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A Grammar of Urarina

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Abbreviations

Abbreviations in text and tables

DS	Different subject (complement clause)
EL	Elicitation
EL	Elicited example
intr.	Intransitive Verb
NP	Noun Phrase
NT	New Testament
PSC verbs	Verbs of position, shape, or colour
$2, $3	Second/third syllable of a word
SS	Same subject (complement clause)
SS	Same subject (complement clause
SVC	Serial Verb Construction
SVC	Serial verb construction
tr.	Transitive verb
V1, V2	Verb 1, Verb 2 (in SVC chapter)
VP	Verb Phrase

Abbreviations in interlinearisation

[A]	Subject of transitive clause [syntactic functions]
[ADJ]	Adjective [syntactic functions]
[ADV]	Adverb [syntactic functions]
[CC]	Copula complement [syntactic functions]
[CNJ]	Conjunction [syntactic functions]
[CS]	Copula subject [syntactic functions]
[DEM]	Demonstrative [syntactic functions]
[DEP]	Dependent clause [syntactic functions]
[E]	External argument (with postposition *ke*) [syntactic functions]
[EXPR]	Idiomatic expression [syntactic functions]
[INTR]	Introducer [syntactic functions]
[MOD]	Modifying noun [syntactic functions]
[N]	Noun [syntactic functions]
[O]	Object of transitive clause [syntactic functions]
[PART]	Particle (syntax only) [syntactic functions]
[POSSR]	Possessor [syntactic functions]
[PP]	Postpositional phrase [syntactic functions]

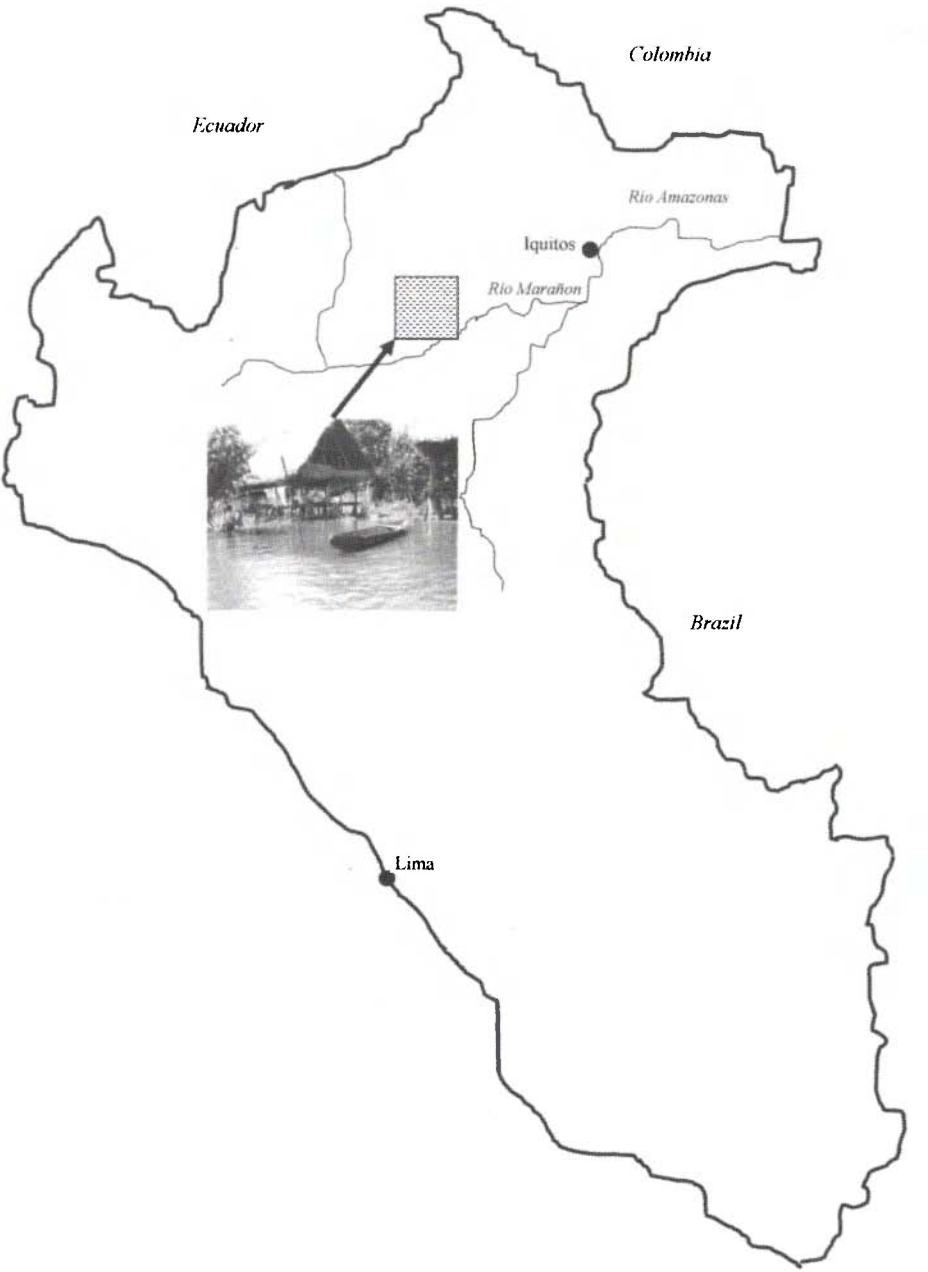
[QUOT]	Quotation [syntactic functions]
[REL]	Relative Construction (syntactic structure)
[S]	Subject of intransitive clause [syntactic functions]
[V]	Verb [syntactic functions]
-[V]	Vowel lengthening
1pl, 2pl, 3pl	First/second/third person plural; verbal suffixes or free pronouns
1pl/du	First person dual (verbal suffixes or free pronouns)
1pl/ex	First person plural exclusive (verbal suffixes or free pronouns)
1pl/in	First person plural inclusive (verbal suffixes or free pronouns)
1ps, 2ps, 3ps	First/second/third person unmarked for number (verbal suffixes; sometimes the singular forms constitutes the base for plural
1sg, 2sg, 3sg	First/second/third person singular; verbal suffixes or free pronouns
1sg/A, 3ps/E, ...	Capital letters after person marking indicate the person inflection type of the suffix (three classes: A/E/D type)
ADVRS	Adversative (discourse marker *niki*)
AG	Agentive Nominaliser/Relativiser *-era*
ASC	Associative (noun prefix *ku-*)
ASCM	Associative Modifyer (noun prefix *b-*)
ASS	Assertive (verbal enclitic *=ni*, usually with Future tense)
AUX	Intransitive Auxiliary (verbal root *aj*)
CAU1	Causative (verbal suffix *-a*)
CAU2	Causative (verbal suffix *-erate*)
CEXP	Counterexpectation (particle *tɕʉisi*)
CHNG	Emphatic "Change" of situation (particle *laẽ*)´
CMP	Comparative (verbal suffix *-ni*)
CND	Conditional/Temporal (clause enclitic *=ne*)
CNT	Continous Aspect (verbal suffix *-ahe*)
CPL	Completive Aspect (verbal suffix *-si*)
CRTN	Emphatic "Certainty" (particle *tɕʉ*)
DER	Undefined Derivational suffix
DIM	Diminutive (verbal suffix *-heeka*)
DIR	Directional (noun suffix *-helõo*)
DSP	Desperate Interrogative (verbal suffix *-naare*)
DSTL	Distal (verbal suffix *-ni*)
DSTR	Distributive Plural (verbal suffix *-akwa*)
EMF	Final Emphatic (clause enclitic *=ra*)
EMPH	Emphasis (unspecified)
ENUM	Enumerative verb (*naaohwaa*)
ERD	Emphatic Respect Discourse (particle *ʉ̃ra*)
FEAR	Fear (clause enclitic *=naate*)
FOC	Focus (enclitics *=ne*, *=na*, *=te*)
FRS	Frustrative/Negative Attitude (enclitic *=ta*)

GPF	Gap filler (*kaanii*, also meaning 'sort of')
H, L	High/Low Tone
HAB1	Habitual-1 (verbal suffix *-reheto*)
HAB2	Habitual-2 (verbal suffix *-nahaauka*)
HORT	Hortative (verbal suffix *-e*)
HRS	Hearsay Evidential (particle *hetau*)
ILT	In-law talk (verbal suffix *-ana*)
IMP	Imperative (verbal suffix *-ʉ*)
IMPS	Impersonal passive (verbal suffix *-era*; usually with negation)
INF	Infinitive/Same Subject Complement (verbal suffix *-na*)
INST	Instrumental (postposition *ke*)
INT	Interrogative (clause enclitic *=na*)
INTS	Intensifier (verbal suffix *-to*)
IRN	Irrealis Nominaliser (verbal suffix *-ene*)
IRR	Irrealis (verbal suffix *-re*)
ITR	Intransitiviser (verbal prefix *ne-*)
JUSS	Jussive (verbal suffixes *-i je, -mĩi*)
LOC	Locative suffix (on demonstratives: *-lej*; on nouns (mostly): *-ʉ*)
LPP	Locative Purposive (verbal suffixes *-naha, -naanaha*)
NDF	Non-Distant Future (verbal enclitic *=ni*; identical to WIT)
NEG	Negation (verbal suffixes)
NEGF	Final Negative (clause enclitic *=ne*)
NEGQ	Negative Question Introducer *ta*
NEW	New/Innovative/Contemporary language, spoken by younger people
NOM	Nominaliser (verbal suffix *-naa*)
NOM_{Obj}	Nominaliser/Relativiser of object (verbal suffix *-i*)
NOM_{Sbj}	Nominaliser/Relativiser of intransitive subject (verbal suffix *-i*)
NQF	Numeral quantifying suffix *-he*
NTR	Neutral Form (verbal suffix: *-a*)
OLD	Old/Traditional language; spoken by older people
PASS	Passive (verbal suffix *-noi*)
PL	Plural (verbal suffixes)
PLN	Place name
PLO	Plural Object (verbal suffix *-naha*)
PLT	Polite/Honorific (enclitic *=tɕe*)
POSS	Possessive marker *raj*
PRB	Probability (verbal suffix *-kaj*)
PRIR	Purposive Irrealis (verbal suffix *-nenʉ*)
PRT	Participle (Verbal suffix *-ĩ*)
PRV	Privative (verbal suffix *-elanaala* 'without')
PSB	Possibility (verbal suffix *-naka*; usually with negation)
PSN	Person name

PTY	Pity Marker (particle *noane*)
PURP	Purposive Complementiser *haanu*
RAP	Rapid Velocity (verbal suffix *-uri*)
REAS	Reassurance (verbal enclitic *=tau*)
REC	Reciprocal (particle *ita*)
RED	Reduplicant (of verb root)
REM	Remote past/future (verbal enclitic *=lu*)
REP	Reportative (enclitic *=he*)
RHT	Rhetorical question (clause enclitic *=te*)
STPL	Stative plural (verbal suffix *-ana*)
SUB	Subordinate (clause enclitic *=ne*)
SUG	Suggestive (verbal suffix *-riu*)
TRN	Tribal Name or Affiliation
VBL	Verbaliser (noun suffix *-oka*)
VLI	Valency increaser (postposition *ke*)
WIT	Experience/witness evidential (enclitic *=ni*)
WRN	Warning/Threat (verbal enclitic *=naare*)

Map of Peru

[The shaded area marks the approximate location of Urarina territory.]



1 Introduction

1.1 Linguistic profile

Urarina is an isolate spoken by less than 3,000 people in the area of the Río Chambira, Loreto Province, North-western Peru. The language exhibits a range of unusual grammatical characteristics that are rarely or not at all found in other languages.

One of the most remarkable properties of Urarina grammar is its pervasive constituent order OVA/VS, which was classified as "non-existing" by Greenberg (1963). At a later stage, a handful of Amazonian languages (mostly from the Cariban family) were discovered which exhibit this constituent order under certain conditions. However, Urarina probably represents the most convincing example for this atypical syntactic structure, as is investigated in §18.

Another feature unique to Urarina is the existence of a three-way distinction for person marking on all verbs, as discussed in §11. Every verb can potentially be person-marked according to three different paradigms. The choice of the respective paradigm depends on a complex set of syntactic and pragmatic conditions, which are investigated in detail. Among the relevant features for the selection of the person inflection class are clause type and text genre, as is further supported by statistical evidence.

Word classes, as described in §5 are a further point of particular interest. Only few members of word classes other than nouns and verbs are underived or represent homogeneous classes. Numerals, for instance, are split into native ones, which are inflected as verbs, and loans from Quechua, which are morphologically treated like nouns. In a similar way, there is no uniform class of adjectives: again, most of them can be divided into special types of nouns and verbs. In contrast, there is a closed class of clause introducers that share certain syntactic features. These can be divided into optional and obligatory types, which mark specific clause types, such as negative questions, prohibition, or others.

The phonology exhibits a comprehensive system of alternations. Of particular interest are certain morpho-phonological rules that involve both segmental and prosodic factors: some person markers, for instance, only occur on verb roots that have a specific number of syllables and end in particular sequences of segments (cf. §3). The complex pitch-accent system of Urarina, as analysed in §4 is characterised by alternations observed between different word

classes in specific syntactic environments, can be characterised as most unusual. Specifically, the tonal structure of Urarina suggests that there is a connection between syntax and tone.

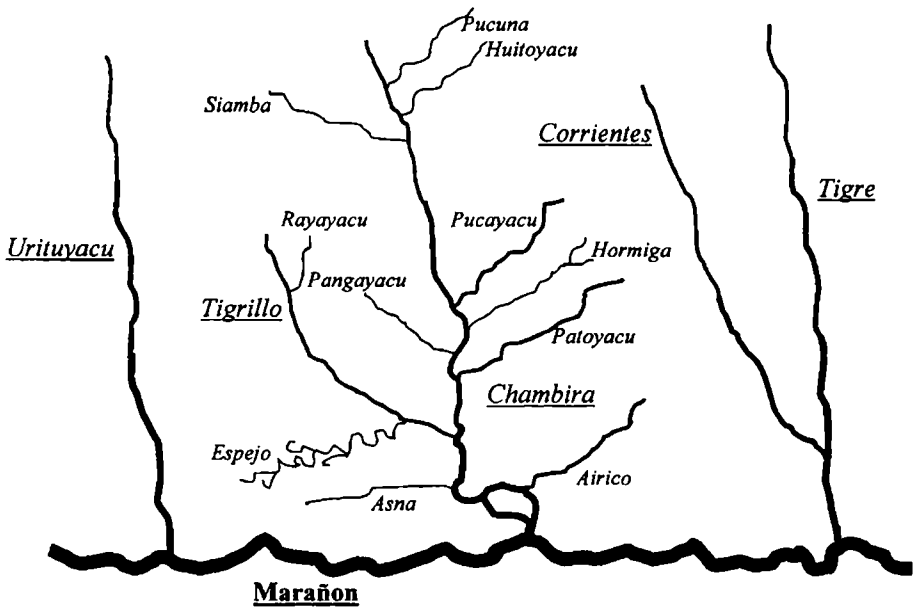
The polysynthetic verbal morphology of Urarina fits well into the Amazonian context, as lengthy sequences of verbal morphemes to express a variety of grammatical categories are common (cf. §12). In total, there are 24 suffixal and enclitic slots that can be filled by markers for core grammatical concepts such as person, number, polarity, and aspect, but which also host morphemes for velocity, assertion, probability, politeness, and evidentiality, to mention a few. One remarkable aspect of this system is that several of these morphemes exhibit order variation.

An intriguing as well as challenging factor for the documentation of Urarina is the rapid pace at which the language is changing, as is described in §23. Unusually high degrees of variation between the older and younger generations are observed at nearly all levels of the grammar. There is a strong trend for simplification and loss of features, such as the neutralisation of contrast between former phonemes, the loss of an enclitic originally expressing negative emotions, but also the introduction of new elements under the influence of Spanish (cf. §12.3.7). I will refer to the language predominantly used by the younger generation as "innovative" or "contemporary".

1.2 Geographical location

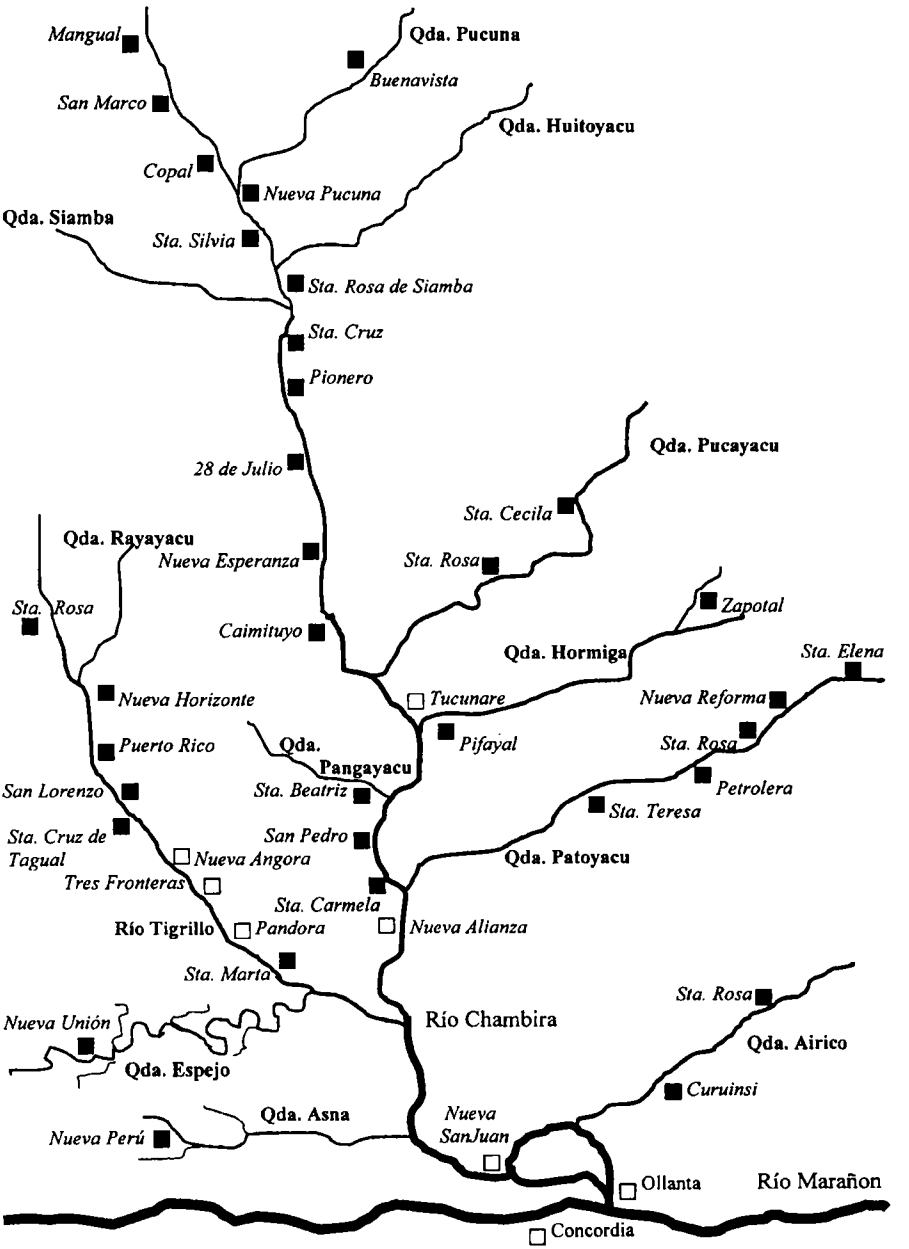
The main speaker area of Urarina is the Río Chambira and its tributaries in the Urarinas District, Loreto Province of Peru. As shown in the map in (1), the language was originally spoken between the Urituyacu and Corrientes Rivers. While it is reported that Urarina has been largely replaced by Spanish on the Urituyacu River, it is still spoken on the Corrientes River, where it is subject to increasing pressure by Spanish. As an estimate, the number of speakers is between 2,000 and 3,000 (cf. 1.4).

(1) Urarina speaker area: overview with names of rivers and tributaries



The main speaker area nowadays is on the Tigrillo River (including Espejo and Rayayacu) and the Chambira River and its tributaries. As can be seen in the map in (2), the largest number of communities (indicated by black squares) are found in the lower area of the Chambira, including the Patoyacu tributary. The lower parts of the Tigrillo and Chambira Rivers, however, also host most of the Mestizo and mixed communities (indicated by white squares). This grammar of Urarina is mainly based on fieldwork in Nueva Unión, at the Espejo tributary, which flows into the Tigrillo River.

(2) Chambira River basin and communities



Due to the remote location, access to the Urarina territory is rather difficult. A single trip from Iquitos, the capital of Loreto District, to the mouth of the

Chambira River takes up to two days by ship (*lancha* – a cargo ship which also takes passengers). From there, it is another day by *peque-peque* (a small boat powered by simple motor which is connected to a steel rod with a propeller) in order to get to Nueva Unión de Espejo. The community has a population of less than 100 (which equals about 15 households) and is in relative isolation from other places. As the village is surrounded by almost impenetrable swamps, outsiders hardly find their way to the place and easily get lost, especially in the rainy season. The community owns a boat, which is used sporadically to transport crops to the Marañon River, from where they are shipped to Iquitos, in order to sell them. Access to Espejo areas upriver is only possible by canoe.

