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Ideophones in Japhug (Rgyalrong)

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Abstract. This article provides a description of the main phonological and morphosyntactic features that characterize ideophones in Japhug (Rgyalrong, Sino-Tibetan). Ideophones are among the few words that can occur postverbally, even in relative clauses. Also discussed are the morphological patterns of ideophones, verbs derived from ideophones and their relationship to denominal verbs, and other phonologically marked parts of speech such as interjections and calling sounds and their differences from ideophones.

1. Introduction. Of all areas of grammar, the study of ideophones is perhaps the one where an integrative approach taking into account phonology, prosody, morphosyntax, discourse usage, and even extralinguistic factors such as iconic gesture (Dingemanse 2011b) is most relevant. From the point of view of grammar writing, ideophones present a challenge in all subdomains of language description. They often fill gaps in phonotactics and display distinctive prosody. They may exhibit distinctive morphology and occur in highly unusual morphological or syntactic constructions. Their semantics displays extremely subtle and intricate nuances that are difficult to translate appropriately.

Rgyalrong languages,¹ a group of Sino-Tibetan (Trans-Himalayan) languages otherwise known for their polysynthetic verbal morphology (Jacques 2012), present a system of ideophones that is unmatched among the languages of the family. Yet only two publications have briefly touched upon the subject, namely Sun and Shidanlua (2004) on Tshobdun and Jacques (2008:305–17) on Japhug.

This article presents an account of Japhug ideophones on the basis of a corpus of traditional stories and conversation of about thirty hours, supplemented by elicitation. Given the absence of video data, no study of accompanying gestures could be undertaken.

Section 2 proposes a language-specific definition of ideophones based on morphology, and presents an account of morphological derivations applying to ideophones in Japhug. Section 3 describes the phonological properties of ideophonic roots, in particular their markedness and iconicity. In section 4, the syntactic constructions where ideophones appear are analyzed; it is shown that, unlike almost all other parts of speech, they can occur postverbally without right dislocation. Sections 5 and 6 discuss verbs derived from ideophones (“deideophonic verbs”) and their relationship with ideophonic patterns, as well as deideophonic nouns. Finally, section 7 discusses three parts of speech that share the markedness and iconicity of ideophones: onomatopoeia, interjections, and calling sounds.

2. Ideophonic stem morphology. Crosslinguistic definitions have been proposed for ideophones; for instance, according to Dingemanse, they are “marked words that depict sensory imagery” (forthcoming:2). While Japhug ideophones do indeed fit this description, it is more convenient for a case study such as that presented here to adopt a language-particular definition. Ideophones often have specific morphology distinct from the rest of the lexicon (see Diffloth 1976 and Zwicky 1987), and in the particular case of Rgyalrong languages, this highly productive and regular “expressive” morphology is the best criterion to objectively define whether a particular word is an ideophone or not.

Ideophones are defined here as words derived from monosyllabic ideophonic roots that can undergo the morphological derivations described in this section. This definition excludes other types of phonologically and syntactically marked words such as interjections and animal calls, which are discussed in section 7, as well as nonideophonic adverbs such as *aɛrɲndundɲt* ‘everywhere’ or *thamtɕɲt* ‘all, completely’, which do not present any stem alternation and which cannot be used in the same syntactic constructions as ideophones.

In Tshobdun, the closest relative of Japhug, Sun and Shidanluo (2004:3–4) describe nine distinct complex ideophonic forms based on the root, as indicated in table 1. R represents the ideophonic root, C_i the onset of the ideophonic root, and C_f its coda.

Table 1. Ideophonic Morphology in Tshobdun

PATTERN	FORM	MEANING
1	R	[+dynamic, +semelfactive]
2	RR?	[-dynamic]
3	$nə$ -RR?	[+dynamic, +continuous, +speed]
4	R- \tilde{e} -R	[+dynamic, +continuous]
5	R- $nə$ -R	[+dynamic, -continuous]
6	$C_iVC_f\partial C_f\partial$	[+dynamic, +continuous, +close-up, -speed]
7	$pəpə$ -RR	[+dynamic, +continuous, +plural, -order]
8	C_iopv - $C_iol\epsilon$?	[+plural, -order]
9	C_iov - C_ie	[+plural, -order]

Japhug presents a very similar system, although only five patterns are shared between the two languages. Patterns 1, 2, 3, 4, and 7 in Japhug (see table 2), respectively, correspond to patterns 1, 2, 5, 8/9, and 6 in Tshobdun. Patterns 5 and 6 in Japhug express an intensive meaning in comparison with the corresponding semelfactive (pattern 1) and stative (pattern 2), and no equivalent is described in Tshobdun. All patterns are illustrated with an example using the root \sqrt{zjan} ‘tall’ (example sentences for each of these forms are provided in section 2.1).

Table 2. Ideophonic Morphology in Japhug

PATTERN	FORM	EXAMPLE	MEANING
1	R	<i>zjaŋ</i>	semelfactive
2	R.R	<i>zjaŋ.zjaŋ</i>	stative
3	R.nɾ.R	<i>zjaŋ.nɾ.zjaŋ</i>	action with rhythm, motion, or both
4	R.nɾ.lVC _f	<i>zjaŋ.nɾ.laŋ</i>	action in disorderly fashion
5	<i>p^hu</i> .R	<i>p^hu.zjaŋ</i>	semelfactive, intensive
6	<i>mɾlɾ</i> .R	<i>mɾlɾ.zjaŋ</i>	stative, intensive
7	<i>C_iVC_fu.C_fi</i>	<i>zjaŋu.ŋi</i>	progressive change of state
8	<i>C_iVC_fu.C_iaC_fi</i>	<i>zjuŋu.zjaŋi</i>	stative, in quantity, in disorder
9	<i>Ri.nɾ.Ri</i>	<i>zjaŋi.nɾ.zjaŋi</i>	action with fast motion

In Japhug, in cases where the ideophonic root has no coda, the consonant *w* replaces *C_f* in patterns 7 and 8. For instance, $\sqrt{s\chi i}$ ‘with big holes, with big nostrils’ has the pattern 8 form *sχuwusχawi* ‘full of holes everywhere’.

Pattern 3 also allows a variant RR-nɾ-RR with double reduplication of the ideophonic root.

The reduplicated form in pattern 2 is in most cases a complete reduplication. Not only the onset, but also the vowel as well as the final consonant are copied, even in the case of initial clusters, e.g., $\sqrt{zʃraŋ} \rightarrow zʃraŋzʃraŋ$ ‘bulging, swollen’. Nevertheless, we do observe some phonetic attrition in the case of the codas *-t*, *-ɣ*, and *-β*. Final *-t* is generally deleted in the reduplicated syllable regardless of the following consonant, e.g., $\sqrt{xʃɾt} \rightarrow xʃɾxʃɾ$ ‘long, thin and flexible’. (An exception, which involves an ideophone without initial cluster, is *cotcot* ‘small and cute’.) Final *-β* disappears in the reduplicated syllable when the onset of the ideophonic root contains a labial, e.g., $\sqrt{brɾβ} \rightarrow brɾbrɾ$ ‘stubborn, bulky’. Final *-ɣ* is deleted when the onset contains a velar, e.g., $\sqrt{grɾɣ} \rightarrow grɾgrɾ$ ‘moving with difficulty, unstable on its feet’.

An additional pattern of derivation involving phonetic reduction, not represented in table 2, appears with a few ideophones with open rhymes in *-i* and an initial cluster with medial *-l-* or *-r-*. The medial is deleted and the rhyme is replaced by *-u*, following the regular process of partial reduplication common in verbal morphology (see Jacques 2004:26–60). Examples of this phenomenon include, for instance, $\sqrt{ɸʃri} \rightarrow ɸʃuɸʃri$ ‘fat and soft’ and $\sqrt{qli} \rightarrow quqli$ ‘staring at’.

2.1. Regular derivations. Although all nine ideophonic patterns are attested in our text corpus, it is difficult to find real examples of all regular derivations from one particular root. For ease of presentation, we cite example sentences with complex ideophones based on a single root, $\sqrt{zjaŋ}$ ‘tall’, and thus most of these examples are elicited. However, they were rechecked with two speakers and their usage was deemed natural.

The basic meaning of the ideophonic root $\sqrt{zjaŋ}$ ‘tall’ was glossed by our main informant as (1).

- (1) *u-zda ra sɾz ku-mbro ku-fse*
 3SG.POSS-companion PL COMP NMLZ:S/A-be.tall/high NMLZ:S/A-be.like
 ‘taller or higher than the rest’ (elicited)

Pattern 1, which consists of the bare ideophonic root, is combined with predicates in the perfective or evidential to express an action occurring suddenly, as in (2). The form *zjaŋ* means that the action of the sentence resulted in the main referent becoming taller than its surrounding.

- (2) *zjaŋ zo tɾ-ndzur*
 IDEO:SEMEL:tall EMPH PFV-stand
 ‘He stood up suddenly and [appeared to be] very tall.’ (elicited)

Pattern 2, with plain reduplication (e.g., *zjaŋ-zjaŋ*), indicates a state. It is by far the most common ideophonic pattern in texts and it is attested for almost all ideophonic roots. If an ideophone in pattern 2 is used with a lexical verb, this verb can either describe a state, as in (3), or depict the action whose result is the state described by the ideophone, with both transitive or intransitive verbs, as in (4) and (5), respectively.²

- (3) *tɾçi nunu kɾ-smi tce tu-puɣ ŋu tce tɾ-puɣ tce*
 barley TOP PFV-be.cooked LNK IPFV-swell FACT:be LNK PFV-swell LNK
tú-wɣ-ndza tce dzuβnɾdzuβ ku-ti zo a-tʰ-wɣ-βzu
 IPFV-INV-eat LNK IDEO:DYN:taste.soft NMLZ:S/A-say EMPH IRR-PFV-INV-make
tce tu-pe ŋu tce nureri tce u-ci maka
 LNK IPFV-be.good FACT:be LNK there LNK 3SG.POSS-water at.all
ɲu-me zo çti tce tu-omuɾmbu zjaŋzjaŋ
 IPFV-not.exist EMPH FACT:be:ASSERT LNK IPFV-be.piled.up IDEO:STAT:tall
zo ŋu
 EMPH FACT:be

‘When the barley is cooked, it soaks with water and swells, and when it has become swollen, when it tastes soft, it is good. There is no water anymore at all there (in the pot) and [the swollen barley grains] are stacked very high.’ (Alcohol 41)

- (4) *zjaŋzjaŋ zo to-rmbu*
 IDEO:STAT:tall EMPH EVD-pile.up
 ‘He piled it up very high.’ (elicited)

- (5) *mbro u-taɸ zjaŋzjaŋ to-çe*
 horse 3SG-on IDEO:STAT:tall EVD:UP-go
 ‘He climbed onto the horse and [while sitting on it] appeared to be very tall.’ (elicited)

Pattern 3, comprising the reduplicated ideophonic root with the element *nɾ* inserted in between (e.g., *zjaŋ-nɾ-zjaŋ*), depicts a rhythmic action or a constant motion, as in (6), depending on the semantics of the root.

