarrow /\text{ssau}P/$$

where P is any person marker. Thus, instead of the expected forms **-ssa**vu**nga, *-ssa**vut**it, *-ssa**vo**q,* …, you get

$$\mathbf{V}\{\text{ssa}\}\mathbf{V}\{\text{vuŋa}\} \implies /\text{ssa}\mathbf{u}\text{ŋa}/ \implies [\text{ssa}\mathbf{a}\text{ŋa}] \implies \textit{-ssa}\mathbf{a}\textit{nga}$$

and likewise *-ssa**a**tit, -ssa**a**q* and so on; but regularly **V**{ssa}**V**{(v)vut} $\stackrel{*}{\implies}$ *-ssa**pp**ut*. It is an irrelevant, irregular detail that people often seem to obsess over a lot for no good reason. Especially since **V**{ssa}**V** everywhere else is *completely regular*, both with all other endings, and when followed by another affix. Thus e.g. with **V**{galuaq}**V** and the same endings you get

$$\mathbf{V}\{\text{ssa}\}\mathbf{V}\{\text{galuaq}\}\mathbf{V}\{\text{vuŋa}\} \stackrel{*}{\implies} \textit{-ssagaluar}\mathbf{pu}\textit{nga}$$

and likewise *-ssagaluar**pu**tit, -ssagaluar**po**q* and so forth with *no* irregular deletion of /v/.

To quote a point from Per Langgård; it will not cause a *misunderstanding* if you say the regular *-ssa**vu**nga, -ssa**vu**tit* etc. It may merely sound a little childish. Thus there is no point in spending many mental resources on learning this *deviation* from the regularity. Spend them on learning the regular pattern instead, and then add the details later.

and if he is going to get drunk afterwards, it will be ***aalakuussa**aq*.

Another detail worth mentioning is that not just verbs but also *nouns* are marked for future, which is done with the affix **N**{kcaq}**N**, *a future N*. For example, a house that has not been built yet is a future house, ***illussaq***, and a person who *will be* your colleague, e.g. when you start at a new job somewhere, is a future colleague, ***suleqatissaq***, and so on.

11.2 Nominal time specifications

Besides using affixes on the verbal stem, you can also specify time explicitly with a noun phrase, filling one of the context slots in our sentence structure.[5] It will usually occupy the first available context slot, before any specifications of place, subject, object etc.

There are many nouns that can be used to describe a period of, or point in, time; for example ***ukioq***, *a year* (or a winter); ***ippassaq***, *yesterday*; ***ulloq***, *day*; ***ullaaq***, *morning*; ***ualeq***,

[5] See definition 10.4, page 198.

afternoon; *unnuk*, *evening*; *unnuaq*, *night*; *upernaaq*, *spring*; *aasaq*, *summer*; *ukiaq*, *autumn* and many more. They are precisely *nouns*, so you should think of them as describing a physical 'space' that you can move into, or out of, or be in, just like the spatial nouns.[6]

Furthermore, a time specification is a noun *phrase*, so it can consist of several nouns, like a possessive noun phrase: for example, ***ullup qeqqa*** is *midday* (literally *the day's middle*); or it can include *demonstratives*, particularly ***manna***, *this*.[7] You can also see a further example of this in aside 11.3. And since they are *noun* phrases, you can also use (almost) all the different case endings[8] on these explicit time specifications, depending on what you want them to express:

- *Past time* is usually specified in the *absolutive case*, corresponding more or less to saying *in* or *for* in English; for example ***ukiut tallimat*** *Nuummi najugaqarpoq*, *he lived in Nuuk* ***for five years***; ***unnuaq*** *qimmini aallaavaa*, *he shot his dog* ***in the night***.

  You can also use the *locative case* for the meaning of *in*. I think this is particularly common with years and similar 'broad' specification; for example ***2011-mi*** *Nuummut nuuppunga*, *I moved to Nuuk* ***in 2011***.

- *Specific time* use the *vialis case*, particularly when you give a narrower specification of time within a larger time frame, such as *yesterday* ***morning*** or ***in the spring*** *of 2011. In the morning* is a more narrow specification of *when* something happened yesterday; and *spring* is likewise more narrow than the whole year of 2011. Thus *ippassaq ullaa**kkut** qimmini aallaavaa* means *he shot his dog yesterday* ***morning***; and *2011-mi upernaa**kkut** Nuummut nuuppunga* means *I moved to Nuuk* ***in the spring*** *of 2011*. The *present* is also one very specific point in time, so it too uses the vialis case: *massa**kkut*** means *now*. Regardless, this meaning of the vialis case can perhaps best be translated as *during*, e.g. *unnu**kkut** Piitaq sinippoq*, meaning *Peter slept (in/during) the night*.

- *Recurrent time* also use the *vialis case*. For example, if you have a recurrent meeting *on mondays*, then you would also say this with the vialis case: *ataasinngorni**kkut***. I shall have more to say about recurrent time in section 11.4 below.

- *Future time* is usually also specified in the *absolutive case*, but with the addition of a special affix, **N{gu}N**, denoting future time. *Most* (but not all) of the aforementioned time specifications have lexicalised forms with this affix, so you can find them in

[6] See section 8.2, page 148.

[7] Demonstratives are a kind of 'niche nouns' and I have hitherto not said much about them, because there use is mostly limited to specifying directions. However, you can read much more about the whole system of demonstratives in chapter 15.

[8] See definition 7.8, page 136 for an overview.

the dictionary; for example *ualeru this (coming) afternoon*; *unnugu, this (coming) evening*; *aasaru, next summer* and so on.

Thus, if *Peter will shoot his dog* ***tomorrow***, you say *aqagu aallaassavaa*. This can of course be further narrowed down with vialis, so *aqagu ullaakkut aallaassavaa* means *he will shoot it* ***tomorrow morning***.

If it is clear from the context that a specific future time period is meant, then N{gu}N may also be omitted; for example ***aassaq manna*** *aallassaaq* means *he will leave* ***this summer***. Here *manna, this*, specifies that it is this particular (coming) summer, so this is an alternative to saying *aasaru aallassaaq*.

- *Durations* and time periods with a clear ending time are given in the *allative case*. Or rather, the *time until* is marked with the allative, so e.g. *aqagumut* means ***until*** *tomorrow*. Likewise, if you have a starting point, or *time from*, then it is indicated with the *ablative case*.

  Thus *2011-**mit** 2016-**mut** Nuummi najugaqarpoq* means *he lived in Nuuk* ***from*** *2011* ***until*** *2016*.

Time is not a straightforward matter, and unfortunately I am not aware of any exact rule to decide when to use the absolutive or the locative case for a past time specification. My best guess is that you use the locative, if there is no noun, like *ippassaq* or *unnuk*, with the exact meaning you want to express.

11.3 Verbal time specifications

Like the contemporative and participial moods, the three dependent moods – causative, conditional, iterative – also form subordinate clauses that have to be related to a main clause to form a full sentence; but rather than forming object clauses, filling the object slot in the sentence structure, these three moods can instead fill one of the context slots and act as a *time* specification. Thus, instead of using a noun to explicitly specify the time of the verbal action, you can use a *verb* in one of these dependent moods to specify the cause or *past time when*; the condition or *future time when*; or the *recurrent time whenever* for the verbal action.[9]

I have listed the intransitive endings of these three moods in figure 11.2. As you can see, they look different from the indicative, participial and contemporative moods, because they use a different set of person markers, but apart from that they are constructed in exactly the same way, by combining the mood and person marker, so you can just as

[9] See section 7.4, page 133 for an overview of the moods.

Aside 11.3: The past is before you; the future behind you

There are two special, directional noun stems that are also used in relation to time specifications:

- {siu}**N** means *front* or *frontside*
- {kiŋu}**N** means *back* or *backside*

Thus ***siumut*** means *forward* and ***kingumut*** is *backwards*. Two related forms are {siunəq}**N**, which is a *face* or *forefront* (of something); and {kiŋunəq}**N**, which is the *result* or *consequence* (of something). But with a possessive ending like **N**{-a} (causing metathesis), we get ***siornga***, *last year*; and ***kingornga***, *later, afterwards*. The face looks into the past, the back is turned to the future. This is the strangely reversed orientation I mentioned in the introduction to this chapter.

You can also use these words to indicate the time before or after, relative to some other event. For example, *ukiut tallimat* ***matuma***[a] ***siornga*** means *five years* ***before this*** *(present time)*; and *atuareernerup* ***kingornga*** is *the* ***time after*** *school is finished. Atuareerpoq* means *he has been in school*, with **V**{-riiq}**V** indicating that the school day is now over, and this is then made into an abstract noun, using the abstract participle **V**{nəq}**N**. And *this* abstract noun, describing the state of being done with school for today, is then the possessor of ***kingornga***.

[a] ***matuma*** is the ergative singular form of ***manna***. See chapter 15 about these demonstrative 'niche nouns' and their strange endings.

	Causative {ga}	Iterative {gaaŋa}	Conditional {gu}
{ma} 1.sg	**V**{gama}	**V**{gaaŋama}	**V**{guma}
{vət} 2.sg	**V**{gavət}	**V**{gaaŋavət}	**V**{guvət}
{at} 3.sg	**V**{(m)mat}	**V**{gaaŋat}	**V**{(p)pat}
{mi} 4.sg	**V**{gami}	**V**{gaaŋami}	**V**{gu**ni**}
{mta} 1.pl	**V**{gamta}	**V**{gaaŋamta}	**V**{gumta}
{vsi} 2.pl	**V**{gavsi}	**V**{gaaŋavsi}	**V**{guvsi}
{ata} 3.pl	**V**{(m)mata}	**V**{gaaŋata}	**V**{(p)pata}
{mək} 4.pl	**V**{gamək}	**V**{gaaŋamək}	**V**{gu**nək**}

Figure 11.2: The intransitive endings for the three dependent moods, the causative, iterative and conditional. The principal mood markers are {ga}, {gaaŋa}, {gu}, but when the subject is the *3rd person* they each use a different mood marker: {(m)m}, {gaaŋ} and {(p)p} respectively. The person markers are the same as the possessive ergative person markers, except for 3.sg {at}. For unknown reasons, the conditional has changed /m/ to /n/ in the 4th person markers {mi} and {mək}.

easily convert from one mood to another within this set by exchanging one mood marker for another.[10]

As I mentioned briefly in section 10.2 (page 195), you can use the *causative* mood to specify a cause or time (in the past) for the verbal action in the main verb. The meaning of this mood can either be 'time' or 'cause,' so you will almost always translate it as either *when* or *because*, but notice that in either case it places the verbal action in the *past.* For example *Peter shot his dog* ***because*** *he was drunk.* Now, the person who is drunk is the same 3rd person as the subject of the main clause, so we therefore need the *4th person* causative intransitive ending **N**{gami}. Thus:

*aalakoo**rami** Piitap qimmini aallaavaa*

Conversely, you can use the *conditional* to specify a *future* time or condition for the verbal action. This mood is therefore typically translated as *if/when.* Thus we can also say:

*aalakoo**runi** Piitap qimmini aallaa**ssa**vaa*

meaning that ***if (or when)*** *Peter gets drunk, he* ***will*** *shoot his dog.* The rule for verbal time specifications is therefore as follows:

Definition 11.2 (Verbal time specification) *The dependent moods form verbs that can replace a noun as a time specification, filling a context slot of the sentence structure. They are used thus:*

- *The* causative *can denote* past *time or cause.*
- *The* conditional *can denote* future *time or condition.*

Note however that they do not *have* to indicate time by themselves. Verbs in these moods can carry their own time affixes like **V**{ssa}**V**, in which case they will denote cause or condition, rather than time. But you need not worry overly much about this: it will often be obvious from the translation. For example

*innalerpunga sinissa**g**ama*

means *I'm going to bed* ***because I shall*** *sleep.* Here I have added **V**{ssa}**V** to {sinək}**V** *and* used the causative ending, so the time is future, and the causative therefore naturally cannot indicate the past; it denotes cause instead. Furthermore, I have shifted the causative clause to the position *after* the main clause *innalerpunga*, and thus away from the usual position of a time specification. This may further help to emphasise that the meaning is *cause* or reason, rather than *time.*

[10] Fun fact: The *transitive* endings (of all moods) use this set of person markers for *subject*, and the other set for *object*, so e.g. {ga}{vsi}{ŋa} ⟹ **V**{gavsiŋa} is the transitive causative ending for 2.pl/1.sg, *when/because you Vb me.* Learning these two sets together will therefore make your task of learning the transitive endings immensely easier than just trying to memorise huge tables of endings like the Graphemists must do.

11.4 Recurrent time and habitual actions

Consider the sentence *I drink coffee*. It can either be a statement about something I am doing right now, in this very moment, *or* it can describe something I do *habitually*, as an expression of my preference for coffee (e.g. over tea). In the latter case, I might also express this in English by saying that *I am a coffee-drinker*, which does not necessarily imply that I am doing it in this very moment, but just that I have a *habit* of drinking coffee. Similarly, *I smoke* might either mean that I am doing it right now, or that I do it habitually, if *I am a smoker*. And so on.

In Greenlandic, the word *pujortarpunga* means *I smoke (now)*; and likewise *kaffisorpunga* means *I drink coffee (now)*. However, expressing that these actions are *habitual* or *recurrent*, rather than just single events, requires an explicit marking. Greenlandic has a handful of affixes for denoting a repeated, habitual or recurrent action; the most important, and by far most commonly used, being the affix **V**{ðaq}**V**. Thus *kaffisor**tar**punga* means *I **habitually** drink coffee* (or *I'm a coffee-drinker*), and *pujorta**rtar**punga* means *I **habitually** smoke* (or *I'm a smoker*), and so forth.

Suppose now that we want to give an explicit specification of the time *when* this habitual action occurs. For example, suppose I habitually drink coffee *in the morning*. For this, we need the noun base {umlaaq}**N**, *morning*, and the *habitual* specification of time is denoted by the *vialis* case as mentioned above; here we shall just use the unmarked singular ending **N**{kkut}.[11] Thus *I drink coffee **in the morning*** is

*ullaa**kkut** kaffisor**tar**punga*

In other words, whenever you make a verbal action *habitual* with **V**{ðaq}**V**, then you must also convert an explicit time specification to use the vialis case:

Definition 11.3 (Recurrent time) *An instantaneous verbal action is transformed into a* habitual *verbal actions by adding the affix* **V**{ðaq}**V**. *An explicit time specification for the action then becomes a* recurrent time *specification, which is marked with the* vialis *case,* **N**{VIA}*:*

{time}**N**{ABS} {verb}**V**{ending} → {time}**N**{VIA} {verb}**V**{ðaq}**V**{ending}

11.5 Recurrent time or cause

Just as we could use the causative mood as a verbal specification of past time or cause, we can likewise use the *iterative* mood to specify a *recurrent time or cause*. Consider again the sentence

[11] I have no good explanation for why the vialis case is used for this kind of time expression. I see no obvious connexion to its general meaning of *by, via, through* etc.

*aalakoo**rami** Piitap qimmini aallaavaa*

If we want to make this verbal action habitual by adding **V**{ðaq}**V** on the main verb, then the time/cause specification ***aalakoorami*** must also becomes a *recurrent* cause or time; what you in English usually will express with the word *when**ever***. This is precisely the meaning of the iterative mood. Thus

*aalakoo**raangami** Piitap qimmini aallaa**sar**paa*

means that ***whenever*** *Peter is drunk he (habitually) shoots his dog*. The main verb has **V**{ðaq}**V** added to mark it as habitual just as in the previous section, and the causative time/cause specification is converted to the iterative mood instead, just by switching the mood marker. We can formalise this transformation as follows:

Definition 11.4 (Recurrent time or cause) *A causative time/cause specification, here denoted* **V**{CAU}*, can be converted to a* recurrent *specification of time or cause by using instead the* iterative *mood,* **V**{ITE}*. The meaning is* whenever*. Whenever the iterative mood is used, the main verb must contain the habitual affix* **V**{ðaq}**V***:*

$$\{\text{verb}_1\}\mathbf{V}\{\text{CAU}\}\ \{\text{verb}_2\}\mathbf{V}\{\text{ending}\} \rightarrow \{\text{verb}_1\}\mathbf{V}\{\text{ITE}\}\ \{\text{verb}_2\}\mathbf{V}\{\text{ðaq}\}\mathbf{V}\{\text{ending}\}$$

In other words, whenever you want to say *whenever* in Greenlandic, use the iterative mood; and whenever you use the iterative mood you must also add **V**{ðaq}**V** on the main verb.

* * *

The causative and conditional moods are closely connected to specifications of time. You can see this clearly in the names for the days of the week, which are built from the stems of numerals. For example, {atausiq}**N** is the number 1, but ***ataasinngorneq*** is *monday*, constructed from **N**{ŋŋuq}**V**, ⟨*actor*⟩ *becomes N* and the abstract participle **V**{nəq}**N**. However, *last monday* is ***ataasinngor**mat***, using the causative 3.sg ending, and *next monday* is ***ataasinngor**pat***, with the conditional 3.sg ending instead. And if you do something *whenever it is monday*, then you could supposedly say ***ataasinngo**raangat*** with the iterative 3.sg ending, although I think ***ataasinngorni**kkut*, ***on** monday**s*** would be more common.

CHAPTER 12

Stems of state

In English, words like *big* and *small* belong to a distinct class of words called *adjectives*. However, as you have seen in chapter 8, these attributes are instead expressed by statal verb bases in Greenlandic; or what we might call the *stems of state*: {aŋə}**V** means ⟨*actor*⟩ ***is*** *big*; and {mikə}**V** means ⟨*actor*⟩ ***is*** *small*, so they describe a *state of being* of the ⟨actor⟩.

The stems of state can be converted to nouns with the intransitive participle **V**{ðuq}**N**, which allows them to be used as attributes in a noun phrase, such as *qimmeq miki**soq***, *a **small** dog*; but it leaves the question of how you express *big**ger**, big**gest*** and *small**er**, small**est*** in Greenlandic? This difference, between *big, bigger, biggest* and *small, smaller, smallest*, is one of *degree*, and changing the degree of an adjective is called *comparison* in Grammaric. And not surprisingly, comparison is expressed by affixes in Greenlandic.

Another, related feature of these stems of state is that they can be related directly to a *verb*; what we in English would call *adverbials*, which are words that modify verbs, similar to how adjectives modify nouns. In English you use the affix {ly} to derive adverbials from adjectives; for example, *slow, cheap* become *slow**ly**, cheap**ly***, and in Greenlandic you can do something similar.

The purpose of this chapter is therefore to describe some of the common constructions involving the stems of state, that you will likely encounter.

12.1 Relative equality

Piitaq angivoq (or *Piitaq angisuuvoq*) means just that *Peter is big*, which is stated as an absolute truth. Peter is big, regardless of whether you are a dog or a mountain. However, you can instead express this as a *relative* statement, by saying e.g. that *Peter is **as** big **as** Carl.* This is done with the affix **V**{təgə}**V**, *as Vb as*; and with the thing or person, to whom

you are comparing the actor, appearing as a modifier in the *equative* case; for example the unmarked singular **N**{tut}. Thus:

*Piitaq Kaali**tut** angi**tiga**aq*[1] = *Peter is **as** big **as** Carl*

Besides taking a modifier in the equative case, this affix can also be used with two *particles*: the interrogative pronoun {qanuq}, *what/how*; and the demonstrative {taima}, *thus*. Here is the definition:

Definition 12.1 (The relative affix) *The affix* **V**{təgə}**V** *is used to express* relative comparisons. *It is used in constructions of the following forms:*

- **N**{tut} {verb}**V**{təgə}**V**, ⟨*actor*⟩ *is as Vb as N*
- {qanuq} {verb}**V**{təgə}**V**, ⟨*actor*⟩ *Vb as much as how?* or *how much?*
- {taima} {verb}**V**{təgə}**V**, ⟨*actor*⟩ *Vb so much (as/that ...)*

Thus you can also use this affix to ask *how* big Peter is, or express wonderment that he is as big as he is. For example:

*Piitaq **qanoq** angi**tiga**a?*[2] = *How big is Peter?*
*naluara Piitaq **taama** angi**tigi**soq* = *I didn't know Peter was **that** big*

There are also other constructions involving the affix **V**{təgə}**V**, but the aforementioned three are probably the most common.

Note in passing, that I in the second case used the verb stem {nalu}**V**, ⟨*agent*⟩ *does not know* ⟨*patient*⟩, and the transitive indicative 1.sg/3.sg ending **V**{vara}, so ***naluara*** literally means *I did not know it.* This is the *main clause* of the sentence, and ***Piitaq taama angitigisoq*** is the *object clause*; i.e. the thing that I did not know. Since the subject of the object clause is ***Piitaq***, and $I \neq$ ***Piitaq***, then there is *no* coreference with the subject of the main clause, *I*; the object clause must therefore be in the *participial mood*, here with intransitive 3.sg ending **V**{ðuq}. This is just another example where coreference pops up; check definition 10.3, page 196 if this seems like Greek (rather than Greenlandic) to you.

[1] As I mentioned before, some schwa-stems have slightly different endings in some of the moods, including the indicative mood. You can read the full description in section 14.7, but for the indicative mood (both intransitive and transitive) the rule is that /ə/ deletes /v/ from the mood markers {vu} and {va}. In this case we therefore get {aŋə}**V**{təgə}**V**{**vu**q} $\Longrightarrow$ /aŋətəg**əu**q/ $\Longrightarrow^*$ ***angitigaaq***, instead of the regular ****angitigivoq***.

[2] Here I have used the intransitive *interrogative* 3.sg ending **V**{va}, because I ask a question *about* a 3rd person. These schwa stems also have special endings in the interrogative mood: the sandhi rule is the same as for the indicative mood; i.e. /v/ is deleted from the mood marker, so {aŋə}**V**{təgə}**V**{**va**} $\Longrightarrow$ /aŋətəg**əa**/ $\Longrightarrow^*$ ***angitigaa***.

12.2 Relative difference

Rather than speaking of the relative equality of two entities, we can instead note their relative *difference*. For example, instead of saying that Peter is *as big as* Carl, it could also be the case that *Peter is **bigger than** Carl*. This firstly requires us to derive a new word, *big**ger***, from our verb stem for being big, {aŋə}**V**, which, as I mentioned in the introduction to this chapter, is called *comparison*, or changing the *degree* of the stem.

In Greenlandic this is done with the affix **V**{nəq}**N**, which looks suspiciously like our well-known abstract participle.[3] However, the meaning is quite different: it means *the most Vb'ing*, or *the Vb'est*, so ***angi**neq* means *the big**gest***; and ***miki**neq* means *the small**est***. They are *nouns*, so they can be used as modifiers in noun phrases; e.g. ***illu angi**neq*, *the big**gest** house*, and ***qimmeq miki**neq*, *the small**est** dog* and so on.

V{nəq}**N** also behaves like the abstract participle w.r.t. sandhi; i.e. it is a strong q-stem, because it ends in /əq/, so vowel-initial endings, and in particular also the affix **N**{-u}**V**, will not be able to remove the final /q/, but will instead just weaken it to /r/.[4] In combination with **N**{-u}**V** it yields a *verbal* form of the comparative affix, which we can regard as a another morpheme

$$\textbf{V}\{\text{nəq}\}\textbf{N}\{\text{-u}\}\textbf{V} \implies \textbf{V}\{\text{nəru}\}\textbf{V}$$

meaning ⟨*actor*⟩ *is the **most** Vb'ing*, or ⟨*actor*⟩ *is **more** Vb'ing (than ...)*. For the latter meaning, you add a noun modifier in the *ablative* case to denote the thing or person whom the ⟨actor⟩ is more Vb'ing *than*; for example the unmarked singular **N**{mət}. Thus we can say

*Piitaq angi**neru**voq* = *Peter **is** the big**gest***
*Piitaq Kaali**mit** angi**neru**voq* = *Peter **is** big**ger than** Carl*

Notice that in English we have *three* forms (or degrees) of an adjective: *big, big**ger**, big**gest***, where the two 'inflected' forms are derived from the base form by adding the morphemes {(*c*)er} and {(*c*)est}. In Grammaric, they are called the *comparative* and *superlative* degrees, respectively. But in Greenlandic, the same morpheme **V**{nəq}**N** is used to express both the comparative and superlative degrees: you have to rely on context to decide whether ***Piitaq angineruvoq*** should be understood as *Peter is big**ger*** or *Peter is big**gest***. But for practical purposes the distinction may matter more to an Englishman than to a Greenlander.

However, there are a few other affixes you can use to extend the meaning of **V**{nəq}**N**:

[3] Fortescue et al. (2010) list it as a distinct morpheme, albeit they note that it actually *may* be the same as the abstract participle.

[4] See the special sandhi rules for /əq/-final stems in definition 6.3, page 100.

- **V**{nəq}**N**{-rujuk}**N**(q)cuaq**N**{-u}**V** $\Longrightarrow$ **V**{nərujukcuu}**V**[5]
  This combination means ⟨*actor*⟩ *is* ***much*** *more Vb'ing.* You can also repeat the morpheme **N**{-rujuk}**N** any number of times for increased emphasis; e.g.

  *angine**rujorujorujus**suuvoq = he is **much, much, much** bigger.*

- **V**{nəq}**N**{(q)paaq}**N** $\Longrightarrow$ **V**{nəqpaaq}**N**
  This combination means *the **very** most Vb'ing.* It is a noun stem, but you can also verbalise it with **N**{-u}**V** like the others to yield **V**{nəqpau}**V**.[6]

- **V**{nəq}**N**{caq}**N**{-u}**V** $\Longrightarrow$ **V**{nəqcau}**V**
  This combination means the same as **V**{nəqpau}**V**, ⟨*actor*⟩ *is the very most Vb'ing.* You can use them interchangeably.

Comparation is not just a matter of adding a single affix to a stem. You can express the same in several ways, just as in English where you can say *more, most* instead of using the {(*c*)er}, {(*c*)est} morphemes. In summary, though, we can say the following:

Definition 12.2 (Comparation) *The comparative and superlative degrees of the stems of state are both expressed with the morpheme* **V**{nəq}**N**, *to yield a noun stem meaning* the more/most Vb'ing *which may be used as modifiers in noun phrases, similar to adjectives in English. These nominal stems can again be verbalised with* **N**{-u}**V** *to yield verb stems meaning* ⟨actor⟩ **is** the more/most Vb'ing, *which can be used to express* relative difference, *with a modifier in the ablative case:*

{noun$_1$}**N**{ABS} {noun$_2$}**N**{ABL} {verb}**V**{nəru}**V**{INTR}
↳ ***noun***$_1$ is/are more ***verb***'ing than ***noun***$_2$

Lastly, the comparative and/or superlative meaning can be emphasised with other morphemes to yield the forms **V**{nərujukcuu}**V**, *(much more); and* **V**{nəqpau}**V**, **V**{nəqcau}**V** *(is the very most).*

Whether or not you like to think of **V**{nəq}**N** as a distinct morpheme, or as being just the abstract participle, is a matter of taste; but at least there is a nice kind of symmetry about viewing it as a participle: You can derive nominal modifiers with **V**{ðuq}**N** or **V**{nəq}**N** to be used in noun phrases, such as

[5] If you wonder why this combination does not become /nərujukcu**au**/, then check section 6.11, page 119 about the ghost morpheme {aq}.

[6] This is another case of the disappearing ghost-morpheme {aq}, although you may see the form **V**{nəqpaa**ju**}**V** used instead. They mean the same. It is just a matter of whether people remember to delete the {aq} before **N**{-u}**V** or not.

*qimmeq miki**soq*** = *a small dog*
*qimmeq miki**neq*** = *the small**est** dog*

and both can again be verbalised with **N{-u}V** to yield expressions like

*qimmeq miki**su**uvoq* = *the dog is small*
*qimmeq miki**ner**uvoq* = *the dog is small**er/est***

and you can even emphasise both of them with the **N{-rujuk}N{(q)cuaq}N{-u}V** construction, if you like:

*qimmeq miki**sorujussuu**voq* = *the dog **is very (very)** small*
*qimmeq miki**nerujussuu**voq* = *the dog **is much (much)** small**er***

Thus, at least for the purpose of aiding your memory, there may be good reasons for thinking of the comparative affix **V{nəq}N** as being just the abstract participle, that just happens to have a somewhat special meaning when used on the stems of state. See also aside 12.1 for a few more details about these adjectival forms.

12.3 Partitive comparatives

In chapter 8 you encountered the concept of *partitive* constructions; that is, a way of speaking about a noun as a member of some larger group or whole.[7] This is something you will likely also want to do with the superlative forms of the stems of state; e.g. to speak of *the small**est of** Peter's dogs* or say that *Peter is the big**gest of** us* and so on. It requires a special morpheme, **N{caq}N**, which is similar to the partitive affix **N{taq}N**, but is only used here, with comparative constructions. It must be added on top of the comparative affix to build a *partitive comparative* noun stem, which you can then use with possessive endings or the verbal possessive[8] **N{gə}V**, just as the ordinary partitive nouns:

Definition 12.3 (Partitive comparative) Partitive comparative *nouns are built from the stems of state with the morpheme* **N{caq}N** *on the nominal comparative/superlative form:*

$$\textbf{V\{nəq\}N\{caq\}N} \implies \textbf{V\{nəqcaq\}N}$$

The resulting noun must then either be used with a possessive ending with plural possessor*; or with the verbal possessive* **N{gə}V** *with* plural subject. *The resulting meanings are:*

V{nəqcaq}N{POSS n.pl/x**}** = x *most Vb'ing of* n
V{nəqcaq}N{gə}V{TR n.pl/x**}** = x *is/are most Vb'ing of* n

[7] See definition 8.3, page 150.
[8] See definition 8.8, page 159.

Aside 12.1: Lexicalised forms

There is a curious detail about the comparative affix **V{nəq}N**: As you may have noticed, some of these stems of state end on a /ə/, such as {aŋə}**V** and {mikə}**V**; but also {takə}**V**, ⟨*actor*⟩ *is long*. Apparently, **V{nəq}N** was once able to remove this final schwa and instead attach directly to the consonant, yielding forms such as

$$\begin{aligned} \{\text{mikə}\}\mathbf{V}\{\text{nəq}\}\mathbf{N} &\Longrightarrow /\text{mi}\mathbf{k}\mathbf{n}\text{əq}/ \Longrightarrow^{*} \textit{mi}\mathbf{nn}\textit{eq} \\ \{\text{aŋə}\}\mathbf{V}\{\text{nəq}\}\mathbf{N} &\Longrightarrow /\text{a}\mathbf{ŋ}\mathbf{n}\text{əq}/ \Longrightarrow^{*} \textit{a}\mathbf{nn}\textit{eq} \\ \{\text{takə}\}\mathbf{V}\{\text{nəq}\}\mathbf{N} &\Longrightarrow /\text{ta}\mathbf{k}\mathbf{n}\text{əq}/ \Longrightarrow^{*} \textit{ta}\mathbf{nn}\textit{eq} \end{aligned}$$

instead of the regular ***mi**kineq, **a**ngineq, **ta**kineq*.[a] This of course also carries over to **V{nəru}V**, or any other forms derived with **V{nəq}N**, so you also have ***minn**eruvoq, **ann**eruvoq, **tann**eruvoq* and so on, alongside the regular ***mi**kineruvoq, **a**ngineruvoq, **ta**kineruvoq*.

This sandhi rule is no longer active, because nobody can remember which stem-final i's are really /ə/, so these 'contracted' forms have all been lexicalised, meaning you can find them in the dictionary. Both the 'regular' and 'contracted' forms are considered correct today, so it is entirely up to you to choose which ones to use. I just mention the existence of these contracted forms, because they are commonly used, so you will likely encounter them sooner or later. But their relationship to the 'uncontracted' have been obscured by the new orthography (as usual), so you might not otherwise have been able to immediately recognise that e.g. ***minneq*** and ***mikineq*** are actually the same word.

Another group of lexicalised words derive from the morpheme **V{suuq}N**. Many (but not all) of the stems of state have a lexicalised nominal form with this morpheme, but with a meaning that corresponds to the intransitive participle: Thus you can find ***angisooq, takisooq, sivisooq*** (big, long, lengthy) and many more in the dictionary. This morpheme is no longer actively used to derive new words (so here you would use **V{ðuq}N** instead), but when a lexicalised form with **V{suuq}N** exists, people prefer to use that, rather than an ordinary intransitive participle form with **V{ðuq}N**. Unfortunately, **V{suuq}N** was not used *consistently* either: For example, {mikə}**V** has no corresponding form with **V{suuq}N**, so here you use the ordinary form with **V{ðuq}N** and say ***mikisoq***. Thus, when you learn a new adjectival stem, you might also want to make a note of whether it has a lexicalised form with **V{suuq}N** or not.

[a] The word ***tanneq***, meaning *the longest*, is also used for the minute hand on a clock, because it is the longest of the two clock hands. This meaning is lexicalised, so ***tanneq*** is still used in this sense today, even though clocks nowadays also may have a hand for seconds that may be even longer than the minute hand.

Thus ***anginersarput*** is *the biggest (singular)* ***of us***, with absolutive 1.pl/sg **N**{(q)vut}, and ***anginersavut*** is *the biggest (plural)* ***of us***, this time with absolutive 1.pl/pl **N**{-vut}. You can use this just as any of the 'ordinary' partitive nouns in a possessive noun phrase; so to say e.g. ***the smallest*** *of Peter's dogs*, you may firstly recall that ***one of*** *Peter's dogs* was expressed with the partitive noun {ila}**N** as *Piitap qimmiisa* ***ila****at*. So now you can just take this comparative partitive noun stem {aŋe}**V**{nəqcaq}**N** and plug it into the possessive noun phrase instead of {ila}**N**, using the same possessive ending:

Piitap qimmiisa ***ila****at* $\implies$ *Piitap qimmiisa* ***anginersa****at*

Using instead the verbal possessive, you create copula sentences meaning ***object is*** *the most Vb'ing* ***of the subjects***; or, in literal pseudogreenlandic, ***the subjects*** *have* ***the object*** *as their most Vb'ing part*. Notice how the roles are switched around, relative to the ordering in English: If we want to say that *Peter is the biggest of us*, then *Peter* is clearly the *subject* of the English sentence, but in the corresponding Greenlandic construction he becomes instead the *transitive object*. Again, it might be worth doing this translation in a stepwise fashion, and with the same notation as I used in the examples of the verbal possessive:

Peter is the biggest of us, (P_1 = Peter, P_2 = us, N = *the biggest*)
↳ *We have him as our biggest part*, (pseudogreenlandic, 1.pl = $\times_t$, 3.sg = $\triangle_t$)
↳ {aŋe}**V**{nəqcaq}**N**{gə}**V**{varput} $\implies^*$ *anginersaraarput*[9]

so the final result is ***Piitaq*** *anginersaraarput*, where ***Piitaq*** notably is in the *absolutive* case, with the **N**{∅} ending, because he is the *object* of the sentence. That is certainly not a trivial construction.

Spatial comparatives

You may recall the *spatial nouns* from section 8.2, page 148; that is, stems such as {atə}**N**, *area below*; {qulə}**N**, *area above*, and {kətə}**N**, {kujatə}**N**, {kaŋi}**N** and so on. There is a special affix, **N**{(l)liq}**N** or **N**{(q)liq}**N**, meaning *the extremum in the N direction*, or perhaps *the N-most point*. It is no longer used productively, but in the past it was used to form a whole host of (now lexicalised) nouns denoting extrema points; many (but not all) of which are derived from precisely these spatial nouns.

