

Towards a grammar of the Yale language: taking another look at archived field data

Aidan Aannestad
SIL-PNG

Carl and Jody Campbell[†]
SIL-PNG

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Glossary of abbreviations

ACTV	activity verb	LOC	locative
ADJLZ	adjectivaliser	M	masculine
ANIM	animate	NEG	negative
BEN	benefactive	OBJ	object
COM	comitative	PAST	past tense
COND	conditional	PERF	perfect aspect
CONJ	conjunction	PL	plural
COP	copula	PLURACT	pluractional
DIST	distributive	POINT	demonstrative il-
DU	dual		locutionary force
DUB	dubitative	POSS	possessive
F	feminine	PUNCT	punctual aspect
FOC	focus	PURP	purpose
FUT	future tense	Q	interrogative
HAB	habitual	QUANT	quantifier
HORT	hortative	REL	relativiser
IMP	imperative	SG	singular
INAN	inanimate	SUBJ	subject
INFORM	informative illo-	SUBORD	subordinator
	cutionary force	TEMP	temporal locative
		TOP	topic

Chapter 1

Introduction

1.1 The nature of this paper

The data for this paper comes from the field notes and recordings made by Carl and Jody Campbell over their time spent with the Yale people between 1984 and 2015.¹ The Campbells additionally wrote a preliminary grammar analysis in 1987 and a somewhat more extensive phonological writeup in 1989; these were never organised into a published description. I (Aidan Aannestad) was given this data in 2018 and asked to do whatever further analysis I was able to do with it; this paper is the result of that further analysis. The Campbells are credited as authors of this paper in recognition of the work they did in collecting the data and creating and maintaining a relationship with the Yale people, and much of this paper is indebted to their preliminary analysis—at times it simply restates their analysis. However, as they had both passed away before I was given this project, this paper has not been written with their input. Additionally, during my time in Papua New Guinea, I did not get a chance myself to go to the Yale area or interact with any Yale people; a result of both of these factors, I have not been able to obtain any further data (or clarifications of existing data) to answer questions that arose during the analysis process. Thus, there are many places where the analysis remains incomplete due to the available data not answering all relevant questions. Outstanding questions are summarised in a box at the end of each section.² All references to a singular author of this paper (including uses of ‘I’ and ‘me’) should be taken to refer to me, Aidan Aannestad.

The examples in this paper are all taken directly from the Campbells’ data, either directly from recordings or from example sentences in the Campbells’ lexical database or unpublished grammar analysis. There are no examples that I have constructed to illustrate a point better, nor were Bible translation materials used as examples; all examples ultimately were spoken at some time by a native speaker.

¹The majority of these recordings were made between 1984 and 1986; a few recordings are as recent as 2000. Be aware that the language may have changed by now—this paper is largely a description of how Yale was spoken in the mid-1980s.

²There are also a number of rare or unique-in-the-data morphemes that appear in examples in this paper, whose functions I cannot even speculate about. These are glossed in examples as ‘?’ and should also be taken as in need of further investigation.

1.1.1 Previous work on Yale

Up to this point, there has been very little published about Yale, and not much more written at all. Most of what was available was written by the Campbells—this includes a basic grammar sketch (1987), a more detailed organised phonology data writeup (1989), and an unfinished dictionary; all unpublished and available through SIL-PNG’s archives. Foley (2018), an overview of languages in the Sepik area, summarises the 1987 grammar sketch and engages in limited further analysis. At least one sociolinguistic survey was done before the Campbells arrived (Graham 1981), which referred to the language as ‘Nagatman’; similarly, Conrad and Dye (1975) contains a short wordlist from Yale. As for publications in Yale, the Campbells created a short series of literacy primers and a small worship songbook; and a translation of about 40% of the New Testament was being prepared for publication when last I heard (2019).

The Campbells’ grammar sketch and some of their phonology data,³ as well as some of the sociolinguistic data mentioned above, are available for download as of 2020 at pnglanguages.sil.org/resources/search/code/nce.

1.1.2 The Campbells’ life and work with the Yale people

Carl and Jody Campbell came to Papua New Guinea in 1981, and began living among the Yale people in May of 1984 in the village of Natimane. Their primary focus was Bible translation and literacy, and their initial translation team consisted of Moses, Weno, Yaibo, Wasia, and Soaine. When first Weno and then Soaine died, the rest of the team quit over fears of sorcery, leaving only a man named Boaz, who has continued working on the translation even now that the Campbells have passed away. Carl and Jody’s time with the Yale was beset with difficulties, beyond the simple remoteness of the location (a six-hour walk from the nearest airstrip, in the neighbouring Kwomtari language area). They had to contend with a constant stream of requests from their Yale neighbours, especially for medical assistance, which the Campbells did their best to provide despite having no significant medical training. At one point, they had to be evacuated after Carl’s ear was cut by a mentally unstable man with a machete; and as mentioned above, almost their entire team abandoned the project at one point due to fears that involvement with the Campbells would bring them problems with sorcery.

Jody passed away from pancreatic cancer in 2013. Carl fell ill while traveling from Natimane to the Kwomtari language area in 2017 and passed away on the trail.

1.1.3 The nature of the data

As mentioned above, this paper is based on recordings and notes made by the Campbells that are available in SIL-PNG’s archives. The written material available to me included the writeups mentioned above, as well as a notebook with about twenty transcribed and glossed orally-collected texts and six or seven pages of grammar notes. Along with this was twenty-five hours of digitised audio cassette recordings, which form the bulk of the data used here. The recordings include wordlists, paradigms, phonological comparison

³The PDF available online is a newer recreation of their phonology data that does not include the fairly extensive discussion the original writeup contained.

data, and recorded texts. The wordlists and some phonological data sets were provided with English glosses in the recording; comparisons with occurrences of these words in spoken texts suggest the glosses are more-or-less accurate. Other phonological data sets were simply given with numbers, apparently referencing written lists of glosses that may no longer exist. Most paradigms were given with glosses; a few were given without. The recordings contain a very large number of spoken texts, most of which lack a transcription; I was able to correlate nine recorded texts with transcribed texts from the notebook mentioned above. A small number of recordings were broken; a few contained content that would not be useful for linguistic analysis anyway (e.g. traditional songs recorded too quietly to hear the words, or twenty minutes of a child crying). The data has few useful timestamps; most tapes state the month and day the recording was made but give no year, making the relative ordering of recordings largely unrecoverable.

1.2 The Yale people

The Yale people live in central Sandaun Province in Papua New Guinea between and around the Bapi/Horden and North/Senu/Wuro rivers, just north of the Sepik River (see the maps in figures 1.1 and 1.2). They are largely hunter-gatherers, with a diet primarily based on sago supplemented by foraged food and hunting; the hunting of wild pigs seems to hold a central place in their culture. As of 2019, the Yale still largely live a traditional lifestyle, and remain relatively isolated from the larger world—neither English nor Tok Pisin are widely understood.⁴

1.3 The Yale language

Yale is, typologically, a relatively normal western Sepik language.⁵ It has a small phonemic inventory (eleven consonants and six vowels) without any particularly unusual sounds, though unlike its immediate neighbours, it seems to have a phonemic tone system. Yale is primarily head-final and SOV, though heads can also precede their modifiers (what influences this is unclear). Like its neighbours Busa and Karkar-Yuri, Yale verbs mostly require auxiliaries to support any inflectional material; though unlike at least Karkar-Yuri, Yale uses several auxiliaries which differ semantically from each other, and there is a small class of directly inflectable verbs as well. One rather unusual feature of Yale is that subject agreement is handled by a combination of a prefix and a suffix together—and while the prefixes *mostly* mark person and the suffixes *mostly* mark number, the system has not fully separated those functions from each other.⁶ Like most of its neighbours, Yale classifies nouns into masculine and feminine categories; like Namia, it has a set of

⁴This information comes from Carol and Murray Honsberger (p.c.), who work in the neighbouring Kwomtari language area.

⁵Data on neighbouring languages comes from the summary in Foley (2018).

⁶Foley (2018) mentions Barupu, Taiap and Nimboran as other languages that possess discontinuous subject marking; but based on Foley's description of Taiap and Corris (2008)'s description of Barupu, the actual details of implementation are very different. Yale's system is in fact decidedly simpler—Taiap and Barupu seem to have very different subject-marking systems in different situations, and not all of these use discontinuous marking; Yale has one system that always has discontinuous marking.

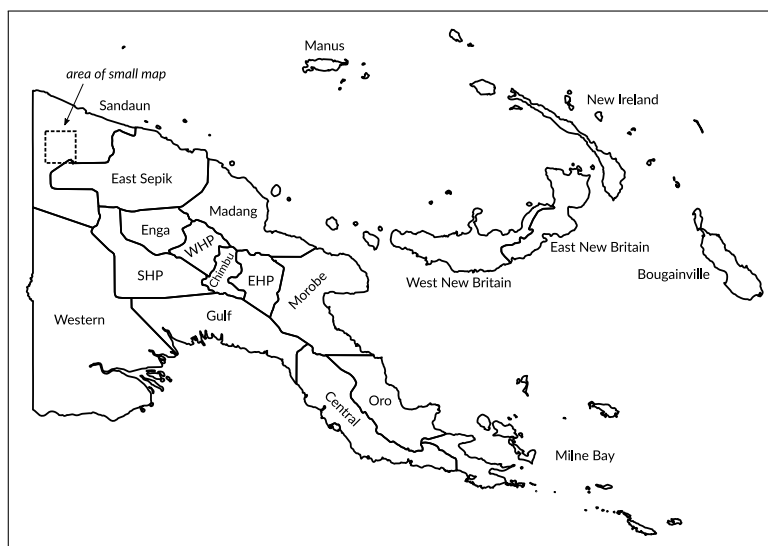


Figure 1.1: The location of the Yale language within Papua New Guinea.

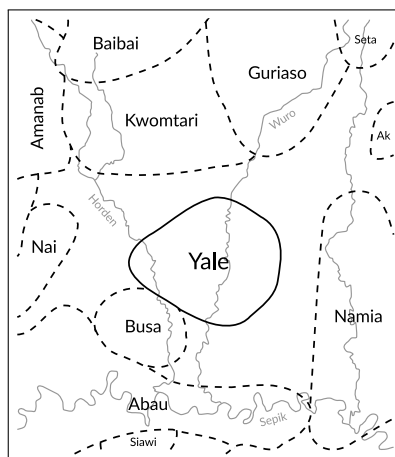


Figure 1.2: The location of the Yale language and people in relation to their neighbours, within Sandaun Province. Map based on data from SIL-PNG.

morphologically possessed kinship terms without head-marked possession for any other nouns. Case relations are shown by postposed markers.

Yale has up until this point been assumed to be a linguistic isolate (see Foley 2018); and while a true discussion of Yale’s familial status is outside the scope of this paper, there seems to be no reason to suspect otherwise. The shapes of Yale’s words and morphemes—and at times the exact forms of the constructions they appear in—do not obviously suggest any sort of genetic relationship to either its immediate neighbours or anything further afield. There may ultimately be such a relationship, but if there is, the evidence has been obscured by a very long period of independent development and/or a large amount of contact-induced change.

In fact, the grammar of Yale, as a whole, gives off a strange impression of ‘mixedness’. This is not meant to claim that Yale is a ‘mixed language’ in any sort of technical sense—there is nothing about Yale that would suggest it is a creole or other kind of ‘mixed language’. What I mean instead is that it frequently presents more than one way of doing the same thing, at times conditioned and at times apparently freely chosen, and often with each option having a distinct set of morphemes associated with it. Most strikingly, Yale has two kinds of verb-like words, one that is conjugated itself and one that requires a separate conjugated auxiliary; and there are lexical doublets between each kind: ‘shoot’, for example, can be rendered either with *-mi-*, which is itself conjugated, or with *lele*, which requires an auxiliary. There are two sets of roots for many kinship terms—one that must take a possessive prefix and one that cannot—with entirely unrelated forms: compare *bei* ‘mother (unpossessed)’ with *-ta* ‘mother (possessed)’. There is an active stress system, yet the majority of words—including all two-syllable words—simply fail to have stress assigned at all. Verbs have both subject agreement prefixes and subject agreement suffixes, and while the prefixes fairly closely resemble Yale’s object agreement suffixes, the subject suffixes seem quite unrelated, and none of these three sets of affixes looks anything like their free pronoun counterparts or the nominal possessor prefixes. Table 1.1 shows the singular and plural forms for the four different sets of person-marking forms in Yale.

gloss	free pronoun	possessor prefix	subject prefix / object suffix	subject suffix
1sg	<i>bo</i>	<i>ba-?</i>	<i>n-/-ne</i>	<i>-e</i>
2sg	<i>ju</i>	<i>bi-</i>	<i>ε-/-e</i>	<i>-∅</i>
3m	<i>bu</i>	<i>bo-</i>	<i>l-/-l</i>	<i>-∅</i>
3f			<i>e-/-e</i>	<i>-∅</i>
1pl	<i>sebo</i>	-	<i>n-/-na</i>	<i>-a</i>
2pl	<i>sobo</i>	-	<i>ε-/-o</i>	<i>-o</i>
3pl	<i>bu</i>	-	<i>m-/-m</i>	<i>-a</i>

Table 1.1: Yale’s variety of pronominal forms.

While much further discussion is far beyond the scope of this paper, it seems that Yale may have had quite a complex history, and it would be worth investigating potential external sources for some of the duplicated or heterogenous parts of systems found in

Yale.⁷

Yale has also been called ‘Yade’ and ‘Yare’, due to different transcriptions of the sound [ɟ]; and in the Campbells’ orthography, it is properly spelled ‘Yalë’. Another name that appears for it in some survey materials is ‘Nagatman’; this is presumably from the village name that appears in this data as *Natimane* (apparently previously **Nagatimane*). Yale’s ISO-639-3 code is [nce].

The Campbells report no significant dialect variation across the Yale area. There are pairs of synonyms (such as either *wino* or *ko* for ‘blood’) where one is more common in one village and the other elsewhere, but both synonyms are still used in all places. This is apparently the full extent of geographical variation in Yale.

1.3.1 Transcription conventions

This paper follows the usual Papuan conventions of transcribing /ɸ/ as <f> and /ɗ/ as <j>. Besides these two cases, typical IPA values should be assumed for all sounds, modulo the allophony mentioned in chapter 2, with one exception: Yale’s current orthography transcribes /d/ as <l>, as its most common allophone is [ɟ], and this paper follows that convention outside of discussions involving phonology. Be aware, though, that otherwise this paper’s transcription system does not exactly follow the language’s current orthography. The most notable difference is that this paper uses IPA <ɛ e> directly for /ɛ e/ while the orthography uses <e ë>; this is to prevent readers from confusing which of /ɛ e/ is meant by <e> and which by <ë>.

The current orthography uses <y w> for what are more likely /i e/ and /o u/ used as consonants. When this is in a <CwV> syllable, the vocalic nature of this <w> is relevant for reduplication processes (see section 2.6), and so I’ve chosen to write it as a vowel for clarity; thus, I spell ‘wash’ as *soa* instead of *swa*.⁸ In other cases, I leave <y w> unless it is clear exactly which vowel is being used—thus I spell ‘sorcery’ as <yanoai> as I am unsure whether it is /ianoai/ or /eanoai/, but I spell ‘coconut’ as <maea> and ‘vine’ as <maia>, as I am sure which each is.

For the purposes of spacing, this paper considers verb adjuncts, their associated particles, and their supporting conjugated auxiliaries to all be different words. I am not sure how the official orthography handles these—the Campbells may not have been aware of those distinctions when designing the orthography, and their orthography description simply speaks of ‘experimenting’ with spacing to break up their long verb complexes.⁹ Similarly, this paper places a space between noun phrases and their postposed case markers. There are also a few individual words that I transcribe differently from the Campbells; for example, *momaine* (‘covet’) for their *mëmaune*.

Capital letters in glosses are used to refer to auxiliary roots. These roots are semantically bleached enough that there is no way to gloss them with a full English lexeme, but as they are morphologically roots and not bound morphology or particles, using a small

⁷Yale’s lexicon also has some clear Austronesian influence, in the form of words such as *sega* ‘sago’, *ubei* ‘taro’ and *fisou* ‘knife’; though this may be indirect.

⁸There are cases here where it’s not clear whether orthographic <w> represents /o/ or /u/; due to the apparent extreme predominance of /o/ in this position, this paper defaults to /o/ when there is no reason to suspect /u/.

⁹In actual use, the Campbells’ spacing is inconsistent, though when they do use spaces they put them in reasonable places.

caps abbreviation seems like it would make glosses of verb complexes significantly harder to interpret. The gloss is simply an all-caps transcription of the root; thus, ‘L’ refers to the auxiliary whose root is *-l-*. A few auxiliaries have clearer semantics (e.g. *malita*, which indicates that the verb happens in a downward or westward direction); these are glossed with full English lexemes as if they were full verbs.

1.4 Acknowledgements

First and foremost I’d like to thank the members of the Yale community who worked with the Campbells and so graciously shared their language and culture—in no particular order, Weno, Yaibo, Wasia, Soaife, Moses, Ilali, Tuai, Luluai, Aiba, Male, Kobleli, Zechariah, Wia, Weku, Wiji, Kiao, Saweni, Kemao, Sagi, Wimale, Mino, Kela, Imau, Tile, Aiao, Kulemli, Asi, Gabi, and Maoi, who all contributed recordings; as well as Boaz, who has continued the work the Campbells started. This paper in particular was made possible by SIL-PNG, and especially René van den Berg, who supervised the project. Thanks also to John Brownie, Mark Shockley, Kevin Walker, and Logan Kearsley, who were kind enough to provide feedback on drafts of this paper. Finally, I’d like to honour the memory of Carl and Jody Campbell, who dedicated their lives to working with the Yale people—and without whose work no information on this language would have ever reached the wider world.

Chapter 2

Phonology

The Yale language has a relatively small phonemic inventory by global standards, but not necessarily by Sepik standards; in fact, it is entirely unremarkable given the area Yale is found in. Yale is rather more areally unusual in apparently possessing a phonemic tone system; this is not well understood, and as a result, its interactions with stress and vowel length are also badly understood. Yale has a number of phonological and morphophonemic processes, including a vowel epenthesis system that guarantees that no syllable will ever have a coda; additionally, it makes use of multiple reduplication processes, one of which is highly complex.

Tables of of minimal pairs are given in the appendix, in section A.1. Examples given in this section are marked with the tape number and the timestamp (e.g. ‘3a 2:02’) where the audio source of the example can be found.¹

2.1 Consonants

The Yale consonant inventory is given in table 2.1.²

	labial	alveolar	palatal	velar	glottal
stop	b	t d		k g	
fricative	ɸ	s			h
affricate			ɟʑ		
nasal	m	n			
approximant	(w)		(j)		

Table 2.1: Yale’s surface consonant inventory.

Foley (2018) suggests an analysis that simplifies the table, as shown in table 2.2. He is quite right to consider /ɸ/ as simply Yale’s version of /p/, and that can pass without

¹There are a few examples whose source audio I have been unable to go back and track down.

²As a reminder, outside of discussions of phonology, /d/ is transcribed <l> throughout this paper.

	labial	alveolar	palatal	velar	glottal
obstruent	ɸ b	t d	s ɟ	k g	
nasal	m	n			
approximant	w		j		h

Table 2.2: Foley (2018)’s analysis of Yale’s consosant inventory.

comment. Counting /s ɟ/ as the palatal obstruent series seems more questionable—/d/ forms /Cd/ clusters with all other ‘obstruents’ (including itself),³ but not with /ɟ/; and if /ɟ/ is not grouped with /s/, there is no reason to consider /s/ palatal at all. I consider /w/ and /j/ to be uses of /o u/ and /e i/ as consonants (see section 2.3.2); and removing them leaves /h/ alone as an approximant, which would be odd. /h/ can cluster with /d/ just like any other obstruent, as well; so there seems no reason not to class it as an obstruent.

In light of the above, I propose the simplified analysis found in table 2.3. Having /ɟ/ as the only sound in its category is unsatisfying, but it has unique behaviour, and so this seems like the best way to handle it.

	labial	dental	palatal	velar	glottal
stop / fricative	ɸ b	t d s		k g	h
affricate			ɟ		
nasal	m	n			

Table 2.3: A simplified analysis of Yale’s consonant inventory.

OUTSTANDING QUESTIONS:

- Is having /ɟ/ separated out as the only member of its category really the best way to organise things?

2.1.1 Consonant allophony

All voiced obstruents can be allophonically lenited; in the case of /b g ɟ/, this involves a realisation as full fricatives [β γ ʒ]. Fricative variants seem to be in free variation with stops word-internally, with [ʒ] largely restricted to before /i/.

/d/, on the other hand, is realised as a lateral flap [ɺ] the vast majority of the time. It is only consistently [d] utterance-initially and in /nd/ clusters. Word-initially it may be [d] or [ɺ], with its distribution mostly depending on where it falls relative to phrase-level stress ([d] when the word has phrase-level stress, [ɺ] when it doesn’t) but still not entirely predictable. Between vowels, and in /Cd/ clusters with consonants other than /n d/, it is realised as [ɺ] without exceptions; a /dd/ cluster is realised as a trill [r]. This allophony is the reason for the language’s name being spelled variously as Yade, Yale and

³Indeed, /d/ seems to function simultaneously as the voiced counterpart of /t/ and as a liquid.

Yare—phonemically it is /jade/, phonetically it is [jaɬe]. (1) gives an example of each of these.

- (1) a. /do/
- [do] ~ [Jo]
- ‘house’ (3a 1:48, 4a 17:18)
- b. /ase nda/
- [ase nda]
- ‘we go out hunting’ (4a 16:07)
- c. /fodɛ/
- [ɸoɬɛ]
- ‘bird’ (3a 6:36)
- d. /tdi/
- [tɬi]
- ‘cold’ (30a 0:08)
- e. /jawɛ dɛ/
- [jawə ɾ:ɛ]
- ‘it’s used up’ (25b 2:43)

Rarely, in cases of very careful articulation, the voiced obstruents (/d/ included) may be realised as prenasalised.

/s/ can be optionally realised as [ɛ] adjacent to /i/, or rarely /e/.

- (2) /disi/
- [disi] ~ [ɬisi] ~ [dɪɪi] ~ [ɬiɪi]
- ‘wall’ (3a 29:16)

2.1.2 Labialisation

Consonants may be labialised when they appear after a round vowel, as in (3). This labialisation seems to be in free variation with unlabialised forms, though the unlabialised forms seem to be much rarer. It is unclear what circumstances may affect this optionality.

- (3) a. /mogeda/
- [mog^wɛɬa] ~ [mogeɬa]
- ‘stick’
- b. /bo-hɛ/
- [bōh^wɛ]
- ‘her husband’ (10a 11:16; c.f. [bīhɛ] ‘your husband’)

Labialisation can be left on a consonant when a following rounded vowel is deleted for stress reasons (see section 2.4.2)—an example is /akoda/ ‘firepit’, which is realised as [a:k^wɬa].

Not all consonants can be labialised—/d n/ never are. When a round vowel is reduced after one of these consonants, there are several possible outcomes, none of which

involves labialising the consonant—the reduced vowel may be deleted while compensatorily lengthening the previous syllable’s vowel; the reduced vowel may be moved to the other side of the consonant, making the previous syllable a diphthong; the vowel may be deleted and leave velarisation but not labialisation on the preceding consonant; or the vowel may remain in place in its reduced form with its rounding eliminated.