- (6) *mbro u-tak to-çe tçe zjaŋnrzjaŋ jɣ-ari-ndzi*
 horse 3SG-on EVD:UP-go LNK IDEO:DYN:tall PFV-go\II-DU
 'He mounted the horse, and they went there, very tall.' (elicited)

Pattern 4 is formed by combining with the ideophonic root, the element *nɣ*, and a partial copy of the root in which the onset is replaced by *l-* (e.g., *zjaŋ-nɣ-larŋ*). It describes an action involving motion occurring in disorderly fashion with intermittent changes of state. In (7), the form *zjaŋnɣlarŋ* can be used to depict a drunk person who stumbles from time to time while walking, so that he seems taller at one time and shorter at another time.

- (7) *zjaŋnɣlarŋ* *ɲu-ŋke*
 IDEO:DYN:DISORDERLY:tall TESTIM-go
 'He is walking unsteadily, very tall.' (elicited)

Pattern 5, made of the ideophonic root prefixed with the element *p^hu-* (e.g., *p^hu-zjaŋ*), as in (8), is similar to pattern 1 semantically, but it is more rarely used. It indicates a more sudden action, one carried out to a higher degree, or both.

- (8) *p^huzjaŋ* *zo tɣ-ndzur*
 IDEO:SEMEL:INTENS:tall EMPH PFV-stand
 'He stood up suddenly and [appeared to be] very tall.' (elicited)

Pattern 6, with the root prefixed by *mɣlɣ-* (e.g., *mɣlɣ-zjaŋ*), describes a state like pattern 2, but differs from it in that it expresses a higher degree. In addition, it can be used to express the result of a change of state with the verb *aβzu* 'become', as in (9).

- (9) *a-ŋe* *mɣlɣzjaŋ* *zo t^hu-aβzu*
 1SG.POSS-grandson IDEO:STAT:INTENS:tall EMPH PFV-become
 'My grandson has become very tall.' (elicited)

To convey the same meaning with pattern 2, it is necessary to add the infinitive *ku-pa* of the auxiliary *pa* as a manner adjunct, as in (10).

- (10) *zjaŋzjaŋ* *zo ku-pa t^hu-aβzu*
 IDEO:STAT:tall EMPH INF:STAT-LIGHT.VERB PFV-become
 'My grandson has become very tall.' (elicited)

Pattern 7 shows reduplication of the coda (*C_p*) of the root following the formula *C_iVC_fuC_fi* (e.g., *zjaŋ-u-ŋ-i*). It expresses a progressive change of state, involving in some cases slow motion, as in (11).

- (11) *zjaŋuŋi* *zo jɣ-ari*
 IDEO:PROGRESSIVE.CHANGE:tall EMPH PFV-go\II
 'He went away slowly, being taller than (the others).' (elicited)

Pattern 8 depicts a state in which there are a lot of referents having the property described by the ideophone, but spread out spatially in a disorderly fashion. The formula $C_iVC_iuC_iuC_i$ in table 2 applies to ideophonic roots that do not have *a* as their main vowel; for instance, $\sqrt{zj\gamma\gamma}$ (whose meaning is almost identical to that of $\sqrt{zja\eta}$) has the form $zj\gamma\gamma u z j a \eta i$. When the main vowel is *a*, the formula is $C_iu C_i u C_i a C_i i$; thus, pattern 8 for $\sqrt{zja\eta}$ is $z j u \eta u z j a \eta i$. This form means that in a group of unique entities, some are tall and some are short, but they are unevenly spread.³

- (12) *zjuηuzjaηi* *nu-xcat*
 IDEO:PL:DISORDER:STAT:tall TESTIM-be.many
 ‘There are many (people), some taller and some shorter.’ (elicited)

Pattern 9 is formally similar to pattern 3, except that *i* is added after each reduplicant of the ideophonic root (e.g., *zjaη-i-nɣ-zjaη-i*). Semantically, it indicates that the entity presenting the property described by the ideophonic root undergoes rapid motion.

- (13) *mbro ta-numbrɣpu tɕe zjaηinɣzjaηi zo jɣ-ɕq^hlɣt*
 horse PFV:3→3’-ride LNK IDEO:DYN:FAST:tall EMPH PFV-disappear
 ‘He mounted the horse and disappeared quickly (over the horizon), very tall.’
 (elicited)

Of these nine patterns, we observe that semelfactive patterns (1 and 5) are not reduplicated, while dynamic nonsemelfactive ones (3, 4, 7, 9) always are. This correlation between reduplication and aspect is a clear case of what Dingemans calls “Gestalt iconicity,” namely, a correlation between “word structure and the spatial-temporal structure of the perceived event” (2011a:47).

2.2. Irregularities. In practice, very few ideophonic roots allow the application of all the nine patterns exemplified in table 2 and section 2.1. In many cases, a particular pattern is not attested because there is no imaginable context where the situation could exist. The meaning of some ideophonic roots can be incompatible with stative patterns (2, 6, and 8), as with $\sqrt{spu\gamma}$ ‘throb (of pain)’, which is only attested in patterns 1 and 3. Other ideophonic roots require a stative pattern, such as $\sqrt{nc^h\gamma\gamma}$ ‘too diluted’, which only appears in pattern 2.

Even in the case of ideophonic roots that allow several different patterns, the semantics of a particular pattern cannot always be predicted from that of the other ones. In other words, not all ideophonic roots have a basic meaning from which the semantics of all patterns can be regularly derived. In this section, we provide two examples with such unpredictable semantics.

First, the pattern 3 form *ruβnɣruβ* means ‘dripping continuously’, as in (14).

- (14) ⟨chahu⟩ *nɣ-spov* *tɕe* *tu-ci* *ruβnɣruβ*
 tea.pot EVD-have.a.hole LNK INDEF.POSS-water IDEO:DYN:dripping.continuously
zo *nɯ-nɯ-ɔv*
 EMPH CONST-AUTO-come.out
 ‘There is a hole in the teapot and water is dripping from it without stop.’ (elicited)

The form *ruβnɣruβ* implies a root $\sqrt{ruβ}$ from which the pattern 8 form *ruwɯrawi* can be regularly derived. However, the meaning of *ruwɯrawi* is apparently unrelated; it means ‘upset and confused’ and requires the noun *-sum* ‘mind’, as in (15). Although it could originally have been a metaphorical extension of the concrete meaning of this root, the exact pathway of semantic change is not recoverable.

- (15) *u-kɣ-nuzduɣ* *nɯ-dɣn* *tɕe*, *u-sum*
 3SG-NMLZ:P-be.worried.about TESTIM-be.many LNK 3SG.POSS-mind
ruwɯrawi *nɯ-xtsu*
 IDEO:PL:DISORDER:STAT:confused IPFV-ferment
 ‘He is worried about many things, and he feels upset and confused.’ (elicited)

Second, the pattern 2 ideophone *dzonɔdzon* means ‘having bristling hair’, as illustrated by (16).

- (16) *nɣ-kɣrme* *pɯ-sɣɣt* *ma* *dzonɔdzon* *zo*
 2SG.POSS-hair IMP-comb because IDEO:STAT:having.bristling.hair EMPH
nɯ-pa
 TESTIM-AUX
 ‘Comb your hair, it is unkempt.’ (elicited)

This ideophone is based on the root \sqrt{dzon} , from which the regular pattern 3 form is *dzonɣɔdzon*. Although this form does exist, its meaning is entirely different; it refers to the itchy feeling one experiences when blood flows back into a limb that has fallen asleep (due to a sitting position, for instance), as in (17).

- (17) *tu-ŋke-a* *tɕe* *a-mi* *dzonɣɔdzon* *zo* *nɯ-ti*
 IPFV:UP-walk-1SG LNK 1SG.POSS-foot IDEO:DYN:itch EMPH TESTIM-say
ma *chɣ-ndzɯrpɯt*
 because EVD-be.numb
 ‘My foot feels itchy as I walk because it is numb.’ (elicited)

Thus, a comprehensive description of ideophones (especially in a dictionary) must clearly indicate which patterns are attested for which ideophonic roots, and specify in each case whether the semantics are predictable or not. The two cases presented above are by no means exceptional.

Nevertheless, even in cases when such semantic discrepancies are observed between different ideophonic patterns based on the same root, the basic semantic feature of the pattern in question is always present. For instance, a pattern 2 ideophone will always be stative, even if its meaning is not clearly related to the corresponding pattern 3 form.

2.3. Semantic categories. Japhug ideophones are used to describe various features, including sound, color, shape, texture, attitude or mood, and some ideophones are multimodal—they refer to combinations of several types of sensory information.

Dingemanse (2012:663) proposes the implicational hierarchy in (18), according to which, if a particular language possesses ideophones belonging to a particular class in this hierarchy, it will also have ideophones for all the classes to its left (if it has ideophones for visual patterns, it will also have ideophones for motion and sound, and so on).

- (18) sound < motion < visual patterns < other sensory perceptions < inner feelings
and cognitive states

Since all categories are exemplified in Japhug, this language clearly is not a counterexample to the hierarchy. The category ‘motion’ is entirely covered by the ideophonic patterns studied above; all patterns except 2, 6, and 8 will imply motion in the case of visual (and sometimes auditory) ideophones.

Ideophones of an onomatopoeic nature are very common and include, for instance, \sqrt{rq}^{hok} ‘gunshot’, $\sqrt{p\zeta u\gamma}$ ‘water thrown down’, and $\sqrt{t\zeta hu\eta}$ ‘metal clinking’. Many ideophones, however, can have an auditory interpretation competing with many other ones. Thus, $\sqrt{br\beta}$ in its pattern 2 form can designate many objects in bulk (like mushrooms), a stubborn person, or a heavy and cumbersome object, depending on the context. With a dynamic pattern, it can be interpreted as designating the noise made by a heavy object falling from a high place; here there is an obvious semantic derivation from nonauditory to auditory interpretation.

