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Ideophone Integration and Expressiveness in Wao Terero

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by

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ABSTRACT

Ideophone Integration and Expressiveness in Wao Terero

by

Alexia Zandra Fawcett

Ideophones, which "simulate an event, an emotion, a perception through language," have been claimed to be a universal category (Voeltz & Kilian-Hatz 2001:3); however, they are generally understudied and are often considered marginal to the linguistic system. Focusing on their markedness, studies of ideophones often ignore how ideophones participate in the larger grammar of a language. Recognizing the often marked, expressive nature of ideophones in comparison with other word classes in a language, while also accounting for the fact that they can operate within the larger grammatical structure of that language, Dingemanse's (2017) integration-expressiveness continuum bridges this gap. This model illuminates the place of ideophones in Wao Terero, a language isolate spoken in the Amazonian region of Ecuador: how the word class is treated, with specific reference to morphosyntactic integration and expressiveness.

Wao Terero exhibits ideophones that constitute their own intonation unit, are reduplicated, occur at a clause boundary, modify verbs, co-occur with light verbs such as 'do' or 'say', co-occur with verbs that are seemingly synonymous with the ideophone creating complex predicates, and take verbal morphology. These different types of constructions in which ideophones can occur show how they participate in the larger grammatical structure of Wao

Terero—namely that they can span the integration-expressiveness continuum with instances of ideophones that are syntactically free, highly morphosyntactically integrated, and everywhere in between. While the continuum implies a proportional inverse relationship between integration and expressiveness, the scalar nature of the prosodic features—such as length, pitch, intensity, and voice quality—that contribute to an ideophone's expressiveness leads to complications in the application of the continuum to all Wao Terero data. Despite the individual examples that challenge its validity, the continuum appears to account for the majority of the Wao Terero data analyzed. Furthermore, beyond explaining the nature of the data synchronically, the continuum is also shown to be useful in terms of diachrony by exploring probable grammaticalization pathways.

1. Introduction

Most generally, ideophones are "marked words depictive of sensory imagery" (Dingemanse 2012:654). Their markedness (and perhaps the theoretical assertion of the arbitrariness of the linguistic sign) has led researchers to treat them as extra-systemic for quite some time, with some early works claiming that they are "marginal exceptions" (Hockett 1958:677) or that they are "…never organic elements of a linguistic system. Besides, their number is much smaller than is generally supposed" (de Saussure 1959:69). While these ideas, or less extreme versions, have continued to be prevalent, ideophones are enjoying a recent resurgence in attention (Hinton et al. 1994, Voeltz & Kilian-Hatz 2001, Lahti et al. 2014). Additionally, because the quality of documentation is increasing as linguists are focusing on audio and video recording of language in use, we are now able to see how ideophones are used in a variety of discourse contexts, and it is becoming clearer how prevalent ideophones actually are (even in Indo-European languages which are often described as ideophonically impoverished (Ibarretxe-Antuñano 2017, Nuckolls 2004)).

As words that "simulate an event, an emotion, a perception through language," ideophones have been claimed to be a universal category (Voeltz & Kilian-Hatz 2001:3); however, exactly how ideophones fulfill this function varies cross-linguistically. Since they are often touted as being iconic, expressive, or otherwise part of a depictive mode of speech production as opposed to descriptive (Kita 1997, Diffloth 1972, Zwicky & Pullum 1987), one suitable question to investigate typologically is how, or even if, languages draw the line between these two modes of representation. To address this question, one can turn to the way in which ideophones are incorporated into grammar, where we might expect languages to make different distinctions based on their diverse structural properties (Newman 2001). Dingemanse (2017) proposes that ideophones can be analyzed on a continuum—positing an inverse relationship

between their expressiveness and degree of morphosyntactic integration. The continuum serves as a typological device that, when applied to diverse languages, can illuminate exactly how different languages treat the word class, with specific reference to morphosyntactic integration and expressiveness.

By noting the morphosyntactic behavior of ideophones in Wao Terero, a language isolate spoken in the Amazonian region of Ecuador, as well as their degree of integration via prosodic cues, we find results that support the proposed continuum as well as data that could challenge the theory. Ideophones in Wao Terero occur in a range of constructions that span the continuum from morphosyntactically integrated to free; however, while many instances exemplify the proposed inverse relationship between integration and expressiveness, there are exceptions, for example, where integrated ideophones exhibit more expressive features than less integrated ones. The organization of the paper is as follows: Section 2 provides background on ideophones; Section 3 introduces relevant features of Wao Terero and describes the data; Section 4 provides a discussion of the semantics and phonotactics as well as outlines the morphosyntactic behavior of Wao Terero ideophones; Section 5 discusses the integration-expressiveness continuum (Dingemanse 2017) and its application to the Wao Terero data; Section 6 addresses the role of prosody and its implications for the continuum; Section 7 explores possible diachronic pathways as evidenced by Wao Terero examples; and Section 8 presents conclusions.

2. Ideophones

Ideophones have been referred to as such in the African linguistic research tradition (Doke 1935), but they are also known as "expressives" in works on South East Asian languages (Diffloth 1972), "mimetics" in East Asian languages (Hamano 1998), and "affective" roots or constructions in Mayan studies (Kauffman 1971). There have been multiple attempts to

typologize ideophones (Blench 2010, Childs 1994, Diffloth 1972, Güldemann 2008, Kilian-Hatz 1999, Kulemeka 1995, Samarin 1971, Watson 2001), which demonstrate the shared structure-based characteristics as well as semantic and pragmatic tendencies of the word class. At the segmental level, Gabas and van der Auwera (2004:400) claim that they use "special sounds which do not conform with the rest of the sound system of a given language". Dingemanse (2012:656) appeals to skewed phonotactics showing that ideophones are marked "…not so much in that they employ different sounds, but that they employ mostly the same sounds in a different range of possible configurations" and can display more possible syllable structures. Moving to the suprasegmental level, ideophones might employ features like vowel harmony (e.g. Blench 2010), have tonal restrictions or specific melodies (e.g. Newman 2001), or use non-modal phonation types (e.g. Dingemanse & Akita 2016). One of the most oft-cited features of ideophones is intonational foregrounding, which can be achieved prosodically, namely via wider pitch range, lengthening, and intonational pause (Childs 1994, Nuckolls 1996, Voeltz & Killian-Hatz 2001). The pause crosses into the realm of syntax, where "…ideophones behave quite differently, as compared to other word classes. They also tend to occupy a position on the 'skirts' of the sentence, being usually uttered separately, in an exclusive intonation unit" (Gabas & van de Auwera 2004:400). Similarly, many note the use of expressive morphology that does not typically apply to other word classes (Zwicky & Pullum 1987), such as reduplication which is often used to encode progressive or continuative aspect (Gabas & van de Auwera 2004:400).

Semantically, ideophones can have meanings that are not normally found in other types of words and thus have been described as having "…a unique psychological effect. They evoke vivid 'images' of an experience, full of affect. This imagery is not only visual but can also be based on other perceptual modalities and physiological states. The meaning is felt, by native

speakers, to be direct and real, as if one is at the scene" (Kita 1997:386). These expressive meanings are often tied to the idea of iconicity—as non-arbitrary or direct form-meaning mapping—and sensory imagery. As such, "expressive" (Diffloth 1972) and "performative" (Nuckolls 1996) foregrounding becomes a key feature of ideophones, but can be used to achieve a multitude of functions such as highlighting the salient scenes of a narrative (Gabas & van de Auwera 2004:400). Because language documentation contexts often privilege traditional stories or narratives, ideophones seem to be well-represented in this particular speech genre. However, they have been found to be common in many other genres as well, including child-directed speech and lullabies (Mphande 1992), song (Klassen 1999), prayer (Lydall 2000), poetry (Webster 2008, 2009), and conversation.

3. Wao Terero

Also known in existing literature as Waorani, Huaorani, Wao, Huao, Waotededo, Auca (pejorative), and Sabela, Wao Terero[1] is an isolate with less than 2,000 speakers. It is spoken mainly in the Pastaza province of Ecuador on the Waorani Ethnic Reserve (see FIGURE 1), but also in areas of Orellana province, Napo province, and nearby cities in the Amazonian region such as Puyo and Coca. Bilingualism with Spanish is common for younger speakers, and bilingualism with Lowland Kichwa varieties is on the rise due to the increasing frequency of intermarriage between the two groups and employment of Kichwa-speaking teachers in community schools (Crevels 2007). Wao Terero has also been in less intense contact with Shuar (Chicham), Záparo (Zaparoan), and Siona and Secoya (Tucanoan).

[1] This term is what is used by speakers of the language as it translates to 'the people's language': *wao* 'people' and *terero* 'speech, language'

FIGURE 1. Waorani Territory (High 2015:4)

Wao Terero is an agglutinating, synthetic, and primarily suffixing language with verbs that take marking for person, tense, aspect, and mood. One grammatical feature of particular relevance to the following discussion is the multifunctional subordinating suffix *–te*[2], which lends certain aspectual senses to the verb as well as plays a key role in clause chaining. Wao Terero subordinated verbs (taking this morphology) can be reduplicated to denote continuing action or multiple actions over time, as in example (1). This reduplication strategy seems to parallel the pattern in adverbials as seen in (2) with *iimo* 'yesterday'.

[2] This thesis follows the conventions of the Leipzig Glossing Rules with a few exceptions, namely that the first line of all examples shows Wao Terero transcription without morpheme breaks while the last line provides a citation. Glosses also make use of the following which are not included in the Leipzig Glossing Rules list of standard abbreviations: AFF – affirmative; DECL – declarative mood; EMPH – emphatic; IDPH – ideophone; SBRD – subordinate; and SIM – simultaneous aspect. This thesis uses also uses a practical orthography in which all characters correspond to the IPA with the exception of the following: <ii> /i:/, <ee> /e:/, <oo> /o:/, <aa> /a:/, <in> /ĩ/, <en> /ẽ/, <on> /õ/, <an> /ã/, <ch> /ʧ/, <sh> /ʃ/, <ñ> /ɲ/, <r> /ɾ/, <y> /j/, and <'> /ʔ/.

(1) *Goo wiñenga oo poni barena obe tome aate aate aate kiwiño wiñega doobe eñara.*

goo	*wiñenga*	*oo*	*poni*	*ba-re-na*	*obe*	*tome*
IPDH	child.M	be	EMPH	swell-CLF.belly-3DU.EXCL	boa	DEM.this

aa-te	***aa-te***	***aa-te***	*kiwi-ño*	*wiñenga*	*doobe*	*eña-ra*
exist-SBRD	exist-SBRD	exist-SBRD	live-SIM	child.M	already	be.born-3F

'After a while the woman was ready to give birth, but the boa was always (living) with her and one day the child was born.'

(Hijo del boa-Caiga-01:28)

(2) *Obe tate wa a waora ome iimo iimo iimo iimo iimo iimo iimo wira*

obe	*ta-te*	*wa'*	*a*	*wao-ra*	*ome*	***iimo***	***iimo***
boa	exit-SBRD	IDPH.look	see	person-3F	land	yesterday	yesterday

iimo	***iimo***	***iimo***	***iimo***	***iimo***	*wi-ra*
yesterday	yesterday	yesterday	yesterday	yesterday	clear.land-3F

'The boa came out and watched the woman every day that she worked'
(Hijo del boa-Caiga-00:28)

This reduplication pattern, in combination with the ability to modify matrix verbs as seen in (1), evidences the fact that verbs marked with the *–te* suffix in Wao Terero can have an adverbial function. The adverbial function of these verbs bearing the *–te* suffix as seen in (1) is achieved through morphological marking, showing no use of a conjunction that would add a temporal or circumstantial sense to the relationship between it and the finite verb. The same suffix is employed in clause-chaining constructions that instead of being adverbial in nature lead to an understanding of the events as sequential.

3.1. Data

Since 2010, Connie Dickinson, Uboye Gaba, Casey High, Nemonte Nenquimo, and Oswando Nenquimo with funding from the Endangered Languages Documentation Programme (MDP0224) have been documenting Wao Terero by means of video recording. These recordings have been gathered in a variety of discourse contexts and include narratives,

traditional stories, conversation, and political speeches from around Waorani territory and are therefore not limited to one regional dialect[3].