The Urarina language is also known under a variety of other names. Most importantly, the people traditionally refer to themselves as *katça* 'man', and to their language as *katça ere* 'man's word'. However, this name is being replaced by the term *Urarina*, whose origin is unknown, but there is a traditional narrative that accounts for the introduction of this term. According to this story, which has certain funny connotations, a Jesuit priest who first made contact with the people (*katça*) was presented with *urari* roots as a gift (about this staple food, see §1.5.1) – and subsequently called them "Urari-na" (cf. Olawsky 2002:214ff). It is unclear whether this anecdotal account can be taken seriously.

Other names by which the Urarina have been known include *Shimacu*, and *Itucale*, which are not in use any longer. Shimacu (or Simacu and other variants) is understood as a depreciative term and according to Manus (2005 p.c.), could also be based on the Spanish term *cimarrón* for 'salvage'. The name Itucale (or Itucali and other variants) must have been introduced by error as it describes the name of a subgroup or clan of Urarina called *itokwari* (cf. §1.5.3).

1.3 Genetic affiliation

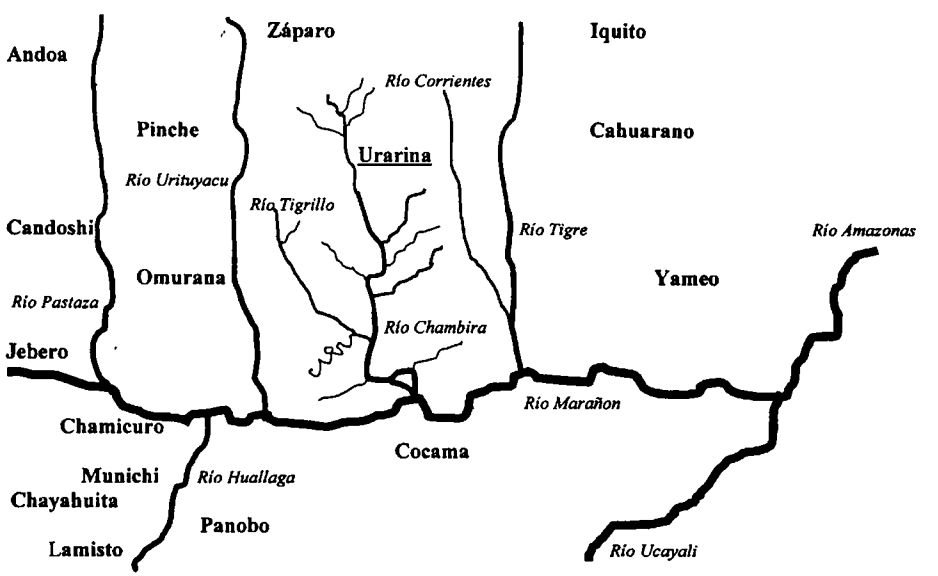
The genetic affiliation of Urarina is a controversial issue, partly due to the fact that very little is known about the language's history and about its neighbours. Urarina has been classified as a member of at least four different languages families by various authors (Panoan: Velasco 1960:v3, 208; Tupian: Figueroa 1986:253; Macro-Tucanoan: Shell & Wise 1971:14; Andean: Greenberg 1960:794 – all cited in Dean 1994(1):37). A comprehensive summary of the various approaches towards a classification of Urarina is given in Cajas Rojas & Gualdieri (1987:16ff). However, based on lexical and grammatical comparison with the small amounts of data on languages supposedly related to Urarina, it is difficult to find similarities of Urarina with any of the language groups mentioned in the literature to date. While the term "unclassified" is one way to deal with this difficulty, there is evidence to suggest that Urarina ought to be described as an isolate – a solution also adopted by Cajas Rojas & Gualdieri

(1987:19), who provide a study of Urarina phonology. One argument in favour of assigning an isolate status to the language is the total lack of lexical overlap with any of the languages spoken in the wider vicinity. This can be based on comparative evidence from word lists provided by Loukotka (1968) and Tessmann (1930). Specifically, the following languages are or were spoken in the wider vicinity of the Urarina speaker area:

- Murato (a.k.a. Candoshi), an unclassified language perhaps distantly related to Arawak
- Omurana (Zaparoan or isolate) – extinct
- Iquito (Zaparoan)
- Jebero (Cahuapanan)
- Cocama (Tupí)
- Yameo (Peba-Yaguan) – extinct

It should be noted that "wider vicinity" is not meant to imply actual proximity to the Urarina territory in a strict sense. Given the unhospitable geophysical conditions of the rainforest, a trip to any of the groups mentioned (except for Omurana), would involve several weeks of travel by foot and canoe. As a guideline, a canoe trip from the mouth of the Chambira up to Mangual may take between two and three weeks. The map in (3) can only give a very approximate location of the different languages and their distance from the Urarina territory is not to scale.

(3) Languages surrounding the Urarina territory (approximate location – not to scale)



The following comparison of a few key terms in some neighbouring languages of Urarina is based on Loukotka (1968:118;153-160).[1] Remarkably, Urarina words do not even exhibit a single similarity between any lexical items for any language listed here.

(4) Lexical comparison of some key terms according to Loukotka (1968)

English	**Urarina**	**Murato**	**Iquito**
'head'	kuturí	módzik	p-anák
'tooth'	katú		
'ear'	iritçú		
'eye'	nutá	k-áchik	puí-nami
'hand'	bihí		
'fire'	isí	sumaadzi	inámi
'water'	akaú		
'sun'	enotó	shári	núnami
'star'	arasihjé	tsangáchi	narexa
'house'	lurerí	pangózi	íta
'woman'	eené	kísa	muesaxí
'maize'	katurí	iwáto	shakárok
'white'	somaháj	kantsírpi	mosotín
'one'	lejhií	minumpta	nóki
'two'	kuruataháj	tsímboro	ko:mi
'three'	nitçataháj		

English	**Cocama**	**Jebero**	**Yameo**
'head'	yakö	móto	wi-náto
'tooth'	dzái	látek	wi-é
'ear'	námi	wuíoga	wi-tíwe
'eye'			
'hand'	púwa		
'fire'	táta	pön	óle
'water'	úni		
'sun'		köki	natéra
'star'			
'house'			
'woman'	wáina		

[1] The transcription of Urarina follows the conventions used elsewhere in this grammar, whereas the transcription of other languages is adopted from Loukotka.

English	Cocama	Jebero	Yameo
'maize'	abati	chíter	ogung
'white'			
'one'	wípi	alá?atsa	pwitér
'two'	mokoíka	katáta	narámue
'three'	motsapwöka	kála	pwiterorineo

Further four languages originally spoken in the wider vicinity are now extinct. The table in (5) is based on wordlists by Tessmann (1930; his transcription is adopted below). Note that on Pinche/Taushiro no data is available.

- Andoa (Zaparoan) – extinct
- Cahuarano (Zaparoan) – extinct
- Pinche/Taushiro (possibly Zaparoan or Candoshi) – extinct (one speaker left in 2004)
- Pano(bo) (Panoan/unclassified) – extinct
- Chamicuro (Arawak) – extinct

(5) Lexical comparison of some key terms according to Tessmann (1930)

English	Urarina	Cahuarano	Andoa	Pano(bo)	Chamicuro
'head'	kuturí	pá-nak	anáke	mápu	okáski
'tooth'	katú	puö-ka	kixá	séta	awáxsi
'ear'	iritçú	pio-toko	nomáko	pawíki	axčái
'eye'	nutá	poí-nami	nemiž	buero	awóxkui
'hand'	bihí	pio-kódika	awuáši	muiská	učíxpa
'water'	akaú		mowáka	ompásko	unixsa
'sun'	enotó	nianamí	poanánu	wári	mosóxko
'house'	lurerí		dahápu	tapíng	axkóči
'woman'	eené	itémo	máxi	áibo	molóta
'white'	somaháj	musiténa	makúšini	hóšo	kamadláwa

Omurana (isolate) was the language in closest geographical proximity to Urarina. Though it is now extinct, both Loukotka and Tessmann provide word lists for Omurana. Still, a lexical comparison based on their data does not exhibit any similarity with Urarina.

(6) Lexical comparison with Omurana based on Loukotka (1968:157) and Tessmann (1930:252ff)

English	Urarina	(Loukotka)	(Tessmann)
'head'	kuturí	na-nenyalok	naneyalok
'eye'	nutá	an-atn	(a)natun

English	Urarina	(Loukotka)	(Tessmann)
'sun'	enotó	héna	héna
'house'	lurerí	ána	ána
'woman'	eené	mparáwan	mparáwan
'white'	somaháj	chalama	čalama
'fire	isi	íno	ínjo
'maize'	katuri	aíchia	aíčia
'one'	lejhií	nadzóra	naθóro
'two'	kuruataháj	dzoʔóra	θóoro

From the lexical items compared in the above tables, it is unmistakable that none of these languages exhibits any lexical matches with Urarina. Besides, it is unclear to what extent these groups may have been in contact with the Urarina. There certainly has been some contact with the Cocama (Tupí), as Urarina speakers even reported of some cases of intermarriage in the past. At present, there is no contact between the two languages – and the Cocama language is struggling despite the relatively large number of ethnic Cocama. Contacts with some other groups are described as hostile, as these are characterised as cannibals. There are several old narratives that describe the conflict between those "indios" (*bakaиa*) and the Urarina, who according to the stories defeat the attackers in revenge. The Urarina names of these groups are *ijoro* - which refers to the Shapra (Murato), *fwano* (which probably refers to the Pano(bo)), and *kasarena* (unidentified – perhaps Cashinahua (Panoan)). Another narrative mentions a man from the *rameseto* – referring to the Lamisto or Lama (Munichi stock), now extinct. The Omurana, – once the group in the closest vicinity to the Urarina, which even appeared to have a settlement on the Chambira and were considered non-hostile, were called *majja*.

The knowledge about grammatical structures of most of these languages is very limited. Naturally, a polysynthetic morphology as a general typical feature of Amazonian languages is also found in the nearby language families. Other properties such as the presence of evidential markers, or pitch-accent occur all too commonly in Amazonian languages as to postulate a relation between these and Urarina. In contrast, for none of the languages listed above, similar structures such as the properties highlighted in §1 have been reported. Based on the lexical comparison and on the range of extremely uncommon features found in Urarina, it is feasible to characterise Urarina as an isolate.

1.4 The current state of the language and its endangerment

The exact number of Urarina speakers remains to be determined, as information about this varies from source to source. It is for certain that the number of ethnic Urarina, which possibly ranges over 3,000, does not reflect the number of its speakers, as language loss has been ongoing over several years. The actual number of fluent Urarina speakers may be estimated at around 2,000. One threat to the Urarina language and culture is the rising number of mestizo settlers.[2] These form their own communities or become part of a native community. In mixed Urarina-Mestizo communities, mestizos typically control most administrative functions and Spanish becomes the language of communication, sometimes supported by school teachers who do not speak Urarina. Spanish is also the language of communication with traders and other groups with commercial interests who virtually invade the region in order to exploit the natural resources. Traders also "employ" Urarina as cheap labour in exchange for alcohol or other items. As a consequence, many Urarina face problems such as alcoholism and subsequent financial dependency upon outsiders.
Different from what is stated in Olawsky (2002) (which is purely based on knowledge from the Espejo village of Nueva Unión) Spanish also is the language of education, social, and economic interaction with non-Urarina speaking population. In "mixed" communities, Spanish has become the preferred language of communication. One alarming aspect of the language change is the loss of a number of some grammatical features among speakers of the younger generation (also cf. §23.2). The linguistic situation is paralleled by the threat to most cultural practices as many traditional customs have already been abandoned.

There has been no previous attempt to provide a comprehensive description of either the Urarina language or the culture of its speakers. Among the few studies on Urarina grammar is an unpublished thesis by Gualdieri & Cajas Rojas (1987), which covers aspects of Urarina phonology and gives an overview of previous attempts to classify Urarina. Another study is a paper by Cajas Rojas (1989) on nasalisation. There also is an article published in Spanish by Manus (1992) on subordinate clause and focus markers. Ron and Phyllis Manus have been involved in Urarina Bible translation and literacy since 1960 and also have produced several unpublished manuscripts on some aspects of the language. The most recent publications on Urarina are a text collection (Olawsky 2002) and a few articles (Olawsky 2003, 2005). Apart from Tessmann's (1930) chapter on the Urarina, cultural aspects have been mainly studied by Dean (1994-2002), who has published a number of essays on

[2] The Spanish term *mestizo* describes the descendants of European and native South American parents. These are monolingual in Spanish.

anthropological characteristics of the Urarina society. Tessmann (1930:268-282), apart from a wordlist, also gives an overview of some cultural practices, which, however, cannot all be confirmed for the present.

So far there has not been much material written in Urarina. The orthography used in these is based on the spelling system used in the Bible translation, which is in its final stage (to appear in 2005 or 2006). The orthography is based on Spanish orthography, which makes it easy to read for someone who knows Spanish. Of course, Urarina has a number of sounds that are hard to represent, but an approximate pronunciation may be possible using the present orthography, which is further described in §1.7.1. There is an Urarina version of the UN charter of human rights and the educational NGO *Su Camino* has also published some literacy material in Urarina. A bilingual collection of traditional narratives by Olawsky & Arahuata (2004) was distributed to Urarina teachers for literacy purposes. As a result of a project recently started, there is a bilingual education programme by the *Red Educativa de la Etnia Urarina*, which is fully controlled by Urarina and has started to replace mestizo teachers with bilingual teachers in most Urarina communities.

1.5 Summary of social organisation

According to oral accounts, the Urarina traditionally populated the Río Chambira and its tributaries, originally living in longhouses along the riverside. The primary vegetation of the area is rainforest, with vast areas of densely overgrown swampland. The Río Chambira is the main waterway of the area, with about ten tributary rivers flowing into it.

1.5.1 Means of subsistence

Most people still subsist on hunting, fishing, and food crops. Nearly all animals that appear to be big enough to make a meal are eaten. Among the common game are mammals such as tapirs, pacas, peccaries, monkeys, as well as crocodiles and birds. Snakes and dolphins are not eaten, but jaguars may be consumed.

Fishing is another important means of subsistence. There are four different fishing methods; all types of fishing are carried out from a canoe:

a) Fishing with a net (which is left overnight or longer),
b) Fishing with a spear,
c) Using a fishing line and a hook (originally with the thorn of the *garabata* liana),

d) Killing (or stunning) fish by poisoning a fraction of the river – these are then collected.

Plantains and cassava constitute the main vegetable diet. Cassava (Urarina *laano*, also known as manioc, or *yuca* in local Spanish), is one of the most important staple crops for the Urarina. Another widely used crop is a tuber called *urari* (or variant *erwari*; Xanthosoma sagittifolium, Araceae family) – a tuber typically grown next to the house and consumed grilled, fried, or as a soup ingredient.

Some fruit, such as small banana, papaya, maize, and peanuts are also known and grown, but less commonly. Most crops are also sold to traders. The fields where these items are grown can be several hours' walk away from the village. As most people have chickens, eggs also form a part of the diet.

Cassava beer, know as *masato* in local Spanish (Urarina *baruе*) is a popular alcoholic drink made from mashed cassava (and sometimes plantain), which is left to ferment for up to four days. Various texts of the database show that social drinking has been common since ancient times. Alcoholism is mainly a problem in communities that depend on river traders who sell *trago* (high-volume liquor made from sugar cane).

1.5.2 Material culture and daily life

The tradition of living in longhouses has been largely abandoned as most people now live in individual houses. While these are typically built from natural materials, modern building materials such as zinc roofs and nails are highly valued. Traditionally, houses have a thatched roof and no walls. The floor, which is about 1m off the ground, is made from the trunk of the white nist palm (Span. *pona,* Urarina *akuaraa*). Poles are tied with lianas. The average lifetime of a house is up to 5 years, but the roof, made from branches of the *chevón* palm (*elele*) has to be renewed about every two to three years.

Among the items that are produced by the Urarina are blowguns and darts, hammocks for infants, sleeping mats, clay pots, wooden spoons, baskets, necklaces, and bags. Fibre from the chambira palm (*risi je*; or alternatively, the *aguaje* palm, *alaa* – in swampy areas) is the most important material for all kinds of weaving. While most handcrafted items are produced by women, men engage in the fabrication of baskets, weapons, and carved items. This includes paddles and dugout canoes, which are the main means of transport on the rivers, often used in combination with walking. Items are usually carried with a tumpline or rope across the forehead.

The division of labour is not clear-cut, but some tendencies can be observed. Men are in charge of hunting and all different types of fishing, but women may

also fish with a net or with a fishing hook. Women may also accompany their husbands on hunting expeditions that last for several days. Both sexes carry out work on the field, such as harvesting, cutting weeds, or fetch firewood. Splitting firewood is done by both genders, though more commonly by women. In preparing a field for cultivation, men fell the bigger trees and clear the brush, which are then left to dry and burnt. Women are responsible for cooking, washing, and taking care of the children. Men occasionally smoke meat and prepare their own meals during hunting trips. Cassava beer (Span. *masato*, Urarina *barʉe*) is made by the women. A popular way of labour is a so-called *minga* (a loan probably from Quechua), a kind of community work for which a man invites the other people of a village to work on his field. The inviter then provides masato for the entire working party.

There are strict regulations for the coexistence of men and women not married to each other. For instance, all recordings of text with female narrators had to occur under supervision of an adult male family member. Alternatively, a woman could do the recording. Typically, men and women would eat separately.

Emotional states are not normally shown in public. One aspect worth mentioning is the avoidance of publicly showing anger. The verb for 'become angry' (*neheratia*; cf (914)) is also used to translate the Spanish word for 'hate' (*odiar*).

1.5.3 Ceremonial life and spirituality

Very little is known about the spiritual life and potential ceremonies, as the Urarina do not easily share their religious traditions and most details of Urarina spiritual life were not investigated in detail. Interestingly, there are no ceremonies for marriage, nor have any rituals at death been observed (there are no formal funerals). In Nueva Unión, the dead are buried in a place about ten minutes from the village, but the graves are not cared for. Marriages are usually arranged by the parents. If no bride is available in the same village, the father would take his son on a trip to another place.[3] Brothers frequently marry women from one family, where feasible. Polygamy is not very common, but legitimate. However, the first wife has to agree to the husband's taking of an additional wife. In some cases, a man marries several sisters. The marriage age is around 14 for women and at about 16 for men. There is no dowry, but the man simply moves in to the wife's family and becomes part of it. This also involves brideservice, as the husband's labour force now belongs to his new family.

[3] In contrast to this, Manus (2005 p.c.) have observed that the girl's parents have to find a suitable man to marry their daughter.

Thus, hunting expeditions are often conducted by two (or more, when including children), involving the head of family and his son-in-law. A more detailed account of kinship – and some politeness factors related to the kinship system – is given in §13.1.

Possibly the only popular ceremony among the Urarina is the consumption of ayahuasca, a hallucinogenic plant well known for its psychoactive properties. It is a thick-rooted plant with long leaves and small flowers. The beverage is based on mashed and boiled ayahuasca vines, blended with at least one other plant. The Urarina attribute healing power and spiritual wisdom to the consumption of ayahuasca. The exact rules for the ceremony are unknown to the author, but participants are required to keep a specific diet for about a week after participating. There are a number of items especially used for the ayahuasca ceremony, such as ornaments for the leader of the ceremony. Apparently, a spiritual leader who performs the ceremony (*ayahuasquero*), does not generally have a higher status than other community members, apart from his healing powers.

People also attribute healing powers to certain plants called *biri* (cyperus sp.; *piri-piri* in local Spanish), which are used as medicinal plants. The Urarina treat all kinds of diseases with these, which are especially planted and whose application is strictly prescribed, often in combination with specific dietary measures. There also are *biri* which are believed to have magical powers such as to enable hunters to successfully find certain animals (for each animal there is a separate *biri*), or for lovers in order to draw the beloved's attention to himself or herself. Further functions also include fertilising or infertilising properties.

Naming is a complex topic, but not much information about it is available at this stage. New-born children receive Spanish names, but usually names are given only several weeks after birth, apparently because the parents first wait to see whether the child survives. Family names are handled in the same way as the Spanish system; i.e. one name is the father's family name whereas the second one is the mother's name. Most people also have unique nicknames that are usually based on some special characteristic of the person or some experience in the past. For example, one girl is called *Lanahaj* 'red one' because she was "red" when she was born. Another person is called *Airiu* because he moved to the Espejo from the Airico River. Yet another person is called *Вuкu* 'bone' – apparently due to his skinniness. There also used to exist a naming ritual in which children were given secret names by a shaman. However, as this custom has been largely abandoned, no further information is available on this matter, except that these names appear to have no particular meaning, but are given as novel names by God. Similarly, not all the details are known about some names that appear to be clan names. I know of seven names in total, which are *arabura, uhidi, lomajɲari, itokwari, nafwiano, dʒaitɕe*, and

ahjauriara. According to one consultant, many people nowadays do not know what "clan" they belong to.

