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Temne belongs to the South Atlantic Group of Niger-Congo (formerly the Southern Branch of the Atlantic Group of Niger-Congo; Blench 2006, Childs 2010) spoken in the northern part of Sierra Leone. According to Ethnologue (ISO 639-3: tem, Lewis 2009), Temne has a population of about 1.2 million native speakers. Like other South Atlantic languages, Temne is a tonal language with a noun class system, prefixed noun class markers and agreeing prefixes on dependent elements. Features determining class membership include number and animacy. Temne also features extension suffixes which alter the valency or the semantic structure of simple verb stems. The basic word order is Subject–Verb–Object.

Temne has a long history of research. Some of the earlier works focusing on Temne and its sounds include Schlenker (1864), Sumner (1922), Scott (1956), Dalby (1966) and Wilson (1961, 1968). In addition, Ladefoged (1968, 1971) also briefly describes aspects of the sounds of Temne. To the best of our knowledge, the only recent publications discussing the sound system of Temne are Nemer & Mountford (1984), Turay (1989), Yillah (1992), Kamarah (2007), Bai-Sheka (2007) and Wilson (2007).

This description of the sound system of Temne is based on productions from two speakers from different dialect areas. The main speaker, the first author, is a male speaker of the Yoni dialect. The second is a female speaker from the town of Kambia in the Northern Province of Sierra Leone, who speaks the North-Western dialect of Temne. Both speak Temne as their first language and were in their early thirties at the time of the recording. Both speakers had lived in Sierra Leone until their early twenties and currently reside in Canada. The first author translated and produced ‘The North Wind and the Sun’ passage.

Consonants

Temne has nineteen phonemic consonants.

	Bilabial	Labio-dental	Dental	Alveolar	Palatal	Velar	Labial-velar	Glottal
Plosive	p b		t̪	t d		k	gb	
Nasal	m			n		ŋ		
Affricate					tʃ			
Fricative		f		s	ʃ			h
Trill				r				
Approximant					j		w	
Lateral approximant				l				

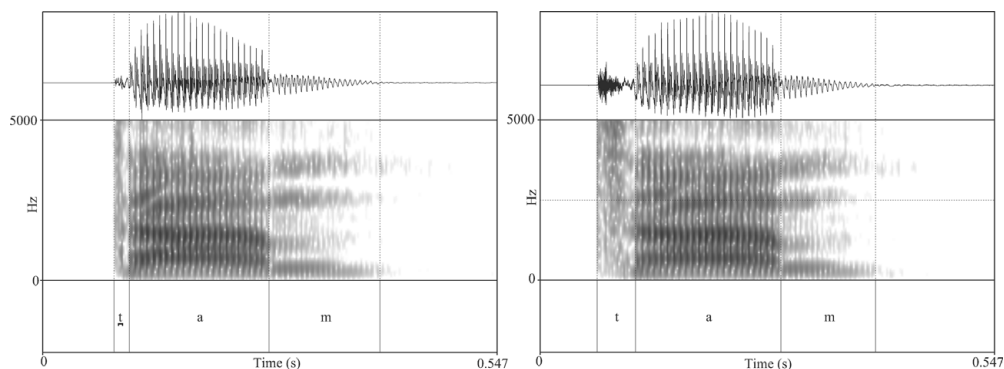


Figure 1 Spectrograms illustrating dental unaspirated stop *tham* 'to taste' (on the left) and the alveolar aspirated/affricated stop *tam* 'to announce' (on the right).

Examples of the consonants in Temne were selected to occur in as similar a context as possible. In this case they precede the same vowel, /e/, where possible. In two instances the consonant precedes /ɛ/ and in three cases /u/ was used to illustrate sounds that occur as part of dialectal variation illustrated in the list at the end of the present section.