A subset of this video corpus, specifically three recordings, provides the data used here: *Hijo del boa* is a story told by Ñay Caiga about the courtship between and the offspring of a woman and a boa; *Frog story* is a narrative told by Linda Inkere following the illustrations of the children's book "Frog, where are you" (Mayer 1969); and *Rio* is a recording of a walk by four adults and two children through the forest to a stream involving general conversation, recounting of earlier events, and descriptions of surroundings. These texts were recorded in 2008, 2016, and 2011 respectively, and were chosen because of the sound quality as well as the completeness of the transcription and translation. There was a total of 265 ideophone tokens[4] in the 77 minutes of connected speech analyzed.

4. Wao Terero Ideophones

The existence of ideophones has been treated as an areal phenomenon in a variety of regions where unrelated languages are in contact such as Northern California (Langdon 1994), East Africa (Cohen et al. 2002), Mainland Southeast Asia (Enfield 2005), and, most relevantly for this study, lowland Amazonia (Payne 2001). While ideophones are mentioned in a large number of works describing languages of Amazonia (Abbott 1991; Crofts 1984, 1985; Danielsen 2007; Epps 2008; Fleck 2003; Gabas 1999; Goodwin Gomez 2009; Mihas 2012; Nuckolls 1996, 2001; Olawsky 2006; Payne & Payne 1990; Reiter 2013; Smoll 2014; van Gijn 2006; Zariquiey Biondi 2011), there is an overall dearth of in-depth exploration of the word class. Beyond the fact that they seem to exist in many Amazonian languages, insights into any

[3] To date, no study of dialectal variation in Wao Terero has been conducted; however, speakers have noted that there are differences in the way Waorani from different communities speak. For example, there seems to be variation in the realization of nasal spreading.

[4] Reduplicated forms were treated as single tokens. For example, *do do do* 'shivering' would count as one token, not three.

shared characteristics of how they are used could be of great importance especially in an area that has a relatively high number of small language families.

Dickinson (p.c. 2017) notes that among the languages of lowland Ecuador, ideophones are especially prevalent in Wao Terero. Nuckolls (2001:271) also notes that "certain features of ideophonic usage in Pastaza Quechua are strikingly similar to ideophone usage in non-cognate Amazonian languages". Much like Nuckolls (2001:272) observes for speakers of Pastaza Kichwa, in my experience, it seems that to speak Wao Terero fluently, one must use ideophones. However, it is not a word class that is limited in its use to only the most experienced or expert speakers, but rather one that can even be observed in the speech of young children, as well as in speech directed at them. There is no observable difference in use based on gender or age. Ideophones are vital to depicting an experience and therefore to telling a good story, which is highly valued in Wao communities.

In everyday use of Wao Terero, there often is not a sharp delineation between most discourse contexts (save perhaps political speeches). Conversation and narrative are often conflated or at least one will often be able to move from one genre to the other relatively seamlessly; therefore, whether a speaker uses ideophones is more likely a question of the content of the speech act than the context or genre. In fact, in Wao Terero there are plenty of examples of ideophone use in everyday conversation. Across speech genres and discourse contexts, Wao Terero ideophones can be identified by their marked semantic (§4.1), phonological (§4.2), and morphosyntactic (§4.3) qualities.

4.1. Ideophone semantics

Wao Terero ideophones fall into semantic domains common to ideophones cross-linguistically (Samarin 1965, Watson 2001) including human and other animal sounds as well as actions or

movement, but also states and position. Gaba (2011) provides examples of ideophones and their semantic domains below in TABLE 1.

TABLE 1. Examples of ideophones and their semantic domains (Gaba 2011)

Ideophone	Gloss	Semantic domain
yee	'cry'	human/animal sounds
waa waa	'sound of owl'	human/animal sounds
ak	'break something thick/rigid'	action/change of state
girim	'cut in small pieces'	action/change of state
do do	'shiver'	movement
weya	'slither'	movement
yak	'grab'	movement
chao chao	'walk in (shallow) water'	movement
gotok	'pressed'	position
tin	'salty'	physical feeling/olfactory/perception
ñan	'morning light'	physical feeling/visual/perception
wa'	*'*watch/look*'*	physical feeling/visual/perception

The implicational hierarchy for ideophones is reproduced below in FIGURE 2 and states that if a language displays ideophones that fill any one of these descriptions, then it also has ideophones that fit the descriptions of all those to the left. In the research conducted to date, Wao Terero ideophones seem to cover all domains from sounds to sensory perceptions. There is no overwhelming evidence for ideophones used to convey inner feelings or cognitive states; however, there is one example attested in the data *pone* 'be pensive' or 'think', which demonstrates the characteristics typical of a Wao Terero ideophone (see example (8)).

FIGURE 2. Ideophone implicational hierarchy (Dingemanse 2012:663)

SOUND	MOVEMENT	VISUAL PATTERNS	OTHER SENSORY PERCEPTIONS	INNER FEELINGS AND COGNITIVE STATES

It is often difficult to define ideophones in isolation—primarily due to the significant number of ideophones that have general meanings when unaccompanied, but gain more specific senses when used in combination with a verb or from the larger context. In Wao Terero

for example, the ideophone *ten* can be used with the verb for 'sit' (*ten kontate*) to intimate the action of sitting down or with 'die' (*ten wenga*) to mean 'fall dead', but also independently to mean 'stuck'. This is very similar to what Nuckolls (2001:280-3; 1996:179) has noted for Pastaza Kichwa where the ideophone *tak* generally intimates contact, but it is used in conjunction with over 65 verbs that narrow the meaning. Besides polysemy, another possible reason for the difficulty in defining ideophones is the fact that they often "package multiple aspects of a sensory event into a single word" (Tufvesson 2011:88). For example, in Wao Terero *wirok* is used when someone has slipped (or possibly jumped) and become airborne.

4.2. Phonology and Phonotactics

Ideophones in Wao Terero draw mainly from existing sounds in the phonemic inventory; however, there are ideophones that make use of phonemes not present elsewhere in the language. For example, there are no affricates in the phonemic inventory, yet speakers will use *chao chao* 'walk through water' or *chu chu* 'blow'. Instances of ideophones that employ more direct sound symbolism, the onomatopoeic type, seem to show a greater use of non-phonemic segments.

There are no restrictions on number of syllables in ideophones or other word classes, although the longest ideophones identified in the data are trisyllabic, not including reduplicated forms. However, ideophones do often violate phonotactics by employing closed syllables as in *teik* 'hit' or *woit* 'pierce'. Ideophones that have closed syllables almost invariably encode an event that is completed, will remain unchanged, or is an otherwise punctuated action.

4.3. Morphosyntax

While their phonology or phonotactics may be so salient as to initially alert us to their existence, ideophones are often marked in terms of morphosyntax as well. In fact, Dingemanse

(2012:656) notes that "across languages, ideophones tend to show a great measure of syntactic independence: they tend to occur at clause edges rather than being deeply embedded within them; they tend to be averse to inflectional morphology; and they can be set off from the rest of the clause by a pause (Childs 1994, Diffloth 1972, Dingemanse 2016, Kunene 1965)." In Wao Terero, we do observe that speakers use ideophones as described above; however, that is not the only form in which they appear. Wao Terero ideophones can occur in a variety of morphosyntactic constructions, and this section discusses how ideophones can constitute their own intonation unit, occur at a clause boundary, be reduplicated, modify verbs, co-occur with light verbs such as 'do' or 'say', and co-occur with verbs that are seemingly synonymous with the ideophone.

4.3.1. Intonation Units

Ideophones often comprise their own independent intonation unit, and while they can be onomatopoeic, some are not so obviously sound symbolic. Ideophones that appear in these constructions can carry the full semantic load of the event being relayed; however, they are most often accompanied by further information or reiterated as seen in (3).[5]

(3) ↑*Ten*↑. *Tein poni gikate koyotowenkarene ate,*

ten	*te-in*	*poni*	*gi-ka-te*	*koyotowen-kare-ne*	*a-te*
IDPH.stuck	stuck-be	EMPH	enter-CLF.head-SBRD	bottle-contain-LOC	see- SBRD

'Since (the dog's) head was really stuck inside the bottle…'

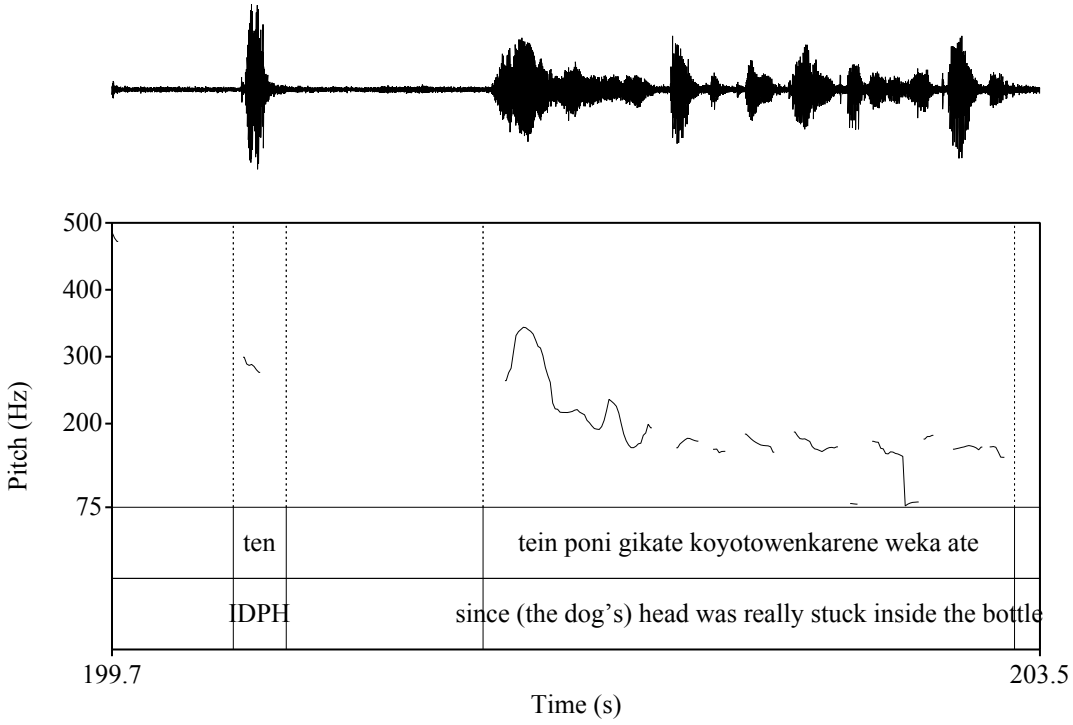
(Frog story-Inkere-03:20)

Furthermore, FIGURE 3 below shows how ideophones can be offset by a pause, in this case lasting 0.829s, at a clause boundary. The syntactic independence of the ideophone is further

[5] Examples will show ideophone in question in bold text and use an upward arrow (↑) to show prosodic foregrounding. In demarcating intonation unit boundaries, a comma (,) will be used to mark those with continuing intonation and a period (.) will be used where there is phrase final intonation.

evidenced by the pitch reset at the beginning of the intonation unit after the ideophone. (For further discussion of intonation units and prosody, see section 6).

FIGURE 3. Waveform and pitch trace for example (3), female speaker



4.3.2. Reduplication

Outside of ideophones, reduplication or repetition is observed only in subordinated verbs and adverbials (see examples (1)-(2)) and cannot occur with finite verbs. Due to the fact that ideophones tend to act as a single unit when they are reiterated, I consider this reduplication as opposed to repetition. In all cases the reduplication is not a partial duplication, but a full copy of the stem. There are some ideophones that, given their semantics, occur only with reduplication, while others may not have the option for reduplication at all. For example, the ideophones used for laughing *ka ka* and the sound of an owl *waa waa* are inherently reduplicated, given that neither laughter nor owl calls typically occur with a single pulse. Not all reduplicated ideophones have this inherent structure, but can instead appeal to gestalt

iconicity (Dingemanse 2011) where the form is tied to the spatiotemporal characteristics of the event or action in question. As such, reduplication can be used to show the repetition of an action, be it multiple punctuated actions within a single event, the continuation of an activity or event, or the occurrence of multiple iterations of the same action over a long period of time. While others have treated reduplication in ideophones as expressive morphology (Zwicky & Pullum 1987), this is not necessarily the case with Wao Terero. It appears that reduplication is more often used for denoting event structure, duration, or aspect, while vowel lengthening and other prosodic features do what other instances of expressive morphology attain in terms of denoting emphasis or degree.

