

**DESCRIPTIVE AND TYPOLOGICAL STUDY OF  
JARAWA**

Thesis submitted to the Jawaharlal Nehru University in partial  
fulfillment of the requirement for the  
award of the degree of

**DOCTOR OF PHILOSOPHY**

**Pramod Kumar**

under the supervision of

**Prof. Anvita Abbi**

**&**

**Prof. Bernard Comrie**

**CENTRE FOR LINGUISTICS  
SCHOOL OF LANGUAGE, LITERATURE, AND  
CULTURE STUDIES**

**JAWAHARLAL NEHRU UNIVERSITY  
NEW DELHI – 110067**

**2012.**



Centre for Linguistics  
School of Language, Literature & Culture Studies  
Jawaharlal Nehru University  
New Delhi-110067, India

Dated: 20.01.2012

## CERTIFICATE

This thesis titled "Descriptive & Typological Study of Jarawa" submitted by Mr. Pramod Kumar, Centre for Linguistics, School of Language, Literature, and Culture Studies, Jawaharlal Nehru University, New Delhi, for the award of the degree of Doctor of Philosophy, is an original work and has not been submitted so far in part or in full, for any other degree or diploma of any University or Institution.

This may be placed before the examiners for evaluation for the award of the degree of Doctor of Philosophy.

Professor Anvita Abbi  
Centre for Linguistics  
School of Language, Literature & Culture Studies  
Jawaharlal Nehru University  
New Delhi - 110 067  
**(PROF. ANVITA ABBI)**  
**SUPERVISOR**

**(PROF. BERNARD COMRIE)**  
**JOINT-SUPERVISOR**

Chairperson  
CL/SLL & CS  
J.N.U. - New Delhi-67  
**PROF. FRANSON D. MANJALI**  
**CHAIRPERSON**

## DECLARATION BY THE CANDIDATE

This thesis titled "**Descriptive & Typological Study of Jarawa**" submitted by me for the award of the degree of Doctor of Philosophy, is an original work and has not been submitted so far in part or in full, for any other degree or diploma of any University or Institute.



PRAMOD KUMAR  
Ph. D. student  
Centre for Linguistics  
SLL&CS / JNU

## Acknowledgements

In the completion of this thesis, I am indebted to a lot of people whom, I must acknowledge. First of all, I would like to express my deepest gratitude to my supervisors Professors Anvita Abbi and Bernard Comrie. Without their support and encouragement this kind of work would not have been possible. They stood by me, offering me support and guidance at every step. From both my supervisors I learnt a lot about academics. From Professor Abbi in particular, I learnt a lot about every walk of life. More than a supervisor to me, she has been a mentor, and a constant source of inspiration and gentle encouragement. Thanks, Ma'am, for always being there for me.

Second, I would like to express my gratitude to the Jarawa people for not only trusting me in all possible ways, but also teaching me their language and about themselves. They always supplied me new words for new objects, and corrected me whenever I mispronounced something. I really miss the people I met in the Andaman Islands. I am very sorry that I have not yet been able to fulfil their wish that I return to Andaman to meet them again.

I am grateful to the Department of Linguistics, Max Planck Institute for Evolutionary Anthropology (MPI-EVA), Leipzig, Germany, for a doctoral fellowship and financial support for my Ph.D. I sincerely thank Claudia Büchel, Julia Cissewski, Brigett Packendoff, Patty Epps, Don Stilo, Orin Gensler, Juliette Blevins, Martin Haspelmath, Susane Michaelis, Eva Schultze-Berndt, Tom Güldemann, Christfried Naumann, Jan Wohlgemuth, Sven Grawunder, and Rocco Buchholz for their endless help and support during my stay at Leipzig. I am also thankful to the visiting scientists at MPI-EVA for the information I gathered from them, enriching my own academic calibre.

I express my thanks to Professor G. K. Chaddha, the then Vice-Chancellor of Jawaharlal Nehru University (JNU), for his support. I wish to thank all my teachers at the Centre for Linguistics, Professors P. K. S. Pandey, Vaishna Narang, Franson D. Manjali, and Ayesha Kidwai, for introducing me linguistics.

I sincerely thank the Anthropological Survey of India staff stationed at Port Blair, Mr. B. K. Ghosh (the then Head of Office), Mr. Samir Biswas, Mr. Bidyut Kumar Das, Mr. Umesh Kumar, and Mr. S. A. Bariq. They provided much needed support, both practical and moral, during my research in Andaman.

I acknowledge the help and support of the library staff at JNU, New Delhi, and at MPI-EVA, Leipzig. My special thanks go to the library staff of MPI-EVA who helped me procure all the articles and books I ever needed for my research.

