An investigation into the phonemic status of vowel length and tone in Khoekhoegowab

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Abstract

Previous studies have suggested that Khoekhoegowab, which represents the Damara, Nama and Haiǁom dialects in Namibia, has phonemic long and short vowel phonemes. The purpose of this paper thus is to closely examine the phonemic status of the vowels to establish whether or not Khoekhoegowab does have long and short vowel phonemes. The paper's premise is the phonetic perception in the production of vowels. Lengthening occurs when a vowel is realised in a continuous manner without the possibility of syllabifying it. The paper followed a mixed research design where data was drawn from a few available sources such as Haacke and Eiseb (2002) and Khoekhoegowab Orthography (2003). This was complemented by data from a few key informants who are mother-tongue speakers of Khoekhoegowab. With the aid of PRAAT software, the study argues that rather than length, tone is the phonemic feature in Khoekhoegowab; it distinguishes meaning in different Khoekhoegowab words. Over the years, because the high and low tones interfered with how speakers perceive the sounds, vowel length has not been sufficiently scrutinised.

Keywords: *monosyllabic, phonetic perception, syllabifying, vowel length, vowel tone,*

Background

Khoekhoegowab is a Khoesan language spoken in a number of southern African countries, namely Namibia, South Africa, Botswana and the southern part of Angola. As can be seen in the work by Haacke (2005), Khoekhoegowab is well developed, and documented in numerous materials like the orthography, which has undergone at least three improvements. The first version was published in 1970, the second version in 1977 and the third version, which happens to be in English, in 2003 (Haacke, 2005). In addition, a number of primers were co-authored with Johannes Boois for textbooks for grades 4 to 7, but also the formal university courses in Khoekhoegowab as a first language. Studies such as Baucom (1972), Tindall (1857) and Haacke and Eiseb (2002) suggested that Khoekhoegowab, which represents the Damara, Nama, and Haiǁom dialects in Namibia, has both phonemic long and short vowels. The aim of the present paper thus is to closely examine vowel length vs tone, guided by the problem identified below.

Statement of the Problem

According to the Khoekhoegowab Orthography (2003), long vowels occur in so called "monosyllabic" roots that do not end with m- or -n-. In addition, the Khoekhoegowab Orthography (2003) states that long vowels originated through the disappearance of "w" or

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"r" between identical short vowels and is also used to avoid confusion between certain words. Literature such as the work by Chebanne (2000), defines vowel lengthening as the continued realisation of a vowel, which the present paper agrees with, as vowel lengthening should not be used to avoid confusion.

Literature review
Characteristics of Khoesan Languages
Khoesan languages can be characterised by their tonal structure, vowel features, aspects of non-click consonants, click aspects and their constituent patterns. For the purpose of this paper, we will look at vowel length and tone.

Tones
Pitch refers to the frequency at which the vocal folds vibrate during the pronunciation of a sound (Mheta, 2013). Pitch can also distinguish between the denotational meanings of words; such languages are called tone languages. According to Namaseb (2007), Khoekhoegowab is a tone language and differences in dialects are more about tone rather than other linguistic features. Given that Khoekhoegowab consists of at least three dialects, namely the Nama, Damara and Haillom dialects, marking of tone would certainly impact common orthography. Indeed, the Khoekhoegowab Language Committee was well aware of this issue and did not mark the tones. Moreover, Haacke (1998) argues that tonal marking is more important for the non-Khoekhoe user, who needs information on tonal pronunciation, rather than the Khoekhoe user himself/herself. Khoekhoegowab mother tongue users are guided by the context to determine the pronunciation and meaning, for example, in the same manner that English speakers easily distinguish between 'read' (present tense) and 'read' (past tense). He further points out that the absence of tonal distinctions has led the compilers of previous material like RUST (1960) in the Namaqua Dictionary, to confuse catchwords and hence miss semantic distinctions as they were non-Khoekhoe speakers. Even though it is not the central argument of the present paper, tonal marking should be used in specialised books like the dictionary. However, everyday tone should not be marked as it is cumbersome and results in transcribing the language.

Vowel System
The second distinguishing factor to be considered for this paper is the vowel system; this is guided by a number of scholars like Baucom (1972), Tindall (1857) and Haacke and Eiseb (2002). According to these scholars, Khoekhoegowab vowels can be categorised as short, long, nasalised and diphthongs. The plain vowels are listed as a, e, i, o, and u.

Lengthened vowels
Vowel length is one of the contested issues in Khoekhoegowab. Researchers such as Tindall (1857) and Haacke (1989) including the current Khoekhoegowab Orthography (2003), describe Khoekhogowab as having short vowels as indicated above and long vowels represented as follows, /ā/, /ē/, /ō/, /ū/, and /ī/ with a macron on top of the vowel.