Ideophones that make use of this reduplication strategy tend to occur in syntactic contexts in which they are on the edge of the clause as in examples (4) and (5). However, they can occur in two prosodic formats: each with its own contour[6] perhaps with a significant pause between each token or where all elements fall within a single contour as shown in FIGURE 4 and FIGURE 5 respectively.

(4) *Ñowo boto gobopa. aninke,* ***dao dao dao*** *gora.*

ñowo	*boto*	*go-bo-pa*	*aninke*	***dao***	***dao***	***dao***	*go-ra*
now	1SG	go-1SG-DECL	AFF	IDPH.step	IDPH	IDPH	go-3F

'"I'm leaving now" (she said) and she left *dao dao dao*'

(Hijo del boa-Caiga-04:05)

(5) ↑***Ei ei ei ei***↑. *maniñomo poke doobe, wena, wiñenga dee.*

ei	***ei***	***ei***	***ei***	*mani-ñomo*	*poke*	*doobe*	*we-na*	*wiñenga*	*dee*
IDPH.bite	IDPH	IDPH	IDPH	DEM-here	bite	already	die-3F	daughter	NEG

'The boa bit her all over until she was dead.'

(Hijo del boa-Caiga-04:40)

[6] Whether these are truly individual contours is debatable. Since over the three tokens intensity and pitch decrease with each instance, it might be more apt to consider them part of the same contour, but with a tune gestalt. See section 6.2 for further discussion of speech rate and tune gestalt.

FIGURE 4. Waveform and pitch trace for example (4), female speaker

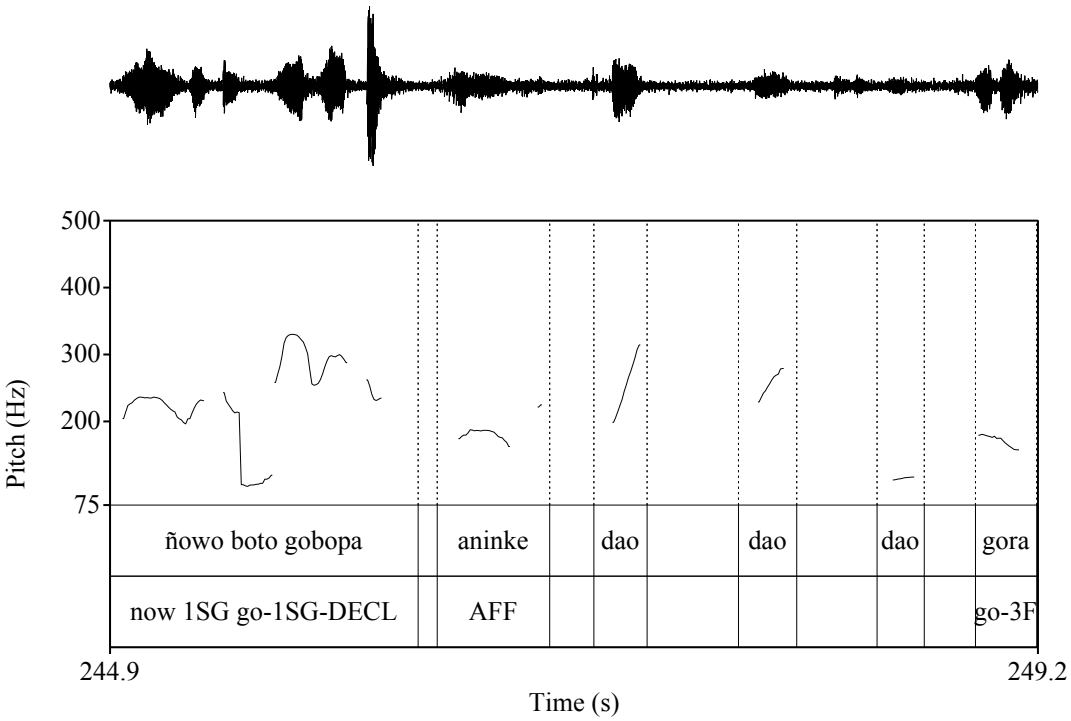
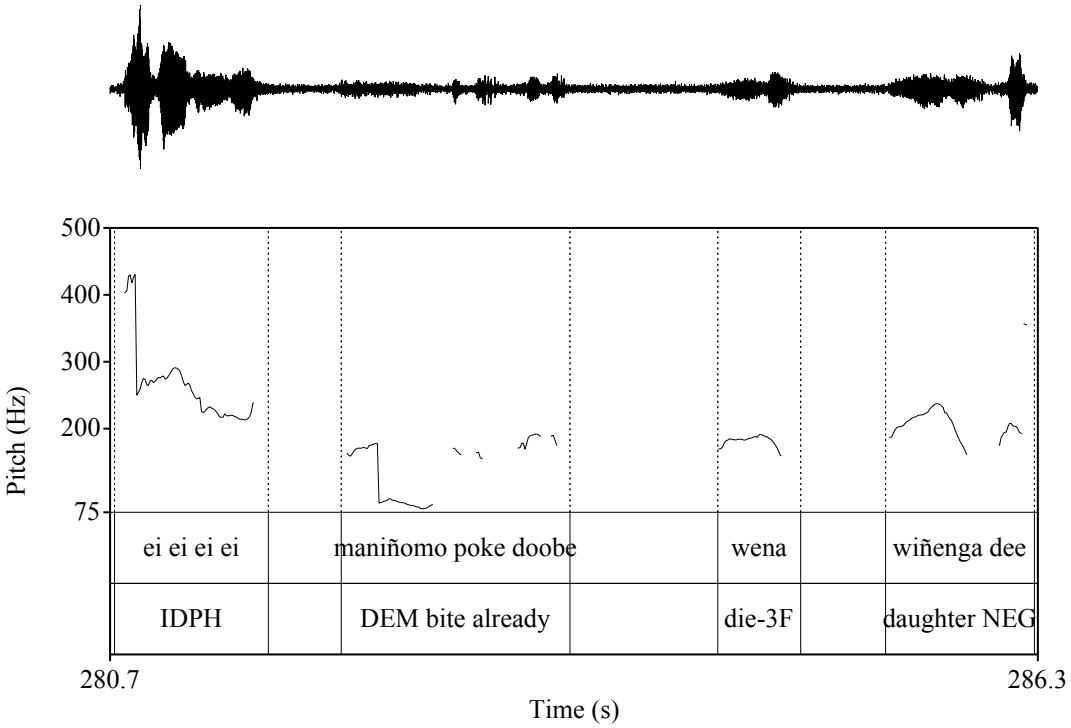


FIGURE 5. Waveform and pitch trace for example (5), female speaker



As we see in example (5) translation ‘all over’, the repetition of the ideophone can also have a distributive interpretation, which is aided by the fact that each token of the ideophone in this particular example co-occurs with a pointing gesture indicating different locations on the speaker’s body[7]. Like (5), example (6) shows reduplication of the ideophone all occurring in the same contour, but this intonation unit also contains the verb with which it cooccurs.

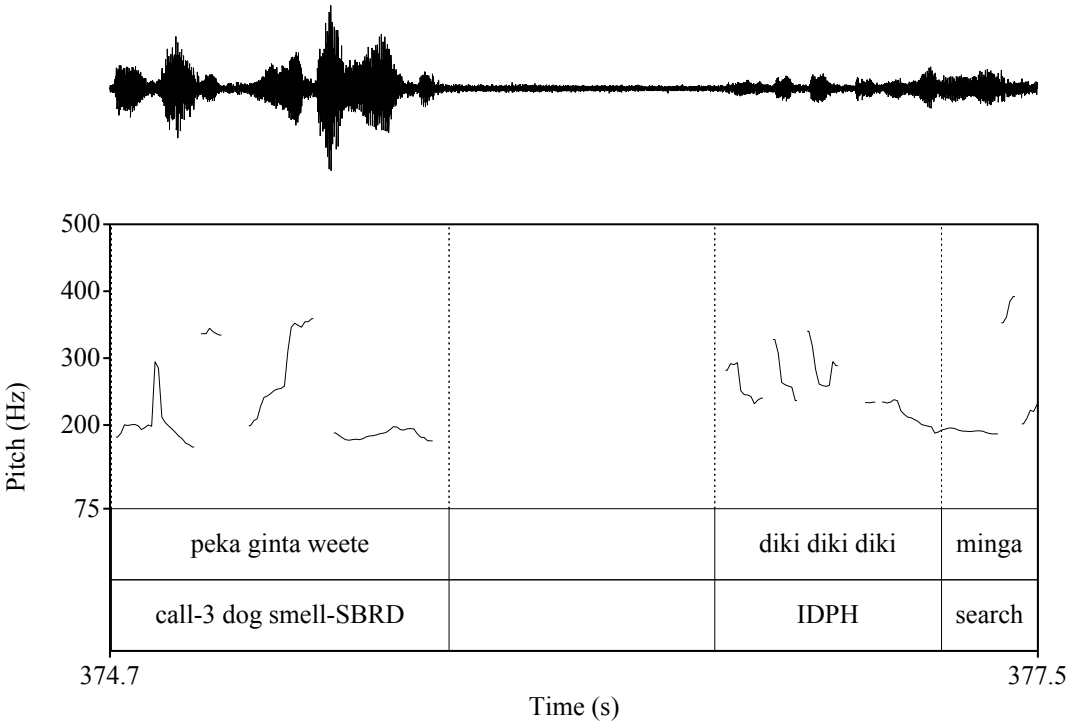
(6) *aa peka ginta weete, ↑**diki diki diki**↑ minga.*

aa	*pe-ka*	*ginta*	*wee-te*	***diki***	***diki***	***diki***	*min-ga*
IDPH.call	call-3	dog	smell-SBRD	IDPH.search	IDPH	IDPH	search-3

‘He continued calling and the dog began to search (diki diki diki)’

(Frog Story-Inkere-06:16)

FIGURE 6. Waveform and pitch trace for example (6), female speaker



While reduplicated ideophones tend to occur at clause boundaries and be preceded or followed by a pause, it is not an absolute rule. In fact, they do not always constitute a separate

[7] Gesture is intimately linked with the use of ideophones in Wao Terero as has been described for a number of languages (Dingemanse 2013, Güldemann 2008, Hatton 2016; Kita 1993; Klassen 1999, Kunene 1965, Nuckolls 1996, 2000; inter alia); however, describing this relationship is outside the scope of this study.

intonation unit, and there are instances where a reduplicated ideophone co-occurs with a verb and falls under the same intonation contour as that verb.

4.3.3. Verb Collocations

Wao Terero ideophones often occur in collocations with verbs. The first type of collocation resembles quotative constructions at first glance, using verbs that translate to 'do' *ke* and 'say' *an*. Clark and Gerrig's (1990) account of quotations as demonstrations would line up with this analysis, in that speech that is quoted is a demonstration or depiction of spoken language just as much as an ideophone is a demonstration or depiction of a sensory experience. However, the use of ideophones in these contexts surpasses quotation, and instead appears to form complex predicates (Creissels 1997, 2001). In these constructions the ideophone is uninflected and carries the semantic content of the predicate, while the light verb with which they occur[8] is inflected for TAM and person. The ideophones in these constructions are not optional and do much of the heavy lifting of the verbal predicate. This is not to say that quoted speech is optional, for it serves a similar pragmatic function to ideophones (depiction/demonstration), however, the conventionalization and tight collocation of these ideophones with the 'do' or 'say' verb seems to suggest that the two elements act in tandem as complex predicates (Schultze-Berndt 2000, Amha 2001) as seen in examples (7) and (8) below.

(7) *Minkaye onko ginta,* ↑***wanke wanke***↑ *kete,*

minkaye	*onko*	*ginta*	***wanke***	***wanke***	*ke-te*
wasp	house	dog	IDPH.move	IDPH	do-SBRD

'The dog was shaking the bee hive,'

(Frog Story-Inkere-05:00)

[8] In the case of Wao Terero, 'do' and 'say' are the only light verbs attested in these constructions, but see Franco (2017:246-58) for cross-linguistic survey of this type of construction in which Asian, African, Austronesian, Indo-European, and other Amerindian languages are shown to use these and other light verbs such as 'have', 'be so', and 'act like'.