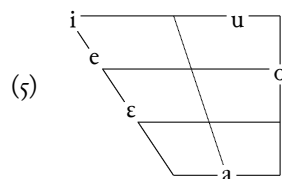
- (4) /ianoai/ (or possibly /eanoai/)
 [ˈjaːnai] ~ [ˈjaɔnai] ~ [ˈjaːnʷai] ~ [ˈjaːnʌai]
 ‘sorcery’ (3b 18:42)

OUTSTANDING QUESTIONS:

- What circumstances cause labialisation to fail to spread to the following consonant? Is it just free variation?
- Can we better characterise what happens when /d n/ would otherwise be labialised?

2.2 Vowels

Yale has six phonemic vowels. Impressionistically, I would arrange them on a vowel chart as in (5).⁴



Vowels regularly appear lengthened, but it is very unclear whether or not this represents a phonemic length contrast; see section 2.4 for more discussion.

2.2.1 Vowel allophony

Vowels being vowels, each has a range of possible realisations. Most notable is /u/, which in general is more fronted than a typical ‘canonical’ [u], but can become even more fronted—following /t s/ it becomes much closer to [ʊ]; on either side of /dʒ/ it can front nearly all the way to [y]; and after labials it appears as [ʊ]. (6) gives some examples.

⁴Note that some transcriptions of /e/ and /ε/ in this paper may be questionable, and one may have been written when the other is correct. In certain environments—especially reduced syllables—the distinction is not easy to hear, and I have not had the opportunity to check the transcriptions with native speakers. There is a number of situations where changing from one to the other significantly affects the analysis. I have done the best I can to give an accurate transcription, and I’m sure the Campbells have as well; but do be aware that a few analyses of examples in this paper depend on our non-native ears having heard this distinction correctly. This is explicitly called out in the discussion when relevant.

- (6) a. *ku*
[ku]
'middle' (8a 0:20)
- b. *su*
[su]
'taste, try' (6a 19:36)
- c. *juba*
[dzyba]
'sore' (3a 3:43)
- d. *musu*
[musu]
'bilum' (3a 2:02)

/o/ as well has a fairly wide range, appearing anywhere between [ɔ] and close to [u]. I am less sure of the conditioning environments for these variations, but the highest allophones (closest to [u]) seem to occur primarily immediately before another /o/ in hiatus.

- (7) a. *lɔ*
[do~lo]
'house' (3a 1:48)
- b. *hɔ*
[hɔ̃]
'man' (3a 3:06)
- c. *nɛ-l-o* *o*
I.SUBJ-L-DU.SUBJ INFORM
[nɛlu ɔ]
'We two do [something]' (13a 21:55)

/i/ can optionally, in a diphthong before a nasal, be realised as [ɨ] or [iŋ], as in (8); there is also at least one instance in the data of it being realised as [n] in *ita* 'again' ([nta]).

- (8) *momaine*
[momajɪnɛ] ~ [momajɪnɛ] ~ [momaine]
'covet'

/ɛ/ can at times be realised as [ə]; the exact environment triggering this is not clear.

- (9) *yawε llε*
[jawə r:ε]
'it's used up' (25b 2:43)

/e/ often receives an offglide [j] before /ɬ/; similarly, /a/ often surfaces as [æ] before /ɬ/.

- (10) a. *ejɛ*
 [ɛjɔ̃ɛ]
 ‘today’ (3b 5:25)
 b. *taɲu*
 [tæɔ̃ɛ]
 ‘snake’ (3a 22:54)

Vowels may become nasalised on either side of nasals or /h/.

- (11) a. *imo*
 [ĩmõ]
 ‘stomach’ (3b 3:22)
 b. *ihɛ*
 [ihẽ]
 ‘canoe’ (3b 2:17)

OUTSTANDING QUESTIONS:

- What is the full allophonic range of each vowel phoneme, and what factors condition their realisations?

2.3 Syllable structure

Yale’s maximal syllable structure can largely be summed up as C[d/V]VV, with certain co-occurrence restrictions on which consonant may cluster with /d/ and which vowels may form diphthongs. Additionally, /n/ may cluster with /t ɔ̃/, or /td/ in inflected forms, making ntdVV the largest possible syllable anywhere in the language. Not all VV sequences are counted as tautosyllabic; which are tautosyllabic and which are broken up as V.V likely depends on a combination of the quality of the vowels and prosodic factors. Triphthongs do occur; for example, the /oai/ in *yanoai* ‘sorcery’.

2.3.1 Restrictions

All stops and fricatives (/ɸ b t d k g s h/) and nasals (/n m/) can cluster with /d/; most obstruent-/d/ clusters occur freely, including word-initially. /dd/, /nd/, and /nt(d)/ clusters only occur in inflected forms and only in situations that are at least phrase-medial if not word-medial, and they do not occur in stems. /sd/ and /hd/ are both phonetically realised with a brief, centralised copy of the following vowel inserted between the fricative and /d/; thus, *blo* ‘pigeon’ appears phonetically as [hõlo].

Surface forms of stressed words show additional clusters—for example, [ˈbaɪti] ‘money’ or [ˈskɛfo] ‘knee’. These clusters might suggest that a wider variety of syllable types are allowed, possibly with coda consonants and other types of complex onset. However, all such cases of clusters other than the Cd clusters mentioned above are due to stress-induced reduction: the underlying forms for ‘money’ and ‘knee’ are /baditi/ and /sekefo/, and the

reduction is automatic, predictable, and reversible in careful speech. See section 2.4.2 for a fuller description of stress-based reduction.

The above cases of clusters that cannot occur word-initially (/dd nd nt ntd/) also might suggest the presence of coda consonants. However, there are no other cases of coda consonants that cannot instead be explained by vowel deletion due to stress effects, so I will consider these to be either cases of syllable-initial clustering that are only triggered by morphology, or possibly also cases of vowel deletion due to stress.

It is also worth noting that /d/ only very rarely precedes a rising diphthong, whether clustered as /Cd/ or not—/diV/, /deV/ and /duV/ may not occur at all, and /doV/ is extremely uncommon.

2.3.2 Vowels used as consonants

All four high vowels—/i e u o/—can function as consonants when they appear between two other vowels.

- (12) a. *maea*
 ‘coconut’ (6b 17:20)
 b. *maia*
 ‘vine’ (6b 17:20)
 c. *noue*
 ‘eagle’ (37a 13:29)
 d. *maoa*
 ‘taro’ (3b 11:11)

It is likely that all four may also be used as onsets word-initially; at the least, [j w] or something like them occur word-initially, and almost certainly represent at least /i u/ if not also /e o/. Throughout this paper, /e i/ used this way are transcribed as <y>, and /o u/ are transcribed as <w>, if it is not known which vowel is being used—thus, the word ‘sorcery’ is written *yanoai*, which may be representing underlying /ianoai/ or /eanoai/.

OUTSTANDING QUESTIONS:

- Can all four of /i e u o/ be used as syllable onsets word-initially? If so, which words have which?

2.3.3 Diphthongs versus vowels in hiatus

Yale allows heterosyllabic sequences of almost any pair of vowels—even same-vowel sequences, such as in *booe* ‘throw up’ and *saano* ‘lungs’ (8a 24:29). Only some sequences are treated as tautosyllabic. Evidence of this comes primarily from apparent tonal phenomena. For example, the illocutionary force marker *o* seems to put a high pitch one syllable to its left. (13) shows how that works out differently depending on what *o* immediately follows.⁵

⁵The superscript notation used here marks the lowest pitch as 1 and the highest as 5. Also, as a reminder, capital letters in glosses are used for auxiliaries; here, ‘L’ is the gloss for the apparently default auxiliary -l-.

- (13) a. $\epsilon^4-l=o^1$
 3.SG.F.SUBJ-L=INFORM
 ‘She does [something]’ (13a 23:12)
- b. $n\epsilon^2-l-e^4=o^1$
 1.SUBJ-L-I.SG.SUBJ=INFORM
 ‘I do [something]’ (13a 22:43)
- c. $n\epsilon^4-l-a^1=o^1$
 1.SUBJ-L-PL.SUBJ=INFORM
 ‘We do [something]’ (13a 23:21)

Since (13c) appears as $n\epsilon^4la^1o^1$ instead of $*n\epsilon^2la^4o^1$, we can infer that at least in this case Yale treats an /ao/ sequence as a diphthong, but an /eo/ sequence as vowels in hiatus. Prosodic factors may influence syllabification, though, as suggested by the following examples; so it is not possible to simply characterise certain sequences of vowels as always diphthongs or always heterosyllabic.

- (14) a. *negemoεle*
 [ne.ˈgε.moε.le]
 ‘south, downstream’ (8b 20:10)
- b. *nogoele*
 [no.ˈgo.ε.le]
 ‘east, up’ (8b 19:59)

Additionally, when two identical vowels come together for morphological reasons, they merge.⁶

- (15) /hudzu t-t-e-e/ →
 get.up PAST-T-3.SG.F.OBJ-I.SG.SUBJ
 → /hudzu tete/
 ‘I got her up’

2.4 Suprasegmentals and prosody

Yale prosody is quite complex. Tone, stress and vowel length all interact, and it is not clear where the underlying contrasts are. Overall, this paper tentatively concludes that tone is contrastive, stress is dependent on tone (and vowel quality), and vowel length is dependent on tone with some input from stress. However, if such a hierarchy is truly the case, this paper can say little to nothing definitive about prosody in Yale—as everything ultimately depends on tone, and the data at hand is insufficient to analyse tone properly. For this reason, the rest of the paper largely ignores prosody, and prosodic information is not transcribed except when relevant (which is almost exclusively within this section).

⁶In glossed examples in this paper, such pairs of identical vowels are still spelled out, to make the morphological breakdown clearer.

2.4.1 Tone

There is very little that can be said about Yale tone at the moment. My assumption is that there are two phonemic tone levels and everything else is allophonic variation—which is, I suppose, the default assumption going into any tone analysis—but I can say little to nothing about how this analysis, or any potential alternative analysis, might actually work out. As a result, throughout this paper whenever likely tone phenomena are discussed, the word ‘pitch’ is used rather than ‘tone’ to clearly avoid making any claims about the actual mechanics of Yale’s tone system. The transcriptions are based on my own listening ear’s judgement, with occasional reference to pitch visualisations in Praat. It seems clear that tone is phonemic, though, as demonstrated by the following two pairs (where 1 is the lowest phonetic pitch and 5 is the highest).

- (16) a. *ɛbe liji*
 [ɛ²be³ di²ɬi¹]
 ‘this is a walking stick’ (3a 11:48)
- b. *ɛbe liji*
 [ɛ²be³ di:⁴¹ɬi¹]
 ‘this is a flower’ (8a 17:53)
- c. *ɛbe fɔto*
 [ɛ²be³ ɸa:⁴to¹]
 ‘this is a shin’ (3a 15:47)
- d. *ɛbe tato*
 [ɛ²be³ ta:⁴¹to¹]
 ‘this is a lizard’ (3a 22:41)

It is not clear how many phonemic tone patterns there are, much less what underlying melody each pattern consists of. The 111 disyllabic nouns that are given in the data in the same ‘this is an X’ frame as in (16) above show three or four surface phonetic categories, with the distribution given in table 2.4.

surface pitch	number of nouns
$\sigma^2\sigma^1$	7
$\sigma^3\sigma^1$	18
$\sigma^4\sigma^1$	39
$\sigma^{41}\sigma^1$	47

Table 2.4: A count of all disyllabic nouns given in the same frame in the data, and their surface pitch patterns in the context of that frame.

Whether there are three or four categories depends on whether the difference between $\sigma^2\sigma^1$ and $\sigma^3\sigma^1$ is significant or simply phonetic variation. Regardless, though; without examples of these same nouns in other frames, it is impossible to say what the underlying tone patterns of each category are, and whether or not a given surface pattern in this

frame is associated with more than one underlying pattern.⁷ The 79 trisyllabic nouns in this frame in the data⁸ show a full ten surface patterns, several of which apply to very few nouns; it is difficult to determine even which of these patterns are truly distinct and which are simply due to phonetic variation—or perhaps due to their members not actually being monomorphemic.

Nonetheless, the data does hint at some tonological processes. The noun *musu* ‘bilum’, a member of the $\sigma^{41}\sigma^1$ group in the ‘this is an X’ frame, appears several times in the same frame along with adjectives and numerals. (17) illustrates some examples where *musu* appears with a variety of surface pitch patterns.

- (17) a. *ɛbe musu*
 [ɛ²be³ mu:⁴¹su¹]
 ‘this is a bilum’ (3a 2:02)
- b. *ɛbe musu tele*
 [ɛ²be³ mu⁴su² te³le¹]
 ‘this is two bilums’ (3a 8:40)
- c. *ɛbe musu nelina*
 [ɛ³be⁴ mu²su² ne⁵li³na¹]
 ‘this is four bilums’ (3a 9:01)
- d. *ɛbe musu we*
 [ɛ²be³ mu⁴su⁵ we:³¹]
 ‘this is ten bilums’ (3a 10:18)
- e. *ɛbe musu tako*
 [ɛ²be³ mu⁴su³ ta⁴¹ko¹]
 ‘this is a big bilum’ (3a 1:22)
- f. *ɛbe beno musu*
 [ɛ²be² he:⁴no:³ mu:³su¹]
 ‘this is an old bilum’ (3a 4:20)

It seems reasonable to hypothesise that there is a low boundary tone on the end of every sentence, which explains why every utterance-final syllable (outside of monosyllables) has low pitch. This would additionally explain the pitch on *musu* in (17d)—a low boundary tone may be attaching to *we* ‘ten’ and displacing *we*’s own tone leftwards. A similar phenomenon can be observed in a pair of verb phrases found in running text data, which are shown below.

- (18) a. *nɛmo wa glo n-l-a*
 bow ?? take 1.SUBJ-L-PL.SUBJ
 [nɛ⁴mo² wa² glo⁴ nla¹]
 ‘We get [our] bows’ (4a 16:02)

⁷Indeed, the numerical imbalance suggests that at least $\sigma^{41}\sigma^1$ and likely also $\sigma^4\sigma^1$ represent more than one underlying pattern.

⁸Excluding clear compounds.

- b. *nɛmo* *glo*
 bow take
 [nɛ:⁴²mo⁴ glo¹]
 ‘[I] take up [my] bow’ (9a 13:29)

Tone also seems to have an effect on vowel length; see (17a) and (18b) above. In fact, all cases of the $\sigma^{41}\sigma^1$ surface pattern have a long first syllable, which suggests that contour tones may cause the vowel they attach to to lengthen. The added length on *musu* in (17f) cannot be explained by exactly that kind of phenomenon, but there may be some tonally-triggered length there as well—perhaps an underlying contour tone lengthens the vowel, before being simplified into a level tone.

Unfortunately, this is the full extent of what can be said about Yale tone at this time.

OUTSTANDING QUESTIONS:

- What are the underlying phonemic tone patterns in Yale?
- What tonological processes occur to produce the documented surface forms?
- Is there a boundary low tone on the right edge of phrases? Does this cause other tones to displace leftwards?

2.4.2 Stress

Stress in Yale seems to be primarily sonority-driven. The basic stress assignment algorithm seems to be something like the following.

- (19)
1. Mark the last syllable as extrametrical.
 2. Assign primary stress to a penultimate /a/.
 3. If there is none, assign stress to an antipenultimate /a/.
 4. If there is none, run the above two steps with /ɛ/ instead.
 5. Make the primary stressed syllable the head of a foot, and make feet around it as space allows. Feet can be iambic or trochaic; the choice is determined by which allows the maximum number of footed syllables.

The following are some examples of how this works out.

- (20)
- a. *agosaba* ‘grass’ → *ago'saba* → *a(go'sa)ba* (3a 0:36)
 - b. *akola* ‘fire pit’ → *'akola* → *('ako)la* (3a 4:08)
 - c. *aleɣe* ‘path’ → *'aleɣe* → *('ale)ɣe* (3a 12:34)
 - d. *falake* ‘single man’ → *fa'lake* → *(fa'la)ke* (3a 25:50)
 - e. *leglesi* ‘wall’ → *le'glesi* → *(le'gle)si* (3a 29:05)
 - f. *walugaluju* ‘mouth harp’ → *walu'galuju* → *walu('galu)ju* → *(,walu)('galu)ju* (3b 17:37)

However, the majority of Yale words seem to have no noticeable stress at all. It is not entirely clear what causes a word to be stressless, but the following list gives some example types of stressless words. The first two types listed seem to be due to the stress assignment algorithm failing to assign stress to a particular kind of word; the last three types seem to do with disallowed combinations of stress and tone patterns.

- All monosyllabic words (as the entire word is extrametrical), and all disyllabic words (as the only possible foot is degenerate, which Yale doesn't seem to allow)
- Words with no non-final /a/ or /ε/ (e.g. *boklifa* 'ant' (3a 27:24); *tetekei* 'sweet potato' (3b 0:17))
- Words where a falling pitch would fall on a metrically-weak syllable if stress was assigned (e.g. *tateji* 'smoking rack' (3b 2:46), not *[ta³te⁴i¹ji¹]; but compare *baliti* 'money', where a high level pitch occurs on a metrically-weak syllable: [ba⁴li⁵ti¹] (37b 9:55))
- Words where stress would fall on the second of a pair of high-pitch syllables if it was assigned (e.g. *weteki* 'tree kangaroo', not *[we⁴te⁴ke¹]; c.f. *mamoli* 'crocodile' which appears just fine as [ma⁴mō⁴li¹] (3b 7:34))
- Words with all low-ish pitch (e.g. [ji³ke³fa¹] 'sugarcane'), which includes most Tok Pisin and English loan words

In regards to the possible tone-driven nature of stress assignment constraints, there does seem to be one case in the data where a word has no stress when it contains an apparently prohibited pitch pattern, but gains stress when that pattern changes. *Tobali* 'five' appears as stressless [to⁵ba³li¹] when utterance-final (in the frame phrase *ebe musu tobali* 'this is five bilums'), but *tobali-afe* 'five times' appears in an example in running text as stressed [to²ba⁴li¹,a¹fe¹].

Additionally, certain words seem to have stress in ways the assignment algorithm in (19) would not predict. All of these words have a falling pitch on their penultimate syllable (in the 'this is an X' frame), and all of them are stressed on that syllable, regardless of the vowel. Examples include [ε⁴ni:⁵no¹] 'tooth' (3a 18:09) and [a³me:⁴gi¹] 'tongs' (3a 27:57).⁹ Compounds and other kinds of multimorphemic words seem to have complex and unpredictable stress—for example, some stressless roots seem to gain stress in compounds while others remain stressless, and some compounds have an expected metrical structure but an unexpected primary stress location.

⁹This does not seem to point towards syllable weight influencing stress placement—all unexpected stress placements involve falling pitch.

OUTSTANDING QUESTIONS:

- What combinations of stress and tone patterns are disallowed?
- Why do words like *enino* ‘tooth’ have stress that doesn’t seem to be sonority-driven?
- How does stress in compound words behave?
- How does stress interact with inflections, especially in inflected verbs and auxiliaries?

Reduction

Vowels in metrically-weak syllables—syllables that are in a foot but not the head of that foot—are phonetically reduced. Reduction involves a degree of vowel centralisation and shortening; some vowels are shortened out of existence entirely, especially following a sonorant (including [J]). Reduced vowels between voiceless consonants may be devoiced, or entirely deleted as well, as in (21d) below. Round vowels leave a trace of labialisation on the consonant preceding them when they’re reduced. Some examples are as follows; note that (21b) shows that reduction occurs *after* the realisation of /d/ is determined.

- (21) a. /mesɛneba/
 [mə'sɛnəba] ~ [mə'sɛn.ba]
 ‘young girl / sister’
- b. /baditi/
 [ˈbaɪ.ti]
 ‘money’ (3b 3:00)
- c. /akoda/
 [ˈa:kəJa] ~ [ˈa:kʷ.Ja]
 ‘fire pit’ (3a 4:08)
- d. /sekefo/
 [sɛ̥'kɛɸo] ~ [ˈskɛɸo]
 ‘knee’ (3a 16:29, see *tobasekefo* ‘elbow’ at 3a 16:41)

Reduction naturally does not happen in words with no stress, and as such functions as a primary diagnostic for the presence or absence of stress in a word.

2.4.3 Vowel length

There appears to be in Yale at the very least a surface distinction between short vowels and long vowels. Whether length is underlyingly contrastive or not is something of an open question, however; and as noted above, depends on a better analysis of the tone and stress systems. It seems, for example, that all syllables with a falling pitch also have a long vowel. Stress does not seem to consistently trigger length, as it is quite common to have all short vowels in words that do have stress; however, we never see cases where the

stressed syllable in a foot is short while the unstressed syllable is long, so there are likely some processes by which stress and length interact.

I can at present offer no explanation for long vowels that do not have contour tones; however, this is a result of my limited understanding of Yale's tone system, and I do not at all wish to claim that long vowels with level tones are proof of underlying length contrasts. The length on the first syllable of *musu* in (17f) above is a good example to discuss, as it presents us with two clear options for analysis: either the length is underlying and something about its environment in the other examples causes that first syllable to be shortened, or the length is secondary and something tonological is triggering it in this example (whether directly or indirectly)—e.g. if there was an underlying contour tone that lengthened the vowel and was subsequently made level.

OUTSTANDING QUESTIONS:

- Is length truly secondary? If it is, is tone truly the only thing that triggers it? If length is contrastive, what explains the observed alternations between short and long vowels when words are placed in different contexts?

2.5 Phonological processes

2.5.1 Vowel epenthesis

Many inflected forms in Yale present underlying sequences with few or no vowels (such as /m-t-d-m-a/ 'they did something to them' in (22a)); in order to produce surface forms that obey Yale's syllable structure, Yale inserts epenthetic vowels. These appear between any consonants that cannot legally cluster (and at times between consonants that can), and at the ends of words that would not otherwise end in a vowel. The default epenthetic vowel is /ε/, however, other vowels can appear as epenthetic vowels as well; it seems as though Yale will copy a vowel from the right some of the time. (22) shows some examples with epenthetic vowels highlighted; note how in (22b) the vowel copy process propagates leftwards.

- (22) a. /m-t-d-m-a/ →
 3.PL.SUBJ-PAST-L-3.PL.OBJ-PL.SUBJ
 → /mεtdεma/
 'They did something to them'
- b. /d-g-tigo dime/ →
 3.SG.M.SUBJ-SUBORD-fall prevent
 → /digitigo dime/
 'To prevent him from falling'
- c. /soa n-to-m-a/ →
 wash 1.SUBJ-TO-3.PL.OBJ-PL.SUBJ
 → /soa notoma/
 'We wash them'

- d. /fɛka n-ko-e-a/ →
 run I.SUBJ-K-towards.speaker-PL.SUBJ
 → /fɛka nokoɪɖa/
 ‘We run (towards where I am now)’

The leftward copying process seems to avoid crossing roots, or possibly does not copy from certain morphemes, as is shown in (23). Additionally, there seem to be no cases where /a/ is copied leftwards. The exact circumstances of this failure to copy are not wholly clear.

- (23) /ni m-bi-a/ →
 sleep 3.PL.SUBJ-B-PL.SUBJ
 → /ni mɛbia/ (not */ni mibia/)
 ‘They sleep’

Interestingly, there is a situation where this leftwards copying seems to reference a vowel that is deleted for not obviously phonological reasons. The auxiliary root TO appears as *to* unless it’s followed by an *-l* marking a third-person masculine object, in which case the pair is simply realised as *tl*.¹⁰ However, any epenthetic vowels to the left of TO appear as /o/ regardless of whether TO appears with /o/ or not, as shown in (24).