For example, corresponding to the aforementioned nouns we have

- {atə}**N**{(l)liq}**N** $\implies^*$ ***alleq***, *the nether****most***
- {qulə}**N**{(l)liq}**N** $\implies^*$ ***qulleq***, *the upper****most***

[9] Remember, **V**{gə}**N** is one of the schwa-stems that delete /v/ from the indicative mood marker, so that is why we get *anginersa****raa****rput*, instead of the expected **anginersa****riva****rput*.

- {kətə}N{(l)liq}N $\Longrightarrow^*$ ***killeq***, *the western**most***
- {kujatə}N{(l)liq}N $\Longrightarrow^*$ ***kujalleq***, *the southern**most***
- {kaŋi}N{(l)liq}N $\Longrightarrow^*$ ***kangilleq***, *the eastern**most***

but you can find many more in the dictionary. Notice how in all cases the final /ə/ is elided (ignored), so the affix joins directly onto the consonant. The sandhi rules underlying these formations are not exactly regular nowadays, so the stems are consequently lexicalised with these forms; in other words, you need not worry about how to derive them yourself. Now, there are two important things to note about all these stems derived with N{(l)liq}N or N{(q)liq}N:

1. They are *pseudo-q stems*, meaning they behave like k-stems, except for the fact that they end on /q/.[10] Thus, you get e.g. ***kujalliup, kujalliit, kujallia*** with vowel-initial endings, but ***kujallermut*** with a consonant-initial ending.

2. They carry something of the same superlative meaning as the stems derived with N{nəq}V; just instead of being *the most Vb'ing*, they are *the most in the N-direction*.

Because of the similarity to the superlatives derived with V{nəq}N, you may also *extend* these nouns derived with N{(l)liq}N or N{(q)liq}N in the same way; that is, you can verbalise them with N{-u}V or the verbal possessive N{gə}V; and you can add N{(q)paaq}N or N{caq}N, and use possessive endings or the verbal possessive to *partitive* spatial comparative construction, and so on. For example:

*Nanortalik Kalaallit Nunaata illoqarfiisa kujal**lersar**aat*

means *Nanortalik is the southernmost of the towns of Greenland*, with N{caq}N{gə}V added on top of N{(l)liq}. Try to rewrite that into pseudogreenlandic and see if you can sort out who owns what and who have whom as what.

12.4 Adverbials

Besides being used as modifiers of nouns, the stems of state can also be used to say something about how a *verbal action* proceeds or unfolds; that is, they can be used as modifiers of the verbal action itself. For example, {arri}V means ⟨*actor*⟩ *is fast/in haste*, and with a so-called *privative* affix V{-it}V, *un-Vb'ing*, we can also derive the stem {arriit}V, meaning ⟨*actor*⟩ *is slow*. You can read more about the privative affixes and the stems derived with them in aside 12.2.

Anyway, such words as 'quick' and 'slow' can equally well be used to describe an action; in English you just add the morpheme {ly} to obtain the words *quick**ly**, slow**ly***,

[10] See section 6.7, page 109.

Aside 12.2: Privatives and lexicalisations

Privative affixes are used to negate or invert the meaning of a verbal stem. The usual negation affix in Greenlandic is **V**{ŋŋit}**V**, *not Vb*; but there is also another, less productive privative affix, **V**{-it}**V**, which is used to express something like the prefixes {un}, {in} in English words such as ***un****likely,* ***in****tolerable*. It is seldom used in active word production today, but you can find many lexicalised examples of it in the dictionary, where it is used in particular with stems of state to express the opposite property. Thus you can find pairs like ***arrivoq, arri****pp****oq***, meaning *he is fast, he is slow*, or literally *he is* ***un****-hasty*.

It is also in particular used with stems derived with the affix **V**{naq}**V**, ⟨*actor*⟩ *is Vb'able*, which indeed many stems of state are; so for many dictionary entries ending in **V**{naq}**V** you will also be able to find another, ending in **V**{na**it**}**V** with the opposite meaning (althoug the /it/ here of course will be completely masked by the new orthography). For example, ***alia****nar****poq***, *it is sad*, has a corresponding form, ***aliana****pp****oq*** meaning *it is wonderful*; and ***kusa****nar****poq***, *he is handsome/beautiful*, has a related form, ***kusana****ats****oq***, meaning *ugly*.

A related privative is the noun-incorporating affix **N**{-kit}**V**, meaning ⟨*actor*⟩ *has few/a small N*. It is used with nouns such as {aki}**N**, *price*, and {sivi}**N**, *duration*, yielding the verbs ***aki****kip****poq,*** ***sivi****kip****poq***, meaning *it is cheap, it is brief*; and the corresponding adjectival modifiers with **V**{ðuq}**N**, ***akikit****soq,* ***sivikit****soq*, meaning *cheap* and *brief* respectively. Again, you can find several lexicalised examples in the dictionary of such stems of state formed with **N**{-kit}**V**.

The converse of **N**{-kit}**V** is **N**{tu}**V**, which means ⟨*actor*⟩ *has much/a big N*, so in parallel to the aforementioned verbal stems you can also find ***aki****su****voq,*** ***sivi****su****voq*** in the dictionary, meaning *it is expensive* and *it is lengthy*. Now, **N**{tu}**V** has in the past (irregularly) formed some intransitive participials as **N**{tu**uq**}**N**, instead of the expected **N**{tu}**V**{ðuq}**N**, and these too can be found in the dictionary. Thus we get the nouns ***aki****sooq,* ***sivi****sooq*, meaning *expensive, lengthy*.

The form **N**{tuuq}**N** as an intransitive participle of stems of state, derived with **N**{tu}**V**, is probably formed in paralell to the morpheme **V**{suuq}**N** I mentioned in aside 12.1. Or maybe it was the other way around, and **V**{suuq}**N** is really **V**{tuuq}**N** after assibilation of /t/ to /s/, which people at some point began to treat as a distinct morpheme, because they could no longer remember how to use the t-to-s rule correctly.

In any case, you have to be careful here, because not *every* verb stem with a lexicalised nominal form ending in ***-sooq*** will have a corresponding form with **N**{-kit}**V**. For example, {ətə}**V**, ⟨*actor*⟩ *is deep*, has a lexicalised nominal form ***iti****sooq*, *deep*. But although the word ***iti****kits****oq*** also exists, it does *not* mean 'shallow' as you might otherwise have expected. It means *one with a small arse*.

which you can apply to verbs, just as 'quick' and 'slow' can be applied as modifiers to nouns. Such verbal modifiers are called *adverbials*, although in Greenlandic they do not constitute a single class of words. There are a few true adverbials belonging to the class of *particles*, most notably ***assut***, *much/a lot*; and ***immannguaq***, *a little*, which you can hear in phrases such as

assut *pikkorippoq* = *he is* ***very*** *skilled*
immannguaq *kalaallisut oqaluttarpoq* = *he speaks* ***a little*** *Greenlandic*

However, most adverbials will be derived from the stems of state with the intransitive participle **V**{ðuq}**N**, or, in case a lexicalised participle exists, with **V**{suuq}**N** or **V**{tuuq}**N**, as I described in asides 12.1 and 12.2. To use such a participle as an adverbial modifier, you simply equip it with the *unmarked singular* instrumental case ending **N**{mək}, and place it before the verb you wish to modify. For example, using ***arriitsoq*** and ***sivisooq*** you could therefore say

*Piitaq arriitsu****mik***[11] *oqaluppoq* = *Peter speaks* ***slowly***
*Piitaq sivisuu****mik*** *oqaluppoq* = *Peter speaks* ***lengthily***

and that is really all there is to it.

Note in passing how this construction resembles the incorporation with modifiers that you saw in chapter 8[12] where the instrumental case was used to make a modifier (again, often a participle) refer to a noun that had been incorporated, e.g. with the affix **N**{-qaq}**V**. Structurally, ***miki****sumik* *illoqarpoq* and ***arrit****sumik* *oqaluppoq* look very much alike, although the role of the modifier is different; in the first case it describes only the incorporated noun ***illu***, and not the whole verbal action of *having a house*; whilst in the second case it only describes the verbal action itself.

The main *difference* between the two constructions is that with a stranded object modifier you can use *any* instrumental case ending, singular, plural, unmarked or possessive, depending on what you want to express; so e.g. ***mikisu****nik* *illoqarpoq*, *he has small house****s***, is equally possible. But this is not the case with adverbial modifiers; they can *only* appear with the unmarked singular instrumental case ending **N**{mək}. In summary, we then have the following definition:

Definition 12.4 (Adverbial modifier) *The intransitive participle form of statal stems can be used as* adverbial modifiers*, when they appear with the unmarked singular instrumental ending* **N**{mək}*. The adverbial occupies the last slot in the sentence structure, before the verb:*

[11] ***arriitsumik!*** is also a useful exclamation to know, if someone is jabbering away too fast for you to follow. Alternatively, you could be more polite and ask him to repeat it slowly, by saying ***arriitsumik uteqqilaarsinnaaviuk?*** with the 2.sg/3.sg interrogative ending **V**{vijuk}.

[12] See definition 8.6, page 157.

{verb$_1$}**V**{ðuq}**N**{mək} {verb$_2$}**V**

where {verb$_2$}**V** *is the stem modified by* {verb$_1$}**V**. *If lexicalised forms with* **V**{suuq}**N** *or* **V**{tuuq}**N** *exist, they are used instead of* **V**{ðuq}**N**.

Other adverbial constructions

There are also other types of words, beside the participles of stems of state, that we might call adverbials in Greenlandic. They are concerned with *directions* and come in two groups:

1. *Directional adverbs* are derived from the directional stems by adding the *unmarked singular allative* ending **N**{mut}, corresponding to adding {wards} to a direction in English. For example, ***am**mut*, ***down**wards* from {atə}**N**; ***qum**mut*, ***up**wards* from {qulə}**N**; ***kujam**mut*, ***south**wards* from {kujatə}**N**, and so on.[13] They are all lexicalised, so you can find them in the dictionary. But using them, you could e.g. say

   Piitaq ***kujammut*** *ingerlavoq* = *Peter goes* ***southwards***

   Alternatively, you could of course also express this particular meaning by just verbalising the allative and thus saying *Piitaq kujammu**kar**poq* instead.

2. *Demonstrative adverbs* are special forms of demonstratives, used to express *here, there, towards that place up there* (e.g. on a cliffside) and *from inside* (e.g. a house), and many other expressions of place or movement. The main difference to the aforementioned directional adverbs is that the demonstratives are not oriented according to the four corners of the world; instead they are relative to the *speaker*. Hitherto I have said almost nothing of the demonstratives, because they constitute their own little closed system of demonstrative stems, and with their own special endings that are used nowhere else. You can find a complete overview of them in chapter 15, but here it suffices to note that they exist, and that some of them have adverbial meanings. As an example, *ugguuna*[14] means *through/by this* (place I am pointing at), so ***ugguuna** ingerlavoq* means something like *he went* ***through here*** (where I am pointing).

Lastly, I should also mention an entirely different kind of construction that you also may regard as a kind of adverbial; namely *adverbial clauses*. Sometimes you might want to use an entire sentence, or rather, a *clause* to describe how the action of some other verb proceeds or unfolds. For example, *I went along* ***without hurrying*** or *Peter killed the dog,*

[13] Notice how /ə/ also here is always elided, so **N**{mut} always attaches to the consonant.

[14] {uuna} is actually the demonstrative counterpart of the *vialis* case marker, i.e. **N**{kkut}, **N**{təgut} etc. So as you can see, these stems really do look wholly alien, compared to our usual noun stems.

using his rifle. In both cases, the highlighted segments describe how the action in the main verbs (*going along* and *killing*, respectively) proceeded. You express such adverbial clauses with the contemporative mood:

Definition 12.5 (Adverbial clauses) *An* adverbial clause *is a subordinate clause expressing how the verbal action in the main clause proceeds or unfolds. It consists of a clause with the verb in the* contemporative mood*, filling one of the* context *slots in the sentence structure.*

Continuing the example above, {tuaviuq}**V** means ⟨*actor*⟩ *hurries* or *is in a hurry*. We need to negate this stem to express that I am *not* hurrying, but this is easy in the contemporative mood, since we have the special set of *negative contemporative* endings with the mood marker {na} instead of {(l)lu}.[15] Thus

$$\underbrace{\textit{tuaviornanga}}_{\text{adverbial clause}}\ \underbrace{\textit{ingerlavunga}}_{\text{main clause}}$$

literally means *I went along, (I)* ***not*** *being in a hurry*, which we in ordinary English might express as *I went along without hurrying*.

Using this construction you can express much more complex adverbial meanings than is possible with the adverbial modifiers derived from the stems of state. The adverbial clause is precisely an entire *clause*, so it can have its own modifiers, or even its own object (although the *subject* of course needs to be the same as the subject of the main clause since we are using the contemporative mood). Thus you can also say

$$\underbrace{\textit{aallaasini atorlugu}}_{\text{adverbial clause}}\ \underbrace{\textit{Piitap qimmeq toquppaa}}_{\text{main clause}}$$

meaning (not surprisingly) that *Peter killed the dog using his (own) rifle.* Here ***aallaasini*** is the transitive object of ***atorlugu***, and together they constitute an adverbial clause, describing how the action in the main clause, ***Piitaq qimmeq toqquppaa*** was carried out.

Of course, there is no requirement that the main clause necessarily must be in a superordinate mood, such as the indicative; it could be in any mood, just as you saw it with object clauses of subject clauses, which themselves could be object clauses, and so on. It need not even ba *verb* at all: As you have previously seen, some of the nominalising affixes, including in particular the intransitive and abstract participles, can seem to incorporate entire *clauses* with modifiers and all, and thus you should not be surprised to find adverbial clauses standing as modifiers of nouns derived with e.g. the abstract participle **V**{nəq}**N**. For example, ***qarasaasiaq*** is a *computer*, and ***oqaasilerivoq***[16] means *he works with words*, so

[15] See figure 10.2, page 201 for a description of the how the contemporative mood endings are constructed, or chapter 14 for the full overview

[16] Derived from, {uqausiq}**N**, *word*; and **N**{-lirə}**V**, ⟨*actor*⟩ *works with N.*

oqaasilerineq qarasaasiaq atorlugu

is literally *the act of working with words, using a computer*, or what more aptly might be called *data linguistics* nowadays.

* * *

This chapter has been a tour through the main constructions involving the stems of state, being used as either adjectives or adverbials, but also including other, more peripheral constructions that I thought were too marginal to put into separate chapters. The overarching theme has been the use of verbal stems as modifiers of other words, either nouns or verbs, which as you have seen can give rise to very complex sentence structures.

Part III

Systems

CHAPTER 13

The system of nominal endings

As you should know by now, there are only three classes of words in Greenlandic: Nouns and verbs are the main classes; and then there is the small class of particles such as ***aamma***, *and*; and ***kisianni***, *or*, that I have hardly even bothered to describe, because they never change, except by the occasional, and rather trivial, addition of an enclitic, like ***aammalu*** with *{lu}, *and* added for emphasis.

In other words; *almost every* Greenlandic word you will encounter will be a noun or a verb, and *every* noun and verb in Greenlandic has an *ending*, which again means that you will *very* often need morphemes from this group. The (initially) easiest way to go about this is of course just to memorise the most commonly occurring endings, like **N**{-a} and **V**{vuŋa}, that I have already used extensively. This is certainly a viable way forward.

However, once you have acquired a good number of endings– and there are a good many of them, as you may recall from aside 7.1 on page 142 – you will probably begin to notice certain regularities or *patterns* in the way they look. A highly *useful* pattern, in fact: The endings are not just random strings of phonemes; they are built from a (comparatively small) set of *grammatical morphemes*, and once you discover this pattern, you will be able to *infer* the meaning of new endings that you may never even have heard or seen before, just by looking at the *form* of the ending. Or conversely, you will be able to guess the correct form of an ending, that you may need, even though you may never have heard it or used it before.

I have already hinted at this several times in the chapters of part II, where you e.g. saw how you could obtain the intransitive participial endings from the intransitive indicative endings, just by replacing the mood marker {vu} with {ðu}. The endings, both for nouns and verbs, are *modular* meaning that you can replace one part with another and thus get

a whole new set of endings.[1] If you already know the intransitive indicative endings, and I give you just the marker {ðu}, then you instantly get *six* new endings at the price of remembering just *one* extra piece of information; and if we continue in this fashion, the 514 endings can be broken down into just around 62 such grammatical morphemes. I hope you will agree that this number seems much more manageable; and remembering just 62 morphemes, plus some rules about how they have been joined, is certainly a more economic use of your memory resources.

However, I should emphasise that even though I shall speak of the endings as 'constructed' from a set of smaller morphemes, you should view the system of endings as essentially *frozen*. You do not *create* new endings, like you create new words, by recombining the morphemes. The endings are the way they are, and they do not change.[2] You do not have to *learn* rules for constructing the system, like you had to learn the sandhi and sound rules, because construction of endings is not an *active* process. Thus, you should think of this chapter more as a kind of heuristic; a way to remember what the endings *are* and what they mean, which hopefully will aid you memory when you need to *recall* the form or meaning of an ending.

Lastly, note also that there is nothing new about describing Greenlandic endings in this modular fashion. It is not my invention. Kleinschmidt noted it, and you can also find mention of it in the grammar by Rasmussen (1888). Fortescue (1984) also described it, and even Bjørnum (2003), in all fairness, alludes to the existence of such a pattern, in his own abstruse fashion. However, no other grammar I have seen, has described it as clearly and elegantly as Langgård (1997a). My presentation of the system in this and the following chapter is first and foremost based on his presentation, although I have added some details here and there, especially regarding the exact derivation of the final form of the endings from the grammatical morphemes.

13.1 The unmarked cases

We begin this tour of the system of nominal endings with the sets of unmarked case endings; that is, the sets of endings *without* personal markers. You can see it depicted in figure 13.1, where I have also added a column with 'pseudo-endings' like **N**{ABS}, **N**{ERG} etc. that I use to refer to *any or all* of the endings within the respective case, as you have also seen in the chapters of part II. The table itself is just a list of 16 endings that you will have to memorise; there is not much pattern here, except in the prepositional cases (below

[1] This 'modularity' is called *agglutination* in Grammaric; thus Greenlandic is an *agglutinative* (as well as a polysynthetic) language.

[2] Or at least, they do not change on a day-to-day basis. But new endings *do* sometimes appear, such as the *iterative mood*, which is really a merge of the causative mood with an old affix {gaa}; or the transitive contemporative ending **V**{(l)luniuk} with 4.sg/3.sg markers, which some younger speakers have taken to use, much to the dislike of older and/or more conservative speakers.

	Set name	*Singular*	*Plural*	*Basic form of prepositional morphemes*
Absolutive	N{ABS}	N{∅}	N{t}, N{-it}	
Ergative	N{ERG}	N{p}, N{-up}	N{t}, N{-it}	
Instrumental	N{INST}	N{mək}	N{nək}	{nək}
Allative	N{ALL}	N{mut}	N{nut}	{nut}
Ablative	N{ABL}	N{mət}	N{nət}	{nət}
Locative	N{LOC}	N{mi}	N{ni}	{ni}
Vialis	N{VIA}	N{kkut}	N{təgut}	{gut}
Equalis	N{EQU}	N{tut}	N{tut}	{tut}

Figure 13.1: The unmarked case endings. Note the column to the right: This *basic form* of the prepositional morphemes underlie the six prepositional cases. With the exception of the vialis {gut}, these basic forms are similar to the plural forms.

the dotted line), where you may notice that every ending beginning in /m/ in singular forms its plural by replacing this with /n/. Thus you have

- *illu**m**i*, *in the house* (singular); but *illu**n**i*, *in the house**s*** (plural)
- *illu**m**ut*, *to the house* (singular); but *illu**n**ut*, *to the house**s*** (plural)
- *illu**m**it*, *from the house* (singular); but *illu**n**it*, *from the house**s*** (plural)

I have also added some further comments in aside 13.1, where I ponder a little more on the origin of this pattern of alternations.

On a side note, regarding the *names* of the cases, I should perhaps mention that there is next to *no* agreement between authors of books on Greenlandic as to *what* the cases should be called. For example, in much of the Danish literature, e.g. Bjørnum (2003), the *ergative* case is instead known as the *relative* case, whilst in English literature like e.g. Fortescue (1984) it is generally known as the ergative case. The *allative* case is sometimes also called *terminalis*, e.g. by Nielsen (2019). And most confusing of all, the *vialis* case in particular is known by a host of different names in the literature: Fortescue (1984) calls it *prosecutive*, but Fortescue et al. (2010) calls it *vialis*, as does Bjørnum (2003) and Nielsen (2019), whilst Sadock (2003) calls it *perlative*.[3]

[3]And I am no better: In the previous edition of this book I had actually called it *prolative*, although I decided to discard this name in favour of the more common *vialis* in the present edition. Partly because the word 'prolative' kept seeming like a portmanteau of 'prolapse' and 'laxative.'

Aside 13.1: On the origin of forms

The alternation between /m/ in singular and /n/ in plural is the basis for my saying that the prepositional cases are really just extensions of the ergative case: Notice how I in the rightmost column of figure 13.1 have added a reconstructed *basic form* of the six prepositional morphemes. They are, incidentally, *almost* identical to the plural forms, except in the vialis case where the basic form is {gut}, whilst the plural is **N**{**tə**gut}. Notice also that the case marker for ergative, singular is {p}, a *labial* sound. In Proto-Eskimoic, this marker for ergative, singular was {m} according to the reconstruction by Fortescue et al. (2010, pp. 487-488), whilst the plural marker was {t}, an *alveolar* sound, even as it is today.

If you refer back to the table of sounds in figure 4.1, page 66, you will notice that /m/ is the nasal sound corresponding to the plosive /p/ (both are labials), whilst /n/ is the nasal sound corresponding to the plosive /t/ (both are alveolars). The original singular ergative case marker {m} probably became {p} in Greenlandic when it became a rule that every Greenlandic word must end in a plosive or a vowel – this is one of the laws of phonotactics I mentioned in section 2.2 (page 28).

The prepositional morphemes in their basic form contain no information about number; they denote only the 'pure' prepositional meaning. At some point in time, they seem to have fused with the ergative markers to create the prepositional cases, so the initial /m/ in singular reflects this original, labial sound that marked the ergative, singular case. As you will later see, *ergativity* is very often marked by some labial sound.[a]

The vialis **N**{kkut} probably also reflects a fusion of the same consonantal case marker with the pure form {gut}, which by assimilation has become /**mg**ut/ $\Longrightarrow^{*}$ [**kk**ut]. In the plural you can clearly see how {gut} has been added onto a plural marker /t(ə)/.

This little tale of the origin of the m/n-alternation is not something you need to remember to be able to use the cases. Its purpose was merely to provide you with a bit of background knowledge on the 'pure' prepositional morphemes, because we shall need them later in the construction of the possessive, prepositional cases.

[a] And do you recall I said that no words can end on the plosive /p/, with one exception? The case marker **N**{p} is this *one* exception. The ergative case is so special that it alone can allow words to end on a /p/.

I have decided largely to follow Fortescue et al. (2010) in my choice of terminology; however, no two grammars will use exactly the same names for cases (or moods for that matter), so beware of that if you read other books on the subject. Fortunately, the names of cases are largely irrelevant; as long as you know what they *denote* you can safely forget their grammaric nonsense-names. Call vialis the *gut-case* if you like (as Langgård (1997a) does); it sounds funny, and {gut} is the marker of this case. And the allative might then aptly be called the *nut-case* by the same token.

	Singular	Plural
Allative	**N**{qmut}	
Ablative	**N**{qmət}, **N**{qnət}	
Ablative	**N**{mət}{ŋaanniit}	**N**{nət}{ŋaanniit}
Ablative	**N**{miit}, **N**{miik}	**N**{niit}, **N**{niik}
Equalis	**N**{qtut}	

Figure 13.2: Alternative forms of some of the prepositional case endings.

Alternative forms

In figure 13.1 I have added the two regular variants of the ergative and plural endings **N**{-up} and **N**{-it} that are used on k-stems and strong q-stems.[4] They are *stem-dependent* variants, so you cannot just choose either form for an arbitrary noun stem.

Some of the prepositional cases *also* have alternative forms; however, unlike the aforementioned stem-dependent variants, these variant forms can be used more or less interchangeably with the forms in figure 13.1, or at least, they can be used on stems of any type. You can see them listed in figure 13.2. They need perhaps a few comments on their origins and usages:

- The allative variant **N**{qmut} is sometimes used in a particular sense of denoting *time*; for example, you can in the dictionary find the word ***ullormut***, meaning *daily* or *for each day*. This form contrasts with the 'ordinary' form ***ullumut***, which just means *to (the) day*. You need not learn this variant ending, since it will probably only be used in a few specialised and/or lexicalised expressions. However, I mention it because you probably will encounter it sooner or later.

- The ablative variants **N**{qmət}, **N**{qnət} may likewise be encountered in expressions where it denotes time; for example ***qangarnit***, *since then*. Sometimes people might even stack several case endings on top of each other, and in that case **N**{qnət} may also be preferred.[5]

- The ablative endings also exist in a long form, with {ŋaanniit} added on top of the endings, yielding **N**{mətŋaanniit} in singular, and **N**{nətŋaanniit} in plural. These forms have generally come to have the specific meaning *originate from N*. You could use this to say *I am from Nuuk*, ***Nuumminngaanniit***, if e.g. you grew up there, even though you currently might be living somewhere else. You can also use the long form to convey the meaning of *from* in a non-geographical sense, like

[4] See section 6.7, page 109 about the different stem types and which form of these endings they use.

[5] Adding several case endings on top of each other is of course not a *regular* way of forming a word, according to the process of word formation I described in part I. But people may do it anyway.

for instance if you wanted to say *I am calling **from** the office*, which would then be *allaffim**minngaanniit** sianerpunga*.

- Many Greenlanders (especially in the younger generations) seem to find it difficult to hear the difference between a final [t] and a final [k], and thus many have taken to *lengthen* the [i] in the ablative endings, to more clearly differentiate them from the instrumental endings, **N**{mək} and **N**{nək}. Thus, you may experience people using **N**{mi**i**t} and **N**{ni**i**t}, instead of the usual **N**{mət} and **N**{nət}.

  And since this was brought about by a difficulty to distinguish a final /t/ from /k/, you may also see people using **N**{mi**i**k} and **N**{ni**i**k} instead. There is no special meaning here, though. The forms with a lengthened /i/, whether ending in /t/ or /k/ just mean the same as the regular ablative endings.

- Lastly, the equalis variant **N**{qtut} is like **N**{qmut} and **N**{qmət}; it may appear either in expressions involving time, or in stacked case endings.

13.2 The possessive absolutive endings

The absolutive is the 'most common' or 'basic' form of a noun: The singular is marked by a null-morpheme, **N**{∅}, which is the absence of an explicit marker, so {əŋlu}**N**{∅} is just *illu*, and entries in a dictionary like the DAKA are given in this form.[6] The plural is **N**{t}, which incidentally always is equal to the ergative plural, so in plural we cannot tell the difference between a noun in absolutive and ergative case.

Now recall from section 7.8 (page 140) that the point of adding a personal marker onto a noun is to express that the noun is *owned* by that person. Instead of 'house' and 'houses' I want to be able to say '**my** house' and '**my** house**s**'. This ending must therefore both reflect the owner *and* the number of houses (singular/plural), which thus yields a set of 16 endings, given in figure 13.3. As you can see, *my N* is **N**{ga} (N is singular); but *my N**s*** is **N**{kka} (N is plural), so *illu**ga*** means ***my** house* and *illu**kka*** means ***my** house**s***.[7]

Patterns in the absolutive endings

The general pattern here is, that endings for *singular* nouns are additive (or epenthetic, injecting a /q/), whilst endings for *plural* nouns are always truncative. The 'pure' personal

[6] With the exception of a few nouns that are always used in plural, e.g. *isa**russa**t, a pair of glasses.* However, if you want to add affixes to this, then you still need to know the morphemic form {icaruʲaq}**N**, since it is *this* form you add affixes to. E.g. *I have/use glasses* is {icaruʲaq}**N**{-qaq}**V**{vuŋa} ⟹* *isa**ruaqarpunga*** with no gemination of the invisible /j/ to /cc/, because that was caused by plural ending in ***isarussat***, which of course is not present here.

[7] Try it for yourself: Can you translate these words, ***illua, illui, illorput, illuvut***, and keep track of both whom the owner is, and whether there is one house or many houses?

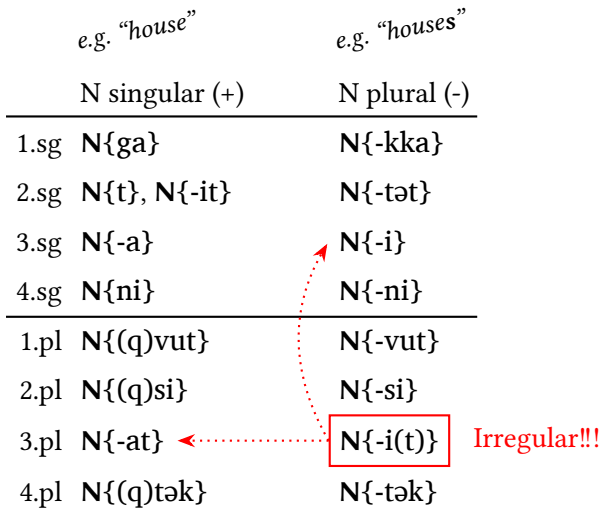


Figure 13.3: The possessive absolutive endings. Singular forms are in general additive (or epenthetic), whilst plural forms are always truncative. The irregular ending for 3.pl/pl, **N**{-i(t)} drops its /t/ when /i/ is *not* assimilated to [a], thus making this ending similar to either 3.sg/pl **N**{-i} or 3.pl/sg **N**{-at}, as indicated by the dotted, red arrows.

marker for 1.sg, *my*, is really just {ga}, but it has probably combined with a plural marker {t} to form /tga/ $\Longrightarrow^*$ [kka], so I have just given the ending as **N**{kka}, since it will always take this form. Something similar has happened for the 2.sg, *thy*; the 'pure' personal marker is just {t}, which incidentally, and somewhat confusingly, makes it identical to the unmarked plural. But in plural it has combined with a plural marker {tə} to form **N**{tət} The 4.sg marker is today just {ni}, although this has not always been the case; you can read more about that in aside 13.2.

For most of the endings with person in plural, *our*, *your* and *their own* you can easily see the pattern: The pure personal markers are {vut}, {si} and {tək}, and in singular they use epenthesis to inject a /q/ to ensure that they always will be added onto a consonant, whilst they are truncative in plural to ensure that they will *never* be added to a consonant.

Lastly there are the markers for the third person: Notice for the 3.sg, *his*, that the system actually uses two entirely different markers; **N**{-a} for 3.sg/**sg**, *his N*; and **N**{-i} for 3.sg/**pl**, *his Ns*. This is unlike all the other endings, where the singular and the plural are variations over the same, underlying personal marker. You will observe this phenomenon in many places in the system of endings; the third person is often a bit special. The third person *plurals*, *their N* and *their Ns* are then formed by adding a plural marker {t} onto these markers, yielding **N**{-at} for 3.pl/**sg**, *their N*; and **N**{-it} for 3.pl/**pl**, *their Ns*.

Aside 13.2: Archaic 4th persons

Nowadays the 4th person marker is {ni}, but this has not always been so: Once it was instead N{-i}, like the 3.sg/pl ending, but with a very peculiar sandhi rule:

$$\{S(c)vc\}\text{N}\{\text{-i}\} \rightarrow /S(cc)\text{i}/$$

in other words; it would replace the entire last syllable */vc/* of a stem. I think this was particularly common with stems ending in /n*vc*/, such that the end result precisely *became* /ni/, like the modern day ending, but there are also examples of stems with other consonants. Thus {aq**naq**}N{-i} became ***arni***, *his (own) mother*; and {iq**nəq**}N{-i} became ***erni***, *his (own) son.*

It would frequently also cause gemination (if possible) of the third-to-last consonant, as I have indicated with /(c)/ → /(cc)/ in the rule above. Thus ***panik*** became ***panni***, *his (own) daughter*; ***atuagaq*** became ***atuakki***, *his (own) book*; and ***nukaq*** became ***nukki***, *his (own) younger brother.*[a]

You need not worry about learning this strange ending and its special sandhi rule, because it is no longer used regularly to form the absolutive 4.sg possessive. However, these and other examples have been lexicalised, so you can find them in the dictionary, and people may therefore still *use* them even today, although I doubt they remember the rule for forming *new* words with with this archaic ending. Nevertheless you may still encounter some of these old forms.

[a] Or *her (own) younger sister.*

An unfortunate, unavoidable irregularity

Given what I said above, ***their*** *(one) house* is {əŋlu}N{-at} ⟹* ***illuat***; and *their house**s*** should then be {əŋlu}N{-it} ⟹* ****illuit***. Unfortunately, it is not. For whatever bizarre reason people have taken to *drop* this final /t/, rendering this ending similar to the 3.**sg**/**pl** ending N{-i}, *his N**s**, except* when the /i/ will become assimilated by an [a] sound; when the /i/ becomes an [a], the /t/ stays, which then makes the ending indistinguishable from the 3.**pl**/**sg** ending N{-at}, *their N.* I have indicated this with dotted red lines in figure 13.3. Here is an example of the four possibilities:

{əŋlu}N{-i(t)}	⟹* ***illui***	(/i/ not assimilated, drop /t/)
{pi}N{-i(t)}	⟹* ***pii***	(/i/ not assimilated, drop /t/)
{aqnaq}N{-i(t)}	⟹* ***arnaat***	(/i/ *is* assimilated, keep /t/)
{aŋutə}N{-i(t)}	⟹* ***angutaat***	(/i/ *is* assimilated, keep /t/)

The base {pi}N just means *something*; the rest will surely be familiar to you by now. If you find it difficult to remember when to keep or drop the /t/, you might like this silly

little ultra-short story about relationships in the Occident:

> **A tale of a modern relationship**
> *There was a young couple, called **I**van and **T**ina, who lived together in peace and harmony. However, one day **T**ina decided to become a woke, progressive, n'th wave feminist; and in her fight against the Patriarchy she decreed that she would not be seen together with **I**van again, unless he put on a dress and called himself **A**nn instead. Now the couple can go out together again, but only when **I**van appears as **A**nn. When **I**van is **I**van, **T**ina abandons him.*

Other irregularities

I have two final comments to add about this part of the system of endings; not because they are important, but because you will undoubtedly encounter them sooner or later:

- The 2.sg/sg ending is **N**{t}, which is similar to the unmarked plural ending. Thus ***illut*** can either mean ***thy*** *house* (singular), or *house**s*** (plural). For this reason people will often use the 2nd person singular pronoun ***illit*** as an *explicit possessor* to clearly disambiguate the meaning; ***illit illut*** is unambiguously understood as ***thy*** *house*.

  Furthermore, the stems that take the unmarked plural variant **N**{-it} will also take **N**{-it} as their absolutive 2.sg possessive ending.[8]

- The 3.sg/pl ending **N**{-i}, *his Ns*, will *seem* to be an exception to the a-rule, when you see it in writing, because this /i/ is *not* written as assimilated to [a]. Thus for instance when you join {imaq}**N**, *content*, and **N**{-i}, we should expect to get {imaq}**N**{i} $\Longrightarrow^*$ [im**aa**] by the a-rule, but it is actually *spelt* "im**ai**", *its content**s***, to clearly distinguish it from the singular form "im**aa**", *its content*. **N**{-i} is *always* retained in writing, when it is word-final.

