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Apatani phonology and lexicon, with a special focus on tone

Mark W. Post and Taze Kanno

Universität Bern and Future Generations

ABSTRACT

Despite being one of the most extensively researched of Eastern Himalayan languages, the basic morphological and phonological-prosodic properties of Apatani (Tibeto-Burman > Tani > Western) have not yet been adequately described. This article attempts such a description, focusing especially on interactions between segmental-syllabic phonology and tone in Apatani. We highlight three features in particular – vowel length, nasality and a glottal stop – which contribute to contrastively-weighted syllables in Apatani, which are consistently under-represented in previous descriptions of Apatani, and in absence of which tone in Apatani cannot be effectively analysed. We conclude that Apatani has two “underlying”, lexically-specified tone categories H and L, whose interaction with word structure and syllable weight produce a maximum of three “surface” pitch contours – level, falling and rising – on disyllabic phonological words. Two appendices provide a set of diagnostic procedures for the discovery and description of Apatani tone categories, as well as an Apatani lexicon of approximately one thousand entries.

KEYWORDS

lexicon, tone, morphophonology, Tibeto-Burman languages, Tani languages, Eastern Himalayan languages, Apatani

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Apatani phonology and lexicon, with a special focus on tone¹

Mark W. Post and Tage Kanno

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1 Introduction

Despite being one of the most extensively researched of Eastern Himalayan languages (Anonymous 1965; Simon 1972; Sai 1983; Abraham 1985; Abraham 1987; Weidert 1987; Kani, Kani et al. 1994; Kani and Habuñ 1995; Apatani Language Project 2009; Blackburn 2010), Apatani remains inadequately described in some fairly basic respects. A number of core phonological features, such as vowel length, nasalization and glottal features, have been either ignored or are inconsistently represented in the literature, and Apatani tones, though they have been identified by scholars such as Abraham (1985) and Weidert (1987), have not yet been systematically and accurately described. This is unfortunate, as tone in Apatani is quite robust, by comparison with many other languages of the Eastern Himalaya, many of which are either not tone languages or have tone systems with such a “low functional load” that research can be frustratingly difficult and fraught with uncertainty (Morey 2010: 83-94). If well-understood, Apatani tones could provide a solid regional benchmark in comparative pan-Himalayan prosody.

During recent fieldwork, we were able to make a certain amount of progress in the analysis of Apatani phonology and lexicon, especially as concerns the operation of Apatani tones. While our analysis of the Apatani tone system is not yet complete, we believe that enough is now understood to enable some reliable statements regarding basic phonological categories and processes in Apatani. In writing this paper at the present stage, we thus have several goals. One goal will be to advance a comprehensive view of Apatani phonology, such that the interactions between segmental, syllabic and prosodic features in Apatani can be made explicit. A second goal will be to provide a

¹ Fieldwork for this article was conducted in Tajang village (Bulla cluster, Ziro complex, Lower Subansiri District, Arunachal Pradesh), and in Itanagar and Naharlagun during December 2011-January 2012, with a brief follow-up in July 2012. Author Post thanks his second Apatani consultant Michi Chatung Tanyang. Both authors thank Pascal Bouchery, with whom we have corresponded frequently on these and other topics, as well as Larry Hyman and two anonymous reviewers.

The authors had distinct but complementary goals in conducting this research. Author Post is engaged in a reconstruction of Proto-Tani language, with support from Taiwan National Science Council Research Grant NSC 100-2410-H-001-097-MY2 *Proto-Tani: A Tibeto-Burman Mesolanguage* (PI Tian-Shin Jackson Sun), and had the primary goal of isolating tonally-specified Apatani roots. Author Tage, a native Apatani speaker, is working on the community-based design of a phonologically-adequate Apatani orthography. Both projects require a comprehensive approach to Apatani phonology, due to the fact that segmental and prosodic features in Apatani interact extensively, as we will demonstrate below. Finally, please note that Apatani names are, like Japanese names, conventionally ordered Surname Given-Name; thus, author Tage’s surname is Tage, given name Kanno.

certain amount of what we believe to be reliably-transcribed Apatani data, which we hope will be useful in the immediate term for documentary and comparative purposes. Our third and perhaps over-arching goal will be to outline a set of simple methods for the further investigation of Apatani tones, which we hope will make it simpler for linguists and anthropologists, both Apatani and non-Apatani, to broaden and deepen research into this important and accessible, but not yet very well-understood, Eastern Himalayan language.

The rest of the paper is structured as follows: we first provide a brief contextual overview in §2, while §3 gives an equally brief overview of Apatani word types and their structures. §4 is the first of two major sections of the paper; it treats segmental and syllabic phonology, focusing in particular on two “special” segments which are not always consistently recognized in research on Apatani language, but without which the Apatani tone system cannot be adequately represented: an “underspecified” nasal and a glottal stop. §5 is the second major section of the paper, and focuses on Apatani tones. §6 is a brief conclusion, and is followed by two Appendices: Appendix A summarizes some diagnostic procedures for determining Apatani word and morpheme shapes and tones. Appendix B is an Apatani lexicon of just over 1,000 entries.

2 Contextual overview

Apatani is spoken by around 60,000 people, mostly natives of Ziro Plateau, in the Lower Subansiri district of modern-day Arunachal Pradesh State, in the North East Indian Himalaya (Figure 1). In his well-known comparative-historical study of the Tani subgroup of Tibeto-Burman languages, Sun (1993) describes Apatani as a relatively “aberrant” member of the subgroup, classifying it as an early-branching member of his Western Tani branch (Figure 2). Indeed, a number of features mark Apatani as relatively special in the Tani context. First, Apatani has a number of salient features which are rare or unique in Tani, including contrastively nasalized vowels, a phonemic syllable-final glottal stop, and a voiceless velar fricative x (kx in some dialects). While rare, since such features appear to be regular innovations, they tend to support Sun’s early-branching hypothesis. However, a number of other features are more difficult to explain. These include Apatani’s lack of topographical-deictic demonstratives, an absence which seems to be unique in Tani (Post 2011). Additionally, we find several prominent Apatani words and morphemes which are rare in or possibly absent from other Tani languages; among lexemes, these include the culturally-important terms *ʔǎi* ‘wet field’ and *ljàʔpyóo* ‘dry field’ (compare Proto-Tani **rik* ‘field (wet or dry)’). Among grammatical morphemes, we find several commonly-occurring predicate suffixes which seem not to be found elsewhere in Tani; for example, *-ŋé* ‘Imperative’ and *-cì* ‘Intentional irrealis’. While it seems unlikely that an early-branching hypothesis by itself can account for such features, it is not yet clear what will.² Mutual-intelligibility between Apatani and the varieties of Nyishi spoken nearby to the Apatani area is relatively high; however, Apatani and Nyishi languages seem well-differentiated when the full range of regional varieties is taken into

² One possibility to be kept in view is that Apatani may incorporate features of a substrate of unknown phylogenetic status; this could in principle account for both the non-Tani (and possibly non-Tibeto-Burman) forms that we find in Apatani, as well as, perhaps, certain atypical patterns (such as lacking topographical deixis). This idea is supported by Apatani oral histories, which recount the earlier existence of such a population, and from whose lost language the prominent Apatani place name *Ziro* is supposed to have derived.

account, such that there appears to be a clear basis for assigning Apatani and Nyishi to different branches on a Tani family tree, as Sun did (1993: 272).

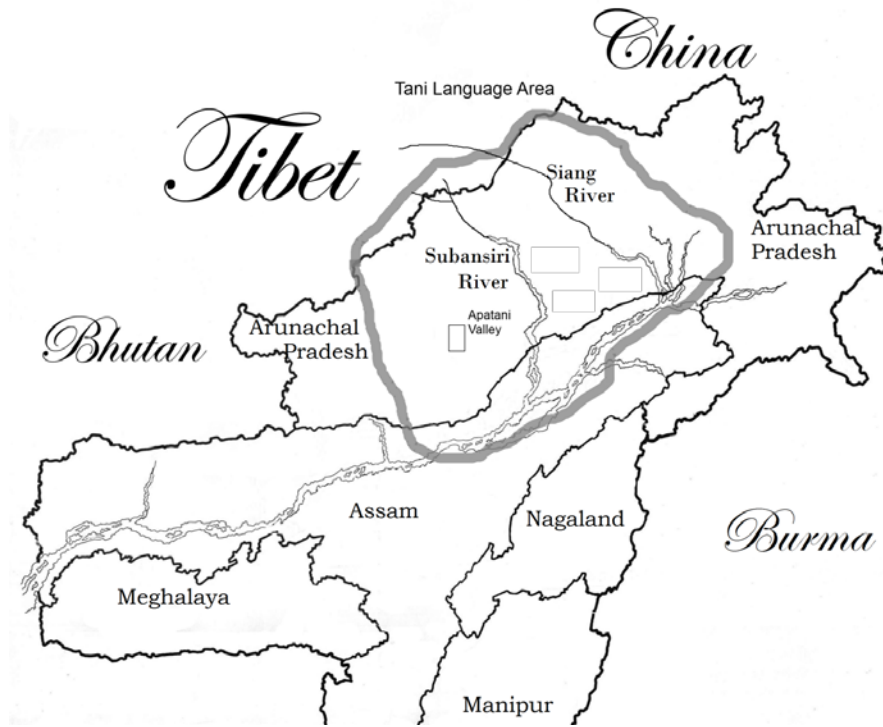


Figure 1. The Eastern Himalaya, showing the Tani Language Area in rough outline, and the approximate location of the Apatani Valley (Ziro)

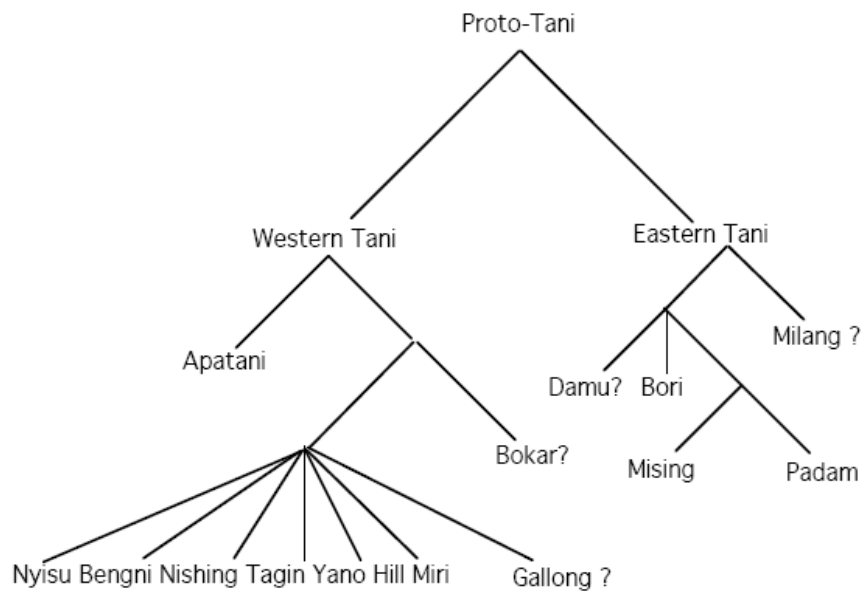


Figure 2. Provisional Tani family tree (Sun 1993)

While all Apatani varieties are mutually-intelligible, there is a certain amount of internal variation, roughly correlated with the geographical clustering of villages in Ziro plateau. Author Täge estimates there to be five major Apatani varieties (some with relatively minor internal variation): moving clockwise from the north, these are (1) Bulla, spoken in the villages of Lempia, Reru, Tajang and Kalung, (2) Hari, spoken in Hari village, (3) Hong, spoken in Hong and Swro³ villages, (4) Dwbo, spoken in Swbe, Bwrw, Michi-Bamin and Mudang-Täge, and (5) Hija, spoken in the villages of Hija, Dutta and Nencalya. This paper is based on the Bulla variety, as it is spoken in Tajang village, in the northeastern corner of Ziro plateau (Figure 3).

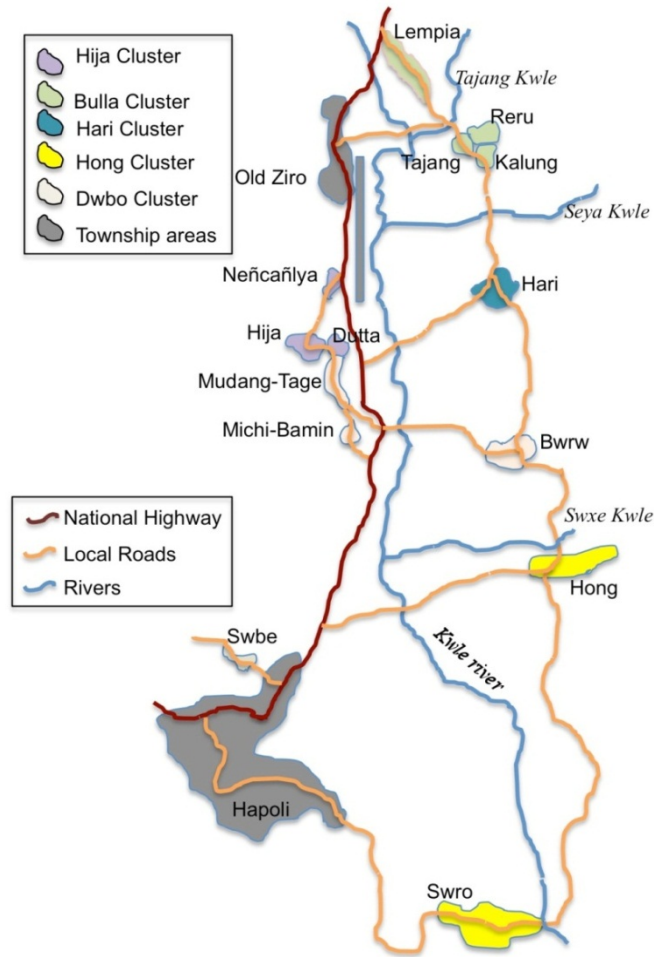


Figure 3. The Apatani valley, with major villages and speech varieties as shown

As we mentioned in §1, Apatani is one of the most extensively-researched of Eastern Himalayan languages.⁴ However, a complete representation of Apatani phonology has apparently

³ Here and in Figure 3, $w = i$. This is a feature of at least one current Apatani Romanization proposal, also widely-adopted among writers of Galo and Nyishi languages.

⁴ Apatani have also received considerable attention from anthropologists; see especially von Führer-Haimendorf (1955; 1962; 1980) and Blackburn (2003; 2003/2004; 2008; 2010).

presented a challenge to scholars. In the first work to approach Apatani language systematically, Anonymous (1965) contained only a segment inventory, with little analysis. Simon (1972), whose data were later employed by Sun (1993), included a two-and-a-half page sketch of Apatani phonology. Unfortunately, almost every sentence of this sketch seems to us to contain serious errors, which we therefore refrain from discussing in the interest of space. Regarding tone, Simon provides only two purported minimal pairs, and then writes that “Apatani is comparatively free from...tonal complexities...The meaning of a few words may change according to the tone... This feature is restricted to a small number of expressions” (Simon 1972: 2-3). As will become clear below, we believe that these statements radically underestimate the importance and pervasiveness of tone in Apatani. Ensuing years saw publication of Sai (1983), which, however, contained even less phonological analysis than did Simon (1972). Later, Abraham’s (1985: 5-22) expanded presentation of Apatani phonology was marginally more insightful than that of Simon (1972). However, Abraham’s transcriptions, including his representation of tones, are neither consistent, nor are they in general accurate. Abraham identified three Apatani tone categories, “rising”, “level (unmarked)” and “falling”, and provided putative three-way minimal pairs such as *ámi* ‘cat’, *ami* ‘eye’ and *àmi* ‘tail’. Here, Abraham seems to have confused certain segmental features with prosodic features; specifically, here and throughout his work Abraham failed to consistently transcribe contrastive vowel length and syllable-final glottal stop. In our data, these words occur as *ʔámi* ‘cat’, *ʔàmi* ‘eye’ and *ʔámí* ‘tail’.⁵

Weidert (1987) provided what we count as 228 Apatani words and a description of Apatani phonology with special attention to tones. In general, we find that Weidert’s analysis is insightful, if not always consistent with our own, and we particularly appreciate his assignment of a “floating tone” to some Apatani word and morpheme types which is realized on a following syllable⁶; while we feel that this measure is ultimately probably not correct, and certainly leads to an unnecessarily complex analysis of Apatani tonemes, it does enable fairly accurate predictions of Apatani phrasal pitch contours. Weidert, unlike Simon and Abraham, in our assessment produced correct and consistent transcriptions of contrastive word-medial vowel length and word-medial glottal stop. However, he seems to have failed to recognize these features word-finally. These crucial omissions fatally compromised Weidert’s analysis of Apatani tone, as will become clear in §5.

A number of works have more recently emerged either within or with the participation of the Apatani community. T. Kani, P. Kani *et al.* (1994) and T. Kani and Habuñ (1995) are two works prepared by Apatani community members, the first a grammar and the second an English-Apatani dictionary. Conceived on the models of an English grammar and lexicon, these works may address some of the Apatani community’s needs in terms of language preservation and English language-learning, but lack a certain depth of analysis when it comes to the appraisal of native Apatani features on their own terms.⁷ Finally, the Apatani Language Society’s (2009) *Dictionary of the Apatani Language* (DAL) has been co-produced by Apatani community members together with

⁵ Here, Abraham missed a true tonal minimal pair with *ʔámí* ‘elder sister’, a word which does not seem to appear in Abraham’s (1987) dictionary.

⁶ Weidert’s analysis is in this respect very close to what Ray (1967) analyses as “syllable pitch” in an unspecified variety of Nyishi.

⁷ Thus, in the dictionary, for example, one finds the purported Apatani equivalents of terms which seem conceptually quite foreign, such as ‘lion’ and ‘dermatology’, whereas we do not find many commonplace Apatani cultural artifacts, nor most of the local flora and fauna.

the anthropologist Pascal Bouchery. DAL is a very impressive work indeed, apparently containing 10,000+ items (entries and subentries) – many of them illustrated by photographs – with a meticulously-researched semantic base from the point of view of Apatani cultural knowledge. Apatani words in DAL are represented in a slightly modified Romanization (*ii = i, kh = x*), which, however, underdetermines Apatani phonology to a considerable extent. This is partly compensated for through the inclusion of “phonetic transcriptions” in a fair number of entries (though seemingly fewer than half); even in the latter case, however, certain features are either not represented or inconsistently represented. Our hope, therefore, is that the phonological analysis and representation outlined in this article might be taken up, either directly or in a modified form, by a future edition of DAL, which we believe to be the current “best foot forward” in the documentation of Apatani lexicon.

3 Word types and structures

To understand the operation of Apatani tones, it is important to first understand the structures of Apatani words. Here, we need to draw an initial distinction among two levels of representation, corresponding to Apatani *words* and Apatani *morphemes*, respectively. Apatani morphemes are in principle morphologically *bound*; that is, Apatani morphemes are not normally pronounced independently with a recognizable meaning, and morphemes do not normally stand as constituents of a syntactic phrase. By contrast, Apatani *words* are morphologically *free*; they can be meaningfully pronounced, and do stand as constituents of syntactic phrases. Words in Apatani minimally consist of a single monosyllabic morpheme; an example of a monosyllabic, monomorphemic Apatani word is *ǰū* ‘black’. However, most Apatani words have two or more morphemes, and are usually, therefore, disyllabic or larger. This is important to the analysis of Apatani tones, because the basic tone bearing unit (TBU) in Apatani is the monosyllabic morpheme.⁸ And, since Apatani morphemes are in principle bound, it is therefore not usually possible to determine the tone of an Apatani morpheme by pronouncing it in isolation. Instead, it is usually necessary to “work down” to the underlying morpheme tones by examining the pitch contour of a morphologically complex and polysyllabic word. Here, it is useful to draw a methodological distinction between Apatani *verbs* (or *predicates*) on the one hand, and *nouns* and *adjectives* on the other. Patterns of formation for these word types are quite different, as are the resulting ways in which they are amenable to analyses of tone:

⁸ We would like to clarify here the sense in which we will use the term “tone-bearing unit” or “TBU” in this paper. We use this term to mean “a unit at *any level of analysis* to which a phonological tone is attributable, whether by virtue of being lexically-assigned, or by virtue of being derived from the combination of smaller units.” In other words, we do not insist that there should be only one “TBU” in Apatani phonology, such that if (for example) a lexical morpheme which is referenced as a TBU by a word-level phonological rule must also be referenced as a TBU, in the same way or at all, by a phrase-level phonological rule. At the same time, we do not insist that there *cannot* be only one such TBU. Such questions remain in essence open to research. Thus, by “basic tone-bearing unit” here we mean “the smallest unit that we have been able to discover for which lexically-assigned tones are discoverable, by virtue of their being referenced by Apatani phonological rules”. We do not mean “the sole unit which is referenced as tone-bearing by all relevant Apatani phonological rules”. We thank an anonymous reviewer for alerting us to the possibility of confusion here.

Most Apatani verbs form *predicates*, which minimally consist of a single bound verb root followed by at least one dependent formative of some kind.⁹ Most often, this will be a derivation and/or an inflection (Figure 4). Examples (1)–(3) illustrate these structures, which are fully productive in Apatani. Most of the verb types discussed in this article have the types of structure illustrated in (1)–(2)

$$[[[\underline{\text{VROOT}}]_{\text{ROOT}}(-\text{PDER}_{1\dots n})]_{\text{PSTEM}}-\text{PINFL}]_{\text{PRED}}$$

**Figure 4. Basic structure of an Apatani predicate (slightly simplified, head underlined).
VROOT = verb root, PDER = predicate derivation, PINFL = predicate inflection**

- (1) *pá-bí*
cut.by.striking-BEN
VROOT-PDER
'chop for (someone)'
- (2) *pá-dó.*
cut.by.striking-IPFV
VROOT-PINFL
'(Someone) is chopping.'
- (3) *pá-bí-dó*
cut.by.striking-BEN-IPFV
VROOT-PDER-INFL
'(Someone) is chopping for (someone).'

Nouns and adjectives in Apatani minimally consist of the structure [ROOT], although very few words in our database exemplify this structure (4). The majority of words in our database are either prefixed roots or compounds, with the structures [PFX-ROOT] and [ROOT-ROOT] respectively (5)–(6).

- (4) *ǰi*
black
ROOT
'black'

⁹ Some Apatani speakers are able to pronounce verb roots independently (without any suffix), and assign them meaning and a full phonological specification. This includes the second author of this paper. However, with the exception of a small number of existential copulas (see Abraham 1987: 70–73), we are not able to find any syntactic constructions in which verb roots pattern independently, and we cannot be certain that all Apatani speakers will view verb roots as independently pronounceable.

- (5) *ʔa-míʔ*
PFX-eye
PFX-ROOT
'eye'
- (6) *míʔ-láa*
eye-juice
ROOT-ROOT
'tear(s)'

Unlike with verbs/predicates, whose formation is in general fully productive, the productivity and transparency of nominal/adjectival structures [PFX-ROOT] and [ROOT-ROOT] is variable. Certain types of word with these structures are fully productive; for example, classifier and numeral roots are productively compounded to form a “classifier expression”, exemplified in (7).