- (24) a. *se-sale* *no-to-m-e* *mɛ*
 PLURACT-place.down I.SUBJ-TO-3.PL.OBJ-I.SG.SUBJ ??
 ‘I place them down’
 b. *tika no-t-l-a*
 open I.SUBJ-TO-3.SG.M.OBJ-PL.SUBJ
 ‘We open it’

In some cases, we seem to get an epenthetic /e/ where we might have expected an /ɛ/. These at times seem to create a sequence of alternating /ɛ/ and /e/, which suggests a prosodic explanation for this pattern. This might be nothing at all—it may be simply due to mishearing, or a separate morpheme /e/—but there are a number of otherwise inexplicable /e/s in the data that seem to appear in these alternating patterns.

- (25) /d-g-d-kake-m mɛ/ →
 3.SG.M.SUBJ-FUT-L-away-3.PL.OBJ FUT
 → /degɛdekakemɛ mɛ/
 ‘he will [chase] them away’

There is one small piece of evidence that suggests that epenthesis may occur within roots as well as between morphemes. There are two words for ‘good’, *lale* and *laloa*. If one assumes that *laloa* contains the adjectivaliser *-wa* (see section 5.3.2), this suggests that its root is *lal*, and that *lale* is the bare root with a necessary epenthetic vowel.

There are also a few circumstances where epenthesis seems to occur when it is otherwise unexpected.

¹⁰This is under all circumstances. It’s not clearly motivated by prosody or other phonological considerations, as /tVd/ sequences do not universally collapse to /td/.

- (26) /n-g-d-e dime/ →
 I.SUBJ-SUBORD-L-I.SG.SUBJ prevent
 → /nɛgde dime/ (not */nɛgde dime/)
 ‘to prevent me [from doing something]’

These unexpected epenthetic vowels also seem to take stress, so there may be a prosodic explanation for this.

OUTSTANDING QUESTIONS:

- What blocks leftward copying of vowels for epenthesis? Is /a/ ever copied?
- How does epenthesis interact with stress-based deletion? Do inflected words ever have stress in the first place?
- Why do we seem to get /e/ inserted sometimes when /ɛ/ was expected? Is it truly for prosodic reasons? Is it just due to mishearing and mixing up /e/ and /ɛ/?
- Is there any more evidence besides the possible *lale*~*laloa* alternation that suggests that epenthesis may occur within roots?
- What explains the unexpected epenthesis in (26)?

2.5.2 /e/→/i/

/e/ seems to become /i/ often after /u/ and /o/.

- (27) a. /n-u-e/ →
 I.SUBJ-go-I.SG.SUBJ
 → /nui/
 ‘I go’
 b. /feka n-ko-e/ →
 run I.SUBJ-K-I.SG.SUBJ
 → /feka nokoi/
 ‘I run’

2.5.3 Leftward nasality assimilation

When a /dV/ syllable precedes a syllable beginning with a nasal consonant, its /d/ becomes /n/. Compare the changes in (28a) and (28b) with the unchanged form in (28c).¹¹

- (28) a. /ni da-n-b-a/ →
 sleep ACTV-I.PL.SUBJ-B-PL.SUBJ
 → /ni nanɛba/
 ‘We’re sleeping’

¹¹Note that (28c) shows that the preceding /n/ in *ni* ‘sleep’ is not involved in this process.

- b. /ni **da**-m-t-b-a/ →
 sleep ACTV-3.PL.SUBJ-PAST-B-PL.SUBJ
 → /ni **namete**ba/
 ‘They were sleeping’
- c. /ni **da**-t-b-a/ →
 sleep ACTV-PAST-B-PL.SUBJ
 → /ni **date**ba/
 ‘We were sleeping’

This change only occurs once, and is not cyclical; thus, a /d/ changed to /n/ by this rule will not cause a further /d/ to change to /n/. (29) shows this.

- (29) /d-de-ne/ →
 3.SG.M.SUBJ-give-I.SG.OBJ
 → /**denene**/ (not */**nenene**/)
 ‘He gives me’

2.5.4 Consonant epenthesis

Under certain conditions, a /ɖ/ may be inserted when /i u e/ and another vowel come together at a morpheme boundary. (30) gives some examples.

- (30) a. /m-u-a/ →
 3.PL.SUBJ-go-PL.SUBJ
 → /mu**ɖ**a/
 ‘we go’
- b. /bodi-aja/ →
 3.POSS-father
 → /bodi**ɖ**aja/
 ‘his father’ (10a 0:27)
- c. /n-si-o/ →
 I.SUBJ-come-DU.SUBJ
 → /nisi**ɖ**o/
 ‘we two come’

This is not evidence of a general preference against certain kinds of hiatus in Yale—compare the root *asia* ‘father’s older brother’, which appears quite fine as /asia/ and not */asidɖa/. In fact, this /ɖ/ seems to appear quite inconsistently. If you compare (30a) and (30c), you would expect ‘we come’ and ‘they come’ (non-dual) to be **nisija* and **misija*; however, they appear as *nisia* and *misia*, without the /ɖ/. ‘Go’ inserts /ɖ/ before both dual and plural subject suffixes; ‘come’ only inserts it before dual. In at least one case, this /ɖ/ even seems to displace a root consonant: the verb *-lib-* ‘stand’ appears as *nilibo* in first-person dual and unexpectedly *nilija* in the first-person plural.

There also may be a /j/ is inserted when two /a/s come together; underlying /m-outa-a/ becomes *moutaya* ‘we are first’. (As with the above sequences, /aa/ sequences are permitted unchanged in roots; see *saano* ‘lungs’.)

OUTSTANDING QUESTIONS:

- What are the conditions under which /dz/ is inserted, and under which it isn't? Is there a regularity to it, or is it arbitrary?
- What explains the *nilibo* ~ *nilija* alternation?
- Do all /a-a/ sequences appear as /aja/?

2.6 Reduplication

Alongside prosody, reduplication is perhaps the most complex and most badly-understood part of Yale's phonology. Multiple rather different reduplication processes seem to occur, and it is not clear whether they represent different reduplication forms with different meanings, or if there is some other consideration triggering which process is used when. The primary use of reduplication seems to be making verb adjuncts pluractional (see section 4.5.1), such as *sale* 'put down' / *sesale* 'put down several things'; or intensive, such as *kablu* 'bite' / *kekablu* 'bite hard'. Some nouns may be reduplicated for plurality, such as *mabatimabati* 'rafters'. Adjectives modifying plural nouns may also be reduplicated, as *tako juba* 'large sore' / *tatako juba* 'large sores'; and some time words show patterns that seem like reduplication, such as *olobalebale* 'early morning' from *olobale* 'morning'.¹²

With verb adjuncts and adjectives at least, the basic idea seems to be 'reduplicate an initial CV sequence', though this does not account for all forms. The simplest case of reduplication is that of a CV-initial root:

- (31) a. *tika*
 remove
 'remove'
 b. *ti-tika*
 PLURACT-remove
 'remove several things'

We see CV reduplication even when the root begins with a CCV sequence, as in the following:

- (32) a. *gli*
 die
 'die'
 b. *gi-gli*
 PLURACT-die
 'several people die'

¹²The translation of *olobalebale* is a guess; it only ever appears in the phrase *olobalebale wa* 'early in the morning'.

In this case, the reduplicant takes the first consonant and the first vowel, and ignores the extra intervening consonant.

When the word is vowel-initial, one data point suggests that something odder happens.

- (33) a. *okli*
 jump
 ‘jump’
 b. *o<ko>kli*
 <PLURACT>-jump
 ‘several people jump’

Here, since there’s no consonant to copy in the initial syllable, the reduplicant takes whatever is the first consonant, and appears right before that first consonant. However, it still takes the first vowel,¹³ resulting in a CV sequence that doesn’t itself occur inside the base.

Other unusual things appear to happen with /oV/ diphthongs:¹⁴

- (34) a. *goa*
 put.on
 ‘put on’ (37a 2:30)
 b. *go-goa ~ go-ga*
 PLURACT-put.on
 ‘put several things on’ (37a 2:35)
 c. *hoεi*
 close
 ‘close’ (37a 2:59)
 d. *ho-hoεi ~ ho-bei*
 PLURACT-close
 ‘close several things’ (37a 3:04)

It seems on first glance here that the /o/ in the diphthong gets moved entirely out of its place, and appears only in the reduplicant; the forms that seem to retain it in the root (such as *gogoa* and *hohoεi*) may not actually be retaining it, as any obstruent may be phonetically labialised after a rounded vowel (see section 2.1.2)—/gogoa/ would be hard to distinguish phonetically from /goga/ with optional labialisation. Since these two forms would be very difficult to distinguish, though, the best explanation for this is likely that this is normal CV reduplication, with a further change deleting the initial vowel in the diphthong: thus, /gogoa/ → /goga/. There are as far as I am aware no clear cases in the data of words that should be transformed by such a change but are not (i.e. no clear cases of CV_iCV_iV_j words).

One final rule to note is that /a/ seems to be replaced with /ε/ when copied under some circumstances. This explains the following otherwise anomalous forms.

¹³Except if that vowel is /a/, in which case the phenomenon mentioned shown in (35) may also apply, resulting in an /ε/ in the reduplicant.

¹⁴There are no instances in the data of /CuV/ bases that could be reduplicated.

- (35) a. *kablu*
 chew
 ‘bite’
 b. *ke-kablu*
 strongly-chew
 ‘bite hard’
 c. *afli*
 scream
 ‘scream’
 d. *a<fɛ>fli*
 <PLURACT?>-scream
 ‘scream several times’ (?)

This copying of /a/ as /ɛ/ does not happen all the time, however.

- (36) a. *tafa*
 sit
 ‘sit’
 b. *ta-tafa*
 PLURACT?-sit
 ‘several people sit’ (?)
 c. *tako*
 large
 ‘large’
 d. *ta-tako*
 PL-large
 ‘large [things]’ (8a o:46)

Whether /a/ or /ɛ/ appears might be conditioned by prosodic factors; *kekablu* and *afɛfli* seem to have a $\sigma^2\sigma^4\sigma^1$ surface pitch pattern while *tatafa* and *tatako* have $\sigma^4\sigma^3\sigma^1$, and *kekablu* clearly has stress as *ke'kablu* while *tatafa* and *tatako* are clearly stressless. Alternatively, this could be due to a historical collapse of two different vowels into current /a/, one of which could be copied and the other of which could not; in such a scenario, whether reduplication copies /a/ as /a/ or as /ɛ/ would be lexically specified.¹⁵ This phenomenon may also be related to the inability of /a/ to be copied by vowel epenthesis (see section 2.5.1).

A few verb adjuncts show reduplication of the entire word, rather than just a CV sequence.

- (37) a. *esogo*
 follow
 ‘follow’

¹⁵This makes additional sense when you consider Yale’s vowel inventory, which would be fairly symmetrical but for the lack of /ɔ/. Perhaps current /a/ is the result of a merger between historical *a and *ɔ.

- b. *esogo-esogo*
 ??-follow
- c. *blo*
 swish.net
 'swish a net to poison and catch fish'
- d. *blo-blo*
 ??-swish.net

However, it is not clear if this is the same kind of reduplication as the CV reduplication seen above. The data does not give translations for these reduplicated forms, and thus it is entirely possible that they have a different meaning from Yale's pluractional CV reduplication. Alternatively, they may be in some way from a different diachronic source than other verb adjuncts, and if so, they would be lexically specified as behaving idiosyncratically.

Nouns reduplicated for plurality simply copy the whole root—*labu* 'floorboard, floor' becomes *labulabu* 'floorboards'.

2.6.1 Anomalous cases

There is at least one reduplicated form of a verb adjunct that does not fit into any of the above generalisations: *sle* 'fix, set' reduplicates as *sesle* (including a vowel change in the base). Additionally, the one case of a time word being reduplicated, *olobalebale* 'early morning' from *olobale* 'morning', shows another completely different reduplication pattern—the stressed syllable and everything after it is what's reduplicated.¹⁶

OUTSTANDING QUESTIONS:

- Under what circumstances is /a/ reduplicated as /ε/ instead of as /a/? Is it just purely arbitrary in current Yale?
- Why do some verb adjuncts reduplicate the whole root, rather than just a CV sequence? Is this for non-phonological reasons, or maybe even wholly arbitrary? If there are two kinds of reduplications with different meanings, can they both occur on the same word at the same time?
- What, if anything, explains *sle* reduplicating to *sesle*?
- Are there any more forms with reduplication patterns like that of *olobalebale*?
- How does reduplication affect tone and stress?

¹⁶This might suggest that final syllables are *not* extrametrical and what's happening here is that a foot is being reduplicated; but this is the only data point in favour of that analysis.

Chapter 3

Nouns and pronouns

Nouns in Yale are relatively simple, and there is little overt morphology on most nouns. Plurality and possession can be complex; especially possession, which involves a unique series of bound prefixes. However, the vast majority of nouns take neither plurality nor possession morphology and remain entirely unaltered under all circumstances.

3.1 Gender

Nouns in Yale have grammatical gender—there are three classes, ‘masculine’, ‘feminine’ and ‘inanimate’; and each noun is assigned to one of these classes. The labels come from the fact that the two animate classes includes humans of the same biological gender, and animals of that gender when their gender is relevant; semantically inanimate nouns (and animals when their gender is irrelevant) are classified by other criteria. Exactly what these criteria are is not clear—the two animate genders include nouns that are semantically entirely inanimate (such as *eho* ‘clothes’, which is masculine, or *laba* ‘leaf’, which is feminine), and the inanimate gender includes some animals (such as *egu* ‘cuscus’). Some nouns seem to change for semantic reasons—*klɛli* ‘wild pig’ is masculine while the pig is alive, and inanimate once the pig is dead.

Gender is relevant purely for verb agreement, and nothing referencing a noun’s gender appears anywhere else in the language.

OUTSTANDING QUESTIONS:

- Are there certain semantic qualities that govern or influence which nouns are in which gender and when?
- Are those criteria still relevant, or is gender assignment largely conventionalised and arbitrary in current Yale?

3.2 Plurality

There are several ways of making plural nouns in Yale. The most common is to simply leave the noun unchanged and infer plurality from context, or from verb agreement or adjective plurality.

- (38) a. *juba*
sore
'sore'~'sores'
- b. *ta-tako juba*
PL-large sore
'large sores'

There are, however, ways to overtly mark plurality; which is used seems to be determined largely on a lexeme-by-lexeme basis. Nouns that can be made explicitly plural are typically animate, but not exclusively so; the overall number of overtly pluralisable nouns seems relatively small.

3.2.1 *-le*

Of the overt plural markers, the most common is the suffix *-le*.

- (39) a. *neba-le*
child-PL
'children'
- b. *ama-le*
dog-PL
'dogs'
- c. *life-le*
village-PL
'villages'

3.2.2 *-nino*

Certain kin terms take *-nino* as their plural suffix. This suffix seems to be used either primarily or exclusively on honourable kin terms; i.e. terms for those in older generations than the speaker.

- (40) a. *aya-nino*
father-PL
'fathers'
- b. *semle-nino*
great.grandfather-PL
'great grandfathers'
- c. *Naya na be Loto na be bo-ta-me-nino*
Naya and poss Loto and poss 3.POSS-mother-??-PL
'Both Naya's and Loto's mothers'

3.2.3 Suppletive plurals

The word *mese* ‘woman’ has as its plural form the entirely unrelated *one*.¹ There is a small number of verbs and verb adjuncts that have suppletive forms for pluractionality, but this seems to be the only case of suppletive plurality in a noun.

3.2.4 Reduplicated plurals

A few nouns are pluralised by reduplicating the whole root.

- (41) a. *mabati* ‘rafter’ → *mabatimabati* ‘rafters’
 b. *labu* ‘floorboard, floor’ → *labulabu* ‘floorboards’

It is not clear if there are restrictions as to which nouns can be pluralised in this way. This may also be a kind of collective plurality rather than true more-than-one plurality; the data is insufficient to tell. If it is a collective plural, it is likely more widely usable than the true plural markers discussed above.

OUTSTANDING QUESTIONS:

- Can all nouns be reduplicated in this way?
- Does reduplication create a true plural or a collective plural (or something similar)?

3.3 Kin terms and possession

Kin terms are the most complex nouns in Yale, due to their ability to be morphologically possessed. Possession morphology is restricted entirely to kin terms in Yale,² and it seems that most if not all kin terms can be morphologically possessed in at least some way. ‘Possession morphology’ here means possession *agreement* morphology—Yale’s possession morphology can co-occur with a possessive noun phrase, and a possessive noun phrase cannot be used without this possession morphology.³ The examples in (42) show which combinations of possessor strategies are valid.

- (42) a. *bi-ta*
 2.POSS-mother
 ‘your mother’
 b. *ju be bi-ta*
 2.SG POSS 2.POSS-mother
 ‘your mother’

¹ *One* is apparently its own root, and can be compounded; it appears at least in the compound *onebo* ‘people’.

² For this reason I very much doubt that alienability is a relevant concept here—body parts and other typical ‘inalienable’ things lack this kind of possessive morphology.

³ It is not yet clear whether possessor full noun phrases require agreement on the possessed noun the way possessor pronouns do. One would expect *bo be no* for ‘a man’s wife’, but the data has at least one token of *bo be mese*.

- c. **ju be bei*
 2.SG POSS mother
 ‘your mother’

Yale’s possession system is complex and full of odd exceptions.⁴ Most words only have second- and third-person possessor morphology, some words only have second-person morphology. Some words have suppletive stems which possession prefixes attach to; most of the rest have a linking morpheme *-li-* between the possessor prefix and the stem. A few words have irregular forms or are otherwise individually odd. Which words behave in which ways seems entirely arbitrary and lexically-determined; there seems no semantic basis for any of the different behaviours of possessive morphology.

The possessor prefixes resemble free pronouns, but not exactly; they’re given in table 3.1 with the free pronouns for comparison. Note that these forms make no plurality distinction—possessors take the same prefixes whether singular, dual or plural, as shown in (43).

	possessor prefix	free pronoun (sg)
1	<i>ba-?</i>	<i>bo</i>
2	<i>bi-</i>	<i>ju</i>
3	<i>bo-</i>	<i>bu</i>

Table 3.1: Yale’s possessor prefixes.

- (43) *Naya na be Loto na be bo-ta-me-nino*
 Naya and POSS Loto and POSS 3.POSS-mother-??-PL
 ‘Both Naya’s and Loto’s mothers’

A number of kin terms have a possessed stem that is entirely different from their unpossessed⁵ stem, such as *bei* ‘mother’, which alternates with the morphologically possessed stem *-ta*. Not all of these take the possessed form even for third person. Table 3.2 shows a comparison between paradigms for several words; suppletive possessed stems are highlighted.

Other kin terms retain the same stem when being possessed. These, however, take a further linking morpheme *-li-* between the possessor morpheme and the stem (the sequence *bi-li-* is reduced to *bli-*). Vowel-initial stems also take the epenthetic consonant *-j-*, which is also found elsewhere under similar circumstances (see section 2.5.4). Table 3.3 shows some examples of non-suppletive possession.

⁴It is possible that some of the oddities found here are artifacts of the data collection process. For most of this data, the informant was female and talking to Carl Campbell (male)—thus, she might have used a different word for second person due to the gender switch in referents. ‘My [relative]’ would be relative to the female speaker, and ‘your [relative]’ would be relative to the male listener. It’s not possible from the data at hand to verify that this isn’t the case, but as there is enough complexity that is clearly not due to this kind of data problem, I’ll assume for now that the data is accurate.

⁵Here ‘unpossessed’ means ‘without possessor morphology’; ‘unpossessed’ forms still appear in the analytical possessor construction with *be*.

	‘my’	‘your’	‘their’
‘mother’	<i>bo be bei</i>	<i>ju be bita</i>	<i>bu be bota</i>
‘husband’	<i>bo be ho</i>	<i>ju be bihe</i>	<i>bu be bohe</i>
‘sister’s child’	<i>bo be fiweni</i>	<i>ju be binola</i>	<i>bu be fiweni</i>
‘father’s older brother’	<i>bo be asia</i>	<i>ju be bisekawε</i>	<i>bu be asia / bu be bosekawε</i>

Table 3.2: Examples of suppletive and partially suppletive possessed stems.

	‘my’	‘your’	‘there’
‘father’s younger brother’	<i>bo be wawa</i>	<i>bli-wawa</i>	<i>boli-wawa</i>
‘father’	<i>bo be aya</i>	<i>bli-jaya</i>	<i>boli-jaya</i>

Table 3.3: Examples of non-suppletive possession.

Two words, *blasu* ‘cousin’ and *same* ‘wife’s mother’s older brother’ do not take *-li-* despite not having a suppletive stem: *same* is *same* unpossessed and *bisame/bosame* possessed. One word, *afu* ‘grandfather’, appears as *-afuju* when possessed, but otherwise behaves like a non-suppletive noun (‘your grandfather’ is *blijafuju*). *afa* ‘older sibling’ and *keineba* ‘younger sibling’ have suppletive stems *-aha* and *-amo* respectively, but still use *-li-* (‘your older sibling’ is *blijaha*).

A small number of words might have a first-person possessor prefix *ba-*. The data is insufficient to distinguish whether this is a first-person prefix or an ‘unpossessed’ prefix, but in either case, this *ba-* alternates with the second- and third-person possessor morphology. The words for parents-in-law (*-koka* ‘mother-in-law’ and *-(a)nebo* ‘father-in-law’⁶), *-muru* ‘older sister’, and *-so* ‘brother-in-law’ all function this way. *-ale* or *-jale*, a word with unclear meaning, is unique in that it takes both this *ba-* prefix and the linking *-li-* morpheme mentioned above, and so appears as *balijale / blijale / bolijale*.

The word for ‘son’ is irregular—‘your son’ is *bijine* and ‘his son’ is *boene*. ‘Son’ and ‘daughter’ (*-ko*) are unique in that they both collapse into *neba*, otherwise simply ‘child’ with no explicit kinship force, with a first-person possessor or no possessor. Only the possessed forms distinguish gender. ‘Husband’ is similar to ‘son’ and ‘daughter’ in that the unpossessed form is simply *ho* ‘man’; only the possessed stem *-he* is specifically ‘husband’. ‘Wife’ is wholly unusual—it is the only word that only has a possessible form in the third person, and that form is *no* (it has no prefix; ‘his wife’ is simply *no*); and the word *mese* ‘woman’ is used in all other cases. Table 3.4 summarises these irregular possessed nouns.

OUTSTANDING QUESTIONS:

- Is *ba-* a first-person possessor marker or an ‘unpossessed’ marker?
- Are any of these apparent cases of stem suppletion actually separate words that seem suppletive due to data collection issues?

⁶Father-in-law’ appears as *banebo / bincho / boanebo*.

	unpossessed	‘your’	‘their’
‘son’	<i>neba</i> ‘child’	<i>bijine</i>	<i>boene</i>
‘daughter’		<i>biko</i>	<i>boko</i>
‘husband’	<i>bo</i> ‘man’	<i>bibe</i>	<i>bohe</i>
‘wife’	<i>mese</i> ‘woman’	<i>no</i>	

Table 3.4: Irregular possessed nouns.