  It is, however, only an apparent exception, because the word is actually *pronounced* [im**aa**$^{\text{j}}$] with a *long* (double) [aa]. So the /i/ *is* still assimilated to [a] in the *pronunciation* of the word, although many speakers also add a slight, sometimes almost inaudible [j] sound at the end, as a last remnant of the underlying /i/ phoneme.

- A number of speakers, especially in the younger generation, have taken to saying **N**{-**g**ut} instead of **N**{-**v**ut} for the 1.pl/pl ending, *our Ns*. This is a rather unfortunate habit, since it obscures the nice relationship to the singular **N**{(q)vut} (that they mostly still use). In northern Greenland, where every /g/ is generally nasalised to [ŋ], this can become even more confusing, since the ending there will appear as

[8] See section 6.7, page 109.

	N singular (+)	N plural (-)
1.sg	N{ma}	N{-ma}
2.sg	N{vət}, N{(q)vət}	N{-vət}
3.sg	N{-atə}	N{-isa} ⟸ {itə}
4.sg	N{mi}	N{-mi}
1.pl	N{mta} ⟸ {mtə}	N{-mta} ⟸ {mtə}
2.pl	N{vsi}	N{-vsi}
3.pl	N{-atə}	N{-isa} ⟸ {itə}
4.pl	N{mək}	N{-mək}

Figure 13.4: The possessive ergative endings. Like the corresponding absolutive endings, the singular endings are in general additive (where possible), and the plural endings are always truncative. The 2.sg/sg ending N{vət} also appears as N{(q)vət}, using epenthesis similar to the absolutive singular possessive endings.

N{-ŋut}.[9] I recommend you stick to using the regular N{-vut}, but if you want to understand 'real' Greenlandic, spoken or written, you must of course know that these variations can occur.

13.3 The possessive ergative endings

The ergative case is the second grammatical case, used to denote subjects in transitive sentences, and also to to mark a noun as the possessor of another noun, similar to the morpheme {'s} in English. Possessive ergative endings can therefore either appear on subjects of transitive verbs, like *ataata**ma** qimmeq takuaa*, ***my** father saw the dog*; or in possessive noun phrases like *ataata**ma** illua*.[10] The endings are listed in figure 13.4.

Patterns in the ergative endings

The set of possessive ergative endings generally employ the same pattern as their absolutive counterparts, with those denoting a singular noun being additive where possible, and those denoting a noun in plural being always truncative. However, this distinction is

[9] And when a northern Greenlander then tries to write in 'official' Kalaallisut, he might then hypercorrect and and transform *every* [ŋ] into [g], which certainly is no less confusing.

[10] See 8.2, page 146 about this usage.

much less clear here, because many of the endings begin with a double consonant, and thus must necessarily be truncative. Furthermore, the singulars have no epenthetic consonant to inject, with the possible exception of **N**{vət} that also can have the form **N**{**(q)**vət}, paralleling the absolutive singular. Thus the endings are often similar in singular and plural, relying instead on context to distinguish whether singular or plural is meant.

Secondly, remember what I said earlier about ergativity often being denoted by some *labial* consonant. Notice how all the endings, except those for third person, begin with a labial consonant; either /m/ or /v/. You can even see how many of them look like their absolutive counterparts, but with the initial consonant shifted to a labial. Thus absolutive {**g**a} becomes ergative {**m**a}, {**t**ət} becomes {**v**ət}, {**n**i} becomes {**m**i}, and {**t**ək} becomes {**m**ək}.

The absolutive marker for 2.pl {si} has been added onto a labial /v/ yielding {vsi}, and the same has happened for {tə}, which is another common marker for 1.pl, *we*, yielding {mtə}. This is one of those cases where a final /ə/ in an ending has become an [a] by the 'extended' schwa-rule (cf. page 44), so I have written the ending as **N**{mt**a**}, but noting that this form *derives from* {mt**ə**}, which I indicate with the arrow ⟸ .

Lastly, the 3rd person again uses two different markers; one for singular and one for plural. These used to be {at} for 3.sg/sg, *his N*, and {it} for 3.sg/pl *his Ns* according to Schultz-Lorentzen (1951), but they have now become indistinguishable from the 3.pl endings **N**{-ata} and **N**{-isa}. You can thus regard the endings for the third person as straightforward *extensions* of the corresponding absolutive endings **N**{-a}, **N**{-i} and **N**{-at}, **N**{-i(t)}, with a {-tə} added onto them. Here, the final /ə/ has again become [a] by the extended schwa-rule, and {**it**ə} has of course become {**is**a} by the t-to-s rule, which I again have indicated in the table with ⟸ .

A small irregularity

As you may have noticed in figure 13.4, the 2.sg/sg ending **N**{vət} has an alternative form **N**{**(q)**vət} with an epenthetic /q/ denoting singular, similar to the absolutive endings **N**{(q)vut}, **N**{(q)si} and **N**{(q)tək}. I think this form is actually the most commonly used today, *but* you may see either **N**{vət} or **N**{(q)vət} used, which of course is unfortunate.

The confusion pertains particularly to stems displaying *gemination*:[11] Normally, epenthetic endings do *not* trigger gemination, but since this ending *used to* be **N**{vət}, it also *used to* trigger gemination: This was the case when Christian Rasmussen wrote his grammar (Rasmussen, 1888), and many people still seem to remember that.

However, this clashes with the rule that epenthetic endings do not trigger gemination, which means that people who *do* remember this will tend to use the original form **N**{vət} on *geminating* stems, but nevertheless use **N**{**(q)**vət} on non-geminating stems. Thus

[11] See section 6.6, page 105.

they might say *illo**rpit***, ***thy** house*, with **N**{**(q)**vət} an no gemination; but *atua**kkavit***, ***thy** book*, with **N**{vət} because *atua**gaq*** is a geminating stem.

13.4 The system of personal markers

It may seem like I am merely throwing new tables of endings at you. Now, where is this system I promised you? It may seem like a lot, but I recommend that you take your time to learn these two sets of endings, because you will see them again and again in various guises, both in the remainder of this chapter, and in the construction of verbal endings.

For instance, recall that I said the prepositional cases are merely extensions of the ergative case. Now imagine I wanted to say e.g. ***to** his (own) daughter*; that is, I want the daughter to be owned by the 4th person singular, *and* I want to say *to*, which means I must use the allative case. So I need a *possessive, allative* ending. This is now simple, because all I need to do is to take the *ergative* personal case marker for 4.sg, which is {mi}, and add the 'pure' prepositional morpheme {nut} on top of it. The ending is just **N**{minut}, and the word becomes *panim**minut***.

All the possessive endings for the prepositional cases are constructed in a similar fashion. Instead of fusing with the 'un-possessive' ergative markers {p} and {t}, the prepositional morphemes have here fused with the *personal* ergative markers. There you have it. I just spared you the trouble of memorising sixteen endings for each of the remaining six cases.

Or at least, I almost did. There are still a few complications to be handled, because this 'fusion' has reduced the set of ergative personal markers in various ways: The 1.sg marker {ma} has been reduced to just {m}, and instead of our expected 2.sg marker {vət} a different marker, {k}, is used. Lastly, the *absolutive* markers for the 3.sg and 3.pl are used, instead of the ergative {atə} and {itə}. I call this *reduced* set of markers, denoted {-ERG-}, with hyphens on both sides to indicate that the personal markers in this set will always be squished between the stem and something else that is added onto them. I have listed them in figure 13.5, together with the normal, 'pure' personal markers for {ABS} and {ERG}. The red arrows indicate the markers taken from the {ABS} set, whilst the blue arrows mark those coming from the {ERG} set.

13.5 Possession in the prepositional cases

We can now finally construct the endings for the possessive prepositional cases: As an example, I have created a table with the set of endings for possessive locative in figure 13.6 by adding {ni} onto the {-ERG-} markers. You can easily create the remaining tables for the remaining prepositional cases, if you want them, by mechanically replacing {ni} with

	{ABS}	{-ERG-}		{ERG}
1.sg	{ga}	{m}	←	{ma}
2.sg	{t}	{k}		{vət}
3.sg	{a} / {i}	{a} / {i}		{atə} / {itə}
4.sg	{ni}	{mi}	←	{mi}
1.pl	{vut}	{mtə}	←	{mtə}
2.pl	{si}	{vsi}	←	{vsi}
3.pl	{at} / {i(t)}	{at} / {i(t)}		{atə} / {itə}
4.pl	{tək}	{mək}	←	{mək}

Figure 13.5: The set of *reduced* markers {-ERG-}, between the sets of absolutive and ergative, personal markers, denoted {ABS} and {ERG}. For the reduced set, red arrows illustrate those markers taken from the {ABS} set; blue arrows those taken from the {ERG} set. All three sets consist of the pure personal markers, without any additional markers added for number (singular/plural).

{nək}, {nut}, {nət}, {gut} or {tut}. They are completely similar. A few remarks are in order, though:

- There is now very little difference between singular and plural, and I have indicated this with a slightly grey background in some fields in the plural column, where the ending always will be indistinguishable from its singular counterpart, because the combination of morphemes has yielded an initial double consonant; that is, these endings must *necessarily* be truncative, due to phonotactics, regardless of whether they are singular or plural.
- Since the 1.pl marker {mtə} now *is* followed by something, /ə/ will now behave according to the ordinary schwa rule and thus become [i] as usual, since it is now followed by a consonant. Can you imagine ever realising on your own, without knowing anything about schwa and sound rules, that the *-tta* you see in e.g. ***Nunatta Atuagaateqarfia***, ***Our*** *National Library*, actually is the part that means *our*, and that it is the *same* as the *-tsi-* in e.g. ***nunatsinni***, *in* ***our*** *land*?[12]

[12]Remember that Greenland is named ***Kalaallit Nunaat*** in Greenlandic, literally *the Greenlanders' country*. When the Greenlanders speak of their own land, they will therefore logically call it ***Nunarput***, ***our*** *country* (in absolutive); and say ***Nunatsinni***, *in Greenland*, instead of using ***Kalaallit*** as explicit possessor; because after all, they *are* the Kalaallit. You will likewise often see ***Nunatta*** with the ergative 1.pl/sg ending used to denote *The National (something)*, such as the National Library, the National Historic Museum and so on.

	{-ERG-}	N singular (+)	N plural (-)
1p.sg	{m}	**N**{mni}	**N**{-mni}
2p.sg	{k}	**N**{kni}	**N**{-kni}
3p.sg	{a} / {i}	**N**{-ani}	**N**{-ini}
3r.sg	{mi}	**N**{mini}	**N**{-mini}
1p.pl	{mtə}	**N**{mtə**n**ni}	**N**{-mtə**n**ni}
2p.pl	{vsi}	**N**{vsi**n**ni}	**N**{-vsi**n**ni}
3p.pl	{at} / {i(t)}	**N**{-atni}	**N**{-i(t)ni}
3r.pl	{mək}	**N**{məkni}	**N**{-məkni}

Figure 13.6: The endings for possessive locative. The pure, prepositional locative marker {ni} is joined onto the {-ERG-} markers. The greyed fields in plural contain endings that will always be similar to their singular form, because they both begin with a double consonant. The 3.pl/pl **N**{-i(t)ni} alternates between **N**{atni} (when /i/ is assimilated) and **N**{-ini} (when it is not) similar to the corresponding absolutive ending.

- The extra /n/, that appears to appear out of nowhere in **N**{mtə**n**ni} and **N**{vsi**n**ni} is a remnant of a old dual marker; at least according to Bergsland (1955). Greenlandic used to have a *dual* number, beside the singular and plural, just like other inuit languages still have today. This part of the system was already collapsing when Rasmussen (1888) wrote his grammar, and it has now completely disappeared from the official West Greenlandic, but it has left traces here and there in the system of endings, and this extra /n/ seems to be one of them. Today, it is a meaningless consonant that simply has to be there, because that is how the ending has come to look.

- The reduced set {-ERG-} uses the 3rd person markers from the {ABS} set. This unfortunately means that the irregular marker {-i(t)} for 3.pl/pl also appears here, and behaves similarly, even though a prepositional morpheme has been added onto it. Thus, *in their Ns* will appear as *either* **N**{-i**t**ni} when /i/ will be assimilated to [a], *or* as **N**{-ini} when /i/ will *not* be assimilated. I have indicated this with a red box and arrows in figure 13.6, similar to the way I did in figure 13.3.

Details in vialis and equative

At last, there are a few extra details you should be aware of, regarding the vialis and equative cases:

- The endings for possessive equative, {tut} are completely regular; even more so than the previously described endings, because there is no mysterious extra consonant appearing in 1.pl and 2.pl. It only seems to show itself when the prepositional marker begins with an /n/; so we get **N**{mtətut} and **N**{vsisut} for *as our/your N*.
- /t/ regularly becomes /s/ by the t-to-s rule after true /i/ phonemes, and it remains /t/ after /ə/ phonemes.[13] Thus we get **N**{-**is**ut}, **N**{m**is**ut} and **N**{vs**is**ut} as expected. Of course, as is usual with the t-to-s rule, you may expect some confusion here; do not be surprised to hear someone say for example **-mi**t**ut* or **-ts**i**s**u**t* even though neither of them are correct by the t-to-s rule.
- The endings for vialis also do not have any mysterious extra consonant appearing in 1.pl and 2.pl; so these endings are just **N**{mtəgut} and **N**{vsigut}.
- For obscure reasons, the vialis endings uses the {ERG} marker {itə} for 3.sg/pl where all the others use the {ABS} marker {i}; and in 3.pl it also uses the {ERG} markers {atə} and {itə}, instead of the {ABS} markers {at} and {i(t)}. In other words, its 3rd person endings look like this:

	N singular	N plural
3.sg {a} / {itə}	**N**{-agut}	**N**{-isəgut}
3.pl {atə} / {itə}	**N**{-atəgut}	**N**{-isəgut}

  This is of course confusing[14] but it has at least one advantage: Here you do not have to worry about two different endings for 3.pl/pl (one with, and one without, a /t/), because the {ABS} marker {i(t)} is not used.

13.6 Verbalisation of the prepositional cases

There exists a small group of morphemes that can be added directly onto the prepositional case endings and thus form new *verbal* stems to which you can further add morphemes like

[13] Bjørnum (2003) claims that /t/ in {tut} also becomes /s/ in the combination {mək}{tut}, thus creating the ending **N**{mə**ss**ut}, but I can find no other basis for this, apart from a note in Rasmussen (1888, p. 34), saying merely that "tut becomes sut after i, but not after tsi," which implicitly suggests that it should also become 'sut' after 'mik'. If it is true, it must be a hypercorrection.

[14] It is also confusing to many native speakers, so some have taken to also use the {ERG} marker {atə} for 3.sg/sg; that is, they will say **N**{a**ti**gut} where it should just be **N**{agut}.

any other verbal stem. Sadock (2003) calls them 'derivational enclitics,' and they certainly do seem more like separate word bases, that have become fused onto the grammatical endings, than like normal affixes. I shall stick to the more customary terminology and just call them *verbalisations*. They are highly useful, and thus also very common, so you need to know something about them, no matter what they are called.

These verbalisation morphemes are special in the sense that they *only* attach to the prepositional case endings, and some of them even only to endings from a particular case. I shall therefore use the notation **N{PREP}** to represent *any* of the prepositional case endings. The verbalisations then are as follows:

Definition 13.1 (Verbalisations) *Then the* generic verbalisation *of the prepositional cases is the morpheme* **N**{PREP}{-vq}**V**, *where v is a lengthening of any vowel onto which it is added. Its meaning will depend on the case:*

N{INST}{-iq}**V**	⟨*actor*⟩ *does somethin with N*
N{ABL}{-iq}**V**	⟨*actor*⟩ *is/originates from N*
N{ALL}{-uq}**V**	⟨*actor*⟩ *is (in)to N; moves towards N*
N{VIA}{-uq}**V**	⟨*actor*⟩ *moves through/along N*
N{EQU}{-uq}**V**	⟨*actor*⟩ *acts/does something like N*

There are also two special verbalisations, specific to locative and allative:

N{LOC}{ət}**V**	⟨*actor*⟩ *is in/at/on N*
N{ALL}{-kaq}**V**	⟨*actor*⟩ *goes to N"*

The generic verbalisation

All the prepositional cases can be verbalised with the somewhat curiously looking morpheme **N**{PREP}{-Vq}**V**. It is truncative, so it will only attach to a vowel, and the symbol v represents a vowel that will be equal to *whichever* vowel sound it attaches to. It simply means a lengthening of the vowel in the case marker. Thus on for example **N**{mtənnut} ("-tsinn**u**t") and **N**{mətŋaanniit} ("-minngaanniit") it becomes

N{mtənn**ut**}{-vq}**V** $\Longrightarrow$ **N**{mtənn**uu**q}**V** ("-tsinn**oo**r-")
N{mətŋaann**ii**t}{-vq}**V** $\Longrightarrow$ **N**{mətŋaann**ii**q}**V** ("-minngaanneer-")

and on. Notice here in the second case that the extra vowel was actually deleted, since the vowel in the last syllable was already long and thus could not be lengthened any further.

Note that these 'pseudo-affixes' resulting from verbalisation of the case endings are not really affixes in the usual sense: The morpheme **N**{PREP}{-vq}**V** is added onto the *completed* word, which in particular means that the case ending within this pseudo-affix will show the marker for number, and optionally also for person. For instance, ***sani**mut*

with the singular, unmarked allative ending **N**{mut} means *sideways*, and the verbalisation **N**{PREP}{-*v*q}**V** on allatives will generally mean something like *is (in)to N* or *does something to N*, so ***sanimoorpoq*** means *he **moves** sideways.*

For a more complicated example, consider the lexicalised word for a homosexual man, which is ***anguteqatiminoortartoq***, literally *someone who is habitually (in)**to** his own, fellow men.*[15] Here the allative plural ending with possessive marking for the 4.sg/pl, **N**{-minut}, was used.

The meaning of the generic verbalisation morpheme **N**{PREP}{-*v*q}**V** will differ, depending on the case it is added to. On allative endings, as you have seen, it generally means *is (in)to* or *does something to*; whilst on ablative endings, especially those extended with {ŋaanniit}, it means *is from.* Thus, a very common way of expressing e.g. *I am from Nuuk* would simply be ***Nuumminngaanneerpunga***.

On the instrumental case endings, it can mean *does something with N*, or even divalent ⟨*agent*⟩ *Vb* ⟨*patient*⟩ *with N* as in e.g. ***qaartaartumeerpaat***, *they bombed them* from {qaəqðaqðuq}**N** *a bomb* with the unmarked singular instrumental **N**{mək} and the transitive, verbal ending **V**{vaat} (they Vb'ed them).[16] On vialis case endings it means *moves through* or *moves along*, and on equative endings it means *does something like* or *acts like.*

You can find more examples of usage in the DAKA, but note that you will have to look for *-**moorpoq*** and *-**noorpoq***, *-**kkoorpoq*** and *-**agoorpoq*** and so forth. These pseudo-affixes will be represented side by side with proper affixes, and thus the DAKA masks the fact that these verbalisations can actually be added onto *any* prepositional ending – even those with a personal marker for possession – and not just the simple, unpossessed endings.

Specialised verbalisation

There are also two special, frequently used and highly useful, verbalisations for locative and allative:

- Any allative ending can be verbalised with **N**{ALL}{-kaq}**V**, meaning ⟨*actor*⟩ *to N.* Thus you can say e.g. ***Pisiffimmukarpunga***, *I went to Pisiffik* (a grocery store) with verbalisation of plain **N**{mut}. Or you could even use a full possessive construction with an explicit possessor, like ***Kalaallit Nunaannukarpunga***, *I went to Greenland* with 3.pl/sg possessive allative **N**{atnut} on the base {nuna}**N**, *land*; and with ***kalaallit***, *the Greenlanders* as explicit possessor. This is an incredibly useful verbalisation.

[15] From {aŋutə}**N** *man*; **N**{-qatə}**N** *fellow N*, **N**{-minut} allative 4.sg/pl; **N**{ALL}{-*v*q}**V** *is (in)to N*; **V**{ðaq}**V** *Vb habitually*; and **V**{ðuq}**N** *someone who Vb's.* If you replace {aŋute}**N** with {aqnaq}**N** *woman*, you obtain the word for *lesbian.*

[16] This example is from (Langgård, 1997b, p. 83).

- Any locative ending can be verbalised with **N**{LOC}{ət}**V**, meaning ⟨*actor*⟩ *in/on/at N*. For instance, *illutsinni**ip**punga* means *I **am in** our house* with the possessive locative 1.pl/sg ending **N**{mtənni}.

Either of the verbalisations can of course also be used with possessive endings, and you can even verbalise a construction with explicit possessor: For example, using {inə}**N**, *a room*, and 3.sg/sg possessive locative **N**{-ani} we can say *Piitap inaani*, *in Peter's room*. Now you can even say

*Piitap inaani**ip**punga* = *I **am in** Peter's room*

Or how about nominalising this stem with the intransitive participle **V**{ðuq}**N** and adding another case ending – perhaps even with another verbalisation?

*Piitap inaaniit**tumukar**poq* = *it **goes to something that** is in Peter's room*

is an entirely possible construction.

Lastly, as a minor detail, I should also mention another verbalisation of **N**{mut} in the expression *sumu**nnar**pit*, meaning *where are you going?*, with a morpheme {nnaq} instead of the aforementioned **N**{ALL}{-kaq}**V**. However, it does not seem to be generally productive on allative endings, although it *is* used to verbalise allative on the demonstrative stems.[17]

* * *

[17] See chapter 15

CHAPTER 14

The system of verbal endings

As I described in chapter 7, there are *nine* verbal *moods* in Greenlandic; that is, nine groups of endings indicating the same 'type' of utterance, like e.g. statements, questions, commands etc. Furthermore, the ending contains either *one* personal marker for the *subject*, to be used in intransitive constructions, or *two* personal markers denoting the *subject* and the *object* respectively, to be used in transitive constructions. In this chapter I will show you how both sets of endings are built.

14.1 The mood markers

Each mood uses a distinctive mood marker, and some of the moods – most notably all the dependent moods, but also the interrogative and the optative – use a special marker when the subject is the third person (both singular and plural). As you also saw with the nominal endings, the third person will often behave like a bit of a 'special snowflake.' I have listed all the mood markers in the table in figure 14.1, grouped by type as I did in figure 7.1 on page 134.

Most of the moods use the same mood marker for both intransitive and transitive endings, but two of them have different mood markers for the two paradigms:

- *Indicative* uses {vu} for intransitive, but {va(q)} for transitive endings.
- *Participial* uses {ðu} for intransitive, but {gə(k)} for transitive endings.

Lastly, note that there are actually *ten rows* in the table; the addition being the *negative contemporative*, labelled *negative cont.* in the table. This is not really a distinct mood, but rather a special form of the contemporative, used to negate the meaning of the stem.

		Mood marker	3rd person
Independent moods	Indicative	{vu}, {va(q)}	–
	Interrogative	{vi}	{va}
	Optative	{la(q)}	{li}
	Imperative	{∅}	–
Subordinate moods	Contemporative	{(l)lu}	–
	Negative cont.	{na}, {ga}	–
	Participial	{ðu}, {gə(k)}	–
Dependent moods	Causative	{ga}	{(m)m}
	Conditional	{gu}	{(p)p}
	Iterative	{gaaŋa}	{gaaŋ}

Figure 14.1: The mood markers for verbal endings, grouped by type like in figure 7.1 on page 134. Some moods use a special marker for the third person; these are listed in the third column with '–' indicating that no special marker is used.

Normally, you would use the negation affix **V**{ŋŋit}**V** for this, but in contemporative you use this special mood marker *instead* of **V**{ŋŋit}**V**. Notice also that I have listed two mood markers, {na} and {ga}, for this; unlike the aforementioned two moods, the negative contemporative does not use two distinct mood markers for its intransitive and transitive sets. Instead, the {ga} marker is just a variant of {na}, that may be used both in transitive and intransitive endings (although it is rare, except on q-stems).

14.2 Intransitive personal markers

As I described in part II, the intransitive endings are first and foremost used on *monovalent* stems, with the logical role of the ⟨actor⟩ being mapped to the *subject* of the sentence, represented by the single person mentioned in the ending. Furthermore, a noun that *represents* the intransitive subject will be in the *absolutive* case. Therefore, I call the set of personal markers, used in intransitive endings to *represent* the subject, the *absolutive personal markers*; and I shall denote them as {ABS}, quite like the markers used on nouns. You can find these markers in the table in figure 14.2. Notice how some of them, particularly the 2nd and the 4th person markers, are similar to those used on nouns for possession in the absolutive case.

	{ABS}	{ERG}
1.sg	{ŋa}	{ma}
2.sg	{tət}, {t}	{vət}
3.sg	{q}, {∅}	{at}
4.sg	{ni}	{mi}
1.pl	{tə}, {gut}	{mtə}
2.pl	{si}	{vsi}
3.pl	{t}	{atə}
4.pl	{tək}	{mək}

Figure 14.2: Personal markers for intransitive endings, labelled {ABS} and {ERG} respectively, because of their similarity to the personal markers used for possessive endings on nouns. The {ERG} set in particular is exactly the same, except for 3.sg, indicated in red. The {ERG} set is used in dependent moods, and the {ABS} set in the rest.

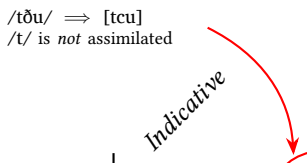
There is also a set of *ergative* personal markers, denoted {ERG}, that is *exactly* like those used on nouns, except for the 3rd person, singular where the nouns nowadays have {atə}, although it until recently *used to* be {at} there as well.[1] These are used in the *dependent moods*, so as you can see, there are already many morphemes you can reuse from your knowledge of nominal endings.

Everywhere else the {ABS} markers are used. Notice though, that some of the fields contain more than one marker for the same person: The *reduced* markers {t} and {∅} are used in the interrogative, optative and imperative moods for 2.sg and 3.sg, respectively. Furthermore, these moods also use a completely different marker, {tə}, for the 1st person, plural. For the remaining persons, the usual {ABS} markers are used (where applicable). These three moods are in general also characterised by having only endings for some of the persons, so I call them the *reduced moods*.

14.3 Intransitive endings

Constructing the intransitive endings is now more or less as simple as putting the morphemes together. I shall divide the construction into three parts, based on the set of personal markers used, and also give a few comments on the usage of each mood.

[1] At least, according to e.g. Schultz-Lorentzen (1951, p. 27) and the reconstruction by Fortescue et al. (2010, p. 487).



	ABS	*Indicative* {vu}	*Participial* {ðu}	*Contemporative* {(l)lu}	*Negative cont.* {na} or {ga}
1.sg	{ŋa}	**V**{vuŋa}	**V**{ðuŋa}	**V**{(l)luŋa}	**V**{naŋa}
2.sg	{tət}	**V**{vutət}	**V**{ðutət}	**V**{(l)lutət}	**V**{natət}, **V**{nak}
3.sg	{q}	**V**{vuq}	**V**{ðuq}	–	–
4.sg	{ni}	–	–	**V**{(l)luni}	**V**{nani}, **V**{-gani}
1.pl	{tə}, {gut}	**V**{vu**gut**}	**V**{ðu**gut**}	**V**{(l)lu**ta**}	**V**{na**ta**}, **V**{-ga**ta**}
2.pl	{si}	**V**{vusi}	**V**{ðusi}	**V**{(l)lusi}	**V**{nasi}, **V**{-gasi}
3.pl	{t}	**V**{(v)vut}	**V**{ðut}	–	–
4.pl	{tək}	–	–	**V**{(l)lutək}	**V**{natək}, **V**{-gatək}

Figure 14.3: Intransitive endings using the {ABS} markers. The combination {vu}{t} causes gemination of /v/, when /v/ is not otherwise doubled by being added to a consonantal stem. The indicative and participial both use {gut} for 1.pl, whilst the contemporatives both use {tə}. There also exists an (irregular) alternative ending **V**{nak} for negative contemporative 2.sg, indicated by a blue ellipse.

The absolutive moods

The indicative, participial and the two contemporative moods all use the {ABS} markers. There are two markers for 1.pl, {gut} and {tə}, with indicative and participial using the first, and the contemporative moods using the latter. Notice that /ə/ here becomes [a] by the 'extended' schwa-rule, just as it did in the nominal endings. Otherwise, the only speciality is that /v/ in the indicative marker geminates (doubles if possible) when the personal marker is 3.pl {t} *they*; that is, the ending is {vu}{t} ⟹ **V**{**(v)**vut}. You can find the full table of endings in figure 14.3.

A few comments are also in order. Notice first of all the empty fields: As you know from chapter 10, the indicative mood is a superordinate mood, so it cannot have endings for the 4th person, and neither can the participial mood, because it is precisely only used when there is *not* coreference between the subjects of the participial sentence and the main clause. Conversely, the contemporative mood is only used when there *is* coreference, so it can *only* have endings for the 4th person, but not the 3rd person. Thus, the distribution of the empty fields should come as no surprise to you.

The indicative 3.pl ending **V{(v)**vut} stands out, because it alone has an epenthetic consonant. This may actually be caused by the person marker, {t}, which looks suspiciously like the (unmarked) plural marker for *nouns*; and in particular, if you consider that the 3rd person *singular* marker is {q}. In other words, the indicative 3rd person endings look very much like a nominal *weak q-stem* that display *gemination* of /v/ in plural; and it is therefore possible that the 3.pl ending with an epenthetic /v/ originally was formed as a parallel to the plural of weak q-stems. Compare the following:

kalaaleq sulivoq = *the Greenlander works*
kalaallit sulipput = *the Greenlanders work*

This 'gemination' of /v/ will happen when it is allowed by phonotactics; that is, precisely when the 3.pl ending is *not* added to a consonant stem, because in these cases /*c*v/ will of course become [pp] anyway.

The negative contemporative ending for 2.sg **V{**natit**}**, *thou Vb not*, also exists in another, irregular form, with the personal marker {k} instead: **V{**nak**}**. Both the positive and the negative contemporative are, amongst other things, used as a 'polite' kind of imperative, and in particular the negative contemporative, since the usual negation affix **V{**ŋŋit**}V** cannot be used in imperative. In this sense, this ending can be used to directly forbid you to do something. I remember seeing it on a no-smoking sign with the text: ***pujortarnak***, meaning *(kindly) do not smoke.*

The negative contemporative forms with {na} as mood marker are the most commonly used, *except on q-stems* where either the forms with {na} or {ga} are often used interchangeably. Thus you could say e.g. ***ajornani*** or ***ajorani***, *it is OK*, using the base {ajuq}**V**, ⟨*actor*⟩ *is not OK*. Notice what this means: By the g-rule, /qg/ will merge to /r/, so in other words, these forms with {ga} are used precisely when we will *not* see the /g/ itself.[2] However, you *may* also encounter it on other stem types, especially in some (perhaps slightly older) literary works; for example, I have seen both ***qungujugani***, (he) *without smiling*; and ***tusarnaaqqaartigasi***, (you) *before having listened (to something)*, which are a vowel stem and a t-stem, respectively.

Lastly, recall that the participial mood marker {ðu} becomes /cu/ when added to *t-stems*; at least in Central West Greenlandic, which is the 'official' Kalaallisut. They are usually, but not exclusively, stems derived with one of the privative affixes **V{**-it**}V**, **V{**ŋŋit**}V** and **V{**-kit**}V**.[3] That is, /t/ is *not* assimilated by /c/ but comes to be pronounced like [tˢtˢ] instead (and spelt 'ts'). Thus e.g. **V{**ŋŋit**}V{**ðuq**}** $\Longrightarrow^*$ ***-nngitsoq***. It also happens with the intransitive participle **V{**ðuq**}N**, because it is actually the same morpheme; here it is just used as a mood marker instead of as an affix.

[2]Note: the endings are not truncative on q-stems, according to the special sandhi rule for g-initial morphemes, cf. definition 2.6, page 33.

[3]These t-stems are all marked by 'ts' in the DAKA dictionary to signal this behaviour.

	{ABS}	Interrogative {vi}, {va}	Optative {la}, {li}	Imperative {∅}
1.sg	{ŋa}	–	**V**{laŋa}	–
2.sg	{t}	**V**{vit}	–	**V**{-git}, **V**{na}
3.sg	{∅}	**V**{va}	**V**{li}	–
4.sg	{ni}	–	–	–
1.pl	{tə}	–	**V**{lata}	**V**{ta}
2.pl	{si}	**V**{visi}		**V**{-gitci}
3.pl	{t}	**V**{(v)vat}	**V**{lit}	–
4.pl	{tək}	–	–	

Figure 14.4: Intransitive endings using the reduced personal markers. Interrogative 2.pl **V**{(v)vat} doubles /v/ like indicative **V**{(v)vut}. The imperative endings with {git} are both truncative, *except* on q-stems. There also exists an alternative ending **V**{na} for imperative 2.sg.

The reduced moods

The interrogative, optative and imperative are all characterised by having endings for only one or two persons, and by using reduced markers for the second and third person, singular; therefore I have nicknamed them the *reduced* moods. They are generally less regular than the other sets of endings, but fortunately they are also few in number. You can find them all in figure 14.4.

Again, I have a few comments for some of the endings and the distribution of empty fields:

- The *interrogative* is used for asking questions *of or about* someone (else). You do not ask questions of yourself.[4] Thus, there are (obviously) no endings with markers for the first person. Note also that the interrogative uses a special mood marker, {va}, in the 3rd person, and that it also doubles the /v/ in the 3.pl ending **V**{**(v)**vat}, just like the indicative.

- The *optative* means *let*, like e.g. with the base {isəq}**V** ⟨*actor*⟩ *enters* I could say ***iserlanga!*** meaning *let me in!* Optative expressions are always addressed *to* thee or

[4]Or rather, if you do, then you would use the indicative, but with interrogative intonation; that is with a falling tone on the last syllable.

you; I am asking *thee* to let me in, so here it would make no sense to have combinations with the second person.

The ending for 1.pl **V**{lata} *let **us** Vb!* is an 'exclusive us'; that is neither thou nor you are included in this group of 'us,' so if I said ***iserlata***, *let us enter!*, I would include someone else in this 'us' besides myself, but *not* the person to whom I spoke. This ending may be uncommon nowadays; people will often use the imperative **V**{ta}, *let us Vb!* instead, which is an *inclusive* 'us' (see below).

- The *imperative* is for direct orders or commands, which obviously only make sense with the second person, since thou or you are the person(s) I am ordering to do something. Both **V**{-git} and **V**{-gitci} are truncative, *except on q-stems* where they instead fuse normally with /q/.[5] The morpheme {git} appearing in these endings is actually a marker for 2.sg, that seems to have been copied to the ending for 2.pl, with the real 2.pl marker {si} added on top of it, to yield the ending **V**{-git**ci**}. The highlighted /t/ is *not* assimilated, so the final form of this ending will be *-**gitsi***.

  There also exists a completely different ending **V**{na} for imperative 2.sg, which may be considered a little less direct, and thus more polite. The imperative is often used with a number of affixes to 'soften' it somewhat; one of these is **V**{gi}**V** which here means *in the near future*, and on this affix the ending **V**{na} is used, although it can also be used be used on its own, without **V**{gi}**V**, with more or less the same meaning. I have added a note about this in aside 14.1.