(8) ↑*Pone*↑ *ñonga.* ***pone pone*** *kete agantapa.*

pone	*ñon-ga*	***pone***	***pone***	*ke-te*	*an-ga-ta-pa*
IDPH.be.pensive	lay-3m	IDPH	IDPH	do-SBRD	say-3M-PST-DECL

'He was lying down thinking. He was thinking thinking and said*,'*

(Río-O.Nenquimo-46:12)

There are some languages where ideophones appear only in constructions like those above that are analyzed as either quasi-quotative or complex predicates (Samarin 1971 for Bantu; Amha 2001 for Wolaitta; Childs 1994 for other African languages; and Mithun 1982 for Iroquoian). Wao Terero ideophones, however, are not as limited. The second kind of verb collocation that we observe in Wao Terero is that in which an ideophone co-occurs with a verb that has similar semantics or is even completely synonymous (at least in translation). This is a cross-linguistically common type of collocation, as ideophones have been noted to appear in constructions similar to those seen here in Wao Terero in that they are synonymous or almost synonymous with the verb with which they co-occur (Samarin 1971:141; Nuckolls 1996:141; Mihas 2012:316; Smoll 2014:61). Examples (9)-(11), as well as (6) above, show this type of collocation in Wao Terero.

(9) ↑***Yee***↑ *we kowa ayonga tomenga wamonkare ini de tomaa,* ↑*teik teik. enate we ino gotaga anani werinke goyogante.*

yee	*we*	*kowa*	*a-yon-ga*	*tomenga*	*wamonkare*	*i-ni*
IDPH.cry	cry	IDPH.look	see-SIM-3M	3M	vase	be-3PL

de	*tomaa*	*teik*	*teik*	*ena-te*	*we*	*ino*	*go-ta-ga*
NEG	all	IDPH.hit	IDPH	break-SBRD	cry	DEM.there	go-PST-3M

a-nani	*werinke*	*go-yon-gan-te*
say-3PL	little	go-SIM-3M-SBRD

'And he was crying, later he went to see his things and everything was thrown around and broken and the people said he went to see over there.'

(Hijo del boa-Caiga-05:15)

(10) *Obe tate, ↑**wa**↑ a waora ome iimo iimo iimo.*

obe	*ta-te*	***wa'***	*a*	*waora*	*ome*	*iimo*	*iimo*	*iimo*
boa	exit-SBRD	IDPH.see	see	woman	land	yesterday	yesterday	yesterday

'Every day that she worked the boa watched.'

(Hijo del boa-Caiga-00:21)

(11) *Ire ↑**do do do**↑ wemenga amo.*

ire	***do***	***do***	***do***	*we-men-ga*	*a-mo*
already	IDPH.shiver	IDPH	IDPH	shake-CLF.arm-3M	see-1

'But he is already shivering in his arms, I see.'

(Río-A.Gaba-44:48)

There is a third type of collocation in which, just like the previous two types, the ideophone always immediately precedes the verb. However, these examples seem to suggest that the ideophones behave like adverbs, or that they perhaps constitute a subclass of adverbs. In examples (12) and (13) we see that the ideophones are collocated with verbs, but instead of being nearly synonymous with the verb, the ideophone narrows the manner in which one does the action of the verb with which it co-occurs.

(12) *Ekano inaa ante ↑wa↑ ayona. tome obe, **dao dao** pon.*

ekano	*i-naa*	*an-te*	*wa'*	*a-yo-na*	*tome*	*obe*
who	be-3	say- SBRD	IDPH.look	see-SIM-3F	DEM.this	boa

dao	***dao***	*pon*
IDPH.step	IDPH	come

'She saw who it was, and then the boa came up to her.'

(Hijo del boa-Caiga-00:47)

(13) *Tomena ome **tei tei** wira, tome ↑wao bai↑ kemona waora kemonte eeee.*

tomena	*ome*	***tei***	***tei***	*wi-ra*	*tome*	*wao*	*ba-i*
3F	land	IDPH.whack	IDPH	clear.land-3F	DEM	person	become-INFR

ke-mona	*wao-ra*	*kemon-te*	*eeee*
do-1DU.EXCL	person-F	imagine-SBRD	INTJ

'While she was working *tei tei*, the boa turned into a person and she realized that someone had approached her.'

(Hijo del boa-Caiga-00:38)

Example (12) is a particularly interesting case, since the use of the ideophone *dao* 'step' clues the listener in to the fact that the boa has taken a human form (a physical form that can step) as opposed to its boa form. This is something not clear from the form of the verb 'come' used on its own, and the collocation of the two would thus be best thought of as 'come walking'. In example (13) one could imagine a few different ways of clearing land, but *tei tei* implies the sound of a machete, not, for example, ripping out weeds with one's hands. For these reasons, we can analyze this collocation as one in which the ideophone modifies the verb.

4.3.4. Verbal Morphology

All of the previous examples seem to comply with how we often view ideophones—as uninflected, depictive, sensory words that do not behave like other word classes morphosyntactically. However, there are some ideophones that violate our expectations of how an ideophone should behave since they can take verbal morphology. For example, in (14) below we see the use of the ideophone *ta* 'exit' much like how we have seen ideophones used above—it is reduplicated, uninflected, and co-occurs with a verb. In example (15) however, we see the same ideophone taking non-finite verbal morphology—the causative *–ro* and subordinative *–te*. In example (16), we again see the ideophone *ta,* but with finite verbal morphology for person and number.

(14) *Tome obe waora ina baromonte epene gi.* ***ta ta ta*** *kewe. doobe wiñenga ñeene barena.*

tome	*obe*	*wao-ra*	*i-na*	*baromon-te*	*epe-ne*	*gi*
DEM.this	boa	person-3F	be-3DU.EXCL	fall.in.love-SBRD	water-LOC	enter

ta	***ta***	***ta***	*kewe*	*doobe*	*wiñen-ga*	*ñeene*	*ba-re-na*
IDPH.exit	IDPH	IDPH	live	already	child-3M	big	swell-CLF.belly-3F

'Because the boa had already fallen in love with the woman, he was always coming out of the river (to be with her) and the woman already had a big belly swollen with a baby.'

(Hijo del boa-Caiga-01:18)

(15) *Doobe awemo ñeene, pememo karo woga, obe daa **taro tate** ego **tate** ↑aa↑, owora, awe doite ongowenka goro weyaa.*

doobe	*awe-mo*	*ñeene*	*pememo*	*karo*	*wo-ga*	*obe*
already	tree-CLF.branch	large	hardwood.tree	point	float-3	boa

daa	***ta-ro***	***ta-te***	*ego*	***ta-te***	*aa*	*o-wo-ra*	*awe*
hook	exit-CAUS	exit-SBRD	hook	exit-SBRD	exist	be-float-3F	tree

doite	*ongo-wen-ka*	*go-ro*	*weyaa*
long	be-CLF.tree-INS	go-CAUS	IDPH.slither

'She was already caught on a snag floating, where the boa had left her, with a long pole they dragged her in, weyaa.'

(Hijo del boa-Caiga-05:36)

(16) *Maniñomo mea go mea go mea go aroke. wiñenani doobe **tarani** weke wenani **tarani** ate ↑wa↑ aka tomenga.*

mani-ñomo	*mea*	*go*	*mea*	*go*	*mea*	*go*	*aroke*
DEM-place	two	plus	two	plus	two	plus	one

wiñe-nani	*doobe*	***ta-rani***	*weke*	*we-nani*	***ta-rani***	*a-te*
child-3PL	already	exit-3PL	frog	child-3PL	exit-3PL	see-SBRD

wa'	*a-ka*	*tomenga*
IDPH.see	see-3	3M

'In this place seven frog children came out, they were the children of the frog, when they came out, he (the dog) saw them.'

(Frog Story-Inkere-08:22)

These three examples show how a single ideophone can behave differently in terms of morphosyntax while retaining its general meaning. While *ta* in (14) appears no different from other ideophones, there is also little to suggest that *ta* in example (15) with the subordinative suffix or in (16) with person marking is different from any verb that could occupy the same slot.

In conclusion, we see that there are multiple constructions in which Wao Terero ideophones can occur. They are not merely onomatopoeic or sound symbolic words that are extra-systemic and marked. The morphology that is observed in conjunction with ideophones is not special expressive morphology that is somehow marked or exclusively used with

ideophones; instead ideophones can and do participate in the larger morphosyntax of the language.

5. Integration-Expressiveness Continuum

As mentioned in section 2, works describing ideophones in other languages often cite their syntactic independence or exclusion from the linguistic system (i.e. being paralinguistic) as definitional. While for some languages this appears to be true, it is not universally applicable. In Wao Terero, the mere existence of ideophones that can take typical verbal morphology as illustrated in section 4 shows that ideophones participate in the larger morphological and syntactic system of the language. This is not anomalous and has been noted in previous works on a diverse set of languages (e.g. Newman 2001, Tsujimura & Deguchi 2007). Across all of these accounts, how ideophones participate in the larger linguistic system is understandably different given areal features and language- or family-specific structural properties. What has not been explored to the same extent, however, is the degree to which ideophones are integrated into the system.

In theorizing the difference between ideophones and other word classes, Kita (1997) proposes that there are two dimensions in language: the analytic dimension and the "affecto-imagistic dimension." The former, where most linguistic inquiry has historically taken place, is what Kita claims to be "'language proper' in the Saussurean tradition" (1997:399) and "decontextualized in the sense that it is removed from subjective experience. It is 'about' a certain experience, but not a rendition of an experience itself" (387). His affecto-imagistic dimension lines up with what others have called "expressive" (Diffloth 1972), except that Kita claims it also includes information about the events or states that are perceived by the speaker. While Kita maintains that ideophones fall into the latter dimension, Dwyer and Moshi (2003)—while using the same dimensional division in their analysis—claim that ideophones

can belong to either, not solely the expressive/affecto-imagistic. They assert that "some ideophones (primary) belong to the expressive dimension while others, which have been 'grammaticalized' belong to the analytic dimension" (2003:174). Even though they acknowledge the existence of ideophones in the two dimensions, drawing a distinction between "pure" and "grammaticalized" ideophones reifies the same dichotomy between the analytic and expressive dimensions of language.

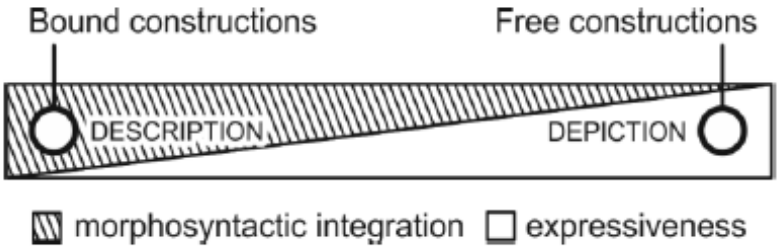
While Dwyer and Moshi make an important point that ideophones are not just relegated to the expressive dimension, the two categories of ideophones that they propose do not hold explanatory power beyond or even within their realm of study; in fact, the authors outline the shortcomings of this binary of primary/pure versus grammaticalized when they offer an example of an ideophone in Tsonga which has all of the makings of a primary ideophone, but appears in a syntactic context that implies grammaticalization (2003:183). This seems to capture what Dingemanse and Akita found in their survey, namely that "it is typical for grammatical descriptions of ideophone systems to note the expressiveness of ideophones and, independently, their relative syntactic independence. Yet when grammars go into more detail, there are often hints of a more complex relation between both" (2016:506). While Dwyer and Moshi attribute this problem to the fact that their definition of a primary ideophone is too rigid (saying that it must occur outside the analytic sentence), this highlights exactly the issue at hand in dichotomizing the analytic and expressive domains—an element does not have to belong exclusively to one or the other, but can have properties of both simultaneously.

Given the understanding of grammaticalization as gradual change however, it is not hard to imagine that proposing two values or categories of ideophone will not fit the data we observe in all languages. In any synchronic analysis, one is bound to find evidence of grammaticalization in progress, i.e. at intermediate points along a cline. Nevertheless,

independent of processes of grammaticalization, there is a demonstrable synchronic reality in which ideophones are integrated into larger linguistic structure as evidenced, for example, by the role of ideophones in the larger morphosyntactic system of Wao Terero as outlined in section 4. If we assume that ideophones constitute a word class, then it becomes clear that an either-or approach does not account for cross-linguistic data. The recognition that the relationship between analytic and expressive functions or dimensions of language is not binary, but scalar, is where Dingemanse's (2017) proposed continuum becomes useful in accounting for those found in between.