Some aspects of the spiritual beliefs of the Urarina are encoded in traditional narratives. In particular, many of these explain the creation of specific animals or plants, or they account for certain aspects or circumstances of human life, such as how women learnt to give birth, or why children welcome their fathers when they come from a hunting trip, or how the howler monkey replaced the spider monkey as the "chief of the monkeys". Three particularly important characters that occur in most of these narratives should be mentioned:

1. *kana kwaaɨnera*, "the one who created us" can be understood as corresponding to a creator God. He is generally described as a caring supernatural being who does good to his creatures. At least one narrative also mentions the existence of *kana kwaaɨnera kalaui*, "God's son", who is the victim of the people's aggression in one story that results in a deluge.
2. *kana kwaaɨnera letono* – the "envoy of God" is also equalled to *Hirikuri* by some story tellers, though it is not entirely clear whether these refer to one and the same person. He may be regarded as a kind of spirit appearing in human shape and usually tries to trap people by creating all kinds of difficulties and treacherous situations. For instance, he is the one who sends a group of people into dangerous territory in order to retrieve the night (which is to be created).
3. *Lomai* is another important character in many traditional tales. While her exact relation to the other two characters is not clear, she seems to represent the "Mother God" (cf. Dean 1994:38) – but again it is unclear whether Lomai is identical to what occurs as *kana neba* "our mother" in other narratives. Lomai's status clearly is high above humans, but she lives in magical terrain with many spiritual beings (such as talking trees). Lomai typically sets up strict rules and the people's failure to obey her orders then results in punishment. In most stories, people end up being turned into some animal or plant because they did not obey orders.

Over two dozen of these traditional narratives were recorded during the research project on Urarina language and culture. The text selection in Appendix A contains one short traditional narrative, which accounts for the creation of two kinds of peccaries. Many narratives mix elements of traditional religion and Christianity. For example, in one flood narrative, a man called Adam saves the son of God from the other people. In the same account told by another speaker, the character is called Noah. Due to obvious resemblance between characters such as God's son (who is actually equalled with Jesus in one narrative, but not in others), the boundaries between traditional and innovative spirituality are not transparent. Nowadays, many Urarina are Christians (catholic and evangelical),

and aspects of both religions have been merged. A more detailed investigation of Urarina cosmology will be left to future studies.[4]

1.6 Database and language resources

This grammar is part of a comprehensive research project on Urarina language culture conducted over five years. It was initiated by the Research Centre for Linguistic Typology (Melbourne) in 2000 and later funded by the Endangered Languages Documentation Programme (London) from mid 2003. During five separate field trips between one to six months length, a range of texts were recorded and will be archived. In total, 126 texts were recorded, equalling about 17 hours of speech. While these include a wide range of different genres such as conversations, picture descriptions, instructions, and sermons, most are narratives, which can be further divided into several subtypes:

1) Traditional narratives: these typically account for the Urarina worldview in terms of creation; others are stories that describe the courage of specific people in the past, most commonly in defeating groups of enemies.
2) Hunting stories: in these, the storyteller describes a personal experience of his own past.
3) Dramatic events experienced by others: the storyteller describes dangerous or funny events that happened during his own lifetime – mostly reproducing the second type.
4) History: typically, these narratives account for the history of a village, describing how people first arrived and settled. This also includes descriptions of how the people lived in ancient times, thus not necessarily including the storyteller himself.

The text selection in Appendix A gives examples for some of these genres. Four out of the five texts given there are narratives, which corresponds to the proportion of narratives in the database, but is also based on the fact that other texts were too lengthy as to be included here.

For all examples discussed throughout the grammar – if not stated otherwise – it is tacitly implied that they are "natural" in one or another way, i.e. they are either parts of speech from natural conversation between native speakers or between the author and native speaker, or they are embedded in a larger text independently produced by a native speaker. However, it is well-known that not all of the questions linguists typically have about the structure of a language can be answered easily from the occurrence of a given construction in text. Especially, Urarina has such a variety of morphological phenomena that may

[4] For a small collection of narratives, also see Olawsky (2002).

occur only a few times in a specific combination in the entire text database. For some aspects of the analysis, this may not be sufficient in order to make valid generalisations about the possibilities and impossibilities of a construction, or about their productivity. Only in such cases, I have looked for suitable examples in the New Testament translation (abbreviated to NT hereafter), which, with its abundance of about 218,000 words, is a useful source of examples. Some further details about the NT translation are mentioned below. Where examples are absent even in the NT, I relied on elicitation of appropriate examples. These examples are usually not sentences that were simply translated from Spanish to Urarina, but they result from questions that arise during the analysis of texts or in conversations. Where elicited data was used (which is marked in the text) I tried to match the judgement of several speakers. Overall, elicited examples represent a very small minority. Some examples, such as short utterances, phonological data, or word formation are based on observation and knowledge of the language by the author.

As mentioned above, the overwhelming majority of examples are taken from the database of natural texts, which are composed of different genres. Nearly all examples are taken from the Espejo dialect (except §23.1 on dialect differences). A few examples from other dialects in which no relevant differences to the Espejo dialect apply are employed as well.[5] In total, four main dialect areas can be identified, which are sketched in §23.1. Some sample sentences (repeated in different chapters), which are practical for the investigation of several different aspects of the grammar, sometimes highlight their structure in different ways.

Where elicited examples or data from the NT are used, this is indicated. The proportion of all examples adopted from the NT translation is less than 5%, and used where specific constructions or combinations of morphemes or phrases were not available from the text database.[6] While I do not regard examples from translations as instances of natural text, the translation process implies that such data is reliable and consistent with speech normally produced by Urarina speakers. The process of the NT translation has undergone constant revision over the last few decades and was largely conducted by native speakers of Urarina. The translation is very free rather than literal and all examples are reviewed by a range of speakers of Urarina. Each sentence, after being translated from Spanish to Urarina, goes through a back translation into Spanish by different speakers and amendments are made, where necessary. In the next

[5] Where dialectal differences occur, this is indicated.

[6] One half of these occur in the chapters on word classes and NP structure, where a majority of examples consists of single words or phrases. In these chapters, they supplement natural examples from the text database, typically in order to illustrate syntactic or semantic variations.

step, further revisions to the grammar and style of each example follows. The entire process involves a variety of native speakers. Thus, it is plausible to assume that the NT examples are unlikely to be calques from Spanish or that they reflect transfer errors in any way. As far as can be predicted at the present stage, the NT translation appears to be well understood by the Urarina community.

Statistics regarding the sound inventory and word classes as presented in the respective chapters are based on the lexical database – a wordlist of 3,650 entries at the time of completion of this grammar. This should represent a sound basis for statements on frequency and distribution of the categories discussed.

Texts were recorded from 24 different speakers and it is impractical to list the details for each individual here. A speaker profile for the recordings from different dialects is provided in §23.1. The general grammatical description is based on fieldwork in Nueva Unión (Espejo River), and a large proportion of examples are taken from stories told by the village's most elaborate storyteller, Medardo Arahuata Manizari. He is the second-oldest man of the village (born around 1952) and a monolingual speaker. Originally coming from the Tigrillo River (San Lorenzo), he was one of the founders of the community in the Espejo. Another important consultant, one of the main helpers in grammatical analysis, is Julian Nuribe Vela, the village elder and representative (born in 1946), who is known in the entire Chambira basin as a sort of (unofficial) Urarina ambassador. He is bilingual in Urarina and Spanish and did not learn any traditional narratives from his ancestors, but has a comprehensive vocabulary of Urarina and good understanding of grammatical structures. His parents moved from the Urituyacu River to the Chambira River shortly after he was born. From there, he moved on to various places, including the Tigrillo River, where he stayed for several years. Then he followed his father-in-law (Medardo Arahuata's father) to the Espejo and became one of the village founders. In fact, most inhabitants of the Espejo community are in some way related to each other and further important consultants include Medardo's brother, Julian's sons, and a number of people related to either of these as in-laws. A brief speaker profile for further consultants is given in §23.1.

1.7 Terminology and conventions

1.7.1 Transcription

The presentation of Urarina terms in this grammar is an intermediate solution between a phonemic and a (broad) phonetic transcription, with a few peculiarities. On the one hand, the transcription is phonemic in that most of the predictable, non-essential alternations do not surface in the transcription. For

instance, postvocalic aspiration, nasal spreading, and most simplification rules, as described in §2 (Phonology), are not included in the transcription. (7a) gives a few examples for the representation of terms that include these features. On the other hand, some phonological rules were considered in the transcription, as listed in (7b). These include morpho-phonological alternations and some other rules even though these may be entirely predictable. However, some of the rules underlying these alternations are rather complex and as a general guideline, I represent examples in a way that is close to their actual pronunciation, while omitting additional non-essential features that may occur as optional variations. As a result, Urarina speakers would be able to identify the words, if pronounced as they are represented here.

(7) Examples for representation of simplified transcription

a) Features not included in transcription:

Feature	**Representation in grammar**	**Phonemic structure**	**Narrow transcription**	**Gloss**
Aspiration	*ate*	/ate/	[ahte]	'fish'
Affricatisation	*haʉria*	/haʉria/	[haʉdʒa]	'earlier'
Monophthongisation	*haĩ*	/haĩ̯/	[hãĩ̯], [hãã]	'because'
Nasal spreading	*rĩa*	/rĩa/	[rĩã]	'side'
Glide in hiatus	*enʉa*	/enʉa/	[enʉŋa]	'tree'
/aj/ → [ej], [e]	*raj*	/raj/	[raj], [rej], [re]	'for'
Optional vowel lengthening	*satĩ*	/satĩ/	[satĩ], [saatĩ]	'all'
Obligatory vowel lengthening	*kʋara-ʉ*	/kwara-ʉ/	[kwaraaʉ]	'see'-IMP

b) Features included in transcription:

Feature	**Representation in grammar**	**Phonemic structure**	**Narrow transcription**	**Gloss**
Insertion of [k] (morpho-phonology)	*kʋara-kʉrʉ-a*	/kwara-ʉrʉ-a/	[kwarakʉrʉa]	'see'-PL-3ps/A
Palatalisation	*ari-ɲa*	/ari-na/	[ariɲa]	'seek'-INF
/ʉ/ → [u], [o]	*enʊ-orʉ-a*	/enu-ʉrʉ-a/	[enoorʉa]	'enter'-PL-3ps/A
Vowel copying	*kihja*	/kiha/	[kihja]	'paddle'
Vowel raising	*ti-a*	/te-a/	[tia]	'give'-3ps/A

With regard to rules that are subject to a high degree of variation, I have given the examples in accordance with the original recording. This would sometimes result in individual differences, such as the realisation of vowels that have allophones in free variation, or the realisation of certain consonants in some words, which may be subject to variation due to optional rules. These include the variation between [u] and [o], [hw] and [fw], [r] and [d] or [t]. All variations are also clearly identified in §3. Most variations depend on differences between individual speakers, some on dialectal differences, but a few may also occur speaker-internally. Note that all examples except for §23.1 on dialects are from dialect zone A – Espejo (where some speakers may exhibit strong influence of the Tigrillo dialect due to their heritage). Some examples are illustrated in (8). These include phonological variations and lexical differences between speakers or sometimes speaker-internally.

(8) Examples for representation of varying transcription

a) Phonology:

Variation	**Representations in grammar**	**Phonemic structure**	**Narrow transcription**	**Gloss**
[u] ~ [o]	*omari, umari*	/umari/	[omari], [umari]	'basket'
[hw] ~ [fw]	*hwʉera, fʉera*	/fwʉera/	[hwʉera], [fʉera]	'obstacle'
[d] ~ [t]	*dada-e, data-e*	/dada-e/	[dadae], [datae]	'touch'-3ps/E

b) Lexicon:

Representations in grammar	**Phonemic structure**	**Narrow transcription**	**Gloss**
itulere, tulere	/itulere/	[itulere], [tulere]	'all kinds of'
akaʉrʉ, kaʉrʉ	/akaʉrʉ/	[ahkaʉrʉ], [kaʉrʉ]	'they' (3pl)
naamanaa, enamana	(dialect-based)	[naamanaa], [enamana]	'young man'
kanii, kaanii	/kaa+nii/	[kanii], [kaanii]	'this'+'that' = 'sort of'
ne, na	/ne/, /na/	[ne], [na]	(subordinate marker)
kʉane, kʉanaj	/kʉanaj/	[kʉane], [kʉanaj]	'inside'

Out of practical (typographic) considerations, I have transcribed long vowels by writing two vowel symbols, such as /aa/, [ee], etc. Generally, vowel length is only spelled out where this is required in order to distinguish long vowels from diphthongs or short vowels. Vowel length is not spelled out at morpheme boundaries, where it is predictable. In addition, diphthongs are distinguished from the vowel sequences, such as /a/+/i/ (which is represented as <ai>), as

opposed to as <aj> for the diphthong. Further details are given in (9) and will be further analysed in the respective sections.

(9) Transcription of diphthongs and vowel sequences in roots

Underlying	**Phonetic**	**Transcription in grammar**	**Comments**
/aw/	[aw]	au	
/aʉ/	[aʉ]	aʉ	
/eʉ/	[eʉ]	eʉ	
/ae/	[ae]	ae	
/aj/	[aj]	aj	
/ej/	[ej]	ej	
/e.i/	[ee.i]	ei	
/a.i/	[aa.i]	ai	
/e.o/	[ee.o]	eo	
/a.u/	[aa.u]	aau	except automatic lengthening
/a.ʉ/	[aa.ʉ]	aaʉ	except automatic lengthening
/a.e/	[aa.e]	aae	except automatic lengthening
/e.ʉ/	[eeʉ]	eeʉ	except automatic lengthening

Tone has been marked in chapters 2 to 4 only, as it may be relevant for the discussion of some phonological structures. Tone is not marked in the rest of the grammar, as it is not essential for the discussion of most topics and at least partly predictable from the rules presented in §4. Also note that the transcription of tone follows some specialised conventions due to typographical overlap of nasalisation and tone marking. These are explained in §4. Another feature only used for phonological analysis is the representation of /u/ as the underlying phoneme for what can be realised as [u] or [o], alternatively (cf. §2.3).

When nasalisation occurs on a long vowel, it is marked on the first vowel only, as the spread of nasalisation follows a predictable rule (cf. §2.8.10). For instance, the expression for 'where is?' is transcribed as *ãaka*, though nasalisation applies to both VV segments, more narrowly transcribed as [ããka]. In diphthongs, nasalisation is marked on the first vowel, such as in *haʉ̃* 'because'.

A note is also in order regarding the orthography used in literacy materials and in the NT translation. These are largely based on the Chambira dialect area (zone C; cf. §23.1), since it has the largest number of speakers.[7] As a tendency, the NT translation is narrower in that it includes some alternations in the

[7] Note that this grammar is based on dialect zone A. However, the dialects are mutually entirely intelligible as most differences are of a minor nature (cf. ch. §23.1).

transcription that are omitted in the transcription used here. This includes optional vowel lengthening and most cases of nasal spreading. The orthography is based on the Spanish spelling system and does not include any symbols apart from this. This results in the representation of the central high vowel /ʉ/ as <u>. The allophony between [u] and [o] is accounted for by writing any underlying vowel /u/ (which can be pronounced as [u] or [o]) as <o> in the orthography. Glides are represented by their full vowel counterparts, such as <i> for [j], <o> for [w], etc., which is shown in detail in (10). Glides in hiatus are transcribed as <h>. Nasalised vowels are followed by <n> in the orthography.

(10) Differences between Urarina orthography and IPA

IPA	NT	Example	IPA	Comments
[ʉ]	<u>	<turuha>	[tʉrʉa] 'arrive'	High central vowel
[o], [u], [w]	<o>	<colane> <coi>	[kulane] 'without' [kwi] 'medicine'	[w] after <j>
[i], [j]	<i>	<iniha> <jiane>	[inia] 'go up' [hjane] 'urine'	[j] after <j>
[tɕ], [dʒ]	<ch>	<cacha> <cha>	[katɕa] 'man' [dʒa] 'what'	Voiced word-initially, otherwise [tɕ]
[fw]	<f>	<ichafa>	[itɕafwa] 'rifle'	but <jo>+vowel pronounced as [hw]+vowel
[h]	<j>	<jaa>	[haa] 'make'	(Like Spanish)
[k]	<c>	<caa>	[kaa] 'this'	(Like Spanish)
[k]	<qu>	<quiha>	[kia] 'eat'	before <e>, <i> (like Spanish)
[ʔ], [ɰ], [ŋ]	<h>	<eheeoca> <cuha> <enuha>	[eʔeeoka] 'shout' [kʉɰa] 'go' [enʉŋa] 'tree'	used as boundary symbol to indicate glottal stop, approximant [ɰ] after /ʉ/, or glide between two vowels
[ʃ]	<sh>	<shaaoca>	[ʃaaoka] 'kick'	
[ĩ], [ã], etc.	<n>	<arajiin> <asaan>	[arahĩĩ] 'many' [asãã] 'inside'	Vowel nasalisation, marked by <n> after the vowel

Another rule regards the representation of diphthongs and long vowels, which is similar to the transcription used in this grammar. Diphthongs are spelled as a sequence of two vowels, such <ai> for [aj] and <ao> for [aw]. In contrast, sequences of two non-identical vowels are spelled as a long vowel plus a short vowel, eg., [aai] = <aai>.

1.7.2 Organisation of examples

The representation of examples in this book may slightly vary with regard to the context in which they occur. Most examples that require an interlinear translation consist of three lines, which represent the Urarina transcription, an interlinearised gloss, and a free translation in English, as exemplified in (11a). In examples, where an instant understanding of complex syntactic structures is essential, such as in the chapter on constituent order and some other chapters that involve syntax, I have bracketed syntactic constituents and added a line to specify these, as illustrated in (11b), where the arguments of the verb (V) are clearly marked as A and O. In some cases, such as shown in (11c), marking of arguments may be simplified in that only the clause structure is indicated, but not every single constituent of each clause.

(11) Different representations of examples

a) "Short" example:
lana-hee-ka *ka=raj* *laano*
be.missing-DIM-3ps/A 1sg=for cassava
'I need (a little) cassava.'

b) Example with detailed syntactic information added:
ᵾnee *bᵾa* *basihjaᵾ-a* *alau=ne*
[kinkajou bag] [steal-3ps/D] [spider.monkey=CND]
[O] [V] [A]
'When the spider monkey stole kinkajou's bag'[8]

c) Example with simplified syntactic information added:
nii *hetau=te* *raj* *raᵾihirĩ* *be-ᵾrᵾ-a=na* *haᵾ̃,* *eseᵾeta-e*
[that HRS=FOC] [for really tell-PL-3ps/D=SUB because] [believe-3ps/E]
[A] [DEP] [V]
'He believed it because they really told him [that his wife was lost in the swamp].'

Where morphemes or words are in round brackets in the first line of an example, this implies they are redundant or should be omitted according to other speakers' judgement. Typically, this would regard the excessive use of gap fillers (cf. §22.5). Where practical, commas are used in the Urarina transcription of examples to indicate clause boundaries, such as to mark different dependent clauses (cf. (11c)).

[8] For an explanation of animal terms such as 'kinkajou' (a monkey-like mammal) see Appendix B.

In some chapters, bracketing of the interlinearised translation (line 2 of examples) is used to mark the respective structures under investigation. For instance, in §7 (Possession), brackets are used to highlight possessive NPs, as exemplified in (12a). Similarly, in §17 on serial verb constructions, brackets are inserted to mark serial verbs. In a similar way, some syntactically complex examples are marked in §6 on NP structure.

(12) Use of brackets in other chapters

a) Possessive NPs:

raj	*n=arai-tɕиги*	*raj*	*bi-a*	*ки-е*
[POSS	3ps=family-PL]	for	tell-NTR	go-3ps/E

'He went to tell his family.'

b) SVCs:

ahaenaa	*su-ahi-a=не*	*ки-ĩ*
weed	[kill-CNT-NTR=FOC:1sg	go-1sg/E]

'I went to weed grass.'

There is a small number of frequently recurring words for which certain simplifications are applied in their interlinearisation. The forms shown in (13) are morphologically complex, but are either lexicalised or being lexicalised in their current state. As they are particularly common words, they have been translated as a single lexical item in the interlinearised version. The same strategy is applied to a small number of idioms or other complex expressions that recur throughout this grammar (e.g. 'our creator').