  The 1.pl ending **V**{ta} is a kind of mutual appeal, that more properly belongs with the optative than with the direct orders. It also means *let us Vb!*, but this is an *inclusive* 'us,' so here the addressee *is* included in the group; thus ***iserta!*** means *let us (together) enter!*

  The /t/ in **V**{ta} regularly goes to /s/ after /i/ by the t-to-s rule, but nowadays you might also hear some people use it as if its form were **V**{ða} instead; that is they will let the /t/ go to /s/ on *any* vowel.

The dependent moods

The dependent moods are the causative, iterative and conditional moods, and they are the most regular of all the sets of verbal endings. However, they uses the *ergative* personal markers, instead of the absolutive like the others, and all combinations of person and mood exist, so there are no gaps in the sets. All three moods have a special mood marker for the third person, but otherwise the only irregularity is that the conditional mood has /n/ instead of /m/ in the markers for the 4th person; that is, you could say it uses the markers

[5] See definition 2.6, page 33 about the special sandhi rules for g-initial morphemes.

Aside 14.1: The future is polite

Even though the intransitive imperative only consists of two endings (ignoring 1.pl **V**{ta} for now), it can seem quite confusing. Firstly, both **V**{-git} and **V**{-gitci} are truncative, *except on q-stems*; so they belong to this truly tiny group of g-initial morphemes that attach to *verbal* stems, but nevertheless follow the special g-sandhi pattern I mentioned in definition 2.6 on page 33, which is more common with nominal stems.

Long story short, with e.g. {unə**k**}**V**, *stop*; and {isə**q**}**V**, *enter*, we have teh following behaviour:

{unə**k**}**V**{-git!} $\Longrightarrow^*$ ***unigit!*** = *stop! (thou)*
{isə**q**}**V**{-git!} $\Longrightarrow^*$ ***iserit!*** = *come (thou) in!*

Unigit! is, by the way, a word you may see, if you ever ride the bus in Nuuk, because it flashes in red on a sign above the driver, whenever anyone presses the 'stop' button. Similarly, ***iserit!*** is a common way to e.g. welcome someone into your home; and you say (of course) ***iseritsi!*** if there is more than one visitor. You can also find the imperative in the common greeting ***tikilluarit!***, literally *be thou well come!* from {təkit}**V**, ⟨*agent*⟩ *arrives at* ⟨*patient*⟩;[a] and **V**{(l)luaq}**V** *Vb good/well*, and in many other places and phrases.

Another noteworthy point about the imperative is that it is *immediate:* It means *do it,* now*!* However, by using the affix **V**{gi}**V** you can shift the command a bit into the future, to express something like *do it! (when you get to it)*, which is considered more polite. This affix has the speciality that it uses the alternative ending **V**{na} for 2.sg, and likewise the 2.pl here appear as just {si}, without the duplicated marker {git}, so you could actually regard this as an entirely alternative intransitive imperative with {gi} as the mood marker:

		{gi}	
2.sg	{na}	**V**{gina}	*Vb thou (in the future)*
2.pl	{si}	**V**{gisi}	*Vb you (in the future)*

With this, you can, for instance, express *good night!* (literally *sleep well*), using {sinək}**V** and **V**{(l)luaq}**V**, in two different ways: One with the usual imperative, ***sinilluarit!, sinilluaritsi!***, indicating that the person(s) is/are about to go to sleep *now*, and one with this 'alternative' imperative, ***sinilluarina!, sinilluarisi!***, which you could use e.g. when you say good night to a guest, who is about to go home and (presumably) sleep.

Lastly, **V**{na} can also be used on its own, without {gi}, but with seemingly the same meaning. Thus, whether you say ***sinilluarina!*** or just ***sinilluarna!*** makes no difference.

[a] So, {təkit}**V** is a *non-patient* preserving stem (definition 9.5, page 182), since it can be used with an intransitive ending without altering the mapping of ⟨agent⟩ to the subject mentioned in the ending.

		Causative	*Iterative*	*Conditional*
	{ERG}	{ga}, {(m)m}	{gaaŋa}, {gaaŋ}	{gu}, {(p)p}
1.sg	{ma}	V{gama}	V{gaaŋama}	V{guma}
2.sg	{vət}	V{gavət}	V{gaaŋavət}	V{guvət}
3.sg	{at}	V{(m)mat}	V{gaaŋat}	V{(p)pat}
4.sg	{mi}	V{gami}	V{gaaŋami}	V{guni}
1.pl	{mtə}	V{gamta}	V{gaaŋamta}	V{gumta}
2.pl	{vsi}	V{gavsi}	V{gaaŋavsi}	V{guvsi}
3.pl	{atə}	V{(m)mata}	V{gaaŋata}	V{(p)pata}
4.pl	{mək}	V{gamək}	V{gaaŋamək}	V{gunək}

Figure 14.5: Intransitive endings for the dependent moods. They all use the set of ergative personal markers, and with all combinations of mood and person. All use a special, shorter mood marker for the 3rd person, indicated with a blue shading. The conditional irregularly has /n/ instead of /m/ on the markers for the 4th person. These are emphasised in the table.

{ni} and {nək}, instead of the usual {mi} and {mək}. I have created a table with all the endings in figure 14.5.

The dependent moods are all used to express the notion of *when*; a time or cause in the past, a time or condition in the future, or a recurrent event or action. They can be used instead of, or perhaps rather as an *extension* of, an optional specification of time in the sentence structure, as I described in chapter 11. This extension will then be a new sentence with similar fields, that can be similarly extended, and so on.

For example, consider the sentence *when X come(s) home, Peter makes coffee.* The first part, *when X come(s) home* is the extended time or conditional specification for, when the main action (Peter making coffee) occurs. As you can see, the person *X* could be anyone; it could be *when **I** come home*, or *thou* or *we* etc. It could be *when **she** comes home* (e.g. Peter's wife), in which case the ordinary third person would be used, since she $\neq$ Peter. Or it could be *when Peter (himself) comes home* in which case the 4th person would be used. Combinations with all persons are both logically possible and useful in all three dependent moods, so there are no 'gaps' with impossible combinations of moods and persons in these sets of endings.

14.4 Transitive personal markers

Recall from section 7.2 (page 128) that the *transitive* endings are used when the verbal action contains both an ⟨agent⟩ role performing the action, and a ⟨patient⟩ role who is the recipient of the action. They are used on stems like {asa}**V**, ⟨*agent*⟩ *loves* ⟨*patient*⟩; {aullai}**V**, ⟨*agent*⟩ *shoots* ⟨*patient*⟩; **N**{gə}**V**, ⟨*agent*⟩ *has* ⟨*patient*⟩ *as his N* and so forth. The ending will therefore contain *two* personal markers; one being mapped to the ⟨agent⟩ role, usually corresponding to the transitive *subject*; and the other being mapped to the ⟨patient⟩ role, corresponding to the transitive *object*. All the details of this mapping was the topic of chapter 9.

As you also may recall, the transitive subject is denoted by the *ergative* case, whilst the transitive object is denoted by the *absolutive* case. Thus, the intuition here is that we will use the set of *absolutive* personal markers to denote the object, and the set of *ergative* personal markers for the subject. Internally in the ending we have the mood marker, then the subject marker, and then lastly the object marker; so since the absolutive markers will be added on top of the ergative markers, we will use the *reduced* ergative markers that you also saw in the construction of possessive endings for the prepositional cases on nouns.[6]

The absolutive markers are the same as those used in the intransitive endings, with two important exceptions:

- In the intransitive endings, the 1.pl used *either* {tə} *or* {gut} as its marker, but here we use both, so {tə}{gut} $\Longrightarrow$ {təgut}, which of course means that /ə/ now always will become [i], since it is now followed by a consonant.
- As I mentioned previously, in section 14.3, an intransitive indicative verb with 3rd person endings looks (and behaves) suspiciously like a geminating weak q-stem, because the personal markers {q} and {t} are similar to the un-possessed endings for nouns in the absolutive case. The transitive endings will sometimes sometimes borrow endings from the nouns for the third person, but *generally* we have instead the markers {gu}, {gət} for the third person singular and plural, respectively.

The personal markers for the transitive verb endings are listed in figure 14.6 with these deviations emphasised. You can now, at least in principle, just combine a mood marker from figure 14.1 with the personal markers for a subject and an object to form the ending you may need. For instance, suppose you wanted to say *he loves me* using the base {asa}**V**. This is now trivial: You combine {va} for transitive indicative with {a} for 3.sg, *he*, and {ŋa} for 1.sg, *me*, to obtain

{va}{a}{ŋa} $\Longrightarrow$ **V**{vaaŋa}

[6] See figure 13.5, page 253.

	{-ERG-}	ABS
1.sg	{m}	{ŋa}
2.sg	{k}	{tət}
3.sg	{a}	{gu}
4.sg	{mi}	{ni}
1.pl	{mtə}	{tə}{gut}
2.pl	{vsi}	{si}
3.pl	{at}	{gət}
4.pl	{mək}	{tək}

Figure 14.6: Personal markers used in transitive endings. The {-ERG-} set is similar to that found in the possessive endings for the prepositional cases. The {ABS} markers are similar to those used in the intransitive endings, except that the third person uses {gu} and {git}, instead of {q} and {t}. 1.pl merge {tə}{gut} to one, {təgut}.

and you can now say ***asavaanga***. If you can just remember the markers for mood and person, which is 31 different morphemes in total, you will be able to parse or reconstruct *most* of the hundreds of endings generated by this system.

Consider now the word ***asagatsigu***. It should be easy now to see that this ending has mood marker {ga}, which is the *causative* mood marker. The subject marker is *-tsi-* which can hardly be anything else than the 1.pl marker {mtə}, *we*. And then we are left with a *-gu* for the object marker, which then of course is just the 3.sg marker {gu}, *him*. Thus the word means *because we love him*. Quite obvious, once you know the relatively small group of morphemes involved.

14.5 Regular changes in combinations of markers

Unfortunately the combination of personal markers is not *always* as obvious as 3.sg/1.sg or 1.pl/3.sg that you saw above; partly because the system has been worn down somewhat, and partly because of the collapse of the whole set of combinations with person in dual number, which has left traces throughout the system where people regularly use the old dual instead of the plural marker. In short, there are a number of *regular changes* to the subject and object markers that we need to apply when we combine the personal markers:

Definition 14.1 (Regular changes to the object marker)

1. {ŋa} → {ma} *when the subject is 2.sg,* thou
2. {tət} → {gət} *when the subject is 1st person,* I, we
3. {gu} → {juk} *after /i/ (but* not *after /ə/!)*
4. {ni} → {(n)ni} *when the subject is plural,* we, you, they, themselves
5. {gət} → {gək} *when the subject is plural,* we, you, they, themselves

Notice that the 3. rule is a general rule; it is not contingent upon a specific subject marker or markers, but instead applies whenever the object marker is added to an /i/. It will of course be applied when the subject marker is {mi} or {vsi}, but as you will see later, it also applies in other circumstances.

The 4. rule is another case of an old dual marker surfacing[7] just as you saw it with the possessive endings for the prepositional cases on nouns. In fact, since the 4.sg marker {ni} is exactly similar to the prepositional locative marker {ni}, the combination of any subject marker with the 4.sg marker will look exactly like the nominal endings for possessive locative, with possessor corresponding to the subject.

Lastly, the 5. rule *may* not be terribly important nowadays. The /k/ is actually an old dual marker, so {gət} is the true plural marker for 3.pl, whilst {gək} is the dual *those two*. When the dual system collapsed, people apparently combined the two, by using {gət} when the subject is singular, but {gək} when the subject is plural. However, as I have previously mentioned, many (especially younger) speakers hardly even distinguish between a word-final [k] and [t], so they will often just say (and write) {gət} for all subjects.

Definition 14.2 (Regular changes to the subject marker)

1. {mtə} → {m} *when the object is plural,* except *3.pl*
2. {vsi} → {v} *when the object is plural,* except *3.pl*
3. {at} → {a} *when the object is plural,* except *3.pl*
4. {mək} → {mi} *when the object is plural,* except *3.pl*

These changes really just amount to saying that *when both the subject and the object are plural*, i.e. *we, you, themselves*, the combination of subject and object marker will become equal to the combination of *singular* subject with plural object, because the consonant denoting the subject will be assimilated anyway, due to the consonant rule, and thus become indistinguishable from the singular subject markers {m} and {k}. The distinction between singular and plural is only maintained when the subject is the third person.

Lastly, there are two special, unconditional combinations of subject and object markers that you simply have to remember:

[7] Fun fact: The extra /n/ was actually a /g/ according to the reconstruction by Fortescue et al. (2010, s. 491).

Definition 14.3 (Special combinations of person markers)

1. *3.pl/3.sg* {at}{gu} → {accuk}
2. *3.pl/3.pl* {at}{gək} → {atəgək}

or {atəgət} in the latter case, if you decide not to rule 5. from definition 14.1.

14.6 Transitive endings

Now we are finally ready to create the transitive endings. By combining the personal markers and applying these regular changes, you obtain a table of portmanteau morphemes. I have already created one for you, which appears on the following page, with subject markers listed vertically and object markers horizontally. The fields with shaded backgrounds indicate the places where one of the aforementioned regular transformations have been applied to yield the combined person marker: As you may notice, most of these changes happen in the lower right quadrant, i.e when both the subject and object are plural.

Note also in particular the empty fields: You can never combine a person with itself; that is, you can never have for instance *I* and *me*, or *I* and *us*, combined in the same ending to denote a reflexive or reciprocal action. For that, you would instead use an intransitive ending, as I described in chapter 9.

You might now object: "What about the third person? Combinations with the third person as both subject and object exist!" And yes, indeed they do, because two third persons in the same ending will always refer to two *different* entities: An ending like causative **V{(m)magu}** with the combination 3.sg/3.sg means *because* he_1 *Vb'ed* him_2 where $he_1 \neq him_2$.

Besides the aforementioned regular changes which always happen, some of the moods also have some *individual* changes; in particular the 'reduced' moods where their *meaning* dictates that certain combinations do not exist (because they are meaningless). I shall therefore create the set of endings for each mood in *descending order of regularity* on the following pages, with a few further comments for each mood afterwards. Note that in these tables I have changed any morpheme-final schwas to /a/, as they will according to the 'extended schwa-rule'; as well as pre-applied the t-to-s rule in all combinations where it occurs, because there are a few places where it, for unknown reasons, has *not* had its usual effect. But otherwise I have left all consonant clusters unassimilated, and all vowels unchanged, to allow you to more clearly see the patterns of combinations repeating over and over again. You can easily obtain the final form of an ending by just applying the sound rules as usual.

Combined markers

	1.sg {ŋa}	2.sg {tət}	3.sg {gu}	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl {gət}	4.pl {tək}
1.sg {m}	–	{mgət}	{mgu}	{mni}	–	{msi}	{mgət}	{mtək}
2.sg {k}	{kma}	–	{kgu}	{kni}	{ktəgut}	–	{kgət}	{ktək}
3.sg {a}	{aŋa}	{atət}	{agu}	{ani}	{atəgut}	{asi}	{agət}	{atək}
4.sg {mi}	{miŋa}	{mitət}	{mijuk}	–	{mitəgut}	{misi}	{migət}	–
1.pl {mtə}	–	{mtəgət}	{mtəgu}	{mtənni}	–	{msi}	{mtəgək}	{mtək}
2.pl {vsi}	{vsiŋa}	–	{vsijuk}	{vsinni}	{vtəgut}	–	{vsigək}	{vtək}
3.pl {at}	{atŋa}	{attət}	{accuk}	{atni}	{atəgut}	{asi}	{atəgək}	{atək}
4.pl {mək}	{məkŋa}	{məktət}	{məkgu}	–	{mitəgut}	{misi}	{məkgək}	–

Causative

Mood marker: {ga}, 3p {(m)m}

	1.sg {ŋa}	2.sg {tət}	3.sg {gu}	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl {gət}	4.pl {tək}
1.sg {m}	–	V{gamgət}	V{gamgu}	V{gamni}	–	V{gamsi}	V{gamgət}	V{gamtək}
2.sg {k}	V{gakma}	–	V{gakgu}	V{gakni}	V{gaktəgut}	–	V{gakgət}	V{gaktək}
3.sg {a}	V{(m)maŋa}	V{(m)matət}	V{(m)magu}	V{(m)mani}	V{(m)matəgut}	V{(m)masi}	V{(m)magət}	V{(m)matək}
4.sg {mi}	V{gamiŋa}	V{gamisət}	V{gamijuk}	–	V{gamisəgut}	V{gamisi}	V{gamigət}	–
1.pl {mtə}	–	V{gamtəgət}	V{gamtəgu}	V{gamtənni}	–	V{gamsi}	V{gamtəgək}	V{gamtək}
2.pl {vsi}	V{gavsiŋa}	–	V{gavsijuk}	V{gavsinni}	V{gavtəgut}	–	V{gavsigək}	V{gavtək}
3.pl {at}	V{(m)matŋa}	V{(m)mattət}	V{(m)maccuk}	V{(m)matni}	V{(m)matəgut}	V{(m)masi}	V{(m)matəgək}	V{(m)matək}
4.pl {mək}	V{gaməkŋa}	V{gaməktət}	V{gaməkgu}	–	V{gamisəgut}	V{gamisi}	V{gaməkgək}	–

Iterative

Mood marker: {gaaŋa}, 3p {gaaŋ}

	1.sg {ŋa}	2.sg {tət}	3.sg {gu}	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl {gət}	4.pl {tək}
1.sg {m}	–	V{gaaŋamgət}	V{gaaŋamgu}	V{gaaŋamni}	–	V{gaaŋamsi}	V{gaaŋamgət}	V{gaaŋamtək}
2.sg {k}	V{gaaŋakma}	–	V{gaaŋakgu}	V{gaaŋakni}	V{gaaŋaktəgut}	–	V{gaaŋakgət}	V{gaaŋaktək}
3.sg {a}	V{gaaŋaŋa}	V{gaaŋatət}	V{gaaŋagu}	V{gaaŋani}	V{gaaŋatəgut}	V{gaaŋasi}	V{gaaŋagət}	V{gaaŋatək}
4.sg {mi}	V{gaaŋamiŋa}	V{gaaŋamisət}	V{gaaŋamijuk}	–	V{gaaŋamisəgut}	V{gaaŋamisi}	V{gaaŋamigət}	–
1.pl {mtə}	–	V{gaaŋamtəgət}	V{gaaŋamtəgu}	V{gaaŋamtənni}	–	V{gaaŋamsi}	V{gaaŋamtəgək}	V{gaaŋamtək}
2.pl {vsi}	V{gaaŋavsiŋa}	–	V{gaaŋavsijuk}	V{gaaŋavsinni}	V{gaaŋavtəgut}	–	V{gaaŋavsigək}	V{gaaŋavtək}
3.pl {at}	V{gaaŋatŋa}	V{gaaŋattət}	V{gaaŋaccuk}	V{gaaŋatni}	V{gaaŋatəgut}	V{gaaŋasi}	V{gaaŋatəgək}	V{gaaŋatək}
4.pl {mək}	V{gaaŋaməkŋa}	V{gaaŋaməktət}	V{gaaŋaməkgu}	–	V{gaaŋamisəgut}	V{gaaŋamisi}	V{gaaŋaməkgək}	–

Conditional

Mood marker: {gu}, 3p {(p)p}

		1.sg {ŋa}	2.sg {tət}	3.sg {gu}	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl {gət}	4.pl {tək}
1.sg	{m}	–	V{gumgət}	V{gumgu}	V{gumni}	–	V{gumsi}	V{gumgət}	V{gumtək}
2.sg	{k}	V{gukma}	–	V{gukgu}	V{gukni}	V{guktəgut}	–	V{gukgət}	V{guktək}
3.sg	{a}	V{(p)paŋa}	V{(p)patət}	V{(p)pagu}	V{(p)pani}	V{(p)patəgut}	V{(p)pasi}	V{(p)pagət}	V{(p)patək}
4.sg	{ni}	V{guniŋa}	V{gunisət}	V{gunijuk}	–	V{gunisəgut}	V{gunisi}	V{gunigət}	–
1.pl	{mtə}	–	V{gumtəgit}	V{gumtəgu}	V{gumtənni}	–	V{gumsi}	V{gumtəgək}	V{gumtək}
2.pl	{vsi}	V{guvsiŋa}	–	V{guvsijuk}	V{guvsinni}	V{guvtəgut}	–	V{guvsigək}	V{guvtək}
3.pl	{at}	V{(p)patŋa}	V{(p)pattət}	V{(p)paccuk}	V{(p)patni}	V{(p)patəgut}	V{(p)pasi}	V{(p)patəgək}	V{(p)patək}
4.pl	{nək}	V{gunəkŋa}	V{gunəktət}	V{gunəkgu}	–	V{gunisəgut}	V{gunisi}	V{gunəkgək}	–

Participial

Mood marker: {gə(k)}

	1.sg {ŋa}	2.sg {tət}	3.sg **POSS**	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl **POSS**	4.pl {tək}
1.sg {m}	–	V{gəmkət}	V{gəga}	V{gəmni}	–	V{gəmsi}	V{gəkka}	V{gəmtək}
2.sg {k}	V{gəkma}	–	V{gət}	V{gəkni}	V{gəktəgut}	–	V{gətət}	V{gəktək}
3.sg {a}	V{gəaŋa}	V{gəatət}	V{gəa}	V{gəani}	V{gəatəgut}	V{gəasi}	V{g**əi**}	V{gəatək}
4.sg {mi}	–	–	V{gə**k**ni}	–	–	–	V{gəni}	–
1.pl {mtə}	–	V{gəmtəgət}	V{gə**k**vut}	V{gəmtənni}	–	V{gəvsi}	V{gəvut}	V{gəmtək}
2.pl {vsi}	V{gəvsiŋa}	–	V{gə**k**si}	V{gəvsinni}	V{gəvtəgut}	–	V{gəsi}	V{gəvtək}
3.pl {at}	V{gəatŋa}	V{gəattət}	V{gəat}	V{gəatni}	V{gəatəgut}	V{gəasi}	V{gəit}	V{gəatək}
4.pl {mək}	–	–	V{gə**k**tək}	–	–	–	V{gətək}	–

Indicative

Mood marker: {va(q)}

Irregular! Not *va**m**ma

Subform **V**{vagət}

	1.sg {ŋa}	2.sg {tət}	3.sg **POSS**	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl **POSS**	4.pl {tək}
1.sg {m}	–	**V**{vamgət}	**V**{vara}	–	–	**V**{vamsi}	**V**{vakka}	–
2.sg {k}	**V**{vaq**q**ma}	–	**V**{vat}	–	**V**{vaktəgut}	–	**V**{vatət}	–
3.sg {a}	**V**{vaaŋa}	**V**{vaatət}	**V**{vaa}	–	**V**{vaatəgut}	**V**{vaasi}	**V**{v**ai**}	–
4.sg {mi}	–	–	–	–	–	–	–	–
1.pl {mtə}	–	**V**{vamtəgət}	**V**{vaqvut}	–	–	**V**{vamsi}	**V**{vavut}	–
2.pl {vsi}	**V**{vavsiŋa}	–	**V**{vaqsi}	–	**V**{vavtəgut}	–	**V**{vasi}	–
3.pl {at}	**V**{vaatŋa}	**V**{vaattət}	**V**{vaat}	–	**V**{vaatəgut}	**V**{vaasi}	**V**{vaat}	–
4.pl {mək}	–	–	–	–	–	–	–	–

Subform **V**{vagut}

Optative

Mood marker: {la(q)}, 3p {li}

		1.sg {ŋa}	2.sg {tət}	3.sg {gu}/**POSS**	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl {git}/**POSS**	4.pl {tək}
1.sg	{m}	–	V{lamgət}	V{la**ra**}	–	–	V{lamsi}	V{la**kka**}	–
2.sg	{k}	–	–	–	–	–	–	–	–
3.sg	{∅}	V{liŋa}	V{lisət}	V{lijuk}	–	V{lisəgut}	V{lisi}	V{ligət}	–
4.sg	{mi}	–	–	–	–	–	–	–	–
1.pl	{mtə}	–	V{lamtəgət}	V{la**qvut**}	–	–	V{lamsi}	V{la**vut**}	–
2.pl	{vsi}	–	–	–	–	–	–	–	–
3.pl	{t}	V{litŋa}	V{littət}	V{liccuk}	–	V{lisəgut}	V{lisi}	V{lisəgək}	–
4.pl	{mək}	–	–	–	–	–	–	–	–

V{littət} $\Longrightarrow^*$ ***litsit*** or
V{lisət} $\Longrightarrow^*$ ***lisit***
but *not* ****lissit***

Interrogative

Mood marker: {vi}

		1.sg {ŋa}	2.sg {tət}	3.sg {gu}	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl {git}	4.pl {tək}
1.sg	{m}	–	–	–	–	–	–	–	–
2.sg	{∅}	V{viŋa}	–	V{vijuk}	–	V{visəgut}	–	V{vigət}	–
3.sg	{a}	–	–	–	–	–	–	–	–
4.sg	{mi}	–	–	–	–	–	–	–	–
1.pl	{mtə}	–	–	–	–	–	–	–	–
2.pl	{si}	V{visiŋa}	–	V{visijuk}	–	V{visəgut}	–	V{visigək}	–
3.pl	{at}	–	–	–	–	–	–	–	–
4.pl	{mək}	–	–	–	–	–	–	–	–

Imperative

not regular *k**ma**

not regular *k**gu**

{k} has been dropped

Mood marker: {∅}

		1.sg {ŋa}	2.sg {tət}	3.sg {gu}	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl {git}	4.pl {tək}
2.sg	{k}	V{-**kŋ**a}	–	V{-**guk**}	–	V{**t**əgut}	–	V{kgət}	–
1.pl	{**tə**}	–	–	V{təgu}	–	–	–	V{təgək}	–
2.pl	{**si**}	V{siŋa}	–	V{sijuk}	–	V{təgut}	–	V{sigək}	–

Mood marker: {gi}

2p.sg	{∅}	V{giŋa}	–	V{gijuk}	–	V{**gigut**}	–	V{gigət}	–
2p.pl	{**si**}	V{gisiŋa}	–	V{gisijuk}	–	V{gisəgut}	–	V{gisəgək}	–

{tə} has been dropped

Contemporative I

Mood marker: {(l)lu}

		1.sg {ŋa}	2.sg {tət}	3.sg {gu}	4.sg {ni}	1.pl {**tə**}	2.pl {si}	3.pl {gət}	4.pl {tək}
(all)	{∅}	V{(l)luŋa}	V{(l)lutət}	V{(l)lugu}	–	V{(l)lu**ta**}	V{(l)lusi}	V{(l)lugət}	–

Mood marker: {na} or {ga}

(all)	{∅}	V{naŋa}	V{natit}	V{nagu}	–	V{na**ta**}	V{nasi}	V{nagət}	–

Contemporative II

Mood marker: {(l)lu}

		1.sg {ŋa}	2.sg {tət}	3.sg {gu}	4.sg {ni}	1.pl {təgut}	2.pl {si}	3.pl {git}	4.pl {tək}
1.pl	{**tə**}	–	–	V{(l)lutəgu}	–	–	–	V{(l)lutəgək}	–
2.pl	{**si**}	V{(l)lusiŋa}	–	V{(l)lusijuk}	–	V{(l)lutəgut}	–	V{(l)lusigək}	–

Mood marker: {na} or {ga}

1.pl	{**tə**}	–	–	V{natəgu}	–	–	–	V{natəgək}	–
2.pl	{**si**}	V{nasiŋa}	–	V{nasijuk}	–	V{natəgut}	–	V{nasigək}	–

Causative

The causative does not require many further comments: It is completely regular with respect to the rules given above (which is why I have often used it for examples). All possible combinations of subject and object markers exist. The mood marker is {ga} as in the intransitive endings, and when the *subject* is the 3rd person (singular or plural) the special mood marker {(m)m} is used.

Iterative

The iterative mood is actually just an affix {gaa} that has fused so thoroughly with the causative as to create a new mood. It is therefore just as regular as the causative. In fact, if you know the causative, you can easily create all endings for the iterative with this simple procedure: Just replace the *consonant* in the causative mood marker, i.e. the /g/ in {ga} and the whole of {(m)m}, with {gaaŋ} to obtain the corresponding iterative ending. For example:

1.pl/3.sg V{gamtəgu} → V{gaaŋamtəgu}
3.sg/3.sg V{(m)magu} → V{gaaŋagu}

Conditional

This mood is *almost* as regular as the causative. There is only *one* exception: The two subject markers {mi} and {mək} have become {ni} and {nək}, just as they have in the intransitive paradigm. This also happens, of course, with the regular changes in the subject marker: Where {mək} regularly becomes {mi}, will {nək} regularly become {ni} etc. You just have to remember to say /n/ instead of {m} in all endings where these two markers are included. These are also highlighted in the table. Apart from this, the endings are regular. The mood marker is {gu}, and when the subject is the 3rd person (singular or plural), the special mood marker {(p)p} is used.

Participial

The participial is also *almost* as regular as the previous sets, and also resembles them – far more than in the intransitive paradigm anyway. Its mood marker is {gə(k)} here, and note that it bears no resemblance to the intransitive mood marker. The schwa, in particular, is a source of confusion for the Graphemists, because it will (of course!) become [a] whenever the combined personal marker begins with vowel. For instance, Bjørnum (2003, p. 65) spends an entire page on explaining how to transform the transitive indicative into the participial, and Janussen (1987, p. 73) says the mood marker is *-gi-, -i-* and *-ki-* (on vowel-, q- and consonant stems, respectively) for 1st, 2nd and 3rd person subjects, but *-ga-, -a-*

and *-ka-* for 3rd person subjects. No wonder: the 3rd person subject markers both begin with a vowel.

Just like the corresponding intransitive participial set, the transitive participial is also *only* used when there is *no* co-reference between the subject in the main clause and the *subject* in the subordinate clause. Thus there are no endings containing a combination with the 4th person as *subject*.[8] However, the *object* can still unproblematically be co-referent to the subject in the main clause, so there *are* combinations with the 4th person as *object*.

There is one major speciality with the participial, which you also will observe in some of the other moods: When the *object* is the 3rd person, the mood marker behaves as a *nominal k-stem* {gə**k**} and takes *nominal* endings, instead of the regular combinations of person markers. This is exactly like the intransitive endings that had borrowed the nominal absolutive singular {q} and plural {t} as markers for the third person. Here, however, we still need to distinguish between all the different subjects, so instead of the simple (unmarked) singular/plural markers, this mood uses the *possessive* absolutive endings. For example:

1.sg/3.sg	{gək}{ga}	$\Longrightarrow^*$	+***giga***	*... that I Vb him*
1.sg/3.pl	{gək}{kka}	$\Longrightarrow^*$	+***gikka***	*... that I Vb them*
...				

It is important to remember that it behaves like a *k-stem* {gə**k**}, because some of these possessive endings inject an epenthetic /(q)/ when added to a vowel stem, but this does *not* happen here. Where an epenthetic /(q)/ otherwise *would* have been injected, the endings are instead added onto /k/, thus:

1.pl/3.sg	{gək}{(q)vut}	$\Longrightarrow^*$	+***gipput***, not **gerput*
2.pl/3.sg	{gək}{(q)si}	$\Longrightarrow^*$	+***gissi***, not **gersi*
4.pl/3.sg	{gək}{(q)tək}	$\Longrightarrow^*$	+***gitsik***, not **gertik*

Note also, when the possessive 3.sg/pl marker **N**{-i} is added, /ə/ will (of course!) take the sound [a], but the endings is written as +***gai***, exactly like on the nouns (see section 13.2 on page 246), and this is similarly *pronounced* [gaa^{j}] with a *long* [aa] sound, and only a slight [j]-like sound at the very end. Thus, this is another case of the same apparent exception from the a-rule, which is really no exception at all.

[8] This is not entirely true. If you look in the table, you will see *four* endings with 4th person subjects and 3rd person objects, also noted e.g. in Bergsland (1955, p. 44). However, they are rarely used, except in some literary or archaic constructions, where the usual rule of *no coreference* apparently does not apply.

Indicative

The indicative is an independent mood, so it forms only main clauses. Thus, there can be *no* combinations involving the 4th person, neither as subject nor as object. All these fields are therefore empty.

The indicative also use the possessive absolutive nominal endings when the object is the 3rd person, just like the participial does. The mood marker is {va}, slightly different from the intransitive marker, and with the possessive endings it behaves as a nominal *weak q-stem* {va**q**} that will regularly throw this /q/ away before all endings *except* **N**{ga}. *I Vb him* is therefore not **va**ga*, as we might otherwise have believed, but **V**{va**r**a}. Just like in the participial set, we also have another case of the apparent exception from the a-rule with the ending **V**{v**ai**}, which is not an exception for the same reason.

Otherwise, the endings are quite regular: There is only a single, small deviation in the ending for 2.sg/1.sg, *thou Vb me*. The regular combination of personal markers is {kma}, so the ending *should* have been **va**mma*, just as it is everywhere else, but for unknown reasons the marker /k/ appears as a /q/ here[9] so the ending becomes +*va**r**ma* instead.

Two of the endings also have 'unofficial' sub-forms which you may encounter:

- 1.sg/2.sg **V**{va**mg**ət} $\Longrightarrow^*$ +*va**kk**it* can also appear as +*va**g**it*, as if the subject marker has just been omitted.
- 1.pl/3.pl **V**{va**v**ut} $\Longrightarrow^*$ +*va**v**ut* can also appear as *va**g**ut*[10] for exactly the same reasons as some people have taken to say **N**{-gut} instead of **N**{-vut} on the nouns. I consider it an unfortunate habit, since it obscures the nice correspondence between singular and plural.

Optative

The optative is, perhaps not unexpectedly, a little more irregular than the previous moods, since it is 'reduced' with subject markers for only the first and third person, just like the intransitive paradigm. It also uses two different mood markers, {la} for 1st person subjects, and {li} for 3rd person subjects. Since these two mood markers alone show the difference between the 1st and 3rd person, the subject markers themselves are less important, and they have consequently been reduced: Thus the marker for 3.sg has been completely reduced to {∅}, and the marker for 3.pl has been reduced to just {t}, which is just the pure plural marker. This also means that when the original subject marker for 3.pl, {at}, is regularly changed to {a} according to the rules in definition 14.2, the *reduced* subject marker will disappear completely; it becomes {∅}.

[9] It *could* be the same /q/ as the one that appears before the possessive markers. Nobody seems to know.
[10] Or even **V**{va**ŋ**ut} in Northern Greenland!

Furthermore, the optative also uses the nominal, possessive absolutive endings when the object is the third person, but *only* when the subject is the *first* person; that is, only on the {la} marker, which here appears as a nominal *weak q-stem* {laq}. With the {li} marker, the usual personal markers are used.

Notice also that {li} contains a true /i/ phoneme which will transform the 3.sg Patient marker {gu} to {juk} by the regular changes in object markers, since the subject marker has been reduced to {∅} and the object marker thus comes to be attached directly onto {li}. Thus you can see that this transformation really does apply everywhere for the 3.sg marker, and not just in combinations with specific subject markers.

Furthermore, the /i/ in {li} will regularly change /t/ to /s/ in subject markers by the t-to-s rule. However, there is one exception: The combination for 3.pl/2.sg {t}{tət} *should* thus also become {*ssət} after /i/, but for unknown reasons it does not. It remains {ttət}, and the ending thus becomes + ***litsit*** *or* ***lisit***; in teh latter case *with* regular assibilation of /t/ to /s/, but also with complete loss of the subject marker.