Data Collection Methods
This paper forms part of a larger study where the Khoekhoegowab phonetic inventory was at the centre. The paper followed a mixed research design where data was drawn from a few available sources like 1. Haacke & Eiseb, (2002) and 2. Khoekhoegowab Orthography (2003). This was complemented by data from a few key informants who are mother-tongue speakers of Khoekhoegowab. There was one key informant per region under study namely Hardap Region, ǁKharas Region, and Kunene Region, respectively. With the aid of PRAAT

software, the study argues that rather than length, tone is the phonemic feature of Khoekhoegowab; it distinguishes meaning in different Khoekhoegowab words. For many years, because the high and low tones interfered with perception, vowel length has not been sufficiently scrutinised.

Findings and Analysis

The literature suggests that Khoekhoegowab has five short vowels, five long vowels, and three nasalised vowels (Tindall, 1857, Haacke 2002, and Brugman, 2009). The vowel phonemes can be said to contrast in height, backness, rounding and nasalisation. Brugman (2009) states that short vowels occur in roots with two syllables (e.g. *karap*, which means bead), and in monosyllables with a root-final nasal (e.g. *dan* meaning to win), while long vowels occur in roots with one syllable (e.g. *tsaap*, which means slobber). It appears from these examples that length is predictable and for the sake of orthography design, the question is whether long and short vowels should form minimal pairs.

Vowel Length vs Tone

Lengthening, in this paper, should be understood as a phonetic perception in the production of a vowel. Lengthening occurs when a vowel is realised in a continuous manner without the possibility of syllabifying it (Chebanne, 2000). The paper argues that, rather than length, tone is the phonemic feature that distinguishes meaning in Khoekhoegowab. In other words, it is tone that is phonemic rather than length. It is thus my contention that the high and low tones interfere with the perception of vowels; thus the vowels seem to be long.

Words do not become minimal pairs because of length but rather because of tone. For example, low and high-tone vowels always appear to be long. When language has as many tones, this is likely to happen. Brugman (2009) identified four tonemes in Khoekhoegowab; the same tonemes were identified earlier by Haacke and Eiseb (2002). According to these authors, Khoekhoegowab employs four tones, which have been sequenced from lowest to highest namely; 1ä, 2à, 3á, and 4a.

For Brugman (2009), ǀgōros *[ǀgo:ros]* (little girl) is long as opposed to ǀgoros (animal disease). Evidently, the former is pronounced with a higher tone than the latter, so the length is immaterial. The Khoekhoegowab Orthography (2003) further states that the length mark eliminates possible confusion between monosyllabic roots such as ǀgōs (girl) and disyllabic roots such as ǀgoros (animal disease). This is a challenge because lengthening should not be used to eliminate confusion. Instead, vowels should be described as long because they are long phonetically.

Khoekhoegowab Orthography (2003) further argues that vowel length originated through the disappearance of /w/ or /r/, e.g. ǂ*here* becomes ǂ*he*. This explanation could be true if the word derived meant exactly the same as the original word, but the two words in discussion are different. It could be the case that one dialect uses the word ǂ*here* and the other uses ǂ*he* but the question then is, how does that account for lengthening? The idea that the disappearance of a particular phonemic element could lead to lengthening is not clearly motivated in the literature. In the same way, the paper condemns the argument that disyllabic roots and monosyllabic roots should not be used to show lengthening.

The contention of this paper is that the difference between high and low tones determines the appearance of either a long or short vowel. The argument in this paper is that in some cases, as can be seen in the tables below, (calibrated from the phonetic tool PRAAT) some

sounds believed to be longer are in fact shorter. This further strengthens the present argument that in each case it is not length that is phonemic, but rather the tone. I have used Praat to determine the length of the tonal melody; this is shown on the vertical axis and the horizontal length.