(13) Simplified forms in the interlinear translation

Morphological structure	**Exact glossing and structure**	**Urarina form as used here**	**Simplified glossing**
dʒatoane-ĩ	'be how'-PRT	*dʒatoanẽĩ*	'how'
katoane-ĩ	'be like this'-PRT	*katoanẽĩ*	'like this'
nitoane-ĩ	'be like that'-PRT	*nitoanẽĩ*	'like that'
rihihe-ĩ *rihe-ĩ*	'be like'-PRT (short form)	*rihihẽĩ* *rihẽĩ*	'like'
aj-a=не rihihe-ĩ	AUX-3ps/D=SUB 'like'	*ajане rihihẽĩ*	'like'
kaa+nii, ka+nii	'this'+'that'	*kaanii, kanii*	'sort of'; GPF
kana+kvaaнn-era	1pl/in+'create'-AG	*kana+kvaaннera*	'our creator'
amн-naa+kvaaнn-era	'walk'-NOM+'create'-AG	*amннaa+kvaaннera*	'Creator of ways'
kahe+kvaaнне-ĩ	'from'+'create'-PRT	*kahe+kvaaннẽĩ*	'from there'

Morphological structure	Exact glossing and structure	Urarina form as used here	Simplified glossing
амне+тне-ka	RED+'walk'-3ps/A	*амнетнека*	'wander'
балн+балн+балш-ka	RED+RED+'wrap'-3ps/A	*балнбалнбалшка*	'embrace'

Some other words have multiple meanings, as listed in (14). Since these meanings, which include pairs such as 'give' and 'make' are semantically related, it would be implausible to assume that they represent separate lexical entries. However, the interpretation of the respective meaning depends entirely on the context. Therefore, I found it useful to provide the appropriate glossing in the respective examples. In other words, a word such as *tia* is glossed as 'give' in some examples and as 'make' in others.

(14) Words with multiple meanings

Urarina word	Meanings
tia	1. 'give' 2. 'make' (also implying 'put', 'set')
hana	1. 'when' 2. 'instead' 3. 'inside'
ke	1. VLI (Valency increasing postposition) 2. INST (Instrumental postposition)
hauria	1. 'earlier' 2. 'first'
jatona	1. 'certainly' 2. 'exactly', 'in fact'
raa	1. receive' 2. 'take'
ahaena	1. 'forest', 'jungle' 2. 'grass', 'weed'
kanii, kaanii	1. 'sort of' 2. GPF (Gap filler; cf. §22.5)
=ne, =na	1. FOC:1sg 2. FOC:1pl
=ne	1. SUB (subordinate marker or complementiser) 2. CND (conditional subordinate marker, also with temporal function; see §20.1.1)

The different translations for the last two examples in (14) are based on variations in their function. The form *kanii* (or variant *kaanii*) can function as a

gap filler (e.g. in pause), or have multiple other functions, which are discussed in §22.5. The variation between the enclitics for focus, which in principle can occur with 1sg or 1pl reference, is due to variations investigated in §19.

Some words have an English translation that is impractical to display due to its length. These are abbreviated in the interlinearised translation and include some terms for animals or plants, such as illustrated with two different types of peccaries in (15). Where an English term is unavailable, the local Spanish name of plants and animals is provided. A list of the scientific names and local Spanish names for all plant and animal terms is given in Appendix B. In cases where the scientific name is unknown, only the name in local Spanish is given. In a small number of examples, no exact identification was possible; these are glossed as 'type of fish', 'type of tree', etc. A simplified translation was also chosen for some words that involve a complex deictic definition, such as locational demonstratives, which are discussed in detail in §5.6.2, but abbreviated to 'there' or 'over there' in glossing them. In a similar way, the glossing of the weak and strong prohibitive markers and their variants is simplified to 'don't', but discussed in detail in §15.2.

(15) Special glossing conventions

Urarina	**Exact translation**	**Abbreviated translation**
raana	'white-lipped peccary'	→ 'w.l. peccary'
obana	'collared peccary'	→ 'cl. peccary'
joaelʉ	'in ancient times'	→ 'earlier'
naĩ	(non-indicating, non-punctual distant locational demonstrative)	→ 'over there'
kʉae	(non-indicating, non-punctual, non-distant locational demonstrative)	→ 'over there'
kʉa	'don't' (weak prohibitive)	→ 'don't'
nihjauria, hjauije	'don't' (strong prohibitive)	→ 'don't'

The final line of each example is an intermediate solution between a free translation and a literal representation of the sentence's grammatical structure. In some cases, the reader may find the English glossing awkward – this is due to the attempt to provide a translation that helps to follow the syntactic or semantic structure. In some examples, I have accounted for a more literal translation in square brackets. These are also used in order to supplement information not given in the Urarina version of a sentence but implied by the discourse, such as illustrated in (16a). In examples where certain information is marked morphologically in Urarina, but does not surface otherwise, this is

indicated in round brackets. In (16b), for instance, 'my son-in-law' is expressed only through the suffix *-ana*, which refers to a male in-law.

(16) Brackets in free translation

a) Square brackets:
itçaf(f)a-anɯ̃ hana=te lejhĩ nii eene-etça nala-t(t)o-a=ne haɯ̃
shoot-1sg/D when=FOC one that woman-only fall-INTS-3ps/D=SUB because
'When I shot it [the monkey], as the female fell down ... [the male tried to escape].'

b) Round brackets:
kwajteĩ kohwanoo ari-a kɯ̃-akaanɯ̃ haɯ̃ tabiitça lejhĩ rɯ̃-hi-ana-e
again next.day seek-NTR go-1pl/ex because finally one find-DIM-ILT-3ps/E
'As we went to seek [turtles] again on the next day, he (my son-in-law) finally found one.'

Where practical, in some examples, the context from which the example was taken, is also added. This describes the situation in which a sentence was uttered; alternatively, the free translation of the sentence preceding the example is given, to allow a more thorough embedding of the example into a specific context.

Where Urarina words are used in text, they are given in *italic* style. Verbs are quoted in their citation form, if not indicated otherwise, as in *itçaa* 'do', which morphologically consists of the root *itça* plus the 3ps/A suffix *-a*. Note that the addition of a slash and the capital letters /A, /E, and /D after person marking refers to the person inflection class as investigated in §11.

1.8 Acknowledgements and personal notes

When I first made contact with the Urarina, they had reason to be suspicious about the inquisitive *gringo* who came to learn things about their language. All too often the Urarina had been deceived and exploited by outsiders. I would like to thank the people of Nueva Unión de Espejo for their trust in receiving me and my family in their community. Not only did they provide living space, but in a growing relationship of trust over the years they also shared many of their customs with me. Most importantly, they made great efforts in searching for ways to let me understand the structure of their language. There are two people whom I must mention first of all: Medardo Arahuata Manizari, a top storyteller and musical artist, spent days if not weeks trying to remember the stories he had heard in his childhood. This has layed the foundation for preserving an impressive range of traditional narratives for future generations. Julian Nuribe

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When I took up the project, I was aware that fieldwork would involve some sacrifice of one or the other kind. Either I could travel alone – and leave behind a distressed partner who has to cope with two little children all by herself, or, alternatively, I could drag my family along to the field. During the five fieldtrips on which this grammar is based, we tried both variants. I am proud of my wife Michaela, who managed all kinds of unfamiliar situations extremely well. This includes anything from splitting firewood and skinning animals to avoiding stepping on tarantulas and snakes. Michaela also did a wonderful job in getting the maps presented in this book into shape and in dealing with a few further fiddly tasks in producing the manuscript. My son Manuel Mogli still remembers a few words in Urarina and would like to go back to his jungle friends some time. Canoe trips in the swamp and chasing wild bees are just the activities five-year-old boys find so fascinating. My daughter Nadia, who celebrated her second birthday in the village, has learnt a lot, too, such as to respect the ever-present fire ants and a range of other creatures that do not bother us elsewhere. In fact, we also thank the Almighty One for keeping all of us in one piece. *Nariha Cana Coaaunera coreniha.*

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2 Phonology

The sound system of Urarina contains 16 consonant phonemes plus a number of other consonants that occur as allophones. One consonant, [hw], has lost its phonemic status in the innovative language, while some older speakers of the language still distinguish it from [fw]. There are five vowel phonemes and four diphthongs, again with some alternations. Vowel length is lexically distinctive in a few cases only, as there are only a handful of minimal pairs that differ from each other by vowel length. Nasalisation is a distinctive feature throughout the phonology. The basic syllable structure is (C)V(V), but exceptions from this may be found in loans. Word length is an important category for phonological and morphological alternations.

The analysis of Urarina phonology is divided into three chapters. §2 investigates the sound inventory and automatic phonological alternations. It also discusses issues such as syllable structure, phonological word, and the role of clitics. §3 deals with non-automatic regularities, i.e. morpho-phonological alternations. Another fascinating property of Urarina phonology is its tone system. While a description of its entire complexity cannot be covered here, the basic tonal structure and some tonal alternations are discussed in §4.

2.1 Consonants

(17) Consonant phonemes

	Labial	Alveolar	Palatal	Velar	Retroflex	Glottal
Stop	b	t d		k		
Labialised stop	kw					
Nasal	m	n	ɲ			
Voiceless fricative		s	ʃ			h
Labialised fricative	fw					
Palatalised fricative			hj			
Affricate			tɕ			
Lateral		l				
Flap					ɾ	

Urarina has only four stops and, in terms of phonemic distinction, the feature [+/-Voiced] is distinctive only in one case (/d/ vs. /t/). However, some dialects the distinction between /d/ and /t/ tends to be neutralised, as is outlined in §2.1.3. Voicedness contrast otherwise only exists as a non-phonemic alternation for the affricates [tɕ / dʒ], which occur in complementary distribution (cf. §2.1.9). There are nasal consonant phonemes in three different places of articulation, plus a velar nasal whose occurrence is restricted to a predictable environment (cf. §2.8.1). Labialisation of /k/ and /h/ and palatalisation of /h/ are widespread features; while their occurrence is largely predictable by vowel copying, the consonants /kw/ and /hj/ have phonemic status, as some examples show (cf. §2.1.6; §2.1.12). [fw] and [hw] function as allophones in the innovative language, but they were distinct sounds in the traditional language, of which only a few remnants are documented (cf. §2.1.11). The rhotic /r/ has several possible realisations and is transcribed as <r> throughout this grammar. As investigated in §2.1.3, it also exhibits some variation with /d/.

The relative frequency for the occurrence of consonants is illustrated in (18). The numbers indicate the frequency of types in the lexical database. The total number of entries is 3,365, including ideophones, derived words, loans, affixes, and onomatopoeias. The numbers for /kw/, /hj/, and [ɲ] represent their phonemic occurrence, i.e. in non-predictable environments. That is, for /hj/, only such instances were counted that do not occur in environment where /hj/ is preceded by /i/ (which would trigger vowel copying; cf. §2.8.3).

(18) Statistical distribution of consonant phonemes

Consonant	**%**	**Absolute no.**
r	17.3	1,700
t	16.1	1,586
n	15.8	1,555
h	12.6	1,240
k	11.5	1,128
s	5.9	580
l	5.4	529
m	3.5	343
b	3.4	339
tɕ	2.8	278
d	2.0	199
fw	1.3	131
kw	1.0	94
hj	0.8	75
ɲ	0.3	31

Consonant	%	Absolute no.
hw	0.3	27
ʃ	0.1	9
(Total):	100.0	9,844

It is evident that out of 16 phonemes, only five can be considered frequent (i.e. 10% or more). /r/ and /t/ are the most frequent consonants; nasal consonants make up about a fifth of all consonants and /h/ and /k/ are comparatively frequent as well, whereas most other sounds are less common. In the following sections, each consonant and its respective allophones are introduced. I have grouped the discussion of the respective sounds according to allophonic variations and similarity of the occurring alternations.

2.1.1 /t/

The phoneme /t/ is not restricted in its distribution: it occurs as a syllable onset, in word-initial and word-internal position with any vowel.

(19) Distribution of /t/

a) In word-initial position:

/tarara-a/	[ta.ra.raá]	'pull'-3ps/A
/temule/	[te.mu.lé]	'plant'
/te-a/	[ti.á]	'give'-3ps/A
/tururi/	[tu.ru.rí]	'*llanchama* tree'
/turu-a/	[tu.ru.á]	'arrive'-3ps/A

b) In word-internal position:

/atane/	[a.ta.né]	'earth'
/ate/	[a.té]	'fish'
/kuretea/	[ku.re.ti.á]	'buy'-3ps/A
/nituane-a/	[ni.to.a.ni.á]	'be like that'-3ps/A
/situ-a/	[si.tu.á]	'pass'-3ps/A

In the Chambira dialect [t] also occurs as an allophone of /d/ in some words. In the word for 'sky', for instance, the pronunciation may vary between [dete] and [dede] (cf. §2.1.3 on /d/).

2.1.2 /r/

In general, there are no restrictions in the distribution of the phoneme /r/. The following examples illustrate its occurrence in different positions before different vowels.

(20) Distribution of /r/

a) In word-initial position:

/ra-a/	[raá]	'receive'-3ps/A
/rela-a/	[re.laá]	'teach'-3ps/A
/rihe/	[ri.hjé]	'*pifayo* tree'
/rũa/	[rũ.á]	'side'
/rɯaka-a/	[rɯ.a.kaá]	'carry'-3ps/A

b) In word-internal position:

/arai/	[a.raa.í]	'family'
/ere/	[e.ré]	'word'
/bahari/	[ba.ha.rí]	'tinamou' (type of heron: Tinamus major)
/aruba/	[a.ru.bá]	'giant otter' (Pteronura brasiliensis)
/barɯe/	[ba.rɯ.é]	'masato' (cassava beer)

What I represent as the phoneme /r/ has a wide phonetic range between different speakers and speaker-internally. The rhotic is normally realised as a retroflex flap [ɽ], but in some cases the tongue goes back not as far as retroflex position. In fact, it may be close to an alveolar tap [ɾ] (down to 20 msec occlusion time), but typically has a longer occlusion time than that (40-90 msec). In some variations the occlusion time can be longer (ca. 110 msec), which may result in a pronunciation as a stop close to [d] (or [t] in some dialects). Most typically, this realisation of /r/ occurs before the front vowel /i/, which is a matter of assimilation. In word-initial position, the rhotic tends to be pronounced as a retroflex approximant [ɻ].

Cajas Rojas & Gualdieri (1987: 87) propose a systematic rule for the variation of this consonant: "A retroflex affricate changes into a vibrant in morpheme-internal position." In the examples they give (illustrated in (21a)), the retroflex is pronounced as [r] (rather than [ɻ] within the root, but as [ɻ] at morpheme boundaries). In the Espejo dialect (cf. (21b)), the difference between root-internal position and position at a morpheme boundary is not systematic: the rhotic is pronounced as a flap or tap, with some variation, in any word-internal position.

(21) Alternation between [r] and [ɻ]

a) Cajas Rojas & Gualdieri (1987: 87)

/lureri/	[lu.re.rí]	'house'
/raʉru-i/	[ɻaʉ.ro.-í]	'be healthy'-2ps
/ratiri-ri-tɕãʉ=ni/	[ɻa.ti.ri.-ɻi.-tɕãʉ.=ní]	'leave'-IRR-1sg/A=ASS

b) Espejo dialect:

/lureri/	[lu.ɽe.ɽí], [lu.ɾe.ɾí]	'house'
/raʉru-i/	[ɻaʉ.ɽo.-í], [ɻaʉ.ɾo.-í]	'be healthy'-2ps
/ratiri-ri-tɕãʉ=ni/	[ɻa.ti.ɽi.-ɽi.-tɕãʉ.=ní], [ɻa.ti.ɾi.-ɾi.-tɕãʉ.=ní]	'leave'-IRR-1sg/A=ASS

2.1.3 /d/

The fact that /r/ can be realised with a long occlusion time sometimes makes it difficult to distinguish from /d/. In fact, some of the younger speakers appear to have neutralised the distinction and use /r/ and /d/ in free variation. Older speakers of the Espejo dialect, however, clearly distinguish the two phonemes, with one complication: speakers of the Chambira dialect (and possibly some other dialects) realise /d/ as [t] in some words. For instance, the word /dede/ 'sky' is pronounced [dete] in the Chambira dialect. This variation could be regarded a factor that enhances the loss of distinction between /r/ and /d/ in the innovative language. Otherwise, the phoneme /d/ is observed in most phonological environments, as illustrated in (22).

(22) Occurrence of [d]

/dari/	[da.rí]	'frog'
/darane/	[da.ra.né]	'*mojara* fish'
/darue/	[da.ru.é]	'pot'
/dada-a/	[da.daá]	'touch'-3ps/A (Chambira dial.: [dataa])
/hadaae/	[ha.daa.é]	'uakari' (Chambira dial.: [hataae])
/bedajne-a/	[be.daj.ni.á]	'visit'-3ps/A
/dede/	[de.dé]	'sky' (Chambira dial.: [dete])
/ɲadera-a/	[ɲa.de.raá]	'be sad'-3ps/A
/diaa-ka/	[di.aa.ká]	'throw around'-3ps/A
/koduunetu-a/	[ko.doo.ne.to.á]	'be heaped up'-3ps/A
/dʉha-a/	[dʉ.hʰaá]	'fart'-3ps/A

The phoneme /d/ also occurs with loans such as *doktoro* 'doctor', *dosmildos* '2002', *gobernadoro* 'governor', or *komonida* 'community'. The presence of

borrowings from Spanish, which distinguishes the two sounds under investigation, would make a development towards the re-establishment of two separate phonemes more likely; however, this does not exactly match the facts at this stage, as a loss of the distinction is probable to occur in the future.

2.1.4 /b/

The bilabial stop occurs in word-initial and word-internal position. However, it is not attested before the back vowel /u/ (or alternant [o]), except in loans from Spanish.

(23) Distribution of /b/

a) Word-initial position in canonical words:

/baasu/	[baa.só]	'bad thing'
/bereri/	[be.re.rí]	'tarantula'
/bihi/	[bi.hí]	'hand'
/bʉkʉ/	[bʉ.kʉ́]	'bone'

b) Word-internal position in canonical words:

/neba/	[nebá]	'mother'
/abe/	[a.bé]	'piranha'
/nabe-a/	[na.bi.á]	'fish with poison'
/kabʉitu-a/	[ka.bʉ.i.tó.a]	'splash (water)'-3ps/A

c) /bo/ in loans:

/bote/	[bo.té]	'boat' (loan from Spanish)
/bolsa/	[ból.sa]	'bag' (loan from Spanish)
/klabo/	[klá.bo]	'nail' (loan from Spanish)

2.1.5 /k/

The velar stop /k/ is found before /a/, /i/, /u/, and /ʉ/. Before /e/, it is attested in two examples only, and in loans.

(24) Distribution of /k/

a) Word-initial position in canonical words:

/kauatu-a/	[ka.wa.tó.à]	'be nice'-3ps/A
/ki-a/	[ki.á]	'eat'-3ps/A
/kumasaj/	[ko.ma.sáj]	'wife'

/kʉane/	[kʉ.a.né]	'inside'

b) Word-internal position in canonical words:

/aka/	[a.ká]	(3sg pronoun)
/niki/	[ni.kí]	(Adversative marker)
/uku/	[u.kú]	'needle'
/akʉʉha/	[a.kʉʉ.hʷá]	'entrance'

c) Rare occurrence of /ke/:

/fwakete/	[fwa.ke.té]	'package' (loan from Spanish)
/ke/	[ké]	(Valency increase marker)
/keu/	[ke.ó]	'gentry plant'

2.1.6 /kw/

The labialised velar can occur under two conditions:

a) As a result of vowel copying from preceding vowels (see §2.8.3), or

b) As a phoneme. In this case it occurs in root-initial position. Diachronically, this probably results from labialisation due to vowel sequences: one could assume that a word like *kwenaa* 'laugh' originally was *kuenaa*. This hypothesis is further supported by the fact that /kw/ does not occur before /u/.

The words in (25) show examples for the occurrence of /kw/ in word-initial position as well as in morphologically complex constructions such as intransitivised verbs (where the root is preceded by the prefix *ne-*).

(25) Occurrence of /kw/ in root-initial position

a) Word-initial position:

/kwaaʉne-a/	[kwaa.ʉ.ni.á]	'create'-3ps/A
/kwatia/	[kwa.ti.á]	'don't' (Prohibitive introducer)
/kwena-a/	[kwe.naá]	'laugh'-3ps/A
/kwitɕa-a/	[kwi.tɕaá]	'heal'-3ps/A

b) Word-internal but root-initial position:

/ne-kwasaha-a/	[ne.kwa.sa.haá]	ITR-'get hurt'-3ps/A
/ne-kwarate-a/	[ne.kwa.ra.ti.á]	ITR-'show'-3ps/A (= 'seem')

In a few examples, some of which are shown in (26), /kw/ is found root-internally without being a result of labialisation.