Interrogative

The interrogative only exists with the 2nd person as subject, for the same reason that it only exists with 2nd and 3rd person subjects in the intransitive paradigm: Thou or you are the only persons I can address directly with a question.[11] Its mood marker is {vi}, and since we only need to distinguish between singular and plural subjects, the subject marker has been reduced further, such that 2.sg has become {∅}, and 2.pl has become just {si}. Like in the optative above, this also means that whenever {vsi} is regularly reduced to just {v}, the reduced subject marker {si} becomes {∅}.

Imperative

The imperative is undoubtedly the most irregular: It too only exists with subject markers for the 2nd person, which makes sense since thou or you are the only persons I can directly order to do something; and additionally with two combinations of 1.pl *we* and the 3rd person, used for the same kind of 'mutual appeal' that you saw in the intransitive paradigm, *let us Vb it/them.* Its mood marker is {∅}, but it also exists in combination with the morpheme {gi}, again like in the intransitive paradigm. These combinations are so irregular that I have here decided to treat {gi} as another mood marker and thus created a secondary set of imperative endings.

The irregularities are too numerous to comment on in detail, and there are so few endings that it is hardly worth it anyway. For the imperative, I simply recommend that

[11] Thus you cannot use the transitive interrogative to ask questions *about* some third person, like *did* ***he*** *Vb it?* For that you would instead use the indicative, but with interrogative intonation; that is, a falling tone on the last syllable.

you learn the endings you need, when you need them. However, two of the endings have so irregular sandhi behaviour that they warrant some further comments:

- The 2.sg/1.sg ending **V**{-kŋa}, *thou Vb me!* is so decidedly truncative that it will even attach to /ə/ on ut(ə)-stems: Thus

$$\{S\text{t(ə)}\}\mathbf{V}\{\text{kŋa}\} \rightarrow /S\text{t}\mathbf{ə}\text{kŋa}/.$$

- The 2.sg/3.sg ending **V**{-guk}, *thou Vb it!* is truncative on consonant stems; and on ut(ə)-stems it actually remove all of /t(ə)/ and attach directly to the preceding vowel. However, on *q-stems* it will still fuse with /q/ to /r/ as usual, and on *vowel stems* /g/ will become /j/.[12] This ending thus has the following completely idiosyncratic sandhi rules:

$\{Sv\text{k}\}\mathbf{V}\{\text{-guk}\} \rightarrow /Sv\mathbf{g}\text{uk}/$ e.g. {tiglək}**V**{-guk} $\Longrightarrow^*$ "till**ig**uk"
$\{Sv\text{t(ə)}\}\mathbf{V}\{\text{-guk}\} \rightarrow /Sv\mathbf{g}\text{uk}/$ e.g. {pitcit(ə)}**V**{-guk} $\Longrightarrow^*$ "pits**ig**uk"
$\{Sv\text{q}\}\mathbf{V}\{\text{-guk}\} \rightarrow /Sv\mathbf{r}\text{uk}/$ e.g. {atuvaq}**V**{-guk} $\Longrightarrow^*$ "atua**r**uk"
$\{Sv\}\mathbf{V}\{\text{-guk}\} \rightarrow /Sv\mathbf{j}\text{uk}/$ e.g. {asa}**V**{-guk} $\Longrightarrow^*$ "asa**j**uk"

Optional:
$\{S\text{ə}\}\mathbf{V}\{\text{-guk}\} \rightarrow /S\mathbf{u}\text{uk}/$ e.g. {pigə}**V**{-guk} $\Longrightarrow^*$ "pig**u**uk"
$\{Sv\text{t}\}\mathbf{V}\{\text{-guk}\} \rightarrow /Sv\mathbf{cc}\text{uk}/$ e.g. {təkit}**V**{-guk} $\Longrightarrow^*$ "tiki**ss**uk"

The last two rules are optional: I shall have more to say about the combination with schwa-stems below, in section 14.7, but the combination with a true t-stem is interesting. It has probably all but disappeared today, because nobody can remember which consonant stems are really true t-stems, but in older times, when people used the old orthography, it was used. For example, Rasmussen (1888, p. 65) mentions it in his grammar.

The reason why I still find it relevant to mention is that it *may* help to explain that strange transformation of the 3.pl/3.sg person markers {at}{gu} → {a**cc**uk}. After all, {guk} *is* probably (derived from) the same marker as {gu}, and it seems like this combination simply uses {guk} instead of {gu}, and then joins onto the subject marker {at} as it would on any other true t-stem.

[12]Which of course will be ignored in writing, if the preceding vowel is [i], due to the spelling rule that [ij] is written as "i". This /j/ may even (irregularly!) drop after /u/ as well: Thus the exclamation ***taku**uk*, *look!* (literally *see (thou) it!*) is actually /taku**j**uk/, and it may also be used in this regular form.

Contemporative

The contemporative is probably the easiest set of them all: As you know, contemporative is *only* used when there is co-reference between the subject in the subordinate clause and the subject in the main clause. This means that we *always know who the subject is*, since it is shown by the verbal ending in the main clause. Thus, the subject marker is irrelevant in the contemporative, and it is therefore not used at all in the endings. All the endings collapse into a set of just six endings; one for each possible object. These endings can therefore best be translated as *Vb'**ing** the object*; e.g. **V**{(l)lu**ŋa**} could mean that either *thou, he, you* or *they* are Vb'ing **me**, but we have no way of knowing from the ending alone. We have to look at the main clause.

Because of this collapse, the endings become almost identical to the intransitive set. The object marker {təgut} is even reduced to just {tə}, just like in the intransitive set, so the only clear difference is when the object is the 3rd person. In other words, the ending **V**{(l)lu**ŋa**} could *either* be an intransitive ending with **I** as subject, meaning ***I** Vb'ing*; *or* it could be a transitive ending with **me** as object, meaning *Vb'ing **me***. Thus you have to know the valency of the stem to know which meaning is intended.

There are also a few examples of contemporative endings where an subject marker can appear anyway, in the 1st or 2nd person, plural. Here, they are reduced to {tə} and {si}. I have created separate tables for these endings and named them Contemporative II, but they are seldom used; probably only when the contemporative is used in an imperative sense.

Lastly, I have not created separate tables for the alternative form of the negative contemporative with {ga} instead of {na} as mood marker. You can easily derive these yourself by just exchanging {ga} for {na} in the endings, as there are no difference in person markers between the two forms.

14.7 Schwa-stems and their endings

On verbal stems there is fortunately nothing like the complications with stem-dependent sandhi rules, like we have on nouns. The morpheme {ðu} (intransitive participial) becomes /cu/ on t-stems, as I mentioned in section 14.3, and a few endings, particularly the aforementioned transitive imperative **V**{-guk}, display some variation on certain types of stems, but these are more like properties of the individual morphemes than of the stems themselves, and I have therefore added comments about these special behaviours in the main presentation, for each of these endings.

Likewise, a few individual *stems* display irregular sandhi behaviour with certain endings; most notable the future affix **V**{ssa}**V** and the negation affix **V**{ŋŋit}**V**. I shall comment on both in this chapter, because they are both very common, but otherwise I have decided to omit the details about such irregularities from the presentation since my focus

here is on the *regular* (and thus common) pattern. Individual irregularities of single stems belong in a morphemic dictionary; not in presentation of the system of endings.

There is, however, *one* small group of stems that display regular variation with certain moods and endings: The schwa-stems. There is a small group of verbal affixes that end on a real /ə/[13] – notably the verbal possessive **N{gə}V**; **V{-gə}V**, ⟨*agent*⟩ *thinks* ⟨*patient*⟩ *is so/too Vb*; **V{-qə}V**, *Vb a lot*; **V{tigə}V**, ⟨*actor*⟩ *Vb as much as (something)*; and **V{surə}V**, ⟨*agent*⟩ *thinks that* ⟨*patient*⟩ *Vb's*. They are not exactly numerous, but some of them, especially **N{gə}V** and **V{-qə}V**, are frequently used; and additionally, many lexicalised stems in the dictionary are formed with them, so you should know their rules. Some of them have become optional (or even archaic), but others are still mandatory. And whether archaic or not, you may still encounter their effects: after all, archaic people (like me) do exist.

Definition 14.4 (Verbal schwa-stem sandhi) *The special sandhi rules for verbal schwa-stems affect the indicative, interrogative, imperative and contemporative moods. Let S be any string of phonemes, and let P be any person marker(s). The rules are then:*

{Sə}**V{vu**P}	→	/Sə**u**P/	*Optional but common*
{Sə}**V{va**P}	→	/Sə**a**P/	
{Sə}**V{vi**P}	→	/Sə**i**P/	
{Sə}**V{-gi**t}	→	/Sə**j**it/	*May be archaic*
{Sə}**V{-gu**k}	→	/S**u**uk/	
{Sə}**V{**(l)lu$P$}	→	/S**alu**P/	*Mandatory!*

I shall comment on each group of rules in some detail below. There is however *one* complications that should be addressed before we proceed: You have already seen a number of schwa-stems in the chapters of part II; stems such as **{mikə}V**, **{aŋə}V**, **{nirə}V**, **N{-lirə}V** and maybe more. They *are* schwa-stems in the sense that teh final vowel is *not* a true /i/, and therefore never will cause assibilation of a following /t/ to /s/. However, apart from this, people have seemingly forgotten that these stems 'used to' be schwa-stems, and they are nowadays treated as any other (non-schwa) vowel stem. In other words, the rules in definition 14.4 do *not* apply to them.

So how do you know which schwa-stems actually *do* follow the aforementioned rules? For that you will have to use a dictionary; for example, the DAKA lists all verbal stems with indicative 3rd person endings, and the stems that *do* behave according to these rules

[13] Unlike the ut(ə)-stems, since they behave as consonant stems with respect to endings.

will therefore be listed *with* strange-looking endings such as *-**aa**, -**aq***, instead of the usual *+**vaa**, +**voq***. For *these* stems, the rules apply.

Indicative and interrogative

The first set of rules concern the indicative and interrogative; both intransitive and transitive. The rules simply say that /ə/ will *delete* /v/ from the mood markers, *including* the doubled /(v)v/ that appears in intransitive indicative and interrogative 3.pl. This deletion of course means that since /ə/ now stands before a *vowel*, it will take the sound [a], which then by the a-rule will assimilate the following vowel. For an affix like **V**{-qə}**V**, the derivation thus goes as follows:

	V{-qə}**V**{vuŋa}	(I Vb highly/a lot)
$\Longrightarrow$	/-q**əu**ŋa/	(This rule: delete /v/)
$\Longrightarrow$	[-q**au**ŋa]	(schwa-rule: /əu/ $\Longrightarrow$ [au])
$\Longrightarrow$	[-q**aa**ŋa]	(a-rule: [au] $\Longrightarrow$ [aa])
$\Longrightarrow$	“-q**aa**nga”	

In intransitive indicative (and interrogative, since the forms become similar) this affix thus takes its endings as *-q**aa**ŋga, -q**aa**tit, -q**aa**q*, which is also the form of the entry in the DAKA dictionary, and in plural *-q**aa**gut, -q**aa**si* and lastly *-q**aa**t* for 3p.pl. Notice, even the doubled /(v)v/ is gone.

Divalent stems, like the affix **N**{gə}**V**, are listed in the DAKA dictionary with the 3.sg/3.sg ending **V**{vaa}. If you try to do the derivation and remove /v/, you will notice that you will end up with [g**aaa**], which is disallowed by phonotactics. Here one of the [a] sounds is simply *elided* (removed), so this affix is listed as *-g**aa*** in the DAKA, and so are all other divalent schwa-stems: For example, a base like {nuannarə}**V**, ⟨*agent*⟩ *likes/enjoys* ⟨*patient*⟩ is listed as *nuannar**aa***. You can always recognise them by that.

Suppose you wanted to ask someone *did thou enjoy it?*, using the aforementioned base and transitive interrogative 2.sg/3.sg ending **V**{vijuk}. It is derived as follows:

	{nuannarə}**V**{v**i**juk}	(did you enjoy it?)
$\Longrightarrow$	/nuannar**əi**juk/	(This rule: delete /v/)
$\Longrightarrow$	[nuannar**ai**juk]	(schwa-rule: /əi/ $\Longrightarrow$ [ai])
$\Longrightarrow$	[nuannar**aa**juk]	(a-rule: [ai] $\Longrightarrow$ [aa])
$\Longrightarrow^*$	“nuannar**aa**juk”	

Normally, this ending would have become *+**viu**k*, because /j/ is not written after an [i] sound. However, /j/ obviously *is* written after [a], but this sudden appearance of a

'j' out seemingly nowhere will be highly *unobvious* to someone who does not know how the endings were constructed. This is one of the great disadvantages of only learning the endings in the Graphemistic way, and undoubtedly therefore also a source of great confusion to the students of Greenlandic who must learn it by the teaching of Graphemists. For example, in his grammar, Bjørnum (2003) has created an entire set of distinct tables with endings just for the schwa-stems, which seems like a needless complication, since their behaviour can be captured by this simple rule.

Imperative

These rules concern the imperative endings **V**{-git} (intransitive, 2.sg) and **V**{-guk} (transitive, 2.sg/3.sg). They are both optional, and especially the latter is probably not commonly used anymore, though you may still see it in older texts. The first rule says that /g/ becomes /j/ on schwa-stems, which means that the derivation for an affix like **V**{-qə}**V** will proceed in the following way:

	V{-qə}**V**{-git}	
$\Longrightarrow$	/-qə**j**it/	(This rule: /əgit/ $\Longrightarrow$ /əjit/)
$\Longrightarrow$	[-q**ij**it]	(schwa-rule: /əj/ $\Longrightarrow$ [ij])
$\Longrightarrow$	"-q**ii**t"	(Spelling rule: [ij] written as "i")

To a Graphemist, this will *appear* as a deviation from the ordinary schwa-rule, since /ə/ appears to stand before an /i/, whilst still becoming [i] itself, rather than the usual [a]; but it is precisely only an *apparent* deviation, caused by the orthographic rule saying that we do not write [j] after the sound [i].

The second rule concerning **V**{-guk} is much simpler, since it simply says that /g/ is deleted and schwa becomes /u/, although that is certainly not a sound we are used to associate with schwa. Thus with a stem like {sianigə}**V**, ⟨*agent*⟩ *is careful with* ⟨*patient*⟩, you can add **V**{-guk} and obtain the exclamation ***sianiguuk!***, *watch out!* or *be careful with that!* This expression is actually listed in the DAKA dictionary, so the rule is obviously not totally obsolete.[14]

Contemporative

The last rule, concerning the contemporative mood marker {(l)u}, is the only one that is unconditionally *required* in correct Greenlandic: It simply says that *one* of the two /l/ phonemes is deleted, whilst /ə/ takes the sound [a]. Thus for example

[14] And if you decide not to use the rule, then **V**{-guk} just becomes /-**j**uk/ like it regularly does on vowel stems, so you obtain e.g. **N**{gə}**V**{-guk} $\Longrightarrow$ /-gə**j**uk/ $\Longrightarrow$ [-g**ij**uk] $\Longrightarrow$ "-g**i**uk" with [j] not written after [i].

V{-qə}**V**{(l)lunga} $\Longrightarrow^*$ *-q**a**lunga*, and *not* *-q**ill**unga*
N{gə}**V**{(l)lugu} $\Longrightarrow^*$ *-g**a**lugu*, and *not* *-g**ill**ugu*

as we might otherwise have expected from the ordinary schwa-rule.

14.8 Special endings for the negation affix

Anyone coming to Greenland will almost immediately encounter the word ***ajunngilaq***, meaning *it is OK*. The base is {ajuq}**V**, ⟨*actor*⟩ *is bad/broken/not good*, and the rest is — well, if you look in the DAKA, you will find the entry "-nngilaq" that seems to mean *not*. Now remember, all verbal stems in the DAKA, including verbal affixes, are listed *with* an ending in 3.sg, indicative; that is, **V**{vuq} for intransitive verbs. But where is it here? What is the affix, and what is the ending? And suppose you wanted to add the affix **V**{galuaq}**V** to say something like *it is actually ok, but...* How would you do that?

With nothing but the DAKA to go on, you might be tempted to say something like **ajunngi**lag**aluarpoq* or perhaps **ajunng**ig**aluarpoq*. Both seem plausible, and both are wrong, but put yourself in the shoes of a student of the Graphemists: you would undoubtedly be both surprised and mystified, when someone kindly told you that the correct form is *ajunngi**kk**aluarpoq*. What happened to the *-laq*? And /g/ must have hit a consonant to become [kk], so where did that come from?

The morphemic form of the affix is **V**{ŋŋit}**V** with a final /t/, and this is the consonant that /g/ assimilated, and then turned to [kk] by the fricative rule; all completely regular. The problem with this affix is that it uses its own, idiosyncratic mood markers for the intransitive indicative and several other moods; for example, it uses {-la} instead of the usual {vu}. It is truly irregular, but now that you know its indicative mood marker, you can easily generate its endings; just replace {vu} with {-la}! The form *-nngilaq* is just **V**{ŋŋit}**V**{-la}{q}.

In Graphemistic course-books and classes students will be presented with this misbehaving affix and its endings almost from day one (or page one), simultaneously with the ordinary, {vu}-based endings; and often with no hint of the fact that the latter is the *standard*, used everywhere, whilst the first is a completely unimportant, extreme *deviation* from the norm. And these poor students will spend hours on trying to remember when to say /la/, and when to say an extra consonant instead, that seems to come out of nowhere.

In this tradition, there also seems to be no recognition whatsoever of the fact that this affix really is a *t-stem*. For instance, in the *Qanoq* book (Brochmann, 1998, p. 12) we are told that the affix is *-nngi-*, and likewise in the grammar by Janussen (1987, p. 50). No wonder a Graphemistic student might be tempted to say **ajunngig**a**luarpoq*.

The negation affix **V**{ŋŋit}**V** is the undisputed most irregular of all affixes, and students of Greenlandic, who try to learn the language through teachings of Graphemists, will undoubtedly have felt disheartened by the sight of the many extra tables of endings.

Except for 3.sg: **V**{va} → **V**{-la}

	Intransitive	Transitive
Indicative	{vu} → {-la}	{va} → {-la}
Interrogative	does not exist	{vi} → {-li}
Causative	{ga} → {na}	{ga} → {na}
Optative	only with {gi}	only with {gi}
Imperative	does not exist	does not exist
Contemporative	does not exist	does not exist

Figure 14.7: Special mood markers for the negation affix **V**{ŋŋit}**V**. The affix is completely regular with all moods *not* mentioned in the table.

I certainly did, when I first encountered it. Fortunately, there is no reason for that, but there are two reasons why it is *not* the case:

1. **V**{ŋŋit}**V** is completely regular, as long as some other *affix* is added onto it. For example, the combination

   {ajuq}**V**{ŋŋit}**V**{galuaq}**V**{vuq} ⟹* *ajunngikkaluar**poq***

   with *no* changes to the ending. The irregularities *only* arise when an *ending* is added directly onto **V**{ŋŋit}**V**.

2. The irregularities consist of a modification of the mood marker in certain moods; nothing more. For example, we have

   {nalu}**V**{ŋŋit}**V**{va**kka**} ⟹* *nalunngila**kka***

   with a change to the mood marker, but *no* change to the person marker {kka}. Whatever personal marker(s) that follow the mood marker remain the same.

Thus, now that you know how the endings are constructed, you will easily be able to substitute one mood marker for another. The table in figure 14.7 shows where **V**{ŋŋit}**V** changes the mood marker, and I have added a few comments below for each of the cases. Everywhere else it is completely regular:

- In the *indicative*, the mood marker is {-la} in both intransitive and transitive. In the intransitive, when /v/ in {**v**u} becomes doubled to /(v)v/ in the ending **V**{**(v)v**ut} then /l/ is similarly doubled to /ll/. In other words, *-**nngilaq*** is 3.**sg**; but 3.**pl** is *-**nngillat***. This is only an issue in intransitive indicative, and nowhere else.

- In the *interrogative*, the mood marker is {-li} in transitive, with no further specialities. Endings for *intransitive* interrogative do not exist, so you just use the corresponding indicative ending instead, but with interrogative intonation (falling tone on the last syllable).

  There is however one exception: Recall that the ending for 3.sg is **V**{va}, notably *without* a subject marker. Similarly, the negated form is *-**nngila*** with a null subject marker, and this is the *only* ending that exists in intransitive interrogative. In other words, you can ask *ajunngila**?*** (interrogative 3.sg, *is **he** OK?*), or reply *ajunngila**q*** (indicative 3.sg, ***he** is OK*), but if you wanted to say e.g. *Are **thou** OK?* then you would ask *ajunngila**tit?*** with an indicative ending; the same ending someone would use to conclude that ***thou** are OK*, which is also *ajunngila**tit***. It is the same ending; the only difference is the intonation.

- In the *causative*, the mood marker {ga} becomes {na}, and notice that unlike the previous, this one is *not* truncative, so /t/ will be visible, albeit of course assimilated, as in e.g. *ajunngi**nn**ama*, *because I am OK*. However, the special marker for third person {(m)m} is unaltered, so *because **he** is OK* is straightforward *ajunngi**mm**at* with the usual ending **V**{(m)mat}.

- The *optative* cannot be directly negated; you cannot make an appeal to someone to *not* do something. However, you can add the affix **V**{gi}**V** after **V**{ŋŋit}**V** to push the appeal a little into the future, and then you can just use the regular optative endings; for example

  {ajuq}**V**{ŋŋit}**V**{gi}**V**{li} $\Longrightarrow^*$ *ajunngik**ki**li!*

  meaning *let him be ok!*

- In the *contemporative* you do not use **V**{ŋŋit}**V** at all; instead you use the *negative* contemporative with mood marker {na} instead of {(l)lu}. Thus if you wanted to switch a word like *aju**nngi**langa*, *I am OK*, to contemporative mood, it would become *ajor**na**nga* instead.

- Lastly, the *imperative* cannot be used together with **V**{ŋŋit}**V**. You cannot use the imperative to directly forbid someone to do something. Instead you would usually use the *negative contemporative*, since contemporative also can be used in a (more polite) imperative sense.

There is no reason to spend a lot of mental resources on trying to actively *learn* these special mood markers, just for the sake of a single affix. To paraphrase another point from Per Langgård: If you cannot remember when to say {-la} or {-li}, then just use the regular endings and say **ajunngippoq* instead of the correct *ajunngilaq*. It will be just like a foreigner learning English, who might say *I **are**, you are, he **are*** etc. instead of the correct *am* and *is*, because *are* is the most common form. It will certainly sound wrong to a Greenlander, but more importantly, it will be *understandable*. But using {-la} in a wrong place will most likely *not* be.

14.9 Special endings for the future affix

Another misbehaving affix, that students of Graphemists often will encounter alongside **V**{ŋŋit}**V**, is the *future affix* **V**{ssa}**V**, meaning simply *shall Vb.* However, if you look for this affix in a dictionary like the DAKA, you may have trouble identifying it, because it is not listed as *-ssavoq*, as you otherwise might have expected. Instead, it is listed as *-ssaaq*.

You might think that this affix is just another schwa-stem; after all, it looks just like **V**{-qə}**V**, which is also listed as *-qaaq* in the DAKA. However, if you then try to add the intransitive indicative 3.pl ending **V**{(v)vut} onto this stem, you might therefore expect that it should become **-ssaat*, just like **V**{-qə}**V**{(v)vut} becomes *-qaat*.

Unfortunately, it does not. **V**{ssa}**V**{(v)vut} actually just becomes *-ssapput*, like any other ordinary vowel stem. Nor does it do any of the other deletions that are special to the schwa-stems; in fact, the *only* speciality of this affix concerns the intransitive indicative. But as these endings admittedly *are* very common (and the affix **V**{ssa}**V** is equally common), it is perhaps not so strange that students of Greenlandic should encounter it early on. My main point of critique is therefore not that the Graphemistic books and courses teach people about this affix; but rather that they only show the affix *with* its strange endings, just as with the aforementioned **V**{ŋŋit}**V**, instead of giving a rule for *how* the endings are generated, and *when* they occur. After all, the rules is simple:

Definition 14.5 (Special endings for the future affix) *The future affix* **V**{ssa}**V** *deletes the* single */v/ from the intransitive indicative mood marker* {v}*. Let P be any person marker* except *3.pl* {t}*; then the sandhi rules is thus:*[15]

$$\textbf{V}\{\text{ssa}\}\textbf{V}\{\text{vu}P\} \rightarrow /\text{ssau}P/$$

When the /v/ is deleted, /u/ then follows directly after /ssa/, so it will be assimilated by the [a] sound, and we therefore get *-ssaanga, -ssaatit, -ssaaq, -ssaagut, -ssaasi* but

[15] On a side note, the admonitory affix **V**{-qəna}**V**, *be careful, lest the ⟨actor⟩ might Vb!*, follows the same rule as **V**{ssa}**V**, but it is much, much rarer.

*-**ssapput*** for 3.pl, because the /v/ is *not* single in the 3.pl ending, **V{(v)v**ut**}**, so here the rules does not apply.

And that is all. In all other moods, including also the *transitive* indicative, this affix is completely regular. We have *-**ssavaa*** and *-**ssallugu*** and so on, without any irregularity. Thus, the similarity to the schwa stems is only an *apparent* similarity, caused by the way the DAKA and other similarly Graphemistic materials have decided to list the stems and affixes.

* * *

The system of endings for nouns and verbs is not exactly *simple* and well-behaved in all aspects, but I hope at least you will agree on the basis of my presentation that there is *a good deal* of regularity which you may use to simplify your learning process. You certainly do not need to remember *every* detail from this presentation, as long as you can remember the major points: The unpossessed case endings, the prepositional morphemes, the personal markers and the mood markers. That will get you a very long way in your day-to-day usage of Greenlandic. The details are precisely *details* – you can look them up when you need them.

CHAPTER 15

The system of demonstratives

What is the difference between *here* and *there*? Or between *this* and *that*? Imagine us having a conversation, standing somewhere outside. If I use the words whilst pointing in various directions, then *this here* will be an object close to me; but if I speak about *that* thing over *there*, I will be pointing away from myself; perhaps to something across the street, or perhaps even farther away.

Such words used for pointing are collectively known as *demonstratives* in Grammaric. Greenlandic has a quite complex system of such demonstrative words, used for describing where a verbal action takes place, or where the actors participating in the action are positioned. The system is built from a set of just twelve *demonstrative roots* and a handful of special endings, but, as is usual in Greenlandic, the combinatorics of polysynthesis generates hundreds of word-forms from this small, initial set.

Some of these demonstrative words are extremely frequently used; others very rarely. Thus you can, of course, just learn the most common words as you go along, and never think twice about the underlying system. That is certainly a viable approach, just as it is for the system of endings; especially if you are just trying to build up a vocabulary. In that case you can simply use a dictionary like the DAKA, since every demonstrative word in every possible form is listed therein.

But in case you at some point begin to find it difficult to tell words like ***maanga***, *to here*; ***maannga*** *from here*; ***maana***, *this way*; and ***manna***, *this*, apart – or maybe just want to know how these words are related to each other – then you may want to read this chapter.

Restricted (Nearer to speaker)	*Extended (Farther from speaker)*	*Obscured (Not visible to speaker)*	
{uv}	{mat}	{im}	Here (near speaker)
{ik}	{av}	–	Rightwards along the coast
{kig}	{qav}	{qam}	Leftwards along the coast
{pik}	{pav}	–	Upwards from speaker (inwards)
{kan}	{sam}	–	Downwards from speaker (out at sea)

Figure 15.1: The system of demonstrative roots as used in Greenlandic nowadays. The orientation is relative to a speaker facing the sea, with the inland mountains behind him. Some of the roots also have secondary meanings, so {kig} will, at least to some speakers, mean *outside* (e.g. the window); and {ik} *over there* (slightly farther away from the speaker, on the same level). {qam} means *on the other side of something* (e.g. a wall); and {im} means *distant in time*.

15.1 The set of demonstrative roots

In the Comparative Eskimo Dictionary, Fortescue et al. (2010, pp. 497–526) list no less than 27 different demonstrative roots, organised according to such dimensions as proximity to the speaker; accessibility; whether the object is hidden or visible; and, of course, direction. Only a part of this system has come down from Proto-Eskimoic into Greenlandic; some of the forms have collapsed into one, due to the assimilation of consonants (the consonant rule), and some roots have taken on the meaning of other roots in the system. In other words, the system, as it is used today in Greenlandic, is not quite as logical as the original system, but there is still a good deal of regularity that you can use to aid your memory.

Figure 15.1 lists the morphemic form of the twelve demonstrative roots and their most common meanings. Those in the 'restricted' column refer to something closer to the speaker, or within a more confined area than those in the 'extended' column. Thus e.g. the root {uv} might commonly be used to refer to a single thing or person, whilst {mat} might refer to an area around where the speaker is standing.

The system is generally oriented relative to a speaker, standing somewhere between the coast and the inland mountains and facing the sea. An object or person closer to the sea would also be *below* him, and hence {kan} also means *below*, whilst {sam} is somewhere *out at sea*. Similarly, someone standing further inland would generally also be standing higher up in the hills, and thus *above* the speaker; hence {pik} also carries the sense of

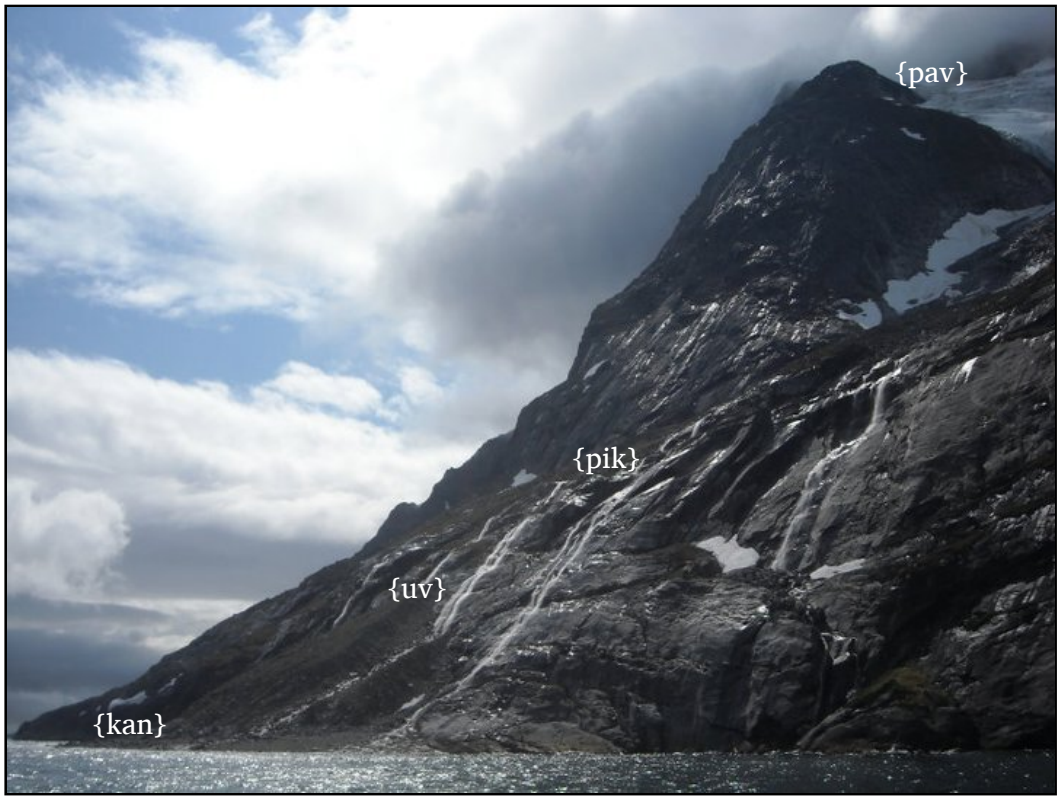


Figure 15.2: An illustration of the above/below orientation of the roots {kan}, {pik} and {pav} relative to a speaker positioned at {uv}. The orientation depicted here corresponds to the *West* Greenlandic orientation, with inland mountains and glaciers to the east, and sea to the west. To obtain a corresponding *East* Greenlandic orientation, you would have to flip the image vertically. Notice that {sam}, *out at sea*, is not depicted (because it did not fit in the image), but it would be even farther away from {uv} than {kan}. [Photograph taken by me, behind Mt. Sermitsiaq outside of Nuuk]

above, whilst {pav} is even farther inwards and/or upwards. You can see a depiction of this in figure 15.2.

Incidentally, this orientation also means that a speaker standing in *West* Greenland will (at least approximately) also be facing *westwards*, when he is looking out towards the sea. Rightwards, up along the coast, will also be *northwards*, so in West Greenland {av} also carries this meaning of *north*. Similarly, {kig} and {qav} will refer to southward directions; {sam} will also carry the meaning of *west*, and {pav} the meaning of *east*. I have attempted to illustrate this in figure 15.3. If you look up some of the words derived from these roots in e.g. the DAKA, you will also see them described in terms of the geographi-

cal directions; north, south, east and west. However, these meanings are secondary; they are only approximate characterisations, and they will *only* be correct in *West* Greenland. For instance, in *East* Greenland, where facing the sea means looking *eastwards*, the system is completely reversed: There {sam} will correspond to *east*, and {pav} to *west* etc. In other words, try not to associate the demonstrative roots too closely with the geographical directions, because they will not always coincide.[1]

15.2 Referring back (anaphora)

Consider the sentence: ***Over there*** *is a dog*, and suppose I am pointing across the street whilst saying it. The meaning of ***over there*** is captured by the demonstrative root {ik}. In this example, the expression ***over there*** does *not* refer to any place or thing I have previously mentioned in our conversation. Now consider these two sentences together:

There is a dog standing across the street. ***That one*** *(over there) is ugly.*

Here, as indicated by the green arrow, the expression ***that one*** *(over there)* refers *back* to something I had previously mentioned; in this case, the *dog*. This 'back-referencing' is called *anaphora* in Grammaric. I can still use the root {ik} to express the meaning of *that one over there*, but to further indicate that I am now *referring back* to something I have previously mentioned, I must use an *anaphoric form* of the root. This is done by *prefixing* the root with the *anaphoric morpheme* {ta(*c*)}.[2]

All the demonstrative roots can be made anaphoric ('back-referencing') by prefixing them with {ta(*c*)}. The extra consonant /(*c*)/ is *only* injected, when the demonstrative morpheme *begins in a plosive;* that is, one of /ptkq/; or stated otherwise, a root-initial plosive is doubled, when this anaphoric marker is prefixed to a root. I could, of course, make a formal sandhi rule for this, but since we are only dealing with twelve morphemes I think this informal description will suffice. You can find all the anaphoric forms in figure 15.4; there is even an exception to the aforementioned rule, since /k/ in {ta**k**an} is *not* doubled to /kk/.

By the way, the opposite of being 'anaphoric' is called *cataphoric* in Grammaric, and the *ordinary* forms of the demonstrative roots – that is, without the morpheme {ta(*c*)} – are thus also called the *cataphoric forms*. If 'anaphoric' means something like 'back-referencing' you could think of 'cataphoric' as meaning 'forward-referencing,' since the

[1] For the *true* geographical directions, *north, south, east, west*, you would instead use the *spatial nouns* I described in chapter 8 (section 8.2, page 148); that is, {avannaq}**N**, {kujatə}**N**, {kaŋi}**N**, {kətə}**N**.

[2] This morpheme is one of only two prefixes in Greenlandic.