- (7) *dór-ɲì*
CLF:ANIMAL-two
ROOT:CLF-ROOT:NUM
'two animals (e.g. dogs)'

Other words are more opaque. In many cases, only one formative of an underlying (or etymological) [ROOT-ROOT] compound can be recognized; in such cases it may be possible to assume that the remainder of the word reflects an as-yet-unidentified root. For example, in *pìsáa* ‘pine tree’, the second formative is obviously *sáa-* ‘pine’ (cf. *sáatí* ‘pine sap’, *sàaxíúu* ‘pine cone’, etc.), however the first formative is unknown. In other cases, it may not be possible to identify any subcomponents of a disyllabic word; one such word is *kánú* ‘seven’. Here, one can say nothing concerning any potential internal structure, until further comparative-etymological research is undertaken.

A relatively small number of Apatani nouns and adjectives have trisyllabic structures; such structures are particularly common among time expressions. Most such words are morphologically opaque to us, and for reasons that will become clear below, we are not yet able to incorporate such words into our analysis of Apatani tones. Examples include *lóoxìdà* ‘four years hence’ and *kánúdá* ‘five days hence’.

4 Segmental and syllabic phonology

Our description here is based on the “Bulla” dialect of Apatani, as it is spoken in Tajang Village (cf. Figure 3). This variety was specifically selected for our research due to its robust retention of a syllable-final glottal stop *-ʔ* in all phonological word positions; although glottal stop is not found in this position in all Apatani dialects (for example, it is not found in Michi-Bamin), it is a prominent feature of our analysis of Apatani tones (§5). We begin with a presentation of Apatani segmental phonemes.

4.1 Overview of segments

Nineteen consonants are found at four places of articulation in Apatani (Table 1). Apatani exhibits the typical Tani seven-vowel system, as described by Sun (1993) (Table 2).¹⁰

Place →		Labial	Alveolar	(Alveo-) Palatal	Velar	Glottal
Manner ↓						
Stop/affricate	Voiceless	<i>p</i>	<i>t</i>	<i>c</i>	<i>k</i>	<i>ʔ</i>
	Voiced	<i>b</i>	<i>d</i>	<i>ɟ</i>	<i>g</i>	
Nasals	Voiced	<i>m</i>	<i>n</i>	<i>ɲ</i>	<i>ŋ</i>	
Fricative	Voiceless		<i>s</i>		<i>x</i>	<i>h</i>
Liquids	Voiced		<i>l</i>	<i>y</i>		
Rhotic	Voiced		<i>r</i>			

Table 1. Apatani consonants

	Front	Mid	Back
High	<i>i</i>	<i>ɨ</i>	<i>u</i>
Central	<i>e</i>	<i>ə</i>	<i>o</i>
Low	<i>a</i>		

Table 2. Apatani vowels

The distribution of Apatani segments will be discussed further in §4.3, in the context of our discussion of Apatani syllable structure. First, we will discuss two “special” Apatani consonants in some detail.

4.2 Two “special” consonants: Underspecified nasal and glottal stop

Apatani has two “special” consonants, an underspecified nasal *ɲ* and a glottal stop *ʔ*. They are “special” in two senses: first, in that their distribution is marked from the perspective of Apatani syllable and word phonology overall, and second, in that they each play a prominent role in the operation of the Apatani tone system to be described in §5.¹¹ Both underspecified nasal and glottal stop appear in the underlying forms of Apatani morphemes. We next discuss these segments in order.

¹⁰ See Sun (1993: 66) for an analysis of the Tani vowel system.

¹¹ Underspecified nasal and glottal stop are also somewhat “special” in the sense that they are two of the three major segmental features in Apatani which are consistently under-represented in previous descriptions, the third being contrastive vowel length.

4.2.1 Underspecified nasal

Underspecified nasal \tilde{n} occurs in syllable-final (usually also morpheme-final) position only.¹² A few examples from different lexical classes include *táñ-* ‘imbibe’, *kúñ-* ‘peach’, *ḡáñ-* ‘year’ and *làñ-* ‘hundred’. Underspecified nasal \tilde{n} has different surface reflexes in different morpho-phonological environments: word-finally and when followed by a fricative, \tilde{n} is realized as nasalization over a preceding vowel, as in *ʔa-lyáñ* ‘PFX-ten’ > *ʔàlyá* ‘ten’, or *táñ-sú* ‘imbibe-REFL’ > *tású* ‘drink for oneself’. When followed by a stop or affricate – affricates tend to be treated as stops by the phonologies of Tani languages in general – \tilde{n} surfaces as a homorganic nasal; in the case of following velar and labial stops, the homorganic nasal is also accompanied by nasalization of the preceding vowel, while in the case of following coronal and palatal consonants, no vowel nasalization is observed; examples include *táñ-pà* ‘imbibe-SBRD’ > *támpà* ‘in order to drink’ and *táñ-dó* ‘imbibe-IPFV’ > *tándó* ‘drinking’. \tilde{n} is deleted – in most cases, with no compensatory effects¹³ – before sonorants; for example, *táñ-ḡé* ‘imbibe-IPTV’ > *táḡé* ‘Drink!’ and *làñ-ḡì* ‘hundred-two’ > *láyì* ‘two hundred’. Finally, \tilde{n} is realized as η inter-vocalically, as in *làñ-e* ‘hundred-one?’ > *láyè* ‘(one) hundred’. The realization of \tilde{n} in various morpho-phonological environments is summarized and exemplified in Table 3.

Historically, \tilde{n} derives from a merger of Proto-Tani syllable-final nasals $*-\eta$, $*-n$ and $*-m$. Syllable-final nasals seem to have first merged to $*-\eta$, being the form that we find in unconditioned pre-vocalic environments, and to have later split into the environmentally-conditioned set of reflexes we now find. Thus, being unpredictable from context, it would be in principle possible to treat $-\eta$ as a synchronically “underlying” form, with the remaining forms generated by rule. However, the alternative of assigning a more abstract nasal consonant which is not specified for place – generating all surface forms by rule – is adopted here since it seems to better accord with the intuitions of native Apatani speakers/writers, to the extent that we can gauge these from our present standpoint.¹⁴

4.2.2 Glottal stop

Turning now to glottal stop: a phonetic glottal stop appears in both syllable-initial and syllable-final environments in Apatani. However, syllable-initial and -final glottal stops do not have the same phonological status. In syllable-initial position, glottal stop is simply a prosodic onset to an otherwise vowel-initial phonological word. That glottal stop is not a segmental feature of the corresponding morpheme in such cases is demonstrated by the fact that it is lost when the morpheme occurs word-finally – i.e., when glottal stop would occur in a word-medial environment. In (8)–(9), note that the morpheme *áa-*, which occurs as a word-initial verb root in (8), and a word-final predicate derivation in (9), occurs with a glottal stop in the first case, but not in the second.¹⁵

¹² \tilde{n} is chosen as a symbol for the underspecified nasal because it is the symbol most often used for this purpose in the emerging, community-based Apatani orthography. It is not intended to invoke the idea of a palatal nasal, for which we use IPA $\tilde{\eta}$ in this paper (in Apatani orthography, the palatal nasal is usually represented *ny*).

¹³ Compensatory vowel lengthening has been observed when \tilde{n} is followed by *r*, however such examples are extremely rare in our database. Further research on a larger lexical corpus will be required to determine the regularity of this feature.

¹⁴ Please note that we employ the terms “generating...by rule” in a colloquial sense here, and do not intend to invoke (much less adhere to) any particular theory of phonology, formal or otherwise.

¹⁵ It might be supposed here that a categorical distinction among verb roots and predicate derivations could be conditioning the alternation. We don’t at present have good evidence to demonstrate that this is not the case,

Form	Following environment	Examples			
		Morphemes	Gloss	Word	Gloss
ĩ	word boundary, fricatives #, s, x, h	ʔa-lyáĩ táĩ-sú díĩ-xú? làĩ-híĩ	PFX-ten imbibe-REFL head-shell hundred-three	ʔàlyá tású dìxú? lǎĩ	‘ten’ ‘drink by oneself’ ‘skull’ ‘three hundred’ ¹⁶
ĩŋ	oral velar stops k, g	góĩ-kó? díĩ-gyáĩ	mouth-open hammer-post	gòŋkó? dĩŋgyá	‘open mouth’ ‘fencepost’
ĩm	oral labial stops p, b	táĩ-pà léĩ-bó	imbibe-SBRD road-male?	támpà lémbó	‘in order to drink’ ‘road’
n	oral coronal/palatal stops/affricates t, d, c, ʃ	díĩ-tá? táĩ-dó láĩ-cáĩ láĩ-jaĩ	head-plank drink-IPFV red.1-red.2 neck-???	dĩntá? tándó làncá làŋjá	‘pate; crest’ ‘drinking’ ‘red’ ‘base of head’
∅	sonorants ŋ, ɲ, n, m, y, r, l	táĩ-ŋé làĩ-ɲì táĩ-né táĩ-má táĩ-yó táĩ-lyí sàĩ-rò?	imbibe-IPTV hundred-two imbibe-PFV.1 imbibe-NEG imbibe-PROH imbibe-IRR wood-banyan	táŋé láɲì táne támá táyó tályí sàró? ~ sàaró?	‘Drink!’ ‘two hundred’ ‘drank’ ‘not drink’ ‘Don’t drink!’ ‘will drink’ ‘banyan’
ŋ	vowels	làĩ-e	hundred-one?	láŋè	‘(one) hundred’

Table 3. Realizations of underspecified nasal in various morpho-phonological environments

(8) ʔáádó.
áa-dó
come-IPFV
‘(He’s) coming.’

(9) lyòáa
lyòo-áa
leap-INWARD
‘jump in (a pool of water, e.g.)’

primarily due to the paucity of vowel-initial morphemes in our database (around 10/600). In particular, we currently lack clear examples of vowel-initial nominal roots occurring as both initial and final formatives of [ROOT-ROOT] compounds, which would help to illustrate this point in a language-general sense. However, we note that an identical alternation is found in Galo, also a Western Tani language (Post 2009). The presence of this feature in Galo does not demonstrate its reality in Apatani, of course, but since this does appear to be a conservative feature of the subgroup, it adds a contextual plausibility.

¹⁶-h- is subsequently deleted inter-vocalically, although its underlying presence can be detected via the underspecified nasal’s realization as vowel nasalization. When followed by an underlying vowel, the underspecified nasal is realized as ŋ, as shown at the base of this Table.

If initial glottal stop is not a segment specified in underlying forms, then, is it necessary to recognize and transcribe it as a phonological feature? This is certainly debatable. We have decided to transcribe initial glottal stop because it appears to be a robust prosodic feature. For example, it blocks assimilation phenomena across word boundaries: in (10), note that according to the distribution outlined in Table 3, underspecified nasal \tilde{n} should surface $\tilde{V}\eta$ when followed by a vowel; however, since this is blocked by $ʔ$, a word-final realization \tilde{V} is found instead.

- (10) $\tilde{l}\tilde{b}\tilde{a}ʔ \text{ } ^{\text{?}}\tilde{a}l\tilde{o}$ (* $\tilde{l}\tilde{b}\tilde{a}\tilde{\eta}$ $\tilde{a}l\tilde{o}$)
 $\tilde{l}\tilde{b}\tilde{a}\tilde{n} \text{ } ^{\text{?}}\tilde{a}l\tilde{o}$
 knee bone
 ‘kneecap’

The phonemic status of syllable-final glottal stop is less debatable; it is clearly phonemic, reflecting a merger of earlier Proto-Tani consonant codas $*-k$, $*-t^1$, $*-t^2$, and $*-p$.¹⁷ It can be established through segmental minimal sets such as $k\acute{o}ʔ$ - ‘open’, $k\acute{o}o$ - ‘pry (manipulate lever)’ and $k\acute{o}$ - ‘eggplant berry (*Solanum indicum* or *khasianum*)’, and occurs in both word-final and word-medial positions (11)–(12).

- (11) $g\acute{o}\tilde{\eta}k\acute{o}ʔ$
 $g\acute{o}\tilde{n}-k\acute{o}ʔ$
 mouth-open
 ‘open the mouth’

- (12) $k\acute{o}ʔd\acute{o}$.
 $k\acute{o}ʔ-d\acute{o}$
 open-IPFV
 ‘(He’s) opening (it).’

Like the underspecified nasal, syllable-final glottal stop is a crucial feature of tone patterning in Apatani, as we will demonstrate in §5.

Due to the seemingly different phonological statuses of syllable-initial and syllable-final glottal stop in Apatani, we transcribe the former via a superscript $ʔ$ – signifying that it is a prosodic rather than segmental feature – while we transcribe the latter as a full consonant $ʔ$, signifying its phonemic status.¹⁸

¹⁷ Sun’s (1993) $*-t^1$ and $*-t^2$ represent an unknown distinction at the Proto-Tani level, with a merged $-t$ reflex in Eastern Tani and a complex (and seemingly not reconstructable) set of reflexes in Western Tani. In Apatani (much as in Eastern Tani), both proto-consonants have merged to $-ʔ$.

¹⁸ An alternative representation might simply omit any representation of syllable-initial glottal stop, and treat it as a predictable feature of word structure. This seems acceptable to us, and might simplify matters from an orthographic perspective; we do not do so here simply because we wish to represent phonological distinctions as explicitly as we can at the present stage. The other two alternatives, namely omitting glottal stop altogether and treating syllable-initial and syllable-final glottal stop as instances of “the same” segment type, do not seem acceptable to us.

4.3 Syllable structure

Apatani syllables have the basic structure given in Figure 5. In Figure 5, note that C_i is an optional initial consonant, V is an obligatory vowel nucleus, and X is an optional coda, which may be one of either (a) a nucleus-identical (lengthened) vowel (b) nasalization on a preceding vowel, or (c) a final consonant C_f . μ is a mora (a unit of weight). This set of concepts will be discussed in detail below.

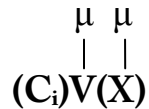


Figure 5. Basic Apatani syllable structure

The optional C_i slot in an Apatani syllable can be either *simple* or *complex*. A simple C_i may be one of any of the consonants listed in Table 1 above, potentially excluding glottal stop (see discussion in §4.2) (Table 4).

C_i	Word	Gloss
<i>k</i>	<i>kúbò</i>	‘male dog’
<i>g</i>	<i>gùbú?</i>	‘warm/hot’
<i>ŋ</i>	<i>ŋí</i>	‘fish’
<i>c</i>	<i>cúunì</i>	‘sambar doe’
<i>ʃ</i>	<i>ʃántú</i>	‘fat’
<i>n</i>	<i>nácú</i>	‘lip’
<i>t</i>	<i>tákí</i>	‘ginger’
<i>d</i>	<i>dáŋí</i>	‘sun’
<i>n</i>	<i>nèesíu</i>	‘granary’
<i>p</i>	<i>pàakú?</i>	‘plate’
<i>b</i>	<i>büsár</i>	‘langur’
<i>m</i>	<i>múlò</i>	‘husband’
<i>y</i>	<i>yàapáa</i>	‘young man’
<i>r</i>	<i>rîmì</i>	‘spider’
<i>l</i>	<i>láʔnì</i>	‘thumb finger’
<i>s</i>	<i>sáatí</i>	‘pine sap’
<i>x</i>	<i>xùí?</i>	‘sour’
<i>h</i>	<i>háarù</i>	‘lung’

Table 4. Simple C_i in word-initial position

A complex C_i may be any of the consonants *g*, *p*, *b*, *m*, or *l*, plus the glide *y* (Table 5).

C _i	Word	Gloss
<i>gy</i>	<i>gyúudó</i>	‘shouting’
<i>py</i>	<i>pyóodó</i>	‘pincing (using pincers)’
<i>by</i>	<i>byòopáa</i>	‘helmetlike cane hat’
<i>my</i>	<i>myàamyáa</i>	‘ringworm’
<i>ly</i>	<i>lyà?pyóo</i>	‘dry field’

Table 5. Complex C_i in word-initial position

Unlike Simon (1972) and Weidert (1987), we do not find a complex cluster *Cry-* in our Apatani data.¹⁹

Obligatory nucleus V may be any of the seven vowels listed in Table 2. However, it is worth noting that mid-central vowel ə has a relatively restricted distribution in Apatani by comparison with other Tani languages, and generally occurs only with a following rhotic coda *-r* (Table 6).²⁰

V	Word	Gloss
<i>a</i>	<i>?àxé?</i>	‘kidney’
<i>i</i>	<i>?ípó?</i>	‘brewer’s yeast’
<i>u</i>	<i>?údè</i>	‘house’
<i>e</i>	<i>?é?pè</i>	‘pumpkin’
<i>o</i>	<i>?óo</i>	‘liquor’
<i>ə</i>	<i>là?ηár</i>	‘wrist’
<i>i</i>	<i>?ηáa</i>	‘baby’

Table 6. Simple V nuclei

Syllables which have only a V nucleus and, optionally, either a simplex or a complex C_i, are said to be *light*. Light syllables have only one *mora*, i.e. the obligatory nucleus V; C_i, whether simple or complex, does not count towards syllable weight in Apatani. Examples of light syllables include each of the syllables in *?údè* ‘house’, *tákí* ‘ginger’ and *myámú* ‘male pubic hair’. Syllables which

¹⁹ Examples of words containing the syllable onset *Cry-* in Simon’s (1972) data include *akhrya* ‘old (person)’, *khryí* ‘six’ and *pryhni* ‘eight’ (Simon 1972: 9). In our data these words appear as *?axáa* ‘old (person)’, *xí* ‘six’ and *pí?ni* ‘eight’ respectively. Weidert’s (1987) data are inconsistent with Simon’s in this respect. We are unable to explain this discrepancy, however the second author of this article does not believe that such pronunciations are in fact found in Apatani (at least one of Simon’s named consultants is a speaker of Tajang variety, the same dialect on which this paper is based).

²⁰ The only exception in our database is the discourse particle *kàə* ‘okay’, which also occurs in Nyishi, Tagin and Galo and may have entered Apatani as a regional loanword. Apatani ə in *-r* environments may reflect any of several Proto-Tani vowels; compare Apatani *tàdár* ‘worm’ (< Proto-Tani **dor* ‘worm’) with *pìmár* ‘dust’ (< Proto-Tani **mír* ‘dust’). Interestingly, the association of an ə nucleus with a coda *-r* appears to have generalized to encompass certain etymologically simple nuclei, introducing secondary *-r* codas in Apatani; for example, *?ápár* ‘gall bladder’ (< Proto-Tani **pí* ‘gall bladder’, cf. Galo *neppà* ‘bladder’). Even more interestingly, such secondary *-r* codas tend to be “optional”, and can additionally – together with most if not all etymological *-r* codas – be “optionally” transferred to the initial syllable; for example, *?árpáə* is a common variation of *?ápár* ‘gall bladder’. This phenomenon, which has no known parallel among other Tani languages, would seem to merit further research.

include an X constituent, and which therefore have two moras, are said to be *heavy*. The X constituent is critical to our analysis of Apatani tones, and we will take some space here to elucidate its properties.

As briefly mentioned above, X may be one of either (a) a nucleus-identical (lengthened) vowel (b) nasalization on a preceding vowel, or (c) a final consonant C_f. This is a phonetically diverse set of features; however, they have the common property of creating a heavy Apatani syllable. We will discuss these features further in the order just given.

Nucleus-identical (lengthened) vowels in Apatani might be treated either as independent segments, or as an abstract (supra-segmental) “length” feature operating on the nuclear vowel. Our transcriptions imply the former, however this is simply a notational convenience which reflects our desire to transcribe Apatani data using as few technical symbols as possible; since diphthongs (sequences of two contrasting vowels within the same syllable) do not seem to be permitted in Apatani, it may well be that an abstract “lengthening” analysis would ultimately be preferable. In either case, the important thing to note here is that contrastive vowel length is an underlyingly specified feature of Apatani morphemes, and accounts for numerous minimal pairs such as *mì-* ‘do’ vs. *mì̄-* ‘heal’ and *xí-* ‘count’ vs. *xí̄-* ‘cook by boiling’.

Depending on a morpheme’s position in an Apatani word, contrastive vowel length is not always clearly audible “on the surface”. In word-final position, it can be almost impossible even for native speakers to detect a long vowel when a word is pronounced in isolation.²¹ So, for example, the words *húbyú* ‘scum’ and *hùbyúu* ‘sheath’ appear to be segmentally homophonous when pronounced in isolation (they necessarily differ in tone, for reasons to be discussed in §5) (13). However, they can often be contrasted in phrase-medial position. This is often most easily accomplished by introducing a following “new information” article *ke* (14).

(13) *húbyú, hùbyú*
húbyú hùbyúu
scum sheath
‘scum, sheath’

(14) *húbyú kê, hùbyúu kê*
húbyú ke hùbyúu ke
scum IND sheath IND
‘some scum, a sheath’

It is also usually possible to discern contrastive vowel length when a syllable occurs in word-initial position. In the case of nominal and adjectival roots, it is sometimes (certainly not always) possible to find word pairs such as those in (15)–(16), in which the same root is found in both initial and final positions of different [ROOT-ROOT] compounds (cf. §3). As suggested by our transcriptions, when *yámù* ‘fire’ and *písáa* ‘pine tree’ are spoken in isolation, the underlyingly contrastive final syllable vowel length appears to be phonetically neutralized. However, the initial syllables of *mùbú?*

²¹ For this reason, virtually none of the extant sources on Apatani – indeed, on most Tani languages – accurately transcribe contrastive vowel length in word-final positions. This is a very important point to keep in mind when making use of Tani language sources for comparative reconstruction!

‘gun’ and *sáadí* ‘plantation of useful trees’, which reflect the same formatives, can usually be clearly contrasted in terms of length.

- (15) *yámù, mùbú?*
 ya-**mù** **mù**-bú?
 PFX-fire fire-burst
 ‘fire, gun’

- (16) *pìsá, sáadí*
pi-sáa **sáa-dí**
 PFX-pine pine-plant.seedling
 ‘pine tree, plantation of useful trees’²²

Contrastive vowel length among verb roots is more easily detectable. This is because any verb root, in principle, may be directly suffixed by *-dó* ‘IPFV’. A large number of minimal root pairs can be established in this way (17)–(18).

- (17) *mídò, xídó, pídò, dúdò*
 mì-dó xí-dó pì-dó dù-dó
 do-IPFV count-IPFV swat-IPFV drip-IPFV
 ‘doing, counting, swatting, dripping’

- (18) *múudò, xúudó, píudò, díudò*
 mìi-dó xúu-dó pìi-dó dùu-dó
 heal-IPFV cook.by.boiling-IPFV bark.dog-IPFV sit-IPFV
 ‘healing, cooking by boiling, barking (of dog), sitting’

A second type of X feature is vowel nasalization. As we said in §4.2, nasalization of an Apatani vowel reflects the underlying presence of “underspecified” nasal *ñ*. Word-finally and when preceding fricatives *s*, *x* and *h*, *ñ* surfaces as nasalization on the preceding vowel nucleus. The resulting syllable is treated as heavy, for reasons that will become clear in §5 (19).