Dingemanse does not ignore the dimensions outlined in the previously discussed works, but instead draws on the opposition between "description" and "depiction," saying that "in their prototypical form, ideophones are best understood as fundamentally depictive words: words in which verbal material is performatively foregrounded in order to depict (enact, perform, demonstrate) sensory imagery" (2017:373) and that they "…employ a mode of representation that invites people to experience them as iconic performances rather than as arbitrary descriptions" (2017:365). Therefore, the previously discussed analytic and expressive dimensions loosely map onto Dingemanse's poles of description and depiction respectively if one were to treat them as properties or tendencies rather than discrete dimensions. He exemplifies this analysis by appealing to the bound versus free nature of ideophonic constructions in Siwu, a language of eastern Ghana; specifically, he shows that adjectival and predicative constructions are bound and descriptive, while the holophrastic, adverbial, and complement constructions are free and depictive. Although Dingemanse concludes that the ideophones in Siwu occur in *either* bound or free constructions, he posits that a continuum might be more broadly applicable given the variety of strategies that might be used in different languages as seen in FIGURE 7.

FIGURE 7. Integration-Expressiveness Continuum (Dingemanse 2017:377)

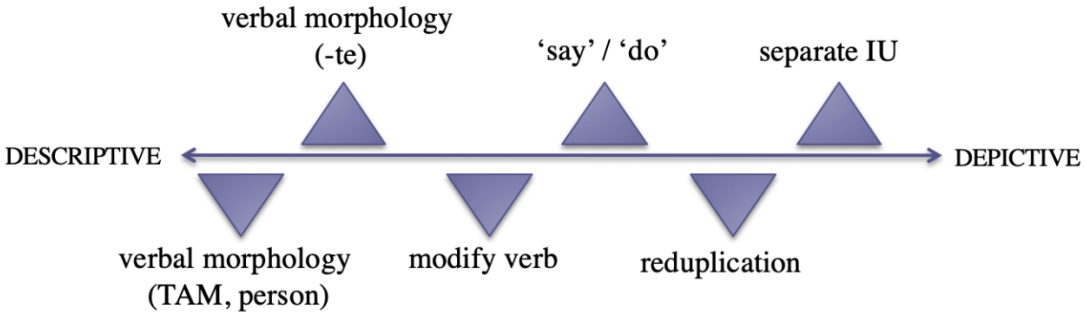


On this continuum, Dingemanse couples bound constructions with being most morphosyntactically integrated and free constructions with the least morphosyntactically integrated; however, with decreasing morphosyntactic integration, Dingemanse's claim is that one will see increasing expressiveness. In other words, there is an inverse relationship between morphosyntactic integration—which "can be measured in terms of linear position (peripheral items are less integrated), syntactic optionality (optional items are less integrated), and embedding in morphosyntactic structure (less deeply embedded items are less integrated)" (Dingemanse & Akita 2016:506)—and expressiveness—which is conceptualized as "the degree to which they are foregrounded as distinct from other items, for instance by special intonational or phonational features. This is in line with the established use of 'expressive' as a term that contrasts with 'plain', 'ordinary' or 'prosaic'" (Dingemanse & Akita 2016:505). Therefore, according to this cline, "syntactic freedom means expressive freedom and tighter integration of the ideophone into the sentence comes with a loss of expressivity" (Dingemanse 2017:373).

Given the various morphosyntactic constructions as outlined above in section 4, the continuum as proposed can be applied to Wao Terero and could be envisioned as shown in FIGURE 8. This language-specific version shows where each construction described would be located along the general continuum of (descriptive) bound constructions to (depictive) free

constructions. Thus, each construction takes a position along the continuum relative to the other language-specific constructions in regard to their level of grammatical integration—those toward the left end of the spectrum are more integrated and the forms become less integrated as you move rightward.

FIGURE 8. Integration-Expressiveness Continuum for Wao Terero



In instances where ideophones are found to take verbal morphology such as the subordinative *–te* or any tense, aspect, mood, or person marking, they are the most morphosyntactically integrated and thus act in a more descriptive than depictive capacity. In the syntactic constructions where they co-occur with a verb—either modifying or occurring in an appositional relationship with said verb as well as in the 'say'/'do' constructions—the ideophones are playing a role that is less descriptive and more depictive than the aforementioned. In these cases, the ideophones are not as morphosyntactically integrated as those which take verbal morphology given their possible optionality and lack of dependent morphology. Next, the ideophones that are reduplicated are even less integrated than the aforementioned in part because they are often found at clause boundaries or at the edge of an utterance. Because they do not always occur in these positions—at times in tighter collocation with a verb in the same intonation unit—they are not the most syntactically free construction found in Wao Terero. Ideophones that constitute their own intonation unit are at the far right

of the continuum as they are considered the most depictive and completely free in terms of morphosyntactic integration.

In this analysis we see that in comparison with a language like Siwu, Wao Terero ideophones can occupy more places along this continuum as opposed to solely the extreme poles, ranging from bound to free as opposed to only bound or free. However, morphology and syntax are not exclusively responsible for determining how integrated or expressive an ideophone may be, especially since one of the major definitional qualities of an ideophone is related to their marked manner of production. In the next section we will see how prosody is not only crucial to the continuum, but can complicate it.

6. Role of Prosody

As discussed in section 2, expressiveness is central to most definitions of ideophones. Therefore, it is not surprising that in his conceptualization of the integration-expressiveness continuum, Dingemanse (2017) makes expressiveness central to the cline of ideophones in contexts ranging from depictive to descriptive. Most descriptions of ideophones appeal to the idea of performative foregrounding (Nuckolls 1996) and expressive morphology (Zwicky & Pullum 1987) in order to demonstrate the expressiveness of an ideophone. These larger phenomena are the product of multiple marked prosodic features, which are in turn often cited as being integral or common to ideophones cross-linguistically, including: intensity, length, pitch, phonation type, pause, and speech rate. Constantly at play in language, these individual prosodic cues do not exist in a vacuum—often occurring together—and can be applied to words other than ideophones for similar effect. Since these features are not strictly present or absent and have scalar values, an ideophone could be realized at either extreme and still be considered marked. Furthermore, which of the extremes is treated as marked depends on the semantics of the ideophone and the context in which it is used.

6.1. Examples of prosodic features

High intensity or loudness might be equally as marked as low intensity for a single ideophone. In Wao Terero, one could use the ideophone *tei* 'whack/hit' with high intensity to show that an object was hit with great force or created a loud sound (see waveform of example (17) in FIGURE 9), while it could also be used with low intensity to show that an object was hit with very little force yet it still caused it to break or even to show that someone weak tried to hit something and was unsuccessful in breaking it.

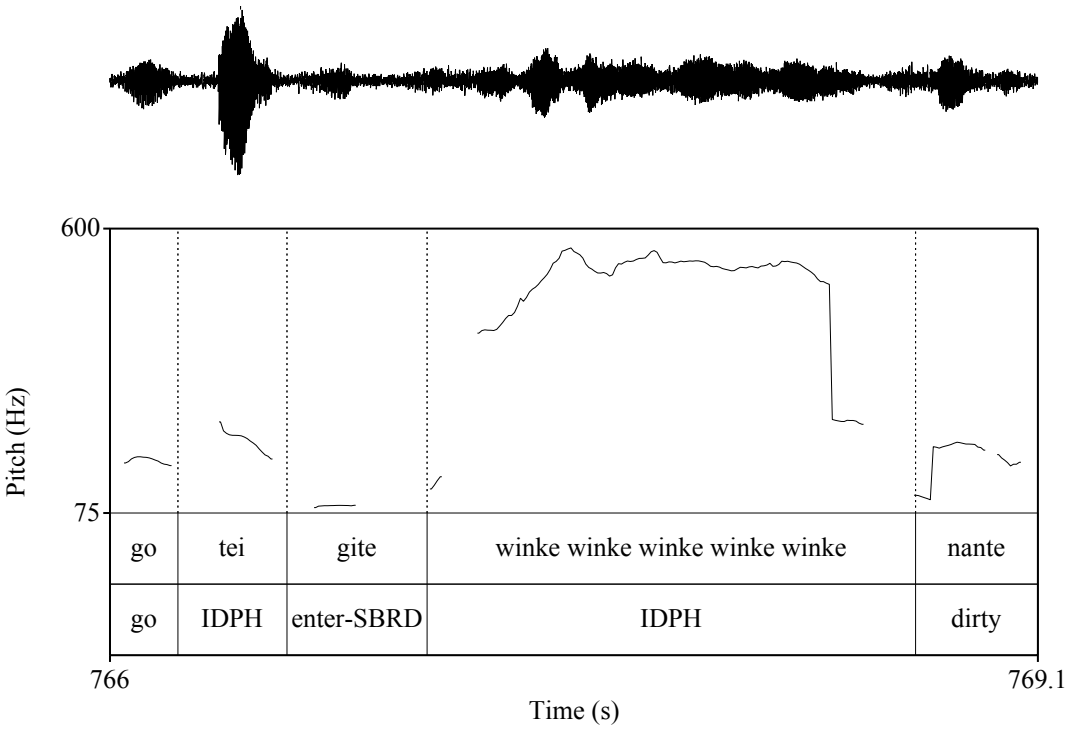
(17) *Go tei gite, ↑**winke winke winke winke winke**↑ nante,*

go	***tei***	*gi-te*	***winke***	***winke***	***winke***	***winke***	***winke***	*nan-te*
go	IDPH.hit	enter-SBRD	IDPH.dirty	IDPH	IDPH	IDPH	IDPH	be.dirty-SBRD

'He entered (the puddle) and got dirty all over.'

(Hijo del boa-Caiga-12:46)

FIGURE 9. Waveform and pitch trace for (17), female speaker



Ideophones can be produced at a higher or lower pitch than what is perceived to be average or in relation to the surrounding material. While there is no absolute threshold to cross in order to be considered high or low pitch, there is no doubt, for example, that *winke* in example (17)

would be considered high pitch—reaching almost 600Hz at its peak as seen in FIGURE 9 above. In this case, high pitch is signaling a high degree in concert with the reduplication (and co-gestures) showing the spatial distribution of the action or event.

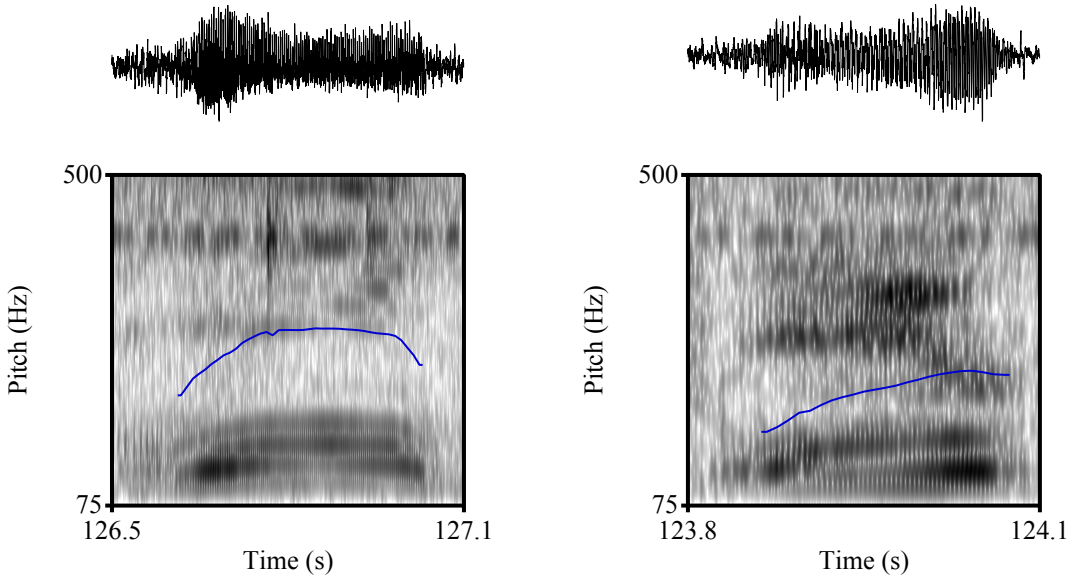
Length can be exploited in ideophones to show the intensity or degree, duration, and perhaps spatial distribution of the event being depicted. This is realized as both vowel lengthening[9] and consonant gemination. One ideophone that always featured vowel lengthening was *yee* 'cry' and in one instance the [e] had a duration of 0.846s while the entirety of the word immediately following it, *werinke* 'begin to cry', had a duration of 0.460s. However, in these texts lengthening was relatively rare in ideophones, and actually seemed to be a more productive process in non-ideophones. For example, one token of the adjective *ñeene* 'large' was realized as *ñeen꞉e* with a geminate consonant [n꞉] whose closure duration was 0.912s, while, in an instance that did not exhibit lengthening in the same text, the [n] of *ñeene* had a duration of 0.184s. This is a strategy that is common across word classes—the locus of lengthening seems to mainly appear on adjectives, verbs, and adverbials, but there are also instances in which it will occur on a noun to intimate that there is a large quantity of said item. There is no evidence for any productive shortening of vowels or consonants; however, this may be conflated with speech rate.