(26) [kw] in root-internal position

/nekwʉri/	[ne.kwʉ.rí]	'Rufescent Tiger-heron'
/ekwaj/	[e.kwéj]	'down'
/dʒakwalaitu-a/	[dʒa.kwa.láa.i.to.a]	'grab and pull'-3ps/A
/nakwaaʉneĩ/	[na.kwaa.ʉ.nee.ĩ]	'again'
/nekwehe/	[ne.kwe.hé]	'shame'

One evident point of discussion is whether /kw/ is a combination of /k/ and /u/ synchronically. This is in fact the case in some examples in which the initial /kw/ is decomposed into two single parts after palatalisation (cf. 3.5.1). When the word *kwerehe* 'child' is combined with the 2sg possessive clitic *i=*, it is realised as [i.tɕu.e.re.he]. The transformation of /k/ into [tɕ] is a result of a palatalisation rule and therefore the "stranded" labial glide is realised as a full vowel. This is due to the fact that [tɕw] is not a possible sequence in Urarina phonology. Another case is the occurrence of the associative marker *kɯ-* with some nouns: the word *itçana* for 'blood' is cited as [kwi.tɕa.na], (underlyingly /ku-itçana/); however, under certain conditions, it will occur without the initial [kw] sequence, which shows that it is a separate morpheme (also cf. §7 on possessives).

On the other hand, there are many words in which /kw/ is not a prefix, nor subject to any alternation, as was illustrated in (25). The most convincing evidence, however, is given by a minimal pair: the word for 'medicine' is pronounced as [kwi], whereas there is a word [ku.i], which means 'overripe/foul'. While it may well be the case that the /kw/ ~ [ku] alternation indicates the diachronic origin of /kw/, it does not support the claim that all occurrences of /kw/ are underlying combinations of /k/ + /u/ synchronically.

2.1.7 /s/

The fricative /s/ does not exhibit any restrictions in distribution.

(27) Distribution of /s/

a) In word-initial position:

/saʉ-a/	[saʉ.á]	'cut'-3ps/A
/setʉ-a/	[se.tʉ.á]	'rot'-3ps/A
/sini-a/	[si.ni.á]	'sleep'-3ps/A
/su-a/	[su.á]	'kill'-3ps/A
/sʉri/	[sʉ.rí]	'intestine'

b) In word-internal position:

/arasane/	[a.ra.sa.né]	'dew'
/eseneta-a/	[e.se.ne.taá]	'believe'-3ps/A
/anisihja/	[a.ni.si.hjá]	'main pole of the house'
/sunajɲa/	[so.naj.ɲá]	'afternoon'
/es~~u~~/	[e.s~~u~~́]	'*chinbillo* tree'

2.1.8 /ʃ/

The palatal voiceless fricative is quite infrequent and mainly occurs in loans. Nevertheless, a few native examples are found.

(28) Distribution of /ʃ/

/ʃaaeto-a/	[ʃaa.e.to.á]	'step on'-3ps/A
/ʃabẽeto/	[ʃa.bẽé.tõ]	'*guayaba* tree'
/ʃeremia/	[ʃe.re.mi.á]	'*pandisho* tree'
/ʃuhwira/	[ʃu.hwi.rá]	'blanket' (possibly a loan; origin unknown)

The occurrence of /ʃ/ in word-internal position is even rarer and only attested for a few words in the Espejo dialect. In the Airico dialect, /s/ tends to be realised as [ʃ] after /i/ and after nasalised vowels. Though I cannot confirm this for all cases, I have recorded a few examples in which this rule applies:

(29) [ʃ] after /i/

/ãasihe-ĩ/	[ãa.ʃi.hee.ĩ́]	'a little' (but also [ãa.tɕi.hḗĩ])
/bisuito-a/	[bi.ʃu.i.to.á]	'drop'
/riʃaeko-a/	[ri.ʃae.kó.a]	'be very small'-3ps/A
/le=fwaaʃa/	[le.fwáa.ʃa]	'one hundred' (loan from Quechua)
/i-su-a/	[i.ʃu.á]	2sg=beat-3ps/A ('he beat you'; Airico dialect)

Counterexamples to this regularity are *rãasaa* 'dance', *ãasaj* 'wicked', *~~u~~si* 'fire' (but *isi* in some dialects, including the Chambira dialect), *toni-si-ji* ('sound'-CPL-NEG:3ps/A) 'it does not work', *hasisi* 'mixture', *kuisia* 'be sorry', *misi* 'umbilical cord', and various others. Even though [ʃ] is extremely rare and mainly occurs in predictable contexts, its distinctive function in some words cannot be denied. Therefore, it must be regarded a phoneme.

2.1.9 /tɕ/, [dʒ]

The voiceless alveopalatal affricate /tɕ/ mainly occurs word-internally as a syllable onset. In word-initial position, it is usually realised with the voiced affricate [dʒ], which only occurs word-initially, before /a/ and /ʉ/ (except in the Quechua loan *dʒufwana* '*chupana* flute', where it is found before /u/).[9] There are only a few examples where [tɕ] is attested in word-initial position, such as in *tɕãe* 'also', *tɕoae* 'on', *tɕaaohwaa* 'be ugly', and the "certainty" particle *tɕʉ*. It must be noted that no other examples than these four are attested and that these may constitute exceptions: the word for 'on' is realised with an initial /i/ (as *itɕoae)* in the Chambira dialect; the conjunction for 'also' is a member of a peripheral word class; only the word for 'be ugly' seems to represent a convincing example for /tɕ/ in initial position (it is unknown how this word is realised in the Chambira dialect), but based on exception, I would still conclude that the rule as exemplified in (30c) generally applies.

(30) Distribution of [tɕ] and [dʒ]

a) Word-internal occurrence of [tɕ]:

/katɕa/	[ka.tɕá]	'man'
/ahitɕa/	[a.hi.tɕá]	'eldest son'
/ajtɕune/	[aj.tɕu.né]	'Espejo River'
/enejtɕʉ/	[e.nej.tɕʉ́]	'monkey'

b) Other occurrences of [tɕ]:

/tɕoae/	[tɕo.a.é]	'on'
/tɕãe/	[tɕãé]	'also'
/tɕaauha-a/	[tɕaa.ó.hwáà]	'be ugly'-3ps/A

c) Occurrence of [dʒ]:

/dʒakari/	[dʒa.ka.rí]	'crocodile'
/dʒalʉ-a/	[dʒa.lʉ.á]	'distribute'-3ps/A
/dʒʉ/	[dʒʉ́]	'where'
/dʒʉhʉleni-a/	[dʒʉ.hʉ.le.ni.á]	'stop'-3ps/A

In addition, there is the proclitic *dʒ=*, which occurs as an allomorph of the object and possessive proclitic for 2nd person singular *i=*. It is attached to vowel-initial words and occurs with an epenthetic /e/ when attached to a consonant-initial word, as in *dʒeteteriʉ* below (also cf. §3.5.2)).

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[9] Note that there is a slight asymmetry between the voiced and voiceless allophones, as the exact counterpart of [tɕ] would be the voiced alveopalaatal affricate [dʑ]. However, the voiced affricate tends to be realised as [dʒ].

(31) *dʒ=* as variant of proclitic *i=*

/i=ukwala/	[dʒu.kwa.lá]	'your younger brother'
/i=ukwana/	[dʒu.kwa.ná]	'your field'
/i=uba/	[dʒu.bá]	'your mother'
/i=ere/	[dʒe.ré]	'your word'
/i=tete-riʉ/	[dʒe.te.té.ri.ʉ]	'if I were you'

Also recall that /tç/ can be the result of palatalisation in words with the proclitic *i=* and an initial /kw/, as was mentioned in §2.1.6.

There are some words that begin with the sound sequence /i/ + /tç/, such as /itçasu/ 'companion'. The /i/ in these examples is mute in rapid speech. It is well imaginable that diachronically, the few examples that begin with the voiceless affricate may have been preceded by /i/ as well. Thus, the rule that transforms initial /tç/ into [dʒ] is almost without exception. As a consequence, I do not consider [dʒ] a separate phoneme. For the occurrence of /tç/ as an allophone of /r/, see §3.2 on phonological alternations.

2.1.10 /h/

The glottal fricative /h/ can occur as a syllable onset with most vowels, in any position. However, it is extremely rare before /ʉ/, except in cases where this is the result of vowel copying (e.g. /sʉʉ.ha/ - [sʉʉ.hᵘa] 'heart').

(32) Distribution of /h/

a) In word-initial position:

/hanuri/	[hanorí]	'back'
/here-a/	[he.ri.á]	'want'-3ps/A
/hitçana/	[hi.tça.ná]	'blowgun'
/huhu-a/	[hu.hu.á]	'increase'-3ps/A
/hʉʉno/	[hʉʉ.nó]	'nice smell'

b) In word-internal position:

/ahaane/	[a.haa.né]	'ashes'
/aheri/	[a.he.rí]	'stone'
/ahinia/	[a.hi.ni.á]	'before'
/kajahuri/	[ka.ja.hu.rí]	'*cumala* tree'
/dʒʉhʉlene-a/	[dʒʉ.hʉ.le.ni.á]	'stop'

A remarkable feature of /h/ is its occurrence between two syllables, since Urarina syllables do otherwise not allow any consonants in the coda. This may

be characterised as an instance of postvocalic aspiration. The occurrence of this phenomenon is optional and non-distinctive and can vary between speakers. However, it is possible to identify certain features that favour the insertion of /h/ after vowels. Note that most speakers of the Espejo dialect do not have the postvocalic aspiration before /l/, whereas it is observed in other dialects in this environment.

(33) Postvocalic aspiration

	After /a/	**After /e/**	**After /i/**	**After /u/**	**After /ʉ/**
Before /t/	[ah.te] 'fish'	[eh.to.e] 'owl monkey'	[bih.to.a] 'trap'	[kuh.ti.a] 'invite'	[tʉh.tʉ.a] 'mash'
Before /k/	[ah.ka] (pron. 3sg)	[eh.kʉ.a] 'nest'	[lih.kii.to.a] 'smash'	[muh.ku.a] 'burn'	[bʉh.kʉ] 'bone'
Before /tɕ/	[dʒah.tɕʉ] (dubitative)	[heh.tɕa] (HRS)	[kih.tɕa] 'boy'	[tuh.tɕa] 'touch'	—
Before /s/	[ah.sae] 'inside'	[neh.sa.ri.a] 'hunt'	[nʉh.si.nye] 'bait'	[kuh.si.nya.ka] 'abstain'	[nʉh.se] 'town'
Before /l/	[kah.laa] 'bite'	[leh.le] 'tongue'	—	[muh.lu.a] 'cut off'	[kʉh.le] 'testicle'
Before /kw/	[nah.kwaa.ʉ.neĩ] 'again'	[neh.kwe.he] 'shame'	—	[uh.kwaa.e] 'deer'	—

Generally, postvocalic aspiration occurs after all short vowels (never after long vowels), but in fewer contexts after /i/ and /ʉ/ (however, these are lower in frequency than other vowels anyway). Thus, the quality of the preceding vowel is not a criterion for or against aspiration. Postvocalic aspiration mainly occurs before voiceless stops (including affricate /tɕ/ and the labialised velar /kw/). Aspiration also occurs before /s/ and /l/. The phenomenon does not occur before /r/, /b/, and before nasal consonants. The absence of aspiration before /tɕ/, /l/, and /kw/ after some vowels may again be due to the relatively low frequency of these phonemes.

Manus (2001, p.c. about the Chambira dialect) attribute the aspiration to both syllables involved and call it "pre-consonant onset"; their consultants realised words with "something close to a geminate", such as in [ak.ka], [at.te]. This is in fact a dialectal variation found in the upper Chambira area (cf. §23.1.8). Cajas Rojas & Gualdieri (1987: 57-64) treat this phenomenon as aspiration and describe it as "a case of coarticulation conditioned by a preceding High tone". Their account suggests that aspiration

> "... occurs between a syllable with H tone and a voiceless or lateral consonant. Aspiration is present when the tone-bearing syllable is open and its nucleus is an oral vowel; it never occurs with closed syllables or with nasalised vowels."

This analysis cannot be confirmed as far as tone is regarded. Tone is normally assigned to the last syllable of a word (in isolation; cf. §4). In trisyllabic or longer words, the analysis of Cajas Rojas & Gualdieri does account for the facts. For instance, in [kah.kʉ.nʉ́] 'daughter', the syllable which exhibits postvocalic aspiration is not adjacent to the H-toned, final syllable. Similarly, in other examples, such as [muh.lu.á] 'cut off' or [kah.sa.re.ná] (a tribal name), there is an additional syllable between the aspiration and the H-toned final syllable. Thus, the only connection between tone and postvocalic aspiration is that aspiration only occurs on non-H toned syllables.

As far as the involvement of a voiceless or lateral consonant is concerned, their description is correct, as the table in (33) suggests. Cajas Rojas & Gualdieri further mention correctly that each root typically has only one aspiration, occurring on the first syllable in most of the cases. However, the prefix/proclitic itself can be aspirated. There are no words in which two aspirated syllables would follow each other. The examples in (34) show some cases of prefixation.

(34) Postvocalic aspiration in prefix and root (data from Cajas Rojas & Gualdieri 1987)

[ka] + [kwʉh.tʉ́ri] → *ka=kwʉtʉri* [kah.kwʉ.tʉ́.ri] 1sg='head' ('my head')
[ne] + [ku.reh.tí.a] → *ne-kureti-a* [neh.ku.reh.tí.a] ITR-buy-3ps/A ('he sold it')

In the Espejo dialect, there is only one aspiration per phonological word, i.e. the pronunciation of the example in (34b) would be [neh.ku.re.ti.a] or [ne.ku.reh.ti.a], alternatively. In summary, it is difficult to account for the presence or absence of the aspiration, in particular since it is optional and non-phonemic. However, the following contexts for the occurrence of aspiration can be identified as conditional and apply to the phonological word. Postvocalic aspiration occurs:

1. On non-final, short syllables.
2. On non-H toned syllables.
3. Before voiceless and lateral consonants.

2.1.11 /fw/, [hw]

There are two fricatives that phonetically only minimally differ from each other and are in fact not distinguished by most younger speakers. While these were distinguished at an earlier stage of the language, the two consonants /hw/ and /fw/ have lost their phonemic distinction in most words. In the innovative language, [hw] (a labialised glottal fricative) and [fw] (a labialised labiodental fricative) are "nearly" in free variation. As a tendency, most words that begin

with one or the other consonant are now pronounced with /fw/; there are only four examples of words that begin with /hw/. In addition, there are a number of words for which the two main consultants could not agree on a "correct" pronunciation even though both speakers are not part of the younger population. Most younger speakers would also disregard the /hw/ of the examples in (35b) and pronounce them with [fw].

(35) Distribution of /fw/ and /hw/

a) Agreed pronunciation with /fw/

/fwaru-a/	[fwa.ru.á]	'cut'-3ps/A
/fwau-a/	[fwau.á]	'descend'-3ps/A
/fwei/	[fwee.í]	'firewood'
/fwitçu-a/	[fwi.tçu.á]	'swim'-3ps/A
/fwi-a/	[fwi.á]	'fell'-3ps/A
/fwua-ka/	[fwu.a.ká]	'close'-3ps/A
/itçafwa/	[i.tça.fwá]	'rifle'
/kufwarihja/	[ku.fwa.ri.hjá]	'birth hole'
/ne-fwa-a/	[ne.fwaá]	ITR-'increase'-3ps/A

b) Agreed pronunciation with /hw/

/hwaaeku-a/	[hwaa.e.kó.a]	'be open'-3ps/A
/hwalaitu-a/	[hwa.láa.i.to.a]	'lift up'-3ps/A
/hwauitu-a/	[hwau.i.to.á]	'scratch'-3ps/A
/hwulene-a/	[hwu.le.ni.á]	'move to the side'-3ps/A

c) Disputed pronunciation:

/fwuera/	[fwu.e.rá / hwu.e.rá]	'obstacle'
/fwuitu-a/	[fwu.i.to.á / hwu.i.to.á]	'cover'-3ps/A
/fwafwaka-a/	[fwa.fwa.kaá / hwa.hwa.kaá]	'lift up'-3ps/A

For older speakers (who speak the traditional language), the two sounds have distinctive function in a few words, as one known minimal pair illustrates.

(36) Minimal pair /fw/ vs. /hw/ in the traditional language

/ufwa/	[o.fwá]	'father'
/uhwa/	[o.hwá]	'*huicungu* tree'

The scenario described here makes it difficult to state whether /hw/ and /fw/ are actually different phonemes. It is evident that the distinction is in the process of being lost and that sooner or later, /hw/ will cease to exist as a distinctive sound of Urarina. As one can thus postulate that there is no distinction in the

contemporary language, I do not regard [hw] and [fw] separate phonemes and therefore transcribe the phoneme as /fw/. However, [hw] plays an important role elsewhere in the phonology of Urarina: When /h/ follows /u/ in word-internal position, it is labialised and thus is realised as [hw], as a result of vowel copying from the left. In these cases, the transcription [hw] is retained (also cf. 2.8.3).

(37) [hw] as a result of vowel copying

/banetuhe-ī/	[ba.ne.tó.hwēī]	'totally'
/nuha/	[no.hwá]	'shoulder'
/rautuhe-a/	[rau.to.hwi.á]	'be happy'-3ps/A
/sēuha/	[sēe.o.hwá]	'big'

Another observation regards the use of /fw/ as the more prominent of the two sounds in question: in loans, /fw/ is used to represent /p/, such as frequently occurs in Spanish words:

(38) [hw] in loans

/afwaja/	[a.fwa.já]	'papaya' (loan from Spanish)
/fwafwafwa/	[fwa.fwa.fwá]	'*huapapa*' (type of heron) (loan from Spanish)

2.1.12 /hj/

Similar to /hw/, /hj/ can be the result of vowel copying through /h/ (cf. §2.8.3). But /hj/ also functions as a phoneme, mainly occurring in word-initial position. Its distribution is restricted, as it occurs before the vowels /a/, /u/, and /ʉ/ only.

(39) Phonemic occurrence of [hj]

/hja-a/	[hjaá]	'urinate'-3ps/A
/hjane-a/	[hja.ni.á]	'leave/let'-3ps/A
/hjanarihi/	[hja.na.ri.hí]	'sugar cane'
/hjʉnʉnʉ-a/	[hjʉ.nʉ.nʉ.á]	'pull'-3ps/A
/hjʉsi-a/	[hjʉ.si.á]	'scratch'-3ps/A

In a few examples, /hj/ occurs in a different context, i.e. not in initial position and not preceded by /i/:

(40) /hj/ in word-internal position

/kahjaʉsi/	[ka.hjaʉ.sí]	'*cortadera* plant'
/ahjaaune/	[a.hjaa.o.né]	'*santa maria* plant'

/kahjune/	[ka.hju.né]	'clothing'
/kuhjuta-a/	[ku.hju.taá]	'bless/curse'-3ps/A
/huhja-a/	[huhjaá]	'make grow'-3ps/A

There are reasons to believe that /hj/ originally is a sequence of /h/ + /i/, at least in some examples. Similar to the idea that [kw] could be a result of reduction from /ku/ (cf. §2.1.6), one could assume that the glottal fricative /hj/ is the result of an underlying syllable /hi/, when another vowel follows. This is illustrated with the examples in (41), which contain roots followed by a "merging" suffix; i.e. the final vowel of the root merges with the attached suffix. For example, when the locational noun *makuhi* 'upriver' is followed by the location suffix -*u*, the final /i/ of the noun merges with the suffix and the word is resyllabified. A similar situation applies to the two other examples, with some morpho-phonological complications. The word for 'sharpen' contains the causative suffix -*a*, which merges with the final syllable of the verb root.

(41) [hj] as a result of /hi/ + [V]

/makuhi-u/	[ma.ku.hjú]	'upriver'-LOC
/ahi-a-a/	[a.hjaá]	'be.sharp'-CAU1-3ps/A
/huuhi-a/	[huu.hjá]	'grow'-3ps/A

2.1.13 /l/

The lateral /l/ does not have any restrictions in distribution. It occurs in initial or internal position of the word and can precede any vowel.

(42) Distribution of /l/

a) In word-initial position:

/lana/	[la.ná]	'husband'
/lenone/	[le.no.né]	'food'
/likiitu-a/	[li.kii.to.á]	'mash'-3ps/A
/lureri/	[lu.re.rí]	'house'
/luae/	[lu.áe]	'nightmare'

b) In word-internal position:

/alaa/	[a.laá]	'*aguaje* tree'
/lele/	[le.lé]	'tongue'
/mamale-a/	[ma.ma.li.á]	'make stick'-3ps/A
/mulu-a/	[mo.lo.á]	'cut off'-3ps/A
/alululuri/	[a.lu.lur.í]	'termite nest'

2.1.14 /n/

For the alveolar nasal /n/, no restrictions in distribution apply, as it occurs before any vowel in word-internal position as well as in word-initial position.

(43) Distribution of /n/

a) In word-initial position:

/nahari/	[na.ha.rí]	'liver'
/neda-a/	[ne.daá]	'stay'-3ps/A
/nisisi-a/	[ni.si.si.á]	'wipe off'-3ps/A
/nuri/	[no.rí]	'giant river turtle'
/nu̶ne/	[nu̶.né]	'branch'

b) In word-internal position:

/ena/	[e.ná]	'now'
/ahaane/	[a.haa.né]	'ashes'
/ajrinia/	[aj.ri.ni.á]	'outside'
/kunu/	[ko.nó]	'light'
/enu̶a/	[e.nu̶.á]	'tree'

2.1.15 /m/

Similar to /n/, there are no restrictions in the distribution of the bilabial nasal /m/.