- (19) *ʔádí, díxú?*
 ʔa-**díñ** **díñ**-xú?
 PFX-head head-skull
 ‘head, skull’

Should a nasalized vowel also be treated as long? This is not clear to us. Nasalized vowels do not strike us as being phonetically long, although this would require systematic study. If it turned out that a phonetic case could be made for treating nasalized vowels as also lengthened, then nasalization as a criterion for syllable weight could perhaps be dispensed with (or treated as

²² Note that *sáadí* appears to have generalized at the word level, ‘pine plantation’ > ‘plantation of useful trees [of any type]’. It might be suspected that the underlying composition could be *sàñ-dí* ‘wood/tree-plant’, but the expected surface form in this case would then be **sándi* (cf. Table 3).

redundant). For present purposes, we would like to simply state that syllables bearing nasalized vowels must be treated as heavy, whatever the feature best analysed as mora-bearing ultimately turns out to be. And, we would like to underscore the importance of recognizing vowel nasalization to an analysis of the tone system, inasmuch as corresponding syllables are in turn recognized as heavy, as will be discussed in §5.²³

Finally, we turn to C_f . C_f may be one of the consonants η , n , m , r and $ʔ$. Nasal consonants η , n , and m , like nasalization on a preceding vowel, reflect an underlying coda \tilde{n} (§4.2, Table 3). The resulting syllable is treated as heavy, whether or not there is concomitant vowel nasalization.²⁴ Previous descriptions of Apatani have generally been reliable in their identification of these segments, as well as of the coda $-r$. Descriptions of Apatani are more mixed in their representation of $-ʔ$, which is often not found, or may be inconsistently represented. There might be several reasons for this. First, it is not always easy to hear $-ʔ$ in every position; word-medially, for example, $-ʔ$ may be less salient than in word-final positions, and may be confusable for vowel length. More importantly, however, not every Apatani dialect retains syllable-final $-ʔ$ in word-final position. So, for example, *tàtʔ* ‘frog’ and *ʔàláʔ* ‘arm/hand’ as spoken in Bulla (the Apatani variety on which this article is based) are pronounced *tàtʔ(i)* and *ʔàlá(a)* in Michi-Bamin.²⁵ Since the presence or absence of word-final $-ʔ$ is critical to our analysis of tone in Apatani, it has been necessary for us to restrict our presentation to the speech of Bulla cluster.

To summarize this section, Apatani syllables are either heavy or light. Light syllables have an obligatory vowel nucleus, and may optionally have a simple or complex onset C_i . Heavy syllables, in addition to a vowel nucleus, have a second constituent \bar{X} , which may be one of (a) vowel length (b) vowel nasalization or (c) a final consonant η , n , m , r or $ʔ$.

4.4 Morphophonology

In this section, we discuss a small number of morphophonological processes, some of which are relevant to the analysis of tone in Apatani. We discuss a Bimoraic phonological word constraint in §4.4.1, following by Intervocalic $-h-$ deletion in §4.4.2, Final high vowel devoicing in §4.4.3 and some miscellaneous Rhyme alternations in §4.4.4.

4.4.1 Bimoraic constraint

Phonological words are minimally bimoraic in Apatani. This means that if a morpheme is underlyingly specified for a single mora (i.e., the obligatory vowel nucleus, and lacking an X constituent), it cannot form a simplex morphological word without further alteration. In all attested cases, simplex and underlyingly monomoraic Apatani words fulfil this Bimoraic constraint by lengthening the nucleus, forming a long vowel.

The Bimoraic constraint is most clearly illustrated by the Apatani pronoun set, as shown in Table 7. In Table 7, we see that the singular forms (top row) are morphologically simplex, and consist phonologically of a single heavy (CVV) syllable. In the remaining rows two through six, we

²³ Though it has usually been recognized, vowel nasalization is inconsistently transcribed in many previous descriptions of Apatani.

²⁴ The equivalence of $-\tilde{V}$, $-\tilde{V}\eta$, and $-\eta$ in terms of weight might provide a second argument in favor of analyzing $-\tilde{V}$ as $-\tilde{V}\tilde{V}$ (or $-\tilde{V}$).

²⁵ We are not certain whether glottal stop is deleted outright in Michi-Bamin, or whether it might result in compensatory vowel lengthening. This would require further investigation.

find morphologically complex, mostly disyllabic forms (the third person dual is irregular, and can be disregarded). In these complex forms, now note that the first and second person forms have an initial light (CV) syllable, while only the third person form has an initial heavy (CVV) syllable. The reason for this patterning is that the first and second person singular pronouns are underlyingly monomoraic *ŋó* and *nó*, while the third person singular pronoun is underlyingly bimoraic *mòo*.²⁶ Initials in the complex forms thus preserve the underlying contrast in syllable weight, while in the simplex forms, monomoraic rhymes are lengthened in the first and second persons to achieve minimal word bimoraicity

	First person	Second person	Third person
Singular	<i>ŋóo</i>	<i>nóo</i>	<i>mòo</i>
Dual	<i>ŋ́ŋ̀̀</i>	<i>ńǹ̀</i>	<i>m̀̀̀òò 'áŋ̀̀̀</i>
Plural	<i>ŋ́́́́</i>	<i>ń́́́</i>	<i>m̀̀̀ól̀̀̀</i>
Singular Genitive	<i>ŋ́̀̀̀kà</i>	<i>ń̀̀̀kà</i>	<i>m̀̀̀̀ókà</i>
Singular Accusative	<i>ŋ́̀̀̀m̀̀̀</i>	<i>ń̀̀̀m̀̀̀</i>	<i>m̀̀̀̀óm̀̀̀</i>
Singular Dative	<i>ŋ́̀̀̀pà</i>	<i>ń̀̀̀pà</i>	<i>m̀̀̀̀ópà</i>

Table 7. Apatani pronouns

Similar alternations are found among lexemes; consider the word compound *gyúu gyúró* ‘throat’. Here, we can see quite clearly that the root *gyú-* ‘throat’ reflects its underlying monomoraicity when functioning as a root compound initial; however, when standing as the single root of a simplex word, as in *gyúu*, the rhyme is lengthened to fulfil bimoraicity.

When alternations such as the above cannot be found, it may not be possible to fully specify the underlying form of a morpheme whose sole lexical exponent is a morphologically simplex word; this is because one cannot determine whether or not an adjustment to an underlying form has been made in order to fulfil the Bimoraic constraint. For example, no root compound has yet been found to corroborate the underlying length of *yòo* ‘meat’. One can only hope that such a compound will turn up eventually!

4.4.2 Intervocalic glottal deletion

Glottal consonants *h* and *ʔ* are deleted inter-vocalically in Apatani. Clear examples of this process include *làñ-híñ* ‘hundred-three’ ‘three hundred’, which is realized *lã́* (compare *híñ* > *hí* ‘three’),²⁷ and *gíʔ-ù* ‘lie-DOWN’, realized *gã* (compare *gíʔdó* ‘lying down’). Intervocalic glottal deletion can make it difficult to discern the underlying forms of *ʔa-* prefixed nouns; this is because all roots with an underlying *h-* onset will exhibit Intervocalic *-h-* deletion in this environment. In such cases, the root onset can only be discovered by obtaining a word in which the corresponding root occurs in word-initial position. For example, the *h-* onset in *híi-* ‘blood’ is clearly audible in *hùlĩñ* ‘blood clot’, but obscured in *ʔà-hí* ‘PFX-blood’ ‘blood’ and *myàʔ-hí* ‘penis-blood’ ‘semen’, which

²⁶ The first and second person combining forms in *-i* and *-u* seem to reflect irregular regressive vowel harmony in the dual and plural forms respectively, the dual form then extending via analogy to the Genitive, Accusative and Dative forms. Irregular vowel harmony processes are common among Tani pronouns (see for example Post 2007: 320-321 for Galo).

²⁷ Note here that nasal specification precedes Intervocalic *-h-* deletion; see §4.2.

are realized ${}^{\text{h}}\text{à}\text{ũ}$ and $\text{m}\text{y}\text{à}\text{ũ}$ respectively (note in the latter case that both ʔ and h are deleted). Behaviour of h and ʔ does not appear to be in every respect identical; while Apatani speakers can generally reconstruct the “full form” of a word containing a deleted intervocalic $-\text{h}-$, this does not seem to be the case with intervocalic glottal stop. So, for example, ${}^{\text{h}}\text{à}\text{h}\text{ũ}$ is available to some speakers as a clear speech realization of ${}^{\text{h}}\text{à}\text{ũ}$ ‘blood’; however, $*\text{g}\text{t}\text{ʔ}\text{ũ}$ does not seem to be found.

4.4.3 Final high vowel devoicing

Short high vowels i , ɨ and u devoice word-finally. In our data, this happens in low tone words only, and in a limited set of consonantal environments (primarily, following palatal and velar fricatives and affricates). However, we do not yet know how widely these constraints apply, or whether some apparent constraints may simply reflect gaps in our data. Examples include ${}^{\text{h}}\text{a}-\text{c}\text{i}$ ‘PFX-pain’, realized ${}^{\text{h}}\text{á}\text{c}\text{i}$ ‘pain’, $\text{l}\text{à}\text{n}-\text{x}\text{i}$ ‘hundred-six’, realized $\text{l}\text{á}\text{x}\text{i}$ ‘six hundred’, and $\text{s}\text{i}-\text{x}\text{i}$ $\text{p}\text{ú}\text{x}\text{u}$ ‘PFX-porcupine RDUP’, realized $\text{s}\text{i}\text{x}\text{i}$ $\text{p}\text{ú}\text{x}\text{u}$ ‘porcupine’.²⁸

4.4.4 Rhyme alternations

A number of rhyme alternations occur in our data which we are not yet able to explain. In each case, the alternation is conditioned by a syllable’s occurrence in the initial or final position of a disyllabic phonological word (we have not yet attested these alternations in larger structures). The alternations include: (a) a word-final syllable with nucleus i frequently alternates with ɨ in word-initial position, as in $\text{y}\text{á}\text{s}\text{i}$ ‘water’ versus $\text{s}\text{i}\text{p}\text{á}\text{r}$ ‘pond’ and ${}^{\text{h}}\text{á}\text{l}\text{i}$ ‘leg/foot’ versus $\text{l}\text{á}\text{n}\text{i}$ ‘big toe’. (b) word-initial syllable with nucleus u sometimes alternates with ɨ in word-initial position, as in $\text{y}\text{á}\text{m}\text{u}$ ‘fire’ but $\text{m}\text{i}\text{t}\text{ú}\text{u}$ ‘burnt firewood’. (c) a word-final syllable with nucleus u sometimes alternates with o in word-initial position, as in ${}^{\text{h}}\text{á}\text{g}\text{ú}$ ‘mouth; speech’, but $\text{g}\text{ò}\text{m}\text{p}\text{y}\text{á}$ ‘close the mouth’. (d) word-final short vowels are sometimes followed by a glottal stop word-medially, as in ${}^{\text{h}}\text{á}\text{n}\text{i}$ ‘two’ but $\text{n}\text{i}\text{ʔ}\text{x}\text{á}$ ‘twenty’. (e) word-final short vowels are sometimes long word-initially, as in $\text{s}\text{á}\text{b}\text{i}$ ‘monkey’ but $\text{b}\text{ú}\text{i}\text{n}\text{i}$ ‘female monkey’. Obviously, additional research in these areas is required; we mention such alternations here only because it might otherwise be difficult to interpret the data provided in our Appendix B (that is to say: these are real alternations in need of explanation; they are not typographical errors).

5 Tone

In this section, we present our analysis of Apatani tones. Following an overview (§5.1), we discuss tones in verb roots, classifiers and numerals in §5.2, followed by simplex and prefixed nouns and adjectives in §5.3, and more complex word types in §5.4. Throughout this section, we emphasize data-oriented discovery procedures.

5.1 Overview

As with morphemes and words (§3), Apatani tones must be understood in terms of two levels of representation. At the level of the morpheme, we find that Apatani morphemes are

²⁸ Our transcription in this case may be insufficiently representative of Apatani pronunciation. Specifically, a “fall” to the underlyingly low tone of the devoiced syllable seems perceptible to us, however due to the absence of final syllable voicing, transcribing a “low” tone mark here seems hard to justify. This would be a useful potential topic for further research on a larger lexical database.

specified for one of **two lexical tones**.²⁹ Since morphemes are in principle bound and unpronounceable in Apatani (§3), these underlying tones are in principle inaudible. They are assigned the labels H and L (for “High” and “Low”) on the basis of their phonetic reflexes in the small number of morphologically simplex words we find in Apatani, as well as certain properties in more complex words. H tones are notated with an acute accent, and L tones are notated with a grave accent. Some minimal root pairs are first presented in Table 8.

H morphemes		L morphemes	
Form	Gloss	Form	Gloss
<i>kú-</i>	‘maternal uncle’	<i>kù-</i>	‘dove; pigeon’
<i>kóʔ-</i>	‘open’	<i>kòʔ-</i>	‘filth’
<i>cí-</i>	‘brother’s wife’	<i>cì-</i>	‘bite’
<i>táa-</i>	‘bird’	<i>tàa-</i>	‘aunt’
<i>túu-</i>	‘log’	<i>tùu-</i>	‘small’
<i>tíʔ-</i>	‘frog’	<i>tìʔ-</i>	‘umbrella hat’
<i>dĩñ-</i>	‘head’	<i>dĩñ-</i>	‘muntjac’
<i>pyóo-</i>	‘steal’	<i>pyòo-</i>	‘first; before’
<i>bú-</i>	‘snake’	<i>bù-</i>	‘uproot’

Table 8. Some minimal root pairs

Morphologically simplex, monosyllabic words with a single H root constituent are realized with a relatively high, level pitch contour,⁴⁴ ʔ or ³³ ʔ. Those with a single L root constituent are realized with a falling-to-low pitch contour⁴² ʔ ʔ or ³¹ ʔ. What is important here is not the precise pitch heights involved, but rather the overall character of the pitch contour, high and level or falling-to-low (Table 9).

As we mentioned in §3, most Apatani words are morphologically complex – most often, dimorphemic and disyllabic, with one of the internal structures [PFX-ROOT], [ROOT-SFX] or [ROOT-ROOT]. Complex, disyllabic words can have one of **three pitch contours**: (1) high, level (“high”, for short) (2) high-to-low falling (“low”, for short) (3) low-to-high rising (“rising”, for short). These three pitch contours are in turn determined by at least two factors: **(a) final syllable weight** and **(b) constituent morpheme tones**.

We first consider syllable weight. As discussed in §4.3, Apatani syllables may be light or heavy, depending on the presence or absence of a mora-bearing X constituent (coda consonant, vowel nasalization or long vowel). When an Apatani word with a **final light syllable** is spoken in isolation, its pitch contour may be **high or low**; examples include ^ʔ*ámí* ‘elder sister’ and ^ʔ*ámì* ‘tail’. When an Apatani word with a **final heavy syllable** is spoken in isolation, its pitch contour will always be **rising**; examples include *tàkòr* ‘star’, ^ʔ*àdí* ‘head’ and *tàtíʔ* ‘frog’.³⁰

²⁹ There may be exceptions among functional words such as *ke* ‘IND’ and prefixes such as ^ʔ*a-* ‘PFX’; see our discussion below in this section.

³⁰ The importance of recognizing vowel nasalization and final glottal stop in Apatani should now become apparent; if they are not recognized, the pattern we are describing here simply will not emerge.

H words		L Words	
Form	Gloss	Form	Gloss
<i>nóo</i>	'you (second person singular)'	<i>nòo</i>	'where'
<i>síʔ</i>	'urine'	<i>sì</i>	'this (speaker-proximate)'
<i>rū</i>	'drool (n.)'	<i>ǰū</i>	'black'
<i>sū</i>	'cow; cattle'	<i>yòo</i>	'meat'
<i>híʔ</i>	'dried, fermented bamboo chips'	<i>dàʔ</i>	'existential copula (standing position)'
<i>ŋóo</i>	'I (first person singular)'	<i>mòo</i>	'he/she (third person singular)'
<i>hí</i>	'three'	<i>hǎ</i>	'anything'
<i>dóo</i>	'existential copula (inanimates)'	<i>dìu</i>	'existential copula (animates)'
<i>xū</i>	'six'	<i>kàə</i>	'okay'
<i>kóŋ</i>	'one'	<i>hìu</i>	'who'
<i>sáa</i>	'tea'		
<i>nū</i>	'what'		

Table 9. Some morphologically simplex H and L words

Now tone: in the case of words with a light final syllable, high or low word pitch is governed by the underlying tones of constituent morphemes. This is most easily seen with prefixed roots, i.e. words with an initial prefix *ʔa-* 'PFX', *ta-* 'PFX' *ya-* 'PFX' or *sí-* 'PFX:ANIMAL'. Seemingly, prefixes are not TBUs in Apatani, meaning that a prefixed root will, in principle, directly reflect the tone of its single constituent TBU, the root. Thus it appears that *ʔámí* 'elder sister' and *ʔámì* 'tail' have the underlying structures *ʔa-mí* and *ʔa-mì*, respectively. This is not so in the case of words with a heavy final syllable; such words are always rising when spoken in isolation. For example, *ta-kár* 'star' and *ta-kàr* 'spit' underlyingly contrast in their tonal specifications, however both are realized, in isolation, as *tàkár*. We will continue with this topic shortly; first, we provide a set of Apatani words illustrating the full set of combinations of final syllable structures and tonal specifications which are available in Apatani, and the resulting word pitch spoken in isolation (Table 10).

Gloss	F. 1	F. 2	Final σ weight	X Type	Word	Pitch
'elder sister'	<i>ʔa-</i>	<i>mí-</i>	light	\emptyset	<i>ʔámí</i>	high
'tail'	<i>ʔa-</i>	<i>mì-</i>	light	\emptyset	<i>ʔámì</i>	low
'star'	<i>ta-</i>	<i>kár-</i>	heavy	r	<i>tàkár</i>	rising
'spit'	<i>ta-</i>	<i>kàr-</i>	heavy	r	<i>tàkár</i>	rising
'bone'	<i>ʔa-</i>	<i>lòo-</i>	heavy	V length	<i>ʔàlòo</i>	rising
'baby animal'	<i>ʔa-</i>	<i>tìu-</i>	heavy	V length	<i>ʔàtíu</i>	rising
'head'	<i>ʔa-</i>	<i>dĩñ-</i>	heavy	V nasalization	<i>ʔàdĩ</i>	rising
'muntjac'	<i>sí-</i>	<i>dĩñ-</i>	heavy	V nasalization	<i>sídĩ</i>	rising
'eye'	<i>ʔa-</i>	<i>míʔ-</i>	heavy	?	<i>ʔámíʔ</i>	rising
'kidney'	<i>ʔa-</i>	<i>xèʔ-</i>	heavy	?	<i>ʔàxéʔ</i>	rising

Table 10. Pitch contours of Apatani prefixed roots spoken in isolation, illustrating the full range of available final syllable shapes and tonal specifications (F. = "formative")

The above discussion of course raises the question of how it can be determined that words with final heavy syllables differ in internal tonal specifications, since all will be pronounced with a rising pitch in isolation; for example, *tàkár* ‘star’ (< *kár*-) and *tàkár* ‘spit’ (< *kàr*-). The underlying difference becomes apparent when we look to tone spreading. While our understanding of tone spreading in Apatani remains rudimentary, we have been able to determine that tone will spread rightward to certain following morphemes. One such morpheme is the “new information” article *ke* ‘IND’.³¹ High words cause a following *ke* to be realized with a high-to-low contour *kê*; roughly,⁴¹ ∨,⁵² ∨, etc. Low words cause a following *ke* to be realized with a low pitch *kè*; roughly,²² ↓ or²¹ ↓. Note that our discussion here implies a conception of Apatani tone which differs from that of Weidert (1987), in which *particular morphemes or words* were specified for an unpredictable “floating” tone. In our analysis, tone spreading is a *general phenomenon*, which therefore applies to any Apatani word in a qualifying context. This phenomenon is illustrated in (20)–(23). (20) and (21) illustrate high and low tone spreading to *ke* respectively; note that these two words – having light final syllables – are independently audible as high and low respectively, so their tonal specification is not in doubt; these examples simply illustrate the character of tonal spreading. (22) and (23) then show that the same spreading characteristics apply in the case of words with heavy final syllables, despite that both are realized with rising pitch contours in isolation.

(20) *ʔámí kē*
 ʔámí ke
 elder sister IND
 ‘an elder sister’

(21) *ʔámì kè*
 ʔámì ke
 tail IND
 ‘a tail’

(22) *ʔadí kē*
 ʔadíñ ke
 head IND
 ‘a head’

(23) *sídí kē*
 sídíñ ke
 muntjac IND
 ‘a muntjac’

To summarize this section, two lexical tones are underlyingly assigned to Apatani morphemes, H and L. Simplex words exhibit direct phonetic reflexes of these tones. In the case of complex, disyllabic words, it is necessary to attend to syllable weight. Words with a final light

³¹ *ke* ‘IND’ is primarily associated to the noun phrase, and so is grammatically acceptable following most if not all nouns. Some speakers are comfortable placing *ke* ‘IND’ after other word types (adjectives and verbs); while the resulting utterances are pragmatically marked, they seem grammatically acceptable. Accordingly, the majority of words in our Appendix B with a final heavy syllable are shown with spreading to *ke* ‘IND’.

syllable exhibit a high pitch contour if *no* constituent morphemes are L (i.e., if all are H), and exhibit a low pitch contour if *any* constituent morphemes are L (i.e., if the first *or* the second is L). Words with a final heavy syllable exhibit a rising pitch contour in isolation, regardless of the tonal specifications of constituent morphemes. However, the tonal specifications of constituent morphemes may still be determined by examining spreading to a following form (such as *ke* ‘IND’ in the case of nouns, at a minimum); if the following form exhibits a falling tone, the underlying tone of the preceding word is high. If a low tone, then the preceding word is low.

This concludes our general introduction to tone in Apatani. In following sections, we present some techniques for discovering the tones of particular types of morpheme, in relation to the grammatical word contexts in which they are able to appear.

5.2 *Simple verbs and classifier expressions*

Together with simplex words and prefixed roots (§5.1), simple verbs and classifier expressions present two of the most useful contexts for the discovery of underlying morpheme tones in Apatani. As discussed in §3, all Apatani verb roots may be suffixed in *-dó* ‘IPFV’ – a light syllable. When they are, the resulting word pitch may be either high or low, as discussed in §5.1, the alternation being a function of the verb root. Thus, it becomes relatively easy to determine the underlying tone – and segmental specification – of a verb root when suffixed by *-dó* ‘IPFV’; dozens of minimal pairs can be discovered in this way (Table 11).³²

Word	Gloss	Pitch	Initial root	Initial root tone
<i>kárdó</i>	‘emerging’	high	<i>kár-</i>	H
<i>kárdò</i>	‘rolling up (something)’	low	<i>kàr-</i>	L
<i>túdó</i>	‘kicking’	high	<i>tú-</i>	H
<i>túdò</i>	‘flooding’	low	<i>tù-</i>	L
<i>tʔdó</i>	‘jerking’	high	<i>tʔ-</i>	H
<i>tʔdò</i>	‘crushing’	low	<i>tʔ-</i>	L
<i>pūdó</i>	‘slicing’	high	<i>pū-</i>	H
<i>pūdò</i>	‘barking (of a dog)’	low	<i>pù-</i>	L
<i>néndó</i>	‘pushing (using body)’	high	<i>néñ-</i>	H
<i>nándò</i>	‘pushing (using hands)’	low	<i>nàñ-</i>	L

Table 11. Determining verb root tones via suffixation in *-dó* ‘IPFV’

As briefly mentioned in §3, “classifier expressions” are productively-formed grammatical words in Apatani with the internal structure [CLF-NUM]. They are used when enumerating individuals or quantifying masses, such as heads of cattle, poles of bamboo or baskets of food grains; examples include *cáñ-* ‘CLF:POTS’, *dór-* ‘CLF:ANIMALS’ and *bàr-* ‘CLF:UNITS.OF.MONEY’.