/p/	/pèt/	<i>pet</i>	'town'	/b/	/bèk/	<i>bek</i>	'arrive'
/t̪/	/t̪èm/	<i>them</i>	'old man'	/d/	/dér/	<i>der</i>	'come'
/t/	/tùk/	<i>tuk</i>	'epilepsies'	/tʃ/	/tʃèm/	<i>chem</i>	'guinea-fowl'
/gb/	/gbép/	<i>gbep</i>	'climb'	/k/	/kèk/	<i>kek</i>	'chin'
/f/	/fèf/	<i>fef</i>	'wind'	/h/	/hɛ́/	<i>he</i>	interjection, to draw attention
/s/	/sùm/	<i>sum</i>	'dark'	/ʃ/	/ʃél/	<i>shel</i>	'laugh'
/m/	/mèt/	<i>met</i>	'festival'	/n/	/nɛ́p/	<i>nep</i>	'nape'
/ŋ/	/ŋès/	<i>ŋes</i>	'spider'	/r/	/rèt/	<i>ret</i>	'sun'
/l/	/lèŋ/	<i>leŋ</i>	'song'	/j/	/jèr/	<i>yer</i>	'rat'
/w/	/wúr/	<i>wur</i>	'get out'				

Temne has been reported by Ladefoged (1968) as having an apical/laminal distinction. This contrast is presented in this work as a contrastive dental and alveolar place of articulation, which is consistent with Ladefoged's description of these sounds. Ladefoged indicates that the dental apical stop has very little aspiration while the alveolar laminal stop is aspirated or slightly affricated. This observation is confirmed by the acoustic display in Figure 1.

Wilson (2007) finds the sounds /d/ and /r/ to be in complementary distribution and, in some cases, in free variation. As indicated by Wilson (2007), groups of speakers vary their choice of /d/ or /r/ in stem-initial position (e.g. /dì/ and /rì/ meaning 'there'). However, there are environments in our data where this variation is not allowed. For example, the verb 'to eat' can only be produced as /dì/ and never as /rì/; Speaker 1 uses /dì/ for both 'to eat' and 'there'. The following minimal pair also would seem to indicate that these are indeed separate phonemes: *dada* 'uncombed hair' and *dara* 'palm nut stalk'.

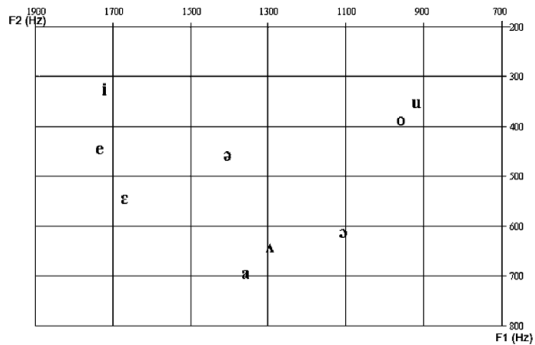
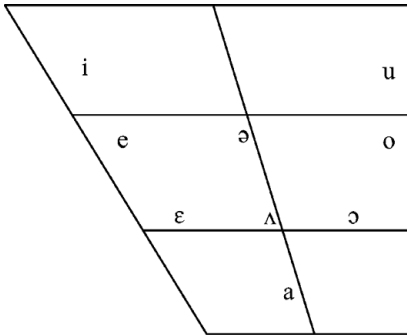
The sets of consonants /t/ vs. /tʃ/, /s/ vs. /ʃ/, and /j/ vs. /w/ are dialectal variants before the front vowels /i e a/. In the following list of examples, the Yoni dialect is contrasted with all the other dialects (Western Konke, Eastern Konke, Sanda, North-Western, and Bombali):

YONI	OTHER DIALECTS	GLOSS
/tʃìk/	/tìk/	‘male stranger’
/tʃèr/	/tèr/	‘rats’
/tʃèl/	/tèl/	‘small farm’
/ʃím/	/sím/	‘break’
/ʃél/	/sél/	‘laugh’
/ʃélè/	/sélè/	‘take a nap’
/jìr/	/wìr/	‘goat’
/jèr/	/wèr/	‘rat’
/jék/	/wék/	‘squeeze’

Very little else is known about dialect differences in Temne, a topic deserving further detailed research.

Vowels

Kamarah (1994) describes the vowel /a/ as front, /ʌ/ as back and /ə/ as central. However, preliminary acoustic analysis of recordings of the first speaker provide evidence that of the nine vowels in Temne, /i e ε/ are front, /ə ʌ a/ are central and /u o ɔ/ are back. The vowel chart illustrates the Temne vocalic system. It presents an idealized distribution of the preliminary F1/F2 vowel distribution plot in Hertz given on the right. Data from this plot were produced by the first speaker and are based on productions of 90 vowels from an earlier elicitation session. Each vowel was measured during a steady state period near the midpoint of the vowel.