3.4 Pronouns

3.4.1 Personal pronouns

Yale’s free personal pronouns are given in the table in table 3.5. Note that these pronouns ignore several distinctions made by other Yale person reference mechanisms. Verb subject agreement, for example, has separate forms for dual subjects, distinguishes number on third-person forms, and marks gender as well with third-person singular forms. The two overtly plural pronouns lose the *-bo* off the end when followed by the object marker *me*, and become *se me* and *so me*, respectively.

	singular	plural
first	<i>bo</i>	<i>sebo</i>
second	<i>ju</i>	<i>sobo</i>
third	<i>bu</i>	

Table 3.5: Yale’s free personal pronouns.

3.4.2 Deictics

The two basic deictic pronouns are *ke* ‘that’ and *ebe* ‘this’. It appears that *ebe* is likely a fossilised form of *e be* ‘this poss’. These both can also be used as adjectives, and precede the noun they modify.

3.4.3 Interrogatives

There are three basic interrogatives:

- (44)
- *ha* ‘where’
 - *fee* ‘what’
 - *ya~yale* ‘who’

Ha seems to rarely appear on its own—it mostly appears with some sort of oblique case marking (see section 6.2.2), such as *ha meta* ‘located where’ or *ha bele* ‘to where’. *Fee* also rarely appears alone—the meaning of ‘what’ is more often rendered by the phrase *fee wesibi* ‘what thing, which thing’—and when it does appear alone, it’s often as a verb adjunct meaning ‘do what’, as in the following example.

- (45) *Wia gali, ʔeε ε-l-o ne?*
 Wia speak, what 2.SUBJ-L-DU.SUBJ Q
 ‘Wia said, “What are you two doing?” ’

There are three other interrogatives that are likely related to *ba*, built off of a form *babe-*: *habenale* ‘when’, *habenuju* ‘how much’, and *habetabo* ‘what kind’. ‘Why’ is handled by *ʔeε me*, which literally means ‘for what purpose’, though this covers the meanings of both ‘what purpose’ and ‘what cause’. ‘Who’ can appear as either *ya* or *yale*;⁷ the circumstances governing this are not clear, but they seem similar to those that trigger the shortening of first- and second-person plural pronouns from *sebo* and *sobo* to *se* and *so*. *Ya* seems to appear primarily when followed by a case marker and *yale* seems to appear otherwise; this is not exclusively true, as examples such as *ya gali tle ne* ‘who spoke?’ show.

There is an additional interrogative base *aʔe-/aʔa-* that appears inside *aʔena* ‘how’ and *aʔatabo* ‘what kind’.

3.5 Deriving nouns

The primary strategy for deriving nouns in Yale seems to be simple zero-derivation. (46) shows how this works—*ni* ‘sleep’ is a verb adjunct (see section 4.1), and in (46a) it is being used as such; while in (46b), it is being used like a noun with no modifications. This usage is fairly rare, however, and *gali* ‘speak’ seems to account for a significant majority of such zero-derived nouns from verb adjuncts.

- (46) a. *ni la-tε-b-a*
 sleep ACTV-PAST-B-PL.SUBJ
 ‘We were sleeping’
 b. *ho ni mago buju l-e-le*
 man **sleep** from get.up 3.SG.M.SUBJ-?-L
 ‘A man gets up from sleep’

There do not seem to be any overt nominaliser morphemes of any kind; it is not fully clear whether this is true for Yale as a whole or simply a hole in the data. At the least, what could be handled by agent nominalisation seems instead to be handled via compounds—e.g. *yanoai ho* ‘sorcerer’, literally ‘sorcery man’, or *tokli ho* ‘thief’, literally ‘steal man’. It seems reasonable to expect that other potential cases of nominalisation would be handled in similar ways.

⁷Yale ‘who’ and Yale the language name are not homophones; ‘who’ has a falling pitch on its first syllable and the language name has a flat high pitch.

Chapter 4

Verbs

Yale verb morphology is relatively complex. Verbs encode information of a number of kinds, including both subject and object agreement, tense, aspect, direction and location, and several other things. Yale verbs are neither predominantly suffixing nor predominantly prefixing; but seem to show a fairly even mix of both; interestingly, subject agreement is marked by both a prefix and a suffix simultaneously.

4.1 The nature of verbs in Yale

There are two major classes of verbs in Yale.¹ The first is what I am calling ‘unary verbs’—these verbs behave like normal verbs in most languages, in that they take inflections and have roots with fairly developed semantics. The second class is a two-part construction involving a root that does not take any inflections (except reduplication), and a semantically bleached auxiliary which carries the inflectional material. (47) shows the two ways to say ‘shoot’, one of which is a unary verb and one of which is a bipartite verb made of an uninflectable root and an auxiliary.

- (47) a. *te-mi-le-Ø*
PAST-**shoot**-3.M.SG.OBJ-3.M.SG.SUBJ
‘He shot him’
b. *lele t-l-Ø-e*
shoot PAST-**L**-INAN.OBJ-1.SG.SUBJ
‘I shot it’

These auxiliaries take inflections in the same way as unary verbs. Indeed, some of these auxiliary roots have fairly obvious sources as unary verbs that remain in the language—for example, compare the auxiliary *-l-* (which has little to no semantic content) with the unary verb *-le-* ‘give’. A similar conjugation-by-auxiliary system can be found in Busa (see Foley 2018, pp. 211–216), which is in close contact with Yale. Similarly, the nearby

¹The analysis in this section is indebted to Foley’s (2018) reanalysis of the Campbells’ original materials.

language Karkar-Yuri does verb inflection through auxiliaries (again, see Foley 2018), but unlike Yale and apparently Busa, Karkar-Yuri uses the same auxiliaries for all verbs.

This system seems on the surface to be quite similar to the sort of ‘verb adjunct construction’ systems seen in Trans-New Guinea languages and elsewhere (see Pawley 2006²). Just like Pawley’s examples of Kalam and Jaminjung, Yale has a small, closed class of inflectable verbs, and a large, open class of (mostly) uninflectable words that require a separate inflectable word to be also present before they can function as a verb. However, in Kalam and Jaminjung, at least, verb adjuncts combine with verbs that have a significant degree of independent meaning and can appear with or without a verb adjunct. In Yale’s case, there are two quite separate classes of inflectable ‘verbs’—one which cannot coöccur with an adjunct (‘unary verbs’), and one which must (‘auxiliaries’); and the latter class has fewer than ten members. Some may have more or less apparent unary verb sources—as mentioned above, *-l-*, Yale’s ‘default’ auxiliary, is likely from *-le-* ‘give’—but they cannot be treated as simply a particular use of what would otherwise be normal unary verbs.

A possibly better well-known comparandum is Japanese’s verbal system (see e.g. Martin 2004), where there are also two classes of verbs—one that is directly inflectable, and one made by pairing an uninflectable root with the verb *suru* ‘do’, which is semantically empty in these constructions. Like Yale, the class of directly inflectable verbs is (mostly) closed.³ However, Yale, unlike Japanese, has a variety of auxiliaries with different semantics, rather than a single auxiliary for all cases. The most striking difference between the systems is that while Japanese regularly uses both classes of verb, Yale has *very* few directly inflectable verbs—the vast majority of Yale verbs, both by number of lexical items and by number of occurrences, are bipartite. In Japanese’s case, bipartite verbs are formed almost exclusively from clearly loaned roots, and the system seems quite purposefully designed as a way of allowing Japanese to make verbs from loaned material; if the Yale system was formed for the same purpose, it would imply that almost all of Yale’s verb roots are from a different source language than its verbal morphology.

As far as terminology goes, though, I am still adopting Pawley’s ‘verb adjunct’ to describe the class of uninflecting words that take an auxiliary for verbal inflection. Yale’s auxiliary constructions are not quite the same as Pawley’s verb adjunct constructions as he describes them, and the term itself is a bit unsatisfying (‘adjunct’ seems to imply that it, not the verb, has the bleached semantics, and the phrase ‘adjunct + auxiliary’ makes you wonder where the head element is), but there seems to be no better term available in the literature.⁴

The bipartite nature of Yale’s verb adjunct + auxiliary constructions is made clear by the fact that some preverbal elements can occur either in front of the auxiliary on its own, or in front of the adjunct + auxiliary complex as a whole.

²There doesn’t seem to be much literature at all on this topic; the only articles I’ve found are by Pawley.

³Japanese does have a process for creating new ones, but it is markedly informal and slang-y.

⁴Pawley refers to the same category in Jaminjung as ‘coverbs’, but as ‘coverb’ means something quite different in other languages such as Chinese, I’m choosing not to use it here. In the case of Japanese’s system, the bipartite verbs are called by the language-specific term ‘*suru* verbs’, which obviously does not transfer; and there seems to be no specific term for the uninflected element. Basque also has a somewhat similar verbal system (Hualde and de Urbina 2003), but in the context of Basque the uninflectable words (in Basque’s case *less* inflectable) are simply called ‘verbs’, which is not very helpful here.

- (48) a. *gali hana le-g-le me*
 talk NEG 3SG.M.SUBJ-FUT-L FUT
 ‘he will not talk’
 b. *hana buju t-le*
 NEG get.up PAST-L
 ‘he did not get up’

4.2 Unary verbs

Unary verbs in Yale are both inflectable and semantically independent, and they never appear with a verb adjunct.

- (49) a. *te-mi-le-Ø*
 PAST-shoot-3.M.SG.OBJ-3.M.SG.SUBJ
 ‘He shot him’
 b. **lele te-mi-le-Ø*
 shoot PAST-shoot-3.M.SG.OBJ-3.M.SG.SUBJ
 ‘He shot him’

4.2.1 Unary verbs and lexical conflation

Certain unary verbs have information conflated into their own stem semantics that would otherwise be provided inflectionally. At least two such categories are conflated—object plurality and direction. The verb for ‘shoot’ is an example of object plurality conflation—it appears as *-mi-* with singular objects and *-lag-* with plural objects.

- (50) a. *ne-mi-l-a*
 I.SUBJ-shoot-3.SG.M.OBJ-PL.SUBJ
 ‘We shoot it’ (one pig)
 b. *bu tobali kleli me-lag-a*
 3 five pig 3.PL.SUBJ-shoot-PL.SUBJ
 ‘They shoot five pigs’

At least two sets of unary verbs have direction marking conflated. The verb for ‘carry’ is one of them: there are four stem forms, for each combination of direction and object plurality.

	one thing	many things
towards speaker	<i>-hi-</i>	<i>-hoe-</i>
away from speaker	<i>-hu-</i>	<i>-hou-</i>

Table 4.1: Unary verbs with direction marking.

In this case, the plural object forms seem to include the direction suffixes *-e* and *-ou* (section 4.8.2) fossilised inside them.

The other clear case of direction semantics conflated into a verb is that of *-kakli-* /*-kaklu-* ‘transition between the inside and outside of a space towards / away from the speaker’. This *-i/-u* opposition these two sets of words show may be the remnant of a lost direction affix.

4.3 Auxiliaries

Auxiliaries differ from unary verbs in having little to no semantic content—they require a verb adjunct to become a full ‘verb’. There are a number of auxiliary roots, which may have somewhat different semantics. Certain pairs of adjunct + auxiliary are likely conventionalised, but as (51) shows, it is possible to use different auxiliaries with the same adjunct with a consequent change in meaning. (Here and throughout this paper, auxiliaries are glossed using all-caps transcriptions.)

- (51) a. *huju t-l-e*
 get.up PAST-L-1.SG.SUBJ
 ‘I got up’
 b. *huju tɛ-t-e-e*
 get.up PAST-T-3.SG.F.OBJ-1.SG.SUBJ
 ‘I got her up’

The semantic range of each auxiliary is very broad and hard to characterise, and it is often unclear why one particular auxiliary has been chosen over another. A tentative list of auxiliaries, with guesses at their meaning and use, is given below.

- (52) • *-l-*: the most common and apparently default auxiliary
 • *-to-*: an auxiliary that seems to cooccur primarily with transitive verbs
 • *-t-*: an auxiliary that possibly indicates causativity
 • *-b-* or *-bi-*: an auxiliary used with some kinds of states involving minimally active subjects (‘sleep’, ‘death’); and occasionally with locations (*bo be tafa tala eke lebe* ‘my sitting place is here’)
 • *-lo-*: an auxiliary of unclear meaning that seems to appear only with verbs of perception (*boi* ‘see’, *ablokane* ‘hear’, *wame* ‘be angry at/about’) and verbs of speaking (*gali* ‘speak’, *takune* ‘ask’)
 • *-k-* or *-ko-*: an auxiliary that seems to do with movement
 • possibly *-let-*: an auxiliary that seems to primarily cooccur with *lowene* ‘know’ and *tole* ‘like, want’

There is also a set of apparent auxiliaries that describe the path of a motion. One of these—*-malita-* ‘motion downwards/westwards’—is known, but it is likely that there are several more. Two directional suffixes, *-kak* and *-kake*, seem to be able to function as directional auxiliaries as well; for more discussion, see section 4.8.2.

- (53) a. *bulusu flou lɛ-malita*
 airplane land 3.SG.M.SUBJ-down/westward
 ‘the airplane lands’
- b. *ase la-tɛ-malita*
 go.hunting ACTV-PAST-down/westward
 ‘He went off hunting towards the west’

OUTSTANDING QUESTIONS:

- Does the list in (52) account for all non-directional auxiliaries in Yale? Are there any entries on the list that are not in fact auxiliaries?
- What are the (likely) other directional auxiliaries besides *-malita-*?
- Is it possible to characterise these auxiliaries’ meanings and use more clearly?

4.4 Affixes and ordering

Table 4.2 gives an overview of Yale’s verbal affixes and their relative ordering; the upper part covers prefixes and the lower covers suffixes. This table applies to both auxiliaries and unary verbs—they are no different from each other inflectionally.

<i>la-/na-</i>	subject	tense	location	applicative	subord.	ROOT
<i>la-</i>	<i>n-</i>	<i>t-</i>	<i>u-</i>	<i>lɛ-</i>	<i>g-</i>	
<i>na-</i>	<i>ɛ-</i>		<i>o-?</i>	<i>ta-</i>		
	<i>l-</i>		<i>e-?</i>			
	<i>e-</i>		[more?]			
	<i>m-</i>					

ROOT	habitual	direction	object	subject	conjunction
	<i>-kef</i>	<i>-kak</i>	<i>-ne</i>	<i>-e</i>	<i>-mɛ</i>
		<i>-kake</i>	<i>-no</i>	<i>-o</i>	<i>-be</i>
		<i>-ou</i>	<i>-na</i>	<i>-a</i>	<i>-na</i>
		<i>-e</i>	<i>-e</i>		
		[more?]	<i>-l</i>		
			<i>-o</i>		
			<i>-m</i>		

Table 4.2: Affix ordering in Yale.

The ordering of *-kef* relative to direction suffixes is not clear in the data; it may be the other way around.

4.5 Verb adjuncts

Verb adjuncts are a distinct word class in Yale. Unlike unary verbs and auxiliaries, verb adjuncts are an open class, and as mentioned above, they require the presence of an auxiliary in order to function as a verb—the pair of (mostly) uninflected verb adjunct plus inflected auxiliary fills the role that a single inflectable verb would in many other languages. The one inflection that verb adjuncts can take is for pluractionality, which is formed either through reduplication or suppletion.

There seems to be a good deal of interchangeability between verb adjuncts and adjectives—adjectives can be used as verb adjuncts with no additional morphology, and verb adjuncts can be used as adjectives with no additional morphology. (54a) shows that even words with overt adjectivaliser morphology can be used as verb adjuncts without any further alterations.

- (54) a. *momata-wa na-me-le-kef-e-a*
 disobey-ADJLZ ACTV-3.PL.SUBJ-L-HAB-??-PL.SUBJ
 ‘They regularly act disobediently’
 b. *etani fu ama*
 long.ago give.birth dog
 ‘A dog born long ago’ (i.e. ‘an old dog’)

When used as modifiers, verb adjuncts can bring along their arguments, and form a zero-marked relative clause.

- (55) *laboe bu [wesibi sisile] wesibi mu.*
 cockroach TOP [thing destroy] thing very
 ‘Cockroaches are really a thing that destroys things.’

Nouns and verb adjuncts as well can be used interchangeably, though this seems to be much rarer—*gali* ‘talk’ ~ ‘story’ accounts for the majority of such uses.

- (56) a. *gali hana le-g-le me*
 talk NEG 3SG.M.SUBJ-FUT-L FUT
 ‘He will not talk.’
 b. *ta tei bo be gali*
 and.then finished 1.SG POSS talk
 ‘And that’s my story done’

4.5.1 Reduplicated adjunct roots

Verb adjunct roots may be reduplicated (for the phonological details of reduplication, see section 2.6). There seem to be at least two separate uses of this reduplication—one is a kind of pluractionality, and the other has an intensifying meaning (‘do with force, do strongly’). Given that there are multiple forms of reduplication used in Yale, one might expect that each meaning would have its own dedicated reduplication type, but this is not clearly the case. As (57) shows, it cannot be ruled out from the data at hand that both CV reduplication and full-root reduplication can be used for both meanings.

- (57) a. *sefa ke me go-goa n-e-l-e.*
 arrow that LOC? **PLURACT**-place 1.SUBJ-??-L-1.SG.SUBJ
 ‘I put the arrows down on it.’
- b. *toba ke-kablu l-e-g-lete-ne me*
 hand **strongly**-bite 3.SG.M.SUBJ-??-FUT-LET?-1.SG.OBJ FUT
 ‘[the pig] is going to bite my hand hard’
- c. *na abujume-abujume m-l-a*
 and **PLURACT**-cook 3.PL.SUBJ-L-PL.SUBJ
 ‘and we cook them [butchered parts of a pig]’
- d. *tekle-tekle no-t-l-e me*
strongly-hit.repeatedly 1.SUBJ-TO-3.SG.M.OBJ-1.SG.SUBJ ??
 ‘I hit [a pig attacking] hard repeatedly’

The above data is most of the data there is about these kinds of reduplication; full-root reduplication is especially rare. Given this data, though, we cannot rule out the possibility that all of these forms are ultimately pluractional somehow. (57a) and similar examples show that at the very least, CV reduplication can indicate action on a plural object. Other kinds of pluractionality (plural subjects rather than objects or repetition of the action) seem possible, but in the examples in the data cannot be clearly separated from object plurality or reduplication used for intensification. It may be that all of the examples that we have interpreted as intensification are actually pluractional—(57b) may instead be ‘[the pig] is going to bite my hand several times’—but more data is necessary to confirm or deny this.

It is worth noting that masses are often considered plural, and trigger pluractional forms.

- (58) *fititu we n-to-m-a, na bu-bube*
 sago.water pour 1.SUBJ-TO-3.PL.OBJ-PL.SUBJ, and **PLURACT**-pull.out.of.water
n-e-l-a
 1.SUBJ-??-L-PL.SUBJ
 ‘We pour the sago water, and then we pull [the sago starch] out of the water’

OUTSTANDING QUESTIONS:

- Is there any correlation between the way a verb adjunct is reduplicated and the meaning of the reduplication? If not, what affects which form of reduplication is used?
- Are there more kinds of pluractionality than just action on a plural object?
- Can we confirm for sure that reduplication can be used for intensification and not just repetition of an action?

Suppletive pluractionals

At least two verb adjunct roots have pluractional forms that are not related to their singular forms.

		singular	pluractional
(59)	‘put in the ground’	<i>le</i>	<i>ola</i>
	‘put down, throw out’	<i>tuku</i>	<i>sike</i>

In one case, one of these suppletive pluractional roots appears reduplicated; it is not clear how this affects its meaning.

- (60) *na ko nage tumule meta si-sike, na*
 and sago.palm.centre sago.pulp ?? LOC **PLURACT**-place.down[PL], and
lo wa ni-si-a
 house to 1.SUBJ-come-PL.SUBJ
 ‘And we place the sago pulp from the centre of the palm on the *tumule*, and we come to the house’

OUTSTANDING QUESTIONS:

- Are there any more suppletive pluractional forms?
- What does *sisike* mean in (60)? Why not use simply *sike*?

4.5.2 Purpose marking

While crossover between verb adjuncts and nouns is apparently rare, verb adjuncts can function in at least one way that’s reminiscent of nouns—namely, they can take the purpose marker *mε* to become an oblique purpose phrase.

- (61) *na n-u-ja ase mε*
 and 1.SUBJ-go-PL.SUBJ go.hunting **PURP**
 ‘And we go to hunt.’

In rare cases this seems to have less clear purpose semantics, and may be a more general clause connection device.⁵

- (62) *ho bu tako tebo, na bu gli mε soa l-e-le*
 man TOP large bad, and 3 die **PURP?** toss.and.turn 3.SG.M.SUBJ-??-L
 ‘A man is very sick, and he tosses and turns as he dies.’

Verb adjuncts cannot take any other noun case marking—this is the one instance where verb adjuncts are treated somewhat like nouns.

⁵This example could instead be an unusual use of truncated *meta*—see section 6.2.2 for more discussion.

4.6 Person affixes

Yale verbs are inflected to agree with both subject and object. Beyond the three person distinctions, Yale also inflects for dual subject as well as singular and plural, and the grammatical gender (masculine/feminine/inanimate) of third-person referents—distinctions not made in the free pronouns. Noticeably, the subject prefixes and object suffixes generally resemble each other, but do not resemble the free pronouns in the least. This suggests that at some point in its history Yale grammaticalised its pronouns into agreement affixes and then subsequently replaced its entire free pronoun set.⁶

Masses are seemingly treated as plural at times for the purposes of agreement.

- (63) *fititu we n-to-m-a*
 sago.water pour 1.SUBJ-TO-3.PL.OBJ-PL.SUBJ
 ‘We pour the sago water’

4.6.1 Subject affixes

Yale has a somewhat odd subject agreement system that involves paired subject prefixes and suffixes—each verb must take both simultaneously, resulting in a small amount of redundancy. However, each paradigm—both the prefix paradigm and the suffix paradigm—have undergone some significant mergers, with the result that both the prefix and suffix are required in order to fully specify a person/number combination. Table 4.3 shows the subject prefixes, table 4.4 shows the suffixes.

	singular	dual	plural
1	<i>n-</i>		
2	<i>ε-</i>		
3 masc	<i>l-</i>	<i>m-</i>	
3 fem	<i>e-</i>		
3 inan			

Table 4.3: Yale subject prefixes.

	singular	dual	plural
1	<i>-e</i>	<i>-o</i>	<i>-a</i>
2	<i>-∅</i>		<i>-o</i>
3 anim	<i>-a</i>		<i>-a</i>
3 inan	<i>-a</i>		<i>-∅</i>

Table 4.4: Yale subject suffixes.

It should be fairly clear from these tables that mostly, though not entirely, these affixes have evolved to show person and number separately—person on the prefix, number on the suffix. The exceptions to this split are the presence of a first-person singular suffix *-e*

⁶Such a theory also requires Yale to have had SVO ordering at the time.

rather than nothing at all, the replacement of the masculine and feminine third-person prefixes with a gender-neutral prefix in nonsingular forms, and the complete merger of dual and plural in the second person only. The inanimate form is made through unusual combinations of other affixes—inanimate singular is a feminine singular prefix and a plural suffix; inanimate plural is a plural prefix and a singular (null) suffix. Table 4.5 shows the combination for each person and number; note that every combination of person and number has a unique pair of morphemes, excepting the reduction in gender distinctions for third-person nonsingular forms, and the merger of second-person dual and plural.

	singular	dual	plural
1	<i>n</i> -...- <i>e</i>	<i>n</i> -...- <i>o</i>	<i>n</i> -...- <i>a</i>
2	<i>ε</i> -...- \emptyset	<i>ε</i> -...- <i>o</i>	<i>ε</i> -...- <i>o</i>
3 masc	<i>l</i> -...- \emptyset	<i>m</i> -...- <i>o</i>	<i>m</i> -...- <i>a</i>
3 fem	<i>e</i> -...- \emptyset	<i>m</i> -...- <i>o</i>	<i>m</i> -...- <i>a</i>
3 inan	<i>e</i> -...- <i>a</i>	<i>m</i> -...- <i>o</i>	<i>m</i> -...- \emptyset

Table 4.5: Prefix and suffix pairs for each combination of person and number.