³² Note that since *-dó* ‘IPFV’ has an initial *d*, an underlyingly nasal-final preceding root will have a clearly audible coda *n*. This is fortunate; if the Imperfective suffix happened to begin with a segment such as *m*, for example, a preceding underspecified nasal would not be detectable (see again Table 3). Note also that it would be possible, in principle, to analyze *-dó* ‘IPFV’ as being unspecified for tone; we return to this point in §5.4.

There are currently thirty-one classifier roots in our database, but we suspect that this number would grow with additional research.

Classifier expressions are formed using root forms of numerals one through six, ten and one hundred, and word forms of other numerals.³³ We first list numeral root-combining forms in Table 12.

Form	Gloss
<i>kúñ-</i>	‘one’
<i>nì-</i>	‘two’
<i>húñ-</i>	‘three’
<i>pí-</i>	‘four’
<i>ŋó-</i>	‘five’
<i>xí-</i>	‘six’
<i>lyáñ-</i>	‘ten’
<i>làñ-</i>	‘hundred’

Table 12. Apatani numeral root combining forms

Recalling the set of principles discussed in §5.1, it becomes clear that numerals ‘one’, ‘three’, ‘ten’ and ‘hundred’ will be useless in determining the tone of a preceding classifier. This is because the resulting word pitch will be rising, and we have no means of discovering the initial formative tone via this word shape, in isolation at least.³⁴ ‘Two’ and ‘five’ are also less than ideal due to the fact that, bearing *n-* and *ŋ-* onset consonants respectively, they will neutralize the distinction between preceding morphemes which end in an underspecified nasal and those which lack an X constituent (Table 3, also cf. §4.3). This leaves ‘four’ and ‘six’; both of these are usable, however ‘six’ is less than ideal due to (a) the occasional difficulty of perceiving vowel nasalization (as opposed to a nasal segment), as well as (b) the fact that in low words final short *i* will devoice (§4.4.3), which can make the resulting contour comparatively difficult to hear.

Fortunately, the only remaining root *pí-* ‘four’ is an ideal choice! It is a light syllable in H tone, like *-dó* ‘IPFV’, meaning that a high or low word terminated in *pí-* ‘four’ should have an initial H or L formative, respectively. And, since *pí-* ‘four’ begins with a consonant *p*, a preceding nasal coda will be clearly audible as *ṽm* (24)–(25). Thus, it would appear that the underlying forms of all classifier roots can be straightforwardly determined via compounding in *pí-* ‘four’.³⁵

³³ We do not present a full description of the Apatani numeral system here in the interest of space; however, for the immediately curious, it is worth noting that Apatani numerals ‘seven’, ‘eight’ and ‘nine’ have the (synchronically) morphologically simplex forms *kánú*, *píʔnì* and *kòáa* respectively; these three numerals irregularly lack a classifier-combining root form, a feature which seems likely to have been inherited from Proto-Tani itself (Post 2007: 379–385).

³⁴ Also, and unlike in Galo, Apatani appears to lack ²*a-* prefixed forms of classifiers, from which the classifier root tone would in many cases be immediately discernible (cf. Post 2007: 386–387).

³⁵ Accordingly, in our Appendix B below, all classifier roots appear compounded in *pí-* ‘four’.

(24) *cámpí*
cáñ-pí
CLF:POTS-four
'four pots'

(25) *bárpì*
bàr-pí
CLF:UNITS.OF.MONEY-four
'four units of money (e.g. rupees)'

5.3 *Simplex and prefixed nouns and adjectives*

We reviewed simplex and prefixed nouns in some detail in §5.1. Here, we simply recapitulate some of these points from a methodological perspective.

Simplex nouns and adjectives are in a sense the simplest of word types to deal with, inasmuch as they can be pronounced in isolation, and their word pitch appears to be a direct projection of their sole underlying morpheme tone. Unfortunately from a methodological perspective, there are very few such words in Apatani (see again Table 9)! In any case, however, there are a few pitfalls to be avoided when encountering what appears to be a simplex noun or adjective. First, a word which appears as a single, long vowel can be the result of Intervocalic glottal deletion (§4.4.2); so, for example, what appears at first to be a tonal minimal pair in *ʔóo* 'liquor' and *ʔòo* 'son' turns out not to be one: *ʔòo* 'son' in fact reflects underlying *ʔóhò* 'son', with the intervocalic *-h-* deleted by rule (note that *-h-* is recoverable for most speakers in clear speech. Note also that there is no phonetic difference between *ʔòo* and *ʔód* in our notation). Finally, it is important to recall that a Bimoraic constraint applies to all simplex, monosyllabic words, which in principle can mask underlying rhyme length (see §4.4.1). So, in our data, for example, we are currently unable to determine whether the recorded form *ǰi* 'black' reflects underlying *ǰi-* or *ǰi-*, and *yòo* 'meat' underlying *yòo-* or *yò-*, etc.

Prefixed nouns and adjectives are also useful in determining underlying morpheme tones; since it appears that prefixes are not underlyingly specified for tone in Apatani, the pitch of a prefixed noun or adjective should in principle be a direct projection of its single underlying tone bearing unit. As was discussed in §5.1, the underlying tones of prefixed nouns and adjectives with a final light syllable can therefore be discovered simply by pronouncing them in isolation, as for example *ʔámí* 'elder sister' (< *mí-* 'elder sister') and *ʔámì* 'tail' (< *mì-* 'tail'). However, the underlying tones of nouns and adjectives with a final heavy syllable must be discovered either through recombination (i.e., formation of compounds in which the target root is initial constituent, and which has a light syllable final in underlying H tone) or via spreading. In practice, it seems possible to place a "new information" article *ke* 'IND' after most types of word for this purpose, even if it is pragmatically a bit strange. However, it will be essential to eventually work out some additional tests, as not all members of all word classes have been amenable to testing via spreading to *ke* for all speakers. This remains a topic for further research.

5.4 *More complex words: Progress and remaining challenges*

The above sections have outlined methods for determining the underlying tones of morphologically simplex words, prefixed roots, simple verbs suffixed in *-dó* 'IPFV' and classifier roots

compounded in *pí-* ‘four’. These diverse word types have an overarching similarity: all have only one target TBU, while the remainder of the word provides, in a sense, a “neutral context” (more on what this might mean shortly).

Word	Gloss	Word	Gloss
<i>ʔáná (kê)</i>	‘year’	<i>yámù</i>	‘fire’
<i>ǰámpí</i>	‘four years’	<i>múbú</i>	‘ash’
<i>kòǰá (kê)</i>	‘last year’	<i>múrù</i>	‘torch’
<i>sǰná (kê)</i>	‘this year’	<i>mùbú? (kê)</i>	‘gun’

Table 13. Selected words containing root formatives *mí-* ~ *mì-* ‘fire’ and *ǰáñ-* ~ *ǰàñ-* ‘year’

Examining the first row, it appears we have two governing roots *ǰáñ-* ‘year’ and *mì-* ‘fire’, the first H and the second L.³⁶ Looking down the first column, ‘four years’ is consistent with this analysis (cf. §5.2). However, ‘last year’ and ‘this year’ are both low, as we can see from spreading to *ke* ‘IND’ (cf. §5.1). Looking at the simplex form of the proximate demonstrative *sǰ* ‘this’ (cf. Table 9 above), we can perhaps suppose that these two words contain controlling L tones, which condition the spreading to *ke*. However, *múbú* ‘ash’ and *mùbú? (kê)* ‘(a) gun’, in the second column, both demonstrate that this cannot be the case; assuming that the initial root *mì-* ‘fire’ is indeed L, these two high words should then also be low. Obviously, then, some other principles must be at work here.

We have made no further progress in the analysis of tone in complex Apatani words as of this writing. One line of inquiry which might perhaps bear fruit would be to consider whether there might be three types of morpheme, H, L and tonally unspecified. This is essentially as we have been doing with our assumptions regarding prefixes and the indefinite article *ke*, however we have not looked for evidence of tonally unspecified forms among roots. The similar behaviour of prefixes and numeral roots such as *pí-* ‘four’, which we have analysed as H, suggests that H may simply be an “unmarked” tone, which could perhaps therefore be dispensed with.³⁷ We do not do so here simply because simplex and prefixed roots which are specified for an H tone have a definite pitch contour, meaning that even an “unmarked” tone must be aligned with a “default pitch”; it seems descriptively more elegant, therefore, to simply identify this as a tone. However, it seems clear that not all tones are necessarily equal in Apatani prosody, and that a more complex set of interactions than that we have presented here must eventually be recognized and accounted-for.

Another possibility that will have to be considered is that different rules or conditions might apply to words of different morphological compositions or different lexical classes. For example, it is conceivable that compounds which are diachronically compositional, but which may be morphologically non-compositional in modern Apatani, can be analysed differently from morphologically compositional forms in terms of their tonal assignment. At present, we have evidence from the similar patterning of inflected predicates, classifier expressions, and prefixed nouns and adjectives that this is most likely not the case; however, we cannot exclude this possibility for all word types and conditions.

³⁶Note that short final *-i* becomes *-u* in all four examples here due to a seemingly irregular labial assimilation process; compare *mǰlyó* ‘flame’ and *mǰtúu* ‘burnt firewood’ (also cf. §4.4.4).

³⁷That is, Apatani may have a “privative L” system, in the sense of Hyman (1999).

Finally, there is scope for considering the possibility that the “basic TBU” – in our description, an underlying morpheme – may not be a functional unit at all levels of analysis. That is to say, there is scope for considering the possibility that in some lexical or grammatical domains at least, there may be no tonally-specified unit which is smaller than a phonological word. For example, consider the word *kánú* ‘seven’ (cf. §3), which seems to have been morphologically non-compositional as far back as the Proto-Tani stage; can such a word be effectively described in terms of the set of analytical units and processes that we identified in §5.1-§5.3? It does not appear to violate them; given its segmental composition, one would assume an internal structure *ká-nú*, with spreading to *ke* as *kê*, and in fact this is what we find. But there is no *morphological* evidence in favour of this composition, neither of a synchronic nor (at present) of a diachronic nature. So how are the tones being assigned? Perhaps only at the level of a disyllabic and non-compositional lexical word. There is thus scope for considering the possibility that Apatani exhibits *relics* of a “morphosyllabic” tonal profile, but that it is either shifting toward, or in some domains may have already shifted to, a more “word tone-like” profile. We have not adopted this perspective, and its associated assumptions, in the present description simply because the productive morphological compositions that we have discovered – for example, predicate inflection in *-dó* ‘IPFV’ – exhibit clear patterns of tone assignment which, due to the morphological compositionality involved, we must presume to in turn be compositional. But since these same principles proved insufficient in the case of [ROOT-ROOT] nominal compounds such as those illustrated in Table 13, one may have to consider the possibility that such forms simply exhibit an unpredictable, hence lexically-specified, “word tone”.³⁸ We thank an anonymous reviewer for directing our attention to these possibilities, but can provide no further insight into these issues at the present time of writing.

6 Conclusion

The preceding sections have outlined a view of Apatani phonology in which tone is an inaudible, lexically-specified property of bound morphemes, which must be deduced by examining the surface pitch contours of words in which they appear. We identify two underlying lexical tones among Apatani morphemes, with two corresponding surface reflexes among simplex, monosyllabic words. However, disyllabic phonological words present three types of contour, high, low and rising. High and low words always have a light final syllable; among prefixed roots and verb roots suffixed in *-dó* ‘IPFV’, the high or low contour correlates to the H or L specification of the remaining root TBU. Rising words are those with a final heavy syllable; here, the tonal specification of a target root among prefixed roots can be determined via spreading to *ke* ‘IND’. Accordingly, it is very important that segmental features contributing to syllable weight (particularly, vowel nasalization, vowel length and final glottal stop) are consistently transcribed; if they are not, the distribution of Apatani tones cannot be effectively analysed even at these very basic levels.

Our methods have been unsuccessful in more complex word structures; this suggests that further insight into the properties of tone spreading in Apatani will probably be required, and that the possibility that there may be a word-level TBU at (at least) some level of analysis must be

³⁸ In this case, one would still want to understand how the word tone might have come about! But that would be a diachronic question.

considered. We must leave such investigations to further research, hoping that the basic descriptive techniques, and the data, provided in the Appendices below will provide a useful point of departure.

SYMBOLS AND ABBREVIATIONS

BEN	benefactive	NUM	numeral
C	consonant	PDER	predicate derivation
C _f	final consonant	PFX	prefix
C _i	initial consonant	PINFL	predicate inflection
CLF	classifier	RDUP	reduplication~ reduplicant
H	high tone	SFX	suffix
IND	new information (≅ “indefinite”)	TBU	tone-bearing unit
IPFV	imperfective	V	verb
L	low tone	V	vowel
N	noun	X	mora-bearing unit

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APPENDIX A: SUMMARY OF DIAGNOSTICS

Here, we summarize some diagnostic procedures that we hope will help in the collection (or re-transcription) of segmentally and tonally well-specified Apatani data, among monosyllables and disyllables at least.

1) Does the word have **one syllable or two**?

a. If it has **one syllable**...

i. is the pitch...

1. **high/level**? (like *nóo* ‘you’)
2. **low/falling**? (like *nòo* ‘where’)

b. If it has **two syllables**, go to (2):

2) Listen for the pitch of a two-syllable word: is it **rising, high/level** or **low/falling**?

a. If **rising**...

i. is there a **final -r**, like *tàkár* ‘star’? If yes, fine. If not...

ii. is the **vowel**...

1. **nasalized**? (like *àdí* ‘head’)
2. **stopped**? (like *tàtí?* ‘frog’, in Bulla speech)
3. **neither**? (if neither, the final vowel should be underlyingly **long**, like in *’àlòo* ‘bone’ – this may be hard to hear out-of-context; try adding a following *ke*)

b. If the word pitch is **high/level**...

i. it should have a single, **short vowel** (like *’ámí* ‘elder sister’)

c. If the word pitch is **low/falling**...

i. it should have a single, **short vowel** (like *’ámì* ‘tail’)

Or, conversely...

3) If the segments of a disyllabic word are thought to be well-transcribed, including nasalization, vowel length, and glottal stop in the final syllable at least...

a. is there a final -r, vowel nasalization in the second syllable, a final glottal stop, or a long final vowel?

i. If so...

1. the pitch should be **rising** (like in ?àdí 'head' and tàtí? 'frog')

(if it isn't, something's wrong!)

ii. If not...

1. is the pitch

a. **high/level?** (like in ?ámí 'elder sister')

b. **low/falling?** (like in ?ámì 'tail')

(if it's neither, something's wrong!)

APPENDIX B: APATANI LEXICON

This Appendix presents a lexicon of Apatani words. The sort order is as follows:

a i u e o ə i k g ŋ c j ɲ t d n p b m y r l s x h ʔ ˘ ˘

The following parts-of-speech are used in this lexicon. This is not stated or intended to be an exhaustive list of lexical and/or grammatical categories found in Apatani.

<i>adj</i>	adjective	<i>nce</i>	nominal compound element
<i>adv</i>	adverb	<i>num</i>	numeral
<i>art</i>	article	<i>numr</i>	numeral root
<i>clfr</i>	classifier root	<i>pcl</i>	particle
<i>cnj</i>	conjunction	<i>pder</i>	predicate derivation
<i>cop</i>	copula	<i>pder:nzr</i>	nominalizing predicate derivation
<i>dem</i>	demonstrative	<i>pinfl</i>	predicate inflection
<i>dem.pos</i>	demonstrative postposition	<i>pos</i>	postposition
<i>int</i>	interjection	<i>pro</i>	pronoun
<i>n</i>	common noun	<i>pros</i>	pronominal suffix
<i>n:kin</i>	kinship term	<i>pro.cop</i>	copular pronoun
<i>n:qual</i>	qualifying noun	<i>pro.int</i>	interrogative pronoun
<i>n:rel</i>	relator noun	<i>v</i>	verb root
<i>name</i>	proper name		

Entries may be read as follows:

headword [pronunciation] *Var:* **variant forms** (dialect name or morphophonological rule) *part-of-speech*. **1** • sense one **2** • sense two. *Use:* further information regarding use *From:* source of borrowing, if a loanword. **example** ‘translation of example

An important note on pronunciation: all *verb roots* are shown with a following imperfective suffix *-dó* ‘IPFV’. All *classifier roots* are shown with a following numeral root *pí-* ‘four’. All disyllabic words with a heavy final syllable are shown with a following ‘new information’ article *ke*. This is to aid in exemplifying the tone of the form in question, as described in §5. Pronunciation of suffixes is not exemplified, for reasons discussed in §5. Finally, note that in example sentences, tones are sometimes marked, and sometimes not; this reflects our rudimentary understanding of Apatani tone at the phrasal level. We have only included tones in examples when we felt relatively confident that our representation would ultimately be tenable. Wherever we remain uncertain (usually, in larger phrases), we have omitted tones altogether.

a

- áa** *pder.* **1** • inward; of an action, directed into a space, esp. toward a deictic centre.
2 • forward; of motion, directed forward, or along a forward-facing trajectory. **lyðáa** ‘jump in (to a pool)’; **gíá** ‘fall forward’.
- ʔáa-** [ʔáadó] *v.* come.
- ʔáakú** [ʔáakú] *n:kin.* maternal uncle (term of address).
- ʔáací** [ʔáací] *n:kin.* brother’s wife (term of address).
- ʔàatáa** [ʔàatáa (kè)] *n:kin.* **1** • aunt, whether paternal or maternal (term of address). **2** • woman elder than oneself, whether or not related by blood (term of address).
- ʔáatè** [ʔáatè] *n:kin.* elder male relation on one’s father’s side, including elder paternal uncles and their sons (if elder to ego). Term of address.
- ʔáatò** [ʔáatò] *n:kin.* grandfather (term of address).
- ʔáanè** [ʔáanè] *n:kin.* mother (term of address).
- ʔáabá** [ʔáabá] *n:kin.* father (term of address).
- ʔáamì** [ʔáamì] *n.* cat.
- ʔáayò** [ʔáayò] *n:kin.* grandmother (term of address).
- ʔáaridà** [ʔáaridà] *adv.* in the future.
- ʔáú** [ʔáú] *n.* body.
- ʔáúu** [ʔáúu (kè)] *n.* son-in-law (term of address).
- ʔáíʔ** [ʔáíʔ (kè)] *v.* leave something behind; forget to bring something along with oneself.
- ʔákáñ** [ʔáká (kè)] *n:rel.* bottom (shelf, e.g.).
- ʔákáñ nácú** [ʔákáñ nácú] *n.* lower lip.
- ʔákì** [ʔákì] *n.* dog. **ʔákì kè** ‘a dog’.
- ʔákó** [ʔákó] *num.* one. *Usage:* Distribution is irregular. Has independent sense ‘only one; but one’; compositionally, forms **níʔxá elá ako** ‘twenty-one’.
- ʔákò** [ʔákò] *adj.* short; low. *n:rel.* lower (side), as of a village.
- ʔágúñ** [ʔágú (kè)] *n.* **1** • mouth. **2** • speech; language. **tani ʔagú** ‘Apatani language’.
- ʔágéʔ** [ʔágéʔ (kè)] *n.* arrow quiver.
- ʔágó** [ʔágó] *n:rel.* outside, as of a house
- ʔágór** [ʔágór (kè)] *n.* field border.
- ʔáci** [ʔáci] *n.* pain; illness. *adj.* sick; in pain.
- ʔácò** [ʔácò] *pcl.* to my surprise. Particle marking speaker-oriented information as a spontaneous reaction of surprise on the speaker’s part. May have an assertive or contrastive value in non-speaker-oriented statements. **no aco!** ‘Oh, it’s you!’ **poosa jímá àcò!** ‘I don’t have any money (with me, upon reaching into my pocket and discovering it)!’ **mooki póosa doo aco!** ‘(No), he *has* money (it isn’t the case that he doesn’t)!’ **moo Amerikan aco!** ‘But he’s American (why is he acting as though he’s Australian?!)’
- ʔájí** [ʔájí] *n.* wet field.
- ʔájí ñíí** [ʔájí ñíí] *n.* var. of fish raised in paddy fields.
- ʔájíñ** [ʔájí (kè)] *n.* friend. *v.* befriend.
- ʔájúʔ** [ʔájúʔ (kè)] *adj.* weak, of a person.
- ʔàpáñ** [ʔàpá (kè)] *n.* year.
- ʔáñì** [ʔáñì] *num.* two.
- ʔàpáñ** [ʔàpá (kè)] *n.* **1** • breast. **2** • milk.
- ʔápnó** [ʔápnó] *v.* be subject to a behavioural restriction due to a taboo.
- ʔátáʔ** [ʔátáʔ (kè)] *n.* stinger, on a bee.
- ʔátíñ** [ʔátí (kè)] *v.* block; block the motion or progress of an entity.
- ʔátíñ** [ʔátí (kè)] *Var:* **ʔartíñ** (r-variation). *n.* scrotum.
- ʔátíñ bìlíñ** [ʔátíñ bìlí (kè)] *Var:* **ʔartíñ bìlíñ** (r-variation). *n.* testicles.
- ʔátú** [ʔátú] *n.* vagina.
- ʔátúu** [ʔátúu (kè)] *n.* baby animal. *adj.* small.
- ʔátè** [ʔátè] *adj.* thick, of a liquid.
- ʔátò** [ʔátò] *n.* **1** • grandfather. **2** • father-in-law.
- ʔádíñ** [ʔádí (kè)] *n.* head.
- ʔádú** [ʔádú] *n.* sound; noise.