I also take this opportunity to thank the staff at the Centre for Linguistics, JNU, Mr. S. S. Rawat, Naveen, and Bhagawati Madam for their support and encouragement.

I express my sincere gratitude to Jyoti Iyer, a student of the Centre for Linguistics, JNU, who copy-edited the thesis and gave it its present form.

I also thank Kamal Choudhary, and K. Krishnamurthy and his wife S. Devi, for the strength and encouragement they managed to give me even during the short span of our meeting in Leipzig. I express my gratitude to my friends Dinesh, Pawan, Subodh, Shashi Bage, and Sulo Da from my hometown, and Alok, Vinay, Sanjayji, Keshari, Bibek, Ramkrishna, Arwind and Debu from Delhi, who helped me in various ways.

This kind of work could not have been done without the support and encouragement of my parents and family. I am very grateful to them. My special thanks go to my wife Pratibha Rani, and my son Pratyush Pranjal for their love, understanding and untiring faith in me. They not only spared me for the completion of my Ph.D., but were also deprived of time they needed with me.

I sincerely acknowledge the help provided by Mr. Anoop Kumar Mondal (Tribal Welfare Officer, Kadamtalla) and his wife Ms Anjana Mallik during my stay in Kadamtalla. I also express my gratitude to other Aadi Andaman Janjati Vikas Samiti (AAJVS) Field Staff, Debrat Kumar Mandal alias Dippu (and his family members), Bibhuti Biswas, Bhajan Biswas alias Uncle, Swapan Hawldar, Late Vinay Kumar Tete, Lokanath, Ramesh Madhu alias Rana, Prashant Saha, and Balram Yadav. I thank them for never letting me feel that I was away from home. I wish to thank the local people of Kadamtalla for their support during my stay, especially Mr. Panchanand Prasad, Mr. Om Prakash Prasad, Mrs. Nirmala Devi, and Ms. Jyoti Kumari.

The greatest and foremost problem in even beginning of my research was to get permission to visit the Jarawa Reserve for the collection of linguistic data. I am indebted to the Government of India, in particular the Ministry of Home Affairs and Tribal Affairs, and the Andaman administration, for their constant defence of my research permit. They deserve a special mention. I thank Mr. N. Gopaldaswamy (then Principal Secretary, Ministry of Home Affairs), Mr. Jalali (then Joint Secretary, Ministry of Home Affairs), Mrs. Aindri Anurag, (then Director, Andaman and Nicobar Islands, Ministry of Home Affairs), Mr. Rajiv Kumar (then Joint Secretary, Ministry of Tribal Affairs), Mr. B. S. Karmawphlang, (then Director, Andaman & Nicobar, Ministry of Tribal Affairs), Mr. Gyanesh Bharati (then Deputy Commissioner, Andaman Islands,

at Port Blair), Mr. S. A. Awaradhi (then Director, Directorate of Tribal Welfare, Andaman and Nicobar Islands, at Port Blair), and Mr. Acchelal Singh (then Research Officer, Directorate of Tribal Welfare, Andaman and Nicobar Islands, Port Blair).

It is not only in the reckoning of names, but in the success of my work that I express my utmost thanks to all those I have acknowledged here.

Pramod Kumar

PLACE: New Delhi

DATE: 20<sup>th</sup> January, 2012

## Table of Contents

Acknowledgements	i-iv
Abbreviations	xiii-xiv
Tables and Figures	xv
Chapter 1 Introduction	
1.0 Introduction	1
1.1 Landscape	3
1.2 Demography	5
1.3 History of Islands	7
1.3.1 Pre-colonial Period (till 1775)	8
1.3.2 Colonial Period (1776 – 1947)	9
1.3.3 Independence and After (1947 – 1997)	13
1.3.4 Post-1997 Period (1998 – till date)	14
1.4 Inhabitants of the islands	15
1.4.1 Great Andamanese	16
1.4.2 Onge	18
1.4.3 Jarawa	18
1.4.4 Sentinalese	20
1.4.5 Jangil	21
1.5 The Jarawa people	21
1.5.1 Social structure and customs	21
1.5.2 Tools and Artefacts	24
1.6 Previous studies	26
1.6.1 Nair (1974)	26
1.6.2 Rajasingh & Ranganathan (2000)	27
1.6.3 Senkuttuvam (2000)	27