The feminine/inanimate prefix *e*- and the second-person prefix *ε*- both disappear when they attach to one of the few vowel-initial verb roots. In cases where verb roots end in vowels, the vowel-only suffixes replace that vowel. Both of these processes are shown in (64), with the verb *-aita-* ‘help’.

- (64) a. *bo ju mε n-ait-e*
 1.SG 2.SG OBJ 1.SUBJ-help-2.SG.OBJ
 ‘I help you’
 b. *ju bu mε ∅-aita-∅-mε*
 2.SG 3 OBJ 2.SUBJ-help-2.SG.SUBJ-3.PL.OBJ
 ‘You help them’

The past tense prefix *t*- blocks the appearance of all subject prefixes except the third nonsingular *m*-, leaving only the suffixes for person agreement. This is shown in (65).

- (65) a. *∅-t-l-a*
 [SUBJ]-PAST-L-PL.SUBJ
 ‘We/you did [something]’
 b. *mε-t-l-a*
 3.PL.SUBJ-PAST-L-PL.SUBJ
 ‘They did [something]’

4.6.2 Object affixes

Yale’s object affixes are somewhat more straightforward than its subject affixes, in that there is one set of suffixes only. It’s not clear if there are separate dual object agreement suffixes for third-person objects, or if all non-singular non-first person objects are treated

as plural; the data contains no instances of semantically dual third-person objects. The affixes are given in table 4.6; note that *-na* and *-no* block the addition of any subject agreement suffixes after them.

	singular	dual	plural
1	<i>-ne</i>	<i>-no</i>	<i>-na</i>
2	<i>-e</i>		<i>-o</i>
3m	<i>-l</i>	??	<i>-m</i>
3f	<i>-e</i>		

Table 4.6: Yale object suffixes.

Just like with the object-marking particle *mε* (see section 6.2.1), these can agree with either the direct or indirect object in a sentence—it seems to be that the verb agrees with whichever has higher animacy, and since recipients are usually higher animacy than what is being received, the verb typically agrees with the indirect object if one is present. Thus, *nelema* ‘we give 3.PL’ can mean either ‘we give multiple things [to some recipient]’ or ‘we give [some thing or things] to multiple people’, but the second is the more likely interpretation. It seems to always be the case that the verb will agree with whatever is marked by *mε* if *mε* is present.⁷

Under some circumstances, objects do not trigger object agreement marking, as shown by (66).

- (66) *ju sega bi ε-lε ne?*
 2.SG sago eat 2.SUBJ-L Q
 ‘Are you eating sago?’

The circumstances under which object marking is foregone are not clear. It may have to do with gender (perhaps inanimate object marking is null); it may have to do with definiteness (perhaps ‘are you eating [some] sago’ in (66) is different from what ‘are you eating the sago’ would look like).

There is at least one irregular combination of subject and object suffixes—second person plural object *-o* and first person singular subject *-e* combine as *-eo*, instead of the expected **-o-e*:

- (67) *bo so mε bale li hana fa nε-gε-ta-t-eo mε.*
 1.SG 2.PL OBJ ball other NEG get 1.SUBJ-FUT-BEN-T-1.SG.SUBJ.2.PL.OBJ FUT
 ‘I won’t get you another ball.’

OUTSTANDING QUESTIONS:

- Why is there no object agreement in sentences like (66)?

⁷Verbs whose stems include information about the object (section 4.2.1) still take object agreement suffixes like normal.

4.7 Tenses

Tense is apparently remarkably straightforward in Yale. There are three tenses—the standard past, present and future. Present is the default, and takes no marking. Past is indicated by a prefix *t-*, which blocks the appearance of all subject agreement prefixes except the third-person nonsingular *m-*. Future tense is indicated by a combination of the prefix *g-* (see section 4.10.1) and the purpose marker *mε* (section 6.2.2).

- (68) *tokafe hi l-e-g-le* *m=0*
 later eat 3.SG.M.SUBJ-??-FUT-L FUT=INFORM
 ‘Later he’ll eat them.’

Mechanically, a future tense clause is basically a purpose clause without any associated matrix clause—*g-* is used to turn the auxiliary into a verb adjunct, which then allows it to be marked with *mε*. The one difference between future tense marking and purpose marking is that while in specifically purpose subclauses *mε* can directly follow verb adjuncts without auxiliaries, future tense verbs must still have an auxiliary. *Ase mε* ‘go.hunting PURP’ can only be interpreted as ‘in order to go hunting’; in order to say ‘we will go hunting’, it must be expressed with an auxiliary as something like *ase negla mε*. Throughout this paper, for clarity’s sake, both *g-* and *mε* in future tense constructions are glossed as ‘FUT’.

OUTSTANDING QUESTIONS:

- Is Yale tense really this simple?
- Can more be said about the semantics of tense categories?

4.8 Direction and location affixes

Yale has an abundance of direction and location affixes on verbs. These are, overall, relatively badly documented, and the semantics of most are not clear.

4.8.1 Prefixes

The data shows one clear prefix *u-*, which comes in a slot just before *g-* and means ‘at some distance from here’.

- (69) a. *bu tafa l-le* ([bu taɸa:ɛ])
 3 sit 3.SG.M.SUBJ-L
 ‘He’s sitting’
 b. *bu tafa l-u-le*
 3 sit 3.SG.M.SUBJ-at.a.distance-L
 ‘He’s sitting over there’

- c. *ho bu Weku lifɛ kɪlɛ l-u-lɛ na Natimane*
 man TOP Weku village leave 3.SG.M.SUBJ-**at.a.distance**-L and Natimane
lifɛ wa foa lɛ-kake.
 village to arrive 3.SG.M.SUBJ-towards.here
 ‘A man leaves Weku and arrives here at Natimane.’

Exactly what counts as ‘here’ is unclear. In one case, this *u-* appears in a story on a verb that happens on the speaker’s body (*na bo mɛ bi lulɛ* ‘and [the pig] bit me’), but the location of the event itself was far away from where the story was being told. This prefix may then mark the speaker’s current location, rather than any discourse-internal reference location.

Cases of unexpected vowels in the same slot as *u-* suggest additional prefixes *o-* and *e-*. It is not clear from the translations given what these prefixes would mean; and either or both may be better explained phonologically (or as otherwise hidden parts of neighbouring morphemes) rather than as real morphemes themselves. They are considered morphemes of unknown meaning and glossed as ‘?’ throughout this paper.

- (70) a. *ɛgu magoɛ na leɛ t-l-e, na ɛgu bu afli*
 cuscus type.of.arrow with shoot PAST-L-1.SG.SUBJ, and cuscus TOP squeal
t-o-l-a.
 PAST-?-L-INAN.SG.SUBJ
 ‘I shot the cuscus with a *magoɛ* arrow, and the cuscus squealed.’
 b. *bo Banimo wa t-o-g-u-i-na*
 1.SG Vanimo to PAST-?-COND-go-1.SG.SUBJ-COND
 ‘When I went to Vanimo’
 c. *tokafɛ bi l-e-g-lɛ m=o*
 later eat 3.SG.M.SUBJ-?-FUT-L FUT=INFORM
 ‘Later he’ll eat them [bananas].’

Besides these prefixes (*u-* and possibly *o-* and *e-*), there seems to also be a set of prefixes relating to locations separated from the speaker in an absolute direction. These are minimally documented, and translations must be inferred. These four prefixes combine to create a four-direction system that lines up fairly well with the Western compass directions, however, this is likely somewhat coincidental. The two rivers that flow through the Yale language area flow from north to south, so ‘upstream’ aligns with north and ‘downstream’ with south. ‘Up’ and ‘down’ are likely related to sunrise and sunset. These prefixes refer not to action taking place along a direction, but to action taking place in a location that is in that direction relative to the speaker—auxiliaries are used for action taking place along a direction (see section 4.3).

The prefixes are listed in (71); an example of their use is shown in (72).⁸

⁸This *o-* prefix is probably not the same as the prefix *o-* with unknown meaning mentioned above. For example, in (70b), Vanimo is nearly due north of the Yale area, so using a prefix meaning ‘while to the west’ does not make much sense—unless the speaker was very confused, or at some point reoriented himself with respect to a different river flowing west-to-east.

- (71) *tu-* upstream (north)
mo- downstream (south)
to- ‘up’ (east)
o- ‘down’ (west)
- (72) a. *ato elili te-le*
body pain PAST-L
‘She was sick’
b. *ato elili te-tu-le*
body pain PAST-**upstream**-L
‘She was sick upstream of here’ [translation inferred]

It is unknown whether these prefixes can combine with the relative location prefix *u-* above.

OUTSTANDING QUESTIONS:

- Are *o-* and *e-* direction prefixes, or can they be explained phonologically? (Or do they have some other significance?)
- Can relative direction prefixes like *u-* combine with cardinal direction prefixes?
- Is there a better way to characterise the meaning of *u-*?
- Is this the proper understanding of the meaning of the absolute direction prefixes?

4.8.2 Suffixes

There are at least two clear directional suffixes in Yale. These are *-e*, which indicates motion towards the speaker, and *-ou*, which indicates motion away from the speaker.

- (73) a. *na egu bu fiji to-k-e-ja.*
and cuscus TOP swing PAST-K-**towards.speaker**-INAN.SG.SUBJ
‘And a cuscus swung towards me.’
b. *kleli la le-g-leb-ou wa*
pig PUNCT 3.SG.M.SUBJ-?-flee-**away.from.speaker** PUNCT
‘The pig suddenly runs away’

There are two additional direction markers that seem to function both as suffixes and as full auxiliaries. These are *-kake* and *-kak*, which respectively indicate motion towards or away from a contextually-supplied reference point.

- (74) a. *na sefa ne-leke-kake-a*
and arrow I.SUBJ-release-**towards**-PL.SUBJ
‘And we release the arrows towards [it]’

- b. *bo Mala tu jelefo wa su*
 I.SG Mala water other.side towards cross.over
na-n-e-kake-me fɛnɛ
 PURP-I.SG.SUBJ-??-towards-PURP almost
 ‘I was almost going to cross over to the other side of the Mala River’
- c. *t-o-maso-kake*
 PAST-??-go.along.the.top-away
 ‘He went away along the top of it’
- d. *na sefa tutuku l-u-lɛ-kake, afli na*
 and arrow run.away 3.SG.M.SUBJ-at.a.distance-COM-away, squeal with
 ‘And [the pig] runs away with the arrows [in it], with squeals’

These two markers may only be allowed to function as suffixes with unary verbs, appearing as auxiliaries with verb adjuncts. It is not clear, though, whether *-maso* ‘go along the top of something’ in (74c) is a unary verb or rather a directional auxiliary like *-malita* (for which see section 4.3). *-kake* at least seems related to or derived from the adjective *kake* ‘far away’; *-kak* does not share this clear derivation (the antonym of *kake* ‘far away’ is *loli* ‘nearby’). *-kak* and *-kake* are homophonous when followed by the first-person subject suffix *-e*.

OUTSTANDING QUESTIONS:

- Is it truly the case that *-kak* and *-kake* are both auxiliaries and suffixes? Are they alone in functioning this way?

4.9 Applicatives

Yale has two applicative prefixes, which take an oblique argument and make it an object. The prefixes specify the semantic role of the oblique thus promoted.

(75) shows how the addition of an applicative alters a sentence.

- (75) a. *neba tafa l-lɛ*
 child sit 3.SG.M.SUBJ-L
 ‘the [male] child sits’
- b. *neba tafa nɛ-lɛ-l-lɛ*
 child sit 1.SUBJ-COM-L-3.SG.M.OBJ-1.SG.SUBJ
 ‘I sit with (babysit) the [male] child’

4.9.1 *lɛ-*

lɛ- is the comitative applicative. It creates a verb whose object is someone or something that is being accompanied by the subject in the action of the verb. In some cases (e.g. (75) above), this quite significantly changes the meaning of the verb. In other cases, such as (76), the verb’s semantics don’t seem to change much at all. This may be due to the

argument structure of the verb in question—if verbs about following⁹ are intransitive on their own—but the data is insufficient to draw a conclusion about this.

- (76) *hle n-le-l-l-e* ([hǎle nder:ɛ])
 follow 1.SUBJ-COM-L-3.SG.M.OBJ-1.SG-SUBJ
 ‘I follow along with it [the trail]’

4.9.2 *ta-*

ta- is the benefactive applicative, and it creates a verb whose object is someone receiving some benefit from the action of the verb.

- (77) *ho li bu alegɛ mumu le-bɛt-le-na, na li ho*
 man other TOP path not.know 3.SG.M.SUBJ-??-3.SG.M.OBJ-COND, and other man
bu mɛ lebotanɛ le-ta-t-le.
 3 OBJ demonstrate 3.SG.M.SUBJ-BEN-TO-3.SG.M.OBJ
 ‘If a man doesn’t know the way, another man shows him.’

It can also be used to mark the addressee of a speech act as the object.

- (78) *bu bo mɛ tafi le-ta-t-a-ne-mɛ*
 3 1.SG OBJ answer 3.SG.M.SUBJ-BEN-T-??-1.SG.OBJ-??
 ‘He answers me’

In one instance, the benefactive seems to function as a kind of malefactive; alternatively, its appearance in this example may be due to some kind of special construction with a benefactive when body parts are involved—notice that the verb takes first-person agreement, even though the object is the full noun phrase ‘my eyes’.

- (79) *bo be naba tiki le-ta-tɛ-ne*
 1.SG POSS eye poke 3.SG.M.SUBJ-BEN-T-1.SG.OBJ
 ‘He pokes out my eyes’

OUTSTANDING QUESTIONS:

- Do sentences involving action on body parts behave in general like (79)?

4.9.3 Other possible applicatives

There is one further example of something that seems like it could be an applicative, but it comes as a suffix rather than a prefix.

- (80) *folɛ mi-gi-si-tɛ-ne jua*
 bird 3.PL.SUBJ-SUBORD-COME-??-1.SG.OBJ be.absent
 ‘The birds didn’t come to me’

⁹*esogo*, also ‘follow’, seems to behave similarly to *hle*.

4.10 Other verbal affixes

There are a few affixes in Yale that do not seem to be part of larger sets; those are described here.

4.10.1 *g-*

g- is a prefix with complex behaviour. The majority of the time, it occurs alongside an additional verb-final conjunction affix (*-mε*, *-na*, or *-be*) to create a subordinated verb phrase. These constructions are described in more detail in sections 6.5.2 and 6.5.3.

- (81) a. *bo-hε teke l-o-g-l-e-mε negεmε, ke*
 3.POSS-husband hit 3.SG.M.SUBJ-??-SUBORD-L-3.SG.F.OBJ-PURP because, that
mε yε e-l=o.
 PURP cry 3.SG.F.SUBJ-L=INFORM
 ‘She’s crying because her husband hits her.’
- b. *yamε bo ke lele tε-g-lε-l-e-be kleli, sebo*
 yesterday 1.SG that shoot PAST-SUBORD-L-3.SG.M.OBJ-1.SG.SUBJ-REL pig, 1.PL
ke kleli hi nε-l-a.
 that pig eat 1.SUBJ-L-PL.SUBJ
 ‘The pig I shot yesterday—we’re eating that pig.’
- c. *bo Banimo wa t-o-g-u-i-na, na bo mese na*
 1.SG Vanimo to PAST-??-SUBORD-go-1.SG.SUBJ-COND, and 1.SG woman and
neba-lε na hune la-tε-l-e.
 child-PL and leave.behind ??-PAST-L-1.SG.SUBJ
 ‘When I went to Vanimo, I left both my wife and children behind.’

g- can also appear without one of these verb-final conjunction affixes while retaining the meaning it would have if one was present.¹⁰

- (82) a. *bu lo-g-outa neba* (expected **logoutabe neba*)
 3 3.SG.M.SUBJ-REL-be.first child
 ‘He’s [my] first[born] child.’
- b. *bo nage ibibu no-t-l-e o, abujumε*
 1.SG sago flatten 1.SUBJ-TO-3.SG.M.OBJ-1.SG.SUBJ INFORM, cook
na-nε-gε-l-e o (expected **nanegeleme*)
 PURP-1.SUBJ-SUBORD-L-1.SG.SUBJ INFORM
 ‘I’m flattening the sago in order to cook it.’

There are four constructions where *g-* appears in a situation where it would not coöccur with a final conjunction marker. In all three of these, *g-* seems to have a primarily subordinating or nominalising force.

¹⁰It is not clear why one verb in (82b) has object agreement and the other one doesn’t.

- (83) a. *bo be kleli neba taba takuliji ne-ta-te-l-e* o.
 1.SG POSS pig child vine tie 1.SUBJ-BEN?-T-3.SG.M.OBJ-1.SG.SUBJ INFORM.
bu waluju wa le-g-leb-ou lime.
 3 bush to 3.SG.M.SUBJ-SUBORD-run.away-away prevent
 ‘I tie my piglet up with a vine, so that he doesn’t run away into the bush.’
- b. *ju iniba ε-gi-si jua fee me ne?*
 2.SG right.away 2.SUBJ-SUBORD-come be.without what PURP Q
 ‘Why didn’t you come right away?’
- c. *sobo lelefu asa ε-l-o, bo*
 2.PL get.in.the.way NEG.IMP 2.SUBJ-L-2.PL.SUBJ, 1.SG
n-o-g-u-i na-ne-ge-l-e-me
 1.SUBJ-??-SUBORD-go-1.SG.SUBJ PURP-1.SUBJ-SUBORD-L-1.SG.SUBJ-PURP
 ‘Don’t block the way—let me go.’ (literally ‘don’t block the way so that I can go’)
- d. *tokafe hi l-e-g-le-m=o*
 later eat 3.SG.M.SUBJ-??-FUT-L-FUT=INFORM
 ‘Later he’ll eat them [bananas].’

In (83b), *g-* creates a nominalised verb that can then become the subject of *jua* ‘not be there’; this seems to be a common way to do past tense negation. In both (83c) and (83d), *g-* seems to be used to turn a unary verb or an auxiliary into a verb adjunct—in (83d) this allows an auxiliary to take the purpose marker *me* as Yale’s way of marking future tense; and in (83c) this allows a unary verb to take an auxiliary, though it is not at all clear what purpose this accomplishes.¹¹

It seems overall, then, *g-* functions either as part of subordinating conjunction constructions or as a way to turn clauses into verb adjuncts. Since both of these are basically subordinating functions, it is glossed as a subordinator throughout the paper (except in future tense constructions where glossing it as a subordinator is inappropriate).

There is at least one case of *g-* appearing where it seems completely unnecessary.

- (84) *kleli la le-g-leb-ou wa*
 pig PUNCT 3.SG.M.SUBJ-??-run.away-away.from.speaker PUNCT
 ‘The pig suddenly runs away’

In this case, *la lelebou wa* would apparently mean the same and still be grammatical (see *la tetigoia wa* ‘they suddenly fell’ in (96a) below, which has no *g-*); so it is not at all clear what *g-* is doing here.

¹¹There is at least one case where this apparently happens without *g-*, as well.

- (1) *l-e-kaklu l-e-g-le lime*
 3.SG.M.SUBJ-??-cross.boundary.away 3.SG.M.SUBJ-??-SUBORD-L prevent
 ‘to prevent him from going inside’

Here we would have expected **legekaklu legle lime*, but what we see is a normal unary verb apparently acting as a verb adjunct with a following auxiliary.

g- often seems to be preceded by an /e/, which in this grammar is analysed as an unknown affix (possibly a directional affix, see section 4.8.1); it may be better explained by analysing *g-* as *eg-*. *g-* is preceded by other vowels at times, and unexplained /e/s occur in other contexts; so I am not adopting the *eg-* analysis in this paper. Nonetheless, it is a possibility worth considering.

OUTSTANDING QUESTIONS:

- Is there a better explanation for why *g-* can appear without its normal cooccurring affixes and still take the same meaning? Is this a case of ongoing language change, where *g-* alone is gaining the functions that constructions with *g-* plus a suffix had before?
- Why are sentences such as (83c) phrased with *g-* and an auxiliary, rather than simply using the unary verb on its own (e.g. here, *bo nanoguime*)?
- What is *g-* doing in *la leglebou wa* in (84)?
- Is the common presence of /e/ before *g-* explainable by analysing *g-* as *eg-*?

4.10.2 Activity *la-*

The prefix *la-*, which comes before all other prefixes, has two closely related functions. With transitive verbs, it detransitivises them and creates a generic interpretation, as shown in (85). (*La-* is often affected by the regressive assimilation process described in section 2.5.3, and so it frequently appears as *na-*, as here.)

- (85) a. *sega hi ne-l-e*
 sago eat 1.SUBJ-L-1.SG.SUBJ
 ‘I’m eating sago’
 b. *hi na-ne-l-e*
 eat ACTV-1.SUBJ-L-1.SG.SUBJ
 ‘I’m eating [something]’

With intransitive verbs, it creates an imperfect interpretation.

- (86) a. *gli t-le*
 die PAST-L
 ‘He died’
 b. *gli la-t-le*
 die ACTV-PAST-L
 ‘He was dying’
 c. *ao-afɛ ni, neli-afɛ ni, na tobali-afɛ me tebo la-t-le.*
 three-times sleep, four-times sleep, and five-times LOC bad ACTV-PAST-L.
 tebo t-le, na gli t-le mana.
 bad PAST-L, and die PAST-L then

‘He slept three times, and slept four times, and on the fifth time was getting sick. He got sick, and then he died.’

There are some verbs, mostly relating to mental states, that seem to automatically trigger the use of *la-* as an imperfect marker.

- (87) a. *bo tako uli na-ne-l-e*
 I.SG big be.afraid ACTV-I.SUBJ-L-I.SG.SUBJ
 ‘I’m very afraid’
- b. *bo be ama me wame na-no-lo-l-e*
 I.SG POSS dog OBJ angry ACTV-I.SUBJ-LO-3.SG.M.OBJ-I.SG.SUBJ
 ‘I’m angry at my dog’

It is possible to unify these uses under the aktionsart concept of ‘activity’—an action that can be ongoing for an indefinite amount of time, without a defined endpoint. A single transitive action can’t be an activity, because it has a defined endpoint—once you’ve eaten something, it has been consumed and no longer exists, and you can’t keep eating it indefinitely. Some intransitive actions are inherently activities—being angry is not a single, delineable event. Thus, we can say that *la-* has one unified function—it marks or creates an activity verb.

4.10.3 *na-*

na- is a prefix with an unclear meaning. It seems to occur exclusively in purpose clauses alongside the affix pair *g-...-me*.

- (88) *ju bokeinawa e-si mo, bo be gali ablokane*
 2.SG quickly 2.SUBJ-COME IMP, I.SG POSS talk hear
na-e-g-le-me.
 PURP-2.SUBJ-SUBORD-L-PURP
 ‘Come quickly, so you can hear my story.’

OUTSTANDING QUESTIONS:

- Does *na-* ever occur outside of purpose constructions with *g-...-me*?
- Is *na-* necessary to give such constructions a purpose interpretation?