- ʔánú** [ʔánú] *n.* younger brother.
- ʔánì** [ʔánì] *n.* mother (term of reference)
- ʔáníʔ** [ʔáníʔ (kè)] *Var:* ʔarníʔ (r-variation) *v.* swallow something, as food or drink.
- ʔápá** [ʔápá] *adj.* dear; sweet; pure; simple. ʔápá **catuŋ** ‘dear old Chatung’.
- ʔápán kèemán** [ʔápán (kè) kèemán (kè)] *n.* male dragonfly.
- ʔápi** [ʔápi] *v.* lay something out in the sun to dry.
- ʔápi ʔálá** [ʔápi ʔálá] *n.* 1 • nectar. 2 • resin or sap of a tree other than pine.
- ʔápín** [ʔápí (kè)] *n.* cooked rice.
- ʔápú** [ʔápú] *n.* arrow.
- ʔápù** [ʔápù] *n.* hive; beehive; ants’ nest.
- ʔápù-ʔálù** *v.* wrap something in a package.
- ʔápúu** [ʔápúu (kè)] *n.* flower.
- ʔápúʔ ʔámé** [ʔápúʔ ʔámé] *n.* dandruff.
- ʔápór** *Var:* ʔarpáo ‘r-variation’. [ʔápór (kè)] *n.* gall bladder.
- ʔápyáa** [ʔápyáa (kè)] *n.* tracks made by a relatively small animal.
- ʔábá** [ʔábá] *n.* 1 • father (term of reference). 2 • man, of the expected age of a father.
- ʔábán** [ʔábá (kè)] *n.* elder brother.
- ʔábí** [ʔábí] *n.* lower garment, whether skirt or pants.
- ʔábù** [ʔábù] *adj.* many; be many.
- ʔábyú** [ʔábyú] *v.* move.
- ʔábyú ʔaxéʔ** [ʔábyú ʔaxéʔ (kè)] *v.* move.
- ʔámí** [ʔámí] *n.* elder sister (term of reference).
- ʔámì** [ʔámì] *n.* tail.
- ʔámín** [ʔámí (kè)] *Var:* ʔarmín ‘r-variation’. *adj.* ripe, of a fruit.
- ʔámíʔ** [ʔámíʔ (kè)] *n.* eye.
- ʔámú** [ʔámú] *n.* body hair.
- ʔámú** [ʔámú] *v.* lie; tell a lie.
- ʔámì** [ʔámì] *n.* daughter-in-law (term of address).
- ʔámyáʔ** [ʔámyáʔ (kè)] *n.* penis.
- ʔáyáa** [ʔáyáa (kè)] *adj.* good.
- ʔáyáa!** *int.* ouch! oh no!
- ʔáyáʔ** [ʔáyáʔ (kè)] *n.* flesh; muscle; meat, lacking any bone, far or sinew.
- ʔáyú** [ʔáyú] *n.* a long time; quite some time.
- ʔáyú mápà** [ʔáyú mápà] *adv.* in a moment; after awhile.
- ʔáyú hò** [ʔáyú hò] *adv.* a long time back; quite some time ago.
- ʔáyò** [ʔáyò] *n.* 1 • grandmother. 2 • mother-in-law.
- ʔáyò** [ʔáyò] *n.* night.
- ʔáyóo** [ʔáyóo (kè)] *n. rel.* upper (side), as of a village.
- ʔáyóo jácú** [ʔáyóo jácú] *n.* upper lip.
- ʔáyóo tápé** [ʔáyóo tápé] *n.* pumpkin.
- ʔaráa** [ʔaráa (kè)] *adj.* empty, as a container.
- ʔarín** [ʔarí (kè)] *adj.* brittle; easily broken.
- ʔarúʔ** [ʔarúʔ (kè)] *n.* husk; outer skin of something relatively large, like bean or corn (not rice).
- ʔaréʔ** [ʔaréʔ (kè)] *adj.* sharp, of a blade.
- ʔáró** [ʔáró] *adj.* poor; not wealthy.
- ʔá rò** [ʔá rò] *n.* vein; nerve; sinew.
- ʔárdà** *Var:* ʔaadà ‘r-variation’. [ʔárdà] *n.* tomorrow.
- ʔárpì** *Var:* ʔápi ‘r-variation’. [ʔárpì] *n.* bamboo crossbeam on a fence.
- ʔáláa** [ʔáláa (kè)] *n.* 1 • juice; broth. 2 • variety of rice beer, obtained by directly steeping warm water in fermented grains.
- ʔáláʔ** [ʔáláʔ (kè)] *n.* arm, including hand.
- ʔálí** [ʔálí] *n.* lineage; generational line of descent, for humans, animals and plants (any regenerating entity).
- ʔá lì** [ʔá lì] *n.* foot; leg, including the foot.
- ʔálí lémbó** [ʔálí lémbó] *n.* paved road; constructed road. *From:* Assamese.
- ʔálúñ** [ʔálúñ (kè)] *adj.* be surprised; feel shocked.

- ʔáléʔ** [ʔaléʔ (kê)] *n.* wing.
- ʔálor** [ʔálor (kê)] *n.* salt.
- ʔálor** [ʔálor (kê)] *v.* dry something by laying it out in the sun.
- ʔálor** [ʔálor (kê)] *n.* bamboo flooring support.
- ʔálor** [ʔálor (kê)] *n.* bone.
- ʔálor** [ʔálor (kê)] *adj.* strong, of a material.
- ʔálor** [ʔálor (kê)] *n.* foreleg; front leg of an animal.
- ʔálor** [ʔálor (kê)] *v.* insert; put.
- ʔálor** [ʔálor (kê)] *num.* ten.
- ʔálor pilyí** [ʔálor pilyí] *num.* forty.
- ʔálor yálor** [ʔálor yálor] *num.* fifty.
- ʔálor xí** [ʔálor xí] *num.* sixty.
- ʔálor** [ʔálor] *n.* bow (for shooting arrows).
- ʔálor** [ʔálor] *n.* wind.
- ʔálor ʔáror** [ʔálor ʔáror (kê)] *n.* storm.
- ʔálor** [ʔálor (kê)] *n.* evening.
- ʔálor** [ʔálor (kê)] *n.* pancreas.
- ʔálor** [ʔálor (kê)] *n.* pig.
- ʔálor** [ʔálor] *v.* lose something; be unable to find something one has misplaced.
- ʔálor** [ʔálor (kê)] *n.* door.
- ʔálor** [ʔálor] *n.* tongue.
- ʔálor** [ʔálor] *n.* 1 • skin of an animal. 2 • bark of a tree.
- ʔálor gónsò** [ʔálor gónsò] *Var:* ʔálor kónsò (Michi-Bamin). *n.* grasshopper.
- ʔálor** [ʔálor (kê)] *v.* give someone a drink; feed a drink, especially to a child or animal.
- ʔálor** [ʔálor (kê)] *n.* bird's nest.
- ʔálor** [ʔálor (kê)] *n.* sneeze.
- ʔálor** [ʔálor (kê)] *v.* bite.
- ʔálor** [ʔálor (kê)] *n.* elderly person. ʔálor ʔálor old man. *adj.* elder. **niká axaa jaa inaa** 'my eldest son'.
- ʔálor** [ʔálor (kê)] *v.* regurgitate, as a baby spitting up milk.
- ʔálor** [ʔálor (kê)] *n.* kidney.
- ʔálor** [ʔálor] *n.* guts.
- ʔálor** [ʔálor] *n.* comb.
- ʔálor ʔere** *n.* internal organs, in general.
- ʔálor pátá** *n.* rib; ribs; ribcage.
- ʔálor** [ʔálor (kê)] *n.* strap of a machete sheath.
- ʔálor** [ʔálor (kê)] *n.* heart.
- ʔálor ʔártá** [ʔálor ʔártá (kê)] *n.* sternum; breastbone.
- ʔálor** [ʔálor (kê)] *v.* hang something up, as a dao on a wall.
- ʔálor** [ʔálor] *n.* fruit, whether berry or apple-sized.
- ʔálor** [ʔálor (kê)] *n.* blood.
- ʔálor** [ʔálor (kê)] *n.* tooth, in general.
- ʔálor** [ʔálor (kê)] *n.* belt.
- ʔálor gígyáa** [ʔálor gígyáa (kê)] *n.* waist.

i

- i** *ader.* downward; of an action, be directed downward. **gá** 'fall down; overturn'.
- ʔikóo** [ʔikóo (kê)] *n.* under side; space underneath an object.
- ʔinín** [ʔinín (kê)] *n.* var. of taro, not usually cultivated by Apatani but sometimes imported from Nyishi areas.
- ʔinè** [ʔinè] *n.* var. of taro, cultivated by Apatani.
- ʔicáñ** [ʔicáñ (kê)] *n.* dysentery.
- ʔipá** [ʔipá (kê)] *n.* excrement. *v.* excrete.
- ʔipó** [ʔipó (kê)] *n.* yeast; fermentation starter for rice beer.
- ʔimí** [ʔimí] *v.* sleep.

ʔilyóʔ [ʔilyóʔ (kè)] *n.* machete; dao.

ʔĩñ- [ʔíndó] *v.* go.

ʔĩnkà ʔáɲì [ʔĩnkà ʔáɲì] *dem.* those two, very distant from both speaker and addressee.

ʔĩntôo dákà ʔáɲì *dem.* those two, extremely distant from both speaker and addressee.

ʔĩntôosi [ʔíntôosi] *dem.* that, very distant from both speaker and addressee.

ʔĩnpýá ʔĩnsáa [ʔímpýá (kè) ʔĩsáa (kè)] *v.* scatter; move in different directions.

ʔĩnsì [ʔísi] *dem.* that, distant from both speaker and addressee.

u

ʔúi [ʔúi] *n.* spirit.

ʔúuné [ʔúuné] *n.* wound.

ʔùubúu [ʔùubúu (kè)] *n.* hole.

ʔùuráa [ʔùuráa (kè)] *n.rel.* inside, as of a house.

ʔúkoo sìnbyáa [ʔúkoo símbyaa] *n.* rear balcony.

ʔúgù [ʔúgù] *n.* fireplace.

ʔúdé [ʔúdé] *n.* house.

ʔùmyúu [ʔùmyúu (kè)] *adj.* pointed, of a tip; sharp, of a point.

e

-é *pder.* of an item, be sufficient for the action at hand. **dóé** ‘enough to eat’.

ʔèréʔ [ʔèréʔ (kè)] *n.* belly; stomach.

ʔéñdì [ʔéñdì] *n.* rice seedling; seedling of a rice plant.

ʔèñpyáʔ [ʔèñpyáʔ (kè)] *n.* cotton; wool; any natural fibre.

ʔèñbíñ [ʔèñbíñ (kè)] *n.* husked rice.

ʔéñmò [ʔémò] *n.* paddy; rice, as a plant.

ʔèñsúʔ [ʔèñsúʔ (kè)] *v.* fail, esp. of rice plant failing to fruit.

ʔèñxóo [ʔèñxóo (kè)] *n.* rice stalk; portion of a stalk of rice left in the field after the top portion is harvested.

ʔéʔ- [ʔéʔdó] *v.* shoot.

ʔéʔpè [ʔéʔpè] *n.* pumpkin. *Usage:* Michi-Baamin

o

ʔóo [ʔóo] *n.* liquor. **ʔóo tándó** ‘(I’m) drinking liquor’.

ʔóhó [ʔóó] *v.* feed food, esp. to a child.

ʔóhò [ʔóò] *n.* 1 • son. 2 • child.

ʔóhò ʔásíʔ [ʔóò ʔásiʔ] *n.* grandchild.

ʔòhóo [ʔòhóo (kè)] *adj.* tall.

ə

ʔəə [ʔəə] *int.* yes.

i

-i *pinfl.* Inflectional predicate suffix with unknown properties, poss. to do with past or perfectivity.

Tage sika book mi ñimi bi. ‘Tage gave this book to me.’

ᵀᵀᵀᵀᵀᵀ [ᵀᵀᵀᵀᵀᵀ (kè)] *n.* child.

ᵀᵀᵀᵀᵀᵀ [ᵀᵀᵀᵀᵀᵀ] *n.* deadfall trap; stone slab trap for catching small animals.

ᵀᵀᵀᵀᵀᵀ [ᵀᵀᵀᵀᵀᵀ (kè)] *adj.* spicy hot, of a chili pepper.

ᵀᵀᵀᵀᵀᵀ [ᵀᵀᵀᵀᵀᵀ (kè)] *v.* sweep, as with a broom.

ᵀᵀᵀᵀᵀᵀ [ᵀᵀᵀᵀᵀᵀ] *n.* arrow poison.

k

-kà *pros.* Genitive pronominal suffix. **si ñika** ᵀᵀᵀᵀᵀᵀ. ‘This is my eye.’

-kaa *pder.* ever; have ever. Aktionsart derivation (?) marking an event as one of which at least one full iteration has occurred. **Pasighat ñᵀᵀᵀᵀᵀᵀ to ha?** ‘Have you (ever) been to Pasighat?’

káa- [káádó] *Var:* **ká-** (precedes certain suffixes, such as *-paa* ‘ATTN’. *v.* look.

-káa *pder.* ...and see (Tentative aktionsart).

hèᵀᵀᵀᵀᵀᵀ ‘feel around to find something’.

káapyò [káapyò] *adj.* good-looking.

káarú [káarú] *adj.* ugly.

kàè [kàè] *adj.* big; large.

kánú [kánú] *num.* seven.

kánúdá [kánúdá] *n.* five days hence; in five days.

kàpáa [kàpáa (kè)] *v.* see; manage to see; find.

kàpáa kéndò. ‘I can see.’

kàpyóo [kàpyóo (kè)] *adj.* first.

kámó [kámó] *adj.* dark; lacking light.

kár- [kárdó] *v.* emerge, of the moon.

kàr- [kárdò] *v.* roll something up, as a mat.

kàlyáa [kàlyáa (kè)] *v.* wait for someone or something.

kà?- [ká?dò] *v.* coagulate; harden, of liquid; freeze; solidify.

ká?a [ká?a] *pcl.* to my surprise; Particle marking information as a spontaneous reaction of surprise on the speaker’s part. **poosa ñimá ká?a!** ‘I don’t have any money (with me, upon reaching into my pocket and discovering it)!’

kíinì [kíinì] *n.* female dog; bitch.

kíibò [kíibò] *n.* male dog.

kíirú? [kíirú? (kè)] *n.* hunting party, with or without dogs.

-kiñ *pder.* need to. **íkíidò.** ‘(I) need to go.’

-ki? *pder.* of an action, result in an undergoer becoming bent. **tàrkí?** ‘bend something without breaking it, while making as though to break’. **dàñkí?** ‘bend something by hitting it with a stick or hammer’.

kú *pcl.* Completive suffix or particle, marking an event as a finality or transition point. **íᵀᵀᵀᵀᵀᵀ kú!** ‘Be gone!’

kúu- [kúupí] *clfr.* Classifier for a unit of measurement, being the distance from the tip of an outstretched arm and the sternum.

kútù [kútù] *n.* pig fat; oil of any kind, including liquid mustard oil and oil derived from animal fats.

kùbúu [kùbúu (kè)] *n.* rodent; rat or mouse.

kùrmúu [kùrmúu (kè)] *n.* var. of large grasshopper. *Var:* **kòrmúu** (Michi-Baamin).

kúñ- *numr.* one. **dòrkúñ kè** ‘one body (of animal)’.

ke [ke] *art. a;* article marking new information.

- kée-** [kéédó] *v.* write.
- kée-** [kéédó] *v.* pole vault; jump with the assistance of a pole.
- kée-** [kéédó] *v.* rub, as tobacco in the hand.
- kèè** [kèè] *pcl.* particle expressing politeness, possibly with a hortative value in some uses. **ḡó pácíkè.** ‘(Don’t worry,) I’ll cut it for you.’ **níkà páró so? dà? kèè.** ‘Your chicken is here (standing).’
- kéñté** [kénté] *n.* quilt, made of several pieces of sewn-together fabric, used as a blanket.
- ké?kùrù** *n.* bulbul; nightingale.
- kò** *pder:nzr.* Locative nominalizer.
- kòáá** [kòáá (kè)] *num.* nine.
- kóo-** [kóódó] *v.* 1 • pry; manipulate a lever. 2 • dig or dig out using a lever.
- kóo-** [kóódó] *v.* move the hips, as when closing a door with the hands full or when bumping against someone.
- kòotá?** [kòotá? (kè)] *n.* buttocks. *Usage:* Hari
- kòopyáá** [kòopyáá (kè)] *n.* lower back.
- kòobyáñ** [kòobyá (kè)] *n.* bracelet; bangle.
- kòoyúu** [kòoyúu (kè)] *n.* anus.
- kòcí?** [kòcí? (kè)] *adj.* bitter.
- kòránñ** [kòrán (kè)] *n.* year before last; two years ago.
- kòránñ jáné** [kòráná jáné] *n.* three years ago.
- kóné tàrḡḡ** [kóné tàrḡḡ] *pro.ind.* anyone. **ḡo kóné tàrḡḡ kapa ma.** ‘I didn’t see anyone.’
- kóné-kóné** [kóné-kóné] *adv.* (?) one by one.
- kórmò** [kórmò] *n.* seed.
- kólò** [kólò] *n.* the other day; the day before yesterday.
- kólò lóé** *n.* three days ago.
- kòhá?** [kòhá? (kè)] *n.* cricket.
- kóñ** [kóñ] *Var:* **kóñ** (counting form); **kúñ-** (numeral combining form); **kón-** (followed by enclitic article =he). *num.* one. **kone.** ‘It’s one.’ **laḡkuḡ** ‘one hundred’.
- kóñkòràñ** [kóñkòràñ] *n.* four years ago.
- kóñkòlò** [kóñkòlò] *n.* four days ago.
- kó?-** [kó?dó] *v.* 1 • pry something open using a wedge or lever. 2 • divine an omen by examining a chicken liver.
- kó?** *pder.* of an action, result in something being opened. **nàḡkó?** ‘push open (a door)’.
- kḡḡ** [kḡḡ] *int.* okay.
- kí-** [kídó] *v.* punch, by striking forward with a fist.
- kìcí?** [kìcí? (kè)] *n.* hiccup.
- kídí** [kídí] *n.* soil.
- kìpá?** [kìpá? (kè)] *n.* banana.
- kìráñ** [kìrá (kè)] *adj.* hardworking. *adv.* often; frequently. **moo Ziro kìrá caada?** ‘He often goes up to Ziro (these days).’
- kílé** [kílé] *n.* river.

g

- gá?-** [gá?dó] *v.* grasp.
- gá?bí** [gá?bí] *v.* hold onto something, as someone’s hand, a stick, or a knife.
- gù-** [gúdò] *v.* crawl, as a baby or caterpillar.
- gúí** [gúí] *v.* turn or turn oneself over, when in a lying position.
- gùbú?** [gùbú? (kè)] *adj.* hot; warm (of feeling, or to touch).
- gùrí?** [gùrí? (kè)] *v.* get up.
- gúli** [gúli] *n.* bullet.
- gú?pí** [gú?pí] *v.* lie face down.
- gói tábú** [gói tábú] *n.* monitor lizard.
- góo-** [góódó] *v.* fly, of a bird or dragonfly with flapping wings, or an airplane.

gòoráa [gòoráa (kè)] *n.* village-level council, for resolving minor disputes.

gòoráa [gòoráa (kè)] *n.* horse. *From:* Assamese.

gòrbáñ [gòrbá (kè)] *n.* shoulder.

gòrxáñ [gòrxá (kè)] *n.* armpit; underarm.

gòlúu [gòlúu (kè)] *n.* liar. *v.* lie; tell a lie.

gón- [gónpí] *clfr.* Classifier for handfuls.

gòñkó? [gòñkó? (tò)] *v.* open the mouth.

gónçi [gónçi] *Var:* **kónçi** (Michi-Bamin). *n.* dragonfly.

gòñpíñ [gòmpí (tò)] *v.* close the mouth.

gónpì [gónpì] *n.* chin.

gòñpyáñ [gòmpyá (tò)] *v.* close the mouth.

gónmú [gómú] *n.* facial hair, including beard and moustache.

gó?- [gó?pí] *clfr.* Classifier for a handspan, being the distance from an outstretched thumb to an opposing outstretched forefinger *or* middle finger.

gó?- [gó?dó] *v.* measure, as the length of something or distance between two things.

gí- [gídó] *v.* 1 • wear clothing.

2 • of a tree, bear or have fruits.

3 • carry a child; be pregnant.

4 • be disposed in a particular way. *Usage:* should be followed by a result derivation indicating the disposition; somehow, seems associated with falling and may in fact be a distinct form with this meaning.

gíá [gíá] *v.* lie down; move to a lying-down position.

gñ [gñ] *v.* fall down; overturn.

gii- [gíidò] *Var:* **gii-** (cond. unkn.). *v.* collar; pull something from the side, as to turn it around to face you.

gìdáa pàtáa *n.* var. of large, densely-woven basket.

gìyáñ [gìyá (kè)] *Var:* **gìyáñ** (poss. subdial.) *n.* mustard, construed as a leafy vegetable.

gìrìí [gìrìí (kè)] *n.* spring action noose trap, for catching small animals such as rodents.

gì?- [gì?dó] *v.* lie down.

gyáa- [gyáadó] *v.* flick, as the fingers of the hand to rid them of water.

gyá?- [gyá?dó] *v.* roam around; go uselessly here and there, especially of young men prone to getting themselves in trouble.

gyúu- [gyúudó] *v.* 1 • shout. 2 • bellow, of a cow, mithun, elephant or pig.

gyúu gyúrò [gyúu gyúrò] *n.* throat.

gyó?- [gyó?dó] *v.* call (out); call someone something (as a name).

ŋ

ŋár- [ŋárdó] *v.* laugh; smile.

ŋá?- [ŋá?dó] *v.* tie something, as shoes; make a knot.

ŋúnú [ŋúnú] *pro.* we; First person plural pronoun.

-ŋé *pinfl.* Imperative suffix.

ŋó- [-ŋó] *numr.* five (combining form). **síí dorŋó** ‘five cows’.

ŋóo [ŋóo] *Var:* **ŋóo** (isolation form, independent phonological word); **ŋí-** (form combining with case and dual suffixes); **ŋú-** (form combining with plural suffix). *pro.* First person singular pronoun.

ŋóo- [ŋóodó] *v.* get lost; become lost; lose the way.

ŋòoyáa *pro.ind.* anywhere. **ŋo ŋooyaa íma.** ‘I didn’t go anywhere.’

ŋíí [ŋíí] *n.* fish.

ŋíkà [ŋíkà] *pro.* my; First person singular genitive pronoun.

ŋíkì [ŋíkì] *pro.cop.* mine; First singular genitive pronoun incorporating a copula function. **síí kitàp ŋíkì** ‘This book is mine.’

ŋíjì [ŋíjì] *pro.* we two; the two of us; First person dual pronoun.

ŋípà [ŋípà] *pro.* to me; First person singular dative pronoun.

ŋímì [ŋímì] *pro.* me; First person singular accusative pronoun..

ŋìráa [ŋìráa (kè)] *n. var.* of fish.

ŋìlyáñ [ŋìlyá (kè)] *n. var.* of fish.

C

càa- [cáadò] *v.* ascend; go up; rise, of the sun; sprout or grow, of a plant.

-càa *pder.* upward; of an action, be directed or transferred to an upward location, or a movement upward in order to perform.

cár- [cárdó] *v.* boil water.

cáñ- [cámpí] *clfr.* Classifier for pots. **cáñé** ‘one pot’.

càñcáñ [càncá (kê)] *adj.* cold, to the touch.

càñcúu [càncúu (kê)] *n.* cooking tripod.

cì- [cídò] *v.* bite or bite into something, as meat.

-cì *pinfl.* Intentional suffix. Marks an action intended by an actor, thus prototypically found in statements with a first person subject or second person interrogatives. Not normally found with third person subjects. **ŋó ìncì** ‘I’m going to go (statement of intention).’

-cì *pder.* reach; of an action, result in reaching a goal. **hárcì** ‘reach (a destination, when running or driving)’.

cíi- [cídó] *v.* swim, of a fish.

cíʔ- [cíʔdó] *v.* hurl or throw a spear or spear-like object.

cúuŋí [cúuŋí] *n.* beetle.

cúunì [cúunì] *n.* sambar doe.

cúupò [cúupò] *n.* sambar buck.

-cé *pder.* cracked result. **pácè** ‘crack by cutting’. **dóocé** ‘crack of itself, of an item in a lying position (due to the effect of gravity only)’. **sárcé** ‘rip in two’.

céʔsú *v.* argue over a topic; disagree about something and argue over it.

còo- [códò] *v.* bounce, of a ball or kangaroo; hop on one foot, of a human.

cór- [córdó] *v.* spray. spray; cause to spray.

J

jáa *pos.* -nth; Sequential ordinal postposition, possibly with other attributive functions. **ŋika axa ja oho** ‘my eldest son’. **ŋika ìña kae ja** ‘my eldest (biggest) child’.

jàa- [jáadò] *v.* 1 • soar; fly without flapping the wings, as a circling hawk.

2 • sway, as a drunken person.