Ideophones are used in Japhug to describe colors or shapes (see, e.g., table 6) and even both at the same time as $\sqrt{\zeta\gamma a\beta}$ ‘sharp and shiny (of fangs)’.

Apart from vision and audition, we find several ideophones related to various senses, including touch (e.g., $\sqrt{br u\gamma}$ ‘rough, as if covered by little pimples’), pain (e.g., $\sqrt{\zeta\eta u\gamma}$ ‘feeling of intense pain’), temperature (e.g., $\sqrt{xu\beta}$ ‘warm’), and even taste (e.g., $\sqrt{zu\beta}$ ‘numb feeling caused by Sichuan pepper in the mouth’). Ideophones specifically describing cognitive states like *ruwwurawi* ‘upset and confused’ seen in (15) are very rare. In most cases, they are metaphoric extensions of more concrete meanings. For instance, $\sqrt{\chi\chi l}$ can be used with the possessed noun *-sum* ‘mind’ to mean ‘be relieved’, but its most common meaning is either ‘disappear completely’ or the feeling one experiences when being released after having been tied up.

In addition, aside from shape, size, and texture, some ideophones also encode quantity (e.g., $\sqrt{bo\beta}$ ‘as a group’), and can be specific to a particular type of referent (e.g., $\sqrt{j\mu\beta}$ ‘a lot of animals standing’).

The exact translation of Japhug ideophones into Chinese and English is a major challenge, given the subtle and complex semantic content conveyed by each ideophonic form, especially when its morphology is taken into account. One way to circumvent the translation problem is to ask the speakers for a gloss in the language itself (a folk definition) rather than a translation, and to collect as many varied example sentences as possible.

3. Phonological properties of ideophonic roots. The markedness and iconicity of ideophones is particularly conspicuous in phonology. In this section, we discuss only the ideophonic roots from which actual ideophones are created using specific morphological patterns (see section 2).

3.1. Markedness. The phonological markedness of Japhug ideophones is relatively easy to assess, as ideophonic roots (and all the form derived from them) present uncommon features in both onsets and codas.

3.1.1. Onsets. Japhug is a language with complex initial clusters. It has a relatively rich consonant inventory with forty-nine simple distinct phonemes that can all serve as simple onsets. In addition, there are 305 two-consonant clusters and ninety-two three-consonant clusters; there are no clusters with more than three consonant phonemes. In total, there are 446 possible onsets.

The clusters involve three distinct slots. First, we find the main consonant C , which can be filled by any of the forty-nine consonantal phonemes; it is the only compulsory slot in clusters. Second, one medial consonant C_m can occur between the main consonant and the main vowel of the syllable. It can be any of j, w, l, r, γ , and more marginally β . Third, one or two preinitial consonants C_p appear to the left of the main consonant; the preinitial consonants comprise $n, m, j, w, l, r, \gamma, \beta, z, \zeta$, the unvoiced fricatives and sonorants $\varsigma, x, \chi, s, \zeta$, and the homorganic nasal archiphoneme N . The stops p and k are also attested in a few isolated nouns and numerals as C_p , as in $mp\zeta r r$ ‘beautiful’.

Two-consonant clusters can be either CC_m or $C_p C$, and three-consonant clusters $C_p CC_m$ or $C_p C_p C$. Clusters of the type $C_p C_p C$ are uncommon and almost entirely restricted to Tibetan loanwords. They are not found in ideophones.

Of the 446 known onsets in Japhug, forty-five clusters (including thirty-five two-consonant and eleven three-consonant clusters) are exclusively attested in ideophones or ideophonic verbs. Tables 3 and 4 list these clusters with examples. Note that affricates and prenasalized voiced stops count as single phonemes.

Table 3. Japhug Two-Consonant Clusters Only Attested in Ideophones

CLUSTER	EXAMPLE	MEANING	CLUSTER	EXAMPLE	MEANING
<i>bj</i>	<i>bjwγ</i>	‘soft and hanging’	<i>ltɕ^h</i>	<i>ltɕ^hɣt</i>	‘long objects hanging’
<i>br</i>	<i>bruz</i>	‘with a rough surface’	<i>lx</i>	<i>lxɣβ</i>	‘with thick clothes’
<i>c^hr</i>	<i>c^hrxβ</i>	‘dirty and messy’	<i>ndj</i>	<i>ndjɣt</i>	‘tall and graceful (woman)’
<i>cl</i>	<i>clan</i>	‘round and well-polished’	<i>q^hj</i>	<i>q^hji</i>	‘dull (color)’
<i>cr</i>	<i>cruγ</i>	‘messy’	<i>sγ</i>	<i>sγɣl</i>	‘bright and transparent’
<i>dγ</i>	<i>dγɣr</i>	‘stupid’	<i>lts^h</i>	<i>lts^hɣt</i>	‘lean and weak’
<i>dj</i>	<i>djoɔ</i>	‘evenly (homogeneously) mixed’	<i>sn</i>	<i>snob</i>	‘tall and slender’
<i>dr</i>	<i>dron</i>	‘big and dirty’	<i>sɕ</i>	<i>sɕi</i>	‘with big nostrils’
<i>dw</i>	<i>dwan</i>	‘with impaired consciousness’	<i>tɕ^hγ</i>	<i>tɕ^hγaɔ</i>	‘in a clear way, without damage’
<i>ɣr</i>	<i>ɣruγ</i>	‘gurgle’	<i>tɕr</i>	<i>tɕruγ</i>	‘gnashing teeth’
<i>ndγ</i>	<i>ndγɣt</i>	‘tremor’	<i>tɕɔ</i>	<i>tɕɔuz</i>	‘crunching’
<i>nɣγ</i>	<i>nɣγr</i>	‘long and unstable’	<i>tsl</i>	<i>tsluγ</i>	‘completely wrapped (big and tight)’
<i>gl</i>	<i>glɣγ</i>	‘hitting noise’	<i>xɕ</i>	<i>xɕɣt</i>	‘long, thin, and flexible’
<i>lc^h</i>	<i>lc^huγ</i>	‘not full’	<i>zj</i>	<i>zjan</i>	‘tall’
<i>lc</i>	<i>lcuγ</i>	‘completely soaked’	<i>ɕn</i>	<i>ɕnɣl</i>	‘soft and moist’
<i>ldz</i>	<i>ldzan</i>	‘hanging’	<i>ɕs</i>	<i>ɕsɣt</i>	‘thin (clothes)’
<i>lŋ</i>	<i>lŋɣt</i>	‘huge object; many objects hanging’	<i>ɕts^h</i>	<i>ɕts^hɣt</i>	‘small and active’

Table 4. Japhug Three-Consonant Clusters Only Attested in Ideophones

CLUSTER	EXAMPLE	MEANING	CLUSTER	EXAMPLE	MEANING
<i>ɕql</i>	<i>ɕqluβ</i>	‘sound of an object thrown in water’	<i>scr</i>	<i>scraɔ</i>	‘short and small’
<i>lbj</i>	<i>lbjuγ</i>	‘soft and hanging’	<i>zdr</i>	<i>zdran</i>	‘long and soft’
<i>lt^hj</i>	<i>lt^hjɣt</i>	‘clean and soft (clothes)’	<i>zɣr</i>	<i>zɣran</i>	‘soft and swollen’
<i>ɛŋjl</i>	<i>ɛŋjli</i>	‘enormous’	<i>ɕcr</i>	<i>ɕcri</i>	‘diluted, liquid’
<i>ɛɣr</i>	<i>ɛɣri</i>	‘fat and soft’	<i>ɕpl</i>	<i>ɕploɔ</i>	‘spheric’
<i>scl</i>	<i>sclan</i>	‘bald’			

These onsets present four types of unusual combinations that are completely absent both from the native vocabulary and from Tibetan borrowings.

First, we find clusters of palatal stop + *r*, *l*: *cr-*, *c^hr-*, *ɣr-*, *cl-*, and *ŋl-*.⁴ The only medial consonant compatible with palatal stops in the nonideophonic lexicon is *γ* (as in *qac^hγa* ‘fox’).

Second, these tables contain clusters of dental stop + *r*, *j*, *w*, such as *dr*, *dj*, *dw*, and *t^hj*. In the nonideophonic lexicon, the only attested medial after dental stops is *γ* (as in *tu-tya* ‘one span’).⁵ There is evidence that Proto-Rgyalrong clusters **tr-*, **t^hr-*, and **ndr-* became retroflex affricates *tɕ-*, *tɕ^h-*, and *ndɕ;* in

particular, note the alternation between *ku-tʂɣɣ* ‘six’ and *sqap-rɣɣ* ‘sixteen’, where the cluster in *-tʂɣɣ* comes from **tr-*.⁶ Thus, ideophones have filled a gap in the phonological system created by sound changes; this is a commonplace phenomenon crosslinguistically (see, e.g., Diffloth 1979).

Third, the unvoiced fricatives *ʂ* and *χ* occur as preinitial consonants in clusters with voiced main consonants, such as *ʂɣ-*, *ʂn-* and *χn-*. In the nonideophonic vocabulary, [ʂ] and [χ] only occur as allophones of *r* and *ɣ* before unvoiced obstruents (e.g., the cluster *rt-* is realized as [ʂt]).

Fourth, *l* is almost never found as a preinitial in Japhug. Comparison with other Rgyalrongic languages (Jacques 2004:271–72) reveals that *l* preinitial has changed to *j* in the nonideophonic vocabulary (e.g., Japhug *jmūt* corresponds to Zbu *lmît* ‘forget’). Here again, a quasi-gap in the system has been filled by ideophones.

Another conspicuous phonological feature in ideophones is the very high relative frequency of nonprenasalized voiced stops. In nouns and verbs, the simple stops *b* and *g* are extremely rare; for instance, the simple onset *b-* is found in only two of about eighteen hundred verbs not derived from ideophones: *buwa* ‘carry on the back (as a child)’ and *buɣ* ‘miss home’.⁷ By contrast, out of 248 ideophonic roots, five present the single onset *b* and have the clusters *bj* and *br*.

The onsets *d-* and *ɟ-* are more common in the nonideophonic vocabulary, but almost all originate from clusters containing laterals (see Jacques 2004:313–34). Although ideophones in Japhug do not contain independent phonemes that are not found in the nonideophonic vocabulary, they enrich the complexity of the phonological system by filling phonotactic gaps that have resulted from sound changes, and they favor rare sounds like simple voiced obstruents.