4.10.4 Habitual *-kef*

-kef seems to be used to indicate actions that occur regularly or predictably.

- (89) a. *maea mo-goale-kefe*
 coconut 3.PL.SUBJ-bear.fruit-HAB
 ‘Coconuts regularly bear fruit’

- b. *momata-wa na-me-le-kef-e-a*
 disobey-ADJLZ ACTV-3.PL.SUBJ-L-HAB-??-PL.SUBJ
 ‘They regularly act disobediently’

OUTSTANDING QUESTIONS:

- Can more be said about the semantics of *-kef*?

4.II Preverbal particles

There are a number of grammatical function morphemes in the verbal complex that are not affixes, and are not bound to the verb or auxiliary. These appear in front of the verb; and in the case of verb adjuncts, ‘the verb’ here may optionally mean either the inflected auxiliary or the adjunct + auxiliary complex. (51), reproduced here as (90), shows this optionality.

- (90) a. *gali bana le-g-le me*
 talk NEG 3SG.M.SUBJ-FUT-L FUT
 ‘He will not talk.’
 b. *bana buju t-le*
 NEG get.up PAST-L
 ‘He did not get up.’

There are, oddly, no cases in the data of these preverbal particles stacking; thus, nothing can be said at this time about their relative ordering.

OUTSTANDING QUESTIONS:

- What happens when more than one of these particles appears in the same clause? Is such a thing possible?

4.II.1 *bana*

bana is the declarative negative morpheme.

- (91) a. *bana buju t-le*
 NEG get.up PAST-L
 ‘He didn’t get up’
 b. *bo so me bale li bana fa ne-ge-ta-t-eo me.*
 1.SG 2.PL OBJ ball other NEG get 1.SUBJ-FUT-BEN-T-1.SG.SUBJ.2.PL.OBJ FUT
 ‘I won’t get you another ball.’

Hana is not the only way to negate declarative clauses. Past tense negation is often done via a construction of the form [verb adjunct] + *jua* ‘without’, and verbless copular clauses have a different negative *banane*.

4.II.2 *asa*

asa is the imperative negative morpheme.

- (92) a. *ju bo be lo meta hostiki asa ε-le.*
 2.SG 1.SG POSS house LOC dust NEG 2.SUBJ-L
 ‘Don’t make dust in my house.’
 b. *sobo ilawa asa hi ε-l-o*
 2.PL first NEG eat 2.SUBJ-L-DU.SUBJ
 ‘Don’t you two eat first.’

Note that when *asa* appears in a sentence, the normal imperative marker *mo* (section 7.2) is not used.

4.II.3 *ma*

ma is a hortative marker.

- (93) a. *se, ma n-u-ja!*
 come.on, HORT 1.SUBJ-go-PL.SUBJ
 ‘Come on, let’s go!’
 b. *aboju mε sa ma nε-l-o*
 fire OBJ warm.self.by HORT 1.SUBJ-L-DU.SUBJ
 ‘Let’s [dual] warm ourselves by the fire.’

4.II.4 *wa*

wa seems to be something like a perfect aspect marker, indicating that an action was complete before or possibly at the reference time given by the tense. It may have an etymological relationship with the verb adjunct *wa* ‘fall’.

- (94) *o, Lemeji wa gli o, wa gli o, wa gli o, wa gli o!*
 oh, Lemeji PERF die INFORM, PERF die INFORM, PERF die INFORM, PERF die INFORM
 ‘Oh, Lemeji’s dead, he’s dead, he’s dead, he’s dead!’

OUTSTANDING QUESTIONS:

- There is surely much more to be said about the semantics of *wa*!

4.II.5 *la...wa*

The construction *la* [adjunct] *wa* [auxiliary] seems to indicate a kind of punctuality—it seems to appear at least in cases of instantaneous state transitions or sudden motions.

- (95) a. *na mogo la gli wa l-le*
 and corpse PUNCT die PUNCT 3.SG.M.SUBJ-L
 ‘And the corpse [pig] dies (instantaneously).’¹²
- b. *na Lemeji la buju wa t-le*
 and Lemeji PUNCT get.up PUNCT PAST.SUBJ-L
 ‘And Lemeji suddenly got up.’

With unary verbs, this construction brackets the verb: rather than *la [adjunct] wa [auxiliary]*, you get *la [verb] wa*.

- (96) a. *bu ifinu fluju wa la*
 3 lower.part.of.sago.stem hole to PUNCT
te-te-tigo-i-a wa
 ??-PAST-fall-towards.speaker-INAN.SUBJ PUNCT
 ‘It suddenly fell into a hole in the lower part of the sago stem’
- b. *kleli la le-g-leb-ou wa*
 pig PUNCT 3.SG.M.SUBJ-?-run.away-away.from.speaker PUNCT
 ‘The pig suddenly runs away’

It is not clear if the *wa* in this construction has anything to do with the perfect *wa* mentioned above.

OUTSTANDING QUESTIONS:

- What exactly does the construction *la...wa* mean?
- What is its relationship to *la* and *wa* used independently?

4.11.6 *waha*

waha is a dubitative marker, which combines with the interrogative marker *ne* to mark a verb’s action as something that the speaker is unsure of the veracity of.

- (97) *nage waha teka t-le ne*
 sago.tree DUB cut.down PAST-L Q
 ‘I wonder if he cut down the sago tree.’

¹²This is apparently an odd use of the word *mogo* ‘corpse’; it may be that *mogo* means ‘animal destined for killing (which may or may not be dead)’ rather than ‘animal that is already dead’, or it may be that this is an intentionally unusual phrasing intended for dramatic impact—something like the classical European *hysteron proteron*.

4.11.7 *sa*

sa is used to indicate obligation or necessity.

- (98) *ju sebo be lifε mεta fawa sa tafa ε-le.*
 2.SG 1.PL POSS village LOC only **must** sit 2.SG.SUBJ-L
 ‘You must stay at our village only.’

Chapter 5

Adjectives and Numerals

The final major word class in Yale is adjectives. Adjectives can modify nouns or verbs equally well, as shown by the following examples.

- (99) a. *tokefo gale hanane, tako gale mu*
small turtle NEG, large turtle truly
'It's not a small turtle, it's a really large turtle'
b. *bo tako uli na-ne-l-e*
1.SG large be.afraid ACTV-1.SG.SUBJ-L-1.SG.SUBJ
'I am very afraid'

Adjectives can also be used with auxiliaries as if they were verb adjuncts.

- (100) *momata-wa na-me-le-kef-e-a*
disobey-ADJLZ ACTV-3.PL.SUBJ-L-HAB-??-PL.SUBJ
'They regularly act disobediently'

In fact, it might turn out on further investigation that verb adjuncts and adjectives together form a single word class, though this paper assumes they are distinct.

5.1 Numerals

Numerals are included in this chapter as they seem to behave much like adjectives; though they lack adjectives' ability to be used as verb adjuncts. Just like adjectives, they can appear on either side of the noun they modify (see (104) below). They also seem to possess some numeral-specific morphology, including a 'do that many times' adverbialiser and (for some numbers) an obligatory suffix when used to modify animate nouns.

Yale has at least six 'basic' numerals in the data; though there is no data for numbers above ten.

- (101) *joa* ‘one’
tele ‘two’
aona ‘three’
nelina ‘four’
tobali ‘five’
we ‘ten’

Six through nine are morphologically complex.

- (102) *tobali ita joa*
 five again one
 ‘six’
tobali ita tele
 five again two
 ‘seven’
tobali ita aona
 five again three
 ‘eight’
tobali ita nelina
 five again four
 ‘nine’

The suffix *-afe* can be added to numerals to create a word that seems to mean ‘do that number of times’.

- (103) *ao-afe ni, neli-afe ni, na tobali-afe me tebo la-t-le.*
 three-times sleep, four-times sleep, and five-times LOC? bad ACTV-PAST-L
 ‘He slept three times, then four times, and by five times (?) was getting sick.’

Numbers modifying human nouns, except *joa* ‘one’, require a suffix *-male*. ‘Two’ has an irregular form with this suffix; *tele* + *-male* appears as *ilemale*.

- (104) a. *ao-male bo*
 three-ANIM man
 ‘three men’
 b. *kleli aona*
 pig three
 ‘three pigs’

Note that *aona* and *nelina* lose their *-na* when a suffix is attached.

OUTSTANDING QUESTIONS:

- How does Yale handle numbers above ten?

5.2 Adjectives and reduplication

Like verb adjuncts, adjectives can be reduplicated to indicate plurality or intensity; in the case of adjectives, plural reduplication reflects the plurality of the noun they modify. Both meanings seem to use the basic CV-syllable reduplication pattern; see section 2.6 for a description of the phonological details of this process.

- (105) a. *tako juba*
 large sore
 ‘large sore’
 b. *ta-tako juba*
 PL-large sore
 ‘large sores’
 c. *lebosabo taju bu ta-tako na heletabo*
 python snake TOP very-large and long
 ‘A python is very large and long’ ([‘very large’] and long’, not ‘very [large and long]’)

There seems to be at least one adjective with a suppletive plural form—*li* ‘other’ has as its plural form *fli*.

5.3 Deriving adjectives

There are at least three adjectivaliser morphemes: *-tabo*, *-wa*, and *-lego*. It is an open question how productive any of them are.

5.3.1 *-tabo*

-tabo seems to be concerned primarily with resulting states, and usually attaches to verb adjuncts. Examples of resultant-state adjectives derived via *-tabo* are *futabo* ‘torn off’ from *fu* ‘tear off’ and *ibibutabo* ‘flat, wide’ from *ibibu* ‘flatten’. Not every adjective created with *-tabo* is a resultant state, though; see, for example, *hletabo* ‘long, tall’ from no clear source; or *getabo* ‘sharp’ from the adjective *ge* ‘sharp’ (with no apparent change in meaning). *-tabo* also appears inside the interrogatives *habetabo* and *afatabo*, both of which mean ‘what kind’.

-tabo is possibly derived from the free noun *tabo* ‘place, location’.

5.3.2 *-wa*

-wa seems to have to do with manners and colours. Most of the manner adjectives ending in *-wa* seem to have no clear source lexeme—e.g. *bokeinawa* is ‘quick’ but there is no root **bokeina*; *masiwa* is ‘compassionate’ but there is no root **masi*. Colours, on the other hand, largely do have clear sources: *tatiwa* ‘white’ from *tati* ‘palm heart’; *winowa* ‘red’ from *wino* ‘blood’. There are some other words, such as *kokowa* ‘dry’ from *koko* ‘dry out’

and *lafowa* ‘round and flat’ from no clear source, that do not seem to fit into either of these categories.

This is not to be confused with the case marker *wa* that indicates quantities (see section 6.2.2); though there may be a relationship between these two markers.

5.3.3 *-lego*

-lego seems to be the least productive adjectivaliser affix in Yale. It has no clear meaning beyond simple adjectivisation, and it seems to primarily occur with roots that do not appear on their own. There are, though, cases where *-lego* attaches to otherwise-attested roots: *kilego* ‘dark’ from *ki* ‘get dark’, and *tlilego* ‘cold’ from *tli* ‘be cold’. In a few cases, *-lego* appears at the end of what seem like otherwise attested roots, but the meaning with *-lego* seems completely unrelated to the meaning without it, and I suspect that the resemblance between the roots is coincidental: *kle* ‘step down’ → *klelego* ‘shocked’; *sabu* ‘circle (v)’ → *sabulego* ‘soft’.

-lego may be related to the free noun *lego* ‘noise’.

OUTSTANDING QUESTIONS:

- How productive are each of these adjectivaliser affixes in modern Yale?
- Can any of these affixes be better characterised semantically?

Chapter 6

Syntax

Yale is, like most languages in this region of the Sepik, largely head-final with optional reordering. The verb is mostly last, but constituents may be placed after it, presumably for information structure reasons; and modifiers mostly precede their head, but can optionally follow it. Clauses can be chained together by either clause-initial conjunction particles or clause-final verb affixes; often both are present in a sentence simultaneously.

6.1 Basic word order

Yale sentences are primarily ordered as subject - direct object - indirect object - verb.

- (106) *imau fisou bo mɛ le-ne-ne o*
Imau knife 1.SG OBJ 3.SG.M.SUBJ-give-1.SG.OBJ INFORM
'Imau gave me the knife.'

Similarly, modifiers mostly precede their head.

- (107) a. *tako wesibi*
large thing
'A big deal'
- b. *bo waluju wa n-u-i*
1.SG bush to 1.SUBJ-go-1.SG.SUBJ
'I go to the bush'
- c. *Weno be lo*
Weno poss house
'Weno's house'
- d. *bo tako soso tɛ-l-e*
1.SG large laugh PAST-L-1.SG.SUBJ
'I really laughed'

However, Yale is not exclusively head-final. Modifiers and obliques are mobile: they can follow their heads just as well as precede them.

- (108) a. *ni-si-a lo wa*
 I.SUBJ-come-PL.SUBJ house to
 ‘We come to the house’
 b. *gali bo be*
 talk I.SG POSS
 ‘my story’
 c. *musu tako*
 bilum large
 ‘large bilum’
 d. *ebo tu na*
 clothes water with
 ‘wet clothes’

This alternate word order may at times have some semantic effects beyond just information structure, as shown in (109). It is not clear how much this explains modifier-noun versus noun-modifier ordering choices in general.

- (109) a. *li ho*
 other man
 ‘Another man’, ‘a different man’
 b. *ho li*
 man other
 ‘Some unspecified man’, ‘a certain man’

It also seems as though there is a (crosslinguistically quite normal) tendency to order the sentence as topic - focus - verb, and thus things like question words and phrases tend to come just before the verb in the sentence.

- (110) a. *bo be wesibi lo mago yale glo t-le nawa*
 I.SG POSS thing house from **who** take PAST-L DUB
 ‘I wonder who took my things from the house.’
 b. *ju ba be lo wa ε-ju ne?*
 2.SG **where** poss house to 2.SUBJ-go Q
 ‘Which house are you going to?’

OUTSTANDING QUESTIONS:

- Can more be said about why word order changes?
- Does the difference between modifier-noun ordering and noun-modifier ordering have a general meaning?

6.2 Case marking

Nouns can appear in sentences either bare (when they function as a core argument for a verb) or followed by a variety of case markers. These case markers are not clearly clitics and not clearly separate words; this grammar treats them as separate words, but the distinction is largely inconsequential.

6.2.1 Core arguments

Nouns can only appear without some sort of postposed case marker if they're a core argument in a sentence. There is no subject marking, and the object marker *mɛ* appears primarily with animate objects.¹ *mɛ* marks animate direct objects as well as (animate) indirect objects.² This seems to be the same set of criteria used for object agreement marking as well, so if the sentence contains *mɛ*, the verb will have object marking that agrees with whatever *mɛ* marks. Inanimate objects mostly take no marking; thus, a sentence may have up to two unmarked nouns in it.

- (111) a. *ho bu mɛ ke l-e-gɛ-le-kake-mɛ mɛ.*
 man 3 OBJ chase.away 3.SG.M.SUBJ-??-FUT-L-away-3.PL.OBJFUT
 'A man will chase them [dogs] away.'
- b. *imau fisou bo mɛ lɛ-ne-ne=o*
 Imau knife 1.SG OBJ 3.SG.M.SUBJ-give-1.SG.OBJ=INFORM
 'Imau gives me the knife.'

An associative plural reading seems to be created by having a singular object noun with plural object agreement.

- (112) *Selimo mɛ takunɛ t-lo-m-e*
 Selimo OBJ ask PAST-LO-3.PL.OBJ-1.SG.SUBJ
 'I asked Selimo (and the people with him)'

OUTSTANDING QUESTIONS:

- What are the exact criteria governing the use or omission of *mɛ*?

6.2.2 Obliques

Yale has a number of oblique case markers, which are listed in (113). Note that there are two pairs of case markers that share a form but otherwise seem to be unrelated; I'm treating these as coincidentally similar rather than different uses of the same marker.

¹There is a separate *mɛ* marking purpose which is not similarly restricted.

²Interestingly, /*mɛ*/ is a postposed object marker in nearby Abau as well (Lock 2011), though it's specifically plural; and object marking and purpose share forms, even with verbal purpose clauses, in Abau just like in Yale.

- (113)
- *na*: accompaniment, instrument or item in possession ('with' or 'having')
 - *na*: temporal locative ('on' or 'at': *manle na* 'on Monday'; *kliji na* 'during the day')
 - *wa*: direction or goal ('to')
 - *wa*: quantity or group size (e.g. *ini wa* 'all together', *joa wa* 'just the one', *bu wa* 'by themselves')
 - *(b)ele*: 'towards'
 - *mago*: source ('from')
 - *mε*: purpose ('for') or topic³ ('about')
 - *meta*: location ('in', 'on', 'at')
 - *be*: possessor ('of')

These are placed after the noun whose case they mark; it's something of an open question as to whether or not they cliticise to the noun or simply sit next to it. Case markers occur in various sequences with focus and similar markers, as in the following examples; the ordering likely has something to do with relative scope.

- (114)
- a. *Naya na be Loto na be bo-ta-mε-nino*
 Naya **and POSS** Loto **and POSS** 3.POSS-mother-?-PL
 'Both Naya's and Loto's mothers'
- b. *ju sebo be lifε meta fawa sa tafa ε-lε.*
 2.SG 1.PL POSS village **LOC only** must sit 2.SG.SUBJ-L
 'You must stay at our village only.'

Occasionally the case markers themselves seem stacked; it is not clear at all what function this has.

- (115)
- a. *lo mago mε sa n-ta-tε-m-a*
 house **from PURP?** distribute 1.SUBJ-BEN-T-3.PL.OBJ-PL.SUBJ
 'We distribute it to them ?? the house'
- b. *sebo maea na tabo εle mε ne-g-eyu m=o*
 1.PL coconut with place **towards PURP?** 1.SUBJ-FUT-go[DU.SUBJ] FUT=INFORM
 'We will go to a place with coconuts'

Oblique phrases can be used to modify nouns as well as verbs without any extra morphology.

- (116) *ho na mese*
 man with woman
 'married woman' ('woman with a man')

OUTSTANDING QUESTIONS:

- What does it mean when case markers seem stacked, like in (115)?

³Topic of discussion, not as in topic/focus.

Accompaniment *na*

na is used for two main purposes. The first is to mark accompaniment.

- (117) *bu na sebo nage tetefa me na-ne-g-eyu*
 3 **with** 1.PL sago.pulp pound.sago PURP ACTV-1.SUBJ-FUT-go[1.DU.SUBJ]
m=o
 FUT=INFORM
 ‘We’re going to pound sago pulp with her’

The accompaniment use of *na* can include items possessed, as well as accompanying actions or manners.

- (118) a. *bo na mese*
 man **with** woman
 ‘married woman’ (‘woman who has a man’)
 b. *na sefa tutuku l-u-le-kake,* *afli*
 and arrow run.away 3.SG.M.SUBJ-at.a.distance-COM-away.from.speaker, squeal
na
with
 ‘And [the pig] runs away with the arrows [in it], with squeals’
 c. *na bu me anisasa na takune t-lo-le*
 and 3 OBJ earnestness **with** ask PAST-LO-3.SG.M.OBJ
 ‘And he asked him earnestly’ (literally ‘with earnestness’)

The second is to mark instrument.

- (119) *bo boene na yafe lele*
 1.SG bamboo.arrow **with** uselessly shoot
 ‘I tried and failed to shoot [it] with a bamboo arrow’

The conjunction *na* ‘and’ (section 6.5.1) and the conditional affix *-na* ‘if, when’ (section 6.5.2) are both likely extensions of this case marker.

Temporal *na*

na is used to mark the time when something happens.

- (120) *koε ke lenε mo-boε-ja-me,* *li*
 but that remainder 3.PL.SUBJ-carry.multiple.towards.speaker-3.PL.SUBJ-?? other
ole na olobale.
 day TEMP morning
 ‘But they carry the remainder back in the morning on another day.’

This might be a truncation of a longer form *nale*, which appears in the data two times—fossilised inside the interrogative *babendale* ‘when’; and in one example in a story, *maba nale* ‘breast TEMP’, which would make sense in context as ‘when she had/gained breasts’.

Direction *wa*

wa is used to mark the goal of a motion.

- (121) *na feka no-ko-i lo wa*
 and run 1.SUBJ-K-1.SG.SUBJ house **to**
 ‘And I run to the house’

wa differs from *(b)ele* in that *wa* indicates the intended endpoint of a motion, while *(b)ele* seems to indicate purely a direction.

Quantity *wa*

wa can be used to indicate the size or extent of a group.

- (122) a. *kleli lele, joa wa*
 pig shoot, one **QUANT**
 ‘[We] shoot a pig—just one.’
 b. *na tokafe fli wa m-u-ja-me*
 and later other[PL] **QUANT** 3.PL.SUBJ-go-PL.SUBJ-??
 ‘And later the others go.’
 c. *sebo ini wa memele na-n-l-a*
 1.PL all **QUANT** this.way ACTV-1.SUBJ-L-PL.SUBJ
 ‘We all do [it] this way.’

This might be better described as a use of the adjectivaliser *wa* (see section 5.3.2), rather than a case marker.

(b)ele

This case marker varies between *bele* and *ele* for somewhat unclear reasons. It seems as though its meaning has something to do with ‘direction towards’; but there are few examples and it is hard to generalise.

- (123) a. *ju ba bele ε-ju ne?*
 2.SG where **towards** 2.SUBJ-go Q?
 ‘Where are you going?’
 b. *klukulego tabo ele ne-te-tigo-e*
 uneven place **towards** 1.SUBJ-??-fall-1.SG.SUBJ
 ‘I fall down into an uneven place’
 c. *ho bu tako ti tokefo fluju ele bana sei*
 man TOP large tree small hole **towards** NEG insert?
le-g-le-le me.
 3.SG.M.SUBJ-FUT-L-3.SG.M.OBJ FUT
 ‘A man will not be able to put a large stick into a small hole.’

In one case, this marker appears as *ebele*.

- (124) a. *neba bo ebele kli lo-k-e*
 child 1.SG **towards** crawl 3.SG.M.SUBJ-K-towards.here
 ‘The child crawls to me.’

In at least two examples, *ele* appears as something more resembling a simple locative.

- (125) a. *ebame sebo jelefo ele te-t-ekeke-a*
 recently 1.PL other.side **towards** PAST-T-??-3.PL.SUBJ
 ‘Recently, we stayed on the other side.’
 b. *ju bo be leluju ele e-je-libe*
 2.SG 1.SG POSS back **towards** 2.SUBJ-??-stand
 ‘Stand up behind my back’

OUTSTANDING QUESTIONS:

- What accounts for the range of forms shown by this case marker?
- Can more data be found to better nail down its meaning and use?

mago

mago marks the source of a movement.

- (126) a. *bu lo mago life wa kle t-le*
 3 house **from** ground to step.down PAST-L
 ‘He stepped down from the house to the ground’
 b. *bo be wesibi lo mago yale glo t-le nawa?*
 1.SG POSS thing house **from** who take PAST-L DUB
 ‘I wonder who took my things from the house?’

It can be metaphorically extended in several ways, including leaving states and describing where people and things ‘come from’.⁴

- (127) a. *bo ni mago buju l-e-le*
 man sleep **from** get.up 3.SG.M.SUBJ-??-L
 ‘A man gets up from sleep’
 b. *Natimane life mago onebo*
 Natimane village **from** people
 ‘the people of Natimane’

⁴In one case, such an extension seems to end up more like a locative; this may be due to a mistranslation in the data.