(44) Distribution of /m/

a) In word-initial position:

/amiane-a/	[a.mi.a.ni.á]	'work'-3ps/A
/meseri/	[me.se.rí]	'*cocona* tree'
/misi/	[mi.sí]	'umbilical cord'
/mulu-a/	[mo.lo.á]	'cut off'-3ps/A
/mu̶ku̶-a/	[mu̶.ku̶.á]	'catch'-3ps/A

b) In word-internal position:

/ama-a/	[a.maá]	'take along'-3ps/A
/temeeku-a/	[te.mee.kó.a]	'stand together'-3ps/A
/amiane-a/	[a.mi.a.ni.á]	'work'-3ps/A
/kumu-a/	[ko.mo.á]	'fall down'-3ps/A
/lemu̶-a/	[le.mu̶.á]	'sink'-3ps/A

2.1.16 /ɲ/

In the Chambira dialect, /ɲ/ does not occur in word-initial position, but is always preceded by /i/ in all environments. This is based on a rule of palatalisation that applies when /i/ is followed by /n/ (cf. §2.8.9). Consequently, [ɲ] is not a phoneme in the Chambira dialect. However, in the Espejo dialect described here, the palatal nasal is developing its status as a phoneme, since the initial /i/ is usually omitted. What is *iɲaara* in the Chambira dialect is realised as *ɲaarạ* by Espejo speakers (though variations may occur). In general, the occurrence of /ɲ/ in initial position is rather rare: while this consonant occurs in the lexical database 195 times, most of the occurrences refer to predictable environments (i.e. after /i/); its occurrence as a phoneme, in initial position is only 31 times (cf. (18)). An alternative analysis of /ɲ/ would be to assume that an optional rule that deletes a word-initial /i/ before /n/ applies and thus results in the realisation of words that begin with [ɲ].

The word-initial position is the only environment in which /ɲ/ is not predictable. Otherwise, the palatalisation rule mentioned above applies. The examples given in (45) show two possible pronunciations of the words. In the Espejo dialect, the realisation without the /i/ is preferred.

(45) /ɲ/ in word-initial position

/ɲadera-a/	[ɲa.de.raá], [i.ɲa.de.raá]	'be sad'-3ps/A
/ɲãe/	[ɲãé], [i.ɲãé]	'already'
/ɲetunu/	[ɲe.to.nó], [i.ɲe.to.nó]	'each, every'
/ɲuae=ɨa/	[ɲo.ae.ɨá], [i.ɲo.ae.ɨá]	'earlier'

However, there are some words in which an initial /i/ is present before /n/. In the two examples where /n/ is preceded by /i/ and followed by another /i/, the palatalisation rule does not apply. When a different vowel follows, /n/ is palatalised.

(46) [n] vs. [ɲ] after /i/

a) No palatalisation when /i/ follows:

/ini-a/	[i.ni.á], *[i.ɲi.a], *[ɲi.a]	'go.up'-3ps/A
/iniu/	[i.ni.jó], *[i.ɲi.o], *[ɲi.o]	'meat'

b) Palatalisation when a different vowel follows:

/iɲaa/	[i.ɲaá]	'fruit'
/iɲunu/	[i.ɲo.nó]	'ayahuasca'
/iɲuri/	[i.ɲo.rí]	'type of parrot'

The dialectal differences may indicate that the initial /ɲ/ in the Espejo dialect originates from an initial sequence /i/ + /n/, which resulted in palatalisation; the initial /i/ was then dropped. In fact, it could be expected that the words in (46b) above) will lose their initial /i/.

2.1.17 The status of [j] and [w]

The palatal glide [j] is not a phoneme, but is realised in hiatus between two vowels (cf. §2.8.1). It does not occur in word-initial position. However, it can also be suspected that an underlying /i/ is realised as [j] between two identical vowels. All attested examples involve two /a/ vowels, which surround the glide [j]. There are three different ways to analyse this, as is exemplified by *haja* 'horn'.

Analysis 1: /ha.ja/: [j] is a consonantal phoneme and functions as an onset for the second syllable. This is a possible analysis, but one would wonder why [j] does not occur in word-initial position then.

Analysis 2: /ha.i.a/: [j] is a realisation of /i/ between two identical vowels, but phonetically reduced to form an onset for the second syllable, due to resyllabification.

Analysis 3: /haj.a/: [j] is underlyingly the offglide of a diphthong /aj/. This is the most likely analysis since it accounts for [j] not occurring in word-initial position and for the fact that it is not found between other identical vowels (*/eje/, */ojo/, etc.).

(47) Occurrence of [j] between vowels

/haja/	[ha.já]	'horn'; also: '*muchaca caspi* tree'
/taj-a/	[ta.já]	'pluck/collect'
/here-i/	[he.ri.ĵi]	'want'-NEG:3ps/A

Further examples illustrate the occurrence of [j] as part of the diphthong /aj/ without being followed by another /a/. In conclusion, [j] is not a phoneme.

(48) Occurrence of [j] in diphthongs

/uhajtɕɯ/	[o.hwaj.tɕɯ́]	'clay bowl'
/ajtu-a/	[aj.to.á]	'say'-3ps/A
/bajte-a/	[baj.tiá]	'forget'-3ps/A

Similar to its palatal counterpart, the labial glide /w/ has a transitional function between /u/ and a following vowel (cf. §2.8.1). In other environments, the same analysis as for the palatal glide can be applied to [w]. It does not occur in word-

initial position, except in the onomatopoeic verb *wawaakoa* 'grunt'. In most cases where it occurs between two identical vowels, the first syllable is a diphthong /au/. Phonetically, [w] takes the place of an onset for the next syllable; i.e. instead of [a.nau.e], the word for 'tamarin' is realised as [a.na.we].

(49) Occurrence of [w] in other contexts

/larui/	[la.ro.wí]	'spear'
/anaue/	[a.na.wé]	'tamarin' (type of monkey)
/arauata/	[a.ra.wa.tá]	'woolly monkey'
/kalaui/	[ka.la.wí]	'son'

2.2 Phonotactics

The previous section has shown that most consonant phonemes occur relatively freely in word-initial and word-internal position, before any vowel. There are a few deviations from this, as was discussed in detail. The following table gives a summary of the phonotactic distribution for all consonant phonemes. As a general observation, one can say that some consonants occur more freely in word-initial position rather than word-internally. Regarding the occurrence before certain vowels, it is observed that there are a few restrictions. With /ʉ/, the distribution is most restricted, but it should be noted that this is also the least frequent vowel in terms of statistical frequency (cf. (52)). Another observation is that there is a correlation between the frequency of consonants (as stated in (18)) and the compatibility with vowels: the less frequent a consonant is, the higher is the possibility that it may not be compatible with all vowels.

(50) Phonotactic distribution of consonants (sorted according to consonant frequency)

	W-initial	**W-internal**	**Before /a/**	**Before /e/**	**Before /i/**	**Before /u/**	**Before /ʉ/**
/r/	As [ɻ]	As [ɾ], [ɾ]	yes	yes	yes	yes	yes
/t/	yes	yes	yes	yes	yes	yes	yes
/n/	yes	yes	yes	yes	yes	yes	yes
/h/	yes	yes	yes	yes	yes	yes	rare
/k/	yes	yes	yes	rare	yes	yes	yes
/s/	yes	yes	yes	yes	yes	yes	yes
/l/	yes	yes	yes	yes	yes	yes	yes
/m/	yes	yes	yes	yes	yes	yes	yes
/b/	yes	yes	yes	yes	yes	no	yes
/tɕ/	As [dʒ]	yes	yes	yes	yes	yes	yes
/d	yes	yes	yes	yes	yes	yes	yes
/fw/	yes	yes	yes	yes	yes	no	yes
/kw/	yes	rare	yes	yes	yes	yes	yes
/hj/	yes	yes	yes	no	no	yes	yes
/ɲ/	yes	no	yes	yes	no	yes	no
/ʃ/	yes	rare	yes	yes	yes	yes	no

It should be mentioned that deviations from the regular phoneme inventory are observed in ideophones (also cf. §5.14). Examples for these are combinations of sounds that do not normally occur in a sequence, such as a stop followed by a glottal stop (e.g. *tˀɛɛɛ* to imitate the sound of a rifle). However, since the realisation of these sounds may vary substantially from speaker to speaker, they are not included in the presentation of the sound system.

Another aspect is that speakers who are highly proficient in Spanish may adopt consonant combinations are or even new consonants into their phoneme inventory. Phonological structures occurring in Spanish loans include /p/, g/, and a range of consonant clusters, such as stops followed by /l/ or /r/. A further feature sometimes copied from Spanish is the use of coda consonants in loans. A more detailed discussion of this is found in §23.3.

2.3 Vowels

Urarina has five vowel phonemes. One major point of discussion is the status of /u/ (cf. (55)). Another issue is to what extent vowel length is distinctive or not (cf. §2.4). None of the short vowels is subject to any restrictions regarding its distribution, as is illustrated by the examples in (53). They occur as a syllable nucleus in initial, internal, and final position of a word.

(51) Vowel phonemes

i		
	ʉ	u
e		
	a	

The statistical distribution of vowels is partly unproportional, as /a/ is extremely frequent, occurring in 34% of all lexical entries. The distribution of the other vowels is more equilibrated, except for /ʉ/, which is the least frequent vowel.

(52) Frequency of short vowels (based on a wordlist of 3,365 entries)

Vowel	**Absolute no.**	**%**
/a/	3,610	34.0
/u/, [o]	2,276 (767 + 1,509)	21.4
/e/	2,025	19.1
/i/	1,679	15.8
/ʉ/	1,032	9.7
(Total):	10,622	100.0

The words in (53) represent examples for the occurrence of each vowel in different positions of the word.

(53) Distribution of vowel phonemes

/a/

/akanu/	[a.ka.nó]	'snake'
/ate/	[a.té]	'fish'
/amʉ-a/	[a.mʉ.á]	'walk'-3ps/A
/katɕa/	[ka.tɕá]	'man'

/e/

/elu/	[e.ló]	'rain'
/enanihja/	[e.na.ni.hjá]	'canoe'
/eresi/	[e.re.sí]	'tomorrow'
/ahaane/	[a.haa.né]	'ashes'

/i/

/iha/	[i.hjá]	'lighthouse tree'
/iniu/	[i.ni.jó]	'meat'
/itça-a/	[i.tçaá]	'do'-3ps/A
/itanitça/	[i.ta.ni.tçá]	'mud'

/ʉ/

/ʉ-a/	[ʉ.á]	'come'-3ps/A
/ʉkari/	[ʉ.ka.rí]	'ant eater'
/alʉlʉri/	[a.lʉ.lʉ.rí]	'termite nest'
/bʉkʉ/	[bʉ.kʉ́]	'bone'

The preferred phonetic realisation of the mid vowel /e/ is as a closed vowel. The phoneme /ʉ/ can be characterised as a high central, (slightly) rounded vowel, with some (optional) variation. Depending on individual preferences, words, or dialects, it may also be realised as [ə] or [ɨ].

/u/

The situation for this vowel is slightly more complicated than for the others, as there is a high degree of variation between [u] and [o] (with [o] typically being realised as a closed vowel). The occurrence of the two allophones is not entirely predictable from the phonological environment, which indicates that these vowels are in free variation. In fact, there exists no minimal pair that would prove the distinctive status of /u/ vs. /o/. There also is no convincing evidence as to which of the two would be underlying, as both can occur in the same contexts. However, the distribution of the two can be described as connected to certain preferences. For practical purposes, I will describe /u/ as the base phoneme.

As there is variation among speakers and speaker-internally, it is not easy to pinpoint the actual preferences for the realisation of /o/. First of all, the preferences appear to be entirely arbitrary and I will not attempt to interpret these as results of phonetic regularities. Secondly, while there are some general tendencies related to phonological environment, some words may be pronounced differently from what would be expected, which reflects the reality

of free variation. The tables in (54a,b) give a fairly accurate overview of the general preferences of occurrence for each allophone. For most tendencies, some deviations are also stated. For instance, [u] is the preferred allophone after /k/, with the exception of the stative/diminutive suffix *-koa* and, as a tendency, in word-final position. Similarly, the affricate /tɕ/ normally triggers the use of [u], but in the word for 'on' (and some other exceptions), [o] is preferred.

(54) Preferences for allophones [u], [o]

a) Preferred variant [u]:

After cons.	Preferred [u]	Exceptions
/h/	[hu]	
/hj/	[hju]	
/tɕ/	[tɕu]	*tɕoae* 'on'

b) Preferred variant [o]:

After cons.	Preferred [o]	Exceptions
/m/	[mo]	
/ɲ/	[ɲo]	
/f/	[fo]	
(Word-initial)	[o]	Before /k/
/k/	[ko]	Before /f/, /hj/, /ɲ/, /l/, /r/; Prefix *ku-*; *kukuri* 'armadillo'
/s/	[so]	Before /r/
/r/	[r]	At word end; Before /t/, /r/; *erura* 'owner'
/t/	[to]	Inchoative *-tura*; *itulere* 'all kinds'
/n/	[no]	Before /k/, /r/
/l/	[lo]	Before /r/

Note that the occurrence of /u/ after other consonants is too rare as to indicate any reliable preference. A further regularity is that a preference for pronunciation as [u] may change to [o] before nasal consonants. For instance, the word /kumua/ 'fall down', tends to be realised as [komoa] due to the presence of the nasal. Thus, the preference of [u] after /k/ is overridden. Further exceptions regard loans of any kind, where pronunciation is adapted to the source language. An example for this is [kartutɕo] from Spanish *cartucho* 'rifle shell', which is pronounced with [o] despite the preference for [u] after /tɕ/.

None of the preferences stated here are obligatory. Speakers do not perceive an utterance as incorrect when a different pronunciation is intentionally produced, using [o] instead of [u] or vice versa. Differences occur among different speakers as well as in speaker-internal variation. Concluding from the non-distinctive status of /u/ vs. its rounded counterpart, the orthography uniformly represents the vowel as <o> (while <u> is used to represent /ʉ/).

In the following, I give examples for each allophone in word-initial position. In (55a), words tend to be pronounced with [u], (but the realisation of the high back vowel as [o] is possible). The same applies in opposite direction for the examples in (55b). As a tendency in word-initial position, [u] is preferred before /r/, /k/, /kw/, and /s/, but [o] before [f], [b] and before nasals. For many words, it cannot be determined what would be the "preferred" form. Similarly, the pronunciation varies in vowel sequences.

(55) Occurrence of [u] and [o] in word-initial position

a) [u] as preferred pronunciation

/uku/	[u.kú]	'needle'
/ukwala/	[u.kwa.lá]	'younger son'
/urarina/	[u.ra.ri.ɲá]	'Urarina'
/usa/	[u.sá]	'sin'

b) [o] as preferred pronunciation

/ufwa/	[o.fwá]	'father'
/ubaae-ka/	[o.baa.e.ká]	'get angry'-3ps/A
/umari/	[o.ma.rí]	'basket'

While I have characterised /u/ as the underlying vowel. I will follow the "preferred pronunciation" in my transcription, i.e. each vowel will be transcribed based on the actual realisation of each example given by the speaker, while it will be assumed that the actual underlying representation is /u/.

2.4 Vowel length

In general, vowels of all qualities mentioned above occur as long vowels. Regarding the realisation of /u/ and its variant [o], there is no general preference for [uu] or [oo]. Overall, long vowels are less frequent than their short counterparts and thus, their combination with consonants appears more restricted. The reason for this may be due to their lower frequency; perhaps some combinations not attested here are possible, but absent due to the lack of occurrences in the database. Examples for each occurrence are illustrated by the table below.

(56) Occurrence of long vowels in roots (sorted by consonant frequency)

	aa	**ee**	**ii**	**uu**	**ɯɯ**
No onset	*aari* 'tapa tree'	*eene* 'woman'	*ii* 'you'	—	*ɯɯne* 'branch'
r	*raa* 'receive'	*reemae* 'dog'	*rīiha* 'grandfather'	*neruuka* 'come off'	*kurɯɯlene* 'thread'
t	*taa* 'that'	*tɯteeria* 'chop'	*satīi* 'all'	*netooka* 'hang up'	*kutɯɯhe* 'fried'
n	*naa* 'say'	*ɯnee* 'kinkajou'	*nii* 'that'	*kohwanoo* 'the next day'	—
h	*ahaa* 'fever'	*heelej* 'same'	*lejhīi* 'one'	*huuka* 'flood'	*hɯɯno* 'nice smell'
k	*kaa* 'this'	—	*likiitoa* 'smash'	*ekooka* 'appear'	*ekɯ̄ɯ* 'above'
s	*saa* 'rat'	*nɯsei* 'tail'	*siiria* 'have'	*enɯasoone* 'type of fish'	*sɯɯha* 'heart'
l	*alaa* '*aguaje* tree'	*kɯleeka* 'wash'	*liiaka* 'be tied'	*helõo* 'towards'	*mɯlɯɯtoa* 'be thick'
m	*maahei* 'also'	*meeri* 'face'	*-mīi* (JUSS suffix)	*muurana* (part of tree)	*nemɯɯka* 'hold on to'
b	*baaso* 'bad'	*beene* 'female'	*biiɲa* 'old'	—	—
tɕ	*itɕai* (type of root)	—	—	*alajtɕõo* 'lancehead snake'	*nitɕɯ̄ɯtaa* 'go near'
d	*edaa* 'outside'	—	—	*kodoonetoa* 'be heaped'	—

(cont.)	aa	ee	ii	uu	ɯɯ
fw	*(fwaaʃa)* '100' (loan)	*afweera* 'stab'	*fwiiaka* 'be hanging'	*nofwoo* 'rump'	—
kw	*kwaaeraa* 'be strong'	*tokweekaa* 'lay down'	*kwiitɕɯ* 'shoulder blade'	—	*nekwɯɯri* '*garabata* plant'
hj	*hjaare* 'lizard'	*bihjei* 'spindle'	—	—	*hjɯɯsia* 'scratch out'
ɲ	*ɲaara* 'you.2pl'	*kwiɲeeria* 'exploit'	—	—	—
ʃ	*ʃaetoa* 'step on'	—	—	—	—

Similar to the frequency distribution of single vowels (cf. (52)), /aa/ is the most common long vowel found in Urarina words, whereas /ɯɯ/ again is comparatively rare. Some gaps in the above-table may again reflect the fact that combinations with lower frequency consonants are less likely to occur.

(57) Statistical distribution of long vowels

Vowel	Absolute no.	%
/aa/	669	55.5
/ii/	195	16.2
/ee/	190	15.8
/uu/, incl. [oo]	95 (21 +74)	7.9
/ɯɯ/	56	4.6
(Total):	1,205	

The crucial question is to what extent vowel length is distinctive. On the one hand, it is significant on the grammatical level, since the combination of roots with suffixes results in vowel lengthening under certain conditions. One example is the imperative -*ɯ*. When it is suffixed to a verb whose root ends in /ɯ/, the form results in a long vowel (cf. §3.3).

(58) [ɯɯ] resulting from attachment of imperative suffix

/amɯ-a/	walk	→	/amɯ-ɯ/	[a.mɯ́]	'walk'-IMP
/mɯkɯ-a/	'catch'	→	/mɯkɯ-ɯ/	[mɯ.kɯ́]	'catch'-IMP

However, there is no minimal pair that could be contrasted to this form. In general, minimal pairs of any kind are hard to find in Urarina, due to the fact that roots tend to be relatively long. In addition, even pairs that are segmentally

identical can still differ from each other by their tonal structure, which gives almost no room for minimal pairs in a strict sense. All of the following minimal pairs are not clear-cut, as they involve non-lexical word classes, loans, or morphologically complex forms in one or the other way. In addition, speakers have difficulties in recognising the difference between these pairs. This shows that vowel length plays a very marginal role on the lexical level.

(59) Minimal pairs for vowel length

baaná	(Irrealis introducer)	vs.	*baná*	'when'
baasó	'bad thing'	vs.	*báso*	'vase' (loan. from *vaso*)
kaaná	'father-in-law'	vs.	*kaná*	'we' (1pl/in)
kwataá	(Negative introducer)	vs.	*kwatá*	'metal' (loan, from *plata*)

This lack of contrast is emphasised by the fact that – similar to the /u/ contrast – vowel length is variable in some cases (the preferred version is underlined).