3.1.2. Rhymes. Japhug rhymes allow only a main vowel and a coda; there are no complex codas. The main vowel can be any of *a*, *e*, *i*, *o*, *u*, *ɤ*, *u*, and *y*, and codas include *-w*,⁸ *-j*, *-ɣ*, *-ɣ*, *-z*, *-t*, *-m*, *-n*, *-ŋ*, *-r*, and *-l*. Note that *-t* is the only final stop. Other final stops from Proto-Rgyalrongic have shifted to voiced fricatives or approximants: **-p* → *-β*, **-k* → *-ɣ*, and **-q* → *-ɣ*. Final *-ɣ* is generally realized as unvoiced [x] before a pause or when the following word or syllable begins with an unvoiced obstruent. The realization of final *-ɣ* varies from pharyngealization of the preceding vowel to the unvoiced obstruent [χ].

Some ideophones have a final stop *-p* instead of *-β*. There is considerable variation across speakers as to which ideophones allow this pronunciation. For instance, in the speech of our main informant Chenzhen, final *-p* is optionally found with six ideophones, always with the main vowel *u*, including *ts^hup* ‘feeling of humidity in the air’, *tɕ^hup* ‘with water drops’, *ʒup* ‘many objects or persons standing upright’, *c^hup* ‘filthy’, *rsup* ‘very hairy’, and *rk^hup* ‘noise of hitting wood’.

Another remarkable property of ideophones is the frequency of final *-ŋ* (forty-three of 246 ideophonic roots). In Japhug, final *-ŋ* is only found in Tibetan

loanwords and ideophones—Proto-Rgyalrongic final $*-ŋ$ has disappeared, merging with the main vowels in complex ways (for instance, Proto-Rgyalrong $*-aŋ$ became Japhug $-o$, even in early Tibetan borrowings such as $mt\zeta^h\gamma tk^ho$, from $mt\zeta^hod.k^haŋ$ ‘shrine room’; see Jacques 2004:228). It appears only with the main vowels a , o , and u . While $-aŋ$ and $-oŋ$ are common in Tibetan loanwords, the rhyme $-uŋ$ is only attested in ideophones.

In the native vocabulary, due to a series of sound changes,⁹ there are considerable restrictions on the distribution of the vowels and codas. Before the codas $-\beta$, $-t$, and $-r$, only three vowels are attested: a , γ , and u . The rhymes $-or$ and $-ot$ only appear in the recent layer of Tibetan loanwords (e.g., γot ‘sunlight’ from Tibetan $ñod$) and in ideophones such as cot ‘small and cute’. Here, as in the case of initial clusters, ideophones fill gaps in the distribution of segments within rhymes that have been caused by sound changes.

3.2. Consonant gradation and iconicity. Dingemanse (2011a:47) proposes distinguishing three types of iconicity: imagic, Gestalt, and relative iconicity. Gestalt iconicity is observed in Japhug in ideophonic morphological alternations (see the discussion in section 2.1) and does not occur within ideophonic roots.

This section focuses on relative iconicity, namely, the correlation between a more or less gradient phonological feature and a semantic dimension, a phenomenon also known as sound symbolism (Boas and Deloria 1941:16) or synesthesia (Gerner 2004:186–87).

In Lakota, for instance, one observes a very regular consonant gradation between alveolar, palatoalveolar, and uvular fricatives, $s \sim \int \sim \chi$ and $z \sim \zeta \sim \varkappa$, expressing three stages of intensity for a particular feature (Boas and Deloria 1941:16–18). The nature of the gradation is particularly clear in the case of color terms, where the alveolar fricative designates a bright color and the uvular fricative a darker one (e.g., the series $s\acute{o}ta$ ‘clean’, $\int\acute{o}ta$ ‘muddy’, $\chi\acute{o}ta$ ‘grey’). There is thus in this particular case a correlation between color brightness and the frequency of the peak of energy of the fricative (higher for alveolar than for uvulars).

In Japhug, consonant gradation is less regular than in Lakota, but we do observe a similar case involving alveolar, retroflex, velar, and uvular fricatives ($s \sim \zeta \sim x \sim \chi$), as illustrated by table 5. The “Example” column indicates the referents to which particular ideophones are applied in our data.

Table 5. Consonant Gradation in Japhug Ideophones

ROOT	MEANING	EXAMPLE
$suŋ$	‘white’	hair of old people
$zuŋ$	‘white’	hair of old people
$\int uŋ$	‘clear’	the sky, a glance
$xuŋ$	‘clear’	the sky, the color of dead skin
$\chi aŋ$	‘slightly orange’	the sky at daybreak

Ideophones with dental fricatives, such as *sun* and its variant *zun*, indicate bright white color, while *sun* and *xun* designate whitish color, and *χan* the reddish-orange color of daybreak and twilight. Here, as in Lakota, there is a correlation between the frequency of the peak of energy of the fricative and the brightness of the color depicted by the ideophone. This particular gradation is, however, limited to this particular series of ideophones in Japhug, and cannot be regularly applied to create new ideophonic roots.

Table 6 illustrates a different type of phonological alternation in Japhug. The main consonant alternates between *j*, *w*, and *l*, the vowel between *a* and *o*, the preinitial between *r* and *χ*, and the final consonant between voiced fricative and nasal.

Table 6. Other Phonological Alternations in Japhug Ideophones

ROOT	MEANING	EXAMPLE
<i>rwoβ</i>	'little, in great number spherical'	peas
<i>rjoβ</i>	'cylindrical and with a smooth surface'	
<i>χploβ</i>	'small, spherical'	mushroom, hat
<i>rloβ</i>	'average size, spherical'	the head of a small child
<i>rlan</i>	'average size, spherical'	the moon
<i>rlon</i>	'huge, bulky, vaguely spherical'	a yak

In this series of ideophones, three semantic features vary: size (from as small as a pea to larger than a man), shape (spherical vs. cylindrical), and number of elements. However, it is not possible to clearly associate any of these semantic changes with a particular phonological feature, unlike the stridency of the fricative in the case in table 5. Phonological alternations such as fricative vs. nasal coda (in particular *-β* and *-β*, on the one hand, and *-m* and *-ŋ*, on the other hand), voicing alternation of the onset, or vowel changes are very common between ideophonic roots, but the semantic effect of these alternations is generally unpredictable and specific to each particular series of ideophones.

Another type of phonological alternation observed among ideophonic roots is the addition of preinitial consonants—only coronals, and most commonly *r*-, *l*-, *ç*-, and *d*-. The semantic distinction between augmented vs. nonaugmented roots is not predictable. Table 7 provides a sample of pairs of ideophones with addition of preinitial consonants.

Table 7. Addition of Preinitials in Japhug Ideophones

SIMPLE ROOT	AUGMENTED ROOT	MEANING
<i>bjuy</i>	<i>lbjuy</i>	'soft and hanging'
<i>qluβ</i>	<i>çqluβ</i>	'sound of an object thrown in water'
<i>γrr</i>	<i>dγrr</i>	'stupid'
<i>suiβ</i>	<i>rsuiβ</i>	'with hairs'

No clear semantic difference could be ascertained between the simple vs. augmented roots in table 7. Given the absence of regularity and of clear semantic content for these alternations, they cannot be treated on a par with the morphological patterns discussed in section 2.

3.3. Intonation. A detailed study of the intonation associated with ideophones is beyond the scope of this article, but some preliminary remarks can be offered. Ideophones can either be pronounced as normal words, or receive special emphasis that combines F0 effects and voice quality.

It is impossible to elicit ideophones with the emphatic pronunciation, but we were fortunate to find a near minimal pair in our corpus, two almost identical sentences with the pattern 2 ideophone *zjanzjan* ‘tall’ within the same narrative, one with an emphatic pronunciation (the clause at the end of example (3) above; its F0 contour is shown in figure 1), another with plain intonation (example (19)); its F0 contour is shown in figure 2). Figures 1 and 2 were drawn using Praat (Boersma and Weenink 2013).¹⁰

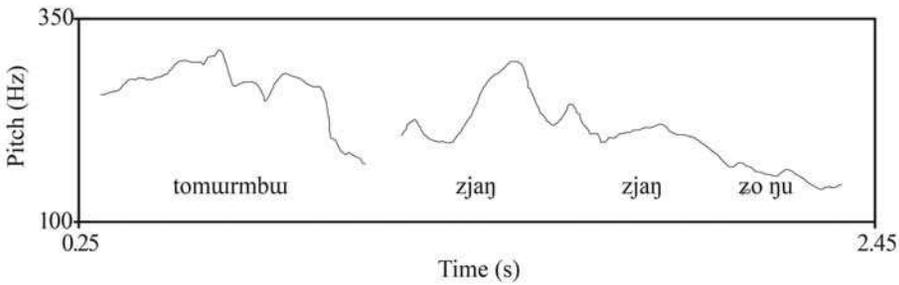


Figure 1. F0 of the sentence with emphatic pronunciation (the last clause in example (3)).

[Guillaume Jacques - figure1.mp3 here at the end of the figure 1 caption](#)

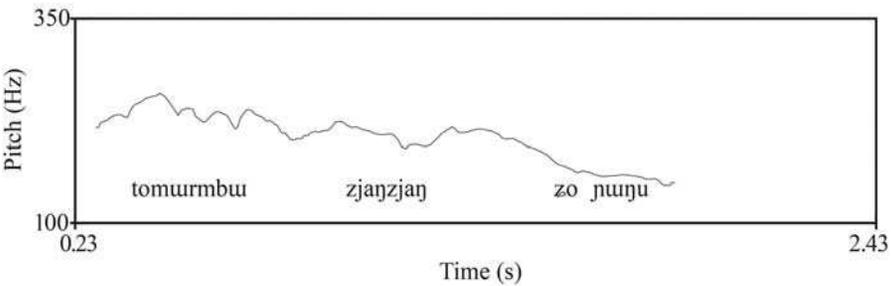


Figure 2. F0 of the sentence with plain pronunciation (example (19)).