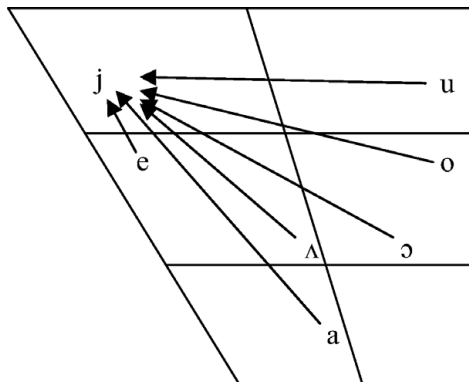


/i/	/pím/	<i>pim</i>	‘pick’	/ɔ/	/pɔ̀n/	<i>pɔ̀n</i>	‘swamp’
/e/	/pèm/	<i>pem</i>	‘quiet’	/ə/	/pə́r/	<i>pə́r</i>	‘incite’
/ε/	/pèt/	<i>pɛt</i>	‘river’	/ʌ/	/pʌ́s/	<i>pʌ́s</i>	‘brew’
/u/	/pút/	<i>put</i>	‘burst’	/a/	/pàm/	<i>pam</i>	‘contest’
/o/	/pól/	<i>pol</i>	‘clap’				

In addition to its phonemic status, the vowel /ə/ often appears epenthetically between two consonants to break up a potential consonant cluster. For example, the borrowed word ‘school’ is produced as /səkul/ with an epenthetic schwa. Schwa epenthesis also occurs when consonants are brought together in the morphology, for example /kəl/ ‘to pour’ when combined with the causative/iterative morpheme /-s/ is /kələs/ ‘to pour repeatedly or cause someone to pour’. Additionally, the representation of the phoneme /ʌ/ with the carat symbol is a transcription convention which conforms to earlier usage, representing the central half open vowel. Based on our preliminary acoustic analysis, it may be more accurately described as /ɜ/ or /ɐ/ on the standard IPA chart.

Diphthongs

Early Temne reference grammars, including Schlenker (1864), Sumner (1922), Scott (1956), and Wilson (1961), describe the diphthongs as forward closing, with a movement from the vowels /e a ʌ u ɔ/ towards the front close vowel /i/. Following Yillah (1992), Kamarah (1994) and Kanu (2002), we have adopted the convention of using the palatal approximant symbol /j/ for the latter part of the glide. Thus diphthongs are represented as a vowel–glide sequence /ej aj ʌj uj ɔj/.



/ej/-	/kèj/	<i>key</i>	‘thief’	/aj/-	/káj/	<i>kay</i>	‘young forest’
/ʌj/-	/kʌj/	<i>káy</i>	‘beat up’	/uj/-	/kùj/	<i>kuy</i>	‘crocodile’
/ɔj/-	/tɔ́j/	<i>thɔy</i>	‘burn’	/oj/-	/sòj/	<i>soy</i>	‘soap’

Tone

As stated earlier, Temne is a tonal language (Wilson 1968, Nemer & Mountford 1984). According to Kamarah (1994) and Dalby (1966), Temne has high, low, rising and falling tones. Based on our data and investigation of tone, we have found no indication of contour tones and thus support Wilson (1968, 2007), who argues for only high and low tones in Temne. Tone fulfils both lexical and grammatical functions in the language. The examples below illustrate words that are lexically contrastive.