(60) Variable vowel length

kwraanaá, kwraaná	'chief'
jnaará, jnará	'you' (2pl)
raaheniané, raheniané	'self'
eené, ené	'woman'
beelajá, belajá	'give as a gift'-3ps/A

An example for vowel shortening is the realisation of the demonstratives before nouns: *kaa* and *nii* are may surface as *ka=* and *ni=* respectively, (cf. §2.11 on clitics). From the relatively high degree of variation between long and short vowels in general, one would conclude that length only has such a marginal contrastive function for Urarina phonology that it might be considered non-phonemic. However, vowel length plays a significant role for a number of factors outside the lexicon:

1. Tone assignment partly depends on vowel length, as light and heavy syllables are defined in these terms, i.e. a syllable that contains a long vowel is "heavy". As will become clear in §4 on tone, syllable weight is relevant in order to determine the length of a word, on which in turn tone assignment is based. When a disyllabic noun begins with a heavy syllable, it is treated like a trisyllabic noun in terms of tone assignment under specific conditions (cf. §4.6.1 on the possessive tone pattern).
2. Even though very little information is available on stress, it is evident that heavy syllables (syllables that contain a long vowel) tend to be stressed. The exact role stress plays is still to be determined.

3. Vowel length is significant for certain morpho-phonological processes. Plural allomorphy is one example for this. The attachment of certain suffixes can depend on the quantity of a root-final syllable, (as with the distribution of the 3ps suffix on verbs, cf. §3.1.3).
4. The combination of suffixes can result into long vowels and the resulting forms can be distinctive from other forms. For instance, the 3ps/A form of /eno-a/ 'enter' ends in a short /a/. When a causative suffix is added, the final vowel becomes long: /eno-a-a/ ('enter'-CAU1-3ps/A) [e.no.aa].

Based on these aspects it the overall status of vowel length for Urarina phonology becomes a bit clearer. On the one hand, there is a high degree of variation between long and short vowels on the lexical level, with only minor distinctive function. On the other, entire processes depend on syllable weight. More research will be necessary in order to explore the exact conditions under which vowel length is predictable or optional. In the meantime, as I have shown that vowel length is relevant especially in complex morphological environments, I will assume that it is phonemic.

2.5 Vowel sequences

Urarina allows most combinations of vowels in a sequence. In some cases, the distinction of a diphthong from a vowel sequence is difficult: if the second vowel of a sequence is /i/, /e/, /u/, or /ʉ/, it may be neutralised due to shortening in rapid speech (cf. §3.6.1). The main difference between vowel sequences and diphthongs is that typically, the first of two vowels in a sequence is lengthened, which contrasts from a combination of vowels that form a diphthong together.[10] While diphthongs form one rhythmic unit, vowel sequences differ from this in that they form two separate syllables. An additional difference between vowel sequences and diphthongs is the presence of hiatus-filling glides ([j], [w]) between vowels that represent separate syllables (cf. §2.8.1).

(61) Examples for attested vowel sequences

/a.i/	[a.raa.í]	'family'
/a.e/	[a.laa.e.rí]	'*caimitu* tree'
/a.u/	[aa.u.né]	'cooked plantain'
/a.ʉ/	[kwaa.ʉ.ni.á]	'create'-3ps/A
/e.i/	[fwee.í]	'firewood'

[10] Lengthening mainly occurs with /a/ and /e/. However, it is unclear whether this is systematic.

/e.u/	[sẽe.o.hwá]	'big'
/e.ʉ/	[ee.ʉ́]	'sieve'
/i.a/	[i.a.ní.a]	'burn'-3ps/A
/i.e/	[si.é]	'cotton'
/i.o/	[i.ni.ó]	'meat'
/i.ʉ/	[si.ʉ.rá]	'bag'
/u.a/	[to.ku.a.ni.á]	'compare'-3ps/A
/u.e/	[da.ru.é]	'pot'
/u.i/	[ku.i.si.á]	'be sorry'-3ps/A
/ʉ.a/	[bʉ.á]	'bag'
/ʉ.e/	[ba.rʉ.é]	'masato' (cassava beer)
/ʉ.i/	[ni.tɕʉ.í]	'rib'

There are some combinations of vowels that cannot occur in a sequence of two separate syllables. These are indicated as "—" in (62).

(62) Table of vowel sequences

	a	**e**	**i**	**u**	**ʉ**
a	—	a.e	a.i	a.u	a.ʉ
e	—	—	e.i	e.u	e.ʉ
i	i.a	i.e	—	i.u	i.ʉ
u	u.a	u.e	u.i	—	—
ʉ	ʉ.a	ʉ.e	ʉ.i	—	—

The impossible combinations mainly involve /ʉ/ and /u/. As a regularity, /ʉ/ does not co-occur in any combination with /u/ in any order. Another illicit sequence is [e.a], which is the result of a phonological rule: /e/ is realised as [i] before /a/ (cf. (82)).

An important feature of vowel sequences is the occurrence of transitional glides in hiatus between two subsequent vowels. These are [j], [w], and [ɯ̯], which are inserted depending on the first vowel of a sequence. Their distribution is described in §2.8.1.

There is only one example where a sequence of identical vowels occurs on the lexical level: in the verb *e?eoka* 'shout', the sequence of two instances of /e/ is interrupted by a glottal stop. However, the meaning of this verb as 'shout' is clearly realised as an onomatopoeic word, imitating the nature of shouting. However, a similar situation applies to the combination of verb roots that end in /a/ when these are followed by the negative of the 1pl form: in this case, the root-final /a/ is followed by the negative suffix *-a*, which in turn is followed by the initial /a/ of any 1pl suffix, such as *-akaanʉ* for 1pl/ex. In combination, the

three instances of /a/ are again separated by a glottal stop, to result in [itɕa-ʔaakaanʉ] 'we did not do it'. Since the occurrence of [ʔ] is predictable in all contexts, it is not considered as a phoneme (also cf. §2.8.8).

2.6 Diphthongs

As mentioned above, diphthongs contrast to vowel sequences [V.V] in that they occupy only one syllable. They differ from long vowels in that their syllable structure is to be represented as [V], as opposed to [VV] for long vowels. Subsequently, there is no hiatus between the two components of a diphthong that would be filled with a transitional glide. The second component involved in a diphthong will be realised as an offglide. In Urarina, a variant of /ʉ/ can function as an offglide, in addition to the common [j] (for /i/) and [w] (for /u/). In addition, there is a rare diphthong /ae/. In the following, I list all occurring diphthongs with examples for each.

(63) Diphthongs

	e	**i**	**u**	**ʉ**
a	ae	aj	au	aʉ
e	—	ej	—	(eʉ)
i	—	—	—	—
u	—	—	—	—
ʉ	—	—	—	—

(64) Examples for diphthongs

a) /aj/

/najne-a/	[naj.ni.á]	'be able'-3ps/A
/ajrinia/	[aj.ri.ni.á]	'outside'
/ajtu-a/	[aj.to.á]	'say'-3ps/A
/hajti/	[haj.tí]	'still'

b) /au/

/alau/	[a.láu]	'spider monkey'
/itɕau/	[i.tɕáu]	'life'
/auna-a/	[au.naá]	'hear, feel'-3ps/A
/mausa/	[mau.sá]	'blind person'

c) /aʉ/

/akaʉ/	[a.káʉ]	'water'
/kaʉ-a/	[kaʉ.á]	'go home'-3ps/A
/haʉria/	[haʉ.ri.á]	'earlier'
/aʉenu/	[aʉ.e.nó]	'*sacha culantro* herb'

d) /ae/

/reemae/	[ree.máe]	'dog'
/asae/	[a.sáe]	'in'
/esiɲae/	[e.si.ɲáe]	'really'
/dʒaereku-a/	[dʒae.re.ko.a]	'be angry'-3ps/A

e) /ej/

/ejtɕu/	[ej.tɕú]	'*cashapona* tree'
/enejtɕʉ/	[e.nej.tɕʉ́]	'monkey'
/atejɲa-a/	[a.tej.ɲaá]	'mortally wound'-3ps/A

f) /eʉ/

/kʉreʉ/	/kʉ.réʉ/	'after'

There are certain regularities that apply when full vowels are involved but do not apply with the offglide of a diphthong. For instance, vowel copying is triggered by /i/, /u/, or /ʉ/ when these are followed by /h/, /k/, or /r/ (for details see §2.8.3). /rurana/ 'sweat' is realised as [ru.rwa.na]. However, vowel copying does not apply through /k/ and /r/ when any of the consonants mentioned are preceded by a diphthong: /auri/ '*paucar* bird' is pronounced [au.ri], not *[au.rwi].[11]

Some occurrences of diphthongs are non-phonemic. For instance, the diphthong [eʉ] does not occur on the lexical level, except for one example, the postposition *kʉreʉ* 'after'. However, I suspect that its underlying form is /kʉraʉ/ i.e. [eʉ] functions as a variant of /aʉ/.[12] [eʉ] also occurs in combinations of /e/-final noun roots that are followed by the locative marker /-ʉ/.

The diphthong /ej/ is very rare, and there is some variation in its pronunciation. Usually, an alternative pronunciation as [ee] is possible:

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[11] However, vowel copying is attested with diphthongs whose offglide spreads through /h/.

[12] For instance, the form *kʉ-re-ʉ̃* ('go'-IRR-1sg/E) 'I would go' may be realised as [kʉ.reʉ̃] or [kʉ.rãʉ] in some dialects (cf. §23.1.6).

(65) Occurrence of [ej]

/enejtɕʉ/	[e.nej.tɕʉ́], [e.nee.tɕʉ́]	'monkey'
/bahejrito-a/	[ba.hej.rí.to.a], [ba.hee.rí.to.a]	'be lazy'-3ps/A
/ʉrerej/	[ʉ.re.réj], [ʉrerée]	'jaguar'

In word-final position, [ej] functions as an allophone of /aj/, but is attested for a few examples only. Alternatively, /aj/ is reduced to [e] or [i] in this context (also cf. §2.8.7).

(66) [ej] resulting from final /aj/

/heelaj/	[hee.léj]	'same'
/komasaj/	[ko.ma.séj]	'wife'
/ekwaj/	[e.kwéj]	'down'

[uj] is another diphthong that does not exist as a phoneme, but it occurs in several examples. The fact that it is found in the same environment in all three examples in (67) – between /k/ and /ɲ/ – indicates that the underlying structure of these words is actually /kwiɲ.../, i.e. /kw/ followed by /i/ and /n/ (which is palatalised in turn). As the phonetic difference between /kui/ and /kwi/ is minimal (i.e. merely a matter of length), the forms may surface as [uj].

(67) Occurrence of [uj]

/kwiɲa/	[kúj.ɲa], [kwí.ɲa]	'in order to'
/kwiɲadera-a/	[kuj.ɲa.de.raá], [kwi.ɲa.de.raá]	'be worried'-3ps/A
/kwiɲeti-a/	[kuj.ɲe.ti.á], [kwi.ɲe.ti.á]	'meet'-3ps/A

The representation of diphthongs as opposed to vowel sequences and long vowels faces a problem as diphthongs show an ambivalent behaviour for tone assignment: while they are normally treated as a single rhythmic unit and subsequently as a single tone-bearing unit, there are specific conditions under which a diphthong is split into two separate tone-bearing units. Normally, a single rhythmic unit also corresponds to a single tone-bearing unit in prosodic phonology, but this is not precisely the case here; there are specific conditions under which a diphthong is split into two separate tone-bearing units (cf. §4). Furthermore, some tone assignment rules are based on syllable weight; i.e. they apply to heavy syllables ((C)VV) and these include syllable nuclei that represent long vowels or diphthongs (cf. §4.6.1).

In segmental phonology, diphthongs are treated as a single rhythmic unit being the nucleus of a light ((C)V) syllable. This becomes evident from a rule that applies to verb roots that end in a vowel sequence or in a long vowel, but

does not apply when the root ends in a diphthong (cf. §3.1.3). Thus, the distinction between diphthongs and vowel sequences is reduced to the segmental level; the distinction between diphthongs and long vowels is a different one on the segmental and on the prosodic level.

2.7 Nasalised vowels

Nasalisation is a lexical feature of Urarina phonology, i.e. nasalisation on vowels or diphthongs in roots or suffixes is not predictable. It can be assumed that all vowels and diphthongs have nasalised counterparts, but on the lexical level, not all of these are attested due to limitations of the database. The words in (68) are examples for the following nasalised vowels and diphthongs. (Note that nasalisation on long vowels and diphthongs is marked on one vowel only for typographical reasons, but both V units are nasalised.)

(68) Nasalised vowels and diphthongs

/ã/	/arãala/	[a.rãa.lá]	'tapir'
/ẽ/	/melẽera/	[me.lẽe.rá]	'servant'
/ĩ/	/aaĩ/	[aa.ĩ́]	'jaguar'
/ũ/	/rũa/	[rũ.á]	'side'
/ʉ̃/	/ekʉ̃ʉ/	[e.kʉ̃ʉ́]	'above'
/ãʉ/	/hãʉ/	[hãʉ́]	'because'
/ãe/	/tɕãe/	[tɕãé]	'also'

In addition to lexical nasalisation, all vowels and diphthongs can be nasalised as a result of assimilation. Nasalisation spreads rightward through certain segments (cf. §2.8.10).

2.8 Automatic phonological alternations

Phonological alternations in Urarina do not typically distinguish between types of morphological units they apply to. They freely apply in root-internal position and between roots and suffixes (or between different suffixes that follow each other). This regularity also largely includes clitics. There is only one rule that arguably does not apply across a clitic boundary: vowel copying is only attested root-internally and across suffix boundaries, but not across clitic boundaries (cf. §2.8.3). It must be noted that many of the alternations discussed in this section involve the combination of roots with suffixes that begin with a vowel. This creates a natural problem for the analysis of clitics, as none of the clitics

occurring in Urarina begins with a vowel. Therefore, it can neither be proven nor disproved whether these follow the same rules or not. However, given the fact that clitics largely follow the same rules as suffixes in some other cases, I will assume that a distinction between suffixes and clitics with regard to phonological alternations is only marginal. It must also be mentioned that there are no phonological rules that apply across word boundaries.

In addition to the automatic phonological rules discussed here, there is a wide range of rules that apply to specific morphemes only. These are discussed in chapter 3.

2.8.1 Insertion of transitional glides

Urarina has four transitional glides whose occurrence can be predicted in terms of their phonological environment. [j] is realised in hiatus in vowel sequences where the first vowel is /i/. (Note that the underlying vowel is /e/ in some cases, but realised as [i] before /a/; cf. §2.8.4.)

(69) [j] in hiatus

a) In root-internal position:

/iana/	[i.ja.ná]	'older sibling'
/kulia/	[ku.li.já]	'mass'

b) Between root and suffix:

/siiri-a/	[siiri.já]	'have'-3ps/A
/ki-ʉ/	[ki.jʉ́]	'eat'-IMP

The labial glide [w] is realised in hiatus in vowel sequences where the first vowel is /u/.

(70) [w] in hiatus

a) In root-internal position:

/rũa/	[rũ.wá]	'side'
/etue/	[e.to.wé]	'owl monkey'

b) Between root and suffix:

/u-a/	[u.wá]	'die'-3ps/A
/ajtu-a/	[aj.to.wá]	'say'-3ps/A

When /ʉ/ is followed by another vowel (which is not /ʉ/), the voiced velar approximant [ɰ] functions as a glide between the two. The examples in (71) show the application of this rule in root-internal position and between root and suffix.

(71) [ɰ] is hiatus

a) In root-internal position:

/kʉane/	[kʉ.ɰa.né]	'in'
/barʉe/	[ba.rʉ.ɰé]	'masato' (cassava beer)
/ahjaʉi/	[a.hjaʉ.ɰí]	'*obilla* tree'

b) Between root and suffix:

/rʉ-a/	[rʉ.ɰá]	'find'-3ps/A
/here-kʉrʉ-i/	[he.re.kʉ.rʉ.ɰí]	'want'-PL-NEG:3ps/A
/kaʉ-a/	[kaʉ.ɰá]	'return'-3ps/A

When /ʉ/ is followed by another vowel and it is preceded by a nasal onset or is nasalised, the transitional consonant will be realised as a velar nasal [ŋ]. This applies to root-internal position, as well as between root and suffixes. Also note the realisation of nasal spreading on vowels (cf. §2.8.10).

(72) Occurrence of [ŋ]

/amʉ-a/	[a.mʉ.ŋá]	'walk'-3ps/A
/enʉa/	[e.nʉ.ŋá]	'tree'

Note that in the example *enʉa* above, nasalisation spreads all the way through two vowels and /h/ from the initial consonant /n/ (thus surfacing [e.nʉ̃.ŋã́] in a narrower transcription). This rule does not apply when a non-transparent consonant (i.e. all except /h/) interrupts the nasal spread, as the example *nʉkʉe* [nʉkʉɰe] 'creek' illustrates: in this case, the transitional consonant is not nasal: *[nʉkʉŋe] (cf. §2.8.10)

[ŋ] may also occur in loans before a velar stop. It should be noted that the velar nasal also occurs in the respective source languages and has been adopted into Urarina. The word 'minga' shown in (73) also has a velar nasal in Spanish and according to Adelaar (2004, p.c.) "All the Quechua dialects assimilate the nasal to velar position before a velar consonant." Since the occurrence of [ŋ] does not occur in native Urarina words, I do not consider CV+[ŋ] a separate syllable type.

(73) Occurrence of [ŋ] in loans

/letɕuŋka/	[le.tɕúŋ.ka]	'100' (loan from Quechua)
/miiŋka/	[míiŋ.ka]	'minga' (working session; loan from Spanish)

2.8.2 Assimilation of /ʉ/

In (62) it was shown that sequences of /ʉ/ and /u/ do not occur. This regularity is due to the fact that assimilation takes place when /ʉ/ is preceded by /u/. A typical example for this is the suffixation of the 3pl suffix *-ʉrʉ* to a verbal root ending in /u/.

(74) /ʉ/ → [u], [o] with plural suffix

a) Assimilation to [u]:

/ku-ʉrʉ-i/	[kuu.rʉ.í]	'drink'-PL-3ps.NEG/A
/ruku-ʉrʉ-a/	[ru.kuu.rʉ.á]	'pull out'-PL-3ps/A

b) Assimilation to [o]:

/masu-ʉrʉ/	[ma.sòó.rʉ]	'parakeet'-PL
/enu-ʉrʉ-a/	[e.noo.rʉ.á]	'enter'-PL-3ps/A

Corresponding examples of assimilation are found with other suffixes that underlyingly begin with the vowel /ʉ/, such as the form *-ʉ̃* for 1sg/E and the imperative *-ʉ*.

(75) /ʉ/ → [u], [o] with 1sg/E or imperative suffix

a) Assimilation to [u]:

/suru-ʉ̃/	[su.rũú]	'run'-1sg/E
/su-ʉ/	[suú]	'kill'-IMP

b) Assimilation to [o]:

/ajtu-ʉ̃/	[aj.tõó]	'say'-1sg/E
/ajtu-ʉ/	[aj.toó]	'say'-IMP

While one might suspect that the assimilation of /u/ could be a morpho-phonological process, as it is mainly observed with the plural suffix and with the imperative form, it has to be acknowledged that Urarina does not have any root-internal sequences of /u/ + /ʉ/. It may thus be assumed that the absence of such a sequence is due to the fact that assimilation has been a result of diachronic variation as well. Since there is no material available to prove such

changes, I will presume that the rule that assimilates /ʉ/ to [u] or [o] is not a special property of the plural and imperative suffixes, but a universal regularity of Urarina phonology.

2.8.3 Vowel copying

The process of vowel copying can be characterised as homorganic vowel insertion after certain consonants, which include /h/, /k/, and /r/ in Urarina. For example, the consonant /h/ is affected by the presence of /i/, /u/, and /ʉ/. As a result of an optional rule, these vowels spread rightward through the consonant and are realised as palatalisation, labialisation, and "retroflexisation", respectively. Note that all three sounds that are affected by this rule are velar or post-velar. Vowel copying operates word-internally, being in roots or roots with derivational or inflectional affixes. For example, the labial glide occurring with the /h/ in the word *duhwa* '*cedro masha* tree' can be assumed to be a result of /u/ spreading rightward. There are no examples in the language where a /h/-initial syllable following a /u/ would not be labialised. In the same way, /i/ carries through /h/ and changes it into [hj]. /ʉ/ operates in the same way and results in a modified variant of /h/, which I transcribe as [hᵚ] here. Phonetically, the /h/ is fronted and could probably be transcribed as [x] or [χ] (voiced velar/uvular fricative). Examples for all three alternations are given below. They illustrate both root-internal alternation and vowel copying across suffix boundaries.

(76) Vowel copying through /h/

a) Copying of /u/ through /h/

/laauhiri/	[laa.u.hwi.rí]	'small (thing)'
/tasinuha-a/	[ta.sí.no.hwaa]	'be big'-3ps/A
/rautu-he-ĩ/	[rau.to.hwee.ĩ́]	'be calm'-CNT-PRT

b) Copying of /i/ through /h/

/enaniha/	[e.na.ni.hjá]	'canoe'
/kiha/	[ki.hjá]	'paddle'
/kutia-e/	[ku.ti.hjé]	'call'-HORT

c) Copying of /ʉ/ through /h/

/kʉhana/	[kʉ.hᵚa.ná]	'wind'
/nʉhe/	[nʉ.hᵚé]	'penis'
/kamʉ-ha-ĩ/	[ka.mʉ.hᵚaa.ĩ́]	'bathe'-CNT-PRT

In a similar manner, vowel copying may also occur through the velar stop /k/. However, in this case, the rule is restricted to the vowels /u/ and /ʉ/. With /i/, no vowel copying is observed. I have demonstrated in §2.1.6 that /kw/ functions as a phoneme in word-initial position. If we look at its occurrence in word-internal position (including morphologically complex words), it becomes evident that the labial portion of this sound is a result of vowel copying. (77) lists some examples for this and also illustrates this process with the vowel /ʉ/.