[Guillaume Jacques - figure2.mp3 here at the end of the figure 2 caption](#)

- (19) *tu-omurmbu zjanzjan zo ŋu-ŋu*
 IPFV-be.piled.up IDEO:STAT:tall EMPH TESTIM-be
 ‘[The swollen barley grains] are stacked very high.’ (Alcohol 44)

There are three conspicuous acoustic differences between the two utterances. First, in the emphatic pronunciation in figure 1 there is a 0.15 second pause between the verb *tu-omurmbu* and the ideophone *zjanzjan*, whereas in the plain pronunciation in figure 2 the whole sentence is pronounced in one breath with a much faster speech rate. Second, in figure 1 there is a 80 Hz drop in F0 between the first *zjan* and the second one. In figure 2, on the other hand, no such pitch contour is observed. Third, the ideophone has a special voice quality that appears to involve pharyngealization or uvularization in the clause shown in figure 1, but has the clause shown in figure 2. It is difficult to determine the precise nature of this voice quality just on the basis of the acoustic signal, and we defer the investigation of this particular topic to further research. Still, these data do not appear to be exceptional; similar voice quality and F0 effects have been reported in emphatic pronunciation of ideophones in other languages (see, e.g., Pellard [2009:109] on Ogami Ryukyuan).

Data is lacking for a detailed account of the discourse function of the emphatic pronunciation of ideophones. Only two observations can be proposed at this stage concerning the distribution of emphatic ideophones (which are rare in comparison with nonemphatic ones). First, when the same ideophone occurs more than once in the same narrative, the emphatic variant will be restricted to its first occurrence, as is the case in the example at hand. Second, highly lexicalized and conventional uses of ideophones (e.g., the color ideophone *zunzun* when applied to the hair of an old man) are not attested with emphatic pronunciation in our corpus.

4. Syntactic properties of ideophones. As pointed out by Dingemanse (2012:660), the markedness of ideophones is not limited to their phonology, but is also manifested in their syntactic behavior. Ideophones nearly always occur as verb adjuncts in Japhug. They can be used with a series of light verbs or as adjuncts of any lexical verb in either nominalized or finite form. A few examples of ideophones as noun modifiers are also attested. As an indication of the relative frequency of each of these three constructions, in a portion of the corpus comprising 125 ideophones, sixty-one occurred with light verbs, sixty-two with lexical verbs, and two occurred without a verb.

4.1. Light verb constructions. Four light verbs can be used with ideophones in Japhug: the semantically empty stative verb *pa*, the transitive speech verb *ti* ‘say’, the manner deixis verb *stu* ‘do like . . .’, and its reflexive form *ʒɣɣ-stu* ‘act like . . .’. (In examples below, light verbs are underlined and ideophones are written in bold.) While *pa* and *ʒɣɣ-stu* are restricted to ideophonic constructions, *ti* ‘say’ is the most common speech verb and takes as its P reported speech complement clauses. Likewise, *stu* ‘do like . . .’ is often used with nouns or complement clauses expressing the manner in which a particular action takes place. Thus, Japhug data confirm the well-known tendency of ideophones to occur in

quotative or manner deixis constructions (Güldemann 2008:280–88). The emphatic linker *zo* can be inserted between the ideophone and the light verb, as in examples (20), (23), and (24).

The verb *pa* is a stative intransitive verb etymologically related to the transitive *pa* ‘close, do’. It is exclusively attested as a light verb and requires the presence of an ideophone. It can appear either as an inflected form, as in (20), or as the nominalized form *ku-pa*, as in (21). It is used with ideophones describing color, shape, or spatial disposition.

- (20) *u-phoŋbu nu rcanu ɛŋjliɛŋjli zo nu-pa*
 3SG.POSS-body TOP TOP IDEO:STAT:huge EMPH TESTIM-LIGHT.VERB
 ‘Its body, it is enormous.’ (Lion 17)

- (21) *ažo gruβgruβ u-ftsa nu tɣ-ku-qawɣr ma*
 1SG matsutake 3SG.POSS-nephew TOP PFV-NMLZ:S/A-open.cap apart.from
nu ma ɣploɣploɣ ku-pa
 DEM apart.from IDEO:STAT:round NMLZ:S/A-LIGHT.VERB
mu-pu-mto-t-a
 NEG-PFV-see-PST:TR-1SG

‘The (mushroom called the) ‘matsutake’s nephew’, I have seen ones with opened caps, but never seen one in ball shape (before the cap opens).’ (gruβgruβtsa 5)

In both the imperfective form *tu-pa* and the perfective form *tɣ-pa*, the light verb *pa* acquires the meaning of entering into the state depicted by the ideophone, as in (22).

- (22) *u-ru nu ra nu-rom tɕe rɣɣβrɣɣβ tu-pa*
 3SG.POSS-stalk TOP PL PFV-dry LNK IDEO:STAT:rough IPFV-LIGHT.VERB
nu-ŋu
 TESTIM-be
 ‘Once it has dried, its stalk becomes very rough.’ (sunɣuɣu 21)

In the text corpus, the light verb *pa* is almost exclusively attested with pattern 2 (RR) ideophones. The only example with an ideophone from a different pattern is (23), but it is not isolated; similar constructions can be elicited with other pattern 3 (R-nɣ-R) ideophones.

- (23) *turme ku-du-dɣn zo tu-ŋke-nu tɕe, nu u-taɣ*
 people NMLZ:S/A-REDP-be.many EMPH IPFV-walk-PL LNK DEM 3SG-on
ri u-ɣpaɣ ɕoŋtaɣ nu tu-nu-ɬoɣ tɕe,
 LOC 3SG.POSS-shoulder over TOP IPFV:UP-AUTO-come.out LNK
rŋɣβnɣrŋɣβ zo pu-pa ma nunnu
 IDEO:DYN:tall.and.slender EMPH PST.IPFV-LIGHT.VERB LNK DEM

- (27) *u-sɲuro lu-lɔt tɕe tɯɲɪɫɯɣ,*
 3SG.POSS-breath IPFV:UPSTREAM-throw LNK IDEO:DYN:breathing.movement

tɯɲɪɫɯɣ tu-ste ɲu-ɲu
 IDEO:DYN:breathing.movement IPFV-do.like[III] TESTIM-be

‘When it breathes, [one can see its body] expanding and contracting with each breath.’ (Frog 3)

- (28) *u-ku ra pju-nu-ɣtɕi tɕe u-ku ra*
 3SG.POSS-head PL IPFV-AUTO-wash LNK 3SG.POSS-head PL

rloɲɪɫɔx tu-ste ɲu-ɲu
 IDEO:DYN:round.and.average.size IPFV-do.like[III] TESTIM-be

‘When it cleans its head, it moves it with rhythm.’ (Fly 49)

The intransitive verb *ɣɣɣ-stu* ‘act like . . .’ is derived from *stu* ‘do like . . .’ by adding the reflexive prefix *ɣɣɣ-* (on this prefix, see Jacques 2010). Like *stu* and unlike *pa*, it describes a volitional activity. It is compatible with any ideophonic pattern. With pattern 2 ideophones it means ‘to have a look of . . .’, as in (29).

- (29) *spɣi u-ɲɣu lu-nu-te ndɪɾe, rɣɪɫpu tu-ɕe*
 attic 3SG-inside IPFV:UPSTREAM-AUTO-put[III] LNK king IPFV:UP-go

rcanu, tu-ɾɣjɔɔβzɯr ku-fse rcanu, ɣts^hɾɣts^hɾt
 TOP:EMPH IPFV-clean.up INF:STAT-be.like TOP:EMPH IDEO:STAT:active.small

zo tu-ɣɣɣ-stu tɕe ku-ɾɾzi pu-ɲu, βdaɕmu tu-ɕe
 EMPH IPFV-REFL-do.like LNK IPFV-stay PST.IPFV-be lady IPFV:UP-go

rcanu, p^hɾtɕ^huɣtɾɾ zo pju-te tɕe, quqlu
 TOP:EMPH mess EMPH IPFV-put[III] LNK IDEO:STAT:hangdog.look

zo tu-ɣɣɣ-stu tɕe ku-ɾɾzi pu-ɲu ɲu-ɲu
 EMPH IPFV-REFL-do.like LNK IPFV-stay PST.IPFV-be TESTIM-be

‘[The king] put [the bird] in the attic. When the king would go up there, [the bird] would clean everything up and would be lively; when the lady would go up there, it would make a mess and have a hangdog look.’ (Kunbzang 302–4)

Two main syntactic constructions are attested with the four light verbs presented above. In one, the light verb is the main predicate of the clause, and the ideophone appears directly before it, as in (21), (22), (27), and (28) above. In the other, the light verb occurs in finite form before a lexical verb, as in (25), (29), and (30). The light verb and the following verb share the same tense-aspect-mode categories and are either in direct contact, as in (25) and (30), or have a linker such as *tɕe* between them, as in (29).

- (30) *tɕe rɾɾβɾɾβ ɲu-pa ɲu-rɔm tɕe tɕe tu^hu*
 LNK IDEO:STAT:rough TESTIM-LIGHT.VERB TESTIM-be.rough LNK LNK pan

u-taɕ kɾ-ku-k^hru nu ra ɲu-q^hrut ɲu-c^ha
 3SG-on PFV-NMLZ:S/A-dry TOP PL IPFV-scratch TESTIM-can

‘It is very rough and can scratch off the dry things on the pan.’ (sumɣuɣu 107)

4.2. Lexical verbs. Ideophones can appear as adjuncts of lexical verbs with compatible meanings. This construction is almost as common as the light verb construction, and there are no restrictions on the syntactic properties of ideophone-bearing verbs: stative verbs, intransitive dynamic verbs, and transitive dynamic verbs can all be used with ideophone adjuncts.

Verbs like *βzu* ‘make’ and *lɾt* ‘throw’, which are used in many periphrastic constructions, are also included in this category. In (31), for instance, the verb *βzu* ‘make’ serves as a light verb (it is used in the same construction for several other meteorological phenomena). Although morphologically transitive (as can be seen thanks to its stem 3 alternation¹²), it requires an overt P *qale* ‘wind’ and an expletive (zero) A. However, in this sentence the ideophone can be removed without changing anything else. Thus, although *βzu* here does have light verb properties, they are not specific to ideophones and it cannot be put in the same class as the light verbs studied in section 4.1.

- (31) *tçe qale ci çumçum tu-βze*
 LNK wind INDEF IDEO:STAT:drizzle IPFV-make\III
 ‘when there is a nice little wind’ (Swallow 35)

Ideophones appear with stative verbs, as in (32), but are also commonly found with dynamic verbs, whether intransitive, as in (33), or transitive, as in (34).