Safene bu Belagu mago nage teka to-t-le
 Safene TOP Belagu **from** sago.tree cut.down PAST-TO-3.SG.M.OBJ
 ‘Safene cut down a sago tree at Belagu (a place)’

mε

There are two oblique uses of *mε*, both of which are likely related to the object marking use of *mε* (section 6.2.1). The first is marking the purpose or goal of an action, and this marking often occurs with verb adjuncts rather than nouns.

- (128) a. *neba-le bu Kalise mε feilawa wesibi mε gegeba*
 child-PL TOP Karis OBJ many thing **PURP** beg
 ‘The children ask Karis to give them lots of things’⁵
- b. *Yaibo bu waluju wa ni mε lu-gu-ju mε*
 Yaibo TOP bush to sleep **PURP** 3.SG.M.SUBJ-FUT-go FUT
 ‘Yaibo will go to the bush to sleep’
- c. *bu tibo lo gliji mε keme lolokenε l-e-le.*
 3 new house build **PURP** for.this.reason put.in.effort 3.SG.M.SUBJ-??-L
 ‘That’s why he’s working hard to build a new house.’

This purpose meaning can extend to other kinds of subordination besides simply purpose.

- (129) a. *bo alegε wege mε tebojiwa na-nε-l-e*
 1.SG path work **PURP** not.feel.like ACTV-1.SUBJ-L-1.SG.SUBJ
 ‘I don’t feel like working on the trail.’
- b. *bo bale sale mε tako tole na-nε-lεtε-l-e*
 1.SG ball play **PURP** big want.to ACTV-1.SUBJ-LET?-3.SG.M.OBJ?-1.SG.SUBJ
 ‘I really want to play ball.’

This purpose marking use is almost certainly the diachronic source of the purpose subordinator *-mε*, discussed in section 6.5.2.

The second is marking the topic of a discussion. This usage resembles object marking, and may well be derived from it, but as (130a) shows below, it is distinct, and can cooccur with actual object marking. Also unlike object marking, it can be used with any noun, not just animates.

- (130) a. *bo li ho mε wesibi mε takunε no-lo-l-e-mε*
 1.SG other man OBJ thing **about** ask 1.SUBJ-LO-3.SG.M.OBJ-1.SG.SUBJ-??
 ‘I ask a man about something’
- b. *bo Weno mε mε weniji la-tε-l-e, bu waluju wa*
 1.SG Weno **about** this.way be.mistaken ACTV-PAST-L-1.SG.SUBJ, 3 bush to
lu-gu-ju mε wa
 3.SG.M.SUBJ-FUT-go FUT ??
 ‘I mistakenly thought this about Weno—that he was going to go to the bush.’

⁵Karis is the name of the Campbells’ daughter.

meta

meta is a locative marker, which describes things moving to or located on the inside or the surface of a space.

- (131) a. *ju sebo be life meta fawa sa tafa ε-lε.*
 2.SG 1.PL POSS village LOC only must sit 2.SG.SUBJ-L
 ‘You must stay at our village only.’
- b. *tu meta wa nε-ge-l-e lime*
 water LOC fall 1.SUBJ-SUBORD-L-1.SG.SUBJ prevent
 ‘to keep me from falling into the water’
- c. *bu laba meta ti-tiji ε-kou*
 3 leaf LOC PLURACT-break.up 3.SG.F.SUBJ-??
 ‘She breaks it up on a leaf’

It seems as well that there are cases where *mε* appears when *meta* might be expected; it seems reasonable to assume that these cases of *mε* are simply truncated versions of *meta*, but this may not be what’s going on.

- (132) a. *ho bu alege mε ke-monei mo-koke-a*
 man TOP path LOC? ??-eat.as.group 3.PL.SUBJ-go.west-PL.SUBJ
 ‘The people eat along the way coming west’
- b. *na nage ama mε mana tafu te-ta-mε*
 and sago.palm dog LOC? then fall PAST-TA?-??
 ‘And then the sago tree fell on the dog’

There is one case where a possibly locative *mε* occurs apparently as part of a copula construction; it is not clear at all how *mε* is behaving here.

- (133) *bo falage mε negena*
 1.SG young.man LOC? when
 ‘When I was a young man’

OUTSTANDING QUESTIONS:

- Are these cases of apparently locative *mε* simply truncations of *meta*, or is something else going on here?
- Why is *mε* appearing in (133)?

be

be is the case marker for possession.

- (134) *bo be neba*
 1.SG POSS child
 ‘my child’

It seems at times it can be used as something of a nominaliser, as well, at least with other case markers.

- (135) *matafa wesibi na be*
 sky thing with POSS
 ‘the one with stars’

It seems reasonable to posit that this marker is the diachronic source of the conjunction/relativisation marker *-be*, discussed below in sections 6.5.2 and 6.5.3.

6.3 Verbless sentences

There is no copula in Yale, and copular relations are shown by simply juxtaposing two noun phrases, or a noun phrase and an adjective phrase.

- (136) a. *ebe lo*
 this house
 ‘This is a house.’
 b. *bo bu tako tebo*
 man TOP large bad
 ‘A man is very sick’

There is also no verb that indicates existence, and so existence constructions are also verbless. Possession seems to be handled via existence—‘I have a noun’ is built as ‘there is my noun’.⁶

- (137) a. *ju be binibi mana ne?*
 2.SG POSS pumpkin still Q
 ‘Do you still have a pumpkin?’ (literally ‘[Is there] still your pumpkin?’)

When there is a need to negate a copular sentence, the word *hanane* or its short form *nanε* is used. Note the similarity to the normal negative *hana*; *hanane* is used with copular constructions only and *hana* is used elsewhere.

- (138) a. *ebe flesu hanane*
 this hornbill NEG
 ‘This is not a hornbill.’

⁶There are no examples of positive existentials in statements in the data; this question is the clearest example I have.

- b. *tokefo gale hanane; tako gale mu*
 small turtle NEG; big turtle very
 ‘It’s not a small turtle; it’s a really large turtle.’

Existence and possession constructions are negated with *jua* or *alujua*.

- (139) a. *mese bu neba jua negena, bu layame e-le-be*
 woman TOP child be.without if, 3 barren 3.SG.F.SUBJ-??-B?
 ‘If a woman has no children, she’s barren.’
 b. *lo alujua*
 house be.without
 ‘There aren’t any houses.’

When a conjunction affix (*-na*, *-be*, or *-me*; see section 6.5.2) is required in a verbless sentence, the full words *negena*, *negebe*, and *negeme* are used (including in cases with *jua*, as in (139a) above). These at times have somewhat different meanings from the affixes on their own, and may also appear in sentences with verbs; see section 6.5.2 for a fuller discussion.

Occasionally, it seems as though case marking is necessary on nouns with these full word conjunctions; it is not clear exactly what is going on in these cases.

- (140) *bo falage me negena, bo fole me afini le te-t-e.*
 1.SG young.man LOC? COND, 1.SG bird OBJ first learn.to.hunt PAST-T-1.SG.SUBJ
 ‘When I was young, I first learned to hunt birds.’

OUTSTANDING QUESTIONS:

- Why is *me* used in (140)?

6.4 Clauses without auxiliaries

As much as both a verb adjunct and an auxiliary together are required to make a ‘full verb’, it is entirely possible to omit the auxiliary if its content is clear enough from context—and indeed this happens very frequently. This omission can occur on its own, when the information that would be supplied by the auxiliary is clear from context.

- (141) *egu bu fiji to-ko-e-ja, nagehuba-nagehuba wa,*
 cuscus TOP swing PAST-K-towards.speaker-1INAN.SG.SUBJ, sago.palm.leaf-PL? to,
na bo boi.
 and 1.SG see.
 ‘The cuscus swings towards me, from leaf to leaf (?), and I see it.’

It can also occur as part of a chain of clauses where the auxiliary’s information is (largely) supplied by auxiliaries or unary verbs elsewhere in the sentence.

- (142) a. *bo segli nɛ-l-e, nɛmo glo, na ase*
 I.SG grow I.SUBJ-L-I.SG.SUBJ, bow **pick.up**, and go.hunting
nɛ-l-e.
 I.SUBJ-L-I.SG.SUBJ
 ‘I grow, [I] pick up the bow, and I go hunting.’
- b. *na blɛ n-lɛ-l-l-e,*
 and follow I.SUBJ-COM-L-3.SG.M.OBJ-I.SG.SUBJ,
n-lɛ-l-l-a, na mogo wa boi.
 I.SUBJ-COM-L-3.SG.M.OBJ-PL.SUBJ, and corpse PUNCT? **see**.
 ‘And I follow [the trail], we follow it, and [we] see the corpse.’

6.5 Clause connection and conjunctions

There are two kinds of conjunctions in Yale—clause-initial and clause-final. Clause-initial conjunctions are exclusively particles; clause-final conjunctions are verb suffixes or particles that seem like fossilised uses of those verb suffixes. Interestingly, these conjunctions are not mutually exclusive—in fact, while clauses are often connected using clause-initial conjunctions alone, clause-final conjunctions frequently coöccur with a clause-initial conjunction in the next clause. (143) shows an example of this.

- (143) *ama bu ai m-e-g-lɛ-Ø-na, koɛ ho bu mɛ*
 dog TOP howl 3.PL.SUBJ-?-SUBORD-L-INAN.PL.SUBJ-COND, **but** man 3 OBJ
ke l-e-gɛ-le-kake-mɛ mɛ.
 chase.away 3.SG.M.SUBJ-?-FUT-L-away-3.PL.OBJ FUT
 ‘If the dogs howl, then a man will chase them away.’

6.5.1 Clause-initial conjunctions

Yale has at least four clause-initial conjunctions. These are *na* ‘and’, *koɛ* ‘but’, *na koɛ* possibly ‘and then’, and *ta* ‘and then, after that’s done’.

na

na is Yale’s basic conjunction; it most basically means ‘and’. It can connect clauses in a simultaneous or sequential relationship, as in the following examples.

- (144) a. *momeji l-lɛ, na fɛ n-lɛ-l-l-a ti lɛkɛfo*
 burrow 3.SG.M.SUBJ-L, **and** move I.SUBJ-COM-L-3.SG.M.OBJ-PL.SUBJ tree root
kokadi o
 behind (LOC?)
 ‘[The pig] is burrowing, and we move with it behind a tree root.’

- b. *ji t-le-l-l-e, ti-tigo-o, na boi*
 fly PAST-COM-L-3.SG.MOBJ-I.SG.SUBJ, PAST-fall-DU.SUBJ, **and** see
t-lo-m-o
 PAST-LO-3.PL.OBJ-DU.SUBJ
 ‘I fly with him, we fall, and (then) we see them’

Unlike the rest of these conjunctions, *na* is not restricted to conjoining clauses—it can be used to join any two words or phrases. *X na Y na* can be used to mean ‘both X and Y’, and similarly works for any pair of words or phrases.

- (145) *bo mese na neba-le na hune la-te-l-e.*
 1.SG woman **and** child-PL **and** leave.behind ??-PAST-L-I.SG.SUBJ
 ‘I left both my wife and children behind.’

As much as *na* seems suspiciously similar to Tok Pisin *na* ‘and’, they are likely unrelated, as Yale *na* ‘and’ would be a perfectly natural extension of the case marker *na* ‘with’ (see section 6.2.2).

koε

koε is an adversative conjunction—it is used for cases where the two joined clauses contrast semantically somehow.

- (146) *na tokafē fli wa m-u-ja-mε, koε bo lo mε*
 and later others QUANT 3.PL.SUBJ-go-PL.SUBJ-??, **but** 1.SG house LOC
n-lebe-m-e-mε lunuju.
 1.SUBJ-rest?-3.PL.OBJ-I.SG.SUBJ-?? wounds
 ‘And later the others go, but I rest(?) my wounds at home.’

It can also be used for correction, as in the following example.

- (147) *ta sosodo anebali ne? koε su anebali o.*
 then leaf.fold roof Q? **but** sew roof INFORM
 ‘Then [should I make it] a folded-leaf roof? No, a sewn roof.’ (4a 13:42)

na koε

na koε (apparently a combination of *na* and *koε*) seems to be specifically a temporal sequence conjunction.

- (148) *koε ke lenε mo-boe-ja mε, li ole*
 but that hunting.ground 3.PL.SUBJ-carry.things.back.from-PL.SUBJ ??, other day
na olobale. na koε bu wa hi m-l-a mε.
 TEMP morning. **and.then** 3 QUANT eat 3.PL.SUBJ-L-PL.SUBJ ??.
 ‘But they carried [the pig carcass parts] back from the hunting ground. And then they ate them.’

ta

ta seems to have a meaning of ‘and with that having been done’. It indicates that the next action follows and possibly depends on the completion of the previous action.

- (149) *lolekefa joa-joa ne-ge-l-e me, ta tei. ta feε*
 truss DIST-one I.SUBJ-FUT-L-I.SG.SUBJ FUT, **with.that** done. **with.that** what
toba ne-ge-l-e me ne?
 deal.with I.SUBJ-FUT-L-I.SG.SUBJ FUT Q?
 ‘I’ll do each truss, and then that’ll be done. Then what will I take care of (next)?’

6.5.2 Clause-final conjunctions

There are three pairs of clause-final conjunctions; each pair consists of a suffix and a standalone word containing the suffix fossilised inside it. Each of the conjunction suffixes cooccurs with the subordinator prefix *g-* (for which see section 4.10.1); the standalone words are all *nege-* plus the suffix.⁷ The standalone words do not always work exactly the same as the suffixes they contain. It seems reasonable to assume that each of these conjunctions from the case suffixes of the same form (see section 6.2.2); namely, *-me* from *me* ‘PURP’, *-be* from *be* ‘POSS’, and *-na* from *na* ‘with’.

g-...-me and *negeme*

g-...-me and *negeme* have to do with causation and purpose. With purpose, *g-...-me* cooccurs with a prefix *na-*; this *na-* prefix seems to help differentiate this purpose conjunction from future tense marking (for which see section 4.7.). Purpose in verbless clauses is simply expressed by the case marker *me*; see section 6.2.2.

- (150) *ju bokeinawa ε-si-mo, bo be gali ahlokanε*
 2.SG quickly 2.SUBJ-COME-IMP, 1.SG POSS talk hear
na-ε-g-le-me.
PURP-2.SUBJ-SUBORD-L-PURP
 ‘Come quickly, so you can hear my story.’

Causation (‘because’) involves *negeme*. Clauses without a verb appear with *negeme* alone; clauses with one appear with *g-...-me negeme*. A causation clause with *negeme* often occurs together with *ke me* ‘for this reason’, resulting in a construction *X negeme, (na) ke me Y* ‘because X, Y’.

- (151) *bo-be teke l-o-g-le-me negeme, ke*
 3.POSS-husband hit 3.SG.M.SUBJ-??-SUBORD-L-3.SG.F.OBJ-PURP **because, that**
me ye e-l=0.
PURP cry 3.SG.F.SUBJ-L=INFORM
 ‘She’s crying because her husband hits her.’

⁷This *neg(e)-* element also seems to appear inside fossilised directional phrases such as *negemo ele* ‘towards the south / downstream’, though the form seems to vary a bit (c.f. *nogo ele* ‘towards the east / up’).

g-...-be* and *negebe

g-...-be is used for cooccurring events and sequences of events.

- (152) a. *lo mago me sa n-ta-te-m-a, tabe*
 house from LOC? distribute 1.SUBJ-BEN-T-3.PL.OBJ-PL.SUBJ, count
n-e-g-l-a-be, na ne-le-m-a
 1.SUBJ-??-SUBORD-L-PL.SUBJ-CONJ, and 1.SUBJ-give-3.PL.OBJ-PL.SUBJ
 ‘We distribute it to them ?? the house, counting it out, and we give it to them.’
 b. *tebo koε te-g-le-be na la gli wa*
 bad FOC? PAST-SUBORD-L-CONJ and PUNCT die PUNCT
 ‘He got very sick, and he died.’

Negebe marks counterfactual conditions in verbless sentences. (Sentences with verbs use *g-...-na* for all kinds of conditions.)

- (153) *bo kleli negebe, koε ju me ne-g-le-e-e m=o*
 1.SG pig COND, but 2.SG OBJ 1.SUBJ-FUT-L-2.SG.OBJ-1.SG.SUBJ FUT=INFORM
 ‘If I had some pig, I’d give it to you.’

g-...-na* and *negena

g-...-na is used to make conditional and temporal clauses with verbs.

- (154) a. *bu be beno lo tebo l-e-g-le-na, na bu tibo lo*
 3 POSS old house bad 3.SG.M.SUBJ-??-SUBORD-L-COND, and 3 new house
gliji l-e-le.
 build 3.SG.M.SUBJ-??-L
 ‘If his old house is no good, he builds a new house.’
 b. *bo Banimo wa t-o-g-u-i-na, na bo mese na*
 1.SG Vanimo to PAST-??-SUBORD-go-1.SG.SUBJ-COND, and 1.SG woman and
neba-le na hune la-te-l-e.
 child-PL and leave.behind ??-PAST-L-1.SG.SUBJ
 ‘When I went to Vanimo, I left both my wife and children behind.’

Negena is used with verbless sentences for non-counterfactual conditionals and other sorts of cause-and-effect sequencings. It translates to either ‘if’ or ‘when’ in English depending on the context.

- (155) a. *bo falage me negena, bo folε me afini le*
 1.SG young.man LOC? COND, 1.SG bird OBJ first learn.to.hunt
te-t-e.
 PAST-T-1.SG.SUBJ
 ‘When I was young, I first learned to hunt birds.’
 b. *mese bu neba jua negena, bu layame ε-le-be.*
 woman TOP child not.exist COND, 3 barren 3.SG.F.SUBJ-??-B
 ‘If a woman has no children, she’s barren.’

g-... lime

The construction *g-... lime* is used to create a sort of negative purpose clause—‘in order for it to not happen’.

- (156) *bo be kleli neba taba takuliji ne-ta-te-l-e* *o. bu*
 1.SG POSS pig child vine tie 1.SUBJ-BEN?-T-3.SG.M.OBJ-1.SG.SUBJ INFORM. 3
waluju wa le-g-leb-ou lime.
 bush to 3.SG.M.SUBJ-SUBORD-run.away-away prevent
 ‘I tie my piglet up with a vine, so that he doesn’t run away into the bush.’

Lime seems like it may have a diachronic source in a phrase such as *li me* ‘other PURP’—i.e. ‘in order for some other thing to happen (and not this)’.

6.5.3 Relativisation

Relativisation in Yale is often relatively simple—all that is required is placing a verb adjunct and its associated arguments directly in front of the main clause noun.

- (157) *laboe bu [wesibi sisile] wesibi mu.*
 roach TOP [thing destroy] thing very
 ‘Roaches are really a thing that destroys things.’

In this case, the subclause *wesibi sisile* ‘[that] destroys things’ is simply placed right before the noun *wesibi*, which it’s modifying.

Other cases of relativisation involve the conjunction affix *g-...-be*, and the verb marked with *g-...-be* is treated as a modifier for a nearby noun. The gap in the relative clause is filled by *ke* ‘that’, used as a resumptive pronoun or adjective.

- (158) *[yame bo ke lele t-e-g-le-l-e-be]* *kleli, sebo*
 yesterday 1.SG that shoot PAST-?-SUBORD-L-3.SG.M.OBJ-1.SG.SUBJ-REL pig, 1.PL
ke kleli bi ne-l-a.
 that pig eat 1.SUBJ-L-PL.SUBJ
 ‘The pig I shot yesterday—we’re eating that pig.’

(157) relativises the subject and (158) relativises the object, and so the choice of relativisation strategy may have to do with which argument is being relativised; there are not enough examples of relativisation in the data to verify this guess.

There is one instance of *g-* alone seeming to work as a relativiser. It may be that this is an instance of using *g-* to turn a unary verb into a verb adjunct, which is then used in the above fashion to make a relative clause.

- (159) *bu [lo-g-outa] neba*
 3 3.SG.M.SUBJ-SUBORD-be.first child
 ‘he is [my] first child’

OUTSTANDING QUESTIONS:

- What are the reasons for choosing one relativisation strategy over the other? Does it have to do with which argument is being relativised?
- Is the standalone *g-* in (159) truly being used as a relativiser?
- For outstanding questions regarding the behaviour of *g-* specifically, see section 4.10.1.

Chapter 7

Discourse

7.1 Topic and focus marking

7.1.1 *bu*

Bu—formally identical with the third-person pronoun—is a marker with an interesting set of uses. It is used primarily to introduce a new referent into the discourse, or to reactivate an old referent.

- (160) a. *na egu bu fiji to-k-e-ja.*
 and cuscus **TOP** swing PAST-K-towards.speaker-INAN.SG.SUBJ
 ‘And a cuscus swung towards me.’ (the first mention of a cuscus in the story)
- b. *na ita Kela bu odobade kle t-le.*
 and again Kela **TOP** morning go.down PAST-L
 ‘And in the morning Kela went down again.’ (Kela was last mentioned some time ago)

It is also used for introducing nonspecific or hypothetical referents.

- (161) *bo li bu alege mumu le-bet-le-na, na li bo*
 man other **TOP** path not.know 3.SG.M.SUBJ-??-3.SG.M.OBJ-COND, and other man
bu me lebotane le-ta-t-le.
 3 OBJ demonstrate 3.SG.M.SUBJ-BEN-TO-3.SG.M.OBJ
 ‘If a man doesn’t know the way, another man shows him.’

This is not a complete description of *bu*’s function, though; as it can apparently also be used with recently mentioned referents.

- (162) *egu magoe na lele t-l-e, na egu bu afli*
cuscus type.of.arrow with shoot PAST-L-I.SG.SUBJ, and **cuscus TOP** squeal
t-o-l-a.
 PAST-??-L-INAN.SG.SUBJ
 ‘I shot the cuscus with a *magoe* arrow, and the cuscus squealed.’

Additionally, new referents can seemingly be introduced without *bu*; certainly it never occurs with first- or second-person referents. It is not immediately clear, then, how to fully characterise it. Its use to reactivate old and recently-mentioned referents seems to suggest that it's a topic marker, but its use in (160a), where the referent is wholly new, seems quite inconsistent with topicalisation. Throughout this paper it is glossed as a topicaliser, but this is highly tentative and not yet a satisfying analysis.

As mentioned above, *bu* is identical to the third person pronoun *bu*, and is likely derived from it. This is especially reasonable if it is a topicaliser, but whatever its core use turns out to be, it seems likely that it ultimately comes from the third person pronoun.

OUTSTANDING QUESTIONS:

- How do we characterise *bu*'s overall function? Is it truly a topicaliser?

7.1.2 *koε*

koε seems to be a marker of contrastive focus.

- (163) *Gabi bu Amanabε lifε wa lu-gu-ju mε; bo koε hana*
 Gabi TOP Amanab village to 3.SG.M.SUBJ-FUT-go FUT; 1.SG FOC NEG
n-o-g-u-i mε.
 1.SUBJ-??-FUT-go-1.SG.SUBJFUT
 'Gabi is going to Amanab, but I'm not going.'

It is likely that this *koε* is the diachronic source of the conjunction *koε* 'but'.

7.1.3 *wε*

wε seems to mark a contrastive topic.

- (164) *joa naba tikitabo bu tako wesibi ha; koε tele naba ti-tikitabo, bu wε tako wesibi*
 one eye blind TOP big thing ??; but two eye PL-blind, 3 TOP big thing
mu.
 very
 'One blind eye is a big deal, but two blind eyes—that's really a big deal.'