(77) Vowel copying through /k/

a) Vowel copying of /u/:

/kukajtɕa/	[ko.kwaj.tɕá]	'inhabitant'
/ukana/	[u.kwa.ná]	'field'
/kukaerate-a/	[ku.kwae.ra.ti.á]	'defend'-3ps/A

b) Vowel copying of /ʉ/:

/ʉkatu-a/	[ʉ.kᵘa.to.á]	'be deep'-3ps/A
/ʉkari/	[ʉ.kᵘa.rí]	'giant anteater'
/kwaaʉk-e/	[kwaa.ʉ.kᵘé]	'think'-3ps/E

Word-internal [kw] is almost always preceded by /u/. However, this rule does not apply to clitics. For example, a /kw/-initial word can be preceded by a proclitic that does not contain /u/, such as in *ka=kwedaj* 'my visitor', where the proclitic functions as a possessive marker for 1sg. Another exception regards the distributive suffix *-akwa* which in itself illustrates that /kw/ is not necessarily the result of vowel copying.

Another consonant that can be affected by vowel copying is /r/, but the rule tends to have a much more optional status in this case. In particular, its application is limited to only a few speakers of the Espejo dialect, and it is less common in other dialects (cf. §23.1.2). For instance, the word for 'Urarina' can be pronounced with or without vowel spread: [urwarɨɲa / urarɨɲa]. A few more examples for vowel copying through /r/ are given in (78). Note that again, /i/ is not subject to this rule. With /ʉ/, the process is highly optional and rare.

(78) Vowel copying through /r/

a) Copying of /u/ through /r/:

/kuraate-a/	[ku.raa.ti.á], [ku.rwaa.ti.á]	'feed'
/erari, /urari/	[u.ra.rí], [u.rwa.rí], [e.rwa.rí], *[e.ra.rí]	'*urari* root'
/haatura-a/	[haa.tu.rá], [haa.tu.rwá]	'be ready'-3ps/A

b) Copying of /ʉ/ through /r/:

/kʉraana/	[kʉ.raa.ná], [kʉ.rᵘaa.ná]	'chief'; 'male'

The example *urari* is noteworthy as the actual pronunciation of the word in the Espejo dialect is [erwari]; in this case the labialisation has remained although the initial vowel was replaced by /e/ (the pronunciation *urari* is from the Chambira dialect). Also note that there are counterexamples, showing that the rule does not consistently apply in all words:

(79) Absence of vowel copying through /r/

/lureri/	[lu.re.rí]	'house'
/huura-ka/	[huu.ra.ká]	'open'-3ps/A (*[hu.rwa.ka])
/kurahe-a/	[ku.ra.hi.á]	'desire' (but [ku.rwa.hi.a] = 'be happy')

There also is a palatalised form of the rhotic. However, this is not the result of vowel copying, as one could expect. [rj] only occurs as a shortened version of /ri/ before another vowel, as illustrated below.

(80) [rj] as a result of vowel copying

/ne-laʉria-a/	[ne.laʉ.rjaá]	ITR-'sit'-3ps/A
/nuriu/	[nu.rjú]	'Marañon River'
/haʉria/	[haʉ.rjá]	'earlier'

The vowel copying rule through /r/ does not apply to clitics: when the emphatic attitudinal marker *=ra* is attached to a host, it is never realised as [rwa] even when the vowel /u/ precedes it. Similarly, vowel copying does not apply through the reportative enclitic *=he*. This is in so far remarkable as enclitics otherwise follow the same rules as suffixes.

(81) Absence of vowel copying through enclitics

a) With enclitic *=ra*:

/hetau=ra/	[he.tau.rá]	(Hearsay evidential + EMF)
/ajtu-ʉ̃=ra/	[aj.tõo.rá]	'say'-1sg/E-EMF

b) With enclitic *=he*:

/dʒatoane-ĩ=he/	[dʒa.to.a.nee.ĩ.he]	'be how'-PRT=REP
/su-ʉ=he/	[suu.hé]	'kill'-IMP=REP

In summary, one can say that vowel copying occurs through consonants whose place of articulation can be characterised as "back" as it involves velar, retroflex, and glottal consonants.

2.8.4 Vowel raising

An important rule that accounts for the absence of the sequence /e.a/ in roots, as mentioned in (62), is dissimilatory vowel raising: when /e/ is followed by /a/, it is raised to [i]. The same rule also applies between roots and suffixes, or between two suffixes: when a root-final /e/ is followed by a suffix that begins with /a/, it is raised to /i/. When it is followed by a suffix that begins with any other vowel, /e/ remains unchanged.

(82) Vowel raising /e/ → [i]

a) Vowel raising applies before /a/:

/te-a/	[ti.á]	'give'-3ps/A
/here-a/	[he.ri.á]	'want'-3ps/A

b) No vowel raising before other vowels:

/te-ɨrɨ-a/	[tee.ɨ.rɨ.á]	'give'-PL-3ps/A
/te-ĩ/	[tee.ĩ́]	'give'-PRT

The fact that /e.a/ is not a possible vowel sequence of Urarina indicates that the alternation described here is of a general nature.

2.8.5 Simplification of /aɨ̃/

The nasalised diphthong /ãɨ/ can be simplified by deleting its component /ɨ/ (in stressed or unstressed syllable). Typically, the vowel /a/ is lengthened to [ãa], but shortening to [ã] may also occur. This rule is optional and speaker-dependent, but it can occur in any position in a word.

(83) Simplification of /ãɨ/

/hãɨ/	[hãɨ́], [hãá], [hã́]	'because'
/here-anɨ/	[he.ri.tɕãɨ́], [he.ri.tɕãá], [he.ri.tɕã́]	'want'-1sg/A
/aj-ri-a-ɨ̃=ni/	[aj.ri.ãɨ.ni], [aj.ri.ãa.ni], [aj.ri.ã.ni]	'do'-IRR-NEG-1sg/A=ASS

2.8.6 Affricatisation /ri/ ~ [rj] ~ [dʒ]

An optional rule observed in rapid speech only is the occurrence of the voiced affricate [dʒ] in word-internal position. As mentioned earlier (cf. §2.8.3), the underlying syllable /ri/ can be reduced to [rj] in rapid speech if another vowel follows. The resulting sequence [rj] + [V] is optionally realised as [dʒ] + [V], as the following examples show. Note that all instances of this phenomenon shown in (84) occur on the last syllable of the word, (which carries a H tone).

(84) /ri/ ~ [rj] ~ [dʒ]

/haʉria/	[haʉ.rjá], [haʉ.dʒá]	'earlier'
/ajriu/	[aj.rjú], [aj.dʒú]	'Airico River'
/kuriae/	[ku.rjáe], [ku.dʒáe]	'far; distance'
/nemʉri-ʉ/	[ne.mʉ.rjʉ́], [ne.mʉ.dʒʉ́]	'lake'-LOC ('in the lake')

Note that the last example *nemʉrjʉ* involves the locative suffix -*ʉ*, which merges with the final root vowel of any word it is attached to (cf. §3.4) and therefore changes the final syllable into [rjʉ] as the result of a morpho-phonological rule. The syllable is then further changed into its alternant [dʒʉ]. The rule does not apply to other suffixes that begin with /ʉ/. For instance, the 1sg/E suffix -*ʉ̃* does not merge with the last syllable and subsequently is realised as a syllable sequence /i.ʉ̃/.

2.8.7 /aj/ ~ [ej]

In word-final position, the diphthong /aj/ is pronounced as [ej]. As a further simplification, [ej] can be monophthongised to [e]. As an exception, with the word *kanaanaj* 'child', the diphthong tend to surface as [i].

(85) /aj/ → [ej]

/kanaanaj/	[ka.naa.nej], [ka.naa.ni]	'child'
/raj/	[réj], [ré]	'for/to'
/helaj/	[he.léj], [he.lé]	'separate'
/komasaj/	[ko.ma.séj], [ko.ma.sé]	'wife'
/itɕa-i/	[i.tɕéj], [i.tɕé]	'do'-NOM_{Obj} ('what he did')
/lanaha-i/	[la.na.hej], [la.na.he]	'be red'-NOM_{Sbj} ('red one')

The last two examples in (85) involve a suffix that merges with the vowel preceding it and the final syllable therefore should be realised as [aj]. Through

application of the described rule, words such as *lanahaj* are pronounced as [lanahej] or [lanahe].

2.8.8 Insertion of glottal stop [ʔ]

As mentioned in §2.5, the glottal stop has no distinctive function on the lexical level. There is only one root (and derivations of it) in which /ʔ/ occurs: the word for 'shout/cry', *eʔeeoka* (and the related form *eʔee.ekoa*). As this example may be considered as onomatopoeic, it can be characterised as marginal anyway. Interestingly, the glottal stop seems to function as a boundary segment between two identical vowels of which the second one is long. This matches similar constellations in words where the glottal stop occurs at suffix boundaries: /ʔ/ occurs in vowel sequences in which a short vowel is followed by a long vowel (or by another vowel sequence). In the negative form of some verbs, the glottal stop is predictable by this rule: in [kwa.ra.ʔaa.ɯ̃] 'I have not seen it', it functions as a boundary marker between the root-final /a/ and the negative suffix *-a* (followed by the 1sg/E suffix *-ɯ̃*). Similarly, it forms a boundary between /a/ and *-e-i* (NEG-2ps, with the negative suffix being lengthened before the 2ps suffix), as in [i.tɕa.ʔee.i] 'you have not done it'. Apparently, the insertion of /ʔ/ is only necessary when a short vowel is followed by a long vowel or by a vowel sequence; it does not apply in the opposite direction: in [i.tɕaa.i] (/itɕa-i/ - 'do'-NEG-3ps/A) 'he did not do it', a VV syllable is followed by a vowel without involving a glottal stop (note that vowel lengthening of the root-final vowel occurs before the 3ps negative form).

Since the occurrence of the glottal stop is predictable, it is not regarded a phoneme. Regarding the nature of the examples described above, it can be stated that the insertion rule for the glottal stop applies root-internally and across suffix boundaries.

2.8.9 Palatalisation of /n/ after /i/

When the alveolar nasal /n/ (in its function as the onset of a following syllable) is preceded by the front vowel /i/ or its realisation as an offglide [j], it is palatalised to [ɲ].

(86) /n/ → [ɲ]

a) Root-internal position:

/urarina/	[u.ra.ɾí.ɲa]	'Urarina'
/biina/	[bii.ɲá]	'old person'

/ajna/	[aj.ɲá]	'and, with'

b) Between root and suffix:

/ari-na/	[a.ri.ɲá]	'seek'-INF
/nesari-nakaʉrʉ/	[ne.sa.ri.ɲa.káa.ʉ.rʉ]	'hunt'-'those who'
/siiri-naa/	[sii.ri.ɲaá]	'have'-NOM

This rule also applies across clitic boundaries. As exemplified in (87), this includes the final negative enclitic *=ne*, the subordinate marker *=ne* (with conditional function here), the interrogative marker for polar questions *=na*, and the attitudinal markers *=naare* and *=naate*.

(87) Palatalisation of /n/ to [ɲ] between suffix and clitic:

/be-i=ne/	[bee.i.ɲé]	'tell'-NEG.IMP=NEGF
/ajtu-i=ne/	[aj.to.i.ɲé]	'say'-2ps=CND ('if you say')
/kwitʉkʉ-i=na/	[kwi.tʉ.kʉ.i.ɲá]	'know'-2ps=INT ('do you know?')
/kutaj-ri-tɕa=ĩ=naare/	[ku.taj.ri.tɕaa.ĩ.ɲaa.ré]	'scold'-IRR-3ps=ASS=WRN ('he will punish him')

Palatalisation, such as all other rules discussed in this chapter, does not apply across word boundaries, as in (88), where the initial /n/ of 'say' remains unaffected by the preceding /i/. Interestingly, palatalisation occurs with the copular auxiliary *nẽĩ* (which is a form of the copula), when it is attached to numerals, nouns, and passives. However, the status of the auxiliary as a clitic-like element is further discussed in §2.11.

(88) No palatalisation of /n/ to [ɲ] across word boundary

a)

kurete-i	*na-ĩ*	[ku.re.tee.i naa.ĩ́]; *[ɲaaĩ]
buy-2ps	say-PRT	'saying you bought it'

b)

nii	*nʉkʉe*	[nii nʉ.kʉ.é]; *[ɲʉ.kʉ.e]
that	river	'that river'

c)

ahina-i	*nii*	*anofwa*	[a.hi.ɲaa.í ɲii a.no.fwá]; *[ɲii]
sharp-NEG:3ps/A	that	knife	'That knife is not sharp.'	

2.8.10 Nasal spreading

Nasalisation generally spreads rightward through adjacent vowels and through the consonant /h/. This rule applies on the word level and includes enclitics. It can be initiated through nasal consonants or nasal vowels. Nasalisation affects any non-consonantal segment if it is preceded by any nasal segment (including nasal consonants). Typically, the syllables following a nasalised vowel will be affected in that they are nasalised if their onset consonant is /h/. Nasalisation will spread to adjacent vowels or diphthongs on its right until it is blocked by a consonant (which is valid for all consonants except /h/).

(89) Nasal spreading

a) Root-internal spreading:

/rũa/	[rũ.ã́]	'side'
/sẽeuha/	[sẽẽ.õ.hwã́]	'big (thing)'
/ahãauri/	[a.hãã.õrí]	'turtle' (type)
/nʉ̃he/	[nʉ̃.hʷŋẽ́]	'excrements'

b) Spreading across suffix boundary:

/lana-hee-ka/	[la.nã.hẽẽ.ká]	'be missing'-DIM-3ps/A
/amʉ̃-i/	[a.mʉ̃.ĩ́]	'walk'-2ps

c) Spreading across clitic boundary:

/ini-ri-tɕa=ĩ=he=ra/	[i.ni.ri.tɕaa.ĩ.hẽ.ra]	'go.up'-IRR-3ps/A=ASS=REP=EMF
/amʉ̃-a=he/	[a.mʉ̃.ã.hẽ]	'walk'-3ps/A=REP

However, nasalisation appears to be a feature that depends at least partially on the speaker. Some speakers tend to spread nasalisation in both directions. This makes distinctions particularly difficult as nasalisation is otherwise distinctive, especially where suffixes are involved. Ambiguities will also occur where a suffix *-i*, which may indicate NEG:3ps/A, or 2ps, is attached to a verbal root that has a nasalised vowel, or a nasal consonant. For instance, the copula root /ne/ spreads its nasality to an attached suffix *-i* intended for 2ps: 'you were'. However, as the realisation of the form will be [nee.ĩ], it can also be interpreted as NEG:3ps/A 'he was not', or as the participle form 'being'.

2.9 Syllable structure

The prototypical syllable type found in Urarina is CV. However, syllables do not require an onset. Besides, long vowels and diphthongs exist, as discussed above, which gives a range of the following syllable types: V, VV, CV, CVV (where VV stands for a long vowel). Coda consonants do not occur, and since the insertion of [h] after short vowels is not phonemic, I do not list CVC here.

The following table gives an overview of co-occurring syllable types. In particular, such sequences that would result in two adjacent long vowels are excluded. The example for CVV.CVV is untypical as well, and no examples are attested for words that contain VV.CVV sequences, involving long vowels only. The absence of CV.VV may be based on the fact that the number of VV syllables is generally lower than others.

(90) Combination of syllable types

1^{st} / 2^{nd}	**V**	**VV**	**CV**	**CVV**
V	e.o.ri 'termite nest'	e.ʔe.o.ka 'shout'	a.te 'fish'	a.laa '*aguaje* tree'
VV	a.ĩ 'jaguar'	—	ee.ne 'woman'	—
CV	bʉ.a 'bag'	—	be.ru 'way'	kʉ.raa 'name'
CVV	fwe.i 'firewood'	—	kwa.taa ('so that not')	kʉ.raa.naa 'chief'

Diphthongs, which I represent as having a single V position here, occur in the following combinations:

(91) Syllable sequences involving diphthongs

$V.CV_{[Diphth]}$	/ekwaj/	[e.kwéj]	'down'
$CV.CV_{[Diphth]}$	/tajbinaae/	[taj.bi.ɲaa.é]	'animal'
$CV.V_{[Diphth]}$	/niej/	[ni.jéj]	'not at all'
$VV.CV_{[Diphth]}$	/ãasaj/	[ãa.séj]	'wicked'
$V_{[Diphth]}.V$	/aua/	[a.wá]	'sister'
$V_{[Diphth]}.CV$	/ajna/	[aj.ɲá]	'and'
$CV_{[Diphth]}.V$	/baja/	[ba.já]	'after'

Syllable weight plays an important role for certain tone assignment rules (cf. §4). An aspect that has not been explored in detail regards the circumstances under which moraic structure is significant. In most contexts, a heavy syllable

(represented as (C)VV) will be handled as one rhythmic unit. However, there are some examples in which heavy syllables are split into two units for certain tone assignment rules (cf. (178) on "tone type B" nouns, which assign a specific tone pattern to a verb that follows). For instance, in constructions like [o.ba.na rʉ.a.káà] 'he carried a peccary', the final syllable [kaa] carries a HL contour tone, which can be analysed as consisting of a H plus a L tone. However, such structures only occur in trisyllabic words with final heavy syllables. The example [kwa.ráa.i] 'he did not see it' proves that heavy syllables in other than final position are not affected for this specific tone assignment rule. Interestingly, in another context, the weight of the first syllable of a word is significant (also cf. (194)): in possessive constructions where a possessed noun, (which follows the possessor), is in the plural form, its H tone shifts from the second to the initial syllable. Again, this regularity is restricted to this specific construction. While it remains less than clear in what way moraic structure should be taken into account, I adopt the notion of morae as significant for the description of tonal structures in Urarina (cf. §4).

Another remark is in order on the syllable structure observed with some loans. In particular, many loans from Spanish exhibit consonant clusters (CC) in a syllable onset. While syllables involving a CC onset are absent from Urarina phonology, the realisation of these depends much on a speaker's proficiency in Spanish. Speakers who have none or little knowledge of Spanish, tend to syllabify loans with intermediate vowels, such as (92). In contrast, speakers who are proficient in Spanish, tend to pronounce the same loans with a consonant cluster. Between the two, any transition between strict CV structure and perfect Spanish pronunciation can be observed. Similarly, a final consonant in Spanish will be realised with vowel epenthesis in Urarina. The kind of vowel to be inserted (in both cases: CC cluster or final C) sometimes is resolved by vowel harmony, as the inserted vowel tends to be identical to the vowel in an adjacent syllable. Alternatively, the inserted vowel may be realised as a reduced variant of /ʉ/.

(92) CC clusters and coda consonants in loans

a) Initial CC cluster:

[kʉ.rá.bo]	'nail'; Span. *clavo*: [kla.bo]
[ta.ráã.fwa]	'fishing net'; Span. *trampa*: [tram.pa]
[tẽ.fwo.lo]	'church building'; Span. *templo*: [tem.plo]

b) Coda consonant:

[do.ko.to.ro]	'doctor'; Span. *doctor*: [dok.tor]
[ba.rʉ.dé]	'bucket'; Span. *balde*: [bal.de]
[be.se.tá]	'party'; Span. *fiesta*: [fjes.ta]

2.10 The notion of "Phonological Word"

Many languages distinguish the concept of "Phonological Word" from "Grammatical Word". A phonological word is usually defined by the following criteria:

- It is larger than the syllable
- It exhibits special word boundary or pause phenomena
- It carries stress or tone
- It exhibits specific prosodic features such as nasalisation or vowel harmony
- There are phonological rules that apply only within the phonological word

In comparison, grammatical words are often characterised in the following way: according to Dixon & Aikhenvald (2002:19), "a grammatical word consists of a number of grammatical elements which:

(a) always occur together rather than scattered through the clause (the criterion of cohesiveness);
(b) occur in a fixed order;
(c) have a conventionalised coherence and meaning."

There is no doubt that Urarina recognises the notion of "Word" as opposed to smaller units such as suffixes and clitics. However, it appears that the phonological word and the grammatical word always coincide. As will be seen in §2.11, the involvement of clitics hardly changes this attitude: clitics behave largely in the same way as suffixes and form a word together with their host. However, clitics exhibit a few properties that are different from affixes. Another aspect related to the notion of "word" is word length, which is investigated in the following section.

2.10.1 Word length

There is a tendency in Urarina to prefer words that are longer than a CV syllable. However, this cannot be formulated as a minimality constraint for the length of words: The following examples represent some of the shortest possible words in Urarina. These include a few 3ps/E forms of verbs that have a