- (32) *u-mɾak wuma nu γu u-rku nu ra nu-γurni,*
 3SG.POSS-eye really TOP GEN 3SG.POSS-side TOP PL TESTIM-be.red
nu-γurni tsγaxtsγax zo
 TESTIM-be.red IDEO:STAT:brilliant.red EMPH
 ‘The sides of its eye proper are red, brilliant red.’ (Crossoptilon, 52)

- (33) *numu u-rc^hɾβ ç-tu-kuu-ηke q^he, tu-ηga*
 DEM 3SG.POSS-gap TRANSLOC-IPFV-GENR:S/P-walk LNK INDEF.POSS-clothes
u-tak ra u-mat bɾbɾβ zo
 3SG-on PL 3SG.POSS-fruit IDEO:STAT:clumping.together EMPH
ku-ndzok
 IPFV-ANTICAUS:attach
 ‘When one walks among [these plants] their fruit attaches to one’s clothes in clumps.’ (NGorna 164)

- (34) *rtçhuɾkju γu u-rme nu ku nu-ku-z-rɾza.*
 caterpillar GEN 3SG.POSS-hair TOP ERG IPFV-GENR:S/P-CAUS-itch
nu tu-ça a-mɾ-nu-ɾtuγ ra ma tɾndɾr
 TOP INDEF.POSS-flesh IRR-NEG-PFV-touch FACT:have.to LNK pimple
bruybruy zo tu-tçɾt nu-ηu
 IDEO:STAT:covered.with.little.pimples EMPH IPFV-take.out TESTIM-be
 ‘The caterpillar’s hair makes people itch, it should not touch one’s flesh, otherwise it will cause a lot of little pimples to appear.’ (Caterpillar 85)

As in light verb constructions, the ideophones can appear before the verb; this is seen in (33) and (34). However, unlike light verbs, lexical verbs allow ideophones to appear to their right, as in (32) and (35). Postverbal ideophones are more common with lexical verbs than are preverbal ones; out of sixty-two examples in the portion of the corpus on which word counts were made, forty-eight are postverbal and only fourteen preverbal.

- (35) *cɣndzi* *pju-χtsɣβ-nu* ***pʰoɕpʰoɕ*** *ʒo*
 musk.deer.skin IPFV-rub-PL IDEO:STAT:nice.and.tight EMPH
 ‘They rub the musk deer skin very tightly.’ (tɕakury 8)

In combination with stative verbs, ideophones only occur postverbally. In the corpus, there are no examples of a stative verb preceded by an ideophone.

Rgyalrong languages have extremely strict verb final syntax, and ideophones are among the very few elements that can appear postverbally without right dislocation.¹³ Only a few adverbs, such as *ntsu* ‘always, each time’, and sentence-final particles are normally allowed after the main verb. Moreover, unlike the sentence-final adverbs and particles, ideophones can also occur postverbally in head-internal relative clauses, as in (36). This type of example is not uncommon with ideophones, but no other part of speech allows this syntactic behavior.

- (36) [*pyrtɕu* *kɣ-ku-nu-rɣloɕ* ***pʰoɕpʰoɕ***]
 bird PFV-NMLZ:S-AUTO-make.a.nest IDEO:STAT:nice.and.tight

nu *ɣu* *u-loɕ* *nu-ŋgu* *nu* *ra*, *uʒo* *ɕ-tu-ndze*
 DEM GEN 3SG.POSS-nest 3PL.POSS-inside TOP PL he CISLOC-IPFV-eat[III]
 ‘He goes into the nests of birds that have made nice nests, and eats them.’
 (Buzzard 3)

In such relatives, the indefinite determiner *ci* ‘a, one’ can be placed either after the postverbal ideophone, as in (37), or before it, as in (38).

- (37) *ku-rɣŋi* *ku-fse* ***qʰjiqʰji*** *ci*
 NMLZ:S/A-be.green INF:STAT-be.like IDEO:STAT:dull.color INDEF

ɣɣʒu *tɕe*
 exist:SENSORY LNK
 ‘There is one which is a little green.’ (gruβgruβftsa 44)

- (38) *ku-jpum* *ci* ***xɣɣβxɣɣβ*** *ʒo* *nu-ŋu*
 NMLZ:S/A-be.thick INDEF IDEO:STAT:thick.and.round EMPH TESTIM-be
 ‘[Its stalk] is thick and round.’ (gruβgruβftsa 52)

While postverbal ideophones are not found in most languages with strict subject-object-verb constituent order, such as Lakota, Japanese, or Korean, they

have been described in some verb-final languages such as Udihe (Nikolaeva and Tolskaya 2001:381–82) where they reportedly have almost free word order.

With preverbal ideophones, the emphatic linker *zo* can appear optionally between the ideophone and the verb, as in (33) and (34). In the case of postverbal ideophones, two positions of *zo* are possible, either after the ideophone, as in (35) and (39), or before it (and thus between the verb and the ideophone), as in (40). There is no discernible semantic difference between the two positions, as shown by the minimal pair in (39) and (40).

- (39) *uzo nu-wyrum sunsun zo*
 3SG TESTIM-be.white IDEO:STAT:white EMPH
 ‘It is very white.’ (zwyrqhvymy 21)

- (40) *nunu yu u-ru nu wyrum zo sunsun*
 DEM GEN 3SG.POSS-stalk TOP FACT:be.white EMPH IDEO:STAT:white
 ‘Its stalk is very white.’ (qurkav 98)

In addition to *zo*, one can also use *ku-fse*, the infinitival form of the manner deixis stative verb *fse* ‘be like’, between the verb and the ideophone, as in (37).

With a verb in a negative form, the scope of negation can be either on the action of the verb, on the ideophone, or both, as in (41).

- (41) *mu-c^hu-ystu-nu mu-ku-omdzu-nu p^hoxp^hox*
 NEG-IPFV-be.straight-PL NEG-IPFV-sit-PL IDEO:STAT:nice.and.tight
kumx lu-nup^haxnrl-nu tce
 also IPFV-lie.down-PL LNK
 ‘when they do not sit straight and nice and lie down on their sides’ (tu-ci pav 12)

4.3. Other. There is a residue of examples of ideophones that do not form a constituent with either a light or a lexical verb. In (42), the ideophone *zjryzjry* ‘short and thick’ occurs before the postposition *ma* ‘apart from’. Together with the preceding classifier *tu-rdox* ‘one piece’, it forms a constituent within the postpositional phrase and cannot be analyzed as an adjunct of the following nominalized verb *ku-me* ‘which does not exist’. In this example, *zjryzjry* ‘upright’ is a postnominal modifier, with the classifier *tu-rdox* ‘one piece’ acting as the head of the clause.

- (42) *ma nunu cawurambum tu-ti-nu tce nunu [tu-rdox*
 LNK DEM Shwa.ba.rwa.mbum IPFV-say-PL LNK DEM one-piece
zo zjryzjry] *ma ku-me*
 EMPH IDEO:STAT:short.and.thick apart.from NMLZ:S/A-not.exist
nu-ru khi
 TESTIM-be HEARSAY

‘People call it “Shwaba rwa’bum,” it is [a kind of deer antler] with only one [branch], short and thick.’ (Deer 72–73)

This is the only example in our corpus of an ideophone occurring before a postposition. It is possible to rephrase it with a light verb, as in (43).

- (43) *zjɾɾzjɾɾ* *zo* *ku-pa* *tu-ldza*
 IDEO:STAT:short.and.thick EMPH NMLZ:S/A-LIGHT.VERB one-CL:long.thing
ma *me* *k^{hi}*
 apart.from FACT:not exist HEARSAY
 ‘It has one (horn), short and thick.’ (elicited)

When sentence (42) was rechecked, speakers did not consider it to be incorrect. Still, it is not possible to construct comparable sentences with other postpositions, in particular the ergative *ku*.

The existence of a sentence like (42) has implications for the analysis of examples such as (44).

- (44) *u-jwak* *nu* *u-q^{hi}u* *ri* *u-rme* *ku-fse*
 3SG.POSS-leaf TOP 3SG-behind LOC 3SG.POSS-hair NMLZ:S/A-be.like
suβsuβ *tu*
 IDEO:STAT:hairly FACT:exist
 ‘On the other side of its leaves, there are hairs.’ (mɾdɾmpɾm 44)

In this sentence, the ideophone *suβsuβ* ‘with hair’ can be analyzed as an adjunct of the verb *tu* ‘exist’, but it could also be viewed as a postnominal modifier of *u-rme* ‘its hair’. However, in light of the rarity of unambiguous examples like (42), it is preferable to favor the first analysis until additional data become available.

Japhug ideophones, while they occur in positions that are specific to them (such as postverbally), are restricted in their syntactic uses in comparison with those of other languages. For instance, in Siwu, Dingemanse (forthcoming) reports at least five constructions where ideophones can be used: adverbial, complement, holophrase, adjectival, and predicative. Of these five types of construction, only two have an equivalent in Japhug: adverbial and (very marginally) adjectival.

This is, however, compensated for in Japhug by the existence of a rich deideophonic verbal morphology, examined in section 5, that allows ideophones to be used as full predicates.

4.4. Discourse function. Ideophones are nonessential to communication in that for any sentence with an ideophone, it is possible to build another sentence of identical truth value without an ideophone. The frequency of ideophones varies considerably in discourse. It is possible to have more than ten minutes of stories, procedural texts, or conversations without a single ideophone. It is equally possible to find multiple sentences in a row each containing an ideophone or a deideophonic verb.

Ideophones convey rich and intricate meanings in a succinct way. In traditional stories, appropriate use of ideophones contributes greatly to the vividness of the description. For instance, in (45), the ideophones *ndɣrɛndɣr* ‘huge and imposing’ and *ɲɔɣɣɣɣɲɔɣɣɣɣ* ‘loud and moving around’ evoke a much more expressive picture than the translation provided here in plain language. Speakers report, upon hearing such a sentence, imagining huge trees and flocks of birds flying around, twittering and chirping.

- (45) *nu ra tɣ-stu-t-a tɕe, sunɣunaɣtɕin ndɣrɛndɣr zo*
 DEM PL PFV-do.like-PST-1SG LNK deep.forest IDEO:STAT:huge EMPH
nu-stu-t-a, u-tak, pɣa ɲɔɣɣɣɣɲɔɣɣɣɣ zo ɲu-mbri tɕe
 PFV-do.like-PST-1SG 3SG-on birds IDEO:DYN:loud EMPH TESTIM-call LNK
 ‘I acted this way, I created a huge and deep forest on the top of whose trees birds are twittering.’ (Smanmi metog koshana4 218–19)

In conversations, at least in the corpus drawn on here, ideophones are much rarer than in stories or procedural texts, and data are lacking to provide a detailed description.