3 • toss or throw a discus sidearm, such that it flies through the air; cause an object to soar by throwing.

járé [járé] *num.* one thousand. *From:* Assamese.

jáñtú [jáñtú] *adj.* fat.

jí- [jídó] *v.* roll something round or spherical, such as a ball or a wheel.

ji [ji] *adj.* black.

jíjǐ [jǐjǐ] *adj.* blue; blue-green; aqua.

jǐǐrò *n. var.* of shawl.

jǐjé [jǐjé] *adj.* true (not false).

jǐhǐñ [jǐ (kè)] *n.* rag.

jǐñ- [jǐndó] *v.* bind; tie to bind, as fencing.

jǐʔ- [jǐʔdó] *v.* melt, as ice in sun or plastic in fire.

jùujáa [jùujáa (kê)] *adj.* wet.

jè?bí? [jè?bí? (kê)] *n.* mud; swampy area.

ǰòǰǰrù *n.* var. of plant, a fruiting creeper.

ǰòomí? [ǰòomí? (kê)] *n.* cloud.

j

ǰà- *Var:* **ǰàr-** 'r-variation'. [ǰádò] *v.* whittle.

ǰàíí [ǰàíí (kê)] *n.* daughter-in-law (term of reference).

ǰácú [ǰácú] *n.* lip; lips, whether upper or lower.

ǰábè [ǰábè] *v.* frown; scowl.

ǰáñ- [ǰámpí] *clfr.* Classifier for years.

ǰàñ [ǰà] *pcl.* actually; Counterexpectational particle, marking information as contrary to a standing assumption. **moó American ǰà.** '(No,) he's actually American (he's not Australian as you supposed).' **móo ǰímá ǰà.** 'He's actually not here (correcting your mistaken assumption that he was).'

ǰàñ- [ǰándò] *v.* move the head; move with the head leading, without regard to overall body motion (which may or may not be present).

ǰàñpóo tàsín *n.* var. of fish.

ǰà?ǰó? [ǰà?ǰó? (kê)] *adj.* slow.

ǰá?tù [ǰá?tù] *n.* knife.

ǰí *cop.* Existential copula 'there is/have'. Marked distribution, occurring in declarative sentences in negative polarity (at a minimum). Must be followed by negator *-ma*, possibly preceded by additional modifying material. **ǰíkí póosá ǰímá.** 'I don't have any money.'

ǰì- *numr.* two (combining form). **papu ǰupí** 'two eggs'. **²alyā le? ǰì** 'twelve'.

n:qual. both; the two of them; Post-head dual marker. **Tage ǰí Catuu ǰí Ziro caane.** 'Tage and Catuñ both went up to Ziro.'

ǰíbù [ǰíbù] *n.* shaman; priest; ritual specialist.

ǰíbo [ǰíbo] *n.* guest.

ǰìbyáa [ǰìbyáa (kê)] *adj.* fast; quick.

ǰìmá? [ǰìmá? (kê)] *n.* 1 • war. 2 • enemy.

ǰìmúñ [ǰìmú (kê)] *n.* young woman.

ǰímé [ǰímé] *n.* Tibetan.

ǰímé yárù [ǰímé yárù] *n.* rainbow.

ǰímì [ǰímì] *n.* woman.

ǰìñpór *Var:* **ǰìnpó** (r-variation) [ǰìmpór (kê)] *n.* nipple.

ǰí?mó [ǰí?mó] *n.* face.

ǰì?xáñ [ǰì?xá (kê)] *num.* twenty.

ǰù?- [ǰú?dò] *v.* wipe, as with a cloth or with the hands.

ǰéñ- [ǰéndó] *v.* chew.

t

tà- [tádò] *v.* 1 • listen. 2 • obey.

-tà *pder.* about to; of an action, be incipient.

ínci tályi 'about to reach'.

táa- [táadó] *v.* 1 • paw; move the hands in a rapid pawing motion, as when digging away soil. 2 • dig by pawing or shovelling away ground using the hands. 3 • swim.

tàapí? ǰìláa [tàapí? (kê) ǰìláa (kê)] *n.* owl.

tàaróo [tàaróo (kê)] *n.* var. of fig tree.

táaxè [táaxè] *v.* lie on one's back.

táíñ [táí (kê)] *n.* mushroom.

táí? sítíñ [táí? (kê) sítí (kê)] *n.* convulsions; epilepsy.

tákáa [tákáa (kê)] *v.* ask a question.

tákí [tákí] *n.* ginger.

tákúñ [tákú (kê)] *n.* peach.

tákú? [tákú? (kê)] *n.* cucumber.

- tàkóo lánró** [təkóo láró] *n.* hard stone, solid throughout and difficult to break or reduce (marble or similar).
- tàkóʔ** [təkóʔ (kè)] *n.* filth; body dirt.
- tàkór** [təkór (kè)] *n.* star.
- tàkór** [təkór (kè)] *Var:* **tàk** (r-variation)
cùkó(r) (Michi-Bamin). *n.* spit.
- tàgíñ** [təgí (kè)] *n.* Tagin people.
- tàgyáa** [təgyáa (kè)] *n.* var. of bee, larger than *táyú*.
- tánjú** [tánjú] *n.* var. of honey-making bee.
- tánjú ʔarúʔ** *n.* honeycomb.
- tánjú ʔaláa** *n.* honey.
- tánjí** *adj.* drunk.
- tàcáñ** [tácá (kè)] *n.* var. of wood-boring insect, attacking hardwood logs rather than bamboo.
- tàcáñ pìiníñ** *n.* tooth decay.
- táci** [táci] *n.* crab, in general.
- tàcíʔ** [tácíʔ (kè)] *n.* var. of small wood-boring insect attacking bamboo.
- tàjúu rìiyáñ** *n.* var. of plant.
- tàníʔ** [táníʔ (kè)] *n.* corn.
- tápè** [tápè] *n.* pus, as from an infected wound.
- tápè póró** [tápè póró] *n.* blister or boil; visible accumulation of pus under the skin.
- tàtíʔ** [tátíʔ (kè)] *n.* frog.
- tàdér** [tádér (kè)] *n.* parasitic worm.
- tàníñ** [tání (kè)] *Var:* **tíníñ** (Michi-Baamin) *n.* var. of plant.
- tánò** [tánò] *n.* thread.
- tánò gógò** [tánò gógò] *n.* snail.
- tánóʔ** [tánóʔ (kè)] *n.* snot.
- tàní** [tání (kè)] *name.* Apatani.
- tàpáa** [tápáa] *v.* hear.
- tàpáñ** [tápá (kè)] *n.* algae; moss.
- tàpíñ** [tápí (kè)] *n.* ice.
- tàpúñ** [tápú (kè)] *n.* bat (flying fox).
- tápé** [tápé] *n.* pumpkin. *Use:* Bulla.
- tàpéʔ** [tápéʔ (kè)] *Var:* **típéʔ** (Michi-Bamin) *n.* leech.
- tàpóʔ** [tápóʔ (kè)] *n.* variety of tall grass, useful in many ways; traditionally used as roofing thatch on Apatani houses, also found in Assam.
- tápyó** [tápyó] *n.* herbal salt; variety of very salty, pungent preparation of many herbs, formed into a blackish paste, packed in a wheel-like wrapper.
- tábú** [tábú] *n.* snake.
- tábú ñí** [tábú ñí] *n.* eel.
- tàbúñ** [tábú (kè)] *n.* smallpox.
- támì** [támì] *n.* weed.
- tàmíʔ** [támíʔ (kè)] *n.* fly.
- tàyáñ** [tàyáñ (kè)] *n.* wasp.
- táyú** [táyú] *n.* var. of honeybee.
- tár-** [tárdó] *v.* put something under tension as to break it; properly refers to the action only (not the breaking result), but may prototypically indicate an instance of breaking and may be colloquially used to imply the result. **tártúu** ‘break in two’.
- táři** [táři] *n.* hail; hailstones.
- tàríñ** [táři (kè)] *n.* woven cane ring, such as used for a kneelet, or the cane mesh binding a quiver to a carrying strap.
- tàríʔ** [tářiʔ (kè)] *n.* body odor; armpit smell.
- tàríʔ** [tářiʔ (kè)] *n.* fern, in general.
- tàrúu** [tárúu (kè)] *n.* mosquito.
- tàrúʔ** [tárúʔ (kè)] *n.* ant, in general.
- tàrè** [tárè] *n.* thorn; splinter (under the skin).
- tárá** [tər] *Var:* **tər** (optionally reduced form following 1st and 2nd person singular pronouns). *n:qual.* also. **nunu tarə** ‘you guys also’. **ñootər** ‘I also’.
- tàrí** [táři (kè)] *n.* shirt; top.
- tárkò** [tárkò] *n.* var. of plant, used as an antiseptic after cutting a newborn baby’s umbilical cord.
- tárpì** [tárpì] *n.* var. of cane.
- tálò** [tálò] *n.* var. of brass heirloom plate.
- tàsáñ** [tásá (kè)] *n.* bead(s), in general.

- tási** [tási] *Var: társi* (r-variation). *n.* wall (of a house).
- tàsĩn** [tàsĩ (kè)] *n.* larval dragonfly.
- tásù tásè** [tásù tásè] *adj.* noisy.
- tásé** [tásé] *n.* sago palm.
- tàsór** [tàsór (kè)] *Var: tísór* (Michi-Bamin). *n.* var. of cane.
- tàsĩ?** [tàsĩ? (kè)] *n.* wart.
- tàxúñ** [tàxúñ (kè)] *n.* countercurrent fish trap, made of a conical bamboo frame with rearward-facing barbs, placed against the current of a river; fish can easily enter, but cannot escape.
- táxé** [táxé] *Var: tíxé* (Michi-Bamin). *n.* body louse.
- táxí** [táxí] *n.* squirrel.
- tàxĩ?** [tàxĩ? (kè)] *n.* 1 • flea. 2 • head louse.
- tàháñ sì?** [tàá sì?] *n.* mongoose.
- táñ-** [tándó] *v.* imbibe; drink; smoke. **tánâñ dò** ‘want to drink’.
- táñ-** [támpí] *clfr.* group of individuals, as people; flock of birds.
- tá?-** [tá?pí] *clfr.* Classifier for sheets, or similarly flat, sheet-like things. **tá?pí** ‘four sheets’.
- tà?-** [tá?dò] *v.* chop as to split something, such as a log lengthwise into firewood.
- tá?cé** [tá?cé] *n.* crack in a surface.
v. split by cracking..
- tá?tì** [tá?tì] *n.* cockroach.
- tà?múu** [tà?múu (kè)] *n.* betel; areca nut.
- tá?mó** [tá?mó] *adj.* strong, of a person.
- tíi-** [tídó] *v.* pour.
- tĩñ** *pder.* of an action, result in a stoppage or blockage. **gà?tĩñ** ‘stem the flow of something by grabbing’. **dà?tĩñ** ‘stand and block the way of something’. **lùtĩñ** ‘convince someone not to do something’.
- tĩñpì** [tĩmpì] *n.* dried field; field with no water standing in it. *adj.* dry, of a field.
- tí?** [tí?] *adj.* sweet; salty (in a good sense); well-seasoned, of food or drink.
- tú-** [túdó] *v.* kick, whether outward as when kicking a football, or downward as when stomping.
- tù-** [túpì] *clfr.* Classifier for scoops, as of rice.
- tù-** [túdò] *v.* flood, of water.
- tuu** *pder.* derivation indicating that the predicated action results in an experiencer being split in two. **tàrtúu** ‘break something in two’.
- túu-** [túupí] *clfr.* Classifier for forearm spans, being the distance from the tip of the hand to the elbow. **túé, túupì...** ‘one, two (forearm spans)’.
- tùñĩñ** [tùñĩ (kè)] *n.* stump of a felled tree.
- túmú** [túmú] *n.* female pubic hair.
- túr-** [túrdó] *v.* be alive; live (not be dead).
- tùr-** [túrpi] *clfr.* Classifier for cups.
- tùrlá?** [tùrlá? (kè)] *Var: tulará?* (r-variation). *n.* cup; glass.
- tè** *pder.* of an action, perform outside or go out to perform. **sóotè** ‘stroll around; go outside to play’.
- téeró** [téeró] *n.* chili pepper, as a fruit.
- tèháhá?** [tèáhá? (kè)] *n.* var. of millet, not classed together with millet by Apatani as such, but cultivated.
- téñ-** [témpí] *clfr.* Classifier for fingerspans, being the length of one outstretched index finger. **témpé** ‘four (finger spans)’.
- téñ-** [téndó] *v.* touch something, as with the finger.
- té?-** [té?dó] *v.* fall over, of something fixed in a vertical position at the base; prototypically, probably refers to a falling tree.
- té?** *pder.* over; overturn; of an action, result in an object being turned over. **dànté?** ‘knock something over with a stick’.
- té(?)** *pinfl.* Anterior perfective, marking an event whose complete iteration took place at an earlier time than that of the time of speaking. **ŋo Ziro cáatè.** ‘I went to Ziro (and returned).’
- to** *pinfl.* Imperative.
- tó?-** [tó?dó] *v.* descend.
- tì** *pder.* big or inflated. **hénti sını́** ‘boast about oneself.’

t̥ir̥i [t̥ir̥i (kê)] *n.* forehead.

t̥ikà *pcl.* Hortative advisative suffixal or particle complex. **ɪ́é t̥ikà.** ‘You should go.’

t̥ikò [t̥ikò] *n.* rupee, construed as a unit for counting.

-t̥i? *pinfl.* Perfective inflection. **t̥ant̥i?** ‘drank’
moo pabit̥i? ‘He has chopped (the wood) for us.’

t̥i?- [t̥i?dò] *v.* pound; strike something with a downward blow using a voluminous tool, such as a stone or the base of a fist (not a stick or hammer).

t̥i?- [t̥i?dò] *v.* jerk; pull suddenly.

d

dáa- [dáádó] *v.* step; take a step.

clfr. Classifier for paces.

dàacáñ [dàacáñ (kê)] *n.* iron.

dàaré? ré?kè [dàaré? (kè) ré?kè (kè)] *n.* lower fireplace shelf.

dápi [dápí] *n.* sun.

dáru [dárú] *n.* summer.

dàlín [dàlín (kê)] *n.* path made by a hunter.

dàñ- [dándò] *v.* whack something or someone using a rigid stick; beat or hit with a stick.

-da? *pder.* of an action, result in hitting a target.

-da? *pinfl.* ‘Current state’ inflection, marking an action as one which is brought about as a feature of some current state-of-affairs, implicitly contrasting with an earlier state-of-affairs in which this was not the case. **moo Ziro k̥ir̥á caada?** ‘He often goes up to Ziro (these days).’

dà? *cop.* Positional copula for entities with legs or in a standing position.

dà?- [dà?dò] *v.* 1 • stand. 2 • be there, in a standing position; be there or exist, of an entity with legs and in a standing position. **n̥kà páró so? dà? k̥è.** ‘Your chicken is (standing) here.’

-dà? *pder.* positional (?) derivation apparently associated with an experiencer receiving support from another entity. **t̥è?dà?** ‘lean (on a pillar)’.

d̥it̥ín [d̥it̥ín (kè)] *n.* ravine; ditch; depression in a hillside prone to water channelling and where landslides are common.

d̥it̥ín yái [d̥it̥ín yái] *n.* landslide. **d̥it̥ín yái ídò.** ‘There’s a landslide.’

d̥ín- [d̥ín-dò] *v.* hammer; pile-drive; pound something into the ground.

d̥ín̥gyáñ [d̥ín̥gyáñ (kè)] *n.* fencepost.

d̥iñt̥á? [d̥iñt̥á? (kê)] *n.* top of the head.

d̥iñn̥i [d̥iñn̥i] *n.* muntjac doe; barking deer doe.

d̥iñpò [d̥iñpò] *n.* male muntjac; male barking deer.

d̥iñmú [d̥iñmú] *n.* head hair; hair on the head.

d̥iñxú? [d̥iñxú? (kê)] *n.* skull.

d̥ú- [d̥úpí] *clfr.* Classifier for bamboo containers, perhaps prototypically referencing a full section of bamboo.

-d̥ú *pder.* upward; of an action, be directed vertically upward; especially, of vision. **kádú** ‘look upward’.

d̥ù- [d̥údò] *v.* dig downward, to make a hole.

d̥ù- [d̥údò] *v.* drip, of water; of water, come out in droplets.

d̥ùu [d̥ùu] *cop.* Existential copula ‘be there/have’ for use in positive polarity declarative sentences. Selects for animate focii. **mook̥i my̥i̥i du.** ‘He has a wife.’ (lit., ‘His wife is there’).

pcl. Assertive particle ‘really, I meant it; this is absolutely the case’. **moo jima kea du!** ‘He’s not here, for heaven’s sake!’

d̥ùu- [d̥úudò] *v.* 1 • sit. 2 • stay; be staying or living in a place, of an animate entity. **yan̥ki soo d̥ù.** ‘Yangki is here.’

-d̥ùu *pinfl.* Imperfective suffix entailing an assertion of habitual activity. Carries an implication that the speaker has intimate knowledge of the subject’s habitual activities. Accordingly, mainly used in “conjunct” contexts (statements with first person subject and questions with second person subjects), although can be used with other persons when the speaker wishes to assert privileged knowledge of a subject’s habits.

dúr- [dúrdó] *Var:* **dór-** (Michi-Bamin). *v.* dig using the snout, as a pig.

dèekíń [dèekí (kè)] *n.* clay.

démá ʔúì [démá ʔúì] *n.* evil spirit.

déńkí ʔúì [dèńkí ʔúì] *n.* good spirit; benevolent spirit.

déʔ- [dèʔdó] *v.* by plaiting or weaving, shape or reinforce the shape of an object, such as the mouth of a basket, or plantation fencing.

dèʔláo [dèʔláo (kè)] *n.* woven cane frame of a basket.

dó [dó] *cop.* Existential copula ‘be there/have’, used in declarative sentences in positive polarity. Selects for inanimate focii. **ńíkí póosá dó.** ‘I have money.’

-dó *pinfl.* Factual imperfective suffix. Reports an event as a general fact; not often used in First person declarative sentences.

dóodù [dóodù] *n.* droplet; drop of water; raindrop.

dòoríí [dòoríí (kè)] *n.* winter; cold season.

dóolí [dóolí] *adj.* feverish; be having a fever.

dòolyáʔ [dòolyáʔ (kè)] *n.* lightning.

dór- [dórpí] *clfr.* Classifier for high animals. **sii dórpí** ‘two cows’.

dórgí [dórgí] *n.* earthworm.

dí- [dídó] *v.* eat.

dì [dì] *pcl* (?). I guess; I suppose; Modifier to a negated copula (at least), indicating a speaker’s inference that something is not the case. **moo jidí ma.** ‘I guess ~ I suppose he’s not there (the phone is ringing, but he’s not picking up).’

dìpyóo ʔáí *n.* canine tooth or teeth.

díráadà *n.* next year; the coming year.

díʔ- [díʔdó] *v.* be irritated or have an adverse or allergic reaction to something ingested.

-díʔ *pder.* of an action, result in a sense of harmful irritation, as poison.

n

nàa *pcl.* content question marker. **sii níí nâ?** ‘What is this?’

nàarúń [nàarúń (kè)] *n.* fencing around a plantation.

-nání *pder:nzr.* Instrumental nominalizer. **hóʔbé nání** ‘trigger’.

-nań *pder.* want to; Desiderative derivation.

nàń- [námǐ] *clfr.* Classifier for hand breadths, being the distance between the thumb and pinky finger of a flattened hand.

nàń- [nándò] *v.* push, using the palms of the hand. **nàńkóʔ** ‘push open (a door)’.

núu- [núudó] *v.* 1 • knead something, as dough. 2 • wash clothing.

núnú [núnú] *pro.* you (plural); Second person plural pronoun.

-né *pinfl.* Inflection possibly denoting a type of perfect, indicating that an event which began in the past has resulted in a state which remains on-going. **moo Ziro cáanè.** ‘He’s gone up to Ziro.’

née- [néedó] *v.* thresh or knead something underfoot, as grains, without one’s feet leaving the surface.

nèekáń [nèeká (kè)] *n.* latrine; pigsty adjoined to a house, also functioning as a latrine.

nèesúu [nèesúu (kè)] *n.* granary.

néehé [née] *Var:* **née** (running speech). *pro.int.* how much; how many. **myuu nee ʔaane?** ‘How many people came?’

néń- [néndó] *v.* sniff; smell something.

néń- [néndó] *v.* push using the body.

néʔ- [néʔdó] *v.* gnaw, as a rodent through a wooden barrier.

nóo [nóo] *Var:* **nóo** (isolation); **ní-** (form combining with case and dual suffixes); **nú-** (form combining with plural suffix). *pro.* you; Second person singular pronoun.

nòo [nòo] *pro.int.* where. **Taje nõo na?** ‘Where is Taje?’

-nì *pder:nzr.* Subject nominalizer, ‘the one who X-es’.

níí [níí] *pro.int.* what. Interrogative pronoun of contents **síí níí nâ?** ‘What is this?’

níí- [níídó] *v.* instigate; talk ill of someone in an effort to inflame enmity against them in others; induce enmity in someone in an effort to provoke them to act against someone else.

níí dóo [níí dóo] *pro.int.* when. Interrogative pronoun of time. **moo níí do ine?** ‘When did he go?’

níkà [níkà] *pro.* your; Second person singular genitive pronoun.

níjí [níjí] *n.* var. of plant traditionally used to yield a maroon dye. *adj.* maroon.

níjì [níjì] *pro.* you two; the two of you; Second person dual pronoun.

nítáñpà [nítáñpà] *pro.int.* how; in what way or manner. Complex interrogative pronoun of manner. **môo nítámpà sínè?** ‘How did he die?’

nípà [nípà] *pro.* for you; Second person singular dative pronoun.

nìmán [nìmán (kè)] *n.* underbrush; leaves and twigs; small, useless plants or parts of plants.

nímì [nìmi] *pro.* you (acc.); Second person singular accusative pronoun.

nìsín nìmán [nìsí (kê) nìmán (kè)] *n.* plants, in general.

-níñ *pder:nzr.* Action nominalizer, with a realis value ‘something done, either in general or as a specific iteration’.

níñpà [níñpà] *Var:* **nitepa** (Hong); **nimop** (Hija). *pro.int.* why (for what purpose). Interrogative pronoun of purpose. **níñpà gyó?dó?** ‘Why (for what purpose) are you calling me?’

ní?- [ní?dó] *v.* stab, outward or underhand (not downward).

P

pá- [pádó] *v.* strike; cut by striking.

pà *pos.* for (someone); Dative postposition.

Tage sika book mi ñipa bití? ‘Tage gave this book to me.’

-pà *pder.* for the purpose of; in order to. Purposive subordinating derivation. **dípa** ‘In order to eat, ...’.