Praat image: ǀgōros
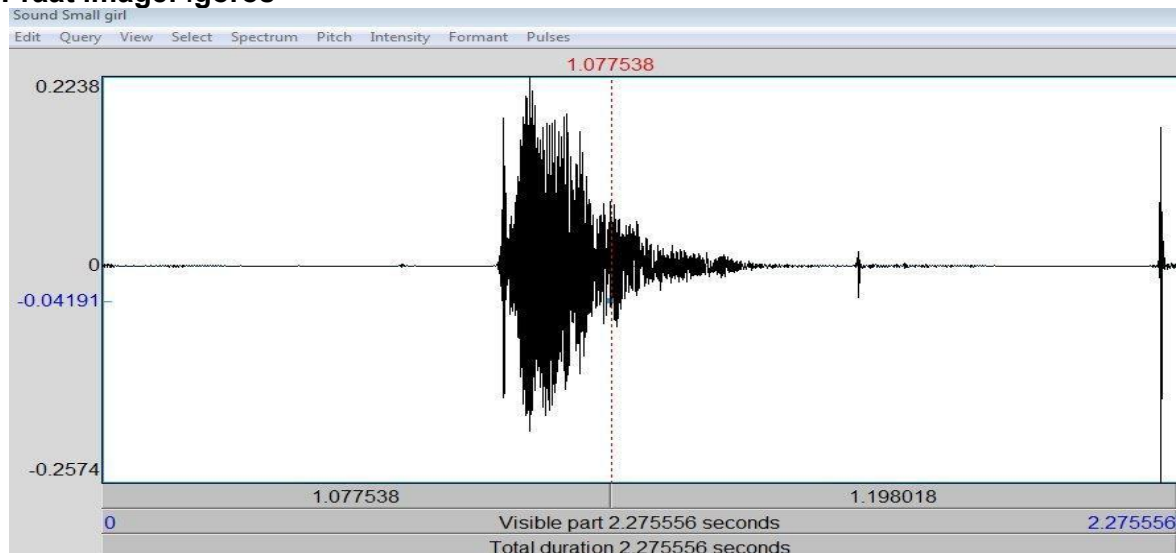
Praat image: ǀgoros
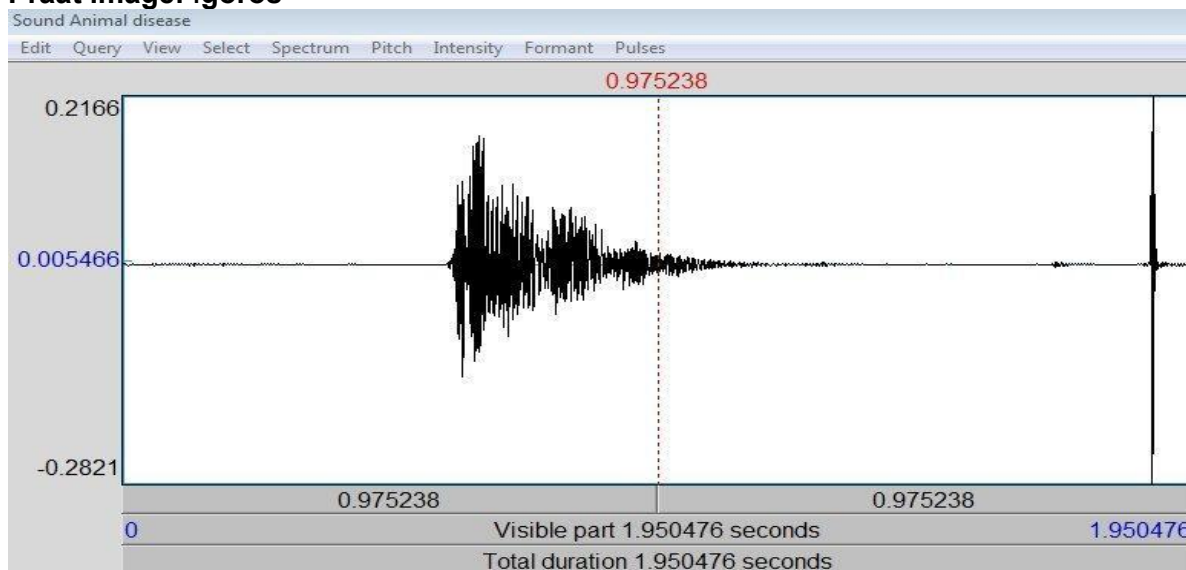
What is evident from the images above, is that the first image of the word ǀgōros, meaning small girl, and which is marked with a length mark in Khoekhoegowab Orthography (2003), does in fact have a high tone. Thus the words are not different because of the length of the vowels. It appears that in this case, the vowel with a higher pitch or tone appears lengthened. The following images are of the word [ǀi], which is only distinguishable by the pitch level. In the first image it means hobble and in the second it means removing hair from the skin using fire.