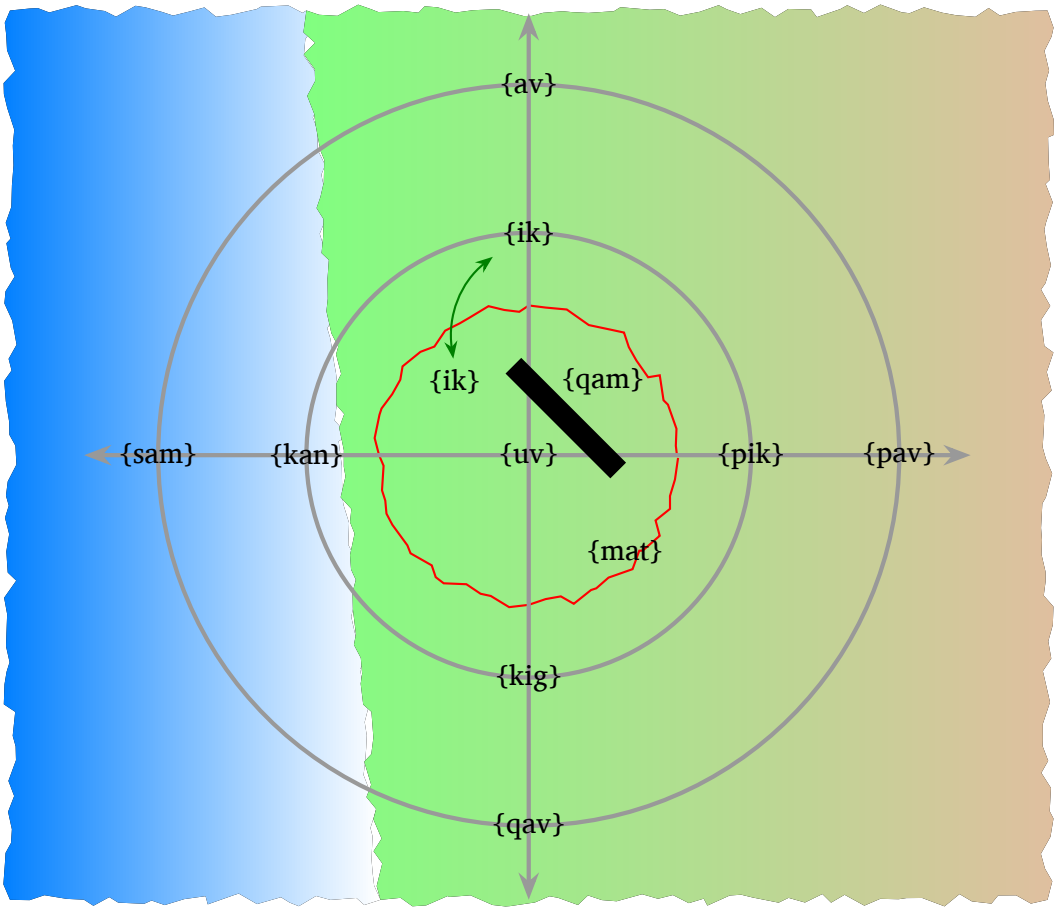


Figure 15.3: Illustration of the relative positions denoted by the demonstrative roots. This image is drawn with West-Greenlandic orientation: The sea is to the west, and the inland mountains to the east. The speaker is positioned in the middle with {uv}. The area encircled by the red line represents the immediate vicinity, and {ik} represents something nearby, on the same level as the speaker. {mat} represents the area itself. {qam} is obscured, hence drawn on the other side of some obstacle. The inner/smaller circle represents the proximate directions, {ik}, {pik}, {kig} and {kan}, with {ik} here used in the sense of *near rightwards*. The outermost circle then represents the distant directions, {av}, {pav}, {qav} and {sam}. Lastly, you should imagine the figure being rotated somewhat along the Y-axis, to reflect the difference between sea level and mountain level, such that {kan} is *below* the speaker, and {pik} is *above*.

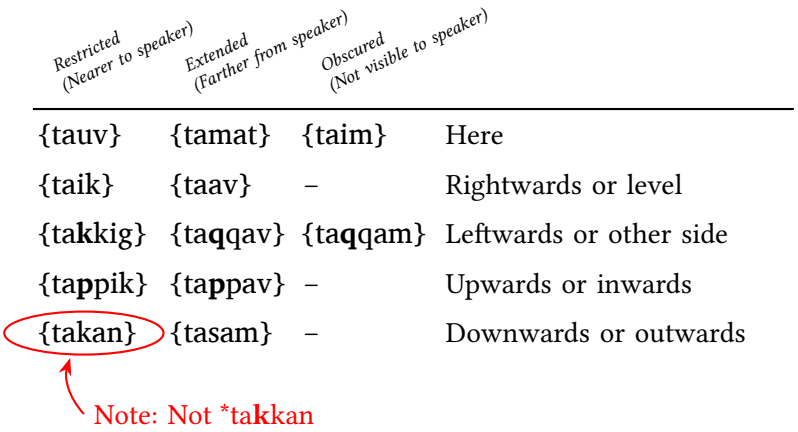


Figure 15.4: The demonstrative roots again, now prefixed with the anaphoric morpheme {ta(*c*)}. The consonant /(*c*)/ denotes that root-initial plosives are doubled. These are emphasised in the table. {takan} is an exception, since /k/ here is *not* doubled.

forms without {ta(*c*)} would be used when I instead intend to specify *later* in the conversation what I am talking about, rather than referring back to something previously mentioned.

15.3 Demonstrative adverbs

Adverbs are, as the name implies, words that are used to say something *about* verbs; for instance, where or how the verbal action takes place. In English you will often derive adverbs from adjectives by suffixing the morpheme {ly} onto them; e.g. *strong**ly*** from 'strong' and *high**ly*** from 'high' etc.

Greenlandic has no general class of adverbs, as you may recall from section 1.7 (page 15). Instead, you would usually just add an affix with adverbial meaning onto the verbal stem to achieve the same effect, or use one of the constructions with stems of state, or a contemporative modifier, that I described in chapter 12. However, there actually *does* exist a small group of *demonstrative adverbs* which you can use to express *where* the verbal action is taking place, or to/from what direction. It is a 'closed set' of words; 'closed' in the sense that there exists a finite number of these words, so you cannot derive new words by adding affixes in the ordinary way, like you do with nouns and verbs. Thus, the set of demonstrative adverbs belong within the group of *particles*; they are essentially unchanging, except

Prepositional morphemes (adverbial)		
Locative	{ani}	in, at
Allative	{uŋa}	to
Ablative	{aŋŋa}	from
Vialis	{uuna}	through, via

Figure 15.5: The four prepositional morphemes or 'case endings' used to derive demonstrative adverbs from the demonstrative roots.

for the possible addition of enclitics.

However, the demonstrative adverbs were *historically* derived from the set of demonstrative roots, by adding onto the stems four ancient *prepositional morphemes*, corresponding in meaning to the four prepositional cases locative (in), allative (to), ablative (from) and vialis (though). I have listed these in figure 15.5. You can think of them as case endings if you like, although they do not look like the ordinary, prepositional morphemes {ni}, {nut}, {nit} and {gut} that you know from the system of nominal endings (see chapter 13).

Now you can easily create all Greenlandic demonstrative adverbs by adding these special, ancient case endings onto the ordinary (cataphoric) and back-referencing (anaphoric) demonstrative roots, creating around a hundred different words. For instance, from the cataphoric root {ik} we get the four words: *ik**ani*** (locative), ***in** that place over there*; *ik**unga*** (allative), ***from** that place over there*; *ik**annga*** (ablative), ***to** there*; and *ik**uuna*** (vialis), ***through** there.* And similarly from the anaphoric root {taik} we get *taakani, taakunga, taakannga* and *taakuuna*.

You can use these demonstrative adverbs anywhere, where you would ordinarily use a noun in one of the corresponding prepositional cases to describe where the verbal action takes place. For instance, the sentence *aqqusini**kkut** ingerlavoq*, *he went **along** the road* uses the vialis case ending **N**{kkut} to express that the movement happened *along* or *via* the road. If you were describing this situation to me, you might instead say *ik**uuna** ingerlavoq*, *he went **along** over there* whilst pointing towards the road, if we happened to be standing nearby it.

Irregularities

Two of the roots, {uv} and {mat}, which are probably also the two most commonly used, take their endings in a slightly irregular fashion. I have tabulated all sixteen forms generated from these roots in figure 15.6 and emphasised the irregularities:

	(Locative) {ani}	*(Allative)* {aŋa}	*(Ablative)* {aŋŋa}	*(Vialis)* {uuna}
{ma}	maani	maanga	maannga	m**aa**na
{tama}	tamaani	tamaanga	tamaannga	tam**aa**na
{u}	uani	uunga	uannga	u**gg**uuna
{tacc}	**tass**ani	**tass**unga	**tass**annga	**tass**uuna

Figure 15.6: The two roots, {mat} and {uv}, behave instead as {ma} and {u} when used in demonstrative adverbs; and anaphorically as {tama} and {tacc}. Vialis of {uv} irregularly becomes *u**gg**uuna*.

- {mat} drops its final /t/ everywhere, so it actually behaves as if it had the form {ma} instead. Similarly, its anaphoric form with {ta(c)} behaves as if it were {tama} instead.

  With vialis {uuna} we get /m**auu**na/ $\Longrightarrow$ [m**aaa**na] by the a-rule, but since this is disallowed by phonotactics, one of the resulting [a] sounds is ignored (syncope), so the word becomes *m**aa**na*, *through here, this place*, and *tam**aa**na* for the anaphoric form.

- {uv} drops its final /v/ everywhere, so it behaves as if it had the form {u} instead. In vialis, the sound [xx] (written "gg") appears, completely irregularly, before the case ending, thus yielding the word *u**gg**uuna*, *through here, this way*.

  The anaphoric form seems to have fused completely, appearing instead as {tacc}, rather than as the expected {tauv} used elsewhere. On the upside, the endings are added to this fused stem without further complications.

Further derivations

The demonstrative adverbs are particles, so they *generally* cannot be used as stems onto which other morphemes can be joined. I say 'generally,' because there *are* actually a few exceptions:

- The *locative* can be verbalised just like the ordinary locative, using the morpheme **N**{LOC}{ət}**V**.[3] Thus you can say e.g. *maani**ip**pugut*, *we are here, in this place.* Or suppose you are talking to someone standing behind a closed door; you could then ask: *Piitaq taqqamani**ip**pa?*, meaning *is Peter in there?*

[3] See section 13.6, page 255.

- The *allative* can be verbalised with the special morpheme **N**{ALL}{naq}**V**, which is added onto {uŋ} *without* the final /a/.[4] That is, you could simply think of it as a morpheme {DEM}{uŋnaq}**V**, meaning *moves towards the area DEM*. For example, with {ik} we get ***ikunnar****poq*, *he goes over there.*

  You may also see {(q)cuaq} added for emphasis, as if it were an enclitic; for example ***avungarsuaq***, *to the **far** north.*

- The *ablative* may have {anniit} added directly onto {aŋŋa} to create a 'long form,' {aŋŋaanniit}, just like the one used on ordinary nouns. This form can also be verbalised, analogous to the way the ordinary ablative is verbalised using the generic verbalisation **N**{PREP}{-*v*q}**V**.[5] Thus you could say e.g. *taqqa****mannga******anneer****poq*, *he came from in there, behind something.*

  Furthermore, you may also here see {(q)cuaq} added for emphasis.

15.4 Demonstrative pronouns

Pronouns are words that can 'stand for' an ordinary noun in a sentence. In English, you have words like *he* and *they*, usually called personal pronouns. Consider a sentence like *the man went along the street.* You could replace the nominal expression *the man* with *he*, and say ***he*** *went along the street* instead. Or even ***he*** *went along* ***it*** provided that the person you are speaking to would be able to understand from the context that *he* referred to *the man* and *it* referred to *the street.*

Demonstrative pronouns are then pronouns with a directional meaning. In English it would be words like *this, that* and *yon.* Instead of *the man* you could say ***that one*** *(over there) went along the street.*

In Greenlandic, each of the demonstrative roots, both the ordinary and the anaphoric, can be turned into a demonstrative pronoun; and since a demonstrative pronoun can replace a noun, it must also be able to appear in the same *case* and *number* as the noun it replaces. In other words, each demonstrative pronoun can appear in all eight cases, in singular and plural, and in either ordinary or anaphoric form. This yields $12 \cdot 8 \cdot 2 \cdot 2 = 384$ possible word forms. Clearly, a little bit of systematics would probably be helpful to you to keep track of this bewildering number of forms.

Fortunately, the system is not particularly difficult; you can see the general pattern of endings depicted in figure 15.7. They are constructed in the following way:

[4] Notice how all the endings seem to contain an /a/. This is not really a part of the ending, but is a separate morpheme, sometimes referred to as '*the demonstrative* {a}.' That is why **N**{ALL}{naq}**V** is added directly onto {uŋ}, rather than onto {uŋa}.

[5] See section 13.6, page 255.

	Singular	Plural	*'Pure' case morphemes*
Absolutive	{na}	{ku}	
Ergative	{cum}{a}	{ku}{a}	
Prepositional stem	{cum}	{kun}	
Instrumental	{cum}{iŋŋa}	{kun}{iŋŋa}	{iŋŋa}
Locative	{cum}{ani}	{kun}{ani}	{ani}
Allative	{cum}{uŋŋa}	{kun}{uŋŋa}	{uŋŋa}
Ablative	{cum}{aŋŋa}	{kun}{aŋŋa}	{aŋŋa}
Vialis	{cum}{uuna}	{kun}{uuna}	{uuna}
Equative	{cum}{atut}	{kun}{atut}	{atut}

Figure 15.7: Case endings used to construct the demonstrative pronouns. The 'pure' prepositional morphemes, denoting the six prepositional cases, are added onto a 'prepositional stem' which is similar to the ergative endings, with /m/ for singular and /n/ for plural, but without the final, demonstrative {a}.

- The *absolutive* is marked by {na} for singular, and {ku} for plural, and these are added directly onto the demonstrative roots; both the ordinary and the anaphoric forms. Thus e.g. with {sam}, *down/out at sea* we get ***sanna***, *that one down there*; and ***sakku***, *those down there*, and anaphoric ***tasanna, tasakku***.
- The *ergative* singular is marked by a morpheme {cum}, where the /m/ is probably a marker for singular. The plural uses {ku} like the absolutive.[6] However, both forms are then suffixed with a 'demonstrative {a},' so you can also think of the ergative endings as {cuma} (singular) and {kua} (plural), and these are then added directly onto the demonstrative roots. Continuing the example with {sam}, we thus get ***sassuma***[7] (singular) and ***sakkua*** (plural).
- The remaining six *prepositional cases* use a set of special morphemes, generally similar to those used for the demonstrative adverbs.[8] Additionally, there is also {iŋŋa} (instrumental) and {atut} (equative), yielding a full set of six.

[6] Just like ordinary nouns also have the same marker for both absolutive and ergative plural.

[7] ***Sassuma Arnaa***, literally *that down there's mother* is a well-known Greenlandic, mythological figure. The name is usually translated into Danish as *Havets Moder*, which would be *Mother of the Sea* in English. Here you can see how {sam} carries the meaning of *out at sea*.

[8] One notable difference is that the morpheme marking allative is {uŋa} with a single /ŋ/ on the demonstrative adverbs, but here, on the demonstrative pronouns, it is {uŋŋa}, having instead a double /ŋŋ/.

However, here, on the demonstrative *pronouns*, the case endings are not added directly onto the demonstrative roots. Instead, they are added to a *prepositional stem* built (more or less) from the ergative endings.[9] In singular you add the prepositional morpheme onto {cum}, where you can think of /m/ as an ergative, singular marker; and in plural onto {kun}, where again you can think of /n/ as a plural marker. Thus, using allative and {ik} as an example, you get

sg. {ik}{cum}{uŋŋa} ⟹* ***issumunnga***, *from that one down/out there, at sea*
pl. {ik}{kun}{uŋŋa} ⟹* ***ikkununnga***, *from those down/out there, at sea*

and similarly the anaphoric forms ***taassumunnga*** and ***taakkununnga***.

Specialities

There is one speciality, concerning the absolutive singular ending {na}: When added to a root ending in a *velar* sound; that is, {ik}, {pik} and {kig} and their anaphoric forms {taik}, {tappik} and {takkig}; this position of articulation is preserved when the /n/ of {na} assimilates the consonant. In other words, we get [iŋŋa] (***innga***); [piŋŋa] (***pinnga***); and [kiŋŋa] (***kinnga***), instead of the expected forms ***inna, *pinna, *kinna***; and similarly with the anaphoric forms; ***taannga, tappinnga, takkinnga***.[10] This is, however, only relevant with absolutive singular {na}. Everywhere else, these roots behave as expected.

There is also an 'optional' speciality concerning the vowel-initial roots {ik} and {av} when made anaphoric: Since {ta(*c*)} would assimilate both vowels to [a], whilst the final consonant would be assimilated by the endings, these forms would become indistinguishable. To counter this, some speakers may instead build the anaphoric forms by prefixing these roots with {ta**aj**}, rather than the usual {ta(*c*)}, thus creating ***taajinnga, taajikku, taajissuma, taajissuminnga*** etc.; and ***taajanna, taajakku, taajassuma, taajassuminnga*** and so forth.

Irregularities

The two roots {mat} and {uv} also have a few, individual irregularities, just as they had in the construction of demonstrative adverbs:

- {mat}, and anaphoric {tamat}, use the morpheme {um} to build their ergative, singular ending, and the singular prepositional stem. That is, they become ***matuma, tamatuma***; and with prepositional endings they become for example ***matuminnga,***

[9] Note how this is similar to the way I said the nominal, prepositional case endings were created, by adding the pure, prepositional markers onto the ergative markers.

[10] However, with the root {im} we *do* of course get ***inna***, so this actually serves to distinguish the two.

	Ordinary		*Anaphoric*	
	Singular	Plural	Singular	Plural
Absolutive	una	uku	taanna	taakku
Ergative	u**um**a	ukua	taassuma	taakkua
Stem	u**um**-	u**kun**-	taassum-	taakkun-
Instrumental	u**um**innga	u**kun**innga	taassuminnga	taakkuninnga
Locative	u**um**ani	u**kun**ani	taassumani	taakkunani
Allative	u**um**unnga	u**kun**unnga	taassumunnga	taakkununnga
Ablative	u**um**annga	u**kun**annga	taassumannga	taakkunannga
Vialis	u**um**uuna	u**kun**uuna	taassumuuna	taakkunuuna
Equative	u**um**atut	u**kun**atut	taassumatut	taakkunatut

Figure 15.8: The full set of forms for the demonstrative root {uv}. The cataphoric form drops /v/ and uses {um} for the ergative singular and prepositional stem. The anaphoric forms are regular.

*tamat**um**innga; mat**um**uuna, tamat**um**uuna* and so on, instead of the 'regular,' expected forms *mas**sum**a, mas**sum**minnga* etc. However, some speakers may actually use these completely regular forms, though it is my impression that the forms with /t/ still are the most common.

- {uv} drops its final /v/ in all *ordinary* (cataphoric) forms, just as it did in the demonstrative adverbs; that is, it behaves as if it were just {u}. Furthermore, it also uses {um} for the ergative singular and prepositional stem. In other words, we get *una, uku* in absolutive; *u**um**a, ukua* in ergative; and *u**um**innga, u**kun**innga, u**um**uuna, u**kun**uuna* etc. in the prepositional cases.

  However, the *anaphoric* forms with {ta(*c*)} are completely regular, with no loss of /v/ and no special endings. It becomes *ta**an**na, ta**ak**ku, ta**as**suma, ta**as**suminnga* and so forth, completely regularly. This laundry list may arguably sound rather confusing, so I have listed the full set of all forms for {uv}, both ordinary and anaphoric, in figure 15.8.

Exclamatory forms

You can use the ordinary (cataphoric) absolutive and ergative forms, both singular and plural, to create two kinds of exclamations used to catch the attention of the addressee, or

tell him to direct his attention towards the thing or area you are pointing at. In English you would say *It's here!* or *Hey there!* etc., but as you have seen, we have a wider array of directions in Greenlandic, allowing you to make more nuanced exclamations.

Firstly, you can prefix each of the two absolutive forms with {aa(j)}[11] to create an exclamation meaning {DEM} *it is*; or {DEM} *they are*, with {DEM} representing the area or object denoted by the demonstrative root. The /(j)/ is injected when {aa(j)} is prefixed onto a vowel, to avoid violating the phonotactics. For example, absolutive singular of {uv}, *thing here* is *una*, and plural *uku*; and by adding this prefix you obtain two new words; ***aaj**una*, *here it is* and ***aaj**uku*, *here they are*.[12] You can even add a noun to specify what it is the addressee is supposed to see; e.g. with {sam}, *out at sea*, you might say *aa**sak**ku aarrit!*, *there are walruses out there at sea!*

Secondly, you can create exclamations similar to English *Hey thou there!* and *Hey you there!* by adding the morphemes {ak} (singular, *thou*); and {qsii} (plural, *you*) to the ergative forms, albeit in plural *without* the demonstrative {a}. In other words, the plural form is similar to the absolutive plural. Using {uv} again, the ergative singular is *uuma*, and the (absolutive) plural is *uku*, and by adding these two morphemes we obtain the words *uuma**ak!***, *hey thou there!* and *uko**rsii!***, *hey you there!*[13]

15.5 Demonstrative exclamations

Lastly, each of the demonstrative roots, both the ordinary and anaphoric forms, can be used in a completely exclamatory fashion, to direct the addressee's attention in some direction; like saying *there!* with no further qualification of the expression. These exclamations are created from the bare roots alone, with nothing but the demonstrative {a} as a suffix. This causes gemination (doubling) of the consonant, but *only* in the ordinary roots; in the anaphoric roots {a} is just added without causing any further changes. Thus e.g. with {ik}, and anaphoric {taik}, we get *i**kk**a* (with gemination); and *taa**k**a* (without gemination).

You can see the full set of these demonstrative exclamations in figure 15.9. There are, of course, a few irregularities, which I have highlighted in the table:

- {im} does *not* geminate /m/ to /mm/, so the form becomes *i**m**a* instead of the expected **imma*.
- {uv} has a strange variant form *u**gg**a* besides the regular *uffa*. For the anaphoric form, there is also a strange variant, built from the 'fused' form {tacc} instead,

[11] This is the second of only two prefixes in Greenlandic.

[12] These words are so commonly used that they exist in even shorter forms, *aana* and *aaku*, where people have decided not to bother with injecting a /j/. Both the longer (regular), and the shorter contracted forms are equally correct.

[13] Nielsen (2019, p. 79) claims these exclamations exists for most of the demonstrative roots, but I have not seen the other forms, apart from *uumaak* and *ukorsii* attested elsewhere.

	Ordinary	Anaphoric	
{im}	i**m**a	taama	(Back then in time)
{uv}	uffa / u**gg**a	taava / ta**ss**a	There!
{mat}	ma**ss**a	tama**ss**a	Here!
{ik}	ikka	taaka	Over there!
{sam}	samma	tasama	Down there / Out there (at sea)!
{kan}	ka**n**a	taka**nn**a	Down there!
{pav}	paffa	tappava	Up there! There (inland)!
{pik}	pikka	tappika	Up there!
{qam}	qamma	taqqama	There (inside/outside)!
{qav}	qaffa	taqqava	Down there (leftwards)!
{kig}	kigga	takkiga	Out there! / (leftwards)
{av}	affa	taava	There (rightwards)!

Figure 15.9: The set of demonstrative exclamations, created by adding the demonstrative {a} directly onto the roots. The consonant is geminated in the ordinary forms, but not in the anaphoric form.

which you also saw with the demonstrative adverbs, so we here get ***tassa***, besides the regular *taava*.

- {mat} appears here as {macc}, so we get ***massa***, rather than the expected **matta*, and, similarly, we get *tamassa* for the anaphoric form.
- {kan} does *not* geminate /n/ to /nn/ in the ordinary (cataphoric) form; however, it *does* with the anaphoric form. In other words, it behaves opposite to all the other roots, so we get ***kana*** without gemination, but *takanna with* gemination.

Un-demonstrative meanings

Some of these demonstrative exclamations are nowadays commonly used in a very different sense, only vaguely related (if at all) to the original demonstrative meaning of the root. In these cases, your knowledge of the directional meaning of the roots will hardly be of any help to you in deciphering the meaning of the word. Some of these words are also extremely common, so you cannot just ignore them. Therefore, I have compiled the follow-

ing list of 'un-demonstrative' meanings, though you may also have to consult a dictionary to see some further examples of their usages:

- *ima* and *taama*, the latter sometimes also spelt *taamak* or possibly even *taamannak*, mean *thus* or *so*. For example, if you were relating to me something said by someone else, you could say: *taama oqarpoq: `Bla bla'* meaning *thus he spoke: 'Bla bla.'* For another example, the highly beloved Christmas Hymn *Guuterput Qutsinnermiu*[14] relates what the *great flocks of angels sang* on Christmas night: *Inngilerpassuit … ima tussiarput: `Guuterput qutsinnermiu…'*

  You can also use *taama* in conjunction with the affix **V**{tigə}**V**, *as Vb as*, as I described in chapter 12.[15] And lastly, *taama!* as an exclamation can also mean *Stop it! That's enough!*

- *uffa, ugga* means *even though*. The anaphoric form *taava* means *then*, which you would use if you were relating several events that occurred in succession. E.g. *I awoke, **then** I made coffee, and **then** I had breakfast.* You will probably also often see it in combination with the enclitic ⁎{lu} (and), as *taavalu*, *and then*.

  The alternative, anaphoric form *tassa* means *this is…* or *that is…*, and it may even be combined with **N**{-u}**V** to yield *tassaavoq*. For instance, suppose I am about to introduce my friend Piitaq to you. Then I could say:

  ***Tassa**(avoq) ikinngutiga, Piitamik atilik* = ***this is** my friend, named Piitaq*

  However, *tassa!*, when used as a clear exclamation, also means *Stop it! That's enough!* It is my impression that *tassa!* is more commonly used in this sense than the aforementioned *taama!*

- *massa* means *even though*, and with the enclitic ⁎{mi} it means *yes, that's right*. It can even have the singular vialis ending **N**{kkut}[16] added onto it, creating the word *massakkut*, which means *now*.

  The anaphoric form *tamassa* means *here it is*, or *it is this one*, but as a clear exclamation, *tamassa!*, it means *welcome! Come inside!*

- The anaphoric form of {kan}, *takanna!*, seems to be used as an exact parallel to the Danish expression *værsgo!*, meaning something like *here you are*, or *here you go*. This is an expression you will hear whenever somebody hands you something. For

[14] By Rasmus Berthelsen (1858).

[15] See definition 12.1, page 226.

[16] Vialis is also used to specify time, cf. chapter 11, and the root {mat} is commonly also used to specify the current *time*, so this combination is perhaps not so strange.

instance, when you go out shopping and the clerk hands you the receipt (or change), he will say ***takanna!*** If someone pours you a cup of coffee and hands it to you, he will also say ***takanna!*** And if you come over for dinner, the host or hostess will ask the guests to be seated and *dig in* by saying ***takanna!*** whilst motioning towards the table, similar to how you would say *bon appetite!*

* * *

In case you have lost count, the system of demonstratives described in this chapter has generated around 552 different word-forms. There may even be more, if we include the (albeit limited) number of possible further derivations. This is certainly a large number, and it would be a waste of time and mental resources to try to memorise them all independently. By learning just the twelve demonstrative roots and the six special, prepositional case endings, you will likely be able to *guess* the intended meaning in most cases you will encounter. You can then consult a dictionary for some of those exclamations with un-obvious, un-demonstrative meanings and simply learn them as independent particles, unrelated to the demonstrative system.

CHAPTER 16

Pronouns

Pronouns in English are words like '*I, thou we, you* (personal pronouns); *this, that* (demonstrative pronouns); *who, what, which* (interrogative pronouns); *my, thy, our* (possessive pronouns), and probably several others as well. The common thread connecting them is their ability to *represent* another noun, which allows them to also *replace* a noun in a sentence. Consider for example the sentence *the* ***man*** *shot the* ***dog***. This sentence contains two nouns, *man* and *dog*, and both can be replaced by pronouns: ***He*** *shot* ***it***. The pronoun *he* has replaced *the man* and *it* has replaced *the dog*, but the sentence conveys the same message to you, provided of course that you know whom *he* and *it* refer to.

Greenlandic also has a number of pronouns, although personal pronouns such as *I* and *you* are used less frequently than their English counterparts, since we first and foremost convey this information about person through the endings on verbs. Similarly, possessive pronouns, *my, his, your* etc. do not exist at all, since we convey this information through the nominal endings.

In other words, pronouns in Greenlandic are not an orderly class of words, behaving according to one consistent pattern, and they will not always have a one-to-one correspondence with your conception of English pronouns. It may arguably even be somewhat artificial to regard them as 'pronouns' since they are just ordinary nouns, albeit sometimes with odd endings. Nevertheless, I have attempted to gather them all in this chapter.

16.1 Personal pronouns

Personal pronouns in English are words like *I/me*, *he/him* and so forth; that is, the words we use to specify the subject and object of a verbal clause. As you have seen in chapter 14 we express this information through verbal *endings* in Greenlandic, so there is not much left to

do for a proper personal pronoun. But they do exist; at least for the first person (*I, we*) and the second person (*thou, you*), although they are mostly used for emphasis. For example, if you just say ***sulivunga***, you are merely making a statement, ***I** work*; but if you wanted to emphasise that it is *I* who is doing the work (perhaps in contrast to everyone else), you could add the 1.sg personal pronoun ***uanga*** to the sentence and instead say: ***uanga sulivunga***. We might also sometimes need the personal pronouns with prepositional case endings to express e.g. *from me* or *to us* or *like you* etc., since these prepositional functions are not marked in verbal endings.

The *first person* pronouns (*I/me* and *we/us*) are constructed from the demonstrative root {uv}[1] plus an {a} $\Longrightarrow^*$ ***ua***-. There is no distinction between the absolutive and the ergative case here; both are marked by the same ending, which is actually the first-person marker from the verbal endings, so {ŋa} for *I/me* and {gut} for *we/us*. Thus ***uanga*** can both mean *I* (as subject) or *me* (as Patient); and similarly for ***uagut*** which can mean both *we* and *us*. The remaining six prepositional forms (***to** me*, ***from** us* etc.) are constructed by adding the corresponding 1st person *possessive* prepositional case endings[2] onto the stem ***ua***-. Thus e.g. ***uannut*** means ***to** me* and ***uatsinnit*** means ***from** us* and so forth.[3]

The *second person* pronouns (*thou/thee* and *you/you*) are constructed in a more or less similar fashion, but using instead a root which we can think of as having the form {ələ*c*}. To this, we add the verbal second-person markers {t}, causing doubling of /l/, for *thou* and {si} for *you* to construct the absolutive/ergative forms: ***illit*** (note the doubled /ll/) means *thou/thee*; and ***ilissi*** (note single /l/) means *you* (as subject or object). For the six prepositional forms, the corresponding 2nd person possessive prepositional case endings are added in exactly the same way as described above. Thus, ***ilinnut*** means ***to** thee* (and note, here the /l/ is *not* doubled); and ***ilissinnit*** means *from you* and so forth.

In sum, this gives us the system of personal pronouns for the 1st and 2nd persons, which I have tabulated for your convenience in figure 16.1. As you can see, the there is no distinction here between the absolutive and ergative case, which I have therefore just labelled as *Grammatical* in the figure. But the prepositional forms are as distinct as with any ordinary noun, and they can even be verbalised just like with other nouns: You could for example say ***uatsinnukarpoq*** or ***ilinniipput*** etc.

The Grammatical form can also be used to emphasise the *possessor*. This is particularly useful since, as you may have noticed, the 1.sg and 2.sg possessive prepositional endings for nouns always have the same form, due to the consonant assimilation.[4] If I say e.g.

[1] See chapter 15 on the system of demonstratives.

[2] See 13 on nominal endings.

[3] In colloquial Greenlandic many people will drop the {ŋa} and just say ***ua*** instead of the longer ***uanga***. On the other hand, they will also often add the possessive prepositional endings onto the long form ***uagut*** and thus say e.g. ***uagutsinnut*** instead of just ***uatsinnut***.

[4] At least in the new orthography. In the old orthography it was unambiguous, since you would write ***illuvne*** for ***my** house* but ***illungne*** for ***thy** house*.

	1.sg	*1.pl*	*2.sg*	*2.pl*
Grammatical	*uanga*	*uagut*	***ill****it*	*ilissi*
Instrumental	*uannik*	*uatsinnik*	*ilinnik*	*ilissinnik*
Allative	*uannut*	*uatsinnut*	*ilinnut*	*ilissinnut*
Ablative	*uannit*	*uatsinnit*	*ilinnit*	*ilissinnit*
Locative	*uanni*	*uatsinni*	*ilinni*	*ilissinni*
Vialis	*uakkut*	*uatsigut*	*ilikkut*	*ilissigut*
Equative	*uattut*	*uatsitut*	*ilittut*	*ilissisut*

Figure 16.1: The set of personal pronouns for 1.sg, *I/me*; 1.pl, *we/us*; 2.sg *thou/thee*; and 2.pl, *you*, built from the stems {uva} (1st person) and {ələc} (2nd person). Notice the doubled /ll/ in absolutive/ergative ***illit*** and *nowhere* else. The forms labelled *Grammatical* are used both for the absolutive and ergative cases.

*illu**nni***, then this ending could be either **N{mni}**, *in **my** N*, or **N{kni}**, *in **thy** N*; or in other words, it can mean either *in **my** house* or *in **thy** house*. The expression is ambiguous, but by adding either *uanga* or *illit* as explicit possessors the ambiguity can be resolved. It is my impression that the ending *-**nni***, without any other indication of whom the possessor is, is ordinarily taken to mean *my N*, so *illit* is perhaps more commonly added to disambiguate an expression than *uanga*.

Lastly, there are no personal pronouns for the third person: For that you would instead use the demonstrative pronouns, commonly *una* (singular) and *uku* (plural), unless you need some specific directional meaning. See chapter 15 for a lengthy and detailed description of this system.

16.2 The ‘single-handed’ pronoun *nammineq*

The noun *nammineq*, *-self* or *own*, is usually also regarded as a pronoun, although it is difficult to fit its meaning within the group of English pronouns. It is used to emphasise the *subject* of a verbal expression (and *never* the object); or the possessor of a noun, where you in English would often say *my**self***, *thy**self*** etc. Or, when emphasising the possessor, *my **own**, thy **own*** and so forth. For example *una atuagaq **nammineq** atuakkiorpunga* means *I wrote this book **myself***, so here I am using *nammineq* to emphasise e.g. that I did not write it in collaboration with anyone. It can also be used as an attribute of another noun, in a completely impersonal sense, such as ***nammineq** kaagiliaq*, which could be translated literally as ***self**-made cake* though we would probably say *home-made cake* in

ordinary English.