-paa *pder.* attainment result derivation. **lupaa** ‘mention’.

pàa- [páadò] *v.* stack stones or wood in a particular way, so as to fit properly together, as when arranging firewood for storage, or when forming a river diversion channel with stones.

pàa- [páadò] *v.* find; get or acquire by chance or fortuitously.

pàakú? [pàakú? (kè)] *n.* plate.

páatì [páatì] *n.* tiger.

páahá [páahá] *pcl.* unfortunately; Particle marking a declarative statement as something unfortunate from the addressee’s perspective, apparently with an implication of sympathy from the speaker’s perspective. **moo Ziro caane páahá.** ‘Oh, sorry, but he’s gone up to Ziro.’

pái [pái] *n.* var. of bird, poss. drongo.

pàkán [pàkà (kè)] *n.* goose.

pàkà? [pàkà? (kè)] *n.* trough; depression, in a landscape.

pákú [pákú] *adj.* crooked; bent; twisted, as of a tree which is growing at an unnatural angle.

pákù [pákù] *n.* dove or pigeon, in general.

pàcúu [pàcúu (kè)] *n.* chick; baby chicken.

pàcò? [pàcò? (kè)] *n.* head of a stream.

pàjé? [pàjé? (kè)] *n.* duck.

pàtér [pàtér kè] *n.* cage.

pápì [pápì] *n.* wood chips resulting from the action of chopping.

pápù [pápù] *n.* egg.

pàbúu [pàbúu (kè)] *n.* valley; gully; stream flowing through a deep depression at the joining point of two mountains; mountain pass.

pàmíñ [pàmí (kè)] *n.* victor; winner of a fight or war.

pámú [pámú] *n.* raptor; eagle or hawk.

- párí** [párí] *n.* sparrow.
- pàró?** [pàró? (kè)] *n.* chicken; fowl.
- pàró? pápù** *n.* chicken egg.
- pàrñí** [pàrñí (kè)] *v.* turn or twist something, as a rope; swirl, rotate or spin something (around), as to change its orientation; turn or rotate a steering wheel.
- pàrí?** [pàrí? (kè)] *n.* small var. of jungle fowl.
- pàrsíñ** [pàrsí (kè)] *Var: pàsíñ* (r-variation). *n.* red jungle fowl.
- pàlí?** [pàlí? (kè)] *n.* de-weeding tool, a bow of iron with a slightly sharpened crux.
- pálya** [pálya] *adj.* leaning or craning, as when extending one's body at an angle for the purpose of looking around an obstacle while remaining fixed in one's place.
- pásù** [pásù] *n.* needle.
- páxú** [páxú] *n.* 1 • eggshell. 2 • scale of a fish.
- pàxóo** [pàxóo (kè)] *n.* notch, as in an arrow; drainage channel in a paddy field, consisting of a notch carved down the middle along its length.
- pàxóo-pàjoo** *v.* trailblaze; move in the jungle by cutting a path ahead of oneself.
- pàhíñ** [pàhí (kè)] *n.* liver.
- páñ-** [pándó] *v.* steam in bamboo; cook by steaming in a bamboo tube placed in a fire.
- pa?** *pdér.* off or away; of an action, be directed away from a deictic centre, especially in an act of disposal; off, of an action in a sense of rejection or dismissal. **lùpá?** 'criticize; speak ill of someone to their face'.
- pá?-** [pá?dó] *v.* suspend; hang something vertically using rope, as a fireplace shelving complex.
- pí-** *numr.* four. **búupí** 'four stalks'.
- pì-** [pídò] *v.* divine an omen by examining the egg of a chicken.
- pì-** [pídò] *v.* swat; move the hand in a swiping motion, as to slap someone or kill an insect.
- pì** *pdér.* of an action, result in an undergoer becoming dry. **mú?pi** 'blow-dry'.
- píi-** [píidó] *v.* slice; saw; cut by moving a knife against a surface in a slicing motion, without striking and without the knife leaving the surface.
- pìi-** [píidò] *v.* bark, of a dog.
- pìitáñ** [pìitá] *adj.* dry.
- pìiré?** [pìiré? (kè)] *v.* sharpen a blade on a sharpening stone.
- pìláñ** [pìlá (kè)] *adj.* yellow.
- pìláñ-pìsáñ** [pìláñ-pìsá] *adj.* light yellow.
- pí?ni** [pí?ni] *num.* eight.
- pù-** [púdò] *v.* hatch, of an egg.
- pùáa** [pùáa (kè)] *v.* sink in water.
- pùá?** [pùá? (kè)] *n.* crow, the bird.
- púí** [púí] *n.* booger; solidified snot.
- púu-** [púudó] *v.* bind.
- púu-** [púupi] *clfr.* Classifier for eggs or other similarly-shaped items. **pùkú** 'one egg'. **púupi** 'four eggs'.
- pùucáa** [pùucáa (kè)] *v.* float up to the surface, of an object which had been submerged (as a dead fish).
- pùutúu** [pùutúu (kè)] *n.* mountain.
- pùulúu** [pùulúu (kè)] *adj.* white.
- pùulyáñ** [pùulyá (kè)] *n.* peak; summit.
- pùulyé** [pùulyé] *n.* clothes; clothing.
- púnjú** [púnjú] *n.* 1 • stick used for stirring food while cooking. 2 • spoon.
- péenù** [péenù] *n.* var. of bird.
- pèecáa** [pèecáa (kè)] *n.* var. of fruit or fruiting plant, fruits round and peach-like.
- pèepú?** [pèepú? (kè)] *n.* 1 • mat, for sitting on a floor. 2 • var. of tall reed from which floor mats are made.
- pèepú? tábú** *n.* bedbug.
- pèerúñ** [pèerú (kè)] *n.* bean, in general.
- pèesú?** [pèesú? (kè)] *n.* hornbill.
- pèexóo** [pèexóo (kè)] *n.* var. of pigeon or dove.
- pètí?** [pètí? (kè)] *n.* belt.
- pèñ-** [péndò] *v.* construct something, such as a granary or house; build and set a trap.
clfr. Classifier for houses.

péñbè [pém̀bè] *Var.* **píñbè** (Michi-Bamin; Hija).
n. snow.

-pe? *pder.* through; past; of an action, be direction through a space, as a window, or past an object.

pò [pò] *pcl.* it seems; it appears; Inferential (?) evidential particle. **moò dúupò** ‘It seems he’s here (I didn’t have any expectation he would be here, but I can see evidence of his presence, such as his bags).’

pòo- [pòodò] *v.* embrace; hug (a person).

pòopár [pòopár (kê)] *Var.* **pə̀opár** (Michi-Bamin).
n. butterfly.

pòobí [pòobí (kê)] *v.* carry something in one’s arms.

póore [póorè] *n.* var. of liquor.

póosá [póosá] *n.* money. *From:* Assamese.

pòté? [pòté? (kê)] *adj.* full, as a cup.

pór- [pórdó] *v.* cut by pushing a blade downward with both hands holding either end.

pórcé ‘split something (such as bamboo) by pushing a blade downward with both hands holding either end’.

pó?- [pó?dó] *v.* 1 • hop 2 • have an accident while in motion.

pìcáa [pìcáa (kê)] *adj.* foolish; stupid; naïve; dumb.

pìcáñ [pìcá (kê)] *n.* pot.

píjò [píjò] *adv.* a moment ago; a short while back.

pìjoo pìjoo [pìjoo pìjoo] *adv.* a long time back; quite some time ago.

pìjoo hò [pìjoo hò] *adv.* quite some time ago; a long while back.

pìtáa [pìtáa (kê)] *n.* bird.

pìdí? [pìdí? (kê)] *v.* fart.

pìnáñ [pìná (kê)] *n.* rice husk.

pìbyí [pìbyí (kê)] *adj.* cunning; clever.

pìmór [pìmór (kê)] *n.* dust.

pìrí pápù *n.* bubble.

pìrí [pìrí (kê)] *n.* fireplace border.

pìrí [pìrí (kê)] *n.* stinging nettle.

pìlé? [pìlé? (kê)] *n.* 1 • feather of a bird.
2 • fin of a fish.

pílò [pílò] *n.* 1 • moon. 2 • month; moon cycle.

pìlyí [pìlyí (kê)] *num.* four.

pìlyí? [pìlyí? (kê)] *n.* hut; small resting house, as in a field.

pìsáa [pìsáa (kê)] *n.* pine tree, in general.

pìxoo [pìxoo (kê)] *n.* cob; corncob.

pyà- [pyádò] *v.* braid something, such as rope or hair (as into a topknot).

pyàr- [pyárpì] *clfr.* Classifier for grains.

pyáñ- [pyándó] *v.* swell, of a wound.

pyà?- [pyá?dò] *v.* untie, as a shoelace.

pyà?mín [pyà?mí (kê)] *adj.* colour term referring roughly to the range of dark yellow, tan, and orange.

pyù?- [pyú?dò] *v.* sell.

-pyoo *pder.* of an action, be brought about as an instance of theft. **ðipyoo** ‘steal’.

pyòo- [pyóodò] *v.* pinch using pincers.

-pyòo *pder.* of an action, be brought about as the first in a sequence. **ðipyoo** ‘eat first (before others)’.

pyòokó? [pyòokó? (kê)] *v.* open the eyes.

b

bà- [bádò] *v.* vomit.

bàbóo [bàbóo (kê)] *n.* ceremonial pole.

bár- [bárdó] *v.* chant a variety of chant, esp. of a *nibù*.

- bàr-** [bárpì] *clfr.* Classifier for units of money, construed in the abstract (not as coin). **tiko bare** ‘one rupee’.
- bàrí?** [bàrí? (kê)] *v.* get up.
- bàróo** [bàróo (kè)] *n.* brother, in general.
- bármì** [bármì] *n.* 1 • younger sister. 2 • sister, in general.
- bá?-** [bá?dó] *v.* piggyback; carry something on the back, as a child or basket of rice.
- bí-** [bídó] *v.* give.
- bí** *pder.* for; Benefactive derivation. **moo pabiti?** ‘He has chopped (the wood) for (us; no need for us to do it).’
- bíi-** [bíidó] *v.* flow, of water.
- bìi-** [bíidò] *v.* sway; hang swaying.
- bìidíí** [bìidíí (kê)] *n.* macaque.
- bíinì** [bíinì] *n.* female monkey.
- bíipó** [bíipó] *n.* male monkey.
- bìisér** [bìisér (kè)] *n.* langur (long-tailed monkey).
- bíjé** [bíjé] *n.* bamboo, in general.
- bítì** [bítì] *n.* craftwork (?)
- bítì pàaká?** *n.* heirloom brass platter.
- bíñnì** [bíñnì] *n.* female goat; nanny goat.
- bíñpò** [bíñpò] *n.* male goat; billy goat.
- bù-** [búdò] *v.* uproot a plant.
- búu-** [búupí] *clfr.* Classifier for poles, including poles of bamboo and trunks of trees. **bùukú** ‘one pole’.
- búu-** [búudó] *v.* 1 • carry something in one’s hand. 2 • bear a child
- búunì** [búunì] *n.* female rodent; female rat or mouse.
- bùupín sínì** *n.* twins; babies born together or simultaneously.
- búupò** [búupò] *n.* male rodent; male rat or mouse.
- bùulyáñ** [bùulyá (kê)] *n.* name of the Apatani Supreme Council.
- bùulyúu** [bùulyúu (kê)] *n.* tadpole.
- bùñáa** [bùñáa (kê)] *v.* gather, as a group of people forming a crowd.
- bùlúm bílè** [bùlúm (kê) bílè] *adj.* sickly; unappetizing.
- bú?-** [bú?dó] *v.* multiply, of a population; spread, as moss.
- bú?-** [bú?dó] *v.* explode; burst.
- bée-** [béedó] *v.* chant a variety of chant, esp. of a *nibù*.
- bèbú?** [bèbú? (kê)] *n.* gun.
- bé?-** [bé?dó] *v.* scratch, as a chicken looking for food.
- bé?-** [bé?dó] *v.* 1 • spring, of something under tension, such as a spring-action trap. 2 • hop; jump, of a frog or insect.
- bó** *pcl.* Suffix or particle marking a nominalized predicate, with a value apparently drawing attention to the contrastiveness or specificity of the referent. Narrows an Irrealis nominalization to a Subject reading, so may have a Subject- or Agent-associated value. May replace subject nominalizer *-nì* in some functions. **disinibo** ‘one who is going to eat’.
- bóì** [bóì] *n.* tracks made by large game.
- bóo** *pder.* across or over; of an action, be directed across a space (such as a rice field) or over an obstacle (such as a log). **Iyòobóo** ‘leap over (a log)’.
- bòo-** [bòodò] *v.* cross; move across anything, including a bridge, a field or a mountain.
- bòolyóo** [bòolyóo (kê)] *adj.* thin, of a book.
- bó?gó** [bó?gó] *n.* dam, used for irrigation rather than fishing purpose.
- bí** *pder.* accomplishment derivation (?) **be?bi** ‘spring, of an animal trap’. **inci bido** ‘reach a goal’. **puaa bido** ‘sink in water; drown’. **hiki bitì?** ‘be stillborn’. **puubi** ‘float’.
- bíi-** [bíidó] *v.* carry; bring.
- bìpáñ** [bìpá (kê)] *n.* last year.
- bìdáñ** [bìdá (kê)] *n.* 1 • precipice; ledge of a steep cliff. 2 • steep, as of a cliff.
- bìlín** [bílí (kê)] *nec.* testicles.
- bìlín kórmò** *n.* 1 • var. of fruiting plant. 2 • testicles.

bìlé? [bìlé? (kè)] *adj.* slippery.
bìlyé? [bìlyé? (kè)] *adj.* soft, as to the touch.
bílyó [bílyó] *n.* yesterday.
bísó [bísó] *adj.* afraid; scared.
byáa- [byáadó] *v.* roast, as meat on a stick.
byàa- [byáadó] *v.* disintegrate; fall apart, as of a house; break with one's roots, as when leaving a village due to misfortune and being unable to return.
byáakó [byáakó] *n.* eggplant berry (var. of small *Solanum*).
byáagò sìmbyáa *n.* area to one side of an Apatani house balcony.
byàpú? [byàpú? (kè)] *n.* bamboo shoot.

byár- [byárpí] *clfr.* Classifier for articles of clothing. **byárpí** 'four items of clothing'.
byãñ- [byámpì] *clfr.* Classifier for florescences, including flowers, tassled bamboo, and fruiting clusters on rice plants.
byãñkór [byãñkór (kè)] *adj.* thick, primarily as a book, or secondarily as a liquid.
byãñyúñ [byãñyú (kè)] *Var:* **byèñyúñ** (Michi-Bamin). *n.* name for a conceptual grouping of plants, including members of the nightshade family such as potato and tomato, as well as sweet potato.
byòopáa [byòopáa (kè)] *n.* hat; helmet.
byò? [byò?dò] *v.* shine, of the sun.

m

-má *pinfl.* not. Negative predicate suffix.
màa- [máapì] *clfr.* Classifier for stacks of firewood.
màrpúu [màrpúu (kè)] *Var:* **màpúu** (r-variation). *n.* cornsilk.
má?bó [má?bó] *n.* son-in-law (term of reference).
mì [mì] *pos.* Accusative case marker. **síkà sinema símì róopè kaató.** 'I've seen this film twice.'
múñó [múñó] *adj.* rich; wealthy.
mííí [mííí] *n.* Mising.
mìjji [mìjji (kè)] *n.* orphan; person without parents, whether child or adult.
mìjji? láñcù *n.* Adam's apple.
mítú? [mítú? (kè)] *n.* tip of an object, such as a tower or tail.
míyù [míyù] *n.* person; human.
mílò [mílò] *n.* husband.
mílobó [mílobó] *n.* male; man.
mìsáñ [mìsáñ (kè)] *n.* hill tribal (other than Apatani).

-míñ *pder.* win something by means of the action indicated by a verb.
mí?- [mí?dó] *v.* be or become extinguished; go out, of a candle or light.
-mí? *pder.* of an action, result in a light or fire becoming extinguished. **mù?mí?** 'blow out (a candle)'. **gà?mí?** 'snuff out (a candle) using the fingers'.
mí?tí [mí?tí] *v.* close the eyes.
mì?láa [mì?láa (kè)] *n.* tear.
mì?lyó? [mì?lyó? (kè)] *n.* eyelid.
múkù [múkù] *n.* 1 • smoke. 2 • tobacco.
múbú [múbú] *n.* ash. *adj.* ashen; ash-coloured.
mùbú? [mùbú? (kè)] *n.* gun. *Use:* Michi-Bamin.
múrù [múrù] *n.* torch, of a traditional variety comprising a bundle of sticks.
mùrúñ [mùrúñ (kè)] *n.* Murung, name of an important Apatani festival celebrated in the month of January.
mùrtúu [mùrtúu (kè)] *Var:* **mùtúu (kè)** (r-variation); **mítúu** (Michi-Bamin). *n.* burnt firewood; wood of any size which is burning or has been partially burnt.

mùrtóo [mùrtóo (kè)] *Var: mùtóo* (r-variation);
mòrtóo (Michi-Bamin). *n.* metal arrowhead.

mùñpáa [mùñpáa (kè)] *n.* Monpa.

mú?- [mú?dó] *v.* blow; blow on.

mú?gò [mú?gò] *n.* outlet in a paddy field,
through which water can drain from one field to the
next.

méeni [méeni] *n.* 1 • sow; female pig.
2 • female bear.

méepò [méepò] *n.* male pig.

méñ- [méndó] *v.* kill something or someone,
without specifying the manner of death.

-mò *pder.* of an action, to constitute rest or an
act of taking a break. **dá?mò** ‘stand resting’.
dúumò ‘sit resting’.

mòo [mòo] *pro.* she; he, Third person singular
pronoun.

mòo ʔáni [mòo ʔáni] *pro.* they two; the two of
them; Third person dual referential complex.

móokà [móokà] *pro.* his; her; Third person
genitive pronoun.

mòocú? [mòocú?] *v.* kiss someone.

móopà [móopà] *pro.* to him/her; Third person
singular dative pronoun.

móomì [móomì] *pro.* him/her; Third person
singular accusative pronoun.

móorù [móorù] *n.* cheek.

móoré [móoré] *n.* jungle; forest.

móoré pákù [móoré pákù] *n.* wild/jungle
pigeon.

móolù [móolù] *pro.* they; Third person plural
pronoun.

móí [móí] *v.* turn the head, as though to look at
something.

móñ- [móndó] *v.* 1 • chase. 2 • group-hunt; hunt
in a coordinated fashion, using multiple people, as
well as potentially dogs.

mì- [mídò] *v.* do.

mìi- [mídò] *v.* heal, of a wound.

mící [mící] *n.* var. of hawk.

mìdóo [mìdóo (kè)] *n.* rain.

mìyáñ [mìyáñ (kè)] *n.* crest on the head of a cock.

mìráa [mìráa (kè)] *n.* slave; captive.

mírí [mírí] *n.* coals, live or not.

mílyó [mílyó] *n.* flame.

myàamyáa [myàamyáa (kè)] *n.* ringworm.

myáí [myáí (kè)] *n.* sperm; semen.

myámú [myámú] *n.* male pubic hair.

myóokó [myóokó] *n.* Myoko, name of an
important Apatani festival, celebrated in March.

myòoxáa [myòoxáa (kè)] *n.* bamboo flooring.

myíí [myíí] *n.* wife.

y

yáa- [yáadó] *v.* rot; be rotten.

yàapáa [yàapáa (kè)] *n.* young man.

yái [yái] *n.* variety of very large, wild
bamboo, poss. *D. giganteus*.

yái [yái] *v.* collapse, as of a decrepit house;
slide, of a landslide.

yágì [yágì] *n.* basket, in general; densely-
woven basket.

yáñó [yáñó] *num.* five.

yàcúu [yècúu (kè)] *n.* small bamboo container
used as a pouch for carrying small items such as
tobacco or salt, which can be handily used to ward
off leeches as well as consumed on the road.

yàtí? [yàtí? (kè)] *n.* umbrella made of bamboo
and leaves, designed to cover the head and the
back.

yàdíñ [yàdí (kè)] *n.* basket used for storing large
items or large quantities of items, including
clothing and rice paddy.

yàníí [yàníí (kè)] *n.* leaf.

yàpíñ [yàpí (kè)] *n.* nose.

yàpíñ ^ʔùubúu *n.* nostril.
yàpúñ [yàpú (kê)] *n.* sky.
yàpúñ [yàpú (kê)] *n.* fairie.
yàpúñ gèníñ [yàpúñ gèní (kê)] *n.* thunder.
yàpér [yàpér (kê)] *Var:* **yàrpáa** (r-variation). *n.* mortar.
yàbíñ [yàbí (kê)] *n.* variety of wild bamboo.
yámù [yámù] *n.* fire.
yár- [yárpí] *clfr.* Classifier for distances measured in lengths of mature bamboo poles, as house plots or fences; also used to denote quantities of materials stored inside bamboo poles, such as rice stalk. **lisíʔ yárpí** ‘four poles of rice stalk’.
yàrúu [yàrúu (kê)] *n.* 1 • ear. 2 • gill, of a fish.
yaláñ [yalá (kê)] *n.* stone, of any size or quality.
yàsáñ [yàsá (kê)] *n.* firewood.
yási [yási] *n.* water. **yási dó.** ‘Water is there; there’s some water.’
yási àaníñ *n.* drowning; dying in water (euph.).

yàsóo [yàsóo (kê)] *n.* cane (plant), in general (or most common var.)
yàxóo [yàxóo (kê)] *n.* stick.
yúu- [yúudó] *v.* extend the hand; move the hand away from a place of rest, as away from the body or outside of a pocket.
yúkè [yúkè] *pcl.* it is said; Reportative evidential particle. **moo Ziro cáané yúkè.** ‘It’s said he went to Ziro.’
-yó *pinfl.* Prohibitive suffix. **íyó!** ‘Don’t go!’
yòo [yòo] *n.* meat.
yòo ʔàyáʔ [yòo ʔàyáʔ] *n.* meat; fleshy portions of an animal.
yòo pàtér [yòo pàtér (kê)] *n.* basket used for storing dried meats.
yòopóo [yòopóo (kê)] *n.* var. of small, densely-woven basket.
yórbí [yórbí] *n.* upward slope on a mountain.
yòrmíʔ [yòrmíʔ (kê)] *n.* dry, ground chili pepper, used as a food seasoning.

r

ráñ- [rándó] *v.* tie an animal to restrain it.
ríi [ríi] *n.* drool.
ríi- [ríidó] *v.* throw something more or less compact overhand, such as a ball or a stone.
ríi- [ríidó] *v.* sew.
ríi- [ríidò] *v.* hail; fall, of hailstones.
ríibù [ríibù] *n.* var. of fish.
ríimì [ríimì] *Var:* **ríinbi.** *n.* spider, in general.
ríiláʔ [ríiláʔ (kê)] *n.* tendril.
ríʔdà [ríʔdà] *n.* the day after tomorrow.
rú- [rúdó] *v.* sneak; be stealthy.
rúucí [rúucí] *n.* left ear.
rùutíñ [rùutí (kê)] *n.* earring, in general.
rùubíʔ [rùubíʔ (kê)] *n.* right ear.
rúñ- [rúndó] *Var:* **rón-** (Michi-Bamin). *v.* crazy; mad; insane; nuts. **nó róné!** ‘You’re crazy!’

réʔ- [réʔdó] *v.* cross a river, by any means, including swimming, walking or rowing a boat.
réʔ- [réʔdó] *v.* shave something, as one’s face.
-rèʔ *Var:* **-roʔ** (Michi-Bamin). *pder.* sharp (result). **piiróʔ** ‘sharpen’.
réʔkè [réʔkè] *n.* ceiling.
rò- [rópí] *clfr.* Classifier for mornings.
ròo- [róodò] *v.* spy; sneak; peep; steal a glance at somebody while trying to conceal the fact.
-ròo *pder.* of an action, be brought about in a manner constituting spying. **káaròo** ‘peep’.
róo bàríʔ *n.* cyclone.
ròoríñ támi [ròorí (kê) támi (kê)] *Var:* **ñji** **ròoríñ** (Hari) *n.* Velvet plant, a variety of aquatic plant.
ròñ- [rómpí] *clfr.* Classifier for iterations (times). **róné** ‘once’.

róʔ- [rʊʔdʊ] v. snatch.

róʔnì [rʊʔnì] n. hen; female domestic fowl.

róʔpò [rʊʔpò] n. cock; male domestic fowl.

rí- [rɪdʊ] v. buy.

rìgáñ [rìgá (kè)] n. edge.

ríbòodà n. in three days; three days hence.

ríxìdà n. four days hence; in four days.

ríʔ- [rɪʔpɪ] *clfr.* Classifier for bundles (of any item).