5. Deideophonic verbs. Japhug has a very rich and productive system of denominal prefixes deriving verbs from nouns (see Jacques 2012, 2014). Some of these denominal prefixes can be used to derive verbs from ideophones: *ɣɣ-*, *sɣ-*, and *nu-*.

The denominal prefix *ɣɣ-* derives intransitive and transitive verbs from possessed nouns. As can be seen in table 8, verbs in *ɣɣ-* have varied semantics. We find stative verbs expressing a property linked to the base noun, intransitive dynamic verbs describing the coming into existence of the entity designated by the base noun, or verbs (transitive or intransitive) designating an activity linked with the base noun (Jacques 2012:1218).

Table 8. Examples of the Denominal Prefix *ɣɣ-* in Japhug

NOUN	MEANING	DENOMINAL VERB	MEANING
<i>-mdzu</i>	‘thorn’	<i>ɣɣ-mdzu</i>	‘to have thorns’
<i>tɣ-mbyo</i>	‘deaf person’	<i>ɣɣ-mbyo</i>	‘to be deaf’
<i>-tsru</i>	‘sprout’	<i>ɣɣ-tsru</i>	‘to sprout’
<i>-k^hu</i>	‘smoke’	<i>ɣɣ-k^hu</i>	‘to be smoked, to have smoke’
<i>-rɕak</i>	‘hunt’ (noun)	<i>ɣɣ-rɕak</i>	‘to hunt’ (intransitive)
<i>-jmŋo</i>	‘dream’ (noun)	<i>ɣɣ-jmŋo</i>	‘to dream of’ (transitive)

With ideophones, *ɣɣ-* exclusively derives intransitive dynamic verbs, whose semantics correspond to ideophones of patterns 3 (R-*nɣ*-R) or 4 (R-*nɣ*-*lVC*_ɣ). Unlike denominal derivation in *ɣɣ-*, which does not appear to be productive anymore, deideophonic verbs in *ɣɣ-* can potentially be created from any ideophone allowing dynamic semantics.

Derivation with *sɣ-* instead of *ɣɣ-* creates a transitive verb with comparable semantics. We do find some examples of *sɣ-* as a denominal prefix deriving transitive action verbs. The most interesting example with this derivation is *sɣ-k^hu* ‘to smoke out, to fill with smoke’ (transitive), which derives from the possessed noun *-k^hu* ‘smoke’ like its intransitive counterpart *ɣɣ-k^hu* ‘to be smoked’. The pairing of intransitive *ɣɣ-k^hu* with transitive *sɣ-k^hu* is unique among denominal verbs, but formally identical to deideophonic verb pairs such as intransitive *ɣɣ-zjɣɣlɣɣ* ‘move around in disorder, in all directions (of a tall or large object)’ and transitive *sɣ-zjɣɣlɣɣ* ‘shake in disorder, in all directions (a long object like a stick)’.

While with *ɣɣ-* derivation the characteristic described by the ideophonic root is interpreted with respect to the S of the verb, in the case of *sɣ-* derivation it applies to the P, and implies the existence of an external agent.

As with intransitive deideophonic verbs in *ɣɣ-*, there are two possible derivations. First, *sɣ-* appears with complete reduplication and semantics identical to pattern 3 (R-*nɣ*-R) ideophones (compare (51) with example (6)).

- (51) *mbro nu-sɣ-zjanzjan zo nu-ɣz-nu-mbrɣpu*
 horse CONST-DEIDEOPH:TR-IDEO:tall EMPH CONST-PROG-ride
 ‘He looks very tall riding his horse.’ (elicited)

Second, *sɣ-* can be combined with partial reduplication in *l* implying a disorderly action, as in (52), with the same semantics as pattern 4 ideophones.

- (52) *lakjuɣ nu-sɣ-zjanlan*
 staff CONST-DEIDEOPH:TR-IDEO:DISORDER:tall
 ‘He sways the staff in all directions.’ (elicited)

The third derivational prefix that forms deideophonic verbs, *nu-*, is used without reduplication.¹⁴ These (dynamic) transitive verbs express an action resulting in a state whose semantics corresponds to pattern 2 ideophones. Thus, example (53) has the same meaning as (4).

- (53) *uzo ku ta-nu-zjan zo ta-rmbu*
 he ERG PFV:3→3’-DEIDEOPH:STATIVE-IDEO:tall EMPH PFV:3→3’-pile.up
 ‘He piled it up very high.’ (elicited)

Example (54) shows the same use with a verb derived from the ideophonic root *√çkrɣɣ*, which means ‘lying on a hard and cold surface’.

- (54) *ɣ-azuuɣu-ndzi tçe, u-zda*
 PFV-wrestle-DU LNK 3SG.POSS-companion
pa-nu-çkrɣɣ zo
 PFV:3→3’-DEIDEOPH:STATIVE-IDEO:lying.on.a.hard.surface EMPH

pa-tsaβ

PFV:DOWN:3→3'-cause.to.fall.down

'When they wrestled, he threw his adversary on the hard and cold ground.' (elicited)

Deideophonic verbs, whether transitive or intransitive, can be used as predicates in their own right, as in (48), (50), and (52) above, or together with a non-ideophonic verb, as in (46). In the latter case, the emphatic linker *zo* often appears between the deideophonic verb and the other one. The two verbs share the same person and number and often (but not always; see (46)) the same tense-aspect-mood forms, as in (54) and (55).

- (55) *q^hxŋŋgu tu-ci tɣ-sɣ-donɔɔŋ-a*
 gutter INDEF.POSS-water PFV-DEIDEOPH:TR-IDEO:flowing.noisily-1SG

pu-lat-a

PFV:DOWN-throw-1SG

'I dumped the water in the gutter (causing it to make a lot of noise).' (elicited)

Just like ideophones, deideophonic verbs can appear before or after the other verb. Thus, example (51) can be rephrased as (56).

- (56) *mbro nu-xz-numbrɣpu nu-sɣ-zjanɔŋ zo*
 horse CONST-PROG-ride CONST-DEIDEOPH:TR-IDEO:tall EMPH

'He looks very tall riding his horse.' (elicited)

For impersonal meteorological phenomena, we find in Japhug morphologically transitive verbs that do not allow any agent in the ergative. The verbs in question are *βzu* 'make' and *lɣt* 'throw'. When a deideophonic verb occurs in these constructions, both the transitive *sɣ-* or the intransitive *ɣɣ-* can be used interchangeably. Thus, while (57) has transitive *nu-sɣ-ɕumɕum*, intransitive *nu-ɣɣ-ɕumɕum* would also be possible.

- (57) *tumu nu-sɣ-ɕumɕum zo nu-xsu-lɣt*
 sky CONST-DEIDEOPH:TR-IDEO:drizzle EMPH CONST-PROG-throw

'It is drizzling.' (elicited)

Some deideophonic verbs are used in idiomatic expressions whose meaning cannot be predicted. The most common such example is (58), which appears as the conclusion of most traditional stories and would correspond to English *They lived happily ever after*.

- (58) *tu-rma tu-βlu*
 NMLZ:ACTION-live.at NMLZ:ACTION-burn

chɣ-nu-sɣ-ŋcɣɣŋcɣɣt-nu

kɣ-ti

nu-ŋu

EVD-AUTO-DEIDEOPH:TR-IDEO:loud/burning-PL NMLZ:P-say TESTIM-be

'They lived a prosperous and thriving (lit., 'burning') life, it is said.' (many examples)

Aside from deideophonic verbs in $\gamma\gamma$ -, $s\gamma$ -, and nu -, we also find isolated examples derived with the prefix a -. All such examples are stative verbs depicting shape or spatial distribution, and can present either complete or partial reduplication of the ideophonic root. For instance, from the ideophonic roots $\sqrt{br\gamma l}$ ‘sparse and scattered (as of trees)’ and \sqrt{lju} ‘cylindrical’ it is possible to derive the verbs $abr\gamma lbr\gamma l$ ‘to be sparse’ and $alulju$ ‘to be cylindrical’ with reduplication of the root.

6. Deideophonic nouns. While Japhug has deideophonic verbs, there is no corresponding regular derivation producing nouns. Yet we do find ideophonic elements in the formation of some nouns and classifiers.

First, ideophones appear in compound nouns, for which the best example is $ja\beta m\gamma zdo\beta zdo\beta$ ‘bird sp.’. The first element of this compound $ja\beta m\gamma$ is the status constructus form of the possessed $-ja\beta mu$ ‘thumb’, itself derived from $-ja\beta$ ‘hand’ and $-mu$ ‘mother’ (see Jacques [2012] for more detail on vowel alternations in nominal compounds). The second element, $zdo\beta zdo\beta$, is a pattern 2 ideophone meaning ‘small and active’.

Second, we find classifiers that appear to be derived from ideophones. For instance, tu - $bo\beta$ ‘one group (people, animals)’ is clearly related to the ideophone $\sqrt{bo\beta}$ ‘as a group’. Here, the absence of obvious etymology and the presence of a voiced initial b - suggests that the direction of derivation is indeed from ideophone to classifier rather than the other way round.

Another such case is the classifier tu - $t\gamma xur$ ‘one round, one circle (e.g., around a field)’, whose root is related to the ideophone \sqrt{xur} ‘round, rotating’. Here, the derivation took place in two steps, first from \sqrt{xur} to the unattested noun $*t\gamma xur$, then from this noun to the classifier tu - $t\gamma xur$.

7. What ideophones are not. Three classes of words share properties with, but are distinct from, real ideophones: onomatopoeia, interjections, and calling sounds. Although all three also present phonological markedness and some degree of iconicity, they are not subject to ideophonic morphology as described in section 2 and do not share the same syntactic properties.

7.1. Onomatopoeia. While many ideophones are clearly of onomatopoeic nature, not all onomatopoeic forms are ideophones in Japhug. In particular, imitation of animal calls, as in (59), may not always be subject to ideophonic morphology as described in section 2. Besides, they are generally reduplicated three or more times and thus their forms cannot be compared with any of the nine ideophonic patterns.