Praat image: [lī] Hobble
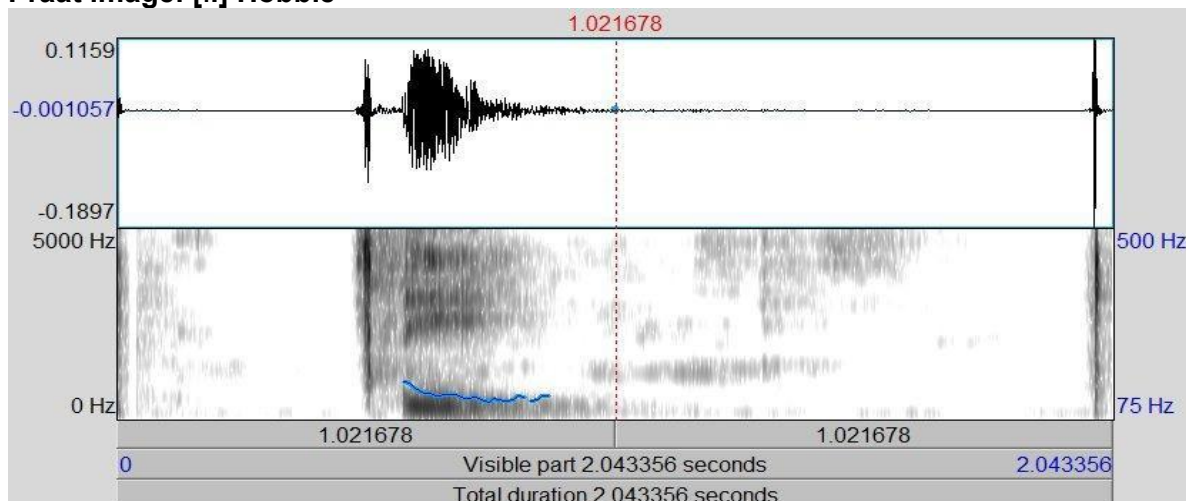
Praat image: [lī] Remove hair
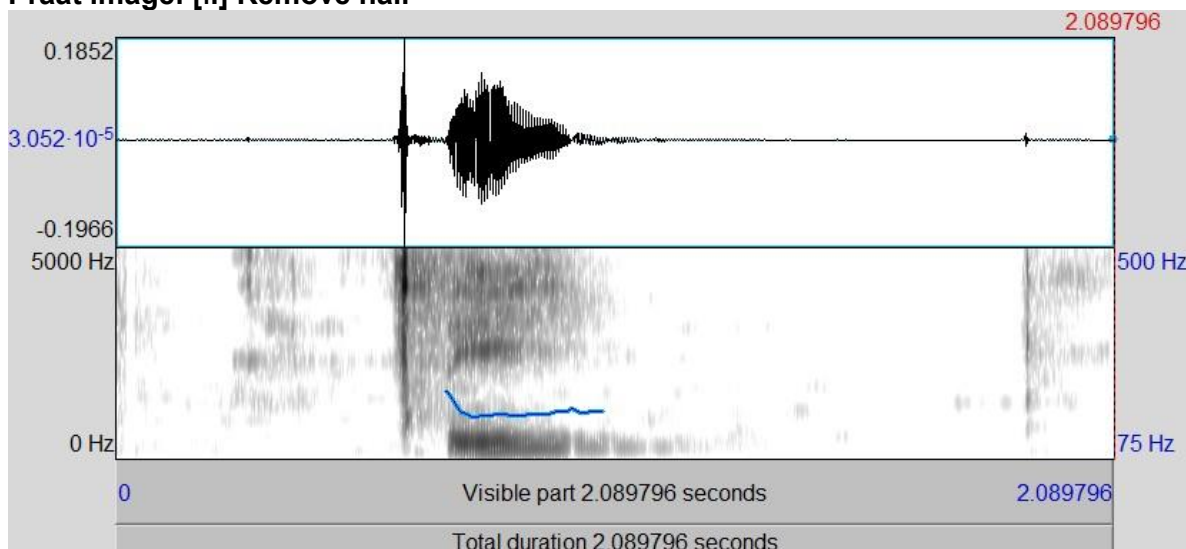
This brings us to the question as to whether Khoekhoegowab has contrastive long and short vowels as depicted in the literature. The present paper argues, based on the evidence, that Khoekhoegowab does not have long vowels. The contrastive variations in tones are mistaken for short and long vowels. The high tone appears to trigger a light lengthening of the vowel, but this lengthening is illusionary, as illustrated by the PRAAT images above. The distinguishing of vowels as short and long does not make sense, as there is no evidence of minimal pairs among long and short vowels. Even the Namibia Curriculum Committee appears to have also come to the realisation that it is not vowel length, but tonal difference, that distinguishes various words. According to Davids (2010), the Khoekhoegowab Curriculum Committee suggested that the length mark in Khoekhoegowab be removed. It is clear that Davids (2010) and other mother tongue speakers, realised that the difference is tonal, rather than one of length.

Conclusion

Contrary to what other scholars have argued, this paper's premise is that Khoekhoegowab does not have long vowels as perceived; in fact, tonemes distinguish the difference between words. There is no evidence of minimal pairs for short and long vowels; however, words can be distinguished based on the tonal melody.

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