1

la *pcl.* Content question marker. **nñlà lúdù?** ‘What’s that called?’

la *coord.* and; plus. *Use:* binary coordinations only (not for multiple conjunctions). **ʔalyā la? kanu** ‘seventeen’. **Tage la Catu la Ziro caane.** ‘Tage and Catu went up to Ziro.’

-laa *pder.* can; able to, in the sense of capability. **nñm kàné apí díláa kèndò?** ‘How much rice can you eat?’

làa- [láadò] v. take.

láakè [láakè] v. cross legs; sit with legs tucked in and crossed.

làaŋúu n. neck.

làxíʔ [làxíʔ (kè)] *adj.* cold, of one’s feeling.

làñ- [la] *numr.* hundred.

láñè [láñè] *num.* one hundred *Use:* statement in response to a question, poss. morph. complex.

láñkànù [láñkànù] *num.* seven hundred.

làñkúñ [làñkúñ (kè)] *num.* one hundred *Use:* counting/enumerating.

láñkòáa [láñkòáa] *num.* nine hundred.

láñjò [láñjò] *num.* five hundred.

làñcáñ [làñcá (kè)] *adj.* red.

láñcù [láñcù] n. goiter.

làñjǎñ [làñǎ (kè)] n. base of the head.

láñjì [láñjì] *num.* two hundred.

láñpì [láñpì] *num.* four hundred.

láñpíʔnì [láñpíʔnì] *num.* eight hundred.

láñmù [láñmù] n. variety of brittle, composite stone, ash-coloured, can be pounded into dust.

láñxì [láñxì] *num.* six hundred.

làñhíñ [làñ] *num.* three hundred.

làʔkúʔ kóəró [làʔkúʔ (kè) kóəró (kè)] n. mole.

làʔkè [láʔkè] v. cross arms; fold arms.

làʔŋəʔ [làʔŋəʔ (kè)] *Var:* **larŋə** (r-variation) n. wrist.

láʔcí [láʔcí] *adj.* left.

laʔci ʔaláʔ n. left hand.

làʔcíʔ [làʔcíʔ (kè)] n. finger.

làʔcíʔ kìcíʔ n. forefinger; pointing finger.

làʔcíʔ lìpáa n. middle finger.

làʔcíʔ hàaŋáa n. pinky finger.

láʔdú [láʔdú] *nec.* elbow (formative).

làʔdú mərəíñ [láʔdú mərəí (kè)] n. elbow.

làʔdú [làʔdú (kè)] n. distance between an outstretched thumb and forefinger.

làʔnì [láʔnì] n. thumb finger.

làʔpáñ [làʔpá (kè)] n. village platform, used in ceremonies and village meetings.

làʔpíñ [làʔpí (kè)] n. back of the hand; reverse of the palm.

làʔpyóo [làʔpyóo (kè)] n. palm (of the hand).

làʔbíʔ [làʔbíʔ (kè)] *adj.* right.

làʔbíʔ ʔaláʔ n. right hand.

láʔsò [láʔsò] n. distance between outstretched thumb and middle finger.

làʔhíñ [láʔ (kè)] n. fingernail.

lìñ- [lìndò] v. exit; go out.

- liñ** *pder.* out; of an action or motion, directed out of an enclosed space.
- lù-** [lúdò] *v.* speak.
- lùf?** [lùf? (kè)] *v.* stutter.
- lúlyè** [lúlyè] *v.* slur one's speech, as a drunken person.
- lèekúu** [lèekúu (kè)] *v.* hold one's hands behind one's back.
- lèndáa** [lèndáa (kè)] *n.* road; path; way.
- lèñbó** [lèmbó] *Var:* **líñbó** (Michi-Bamin, Hija) *n.* road.
- le?** *coord.* and; plus. Additive conjunction, used in complex numeral formation. **ʔalyañ le?ni** 'twelve'.
- le?** *pder.* result derivation indicating that an experiencer slips as a result of the motion indicated by the very. **tùlé?** 'slip while walking'.
- lé?-** [lé?dó] *v.* lop off; cut something off cleanly in a single stroke, as when clearing underbrush, when cutting off the unwanted tip of a stick, or decapitating a person or animal.
- lóidà** *n.* three years hence; in three years.
- loo** *pder.* downward; of an action, be directed downward; of an actor, move upward in order to perform an action. **kàalóo** 'move downward in order to see something'. **dàalóo** 'hit with a stick such that something falls off a surface'.
- lóo-** [lópí] *clfr.* Classifier for days.
- lòocúñ** [lòocú (kè)] *n.* marrow.
- lòopàndà** [lòopàndà] *n.* two years hence; in two years.
- lòoxàdà** [lòoxàdà] *n.* four years hence; in four years.
- loñ** *pder.* of an action, result in an undergoer becoming shocked or surprised.
- lìá?** [lìá? (kè)] *n.* smallest var. of basket, trad. used to measure quantities of rice, or to store small household items, such as balls of thread.
- líi-** [líipí] *clfr.* Classifier for the length of a bamboo pole, as applied to the measurement of the depth of an Apatani house. Five such lengths is traditionally considered to be an especially long house, suited to a wealthy person. Houses of six such lengths are unusual.
- líkè** [líkè] *v.* fold legs; sit with legs outstretched and folded or crossed.
- lìgyúu** [lìgyúu (kè)] *n.* claw, of a feline or canine; talon, of a raptor.
- lìcí?** [lìcí? (kè)] *n.* toe, in general.
- lìtá?** [lìtá? (kè)] *n.* cockspur.
- línì** [línì] *n.* big toe; thumb toe.
- lìpáa** [lìpáa (kè)] *n.* middle; centre.
- lìpíñ** [lìpí (kè)] *n.* top of the foot; opposite side to the sole of the foot.
- lìbáñ** [lìbá (kè)] *n.* knee.
- lìbáñ ʔalóo** *n.* kneecap.
- lìbé?** [lìbé?] *v.* scratch using claws or hooves.
- lìmáa** [lìmáa (kè)] *n.* root.
- lìrín** [lìrín (kè)] *n.* kneelet; ornament worn by men below the knee.
- lìsín pítù** *n.* calf (muscle of the leg).
- lìsít?** [lìsít? (kè)] *n.* harvested stalk of rice grains; upper portion of rice stalk including the fruits, being the portion which is lopped off when rice is harvested.
- lìhín** [lìhín (kè)] *n.* toenail.
- lì?** [lì?dò] *v.* put.
- lì?** *pder.* into.
- lyaa** *pder.* of an action, constitute an act of waiting. **dà?lyáa** 'stand waiting'.
- lyáñ-** *numr.* ten. **xòlyá** 'ten sticks (of something)'.
- lyá?-** [lyá?dó] *v.* lick.
- lyá?pyò** [lyá?pyò] *n.* dry field, usually for millet cultivation.
- lyí** *pinfl.* Irrealis suffix with no apparent person-based constraints or implications of private/personal knowledge, indicating a simple statement of a non-realized event.
- lyì-** [lyídò] *v.* become; have come to fruition; be ready, as of fermenting liquor. **pilā pa lyido.** 'It's turning yellow.'
- lyíi-** [lyíidó] *v.* 1 • slither, as a snake.
2 • slide, as down a children's playground slide.
- lyiróo** [lyiróo (kè)] *ncc.* uvula (formative).

lyiróo tóokó *n.* uvula.

lyilíñ [lyilí] *v.* stick out, of the tongue; protrude, of the tongue. **ñika alyo lyilí do.** ‘My tongue is protruding (I am sticking it out).’

lyí?pó [lyí?pó] *n.* male pig.

lyí?pó *n.* male pig.

lyéñ- [lyémpí] *clfr.* Classifier for armspans, being the distance between the tips of two outstretched arms. **lyémpé** ‘four (armspans)’.

lyòo- [lyóodò] *v.* leap; jump, of an animal such as a dog or human.

lyò?gáñ [lyò?gá (kè)] *n.* blunt edge of a blade.

lyò?ró? [lyò?ró? (kè)] *n.* blade; sharp edge of a machete.

lyó?li [lyó?li] *n.* machete handle.

S

sáa [sáa] *n.* tea.

sáa- [sáadó] *v.* tense the abdominal muscles, as when having a bowel movement, or giving birth. **pìdí? sáadò** ‘farting’.

sáatí [sáatí] *n.* sap of a pine tree; pine resin.

sáadí [sáadí] *n.* plantation of useful trees, generally nearby to a settlement.

sáabí [sáabí] *n.* officer; sahib.

sàamáñ [sàamá (kè)] *n.* pine needle.

sàaxúu [sàaxúu (kè)] *n.* pine cone.

sànì téeró *Var:* **sántú téeró** (cond. unkn.) *n.* prickly ash; Sichuan peppercorn.

sár- [sárdó] *v.* rip; tear.

sàrpú? [sàrpú? (kè)] *Var:* **sàpú?** (r-variation) *n.* bladder.

sàrpú? [sàrpú? (kè)] *Var:* **sàpú?** (r-variation) *n.* foam.

sársé [sársé] *Var:* **sásé** (r-variation) *n.* millet, in general.

sàrsí? [sàrsí? (kè)] *Var:* **sàsí?** (r-variation) *adj.*

1 • bland; insipid; not well-seasoned.

2 • thin, of liquid; weak, of liquor.

sàlyí? [sàlyí? (kè)] *adj.* green.

sáñnì [sáñnì] *n.* tree.

sàñró? [sàñró? (kè)] *n.* banyan tree.

sàñxáñ [sàxá (kè)] *n.* post at a field border identifying the area as owned by a particular person.

sá?- [sá?dó] *v.* **1 •** breathe. **2 •** cough.

3 • suck, as through a straw.

sà?náa [sà?náa (kè)] *adj.* breathless; be out of breath, as after hard exercise.

sà?ríñ [sà?rí (kè)] *n.* cough.

sà?líñ [sà?lí (kè)] *v.* exhale.

sà?lí? [sà?lí? (kè)] *v.* inhale.

sìi [sìi] *dem.* this, closer to the speaker than to the addressee.

sìí? [sìí? dó] *v.* urinate.

síjì [síjì] *dem.* these two, closer to the speaker than to the addressee.

sísì [sísì] *adv.* now.

-síñ *pder.* dry result; perform an action with the result that something becomes dry.

síñ- [síndó] *v.* feed liquid; give a drink.

síñbyáa [síñbyáa (kè)] *n.* balcony.

sí? [sí?] *n.* urine.

-sú *pder.* Autonomous/Reflexive suffix.

sùúu [sùúu (kè)] *n.* spring; water source.

sùkúñ [sùkú (kè)] *n.* well (of water).

sùdúu [sùdúu (kè)] *n.* container made of a bamboo section with one knot at the base and the other knot removed.

súbú [súbú] *n.* mithun.

súbú tàní? [súbú tàní? (kè)] *n.* var. of biting fly.

súmù [súmù] *n.* sand.

sùlúu [sùlúu (kè)] *n.* garden fencing.

sùlúñ [sùlú (kè)] *n.* Sulung.

-su? *pder.* of an action, result in the handle coming off an item (such as a dao). **hùsú?** ‘fall off, of a handle’. **mìsú?** ‘take a handle off; make a handle come off’.

sù?- [sú?dò] *v.* sneeze.

sèe- [séedò] *v.* pull (with the arms).

sèñ- [séndò] *v.* withered; dried-out or wilted, as a plant which has been exposed to excessive sun and little moisture.

sèñsí? [sèñsí? (kè)] *adj.* 1 • dry, of wood.

2 • thin, of a person.

sò [sò] *dem.pos.* here, nearest to the speaker.

sóo- [sóodó] *v.* play, as children; frolic. **sóotè** ‘go out to play’.

sòñ- [sónndò] *v.* shimmy; move sideways.

só(o)- [sóopí] *clfr.* Classifier for ropes, or similarly long, thin and flexible things, such as fish and smakes. **sòkú** ‘one rope’. **sóopí** ‘four ropes’.

-sər(ə) *pder.* of an action, to constitute or result in an act of strangulation. **gà?sər** ‘strangle with the hands/by grabbing and holding’.

sí- [sídó] *v.* die.

síi [síi] *n.* cow; cattle.

sìcúu [sìcúu (kè)] *n.* stag deer (sambar?)

sìjǎǎñ [sìjǎǎ (kè)] *n.* this year.

sìjǎǎñ síló *adv.* recently; these days; nowadays.

sìtíñ [sìtí (kè)] *n.* bear.

sítì [sítì] *n.* elephant.

sìdǎñ [sìdí (kè)] *n.* muntjac; barking deer.

síní [síní] *n.* sugar. *From:* Assamese

sínì [sínì] *n.* mithun cow; female mithun.

-sínì *pder.* Irrealis nominalizer, apparently a sequence of Irrealis nominalizer + Subject nominalizer, but cannot separate inasmuch as both Subject and Object readings are available. **disínì** ‘person to be eating *or* thing to be eaten’.

sìpí? [sìpí? (kè)] *n.* pangolin.

sìpər [sìpər (kè)] *Var:* **sìpə^h** ~ **sìprə** (r-variation) *n.* pond.

sìpyáa [sìpyáa (kè)] *n.* dhole; Asiatic wild dog.

síbí [síbí] *n.* monkey.

sìbǎñ [sìbí (kè)] *n.* goat.

síbó [síbó] *n.* mithun bull; male mithun.

sìrǎñ [sìrǎ (kè)] *n.* otter.

síré [síré] *n.* boar; wild pig.

síló [síló] *n.* today.

sìlyó? [sìlyó? (kè)] *n.* riverbank.

sísò [sísò] *n.* wildcat.

síxí [síxí^h] *n.* gravel; pebble; sand.

síxì púxù [síxì pùxù] *n.* porcupine.

X - x

xà- [xádò] *v.* peel, as the skin of a fruit, by removing with the hands.

xàa- [xáadò] *v.* weed; clear an area of weeds.

xàa- [xáadò] *v.* bark, of a barking deer.

xàapóo [xàapóo (kè)] *n.* shelf of bamboo tubes suspended immediately below a traditional attic shelf (also of bamboo tubes), hanging above the suspended fireplace rack.

xàñjǎa [xàñjǎa (kè)] *v.* kneel.

-xa? *pder.* of an action, miss its intended target.

è?xá? ‘miss (target) while shooting’. **kàaxá?** ‘mistake (something one is seeing) for something else’. **tàxá?** ‘mishear someone; dislike someone’s speech’.

xú- [xúdó] *v.* aim (a gun or arrow).

xúí? [xúí? (kè)] *adj.* sour..

xée- [xéedó] *v.* parch; dry-fry; roast by frying in a pan without oil..

xètáʔ [xètáʔ (kê)] *n.* book. *From:* Assamese.

xèñjǐʔ [xèñjǐʔ (kê)] *n.* temple (of the head); sideburn area.

xéʔ- [xéʔdó] *v.* cry.

xèʔ- [xéʔdò] *v.* suffice; be enough; be sufficient.

xóo- [xóodó] *clfr.* Classifier for sticks.

xóo- [xóodó] *v.* **1 •** level by digging, as when removing portions of a hill in order to extend a plain area, as for cultivation purpose; scratch or scratch off, as when using one's nail against a surface to remove paint. **2 •** row a boat or raft, using an oar. **3 •** probe in water with a stick, as to locate something as for the purpose of fishing it out. **4 •** stir, using a stick or spoon.

xóʔ- [xóʔdó] *v.* crow, of a rooster.

xóʔ- [xóʔdó] *v.* pry open something using the hands; pull something up to reveal what is underneath it, as a mat.

xí- [xídó] *v.* count.

xí- [-xí] [-x] *numr.* six (combining form). **sii dorxi** 'six cows'.

-xí *pder.* dead; of an action, result in the death of an undergoer. **dáxi** 'beat to death (using a stick)'.

xíi [xíi] *num.* six.

xíi- [xíidó] *v.* cook, especially by boiling in water.

xíi- [xíidó] *v.* tie up hair in the fashion of an Apatani woman.

xíi- [xíidò] *v.* scoot; move from side to side without getting up.

xíinì [xíinì] *n.* umbilical cord; navel; belly button.

xíirò [xíirò] *n.* large intestine.

xíjǎñ [xíjǎñ (kê)] *n.* small intestine.

xíʔ- [xíʔdó] *v.* plunge (out a pipe); pound (chili in a mortar).

H - h

- hà** [hà ~ à] *Var:* =à (freq. clitic form with *-h-* ellipsed) *pcl.* Polar question marker. **nó ilyí hà.** ‘Are you going to go?’ **Pasigat iŋka to ha?** ‘Have you been to Pasihat?’
- háa-** [háadó] *v.* smoke something over a fire, to dry it; dry something over a fire, such as meat.
- háasín dó** dry something by smoking it over a fire.
- hàagyáa** [hàagyáa (kê)] *n.* 1 • gate, in a fence. 2 • entryway. *Use:* poss. restr. to Bulla?
- hàaŋáa** [hàaŋáa (kê)] *ncc.* younger. **làcí? hàaŋáa** ‘pinkie finger’.
- hàatíñ** [hàatí (kê)] *n.* bamboo knot.
- hàadíí** [hàadíí dó] *v.* be angry.
- hàabúñ** [hàabú (kê)] *adj.* cool; cold, in a pleasant way.
- hàayáñ** [hàayá (kê)] *n.* core; inner portion of an object.
- háarù** [háarù] *n.* lung; lungs.
- hàalyáñ** [hàalyá (kê)] *adj.* flat, as of terrain, or any surface. *n.* plains people.
- hàalyíñ pòopér** *n.* var. of insect, flying around June/July (mayfly?).
- hàóó** [hàóó (kê)] *n:rel.* top.
- hági** [hági] *v.* escape.
- hàjór** [hàjór (kê)] *n.* thousand.
- hàmáñ** [hàmá] *n.* 1 • vegetable, in general; edible plant. 2 • side dish; cooked vegetable; curry and suchlike.
- hàr-** [hàrdò] *v.* run.
- hàrñí** [hàrñí (kê)] *v.* be twisted, of a rope; twist oneself; twist one’s body; spin, as a whirlpool or top.
- hàñ** [hàñ] *pro.ind.* anything. **ŋo hãñ díma.** ‘I didn’t eat anything.’
- hà?-** [há?dò] *v.* bite off or eat something using the mouth only, without using the hands to bring the food to the mouth, as when plucking berries from a bush using the mouth directly.
- hii-** *v.* feel around using the hand, when unable to see.
- híi-** [híidó] *v.* chant a variety of chant, esp. of a *níbù*.
- hiipyáa** [hiipyáa (kê)] *n.* front teeth.
- hiibúu** [hiibúu (kê)] *n.* beak.
- hiiráñ** [hiirá (kê)] *n.* molar tooth; rear tooth.
- hiirín** [hiirí (kê)] *n.* strip of dried, fermented bamboo.
- hiilíñ** [hiilí (kê)] *n.* blood clot.
- hiílú** [hiílú] *n.* gums (of the mouth).
- hiixú?** [hiixú? (kê)] *n.* wet fermented bamboo.
- híñ** [híñ] *num.* three. **papu puhí** ‘three eggs’.
- hiŋe.** ‘It’s three.’
- hiñxáñ** [hiñxá (kê)] *num.* thirty.
- hí?** [hí?] *n.* dried, fermented bamboo dice or chips.
- hí?-** [hí?dó] *v.* whip; hit using a rope or flexible stick.
- hí?-** [hí?dó] *v.* feel or feel around, using the hands.
- hi?-** [hí?dò] *v.* 1 • paint; apply paint to a surface. 2 • strip; remove a surface layer, as from bamboo.
- hi?jãñ** [hi?jã (kê)] *v.* wring out clothing; twist clothing to make it dry.
- hú-** [húdó] *v.* stab downward, with a knife; pound with a large stick, as when dibbling (making seed holes) or when pounding rice in a large mortar and pestle.
- hú-** [húdó] *Var:* **húr-** (r-variation). *v.* fall, of rain.
- hù-** [húdò] *v.* fall from a height; fall vertically.
- húi** [húi] *v.* fall, of an object.
- húu-** [húudó] *v.* 1 • be awake. 2 • glow, of a light, or coals.
- hùu** [hùu] *pro.int.* who. **sí hùu nã?** ‘Who is this?’
- hùutóó** [hùutóó (kê)] *adj.* light; not dark.
- hùulyí?** [hùulyí? (kê)] *n.* fat; oil. *adj.* fatty; greasy; oily.
- hùpíñ** [hùpí (kê)] *n.* pestle (large, for pounding rice).
- húbyú** [húbyú] *n.* scum; film or scum on surface of a boiled liquid, such as milk, meat or beans.

húbyú [húbyú] *v.* boil, of water; be boiling.

hùbyúu [hùbyúu (kê)] *n.* sheath.

hùrbúu [hùrbúu (kê)] *n.* drainage pipe (wood or bamboo) in a paddy field.

hùlá? [hùlá? (kê)] *n.* aerial yam (*Dioscorea bulbifera*).

húlí [húlí] *n.* boil; pimple.

hú?- [hú?dó] *v.* 1 • shake; be shaking. 2 • shake something.

hù?bíñ [hù?bí (kê)] *n.* sweat. *v.* sweat.

he [he ~ e] *Var:* =e (more freq. enclitic form) *art.* the. Marker of old/established information.

hèmpár *Var:* hèmprá (r-variation). [hèmpár (kê)] *adv.* very. **moò hèmprá kae do.** ‘He’s very big.’

hela [ela] *Var:* **ela** (freq. enclitic form) *conj.* and. **ní?xâ ela ?ápi** ‘twenty-two’.

héñ- [héndó] *v.* 1 • think. 2 • like; love.

héñtì [héñtì] *v.* boast.

héñmò [hémò] *v.* rest; take a rest; take a break (as from working).

hé?- [hé?dó] *v.* 1 • shovel; dig or dig out in a twisting, shovelling fashion, as though to extricate something, whether using a tool or one’s finger.

2 • knit clothing.

hè?té? [hè?té? (kê)] *n.* drainage channel in a paddy field.

hò [hò] *Var:* -o (freq. enclitic form) *dem.pos.* 1 • there, nearer to the addressee.

2 • on (a particular date). **no Monday ho Pasighat into ha?** ‘Did you go to Pasighat on Monday?’

hóo- [hódó] *v.* feed food, as to animals.

hògyáa [hògyáa (kê)] *n.* var. of wildcat; leopard.

hòr- [hórdò] *v.* glance; move the eyes quickly in a particular direction.

hó?- [hó?dó] *v.* hook something; pull or scrape something by hooking using a finger, as when removing the root of a weed, or pulling the trigger of a gun.

hìi [hìi] *dem.* that, closer to the addressee than to the speaker.

híinì [híinì] *n.* cow; female cattle.

híibó [híibó] *n.* cattle bull.

híkì [híkì] *n.* stillbirth. **híkì bìtí?** ‘stillborn’.

hípi [hípi] *dem.* those two, closer to the addressee than to the speaker.