7.1.4 *fawa*

fawa marks a restrictive focus ('only').

- (165) *ju sebo be lifε meta fawa sa tafa ε-le.*
 2.SG 1.PL POSS village LOC only must sit 2.SG.SUBJ-L
 'You must stay at our village only.'

7.2 Illocutionary force markers

Yale has a set of sentence-final markers that indicate illocutionary force. They behave like clitics, shown by the fact that *o* can remove the need for a final epenthetic vowel on the verb (see (166b)). They can attach to whatever would otherwise be at the end of the sentence, whether that's a noun or a verb or anything else. These markers seem to be exactly analogous to Japanese's sentence-final illocutionary force markers (what Martin (2004, pp. 914–957) calls 'sentence extensions'), including the detail that both include interrogative marking as simply one marker in a much wider system.

o *o* is the most common illocutionary force marker, and it indicates the speaker's desire to inform the listener of the content of the sentence.

- (166) a. *ta sosodo anebadi ne? koε su anebadi o.*
 then leaf.fold roof Q? but sew roof **INFORM**
 'Then [should I make it] a folded-leaf roof? No, a sewn roof.'
- b. *gli banan=o*
 die NEG.COP=**INFORM**
 'He's not dead.' (implying that the speaker thinks the listener believes that he is dead)

The use of *o* seems to center on the immediate relevance of the information to the listener. Thus, sentences in the main body of a narrative don't appear with *o*. However, quoted dialog in stories does appear with *o*, when the context in the story warrants it—as in the following example.

- (167) *na feka no-k-i lo wa, gali ne-kak-e,*
 and run 1.SUBJ-K-1.SG.SUBJ house to, speak 1.SUBJ-away.from.speaker-1.SG.SUBJ,
'bo kleli mogo kilε ne-l-e o'.
 '1.SG pig corpse leave.behind 1.SUBJ-L-1.SG-SUBJ **INFORM**.'
 'And I run to the house, announcing, "I left a pig carcass".'

The announcement of the pig carcass is immediately relevant to the listeners within the fictional context of the story, but the fact that the storyteller once made such an announcement is not immediately relevant to the real hearers of the story. Thus, only the quotation appears with *o*.

The semantics of Yale *o* seem to fairly well parallel the semantics of Japanese *yo* (Martin 2004, p. 918).

ne *ne* is used to make a question. It's used for both content questions and yes/no questions.

- (168) a. *ju ha bele ε-ju ne?*
 2.SG where towards 2.SG.SUBJ-go Q
 'Where are you going?'

- b. *ju ebo soa ε-t-lε ne?*
 2.SG clothes wash 2.SG.SUBJ-T-3.SG.M.OBJ Q
 ‘Are you washing clothes?’

fε *fε* is used to draw the listener’s attention to whatever the sentence is describing.

- (169) a. *na momeji l-lε fε.*
 and burrow 3.SG.SUBJ-L POINT
 ‘And look, [the pig] is burrowing.’
 b. *ju iniba hi jua fεε mε ε-lo ne? hi wesibi wa kibo*
 2.SG right.away eat without what PURP 2.SG.SUBJ-LO Q? eat thing PERF bad
mε-lε fε.
 3.PL.SUBJ-L POINT
 ‘Why didn’t you eat right away? Look, the food’s gone bad.’

mo *mo* is used to make a command.

- (170) *ju babaya bo mε ε-ne-ne mo.*
 2.SG papaya 1.SG OBJ 2.SG.SUBJ-give-1.SG.OBJ IMP
 ‘Give me a papaya.’

Note that *mo* cooccurs with second-person marking on the verb. Negative imperatives are formed with the preverbal particle *asa*, and don’t require *mo*; for more, see section 4.11.2.

nawa *nawa* is used when the speaker is unsure of the veracity of his statement, or is unsure of the answer to a WH-question.

- (171) a. *bo uniji waluju wa nu-g-u-i mε nawa*
 1.SG tomorrow bush to 1.SUBJ-FUT-go-1.SG.SUBJ? FUT DUB
 ‘I wonder if I’ll go to the bush tomorrow.’
 b. *bo be wesibi do mago yale glo t-lε nawa*
 1.SG POSS thing house from who take PAST-L DUB
 ‘I wonder who took things from my house.’

mε *mε* is a marker with a very unclear meaning. It seems to occur frequently in texts describing how things are commonly done, but is not at all restricted to such a context—it occurs frequently in, for example, a story a man told about a time he was attacked by a pig.

- (172) a. *se-sale no-to-m-e mε*
 PL-place.down 1.SUBJ-T-3.PL.OBJ-1.SG.SUBJ ??
 ‘I place them down’ (in a description of how a house is built)

- b. *bo li ho mε wesibi mε takune no-lo-le mε na bu bo*
 I.SG other man OBJ thing about ask I.SUBJ-LO-3.SG.M.OBJ ?? and 3 I.SG
mε tafu le-ta-ta-ne mε
 OBJ respond 3.SG.M.SUBJ-BEN?-TA?-I.SG.OBJ ??
 ‘I ask a man about a thing and he responds to me.’ (as a context-less example
 of the word *tafu*)
- c. *ko soa n-to-m-e mε*
 blood wash I.SUBJ-TO-3.PL.OBJ?-I.SG.SUBJ ??
 ‘I wash the blood off’ (after a pig attacked and bit him)

I do not have any theories at this time as to the meaning of *mε*, and throughout this paper I leave it glossed as ‘??’.

OUTSTANDING QUESTIONS:

- What meaning does the use of *mε* impart to a sentence?

Appendix A

Appendix

A.1 Phonemic oppositions

This is a list of pairs of lexical items demonstrating the phonemic oppositions described in chapter 2, focused on environments where they could potentially be neutralised.

A.1.1 Consonants

ϕ		b	m
fo ‘sap’		bo ‘1.SG’	mo ‘fish’
afo ‘waist, middle’	abo ‘(an animal’s) young’		amo ‘younger sibling’
t		d	n
taba ‘vine, rattan’		laba ‘leaf’	naba ‘eye’
ata ‘rack for leaving the dead’		alako ‘at first’	anata ‘whole’
t	s		
ti ‘tree’	si ‘penis’		
liti ‘centipede’	lisi ‘wall’		
s		d	dz
su ‘cross over’		lu ‘owl’	ju ‘2.SG’
sosa ‘rub clean’	ola ‘put several things in the ground’		tuja ‘raw, newborn’
k		g	
kliji ‘sun’		gliji ‘build a building’	
kake ‘far away’	falage ‘young man’		
s	h		
sa ‘distribute’	ba ‘weed, clear land’		
asa ‘NEG.IMP’	kaba ‘spit up’		

A.1.2 Vowels

a	ε	e	i	o	u
<i>abo</i> ‘(an animal’s) young’	<i>εbe</i> ‘this’	<i>ebame</i> ‘recently’	<i>ibu</i> ‘stem’	<i>obo</i> ‘dust’	<i>ubei</i> ‘taro’
	<i>fε</i> ‘move’	<i>fε</i> ‘call out’			
		<i>maea</i> ‘coconut’	<i>maia</i> ‘vine’	<i>maoa</i> ‘taro’	<i>noue</i> ‘eagle’
		<i>fεε</i> ‘what’	<i>asia</i> ‘father’s older brother’	<i>soa</i> ‘wash’	<i>sua</i> ‘pig’s name’

A.2 Sample texts

A.2.1 Hunting a Pig, by Koei

The audio for this story can be found on tape 4a starting from 15:50.

- (1) *bo memε na-nε-l-e.*
 I.SG this.way ACTV-I.SUBJ-L-I.SG.SUBJ
 ‘I do it this way.’
- (2) *sebo ini wa memε na-n-l-a.*
 I.PL all QUANT this.way ACTV-I.SUBJ-L-PL.SUBJ
 ‘We all do it this way.’
- (3) *tu leto, o fi tu leleble, na olobale nemo wa glo*
 water fall.as.rain, ?? ?? water ??, and morning bow PERF take
n-l-a na n-u-ja ase mε.
 I.SUBJ-L-PL.SUBJ and I.SUBJ-go-PL.SUBJ go.hunting PURP
 ‘It’s raining, ??, and in the morning we take our bows and go hunting.’
- (4) *waluju ase mε.*
 bush go.hunting PURP
 ‘Hunting in the bush.’
- (5) *na waluju ase n-l-a, na kleli miti gε*
 and bush go.hunting I.SUBJ-L-PL.SUBJ, and pig footprint come.across
n-t-l-a, tu na momeji l-lε fε.
 I.SUBJ-TO-3SG.M.OBJ-PL.SUBJ, water with(?) burrow 3.SG.M.SUBJ-L POINT
 ‘And we go hunting in the bush, and we come across a pig footprint—look, it’s burrowing in the swamp(?)’

- (6) *na esogo n-le-l-l-a,* *esogo*
and follow 1.SUBJ-COM-L-3SG.M.OBJ-PL.SUBJ, follow
n-le-l-l-a, *na boi no-l-l-a.*
1.SUBJ-COM-L-3SG.M.OBJ-PL.SUBJ, and see 1.SUBJ-LO-3SG.M.OBJ-PL.SUBJ
'We follow along with it, we follow along with it, and we see it.'
- (7) *momeji l-le.*
burrow 3.SG.SUBJ-L
'It's burrowing.'
- (8) *momeji l-le,* *na fe n-le-l-l-a* *ti lekefo*
burrow 3.SG.SUBJ-L, and move 1.SUBJ-COM-L-3SG.M.OBJ-PL.SUBJ tree root
kokali o.
behind ??
'It's burrowing, and we move with it behind(?) a tree root.'
- (9) *o ti wayo tako o.*
?? tree stem large ??
'?? a large tree stem.'
- (10) *na ke kokali o fe n-le-l-l-a,* *na mana momeji*
and this behind ?? move 1.SUBJ-COM-L-3SG.M.OBJ-PL.SUBJ, and still burrow
l-le.
3.SG.SUBJ-L
'And we move with it ?? behind this, and it's still burrowing.'
- (11) *na sale n-ta-t-l-a.*
and pull.bow 1.SUBJ-BEN?-TO-3SG.M.OBJ-PL.SUBJ
'And we pull back our bows (at it?).'
- (12) *sale n-ta-t-l-a,* *na sefa*
pull.bow 1.SUBJ-BEN?-TO-3SG.M.OBJ-PL.SUBJ, and arrow
ne-leke-kake-a, *ne-mi-l-a,* *na sefa*
1.SUBJ-release-towards-PL.SUBJ, 1.SUBJ-shoot-3SG.M.OBJ-PL.SUBJ, and arrow
tutuku l-u-le-kake, *afli na.*
run.away 3.SUBJ-away?-COM-away, squeal with
'We pull back our bows, and we release the arrows towards [it], and we shoot it,
and it runs away with the arrows [in it], with squeals.'
- (13) *na wino na, na ko me esogo n-le-l-l-a,* *yafe*
and blood with, and blood OBJ follow 1.SUBJ-COM-L-3SG.M.OBJ-PL.SUBJ, uselessly
l-leb-ou, *na mogo la gli wa l-le.*
3.SG.M.SUBJ-run.away-away, and corpse PUNCT die PUNCT 3.SG.M.SUBJ-L
'And with blood, and we follow along with the blood, and it tries to run away
(but fails), and the corpse dies.'
- (14) *mogo ko legebe.*
corpse blood ??
'??'

- (15) *na tobo taba lei n-e-le-t-l-a,* *na kilɛ,* *na*
 and hoof rope tie 1.SUBJ-??-COM-TO-3SG.M.OBJ-PL.SUBJ, and leave.behind, and
ita fɛka no-ko-i(-e),
 again run 1.SUBJ-K-towards.speaker(-1.SG.SUBJ),
no-ko-i-ja.
 1.SUBJ-K-towards.speaker-1.PL.SUBJ
 ‘And we tie its hooves with rope, and leave [it], and again I run (towards here),
 we run (towards here).’
- (16) *o bo wa no-g-u-i-be* *o.*
 ?? 1.SG QUANT 1.SUBJ-SUBORD-go-1.SG.SUBJ-REL? INFORM
 ‘?? it’s just me that goes.’
- (17) *na fɛka no-ko-i lo wa, gali nɛ-kak-e,*
 and run 1.SUBJ-K-1.SG.SUBJ house to, speak 1.SUBJ-away.from.speaker-1.SG.SUBJ,
‘bo kleli mogo kilɛ nɛ-l-e o’.
 ‘1.SG pig corpse leave.behind 1.SUBJ-L-1.SG-SUBJ INFORM.
 ‘And I run to the house, announcing, “I left a pig carcass”.’
- (18) *‘seseli mɛ nu-g-u-ja m=o.’*
 butcher PURP 1.SUBJ-FUT-go-1.PL.SUBJ FUT=INFORM
 “‘We’ll go to butcher it.”
- (19) *na onɛ n-lelu-m-a;* *bo be mese, o fɛɛ*
 and women 1.SUBJ-go.with-3.PL.OBJ-PL.SUBJ 1.SG POSS woman, ?? which
afa be mese o, o fɛɛ bo be mese o, yabɛ bo be
 older.sibling POSS woman ??, ?? which man POSS woman ??, friend man POSS
mese o, na bu mɛ n-lelu-m-a.
 woman ??, and 3 OBJ 1.SUBJ-go.with-3PL.OBJ-PL.SUBJ
 ‘And we go with the women; my wife, ?? some older sibling’s wife, ?? some man’s
 wife, ?? a friend’s wife, and we go with them.’
- (20) *n-e-lelu-m-e;* *seseli n-le-l-e-m-e,*
 1.SUBJ-??-go.with-1.PL.OBJ-1.SG.SUBJ, butcher 1.SUBJ-COM-L-??-3.PL.OBJ-1.SG.SUBJ
fisou na, o eguju, ke na seseli
 small.knife with, ?? bamboo.knife, this with butcher
n-le-l-e-m-e, na
 1.SUBJ-COM-L-??-3PL.OBJ-1.SG.SUBJ, and
mo-hoe-ja sa
 3.PL.SUBJ-carry.many.towards.speaker-PL.SUBJ distribute
n-ta-tɛ-m-e, na
 1.SUBJ-BEN-T-3.PL.OBJ-1.SG.SUBJ, and
mo-hoe-ja.
 3.PL.SUBJ-carry.many.towards.speaker-PL.SUBJ
 ‘I go with them; I butcher it with them, with a *fisou* knife ?? a bamboo knife, with
 that I butcher it with them, and they carry [the parts] (towards here) [and?] I
 distribute it for them, and they carry [the parts] (towards here).’

- (21) *ni-si-a lo wa, na abojumε-aborumε m-l-a.*
 1.SUBJ-come-PL.SUBJ house to, and PLURACT-cook(?) 3.PL.SUBJ-L-PL.SUBJ
 ‘We come to the house, and we cook [the parts].’
- (22) *lo mago mε sa n-ta-tε-m-a, tabe*
 house from LOC? distribute 1.SUBJ-BEN-T-3.PL.OBJ-PL.SUBJ, count
n-e-g-l-a-be, na ne-le-m-a na
 1.SUBJ-??-SUBORD-L-PL.SUBJ-CONJ, and 1.SUBJ-give-3.PL.OBJ-PL.SUBJ and
aborumε-aborumε m-l-a.
 PLURACT-cook(?) 3.PL.SUBJ-L-PL.SUBJ
 ‘We distribute [the parts] for them in front of the house (?), counting them, and
 we give them to them and we cook them.’
- (23) *na bi n-l-a.*
 and eat 1.SUBJ-L-PL.SUBJ
 ‘And we eat them.’
- (24) *ta tci bo be gali.*
 with.that finished 1.SG POSS talk
 ‘And with that my story is done.’

A.2.2 Hunting a Cuscus, by Kemao

The audio for this story can be found on tape 18b starting from 20:42.

- (1) *ebame me n-an-e sebo*
recently this.way 1.SUBJ-??-1.SUBJ 1.PL
'Recently we did this (?).'
- (2) *klabe ase t-u-l-o, Kela na, na ti-si-jo.*
at.night go.hunting PAST-??-L-DU.SUBJ, Kela with, and PAST-come-DU.SUBJ
'At night the two of us went hunting, Kela and I (lit. 'with Kela'), and we came.'
- (3) *ti-si-jo, loli wa bele, loli wa ti-si-jo na egu*
PAST-come-DU.SUBJ, close to towards, close to PAST-come-DU.SUBJ and cuscus
bu fiji to-ko-e-ja.
TOP swing PAST-K-towards.speaker-3.SG.INAN.SUBJ
'We came, towards close [to something?], we came close [to something?] and a cuscus swung towards us.'
- (4) *egu bu fiji to-ko-e-ja, nagehuba-nagehuba wa,*
cuscus TOP swing PAST-K-towards.speaker-3.INAN.SUBJ, sago.leaf-PL to,
na bo hoi.
and 1.SG see
'A cuscus swung towards us, from sago leaf to sago leaf(?) [alternatively 'to the sago leaves'], and I saw it.'
- (5) *a, egu e-si-a fe, tose na.*
oh, cuscus 3.SG.INAN.SUBJ-come-3.SG.INAN.SUBJ POINT, flashlight with
'Oh, see, a cuscus is coming, [I saw it] with my flashlight (?).'
- (6) *na bo tose enino na kablu t-e-t-e.*
and 1.SG flashlight tooth with bite PAST-??-T-1.SG.SUBJ
'And I bit the flashlight with my teeth.'
- (7) *na egu bu magoe na lele.*
and cuscus TOP type.of.arrow with shoot
'And I shot the cuscus with a *magoe* arrow.'
- (8) *egu magoe na lele t-l-e, na egu bu affi*
cuscus type.of.arrow with shoot PAST-L-1.SG.SUBJ, and cuscus TOP squeal
t-o-l-a.
PAST-??-L-3.SG.INAN.SUBJ
'I shot the cuscus with a *magoe* arrow, and the cuscus squealed.'
- (9) *affi t-o-l-a, koε bo sale fene*
squeal PAST-??-L-3.SG.INAN.SUBJ, but 1.SG pull.back almost
la-te-t-e, natoba, a, nagehuba na.
ACTV?-PAST-T-1.SG.SUBJ, sago.stem, um, sago.leaf with
'It squealed, but I almost was pulling (?) it back with a sago stem, er, a sago leaf.'

- (10) *koε bu la tofiε wa.*
 but 3 PUNCT pull.out PUNCT
 ‘But it suddenly pulled out.’
- (11) *na t-leb-ou-ja.*
 and PAST-flee-away.from.speaker-3.SG.INAN.SUBJ
 ‘And it fled away.’
- (12) *na yafe boboi t-e-ta-t-e-o, kosi na natoba*
 and uselessly search PAST-??-BEN-T-3.SG.INAN.OBJ?-DU.SUBJ, knife with sago.stem
yafe titi-titi t-e-t-e-o, koε bu
 uselessly PLURACT-poke PAST-??-T-3.SG.INAN.OBJ?-DU.SUBJ, but 3
ifinu fluju wa la te-te-tigo-i-a
 bottom.of.stem hole to PUNCT ??-PAST-fall-towards.speaker-3.SG.INAN.SUBJ
wa.
 PUNCT
 ‘And we looked for it (but it didn’t work), we poked at the sago stem with a knife
 (but it didn’t work), but it suddenly fell down (towards us) into a hole in the
 bottom of the sago stem.’
- (13) *koε sebo natoba yafe titi-titi t-le-t-e-o,*
 but 2.PL sago.stem uselessly PLURACT-poke PAST-COM-T-3.SG.INAN.OBJ?-DU.SUBJ,
yafe boboi, o matebe.
 uselessly search, oh forget.it
 ‘But we poked at the sago stem with it (but it didn’t work), we searched for it
 (but couldn’t find it), [and I/we said] “oh, forget it”.’
- (14) *na Wia ti-si.*
 and Wia PAST-come
 ‘And Wia came.’
- (15) *Wia gali, fεε ε-l-o ne?’*
 Wia talk, what 2.SUBJ-L-DU.SUBJ Q
 ‘Wia said, “What are you two doing?” ’
- (16) *na sebo gali— sebo gali— ‘egu boboi ta-t-e-o o.’*
 and 1.PL talk— 1.PL talk— cuscus search BEN-T-3.SG.INAN.OBJ?-DU.SUBJ INFORM
 ‘And we said— we said— “We’re looking for a cuscus.” ’
- (17) *‘egu eje bele(?) eke fiji*
 cuscus today ?? there swing
ε-ko-e-ja.’
 3.SG.INAN.SUBJ-K-towards.speaker-3.SG.INAN.SUBJ
 ‘“A cuscus swung towards us there(?) today.” ’
- (18) *‘bo sefa na ne-ge-mi-be.’*
 1.SG arrow with 1.SUBJ-SUBORD-shoot-REL
 ‘“[One] that I shot with an arrow.” ’

- (19) *Kela na sebo jεlefo wa su t-e-kake-jo.*
 Kela with 1.PL other.side to cross.over PAST-??-towards-DU.SUBJ
 ‘Kela and I crossed over to the other side.’
- (20) *na ita jεlefo wa yafe boboi t-e-ta-t-e-o.*
 and again other.side to uselessly search PAST-??-BEN-T-3.SG.INAN.OBJ?-DU.SUBJ
 ‘And again we looked for it on(?) the other side (and failed).’
- (21) *koε egu bu koε mε ebo t-l-a— ibu fluju mε.*
 but cuscus 3 FOC(?) this.way hide PAST-L-3.SG.INAN.SUBJ— stem hole LOC
 ‘But the cuscus, it hid like this— in a hole in a(?) stem.’
- (22) *na ke mε kilε na loko.*
 and that PURP leave and gather.together
 ‘So we left and got (back) together [with Wia].’
- (23) *‘o, tci tebo n=o. mateb=o.’*
 oh, done bad ??=INFORM. forget.it=INFORM
 ‘[we told him] “Oh, it’s over now. Forget about it.” ’
- (24) *yafe boboi nε-ta-t-e-o fe, na*
 uselessly search 1.SUBJ-BEN-T-3.SG.INAN.OBJ?-DU.SUBJ POINT, and
t-leb-ou-ja.
 PAST-flee-away.from.speaker-3.SG.INAN.SUBJ
 ‘See, we looked for it (and failed), and it fled away.’
- (25) *na ita Kela bu olobale kle t-le.*
 and again Kela TOP morning go.down PAST-L
 ‘And again Kela in the morning went down.’
- (26) *na ita Kela bu olobale boboi t-e-ta-t-e, ti*
 and again Kela TOP morning search PAST-??-BEN-T-3.SG.INAN.OBJ(?), stick
de.
 put.in.ground
 ‘And again Kela in the morning looked for it—he put a stick in the ground(?)’.
- (27) *ifinu yafe titi t-o-let-e; yafe boboi.*
 sago.stem uselessly poke PAST-??-LET(?) -3.SG.INAN.OBJ(?); uselessly search
 ‘He poked at the sago stem (to no effect); he looked for it (to no effect).’
- (28) *koε egu bu wa t-leb-ou-ja.*
 but cuscus TOP PERF PAST-flee-away.from.speaker-3.SG.INAN.SUBJ
 ‘But the cuscus had fled away.’
- (29) *‘εuε, fee mε tebo nε ne? matebe.’*
 augh, what PURP bad ?? Q forget.it
 ‘[He/we said] “Augh, why did it turn out badly? Forget it.” ’
- (30) *ta tci bo be gali.*
 with.that done 1.SG POSS talk

‘And with that, my story is done.’

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