According to Ladefoged (1971), phonation type exists on a continuum ranging from open glottis to closed glottis, and therefore, from breathy voice to creaky voice with modal voice in between. In Wao Terero, speakers will use breathy voice mainly for quiet sounds, but also when indicating exasperation or exertion. Breathy voice also seems to play a role in some ideophones that convey given, or otherwise backgrounded, information. On the opposite end of the phonation continuum, Wao Terero makes use of what might be best described as stiff

[9] Future research should investigate co-occurrence of vowel lengthening as a prosodic feature and phonemic vowel length.

voice[10] (differing from creaky voice, which is also attested[11]). The most pronounced example of this is the ideophone for cutting hair, transcribed by speakers as *eo*. FIGURE 10 shows two instances of the ideophone from the same text with marked phonation.

FIGURE 10. Waveform and pitch trace for *eo* 'cut', female speaker



One instance of ingressive airflow has also been identified in the texts studied here. It was realized over the length of one word, *weeñe* to show exaggeratedly slow movement, however, the status of the word as an ideophone is not yet clear. Without further investigation it is unclear whether this is a widespread strategy in ideophones or even that it is iconic for speed. Ingressive airflow is attested in other discourse contexts, mainly in women's speech, but not exclusively.

[10] Notably, what I have referred to here as stiff voice in ideophones is a common phonation type in everyday discourse not just ideophones. Saint and Pike (1962:4) claim this "faucalization is a signal of displeasure, disgust—or at times of vague joy, sadness, exuberance, and the like." It is unclear whether this phonation type is limited only to actions or situations that are perceived as negative; however, if accurate, this could be an instance of relative iconicity.

[11] Creaky voice is a phonation type in that seems to be more prevalent with female speakers of Wao Terero.

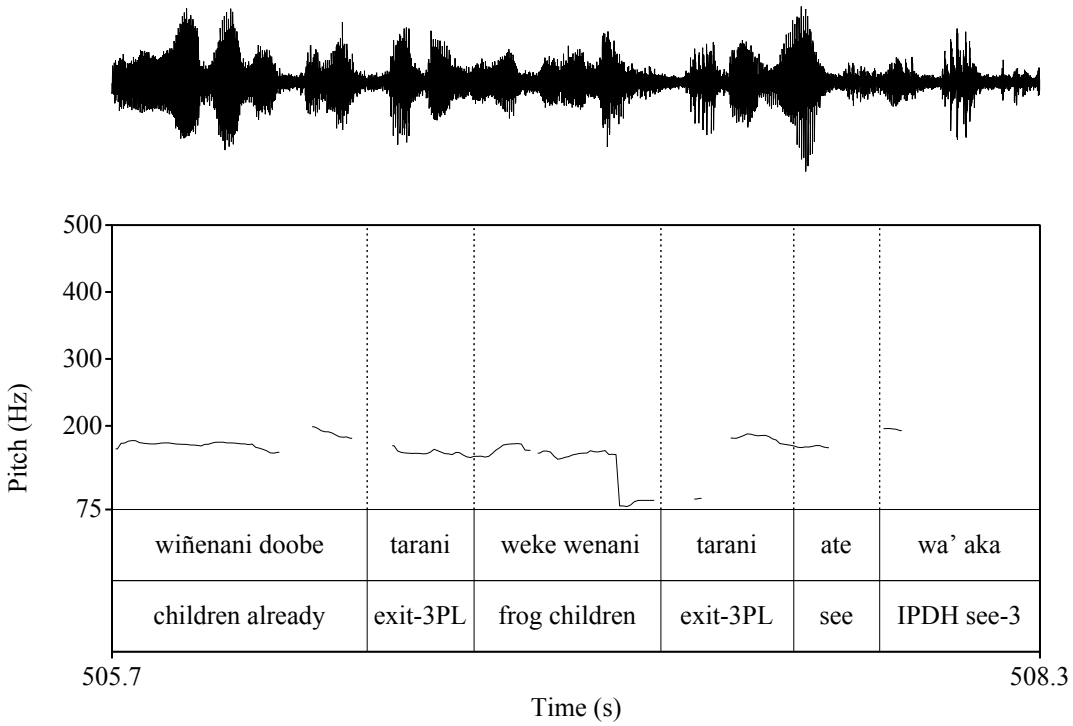
In addition to the finer grained features above, there are also more generalized prosodic features like pause length, speech rate, and intonation contours. As explored in section 4.3.1., ideophones are often offset by a pause either preceding or following the intonation unit in which they occur. While long bordering pauses are correlated with low morphosyntactic integration, this does not mean that the lack of a long pause necessarily indicates higher integration. In fact, a short pause might be as equally marked as a long pause if the event being depicted is one that is unexpected, interrupts, or is otherwise fast.

It is this repertoire of features that are leveraged in order to achieve what studies of ideophones consider expressiveness. Just as each of these individual prosodic variables is scalar, the manipulation of each is also not exclusive of the others.

6.2. Prosodic features and grammatical integration

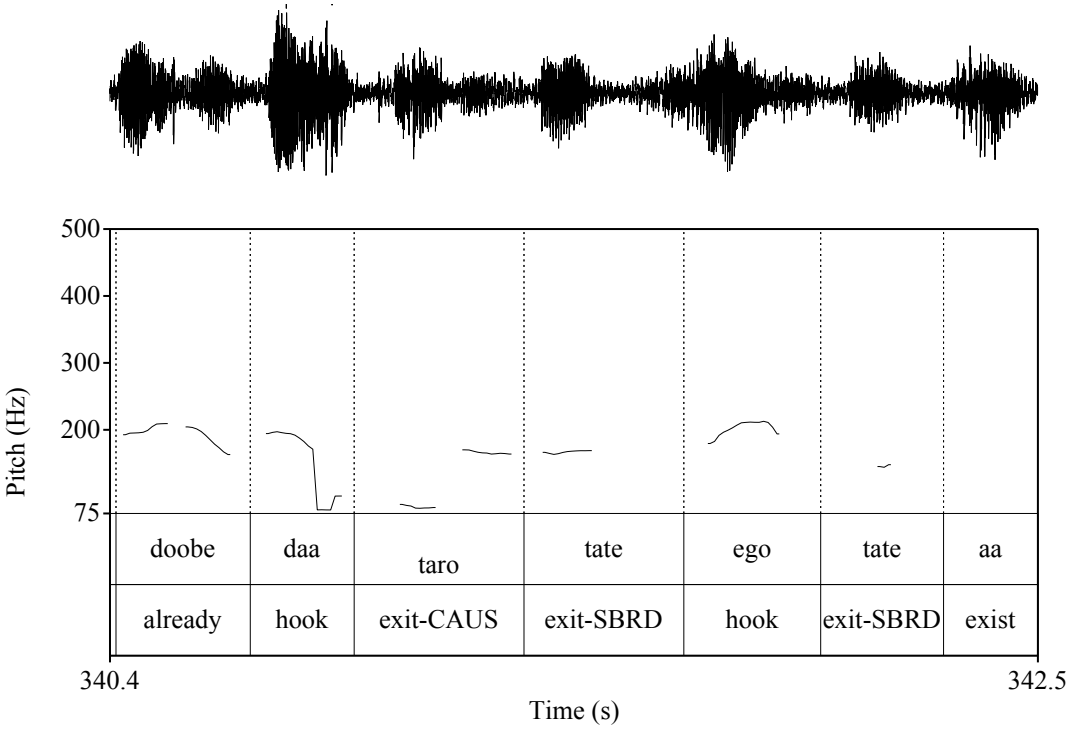
Prosodic features like those outlined above are frequently responsible for achieving the expressive or depictive work of ideophones, and, according to the integration-expressiveness continuum, will be present in the ideophones that are less grammatically integrated and decrease with greater integration (Dingemanse & Akita 2016, Akita 2017). If we revisit the examples of the ideophone *ta* 'exit' (section 5, with excerpts reproduced below) across morphosyntactic contexts with varying levels of integration we can see how prosody, and thus expressiveness, also varies. Given the continuum, one would expect that those exhibiting greater morphosyntactic integration (i.e. those with subordinative or finite verbal morphology) will also exhibit less or fewer of what we have outlined as expressive features. This is exactly what we find, as *ta* 'exit' in *tarani* has finite verbal morphology and absolutely no obvious expressive features as can be seen FIGURE 11 which shows an excerpt from (16) above.

FIGURE 11. Waveform and pitch trace for excerpt of (16), female speaker



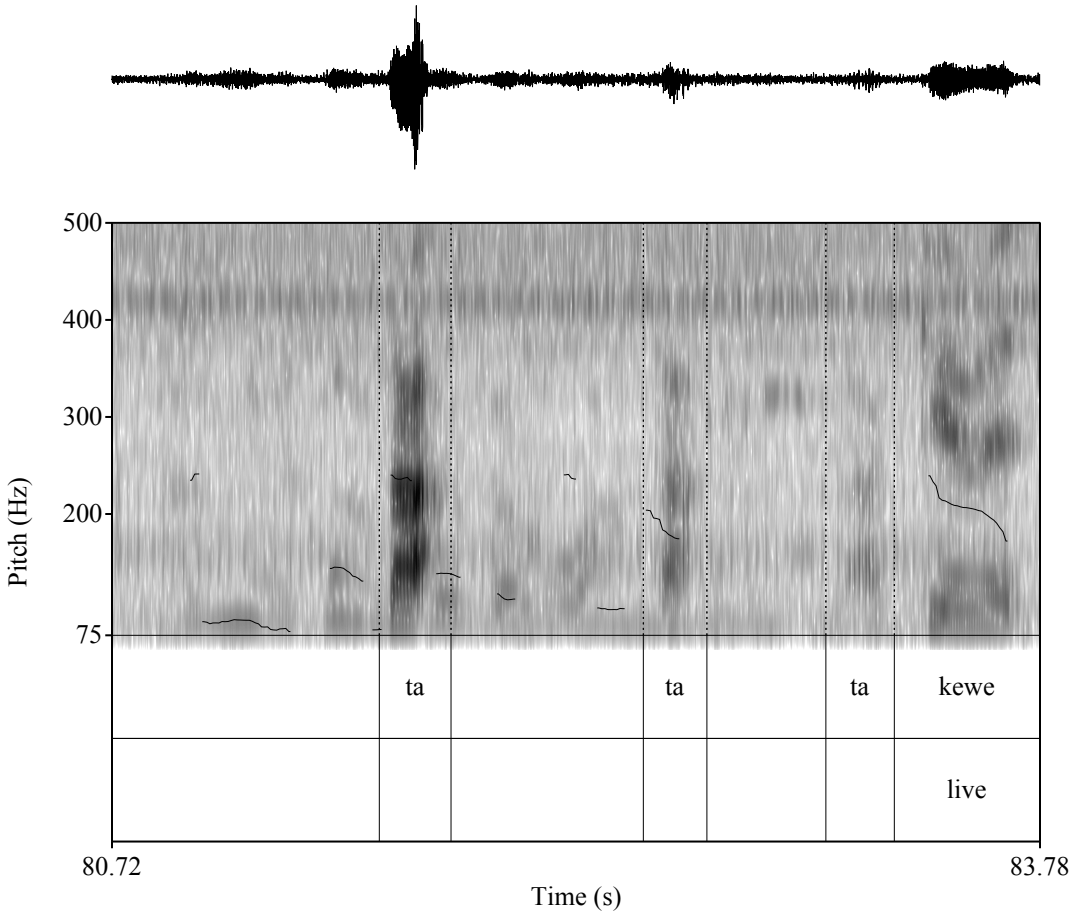
A similar pattern is also observed in the case of *tate* and *taro*, which have verbal morphology and exhibit no obvious expressive features that make these forms perceptively salient from their context. FIGURE 12 shows the pitch trace of an excerpt from (15).