Either way, the meaning of this pronoun could also (with a little creativity) be captured with an expression such as *single-handedly*, and for that reason I like to think of it as *the single-handed pronoun.* There is even a verb, ***nammineerpoq***, which is derived from this noun by a lengthening of the last vowel; it means *he does (something) on his own/independently*, and with the abstract participle **V**{nəq}**N** we get

$$\{\text{nalminə}v\text{q}\}\mathbf{V}\{\text{nəq}\}\mathbf{N} \implies^{*} \textit{nammineerneq}$$

meaning *independence.*

Nammineq is a strong q-stem.[5] The morphemic form is {nalminəq}**N**, so with the prepositional case endings it becomes ***namminermut, namminernut*** and so on. These would be used when ***nammineq*** stands as an attribute of another noun in one of the prepositional cases. It can also be used with possessive endings, commonly the 4th person, such as ***namminermi**nit*, *from himself*; ***namminermin**nut*, *to themselves* etc. When used to emphasise a subject, it usually just appears as ***nammineq*** with no distinction between absolutive and ergative cases, similar to the aforementioned personal pronouns.[6]

16.3 The reflexive and reciprocal pronoun

There is an ancient morpheme {əl} which also means *-self*, but in a reflexive or reciprocal sense. Today it is only used with the 4th person possessive prepositional case-endings; that is, **N**{minut}, **N**{məknut}, **N**{mini}, **N**{məkni} and so forth. Here, the personal marker is solely used to distinguish between singular and plural; the same word is used regardless of the actual person, so {mi} denotes singular (*myself, thyself, himself*), and {mək} denotes plural (*ourselves, yourselves, themselves*).

Another way to put it is to say that the stem {əlmi} means *my/thy/him-sel**f*** (all singular), whilst the stem {əlmək} means *our/you/them-sel**ves*** (all plural); and both stems must always be followed by one of the six prepositional morphemes {nək}, {nut}, {nət}, {ni}, {tut} and (irregularly) {kkut}.[7] An example might hopefully make this clearer: ***imminit*** can mean *from **my**self, from **thy**self* and *from **him**self*; whilst ***imminnit*** can mean both *from **our**selves, from **your**selves* and *from **them**selves.*

In sum, this yields a set of twelve different forms for this pronoun, which you can see in figure 16.2. Since each form can be used to refer to any of the four persons, I denote the person as just P in the translations.

[5] One might even be tempted to say a *strong and independent q-stem.*

[6] However, if you look into older texts, you might see ***nammern(g)up*** for ergative singular, and ***nammern(g)it*** for plural; both displaying metathesis.

[7] I have, unfortunately, no good explanation for why {kkut} is used here, rather than the pure prepositional morpheme {gut}.

	Singular {əlmi}	Plural {əlmək}
INST {nək}	***imminik***, (by/of) P-self	***imminnik***, P-selves/each other
ALL {nut}	***imminut***, (to) P-self	***imminnut***, to P-selves/each other
ABL {nət}	***imminit***, from P-self	***imminnit***, from P-selves/each other
LOC {ni}	***immini***, at P-self, home	***imminni***, at P-selves/each other
VIA {kkut}	***immikkut***, separate(ly)	***immikkut***, separate(ly)
EQU {tut}	***immisut***, as P-self	***immittut***, as P-selves/each other

Figure 16.2: The reflexive pronoun {əlmi}**N** (singular), {əlmək}**N** (plural), with endings in the six prepositional cases. The forms can be used to refer to any person (1st, 2nd, 3rd, 4th), so they are collectively denoted by P in the translations.

Some of these forms are used in a rather unobvious, special sense: In particular, the vialis form ***immikkut*** means *separately*. This form can also be verbalised as ***immikkoor**poq*, *he is separate/isolated*, and several lexicalised words and expressions have been derived from this stem. For example, ***immikkoor**toq* with **V**{ðuq}**N** is a *chapter* or section in a book (so, something that is separate); but ***immikkoorto**qarfik* is not a place that has chapters; it is instead a *department*, e.g. in a firm.

Another, special usage involves the allative form ***imminut***. As you may recall from chapter 9, a patient-preserving verbal stem will get a *reflexive* meaning, if used with an intransitive ending. Thus {tuqut}**V** means ⟨*agent*⟩ *kills* ⟨*patient*⟩, but ***toqup**poq* means *he kills him**self***. This reflexive meaning can be emphasised with ***imminut***, so you might instead say ***imminut** toquppoq* to make it even clearer that the intended meaning is reflexive. Note that, as there are no personal markers involved here, the form ***imminut*** is used for all persons.[8]

16.4 Interrogative pronouns

Interrogative pronouns in English are words like ***wh**o, **wh**at, **wh**ere, **wh**ence, **wh**ither* and so on; all beginning in /wh/, so they are easy to recognise.

Greenlandic similarly has a set of special nouns that we may regard as interrogative pronouns. They are formed with the base {su}, which is used for *impersonal* questions,

[8]However, Bjørnum (2003) notes that it also *may* be used with personal (possessive) markers for 1st and 2nd person, plural; that is, {mtə} and {vsi}, and with a corresponding plural ending on the verb. In that case, the meaning becomes *reciprocal*, rather than reflexive. Thus ***immitsin**nut pulaartarpu**gut*** means ***we** (habitually) visit **each other***.

	{su}, *what*		{ki(kkun)}, *who*	
	sg	pl	sg	pl
Absolutive	*su**na***	*su**ut***	*ki**na***	*kikkut*
Ergative	*su**up***	*su**ut***	*ki**a***	*kikkut*
Instrumental	*sumik*	*sunik*	*kimik*	*kikkunnik*
Allative	*sumut*	*sunut*	*kimut*	*kikkunnut*
Ablative	*sumit*	*sunit*	*kimit*	*kikkunnit*
Locative	*sumi*	*suni*	*kimi*	*kikkunni*
Vialis	*sukkut*	*sutigut*	*kikkut*	*kikku**tigut***
Equative	*sutut*	*sutut*	–	*kikku**tut***

Figure 16.3: The interrogative pronouns *suna, kina*. Notice the absolutive and ergative forms, which use special endings. The prepositional cases are mostly regular, but {ki} uses the alternative stem {kikkun}, reminiscent of the plural of demonstrative pronouns, although the case endings are like those of an ordinary noun.

like *what, where, whence, whither*; and {ki} for *personal* questions, *who, whom*, etc. They behave *mostly* like regular nouns, but with a few exceptions. I have listed all forms of both in figure 16.3.

As you can see, the main specialities are with the absolutive and ergative forms: Firstly, both use {na} as an absolutive singular marker, just like the demonstrative pronouns. Furthermore, {ki} uses the stem {ki**kkun**} in plural, which again looks a lot like the demonstrative pronouns; however, the case endings are like those used on ordinary nouns.

The ergative singular of {ki} is ***kia***, completely unlike any other nouns; and indeed some peopel have taken to say ***kiap*** instead, to make it more similar to the ordinary ergative singular. On the other hand, {su} has an extra /u/ in the ergative case, so we get ***suup, suut***, which also seems to be an entirely idiosyncratic speciality. But the prepositional cases are as for the ordinary nouns.

Regarding their usage, there is not much to say; they are used more or less exactly like their English counterparts: ***sumut*** would correspond to *whither* (where-to), and ***sumit*** to *whence* (where-from) and so on. You can even verbalise them; so for example, if you see someone going somewhere you might then ask him ***sumu**kalerpit?* meaning *where are you going?* Note that the ablative also can use the 'long' form with {ŋanniit}, so you could likewise use ***sumin**ngaanneerpit?* to ask somebody *where are you from?*

There are also a few other words that may be used for asking questions:

- *qanoq* is a particle, meaning *what* or *how*
- *sorleq* means *which one (of them).* It is derived from {su} above, seemingly with **N**{(q)liq}**N** that is also used for comparation on the directional stems. In other words, the morphemic form is {suqliq}**N**, and it is a pseudo-q stem.
- *qassit* means *how many?* This form is *plural*, so although it can be used with the ordinary prepositional case endings, they must always be plural too. The morphemic form is {qavci}**N**, and you can also use this noun with affixes; for example *qassi**u**ppat?*, meaning *how many **are** they*, with the noun incorporating affix **N**{-u}**V**.
- *qanga* means *when?* in the *past.* Thus you could use this word to ask e.g. *qanga tikippit?*, *when **did** you arrive?* (in the past), but you cannot use it to ask questions about a *future* event.
- *qaqugu* means *when?* in the *future.* Thus you could use this word to ask e.g. *qaqugu tiki**ssa**vit?*, *when **will** you arrive?* (in the future), with the future affix **V**{ssa}**V** on the main verb, but you cannot use it to ask questions about a *past* event.[9]

16.5 ‘Quantitative’ pronouns

Greenlandic has a small group of nouns that do not behave according to the usual rules of the case system. Nielsen (2019, p. 70) calls them *quantitative* (pro)nouns[10] and the most common are undoubtedly {tamaq}**N**, *all, whole*; and {kəsi}**N**, *alone.* Instead of the ordinary case endings they use the *possessive ergative* personal markings; but they are nevertheless used as *both* subject and object, regardless of this apparent case marking. I have listed the forms in figure 16.4. Their meanings are thus something like the following:

1.sg *tamar**ma*** means *I/me as a whole*; and *kisi**ma*** means *I/me alone* or *only me.*

2.sg *tamar**pit*** means *thou/thee as a whole*; and *kisi**vit*** *thou/thee alone* or *only thee.*

1.pl *tama**tta*** means *we/us all*; and *kisi**tta*** *we/us alone* or *only us.*

2.pl *tama**ssi*** means *you all*; and *kisi**ssi*** means *you alone* or *only you*

To make matters even more confusing, the forms with the 4th person marking, {mi}, {mək}, are *only* used as *subjects*, regardless of whether they are subject for a transitive or

[9] See also chapter 11 about how Greenlandic distinguishes the future from the past/present.

[10] Not all of them function as pronouns; some have a purely *adverbial* meaning. Most of them seem to be formed with an affix {ŋŋaq}, e.g. *qia**nngaq***, *choked with tears*; *nasaa**nngaq***, *with a bare head* etc. Its meaning seems to be *with …*, in an adverbial sense.

	{tamaq}	{kəsi}	
1.sg {ma}	*tamarma*	*kisima*	
2.sg {vət}	*tamarpit*	*kisivit*	
3.sg {at}	*tamaat*	*kisiat*	only object
3.sg {mi}	*tamarmi*	*kisimi*	only subject
1.pl {mtə}	*tamatta*	*kisitta*	
2.pl {vsi}	*tamassi*	*kisissi*	
3.pl {itə}	*tama**asa***	*kisi**isa***	only object
3.pl {mək}	*tamarmik*	*kisimik*	only subject

Figure 16.4: The two quantitative pronouns, {tamaq}**N** and {kəsi}**N** with endings, that are similar to the ergative possessive personal markers. Note that 3.pl uses the *plural* ending {itə}, instead of the usual {atə}.

intransitive verb. And conversely, the forms with 3rd person endings {at}, {itə} are *only* used as *objects*, so the usual distinction between the 3rd and 4th person does not exist here. In other words, their meanings are

3.sg *tamar**mi*** means ***he** as a whole* (subject), but *tama**at*** means *all of* ***him*** (object); and similarly, *kisi**mi*** means ***he** alone* (subject), but *kisi**at*** means *only* ***him*** (object).

3.pl *tamar**mik*** means ***they** all* (subject), but *tama**asa*** means ***them** all* (object); and similarly, *kisi**mik*** means *they alone* (subject), but *kisi**isa*** means ***them** alone* (object).

Thus, these nouns behave in complete opposition to the usual ergative alignment that is used everywhere else in Greenlandic for marking nouns as subjects or objects.[11] Particularly the distinction between *tamarmik* and *tamaasa* can be a source of great confusion, so let us have a few examples:

*tamar**mik***	*sinipput*	=	*everybody sleep*
×	○		

Here *sinipput* is an intransitive verb, so there can only be a *subject*. Therefore we must use *tamar**mik*** to express *everybody*. Next, consider the stem {nalu}**V**, ⟨*agent*⟩ *knows*

[11] Some authors, such as Sadock (2003), would even say that the forms with {mi}, {mək} denote a *nominative* case marking, and that {at}, {itə} conversely denote an *accusative* case marking, because these nouns (unlike all other Greenlandic nouns) behave like nouns in languages with nominative/accusative cases, such as many European languages have.

not ⟨*patient*⟩, and negate it with **V**{ŋŋit}**V**, such that we obtain the stem {naluŋŋit}**V** which you can use to say that someone *knows* somebody.[12] Suppose I wanted to say that ***everybody*** *knows me*; then *everybody* would again be the *subject*, and we shall therefore again use ***tamarmik***, regardless of the fact that it will now be the subject of a *transitive* sentence:

tamarmik	nalunngilaannga	=	*everybody knows me*
×	○		

with the 3.pl/1.sg ending **V**{vaatŋa}. Only when the quantitative group of ‘everybody’ is used as an *object* would you use ***tamaasa***. This can evidently only happen with a transitive sentence. So, suppose instead I wanted to say that *I know* ***everybody***. Then the sentence becomes

tama**asa**	nalunngilakka	=	I know everybody
△	○		

with *tamaasa* and the 1.sg/3.pl ending **V**{vakka} instead. The other base, {kəsi}**N**, is used in the same manner.

These nouns can also be used with some of the prepositional cases; the endings will then be similar to the *possessive* prepositional case endings, since they are built as extensions of the ergative case.[13] For example, you could use the ablative and allative with {tamaq}**N** to say

*tama**tsinn**it tama**ssinn**ut* = *from all of us to all of you*

Lastly, they may also appear with a few affixes; particularly **N**{(q)luinnaq}**N** and **N**{-vik}**N** for emphasis, and **N**{-ŋajak}**N** for expressing *almost*; e.g. *ullut tama**ngaja**asa*, ***almost*** *every day*. The affixes (of course) appear before the ending, but these words *still* use this special system of endings, regardless of whether there is an affix present or not. Alternatively (or in combination with the aforementioned affixes), the form ***kisimi*** can be verbalised with {ət}**V**, *as if* it were a noun in the locative case, and the resulting verb can be used with any personal endings. Thus ***kisimiippoq*** means *he is alone*, and ***kisimiippu**gut* means ***we*** *are alone*, and so on.

* * *

[12] See section 14.8, page 291 for the special endings for the negation affix **V**{ŋŋit}**V**.

[13] There are also a few, lexicalised examples with the pure prepositional markers added directly onto the stem; e.g. *tama**nut***, *to everyone*; *tama**ni***, *everywhere*; and *tama**nit***, *from everyone*. You can find them in the dictionary, if you need them.

Part IV

Appendices

Ye Olde Orthographic

APPENDIX A

The Old Orthography

The old orthography can seem daunting at first, if you have only ever seen Greenlandic written in the new orthography. There are unusual consonants and unusual combinations, there is the odd symbol ĸ, and strange diacritics strewn lavishly over the vowels. Consider for example the following piece of text:

> *itsarôĸ K'ôrĸut piniagagssaligssûgatdlarmata K'ôrĸune ukîveĸartut inugpagssũput. nunaĸarfingme igdlorpagssûssut igdlut ilãne áiparît ĸitornaĸarneĸ ajortut najugaĸarput. tássa ĸitornartârtaraluardlutik toĸussissáinaramíkik.*
> *ilãne ernertâramik âsît ernĩnaĸ toĸúsangmat Kâgssagssungmik atserpât. toĸutserniardlugo kîsa pissuatsiánguángorpoĸ. kîsa angajorĸâvisa arsugtuatsiángorpât ĸanordlo piatdlautíngue tamaisa pigdliutigalugit.*
> *mássa Kâgssagssuk ĸujagissaorugtulersoĸ angajorĸâve atautsíkut nápariaramik ingerdlauarsínarput, kingulerîsungánguardlutik toĸuínaĸaut. toĸuniariarmata igdloĸataisa Kâgssagssuk pilerngúkamíko kia tássa tigúsavâ, kîsa piniardluarnerssaisa ilâta ernersiartârâ.*[1]

It may look dark and archaic on a first glance, but if you look closely you might just be able to recognise a word or two; especially if you are used to reading my morphemic notation. Take for instance the word *tamaisa*: You just apply the usual sound rules to obtain *tamaasa*, *them all*, like you would do with any other word you are constructing. In general, you can think of the old orthography as representing an earlier stage in the development

[1] These are the opening lines from the legend of the orphan boy Kâgssagssuk, as told by Jakob Danielsen to Knud Rasmussen in 1902.

of Greenlandic, before the consonant rule had completely eradicated all clusters of different consonants, and before the a-rule had consumed all traces of other vowels following an [a]. The old orthography just requires you to apply these rules *mentally* whenever you read a word, to obtain the modern pronunciation, instead of reading words where these transformations have already been applied for you. As such it may actually be a very good exercise to read some texts written in the old orthography, and maybe try reading them aloud.

There are also a few other good reasons why you might consider it worthwhile to learn how at least to *read* the old orthography, even though you may never need to be able to write in it yourself:

- Firstly, the old orthography was never officially abolished, and there still exists many good books (which you for instance can borrow in the library) written in the old orthography, including in particular some useful grammars and dictionaries.
- Secondly, as you have seen, the old orthography carries more information on the underlying phonemes than does the new, so a dictionary written in the old orthography may actually be a useful (and certainly more affordable) alternative to the Comparative Eskimo Dictionary.

Either way, the purpose of this chapter is to show you how you reliably, and indeed quite mechanically, can transform text written in the old orthography into the new. I shall use the text above as a running example and go through each step of the transformation to obtain the new orthography version.

A.1 Special symbols and consonant clusters

The first thing to notice in the old orthography are a few special symbols, namely "ĸ" and "đ" that you will not find in the new. The latter always appears in combination with "l" and is really a special *cluster* "dl" representing a *single* sound, just like the cluster "ng" represents the single sound [ŋ] in the new orthography. A less obvious, special cluster is "ss" which also represents just a single sound; this was unambiguous in the old orthography, because long (doubled) consonant sounds were *not* marked by doubling the consonant symbol, like they are in the new.

K' and ĸ means Q and q

The first special symbol is easy: "ĸ" is simply the symbol Kleinschmidt chose for the sound which in the new orthography is written as "q". Since this symbol is really just a small-caps version of the letter *k*, he also had to decide on another new symbol to represent

a *capital* variant of this letter, to be used in proper nouns.[2] For this he chose *K'* – an ordinary, capital *K* followed by an apostrophe, which thus corresponds to "Q" in the new orthography.

Kleinschmidt may have had historic reasons for choosing the letters *K', ĸ* for the [q] sound; some older attempts at describing the language, e.g. the dictionary by Paul Egede and the grammar by Otto Fabricius, did not even distinguish [k] and [q], so they wrote "k" for both sounds. Regardless, the choice of *K', ĸ* as symbols was perhaps not among the best of Kleinschmidt's decisions for his orthography, since they can easily be mistaken for *K, k*.[3] Furthermore, they are not easy to write in a modern keyboard (though that was of course no concern of Kleinschmidt), because they are not standard ASCII symbols. Thus, the decision to switch to "Q, q" in the new orthography was, I think, and improvement. It actually preceded the new orthography by some years; for example, Schultz-Lorentzen (1951) is written in the old orthography, but using "q" instead of "ĸ".

Anyway, just by making this simple substitution, a name like "**K'**ôr**ĸ**ut" then becomes "**Q**ôr**q**ut" which already looks much more familiar.

"dl" just means [(ɬ)ɬ]

The second, special symbol "d" *always* appears in combination with an "l". Just like "ng" really just represents *one single* sound [ŋ], even though two symbols are used, then "dl" in the old orthography represents a *single* [ɬ], the unvoiced l-sound. However, as you know from the fricative rule, this sound can only ever arise when an /l/ is doubled, causing it to become unvoiced. Thus, in the old orthography you will (almost) always see "dl" preceded by another consonant: "gdl" as in *i**gdl**o*, "rdl" as in *ĸano**rdl**o*, "tdl" in *tiki**tdl**uarit* and "vdl" in e.g. *i**vdl**it*.

One of the few exceptions is the affix *-dluarpoĸ*, i.e. **V**{(l)luaq}**V**. This affix is sandhi epenthetic (in my notation), so the initial /l/ will always be double (and thus unvoiced); and correspondingly, the old orthography version begins with a *dl*. Thus, when this affix is attached to a vowel stem, *dl* will not appear in combination with another consonant, but regardless, it still denotes an unvoiced (and long) [ɬɬ] sound, as in e.g. *sulidluarpoĸ*.

In other words, the symbol "d" really just signifies that the following "l" is unvoiced, but this is already obvious from the sound rules; just *ignore* the "d" and apply the consonant rule and the fricative rule as usual. Then "i**vdl**it" $\Longrightarrow$ "i**vl**it" $\Longrightarrow$ "i**ll**it" which, as you know is pronounced [i**ɬɬ**it] since /l/ is now doubled. The combination "rdl" signifies that the underlying, assimilated consonant is a uvular, just as "rl" does in the new orthography,

[2]Notice that capital letters were not necessarily used in the old orthography, except for proper nouns like the names of people and places. The text does not even begin with a capital letter, and this is not a mistake.

[3]And indeed they have been. The Danish words *kajak* (*qajaq*), *anorak* (*annoraaq*), *nunatak* (*nunataq*), have all been borrowed from Greenlandic, and their spelling has obviously been borrowed from the *old* orthography forms *ĸajaĸ, ánorâĸ, nunataĸ* with *ĸ* mistaken for a *k*.

so here you just need to remove the "d", such that "ĸano**rdl**o" $\Longrightarrow$ *ĸano**rl**o*. And lastly, if there is no preceding consonant, as in the example with *su**l**i**dl**uarpoĸ*, then just apply the consonant rule to obtain *su**ll**uarpoĸ*.

"ss" is the sound [c]

Recall that the 'ordinary' s-sound [s] as well as the 'thick' sh-like sound [ʃ], which I write as [c], are both written as "s" in the new orthography. It does not distinguish between these two sounds. However, the old orthography did: The ordinary s-sound [s] was spelt "s", whilst the 'thick' sh-sound [c] was spelt "ss". Thus, "ss" is another case of a consonant *cluster* used to represent a *single* sound. In other words, when you see an "ss" in the old orthography, you just need to subtract one "s" to obtain the modern spelling; e.g. "iga**ss**oĸ" $\Longrightarrow$ *iga**s**oĸ*.

You might now rightly be wondering, if a *double* [cc] then was spelt "ssss" in the old orthography; and no, it was not. A double [cc] can generally arise in two ways: Either the first [c] is really some other consonant that has been assimilated; or it is caused by gemination, usually of a /j/. In the first case, the double [cc] would simply be written as a combination of that assimilated consonant and "ss", that is, as "gss", "rss" or "vss". For example, the 'nominal future affix' **N**{**kc**aq}**N**, *a future N*, would be spelt "-**gss**aq" in the old orthography.

The other case is trickier: If there is no underlying, assimilated consonant to be written, either because the doubled [cc] was formed through gemination, or because Kleinschmidt simply did not know what the underlying consonant once had been, then the doubling had to be indicated by some other means; namely by putting diacritical marks on the preceding vowel. I shall return to this shortly, but consider for example the word [ta**cc**a] with a double [cc]. This word would be spelt ***tássa*** in the old orthography, where the accent on "á" indicates that the following consonant, "ss", is doubled.

The other consonant clusters

Kleinschmidt wrote "gg" for [xx], "rr" for [XX] and "ts" for [t^st^s], just as is done in the new orthography, so they carry over directly. For the remaining consonant clusters, you just have to apply the consonant rule, and then possibly the spelling rules, such that for example "ngm" as in *Nû**ngm**ut* becomes *Nû**mm**ut*, and "vt" in e.g. *sa**v**tiut* becomes

"sa**v**tiut" $\Longrightarrow$ "sa**tt**iut" $\Longrightarrow$ *sa**ts**iut*

The final, extra step is here required, because a double [tt] before an /i/ becomes [t^st^s] which is spelt "ts". Note also that "rq" is written as "qq" in the new orthography, so for example

*K'ô**r**ĸut* $\Longrightarrow$ *Qô**rq**ut* $\Longrightarrow$ *Qô**qq**ut*

This makes sense, since in the new orthography the only reason for writing an "r" in a consonant cluster "rc" is to indicate that the preceding vowel should have an open (uvularised) pronunciation. But "qq" will signify this too, so the creators of the new orthography decided that there was no point in distinguishing between "rq" and "qq". See also aside 1.1 for a few more details on Kleinschmidt's way of writing certain consonant clusters.

Putting it together

All of the aforementioned changes (apart from *κ* → *q* and *ss* → *s*) can be summarised into a single rewriting rule, which is really just an extension of the consonant rule:

$$\text{“}c_1(c_2)c_3\text{”} \to \text{“}c_3c_3\text{”}$$

that is, whenever you have a consonant cluster of two *or three* consonant symbols, you just rewrite that into a pair of the final consonant in the cluster. Just remember that this is not a *sound rule*, but a *spelling* rule; or rather, a spelling *transformation*. You are now working on the level of *writing*, so you will have to imagine that all the other necessary sound changes have already taken place.

You will also have to apply the usual spelling rules afterward, to ensure that any assimilated /q/, which would also have been written as "r" in the old orthography, also comes to be written as an "r" in the new. Likewise must any "tti" or "tte" arising from the application of this rule of course also be spelt as "tsi" and "tse" after the rewrite. And lastly, remember that an *ng* should still be treated as a *single* symbol; that is, you should of course *not* use this rule to rewrite *ng* into a *gg*. Thus for example:

$$\begin{aligned} ngm &\Longrightarrow mm \\ vti &\Longrightarrow tti \Longrightarrow tsi \\ gte &\Longrightarrow tte \Longrightarrow tse \\ tdl &\Longrightarrow ll \\ rvng &\Longrightarrow rng \end{aligned}$$

Here, the first transformation is by the rule above, and the optional second step is by the spelling rules in he new orthography. Applying these transformations to our piece of example text we obtain the following, which already looks much more familiar:

> *Itsarôq Qôqqut piniagassalissûgallarmata Qôqqune ukîveqartut inuppassũput. Nunaqarfimme illorpassûsut illut ilãne áiparît qitornaqarneq ajortut najugaqarput. Tása qitornartârtaraluarlutik toqusisáinaramíkik.*
> *Ilãne ernertâramik âsît ernĩnaq toqúsammat Kâssassummik atserpât. Toqutserniarlugo kîsa pisuatsiánguángorpoq. Kîsa angajoqqâvisa arsuttuatsiángorpât qanorlo piallautíngue tamaisa pilliutigalugit.*

Aside 1.1: Kleinschmidt's Konsonant Klusters

As you may already have guessed, ***Nûngmut*** corresponds to ***Nuummut***, *to Nuuk*, in the new orthography; i.e. the word is formed from the combination {Nuuk}**N**{mut} – the circumflex on "û" just denotes a double vowel. But let us ignore that for now and just focus on the consonant clusters: So why did Kleinschmidt write ***Nûngmut***, and not simply ****Nûkmut***?

For another example, consider our well-known base {ə**ŋ**lu}**N**, corresponding to ***illu*** in the new orthography. Kleinschmidt wrote this as ***igdlo***, so here the /ŋ/ has suddenly come to be spelt as "g" rather than "ng". Or take the aforementioned **N**{**kc**aq}**N**, which was written as ***-gssaĸ***.

These sound changes probably reflect an earlier stage in the language, before consonant assimilation had become as complete as it is today.[a] For *nasals*, the first consonant, c_1, in a consonant cluster c_1c_2 would inherit the *manner* of articulation from the following consonant, c_2, but not (yet) the *place* of articulation. Thus /Nuu**km**ut/ would become ***Nû**ngm**ut*** because [m] is a nasal, and [ŋ] is the nasal *corresponding* to [k]. Or, in other words, if c_2 is a nasal, then c_1 was *nasalised*.

On the other hand, if c_2 is anything *but* a nasal, then c_1 would instead be written as its corresponding *voiced fricative*; so {ə**ŋ**lu}**N** became ***igdlo*** because "dl" is not a nasal, and /ŋ/ (the **velar** nasal) therefore became "g" (the voiced **velar** fricative); and likewise **N**{**kc**aq}**N** became ***-gssaĸ*** because "ss" again is not a nasal, and /k/ is a velar, so it too becomes "g". If all this talk of velars and fricatives seems a bit hazy, then refer back to figure 4.1 on page 66 for an illustration of this categorisation of consonants (or rather, their sounds) according to place and manner of articulation.

I admit this kind of spelling rules may seem hugely complicated compared to the new orthography; and so did many Greenlanders apparently, because as far as I have heard, the rate of spelling errors decreased drastically with the new orthography. But there were also advantages to the old orthography, for those who did learn it. It forced people to have at least some vague understanding of the concept of phonemes, and it made it easier to recognise (and thus parse) the morphemes in a word. For example, by the rule above, geminated consonants would be written as a cluster where the first indicated the underlying 'un-geminated' form. That is, plural of ***atuagaĸ*** was ***atuagkat***, and plural of ***kôroĸ*** was ***kôrĸut***. At least, I believe it made Greenlandic much easier to *learn* as a foreigner.

Of course, the proponents of the new orthography will say that it was needlessly difficult to remember the difference between "vdl" and "gdl" and "tdl" since they are all pronounced in the same way. But learning to spell words with consonants that are not pronounced, or pronounced differently depending on context, is not impossible. After all, we do that all the time in English, where *tou**gh*** rhymes with *stu**ff***, and *wo**m**en* is pronounced [wimən].

[a] And it may also reflect a bit of guesswork on behalf of Kleinschmidt; he wanted his orthography to be *etymological*; that is to show, or at least hint at, the underlying morphemes.

*Másа Kâssassuk qujagissaoruttulersoq angajoqqâve ataut*sík*ut nápariaramik ingerlauarsínarput, kingulerîsungánguarlutik toquínaqaut. Toquniariarmata illoqataisa Kâssassuk pilerngúkamíko kia tása tigúsavâ, kîsa piniarluarnersaisa ilâta ernersiartârâ.*

A.2 The diacritics and vowels

A second peculiarity of the old orthography is its use of accent marks, or *diacritics*, on the vowels. There are three types of such markings, and they are named as follows (with their Greenlandic names in parentheses):

á = acute accent (***sukkassut***)
â = circumflex (***sivitsuut***)
ã = tilde (***sukkassutaasaq***)

Here I have just used them on an *a* as an example, but the diacritics can appear on any of the vowel symbols; that is:

á, â, ã, é, ê, ẽ, í, î, ĩ, ó, ô, õ, ú, û, ũ

As you saw in the previous section, the old orthography has many un-assimilated (or only partially assimilated) consonant clusters in places where the new orthography just has a (completely assimilated) double consonant; like "ngm, vti, rĸ" instead of "mm, tsi, qq" and so on. But this only works when the cluster consists of two *different* phonemes; so what about the cases when the cluster indeed does consist of two consonants of the *same* kind?

And likewise with vowels: The old orthography contains many so-called *diphtongs*, which are clusters of vowels that today would be pronounced as *one* sound (because of the a-rule), but which nevertheless were written using *two* vowel symbols:

ae, ai, ái, ao, au, áu

All of these would of course just become "aa" in the new orthography, due to the a-rule, since they all consist of an [a] sound followed by another vowel sound. So in other words, double (i.e. long) a-sounds could be written as un-assimilated diphtongs, but what about the other vowels?

The old orthography does not use a double vowel "aa, ee, ii, oo, uu" for writing double vowel sounds, just like it does not use double consonants *mm, nn, kk, pp, …* for writing double consonant sounds. Instead, it uses the diacritics on vowels to indicate *both* the length of vowels and consonants. The rule is quite simple:

ác → *acc* (double the consonant)
âc → *aac* (double the vowel)
ãc → *aacc* (double both)

Here I have again just used *a* as an example, but the meaning is the same for all vowels: The ***sukkassut*** means that the *following consonant* is doubled; so for any consonant *c*, *ác* is written *acc* in the new orthography, e.g. ***tigúsavâ*** ⟹ ***tigussavâ***. In case of a diphtong, *áic, áuc*, the ***sukkassut*** is always written on the *a* (the first vowel), so

áic → *aicc*
áuc → *aucc*

so for example ***áiparît*** ⟹ ***aipparît***. See also aside 1.2 for a few more details on the meaning of this diacritic.

The ***sivitsuut*** denotes that the vowel *itself* is doubled; so *â* is written as *aa*, e.g. ***âsît*** ⟹ ***aasiit***. And lastly, the ***sukkassutaasaq*** combines the meaning of both of the other two diacritics; that is, it denotes that *both* the vowel itself, *and* the following consonant, are doubled; so *ãc* is written as *aacc*. Thus for example ***ernãnaq*** ⟹ ***erniinnaq***. And that is more or less it.

Rewriting vowels

After having rewritten all the diacritics into double vowels and/or consonants, you just need to apply the a-rule as usual to change any diphtongs ***ae, ai, ao, au*** into ***aa***, and insert a /j/ or /v/ according to the rules of phonotactic epenthesis,[4] in case one of the diphtongs is itself followed by another vowel; that is

avа → *avva*
avi → *avvi*
avu → *avju*

Finally, notice that when the final sound in a word is a *vowel* in the old orthography, then this vowel was always written as its *open* (i.e. uvularised) variant. That is, Kleinschmidt wrote ***igdlo*** and ***nunaĸarfingme*** instead of ****igdlu*** and ****nunaĸarfingmi***, even though there is no uvular sound following these vowels.[5] They should of course just be written as their corresponding un-uvularised variants in the new orthography; that is, as ***illu, nunaqarfimmi***.

[4] See definition 2.8, page 35.

[5] I have no idea why he did that. Per Langgård has suggested that it *may* have been an attempt to indicate that the pitch of these vowels drops slightly in the last syllable of a word, unless it is the last word in a sentence. But regardless, it has nothing to do with uvularisation.

Aside 1.2: The sukkassut

Of all the possible consonant clusters, there is one type you will *not* find in the old orthography; namely clusters of the form *tc*, *except* for the combinations ***tdl*** and ***ts***.

This is another quirk of the old orthography; you can write ***ngm*** and ***gp*** and so on, but for whatever reason, Kleinschmidt apparently decided that an assimilated /t/ should *not* be written as a ***t***. Instead, he indicated an assimilated /t/ by a ***sukkassut***. Thus for example, he would write

$$\{\text{təkit}\}\mathbf{V}\{\text{vaa}\} \implies /\text{tək}\mathbf{it}\text{vaa}/ \implies^{*} \textit{tik}\textit{\textbf{íp}}\textit{\textbf{â}}$$

instead of **tik**itp**â* as we might otherwise have expected. However, if the second consonant is ***dl*** or ***ss***, then this /t/ *is* written; so for example, if {təkit}**V** is instead given a contemporative or (intransitive) participial ending, like **V**{(l)lugu} or **V**{ðuq}, it suddenly appears:

$$\begin{aligned} \{\text{təkit}\}\mathbf{V}\{\text{(l)lugu}\} &\implies /\text{tək}\mathbf{it}\text{lugu}/ \implies \textit{tik}\textit{\textbf{itdl}}\textit{ugo} \\ \{\text{təkit}\}\mathbf{V}\{\text{ðuq}\} &\implies /\text{tək}\mathbf{it}\text{ðuq}/ \implies \textit{tik}\textit{\textbf{its}}\textit{oʁ} \end{aligned}$$

In other words, whenever you see a ***sukkassut*** in the old orthography, it *may* indicate the presence of a /t/. Unfortunately, Kleinschmidt did not distinguish between true t-stems and ut(ə)-stems; so in other words, a ***sukkassut*** can *also* indicate a /t(ə)/. Thus, the affix **V**{-ut(ə)}**V** (with an indicative ending) would *also* be written with a ***sukkassut***; that is

$$\mathbf{V}\{\text{-ut(ə)}\}\mathbf{V}\{\text{vaa}\} \implies /\mathbf{ut}\text{vaa}/ \implies^{*} \textit{-}\textit{\textbf{úp}}\textit{\textbf{â}}$$

This makes good sense since there indeed *is* a /t/ here; and the /(ə)/ precisely does *not* appear since the following morpheme is additive. But it would still have been useful, if this underlying /(ə)/ might have been indicated in some way.