/bì/	<i>bi</i>	‘hole’	/bí/	<i>bi</i>	‘black’
/ébis/	<i>ebis</i>	‘the dyed materials’	/ébìs/	<i>ebis</i>	‘the mabis fruit tree’

Tone is used to make grammatical distinctions such as definiteness and past tense. For example, with nouns belonging to the *ɛ*- noun class, a distinction between definite and indefinite nouns is based on tone. Definite nouns take a high tone while indefinite nouns take a low tone on the class suffix, as the following examples illustrate:

/èmuná/	<i>emuna</i>	‘potatoes	/é-mùná/	<i>emuna</i>	‘the-potatoes’
/èjòká/	<i>eyoka</i>	‘cassavas’	/é-jòká/	<i>eyoka</i>	‘the-cassavas’

Downdrift and downstep phenomena also occur in Temne (Dalby 1966, Wilson 1968, Kamarah 1994). In the case of downdrift, a sequence containing a HLH tone pattern as in the above examples /é-mùná/ ‘the-potatoes’ and /é-jòká/ ‘the-cassavas’, where the second high tone is lower than the first high tone and in some cases as low as the preceding low tone. In the case of downstep, a sequence containing a HH tone pattern, as seen in the transcription of the recorded passage below for the word /é-fóf/ ‘the-dispute’, where the second tone is lower than the first high tone with no intervening low tone. Downdrift, downstep, and tone are phenomena that deserve greater detailed acoustic analysis in Temne.

Transcription of recorded passage

Temne orthography uses a straightforward phoneme-to-grapheme correspondence. In the orthography the graphemes generally correspond to their IPA counterparts with the following exceptions: ⟨á⟩ is used for /ʌ/, ⟨y⟩ is used for /j/, and the digraph ⟨th⟩ is used for /t/. Tone is not indicated in Temne orthography. A dash is used to distinguish a particle from the root. The dash can be used to distinguish between a diphthong and vowels in hiatus.

Orthographic version

áñfɛf áthɔɔŋ yi áneyàŋ dá de sor ɛfɔf tà pa ña kəbək təbáŋth. áñfɛf áthɔɔŋ áŋ pa ña tha bək təbáŋth. áney sɔ də pa dá tha bək təbáŋth. Ka áŋlɔkɔ ña ɛfɔf ɛye, dá ukɔth ɔ de der di. ɔkɔth ɔwe ɔ kufɛɛ ruma rɔ won. Ka áŋlɔkɔ áŋe, áfɛf áthɔɔŋ yi áneyàŋ dá áŋ de báyt kəpa ɔwe mɔtha gbo yɔ ɔkɔth ɔ bus áruma rɔŋ-e, kɔŋɔ tha bək təbáŋth. Ka kátɔŋ kati, dá áñfɛf áthɔɔŋ áŋ feŋ ɔlɛl ɔlɛl. Kɛɛ mán feŋ gbo-e, yá ɔkɔth mɔ kufɛɛ áruma rɔŋ rɔ won. Kəlɔpsɔ-i, dá áñfɛf áthɔɔŋ áŋthɔble. áney dá də wɔŋ kábarantha. Pə wonyɛ, ká ɔkɔth ɔ bus áruma rɔŋ rɔ ɔwon. Tati-i áñfɛf áthɔɔŋ dá gbithanɛ kəpa áney rá tha bək təbáŋth.

Broad transcription

ʌñfɛf ʌtɔɔŋ jɪ ʌneyàŋ dá de sɔr ɛfɔf tà pá ña kəbək təbáŋtɪ. ʌñfɛf ʌtɔɔŋ ʌŋ pá ña t̪á bək təbáŋtɪ. ʌnéy sɔ də pá d̪á t̪á bək təbáŋtɪ. ká ʌŋlɔkɔ ña ɛfɔf ɛyé, d̪á ʌkɔt̪ ɔ də déɾ di. ɔkɔt̪ ɔwɛ ɔ kufɛɛlənɛ rùmá rɔ wɔn. ká ʌŋlɔkɔ ʌŋɛ, ʌfɛf ʌtɔɔŋ jɪ ʌneyàŋ dá ʌŋ de bájt̪ kəpá ɔwɛ mɔt̪a gbɔ jɔ ɔkɔt̪ ɔ bús ʌrùmá rɔŋ-ɛ, kɔŋɔ t̪á bək təbáŋtɪ. ká kátɔŋ kati, dá ʌñfɛf ʌtɔɔŋ ʌŋ feŋ ɔlɛl ɔlɛl. kɛɛ mán feŋ gbɔ-ɛ, j̪á ɔkɔt̪ mɔ kufɛɛlənɛ ʌrùmá rɔŋ rɔ wɔn. kəlɔpsɔ-i, dá ʌñfɛf ʌtɔɔŋ ʌŋt̪ɔbəlɛ. ʌnɛj d̪á də wɔŋ kábarantha. pə wɔnɛjɛ, ká ɔkɔt̪ ɔ bús ʌrùmá rɔŋ rɔ ɔwɔn. tati-i ʌñfɛf ʌtɔɔŋ d̪á gbithanɛ kəpá ʌnéy rá t̪á bək təbáŋtɪ.