FIGURE 12. Waveform and pitch trace for excerpt of (15), female speaker



Finally, *ta ta ta kewe* as shown in FIGURE 13 (corresponding to example (14) in section 4.3.3) is toward the opposite end of the spectrum in terms of morphosyntactic integration as it has no verbal morphology and is reduplicated; however, it does co-occur with a verb. The verb *kewe* 'live' with which the ideophone is collocated is offset from the intonation contour that encompasses the ideophone as shown by a marginal pitch reset and a small increase in intensity. As one would expect based on the continuum, we can observe prosodic foregrounding although it is not the most salient. The first *ta* is preceded by a pause of 0.880s, over the course of the three tokens of *ta* there is a falling intonation contour, the intensity of each reduplication progressively decreases, and the speech rate is markedly slow (three syllables over a total of 1.77 seconds). Also visible in the spectrogram, despite the noise, is slight creaky voice on the third token of *ta*. These prosodic features are indicative of the long period of time during which the boa continued to exit the water and perhaps the low intensity is tied to the backgrounding of this information preceding the new information to follow.

FIGURE 13. Waveform, spectrogram, and pitch trace for *ta ta ta kewe*, female speaker

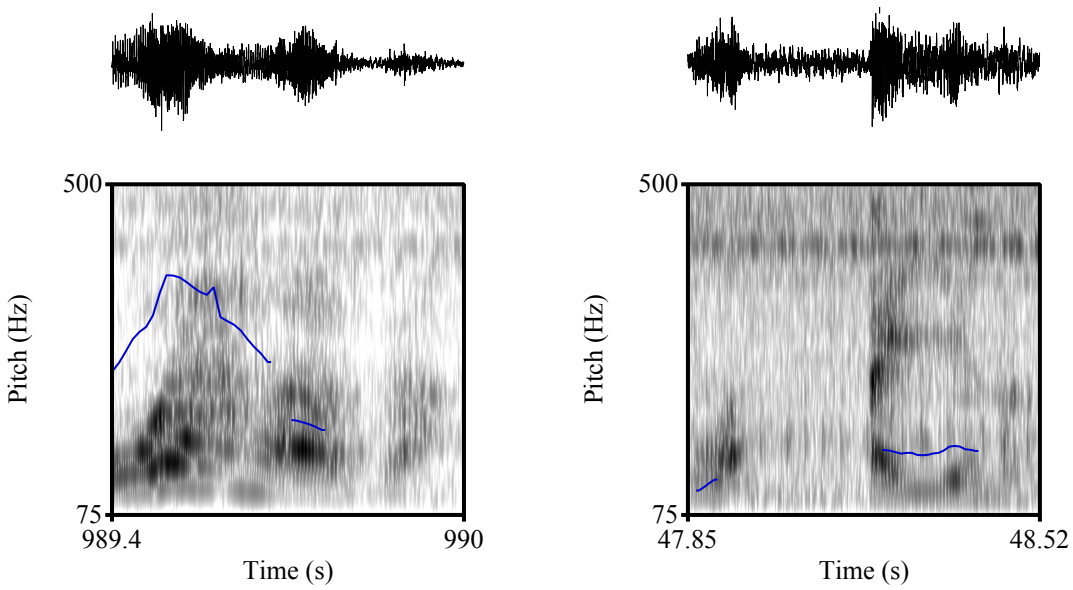


6.3. Rethinking the integration-expressiveness continuum

While there are certainly instances where one could clearly conclude that an element exhibits expressiveness or not, the reality is that prosodic features generally, and thus expressive prosody, is scalar rather than binary. Therefore, while the continuum shows that there is a direct trade-off between integration and expressiveness, this relationship might not be so straightforward or proportional. If we examine different instances of the same ideophone in the same type of verb collocation, we can see that there are differences in the expressive prosody that they exhibit. Take, for example, the two instances of ideophone-verb collocation

wa aka ‘he watches/notices’ and *wa ayona* ‘she was watching’ in FIGURE 14. The first instance shows higher intensity and pitch than the second[12].

FIGURE 14. Waveform, spectrogram, and pitch traces for *wa aka* (left) and *wa ayona* (right), female speaker

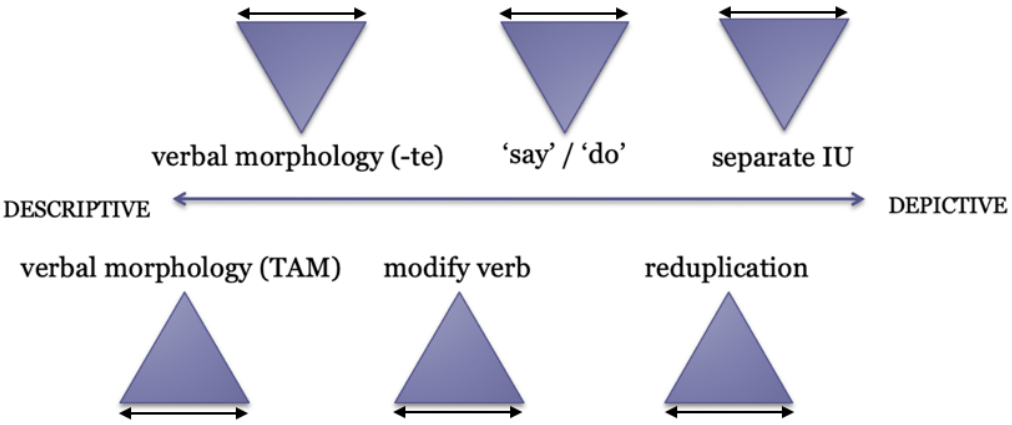


Both of these instances of the ideophone were produced by the same female speaker in conjunction with a finite verb form. They exemplify the same type of construction, therefore neither is more or less morphosyntactically integrated, yet one might be perceived as being more marked or showing greater expressiveness. Therefore, to account for the scalar nature of prosody, we could propose finer grained distinctions along the continuum. For Wao Terero, this would look like FIGURE 15 below. [13]

[12] It is not yet clear if the number of syllables of the finite verb form has anything to do with this difference. Stress assignment for ideophones in isolation does not differ from that of other word classes in isolation—primary stress falls on the final syllable if it is heavy (contains a long vowel/two mora (CVV)), but on the penultimate syllable if the final syllable is light (CV) (but cf. Pike 1964, Lester 1994, Fitzgerald 1999 for other discussions of the Wao Terero stress system). However, larger intonational effects on stress have not yet been described. Furthermore, there is a possibility that stress assignment could change for ideophones in close collocations with verbs—treating *wa' aka* as a single trisyllabic unit instead of a monosyllabic word and a disyllabic word for example.

[13] The representation in FIGURE 15 only allows overlap of adjacent types; however, one could also imagine that since some of the expressiveness cues are used for other intonational or stylistic work, there could be a much wider overlap.

FIGURE 15. Wao Terero continuum considering prosody



Because of these variable prosodic features, we cannot place all constructions of any one type as having a fixed level of expressiveness across the category. While the morphosyntactic construction in which an ideophone occurs will generally determine or indicate its place along the continuum, it is prosody that complicates that space and perhaps leads to a sort of bleeding of these categories. As we saw the variation within categories above in FIGURE 14, while two instances of verb collocations are equally integrated morphosyntactically, that does not necessarily mean that they exhibit the same amount of expressiveness. One can be more expressive than the other, so the scalar nature extends beyond each type of morphosyntactic constructions to within each. Besides intra-category variation, we could also imagine cross-category overlap in expressivity. For example, analyzing some 'say' constructions as displaying more expressive prosody than some reduplicated ones.

As previously alluded to at various points in the discussion, prosody can convey or reflect aspects of information structure such as given, accessible, and new information (Chafe 1976, 1994). New information tends to be prosodically marked with high intensity and high pitch, while given information does not. For example, this can be observed in two instances of the ideophone *wanke wanke* 'shake/wobble'. The first instance, *wanke wanke wanke kete*, an

excerpt from example (7) shown in FIGURE 16, is in collocation with the light verb 'do', marked with subordinative suffix, and is prosodically foregrounded as it is introduced following a pause (totaling 0.624s). The second *wanke wanke,* shown in FIGURE 17, is syntactically free, yet does not exhibit long bordering pauses, is phonologically reduced, and is reduplicated only two times (instead of three as above). There are two interfering intonation units between the two instances and since the wobbling of the *minkaye onko* 'bee hive' at the hands of the *ginta* 'dog' has already been introduced, the second instance is realized with less prosodic foregrounding. The link between information structure and prosody therefore complicates the continuum as it shows an example where less morphosyntactic integration, does not necessarily mean greater expressivity.

FIGURE 16. Waveform, spectrogram, and pitch trace
for *wanke wanke wanke kete*, female speaker

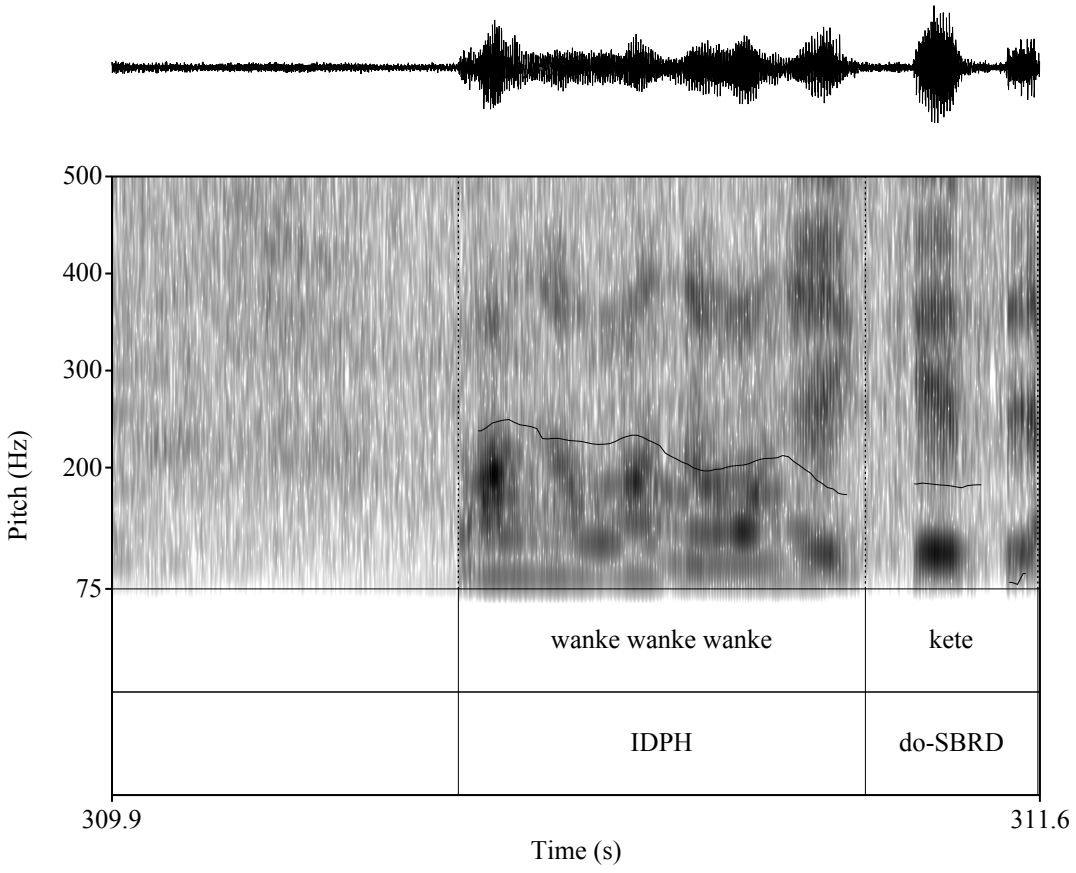
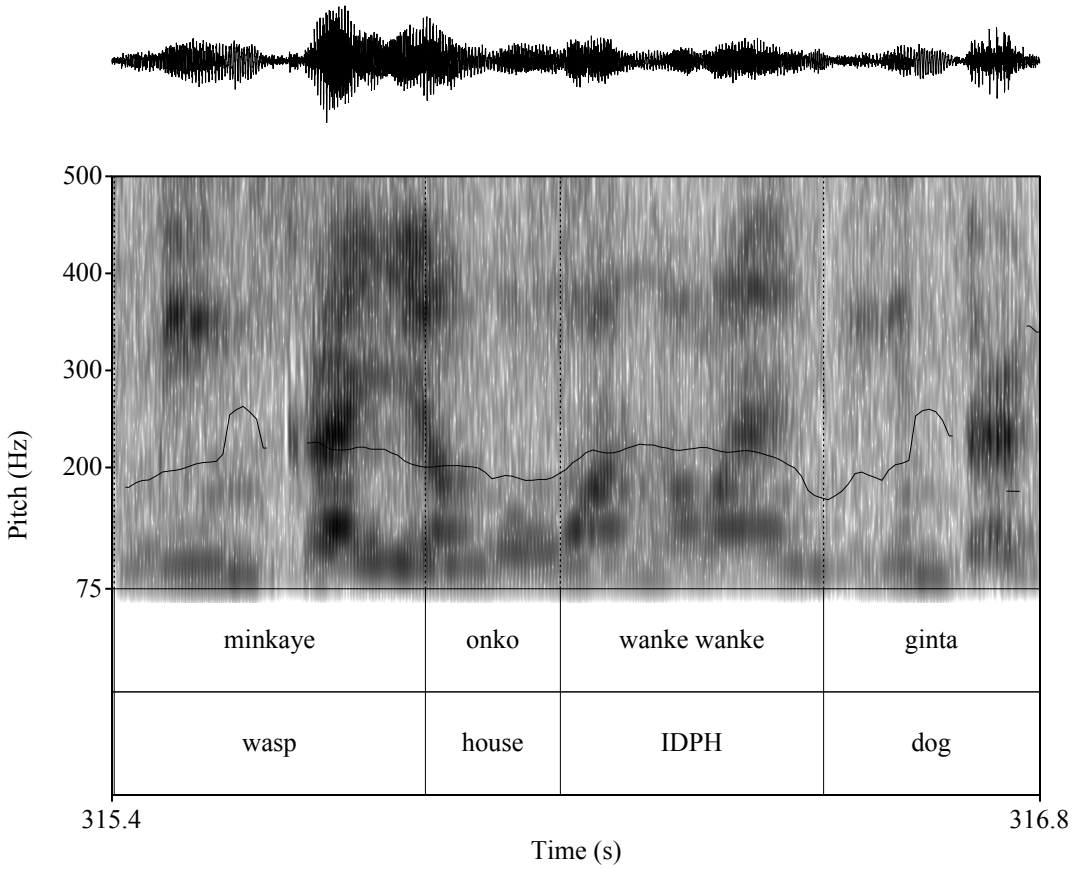