Lastly, Kleinschmidt also simply used a ***sukkassut*** to indicate a double consonant of any type.[a] For example ***tássa***, where the ***ss*** represents the (single) sound [c], and the ***sukkassut*** indicates that this sound is doubled.

Of course, you do not have to remember all these details in order to be able to *read* the old orthography, or convert it into the new. But it may still be useful for you to know, if you ever intend to try to learn to *write* it yourself; or if you want to use a dictionary written in the old orthography to try determine the underlying morphemic form of a word.

[a] Probably also including the cases where he just could not determine what the underlying consonant was or might have been.

And that is it. By performing these rewrites, we at last obtain the new orthography form of the example text:

> *Itsarooq Qooqqut piniagassalissuugallarmata Qooqquni ukiiveqartut inuppassuupput. Nunaqarfimmi illorpassuusut illut ilaanni aappariit qitornaqarneq ajortut najugaqarput. Tassa qitornartaartaraluarlutik toqusisaannaramikkik.*
> *Ilaanni ernertaaramik aasiit erniinnaq toqussammat Kaassassummik atserpaat. Toqutserniarlugu kiisa pisuatsiannguanngorpoq. Kiisa angajoqqaavisa arsuttuatsianngorpaat qanorlu piallaatinngui tamaasa pilliutigalugit.*
> *Massa Kaassassuk qujagisaaruttulersoq angajoqqaavi ataatsikkut nappariaramik ingerlaavarsinnarput, kinguleriisungannguarlutik toquinnaqaat. Toquniariarmata illoqataasa Kaassassuk pilerngukkamikku kia tassa tigussavaa, kiisa piniarluarnersaasa ilaata ernersiartaaraa.*

* * *

The old orthography is not exactly *easy* to learn, if you want to write it yourself. But it contains more information than does the new, regarding the assimilated phonemes, so it may still be worthwhile to learn at least to read it. It does not *exactly* give you the underlying morphemic form of a base or affix, but it is at least closer than the new orthography. And at least, it is fairly easy to transform into the new orthography, so with a little bit of practice you should be able to do it all in your head.

APPENDIX B

Graphemistic endings

In part III I described how you construct the many sets of endings for nouns and verbs. However, for practical purposes you might sometimes just want to look up a specific ending, rather than go through the construction process yourself; or perhaps you just want to verify that the forms of endings you have constructed are indeed correct. Therefore I have decided to include this appendix with tables of endings, given more or less in Graphemist-style; that is, with all sound rules and spelling rules applied to all phonemes, *except* possibly the first. Thus you will still have to transform e.g. ***ðunga*** into ***tunga*** or ***sunga*** depending on the stem you attach it to.

B.1 Possessive endings

	Absolutive		Ergative	
	Singular	Plural	Singular	Plural
1.sg	*ga*	*-kka*	*ma*	*-ma*
2.sg	*t, -it*	*-tit*	*vit, (r)pit*	*-vit*
3.sg	*-a*	*-i*	*-ata*	*-isa*
4.sg	*ni*	*-ni*	*mi*	*-mi*
1.pl	*(r)put*	*-vut*	*tta*	*-tta*
2.pl	*(r)si*	*-si*	*ssi*	*-ssi*
3.pl	*-at*	*-at, -i*	*-ata*	*-isa*
4.pl	*(r)tik*	*-tik*	*mik*	*-mik*

	Locative		Instrumental		Ablative	
	Singular	Plural	Singular	Plural	Singular	Plural
1.sg	*nni*	*nni*	*nnik*	*nnik*	*nnit*	*nnit*
2.sg	*nni*	*nni*	*nnik*	*nnik*	*nnit*	*nnit*
3.sg	*-ani*	*-ini*	*-anik*	*-inik*	*-anit*	*-init*
4.sg	*mini*	*-mini*	*minik*	*-minik*	*minit*	*-minit*
1.pl	*tsinni*	*tsinni*	*tsinnik*	*tsinnik*	*tsinnit*	*tsinnit*
2.pl	*ssinni*	*ssinni*	*ssinnik*	*ssinnik*	*ssinnit*	*ssinnit*
3.pl	*-anni*	*-anni, -ini*	*-annik*	*-annik, -inik*	*-annit*	*-annit, -init*
4.pl	*minni*	*-minni*	*minnik*	*minnik*	*minnit*	*-minnit*

	Allative		Vialis		Equalis	
	Singular	Plural	Singular	Plural	Singular	Plural
1.sg	*nnut*	*nnut*	*kkut*	*kkut*	*ttut*	*ttut*
2.sg	*nnut*	*nnut*	*kkut*	*kkut*	*ttut*	*ttut*
3.sg	*-anut*	*-inut*	*-agut*	*-isigut*	*-atut*	*-isut*
4.sg	*minut*	*-minut*	*migut*	*-migut*	*misut*	*-misut*
1.pl	*tsinnut*	*tsinnut*	*tsigut*	*tsigut*	*tsitut*	*tsitut*
2.pl	*ssinnut*	*ssinnut*	*ssigut*	*ssigut*	*ssisut*	*ssisut*
3.pl	*-annut*	*-annut, -inut*	*-atigut*	*-isigut*	*-attut*	*-assut, -isut*
4.pl	*minnut*	*-minnut*	*mikkut*	*-mikkut*	*mittut*	*-mittut*

This is the system of possessive endings for nouns as described in chapter 13. Note that I have not listed the slight variations that may occur due to different sandhi rules for the different stem-types, except for the absolutive 2.sg variant *-it* which is used on k-stems.

B.2 Intransitive endings

Superordinate moods

	Indicative	Interrogative	Imperative
1.sg	*vunga*	–	*langa*
2.sg	*vutit*	*vit*	*-git, na*
3.sg	*voq*	*va*	*li*
4.sg	–	–	–
1.pl	*vugut*	–	*ta, lata*
2.pl	*vusi*	*visi*	*-gitsi*
3.pl	*(p)put*	*(p)pat*	*lit*
4.pl	–	–	–

Subordinate moods

	Contemporative	Negative cont.	Participial
1.sg	*(l)lunga*	*nanga*	*ðunga*
2.sg	*(l)lutit*	*natit, nak*	*ðutit*
3.sg	–	–	*ðoq*
4.sg	*(l)luni*	*nani, gani*	–
1.pl	*(l)luta*	*nata, gata*	*ðugut*
2.pl	*(l)lusi*	*nasi, gasi*	*ðusi*
3.pl	–	–	*ðut*
4.pl	*(l)lutik*	*natik, gatik*	–

Dependent moods

	Causative	Iterative	Conditional
1.sg	*gama*	*gaangama*	*guma*
2.sg	*gavit*	*gaangavit*	*guit*
3.sg	*(m)mat*	*gaangat*	*(p)pat*
4.sg	*gami*	*gaangami*	*guni*
1.pl	*gatta*	*gaangatta*	*gutta*
2.pl	*gassi*	*gaangassi*	*gussi*
3.pl	*(m)mata*	*gaangata*	*(p)pata*
4.pl	*gamik*	*gaangamik*	*gunik*

This is the set of intransitive endings for all moods, following the usual division of superordinate, subordinate and dependent moods. Notice in the column labelled 'Imperative' that I have decided to merge the endings for the imperative and optative mood into one column to conserve some space.

B.3 Transitive endings in the superordinate moods

Indicative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*vakkit*	*vara*	–	–	*vassi*	*vakka*	–
2.sg	*varma*	–	*vat*	–	*vatsigut*	–	*vatit*	–
3.sg	*vaanga*	*vaatit*	*vaa*	–	*vaatigut*	*vaasi*	*vai*	–
4.sg	–	–	–	–	–	–	–	–
1.pl	–	*vatsigit*	*varput*	–	–	*vassi*	*vavut*	–
2.pl	*vassinga*	–	*varsi*	–	*vatsigut*	–	*vasi*	–
3.pl	*vaannga*	*vaatsit*	*vaat*	–	*vaatigut*	*vaasi*	*vaat*	–
4.pl	–	–	–	–	–	–	–	–

Interrogative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	–	–	–	–	–	–	–
2.sg	*vinga*	–	*viuk*	–	*visigut*	–	*vigit*	–
3.sg	–	–	–	–	–	–	–	–
4.sg	–	–	–	–	–	–	–	–
1.pl	–	–	–	–	–	–	–	–
2.pl	*visinga*	–	*visiuk*	–	*visigut*	–	*visigik*	–
3.pl	–	–	–	–	–	–	–	–
4.pl	–	–	–	–	–	–	–	–

Imperative/Optative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*lakkit*	*lara*	–	–	*lassi*	*lakka*	–
2.sg	*nnga*	–	*-guk*	–	*tigut*	–	*kkit*	–
3.sg	*linga*	*lisit*	*liuk*	–	*lisigut*	*lisi*	*ligit*	–
4.sg	–	–	–	–	–	–	–	–
1.pl	–	*latsigit*	*tigu*	–	–	*lassi*	*tigik*	–
			larput				*lavut*	–
2.pl	*singa*	–	*siuk*	–	*tigut*	–	*sigik*	–
3.pl	*linnga*	*li(t)sit*	*lissuk*	–	*lisigut*	*lisi*	*lisigik*	–
4.pl	–	–	–	–	–	–	–	–

I have again combined the imperative and optative moods; the only overlap is in 1.pl/3rd person. Also, in the indicative table I have not included the subforms *vagit* (1.sg/2.sg); and *vagut* (1.pl/3.pl).

B.4 Transitive endings in the subordinate moods

Contemporative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*(l)lutit*	*(l)lugu*	–	–	*(l)lusi*	*(l)lugit*	–
2.sg	*(l)lunga*	–	*(l)lugu*	–	*(l)luta*	–	*(l)lugit*	–
3.sg	–	–	–	–	–	–	–	–
4.sg	*(l)lunga*	*(l)lutit*	*(l)lugu*	–	*(l)luta*	*(l)lusi*	*(l)lugit*	–
1.pl	–	*(l)lutit*	*(l)lugu* *(l)lutigu*	–	–	*(l)lusi*	*(l)lugit* *(l)lutigik*	–
2.pl	*(l)lunga* *(l)lusinga*	–	*(l)lugu* *(l)lusiuk*	–	*(l)luta* *(l)lutigut*	–	*(l)lugit* *(l)lusigik*	–
3.pl	–	–	–	–	–	–	–	–
4.pl	*(l)lunga*	*(l)lutit*	*(l)lugu*	–	*(l)luta*	*(l)lusi*	*(l)lugit*	–

Participial

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*gikkit*	*giga*	*ginni*	–	*gissi*	*gikka*	*gitsik*
2.sg	*gimma*	–	*git*	*ginni*	*gitsigut*	–	*gitit*	*gitsik*
3.sg	*gaanga*	*gaatit*	*gaa*	*gaani*	*gaatigut*	*gaasi*	*gai*	*gaatik*
4.sg	–	–	*ginni*	–	–	–	*gini*	–
1.pl	–	*gitsigit*	*gipput*	*gitsinni*	–	*gissi*	*givut*	*gitsik*
2.pl	*gissinga*	–	*gissi*	*gissinni*	*gitsigut*	–	*gisi*	*gitsik*
3.pl	*gaannga*	*gaatsit*	*gaat*	*gaanni*	*gaatigut*	*gaasi*	*gaat*	*gaatik*
4.pl	–	–	*gitsik*	–	–	–	*gitik*	–

These are the transitive endings for the subordinate moods; i.e. the contemporative and participial moods. Note in the table for contemporative endings that I have included the few examples of endings with a subject marking (i.e. the endings for 1.pl and 2.pl as subject, and with a 1st or 3rd person as object) alongside the 'ordinary' endings which only have an object marking.

I have not created a separate table for the negative contemporative, since it can be straightforwardly derived from the (positive) contemporative endings just by replacing {(l)lu} with {na}, or {ga} for the rarer variant. There are no changes in the person markers.

B.5 Transitive endings in the dependent moods

These sets of endings are provided in the tables on the following page.

Causative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*gakkit*	*gakku*	*ganni*	–	*gassi*	*gakkit*	*gatsik*
2.sg	*gamma*	–	*gakku*	*ganni*	*gatsigut*	–	*gakkit*	*gatsik*
3.sg	*(m)manga*	*(m)matit*	*(m)magu*	*(m)mani*	*(m)matigut*	*(m)masi*	*(m)magit*	*(m)matik*
4.sg	*gaminga*	*gamisit*	*gamiuk*	–	*gamisigut*	*gamisi*	*gamigit*	–
1.pl	–	*gatsigit*	*gatsigu*	*gatsinni*	–	*gassi*	*gatsigik*	*gatsik*
2.pl	*gassinga*	–	*gassiuk*	*gassinni*	*gatsigut*	–	*gassigik*	*gatsik*
3.pl	*(m)mannga*	*(m)matsit*	*(m)massuk*	*(m)manni*	*(m)matigut*	*(m)masi*	*(m)matigik*	*(m)matik*
4.pl	*gaminnga*	*gamitsit*	*gamikku*	–	*gamisigut*	*gamisi*	*gamikkik*	–

Conditional

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*gukkit*	*gukku*	*gunni*	–	*gussi*	*gukkit*	*gutsik*
2.sg	*gumma*	–	*gukku*	*gunni*	*gutsigut*	–	*gukkit*	*gutsik*
3.sg	*(p)panga*	*(p)patit*	*(p)pagu*	*(p)pani*	*(p)patigut*	*(p)pasi*	*(p)pagit*	*(p)patik*
4.sg	*guninga*	*gunisit*	*guniuk*	–	*gunisigut*	*gunisi*	*gamigit*	–
1.pl	–	*gutsigit*	*gutsigu*	*gutsinni*	–	*gussi*	*gutsigik*	*gutsik*
2.pl	*gussinga*	–	*gussiuk*	*gussinni*	*gutsigut*	–	*gussigik*	*gutsik*
3.pl	*(p)pannga*	*(p)patsit*	*(p)passuk*	*(p)panni*	*(p)patigut*	*(p)pasi*	*(p)patigik*	*(p)patik*
4.pl	*guninnga*	*gunitsit*	*gunikku*	–	*gunisigut*	*gunisi*	*gunikkik*	–

Iterative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*gaangakkit*	*gaangakku*	*gaanganni*	–	*gaangassi*	*gaangakkit*	*gaangatsik*
2.sg	*gaangamma*	–	*gaangakku*	*gaanganni*	*gaangatsigut*	–	*gaangakkit*	*gaangatsik*
3.sg	*gaanganga*	*gaangatit*	*gaangagu*	*gaangani*	*gaangatigut*	*gaangasi*	*gaangagit*	*gaangatik*
4.sg	*gaangaminga*	*gaangamisit*	*gaangamiuk*	–	*gaangamisigut*	*gaangamisi*	*gaangamigit*	–
1.pl	–	*gaangatsigit*	*gaangatsigu*	*gaangatsinni*	–	*gaangassi*	*gaangatsigik*	*gaangatsik*
2.pl	*gaangassinga*	–	*gaangassiuk*	*gaangassinni*	*gaangatsigut*	–	*gaangassigik*	*gaangatsik*
3.pl	*gaanganga*	*gaangatsit*	*gaangassuk*	*gaanganni*	*gaangatigut*	*gaangasi*	*gaangatigik*	*gaangatik*
4.pl	*gaangaminnga*	*gaangamitsit*	*gaangamikku*	–	*gaangamisigut*	*gaangamisi*	*gaangamikkik*	–

B.6 Special endings for the schwa-stems

The schwa-stems **V**{-qə}**V**, **N**{gə}**V** and **V**{-gə}**V**, as well as several others that either have been derived from these or resemble them, have special endings in some of the moods, as described in chapter 14. Specifically, schwa deletes every /v/ from the indicative and interrogative mood markers, and a single /l/ from the contemporative mood marker, and takes the sound [a]. Furthermore, it may also affect the endings **V**{-git} and **V**{-guk} from the imperative mood. Here I list these special endings, using **V**{-qə}**V** as example, since it may appear with both transitive and intransitive endings.

Intransitive endings

	Indicative	Interrogative	Imperative	Contemporative
1.sg	*-qaanga*	–	–	*-qalunga*
2.sg	*-qaatit*	*-qaat*	*-qiit*	*-qalutit*
3.sg	*-qaaq*	*-qaa*	–	–
4.sg	–	–	–	*-qaluni*
1.pl	*-qaagut*	–	–	*-qaluta*
2.pl	*-qaasi*	*-qaasi*	–	*-qalusi*
3.pl	*-qaat*	*-qaat*	–	–
4.pl	–	–	–	*-qalutik*

Note in the 'Imperative' column that I have only listed the 2.sg ending *-qiit*; the other endings are unaffected by schwa.

The variants of the transitive endings for indicative, interrogative and contemporative are listed on the following page. I have omitted a separate table for the transitive imperative endings, since only a single ending there is affected; namely the 2.sg/3.sg ending **V**{-guk}. Its special form is as follows:

$$\textbf{V}\{\text{-qə}\}\textbf{V}\{\text{-guk}\} \implies^{*} \textit{-quuk}$$

with loss of /g/ and a lengthening of the vowel /u/. Note that this change may be archaic.

Indicative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*-qaakkit*	*-qaara*	–	–	*-qaassi*	*-qaakka*	–
2.sg	*-qaarma*	–	*-qaat*	–	*-qaatsigut*	–	*-qaatit*	–
3.sg	*-qaanga*	*-qaatit*	*-qaa*	–	*-qaatigut*	*-qaasi*	*-qai*	–
4.sg	–	–	–	–	–	–	–	–
1.pl	–	*-qaatsigit*	*-qaarput*	–	–	*-qaassi*	*-qaavut*	–
2.pl	*-qaassinga*	–	*-qaarsi*	–	*-qaatsigut*	–	*-qaasi*	–
3.pl	*-qaannga*	*-qaatsit*	*-qaat*	–	*-qaatigut*	*-qaasi*	*-qaat*	–
4.pl	–	–	–	–	–	–	–	–

Interrogative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	–	–	–	–	–	–	–
2.sg	*-qaanga*	–	*-qaajuk*	–	*-qaasigut*	–	*-qaagit*	–
3.sg	–	–	–	–	–	–	–	–
4.sg	–	–	–	–	–	–	–	–
1.pl	–	–	–	–	–	–	–	–
2.pl	*-qaasinga*	–	*-qaasiuk*	–	*-qaasigut*	–	*-qaasigik*	–
3.pl	–	–	–	–	–	–	–	–
4.pl	–	–	–	–	–	–	–	–

Contemporative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*-qalutit*	*-qalugu*	–	–	*-qalusi*	*-qalugit*	–
2.sg	*-qalunga*	–	*-qalugu*	–	*-qaluta*	–	*-qalugit*	–
3.sg	–	–	–	–	–	–	–	–
4.sg	*-qalunga*	*-qalutit*	*-qalugu*	–	*-qaluta*	*-qalusi*	*-qalugit*	–
1.pl	–	*-qalutit*	*-qalugu* *-qalutigu*	–	–	*-qalusi*	*-qalugit* *-qalutigik*	–
2.pl	*-qalunga* *-qalusinga*	–	*-qalugu* *-qalusiuk*	–	*-qaluta* *-qalutigut*	–	*-qalugit* *-qalusigik*	–
3.pl	–	–	–	–	–	–	–	–
4.pl	*-qalunga*	*-qalutit*	*-qalugu*	–	*-qaluta*	*-qalusi*	*-qalugit*	–

B.7 Special endings for V{ŋŋit}V

As described in chapter 14, the negation affix **V**{ŋŋit}**V** affects the mood markers in the indicative, interrogative and causative moods when it appears as the last affix before the ending. Indicative and interrogative {vu}, {va}, {vi} become {-la}, {-li} with deletion of the final /t/, and causative {ga} becomes {na} with *no* deletion of /t/. The intransitive endings thus become as follows:

Intransitive endings

	Indicative	Interrogative	Causative
1.sg	*-nngilanga*	–	*-nnginnama*
2.sg	*-nngilatit*	*-nngilatit*	*-nnginnavit*
3.sg	*-nngilaq*	*-nngila*	*-nngimmat*
4.sg	–	–	*-nnginnami*
1.pl	*-nngilagut*	–	*-nnginnatta*
2.pl	*-nngilasi*	*-nngilasi*	*-nnginnassi*
3.pl	*-nngillat*	*-nngillat*	*-nngimmata*
4.pl	–	–	*-nnginnamik*

Notice in the indicative mood that /l/ geminates to /ll/ in 3.pl, where /v/ ordinarily geminates to /vv/. Furthermore, the interrogative endings have become indistinguishable from the indicative endings except for 3.sg *-nngila*.

There are also a few moods where **V**{ŋŋit}**V** cannot be used: In contemporative mood, the negative contemporative is used *instead* of **V**{ŋŋit}**V**; and the imperative mood cannot be used with **V**{ŋŋit}**V** at all, so here the negative contemporative is also used instead of the usual imperative endings.

Lastly, the optative mood cannot be used directly on **V**{ŋŋit}**V** either, but requires the affix **V**{gi}**V** to be injected inbetween **V**{ŋŋit}**V** and the ending; thus for example

$$\textbf{V}\{ŋŋit\}\textbf{V}\{gi\}\textbf{V}\{li\} \Longrightarrow^{*} \textit{-nngikkili}$$

However, this combination is completely regular in the sense that it does not require any special sandhi rules or cause any changes to the mood markers or affixes, so I have not tabulated these endings.

The comments above hold for both the intransitive and transitive endings. The latter sets of endings appear on the following page.

Indicative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*-nngilakkit*	*-nngilara*	–	–	*-nngilassi*	*-nngilakka*	–
2.sg	*-nngilarma*	–	*-nngilat*	–	*-nngilatsigut*	–	*-nngilatit*	–
3.sg	*-nngilaanga*	*-nngilaatit*	*-nngilaa*	–	*-nngilaatigut*	*-nngilaasi*	*-nngilai*	–
4.sg	–	–	–	–	–	–	–	–
1.pl	–	*-nngilatsigit*	*-nngilarput*	–	–	*-nngilassi*	*-nngilavut*	–
2.pl	*-nngilassinga*	–	*-nngilarsi*	–	*-nngilatsigut*	–	*-nngilasi*	–
3.pl	*-nngilaannga*	*-nngilaatsit*	*-nngilaat*	–	*-nngilaatigut*	*-nngilaasi*	*-nngilaat*	–
4.pl	–	–	–	–	–	–	–	–

Interrogative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	–	–	–	–	–	–	–
2.sg	*-nngilinga*	–	*-nngiliuk*	–	*-nngilisigut*	–	*-nngiligit*	–
3.sg	–	–	–	–	–	–	–	–
4.sg	–	–	–	–	–	–	–	–
1.pl	–	–	–	–	–	–	–	–
2.pl	*-nngilisinga*	–	*-nngilisiuk*	–	*-nngilisigut*	–	*-nngilisigik*	–
3.pl	–	–	–	–	–	–	–	–
4.pl	–	–	–	–	–	–	–	–

Causative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
1.sg	–	*-nnginnakkit*	*-nnginnakku*	*-nnginnanni*	–	*-nnginnassi*	*-nnginnakkit*	*-nnginnatsik*
2.sg	*-nnginnamma*	–	*-nnginnakku*	*-nnginnanni*	*-nnginnatsigut*	–	*-nnginnakkit*	*-nnginnatsik*
3.sg	*-nngimmanga*	*-nngimmatit*	*-nngimmagu*	*-nngimmani*	*-nngimmatigut*	*-nngimmasi*	*-nngimmagit*	*-nngimmatik*
4.sg	*-nnginnaminga*	*-nnginnamisit*	*-nnginnamiuk*	–	*-nnginnamisigut*	*-nnginnamisi*	*-nnginnamigit*	–
1.pl	–	*-nnginnatsigit*	*-nnginnatsigu*	*-nnginnatsinni*	–	*-nnginnassi*	*-nnginnatsigik*	*-nnginnatsik*
2.pl	*-nnginnassinga*	–	*-nnginnassiuk*	*-nnginnassinni*	*-nnginnatsigut*	–	*-nnginnassigik*	*-nnginnatsik*
3.pl	*-nngimmannga*	*-nngimmatsit*	*-nngimmassuk*	*-nngimmanni*	*-nngimmatigut*	*-nngimmasi*	*-nngimmatigik*	*-nngimmatik*
4.pl	*-nnginnaminnga*	*-nnginnamitsit*	*-nnginnamikku*	–	*-nnginnamisigut*	*-nnginnamisi*	*-nnginnamikkik*	–

B.8 Special endings for V{ssa}V and V{qəna}V

The future affix **V**{ssa}**V** affects the intransitive indicative mood marker {vu} by deleting the *single* /v/, and then assimilating /u/ to [a] by the a-rule. However, the 3.pl ending **V**{(v)vut} is *not* affected, so it becomes *-ss**a**pput* by the regular rules. Another (much, much rarer) affix, **V**{-qəna}**V**, behaves similarly. I have tabulated the resulting combinations for these affixes and the intransitive indicative endings below:

	V{ssa}**V**	**V**{-qəna}**V**
1.sg	*-ssaanga*	*-qinaanga*
2.sg	*-ssaatit*	*-qinaatit*
3.sg	*-ssaaq*	*-qinaaq*
4.sg	–	–
1.pl	*-ssaagut*	*-qinaagut*
2.pl	*-ssaasi*	*-qinaasi*
3.pl	*-ssapput*	*-qinapput*
4.pl	–	–

Note that although these affixes with contracted endings may superficially *look* like schwa-stems, they emphatically are *not*, as evidenced also by the fact that the 3.pl endings are *not* affected. Also, they *only* affect these five endings in intransitive indicative; in all other moods (including *transitive* indicative) they are completely regular.

B.9 Special endings for V{gi}V

The narrative affix **V{gi}V**, *and then* ⟨*subject*⟩ *Vb'ed*, causes vowel metathesis in the indicative mood, both with intransitive and transitive endings. The rule is that

$$/\text{giv}/ \rightarrow /\text{guj}/$$

with both {vu} and {va}, but like **V{ssa}V** and **V{-qəna}V** it does *not* affect the intransitive 3.pl ending **V{(v)vut}** where /v/ is doubled. I have also only seen it used with endings for the 3rd person as subject, and it is unclear to me whether it can be used with markings for other persons. In any case, its usage (in this narrative sense) is rare, and the number of affected endings is small. The intransitive endings are thus

3.sg	**V{gi}V{vuq}**	$\Longrightarrow$	/gujuq/	$\Longrightarrow^*$	*gujoq*	(special)
3.pl	**V{gi}V{(v)vut}**	$\Longrightarrow$	/givvut/	$\Longrightarrow^*$	*gipput*	(regular)

Likewise, the transitive indicative endings (with 3rd person subject) are as follows:

Indicative

	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
3.sg	*gujaanga*	*gujaatit*	*gujaa*	–	*gujaatigut*	*gujaasi*	*gujai*	–
3.pl	*gujaannga*	*gujaatsit*	*gujaat*	–	*gujaatigut*	*gujaasi*	*gujaat*	–

This affix also has a (completely unrelated) meaning with the imperative and optative moods, where it signifies that the command/request is pushed a little into the future. With optative endings, **V{gi}V** is mandatory in combination with **V{ŋŋit}V**, but the endings themselves are unaffected. However, a few of the imperative endings, both intransitive and transitive, are altered or slightly reduced when used with this affix:

Imperative

	Intransitive	1.sg	2.sg	3.sg	4.sg	1.pl	2.pl	3.pl	4.pl
2.sg	*gina*	*ginga*	–	*giuk*	–	*gigut*	–	*gigit*	–
2.pl	*gisi*	*gisinga*	–	*gisiuk*	–	*gisigut*	–	*gisigik*	–

B.10 Other affixes with special endings

There are also other affixes with special, idiosyncratic endings, although their usage is much more limited; or at least, the number of special endings is limited to perhaps one or two special, lexicalised cases, whilst their endings in other moods are completely regular.

- **V**{gallaq}**V**{-git} $\Longrightarrow^*$ *gallaat*
  V{gallaq}**V**{-guk} $\Longrightarrow^*$ *gallaak*
  Intransitive imperative 2.sg **V**{-git} deletes /q/ but drops its /g/, and /i/ is therefore assimilated to [a]. Transitive imperative 2.sg/3.sg **V**{-guk} behaves similarly. The combination is used to (politely) urge thou to Vb.

- **V**{(m)mi}**V**{vuq} $\Longrightarrow^*$ *(m)mioq*
  The affix deletes /v/ from the intransitive indicative mood marker {vu}. However, it is unclear to me whether this affix can be used with any other moods, or with any other person markers besides the 3.sg. Its meaning is *and then he Vb'ed*, similar to **V**{gi}**V**.

Annotated bibliography

In this annotated bibliography I have added some further comments to each of the entries, to describe their contents and my personal opinion of their merits or usefulness. You can therefore also read the bibliography as my recommendation for each of the listed items.

Bergsland, K. (1955). *A grammatical outline of the Eskimo language of West Greenland.* Manuscript typed by Skrivemaskinstua, Stortingsgata 18, Oslo, Norway. *An interesting grammar with many historic details, especially on the (now lost) dual forms. Unfortunately, it only exists as a typewritten manuscript.*

Berthelsen, C. (1996). *Kalaallisut Sungiusaatit.* Atuakkiorfik Ilinniusiorfik, Nuuk. *A Greenlandic textbook/reader, containing 55 pieces of Greenlandic text with a nice progression in difficulty. This is the old version, before the new publisher cut it down to a third. Get this version, if you can find it.*

Bjørnum, S. (2003). *Grønlandsk grammatik.* Forlaget Atuagkat, Nuuk, Greenland. *This book is probably* the *Graphemistic grammar* par exellence. *It contains endless tables of endings, as well as a list of some commonly used affixes. There is also an extensive list of demonstratives (pronouns and adverbs), and a description of sentence construction.*

Brochmann, H. (1998). *Qanoq 1.* Atuakkiorfik, Nuuk, Greenland, 3 edition. *Teaching materials in the Graphemistic tradition, using the new orthography. This book was meant as a supplement to Hertling's* Qaagit! *books, but with a focus on written, rather than spoken Greenlandic. It purports to give a presentation of some essential grammatics, but its 'explanations' generally amount to mere superficial statements about the alternating forms of affixes with no description of the* pattern *governing these alternations. As such, it compliments* Qaagit! *perfectly.*

Fortescue, M. (1983). A comparative manual of affixes for the inuit dialects of Greenland, Canada and Alaska. *Meddelelser om Grønland, Man & Society*, 4. *A list of affixes with comparison of the morphemic forms between the main dialects of inuit languages. The notes are terse, but readable, and provide many interesting details. It is an affordable alternative to the Comparative Eskimo Dictionary.*

Fortescue, M. (1984). *West Greenlandic*. Croom Helm, Dover, New Hampshire. *A rather terse grammar, but readable and with many interesting details. It is unfortunately not structured in a particularly 'pedagogical' fashion, and details about a particular morpheme can be scattered throughout the book.*

Fortescue, M., Jacobson, S., and Kaplan, L. (2010). *Comparative Eskimo Dictionary With Aleut Cognates*. Alaska Native Language Center, Fairbanks, Alaska, 2 edition. *A dictionary of reconstructed morphemic forms in the hypothetical 'proto-Eskimoic' ancestor language. This dictionary allows comparison of the present form of morphemes between the main branches of the inuit languages. An invaluable, but sadly also quite rare and expensive, aid in the search for the underlying morphemic forms.*

Hertling, B. (1994). *Qaagit!* Pilersuiffik, Nuuk, Greenland, 3 edition. *Teaching materials in the Graphemistic tradition, using the new orthography, and with a focus on spoken Greenlandic, especially everyday-language use. It employs a method well-known from the teaching of English as a foreign language in the Danish school system, with small dialogues to be memorised and repeated by the students. This method works well for a language like English, where words can be recombined to form new sentences, but it is completely unsuitable for a language where words have complex meanings, corresponding to phrases or entire sentences in English.*

Janussen, E. (1987). *Håndbog i grønlandsk grammatik*. Pilersuiffik. *A small, unmistakably Graphemistic, handbook of Greenlandic grammar. It contains no explanations or details, and is as such, useless, except perhaps for a quick reference. However, the author admirably goes against the Grammaric tradition and tries to provide* truly Danish *words for many of the technical terms, instead of the Grammaric nonsense that besets so many other books on the subject.*

Langgård, P. (1997a). *Forsøg til en forbedret grønlandsk pædagogisk grammatica*. Forlaget Atuagkat, Nuuk, Greenland. *This is Per Langgård's grammar wherein he describes the sound rules, the construction of the system of endings, and some common affixes. The book is short and somewhat terse, and, despite its name, some people (with Graphemistic tendencies) consider it un-pedagogic, because its presentation is abstract and rule-based.*

Langgård, P. (1997b). *Grønlandsk for voksne*. Forlaget Atuagkat, Nuuk, Greenland. *Per's teaching materials that originally accompanied his grammar. They have recently been recast in digital form with video lessons and auxiliary tools. These materials also exist in English. See* `https://learngreenlandic.com`.

Lybech, S. (2020). A List of Greenlandic Affixes. `https://oqa.dk`. *A list of all the Greenlandic affixes I know (plus a few more), written using my morphemic notation and listed according to Fortescue's grouping.*

Nielsen, F. A. J. (2019). *Vestgrønlandsk grammatik*. Books on Demand, København, Danmark. *A thoroughly Grammaric description of the Greenlandic language. This book follows in the tradition of Kleinschmidt and others, and gives some details on the underlying morphemic forms, underlying phonemes etc. It is not a particularly* readable *book for a non-specialist, but it contains many details on historical forms not found in other recent grammars.*

Olsen, L. L. and Hertling, B. (2011). *Grønlandsk tilhængsliste*. Ilinniusiorfik, Nuuk, Greenland, 2 edition. *A Graphemistic list of affixes with examples of their usage. This book contains nothing essential that cannot also be found in the DAKA dictionary, which in turn contains very little of importance.*

Rasmussen, C. (1888). *Grønlandsk Sproglære*. G.E.C. GAD, Kjøbenhavn, Danmark. *A presentation of the contents of Kleinschmidt's orginal "Grammatik der grönländischen Sprache" from 1851, reworked into Danish. The presentation is less terse than in Kleinschmidt's book. However, it is mainly interesting for historical reasons; e.g. it contains an interesting description of the dual endings, which, at that time, had not yet fallen completely out of use.*

Sadock, J. M. (2003). *A Grammar of Kalaallisut*. LINCOM GmbH, München, Germany. *A technical, linguistic grammar. It is unreadable and completely useless for a non-specialist who simply wants to learn the language.*

Schultz-Lorentzen, C. W. (1951). *Det Vestgrønlandske Sprog*. Statsministeriet, København, Danmark. *A newer presentation of Greenlandic grammar, using the old orthography. The presentation is given in the style of Kleinschmidt and Chr. Rasmussen etc., albeit somewhat abbreviated. There is nothing essential in this book, compared to the work of Chr. Rasmussen, but it does have the advantage of being generally more readable, and thus more accessible, by virtue of being typeset with a familiar serif font, rather than a blackletter font.*

Schultz-Lorentzen, C. W. (1958). *Den Grønlandske Ordbog*. Kirkeministeriet, København, Danmark. *A relatively recent dictionary using the old orthography. This is a useful alternative to the Comparative Eskimo Dictionary, since the old orthography retains more information on the underlying phonemes than a dictionary using the new orthography.*