Interlinearized version

ʌŋ-fɛf ʌ-tɔɔŋ jɪ ʌ-nɛj-ʌŋ d̪á de sɔr ɛ-fɔf t̪á pá ña kə-bək
 NC-wind NC-north and NC-sun-PART 3.SG AUX begin NC-dispute for issue of NC-strong
 t̪á-báŋtɪ.
 NC-bones
 ʌŋ-fɛf ʌ-tɔɔŋ ʌŋ pá ña t̪á bək t̪á-báŋtɪ.
 NC-wind NC-north 3.SG say 3.SG.O COM strong NC-bones
 ʌ-néy sɔ də pá d̪á t̪á bək t̪á-báŋtɪ. ká ʌŋ-lɔkɔ ña ɛ-fɔf ɛyé,
 NC-sun again 3.SG say 3.SG COM strong NC-bones on NC-time of the.NC-dispute this
 d̪á ʌ-kɔt̪ ɔ də déɾ di. ɔ-kɔt̪ ɔwɛ ɔ kufɛɛlənɛ rùmá rɔ wɔn.
 then NC-traveler 3.SG AUX come there NC-traveler this 3.SG wrap shirt of warm
 ká ʌŋ-lɔkɔ ʌŋɛ, ʌ-fɛf ʌ-tɔɔŋ jɪ ʌ-nɛj-ʌŋ d̪á ʌŋ de
 on NC-time this NC-wind NC-north and NC-sun.PART 3.SG 3.PL COM
 bájt̪ kəpá ɔwɛ mɔt̪a gbɔ jɔ ɔ-kɔt̪ ɔ bús ʌ-rùmá rɔŋ-ɛ,
 bet that this faster only.ID do NC-traveler 3.sg remove nc-shirt 3.POS.PART
 kɔŋɔ t̪á bək t̪á-báŋtɪ. ká kátɔŋ kati, dá ʌŋ-fɛf ʌ-tɔɔŋ ʌŋ feŋ ɔ-lɛl
 3.SG.O COM strong NC-bone at between of.it then NC-wind NC-north 3.SG blow NC-heavy
 ɔ-lɛl.
 NC-heavy

kèré mɔŋ féŋ gbó-è, jàð-kóŋ mò kúfə̀lànè ɔ̀-rùmá rɔŋ rò wòn.
 but as blow only.ID-PART as NC-traveler 3.SG wrap NC-shirt 3.SG.POS of warm
 kə̀lɔ̀psə̀-ì, dɔ̀ ɔ̀ŋ-féf ɔ̀-tɔ̀rɔŋ ɔ̀ŋ-tɔ̀bəlè.
 at.last-PART then NC-wind NC-north NC-cease
 ɔ̀-nèj dɔ̀ də̀ wɔŋ kɔ̀-bàránfà. pə̀ wónə̀-jè, kɔ̀ ɔ̀-kóŋ ɔ̀ búɔ̀ ɔ̀-rùmá
 nc-sun then 3.SG try NC-blaze 3.SG last-NEG then NC-traveler 3.SG remove NC-shirt
 rɔŋ ròð-wòn.
 3.SG.POS of NC-warm
 tətí-ì ɔ̀ŋ-féf ɔ̀-tɔ̀rɔŋ dɔ̀ gbìtánè kə̀pá ɔ̀-néy rɔ̀ tɔ̀ bák tə̀-bɔ̀ŋf.
 therefore-PART NC-wind NC-north then confess that NC-sun 3.SG COM strong NC-bone

ABBREVIATIONS

3 = third person NC = noun class POS = possessive
 AUX = auxiliary O = object SG = singular
 COM = comparative PART = particle
 ID = ideophone PL = plural

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