FIGURE 17. Waveform, spectrogram, and pitch trace for *minkaye onko wanke wanke ginta*, female speaker



Without a more quantitative study like that done by Dingemanse and Akita (2016) for Japanese, it is difficult to know if individual instances such as those mentioned above are numerous enough to truly challenge the larger continuum of integration and expressiveness. It does seem that however granular we decide to be with incorporating prosodic features, the continuum as proposed by Dingemanse accounts for larger trends in the language. In sum, while Wao Terero ideophones that are less morphosyntactically integrated tend to show greater expressiveness via the above prosodic measures and vice versa, there are individual instances in which ideophones appearing in constructions that are more grammatically integrated can be more expressive than some that are less integrated. Therefore, considering the analysis of Wao

Terero thus far, perhaps the continuum would be best used to state the likelihood that one type of construction will exhibit expressiveness as opposed to a claim that it necessarily will.

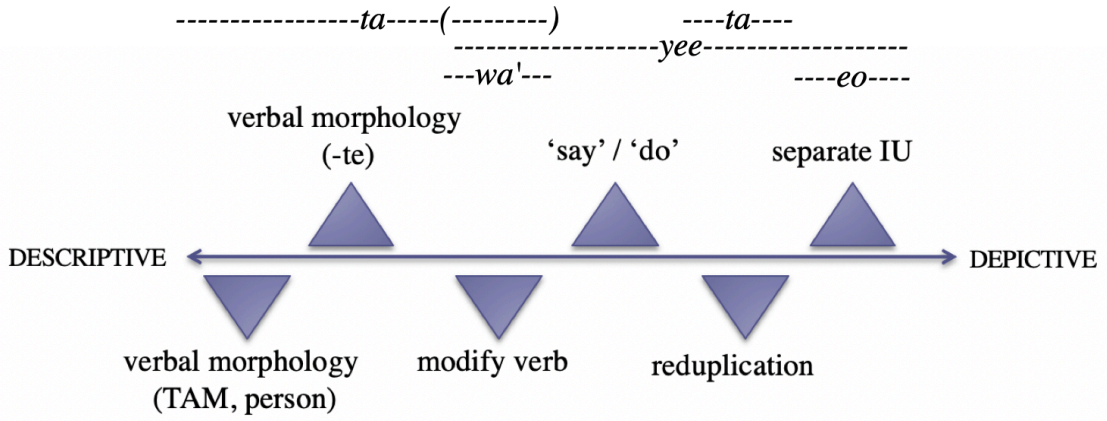
7. Diachrony

If we take the claims of the integration-expressiveness continuum—greater morphosyntactic integration pairs with less expressiveness and vice versa—to be true, then the continuum will prove useful for investigating processes of language change in regard to ideophones. General trends of grammaticalization as exhibited cross-linguistically line up neatly with moving leftward along the continuum, which encompasses the gradualness, gradience, and increased grammatical status (Hopper & Traugott 2003). That said, there are many instances of grammaticalization of ideophones to other word classes (e.g. Mtintsilana and Morris 1988 for nouns in Bantu), but also instances where other word classes can take on properties typical of ideophones. Cross-linguistically, there seems to be a demonstrable connection between ideophones and verbs since both categories are often used to depict or describe actions, events, and states. Given this affinity we observe processes of ideophones becoming more like verbs (Dingemanse 2017 for Siwu) as well as verbs becoming more like ideophones (Le Guen 2012 for Yucatec Maya; Mihas 2012 for Alto Perené). Given tendencies of grammaticalization, the former should be the most common as it shows an increase in grammatical status. In Wao Terero, the connection between ideophone and verb is most salient and can be examined through the frame of the integration expressiveness continuum.

While section 4 noted the different types of constructions in which Wao Terero ideophones can occur, it did not address the uneven distribution of ideophones in said constructions. There are many ideophones that will only occur in the most expressive, morphosyntactically independent constructions such as *eo* ‘cut’. There are also some ideophones that seem to have routinized into tight collocations, appearing in only one type of grammatical construction. For

example, in the texts analyzed for this study *wa'* 'watch/look' exclusively occurs in collocation with a finite form of *a* 'see' (*wa' a, wa' aka, wa' ayona*). Others can occur in a few types of constructions such as *yee* 'cry' which is found in the most syntactically independent form, in 'say' constructions, and in collocation with a finite form of the verb *we* 'cry'. Finally, there are ideophones like *ta* 'exit' that can be found in essentially all of the morphosyntactic contexts explored above except for 'say' constructions.[14] The distribution of these four examples is pictured in FIGURE 18 below.

FIGURE 18. *ta, yee, wa', and eo* distributions along Wao Terero continuum



This seems to exemplify the period of overlap or layering, where older and newer functions of the same item are simultaneously present in language use (Hopper 1991:22). Assuming that: (1) the synchronic variability in the distribution of constructions ideophones can occupy is a result of grammaticalization; (2) grammaticalization tends to be unidirectional; and (3) grammaticalization results in greater morphosyntactic integration, we can theorize the diachronic pathways present in Wao Terero ideophones. Considering the above examples as representative, the fact that *eo* 'cut' occurs only in the least morphosyntactically integrated and most expressive type of construction—the most prototypical ideophone typologically

[14] There are no examples of *ta* in the 'say'/'do' constructions in the data analyzed for this thesis; however, it remains to be determined whether it is impossible or merely not attested in these data.

speaking—suggests that it has not undergone any process of grammaticalization. The ideophone *yee* has a wider distribution, still occurring in the most depictive format, but also in collocations with verbs where it acts more verb-like, therefore, appears to be undergoing a process of grammaticalization. Finally, *ta* occurs with some expressive features, but is more often realized in more morphosyntactically integrated contexts suggesting that it has undergone grammaticalization to be most verb-like, losing expressive qualities along the way. It is therefore likely that Wao Terero ideophones can undergo change along an ideophone to verb grammaticalization pathway.

Complicating factors in establishing directionality lie with *wa'* and *ta.* Because of the limited distribution and the degree of morphosyntactic integration, it is possible that *wa'* has undergone complete grammaticalization; however, this seems unlikely since it still consistently exhibits expressive prosody. Instead it might have undergone a different process, which could have something to do with its semantics—it is difficult to imagine 'look' collocating with many other verb forms—or no process at all. There is cross-linguistic evidence for this type of behavior in ideophones, as Alpher (1994:167-8) notes that Yir-Yiront ideophones typically occur in collocation with one or a small number of verbs. Further, since reduplication is a productive process that does not only apply to ideophones but also adverbials and subordinated verbs (see section 3), one could imagine that *ta* has not undergone any process of grammaticalization at all, but rather has something similar to derivational process of syntactic iteration resulting in deverbal and denominal ideophones noted in Mihas (2012:311-2).

Grammaticalized ideophones like *ta* and less-grammaticalized ideophones like *yee* simultaneously co-existing in a speaker's repertoire at a particular moment in time shows how while there might be directional pathway, grammaticalization is gradual and does not happen

in one fell swoop to all members of a word class. This brings us to the question of what initiates change and what general structural properties of Wao Terero could be responsible or at least provide the environmental conditions necessary for this type of change. We have already noted the affinity between verb and ideophone cross linguistically, but there is also a phonotactic similarity between ideophone and verb root in Wao Terero as most verb roots and many ideophones are monosyllabic. The ability for subordinated verbs to be repeated for aspectual effect is also a property shared with ideophones. Furthermore, subordinated verbs can behave adverbially, reminiscent of a converb (Haspelmath 1995), and often occur immediately preceding a finite matrix verb as can ideophones. Therefore, because of these shared characteristics it is possible that speakers have extended the function of ideophones to occupy those of verbs through analogy. This grammaticalization process is remarkably similar to what has been noted by various studies in which ideophones have a historical relationship to coverbs in complex verb constructions or complex predicates (McGregor 2001 for Northern Australian languages; Schultze-Berndt 2001 for Jamingjung; Amha 2001, 2010 for Wolaitta). The multifunctionality of the subordinating suffix *–te* in Wao Terero and its role in grammaticalization is an area ripe for future inquiry.

8. Conclusion

Wao Terero ideophones conform to traditional definitions of ideophones in that they have marked semantic, phonotactic, and morphosyntactic properties; however, it is also clear that they are incorporated into the larger grammatical structure of the language. There are multiple morphosyntactic contexts in which they can occur, only some of which align with common conceptualizations of ideophones as syntactically independent. The remaining contexts show a higher level of morphosyntactic integration, in which the ideophones tend to exhibit fewer expressive qualities. Through the lens of the integration-expressiveness continuum proposed

by Dingemanse (2017), this means that Wao Terero ideophones can exist at different places along the continuum and their position indicates a certain likelihood of displaying expressive features. While the continuum implies a one-to-one inverse relationship between integration and expressiveness, the scalar nature of the prosodic features—such as length, pitch, intensity, and voice quality—that are taken to contribute to an ideophone's degree of expressiveness lead to complications in the application of the continuum to *all* Wao Terero data. Despite the individual examples that challenge its validity, the continuum appears to account for the majority of Wao Terero data. In fact, beyond illustrating the nature of the data synchronically, the continuum is also shown to be useful in visualizing probable grammaticalization pathways.

All of these observations are instrumental for situating Wao Terero typologically and allow us to conclude that Wao Terero is a language that does not make a clear dichotomous distinction between the depictive and the descriptive or the expressive and the analytic. As such, the examples included in this study have the potential to contribute to future studies of ideophone typology. Firstly, because the examples have been framed in terms of the continuum, it will be easier to compare cross-linguistically since there is a point of reference. Secondly, since Wao Terero is a language isolate, it has the potential to exhibit characteristics that are markedly different from unrelated languages. Finally, since areal characteristics play an important role in understanding possible historical trends and context, these data can facilitate further understanding of areal features through a comparison with nearby languages.

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