- (59) nu - $xt\check{c}i$ $t\check{s}a$, tu - $mbri$ nu ra cut cut cut zo tu - ti
 TESTIM-be.small a.little IPFV-call TOP PL onomatopoeia EMPH IPFV-say

 nu - ηu
 TESTIM-be

‘It is small and when it calls it goes “*cut cut cut*.”’ (ꜱmbrupꜱa 8)

Like ideophones, this type of onomatopoeia is compatible with the light verbs *ti* ‘say’ and *pa* ‘auxiliary’, but onomatopoeic forms have not fully entered the ideophonic morphological system and cannot serve as verb adjuncts. Onomatopoeic forms are commonly triplicated (like *cut cut cut* in (59)) or even reduplicated more than three times, unlike real ideophones. In Japhug, unlike languages such as Chintang (Rai et al. 2005), triplication is not part of the regular ideophonic morphology.

7.2. Interjections. Interjections are marked words expressing a feeling or an emotion like ideophones, but unlike them, they are typically involuntary responses to stimuli (Dingemans 2011b). In Japhug, they cannot serve as verb adjuncts, cannot receive ideophonic morphology, and are used either in isolation, in their own clause, as in (60), or as the P of verbs of speaking like *ti* ‘say’, as in (61).

- (60) *açi!* *ɲu-tu-ɣɲgi*
 INTERJECTION:correction TESTIM-2-be.right
 ‘Of course (I take back what I said)! You are right.’ (The demon, 44)
- (61) *ɬɣ-ɣɲndzo tçe wutç^hutç^hu ma-tu-ti, ɬɣ-sɣ-çke tçe*
 PFV-be.cold LNK INTERJECTION:cold NEG:IMP-2-say PFV-DEEXP-burn LNK
atsatsa ma-tu-ti, ku-mɲɣm ɬɣ-tu tçe
 INTERJECTION:pain NEG:IMP-2-say NMLZ:S/A-hurt PFV-exist LNK
atsatsa ma-tu-ti ra
 INTERJECTION:pain NEG:IMP-2-say FACT:have.to
 ‘When you will feel cold, don’t say “ah,” when you will feel hot, don’t say “ouch,” when you will feel pain, don’t say “ouch,”’ (Flood3 64)

Interjections in Japhug include *wudzudzi* ‘expressing fear’, *ama* ‘expressing surprise’, *xuc^huc^ho* ‘expressing tiredness’, *atsatsa* ‘expressing pain’, *wutç^hutç^hu* ‘expressing cold’, and *açi* ‘taking back the words one has just said’.

Phonologically, these words are unusual in different ways from ideophones. They do not contain rare phonemes or clusters, but almost all start in *a-* or *wu-*. While verbs whose stem begins with *a-* are relatively common in Japhug, the initial *a-* generally undergoes morphological alternations and can only surface as such in nonpast forms (see Jacques and Chen 2007). No single verb has a polysyllabic stem beginning with syllable *wu-*. Nouns whose stem begins with *a-* or *wu-* are extremely rare. Apart from *akaruu* ‘marjoram’, all examples are borrowings from Tibetan (such as *arab* ‘liquor’, *amurga* ‘Westerner’,¹⁵ or *wulab* ‘corvée, statute labor’).

7.3 Calling and chasing sounds. Calling and chasing sounds are sounds used by people to interact with animals. They are used to attract animals to come toward the speaker (calling sounds) or to drive them away from the

speaker (chasing sounds). In Japhug, nearly all domestic animals, whether mammals or birds, have distinctive calling sounds, a list of which is provided in table 9. Given the rudimentary nature of man-animal interactions, it is not surprising that these sounds cannot be subjected to any morphological operation other than reduplication. They cannot be used with any light verbs or occur as adjuncts.

Phonologically, these words contain very unusual sounds. Unlike ideophones, which contain unusual clusters or rare phonemes, calling sounds make use of consonants and vowel that are not found at all in the standard lexicon: the dental click /, the glottal stop in a cluster [ʔw] or as a coda, and breathy voice.

Only one of these words appears to have an identifiable etymology: *soŋ* ‘chasing sound for dogs’ is possibly related to the past tense *soŋ* of the verb ‘to go’ in Tibetan.

Table 9. Calling and Chasing Sounds in Japhug

SOUND	ANIMAL	FUNCTION
<i>tɕ^ha</i>	cat	chasing
<i>tɕítɕi tɕítɕi tɕítɕi</i>	cat	calling
<i>wule</i>	cow	chasing
<i>aβleβle</i>	cow	calling
<i>soŋ</i>	dog	chasing
<i>tsaʔ tsaʔ</i>	dog	calling
<i>kɕut</i>	fowl	chasing
<i>tʂutʂutʂutʂutʂutʂu</i>	fowl	calling
<i>k^huɕu</i>	goat, sheep	chasing
<i>titititi</i>	goat	calling
<i>χχj</i>	horse	chasing
<i>ə ə ə ə</i>	horse	calling
<i>zkozkozkozko</i>	hybrid yak (female)	calling
<i>ac^hoc^ho</i>	hybrid yak (male)	calling
<i>buwo</i>	ox	chasing
<i>tɕ^hɣt</i>	pig	chasing
<i>anininini, ʔwan, ʔwan ʔwan</i>	pig (adult)	calling
<i>anininini // // // //</i>	pig (little)	calling
<i>alolo</i>	sheep	calling

8. Conclusion. Japhug ideophones are an exceptionally rich topic, and the present work only scratches the surface. Directions for future research are to provide as complete as possible a list of ideophones with clear indications as to which morphological patterns are attested for each particular ideophone and with example sentences for each of them, and to investigate in more detail their uses in discourse.

Another area for future research is comparison with other Rgyalrong languages. Preliminary work on Situ and Zbu Rgyalrong, as well as comparison

with Sun and Shidanluo (2004) indicate that some ideophones are shared between several varieties; the question of whether some ideophones are inherited from Proto-Rgyalrong (if they present the regular sound laws) and how they are diffused across dialects will only be possible when comparable work, including comprehensive lists of ideophones, is undertaken on as many dialects as possible.

Notes

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Abbreviations. The following grammatical abbreviations are used: 1 = first person; 3 = third person; 3→3' = third person acting on third person; A = agent-like argument of transitive verb; AFFIRM = affirmative; ANTICAUS = anticausative; AUTO = autobenefactive/spontaneous; AUX = auxiliary; CAUS = causative; CISLOC = cislocative; COMP = complementizer; CONST = constative; DEIDEOPH = deideophonic; DEM = demonstrative; DU = dual; DYN = dynamic; EMPH = emphatic; ERG = ergative; EVD = evidential; FACT = factual; GEN = genitive; GENS = generic; IDEO = ideophone; II = stem form 2; III = stem form 3; IMP = imperative; INDEF = indefinite; INTENS = intensive; INV = inverse; IPFV = imperfective; IRR = irrealis; LNK = linker; LOC = locative; NEG = negative; NMLZ = nominalizer; P = patient-like argument of transitive verb; PFV = perfective; PL = plural; POSS = possessor; PROG = progressive; PST = past; R = root; REDP = reduplication; S = single argument of intransitive verb; SEMEL = semelfactive; SG = singular; STAT = stative; TESTIM = testimonial; TOP = topic; TR = transitive; TRANSLOC = translocative. Conventions for glossing largely follow the Leipzig Glossing Rules (<http://www.eva.mpg.de/lingua/resources/glossing-rules.php>).

Transcription. IPA symbols are used. The symbol √ marks ideophonic roots. Chinese borrowings are indicated in pinyin (rather than IPA) between angle brackets ⟨ ⟩.

1. There are four or five Rgyalrong languages: Tshobdun, Zbu, Japhug, and Situ (the last perhaps two distinct languages), spoken in Rngaba prefecture, Sichuan, China. The exact number of speakers for Japhug is difficult to ascertain, but probably under ten thousand. All four languages are subsumed under the single Ethnologue code *jia*, but intelligibility is quite low (it requires months of daily exposure for speakers of one Rgyalrong language to learn another one). Each of the languages displays considerable dialectal diversity, especially Zbu and Situ.

2. Examples from the recorded corpus are accompanied by the short title of the text and a line number. Some of the texts are available on the Pangloss archive (http://lacito.vjf.cnrs.fr/archivage/tools/list_rsc.php?lg=Japhug&aff=japhug).

3. Sentence (12) was explained in plain language as in (i).

- (i) *tsuku ku-mbro* *tsuku ku-mbɣr* *ku-fse*
 some NMLZ:S/A-be.tall some NMLZ:S/A-be.short NMLZ:S/A-be.like
 ‘some tall and some short’ (elicited)

4. The actual phonetic realization of these clusters involves an ultrashort *svara-bhakti* vowel; thus, for instance, *scrab* is actually realized as [scira^v].

5. There is only one exception, the noun *qomndron* ‘wild goose’, but an onomatopoeic or ideophonic interpretation of the second syllable is not impossible; compare the Tibetan name of the same bird, *k^hrunk^hrun*.

6. Compare with Proto-Lolo-Burmese **C-krok*^l (Bradley 1979:341).
7. This count does not include clusters with preinitial + *g* and *g* + medial, which are more commonly found in Tibetan loanwords. Clusters such as *b* + medial, on the other hand, are not found outside of ideophones.
8. The phonetic realization of this coda, which is transcribed as *-β* although it is phonologically an allophone of *w*, depends on the speakers. Some always pronounce it as [w], while for others there is free variation between [w], [β], [p], and [ϕ].
9. Proto-Rgyalrong **i*, **o*, **u*, and **ɔ* changed to *u* and *ɤ* before **p*, **t*, **k*, **r*, and **s*.
10. Audio files for figures 1 and 2 are available in the electronic version of this article on Project MUSE.
11. Note that *zurzurzur* is not an ideophone in the sense in which that term is used here (see section 7).
12. Stem forms involving ablaut and suppletion mark various verbal categories of tense, aspect, number, and person. Stem 3 (noted as “III” in the gloss of (31)) only appears in the transitive conjugation; it is restricted to direct forms with third person patient and singular agent (1SG>3, 2SG>3, 3SG>3) (Jacques 2004:351–57).
13. Right dislocation does occur in Japhug (see Jacques 2013:207–8) and allows any adjunct, noun phrase, postpositional phrase, or verb complement to occur postverbally. However, it is rare and has a distinctive intonation not found with postverbal ideophones.
14. On the semantics of *nu-* as a denominal prefix, see Jacques (2014).
15. This word, borrowed from English ‘American’ through Tibetan, was translated to me into Chinese as meaning ‘Albanian’, a curious confusion which no doubt occurred during the Cultural Revolution before 1971.

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