1.6.4 Sreenathan (2001)	28
1.6.5 Rajasingh (2002)	28
1.6.6 Abbi (2006)	29
1.6.7 Blevins (2007)	29
1.7 Present Study and its Methodology	30
1.7.1 Present Study	30
1.7.2 Methodology	30
1.7.2.1 Selection of consultants	31
1.7.2.2 The selection of the area	31
1.7.2.3 Tools for the study	32
1.7.2.3.1 The questionnaire	32
1.7.2.3.2 Systematic observation	33
1.7.2.4 Field Procedure	33
1.7.3 Limitations of the study	34
1.8 Organization of the present work	35
Chapter 2 Phonetics & Phonology	
2.0 Introduction	36
2.1 Sounds and Phonemes	37
2.2 Phonemic Contrasts	39
2.2.1 Vowels	40
2.2.1.1 Qualitative Contrasts	41
2.2.1.2 Quantitative Contrasts	44
2.2.2 Consonants	45
2.2.2.1 Plosives and Retroflex	46
2.2.2.2 Nasals	54
2.2.2.3 Fricatives	55
2.2.2.4 Trill, Flap and Laterals	58
2.2.2.5 Approximants	58

2.3 Phonemic distribution	59
2.3.1 At syllable level	59
2.3.1.1 Consonants	60
2.3.2 At word level	62
2.3.2.1 Vowels	62
2.3.2.2 Consonants	63
2.4 Syllabic Structure	65
2.5 Syllabification	66
2.6 Word Structure	66
2.7 Morphophonemic	69
2.7.1 <i>mi vs ma</i>	69
2.7.2 Reduced Forms	71
2.8 Conclusion	72
Chapter 3 Morphology	
3.0 Introduction	73
3.1 Morpheme/ word	73
3.2 Word class	75
3.3 Noun Morphology: Nouns and Noun Phrases	76
3.3.1 Pronouns	76
3.3.1.1 Personal pronouns	76
3.3.1.1.1 Morphological nature of personal pronouns	80
3.3.1.2 Demonstrative pronoun	85
3.3.1.3 Interrogative pronoun	86
3.3.2 Nouns and noun classification	86
3.3.2.1 Gender	94
3.3.2.2 Number	95
3.3.2.3 Case marking	96
3.3.3 Possession	96

3.3.3.1 Inalienable possession	97
3.3.3.2 Alienable	99
3.3.4 Noun Phrase	100
3.3.4.1 Basic Noun Phrase	100
3.3.4.2 Demonstratives	101
3.3.4.3 Numerals and number marking	102
3.3.4.4 Adjectives and Modifiers	103
3.4 Verbal morphology	104
3.4.1 Verbs and verb roots	104
3.4.2 Verbal affixes	104
3.4.3 Agreement	106
3.4.4 TAM	107
3.4.5 Function of suffixes: evidentiality & modality	108
3.4.5.1 Evidential Marker	108
3.4.5.2 Non-Evidential Marker	113
3.4.5.3 Modality Marker	114
3.4.6 Function of prefixes	116
3.4.6.1 Pronominals	117
3.4.6.2 Referential/definiteness marker {dʒ}	117
3.4.6.3 Co-referencing element {hi-}	118
3.4.6.4 Conflict between {dʒ} and {hi-}	119
3.4.7 Causatives	120
3.4.7.1 Morphological causatives	120
3.4.7.1 Syntactic causatives	122
3.5 Adjectives and Adjective Phrases	124
3.5.1 Descriptive adjectives	125
3.5.2 Demonstrative adjectives	125
3.5.3 Degree of adjectives	126

3.5.4 Adjective Phrases	128
3.6 Adverbs	128
3.6.1 Intensifier	128
3.6.2 Temporal adverbs	129
3.6.3 Spatial adverbs	129
3.7 Postposition	129
3.7.1 Use of {də}	130
3.7.1.1 Place of location	130
3.7.1.2 Source of location	131
3.7.1.3 Goal of location	131
3.7.1.4 Temporal adverbs	131
3.7.1.5 Spatial adverbs	132
3.7.2 Use of {nac <sup>h</sup> e}	133
3.8 Copula { <sup>h</sup> i}	134
3.9 Word formation	138
3.9.1 Compounding	138
3.9.2 Denominalization	139
3.9.3 Reduplication	140
3.9.4 Empty morpheme	141
3.10 Conclusion	142
Chapter 4 Syntax	
4.0 Introduction	143
4.1 Clause Structure	143
4.2 Verbless clauses	145
4.2.1 Noun as head of verbless clause	145
4.2.1.1 Pronominal as S argument of nominal predicate	145
4.2.1.2 Noun as S argument of nominal predicate	146

4.2.2 Adjective as head of verbless clause	147
4.2.2.1 Pronominal as S argument of adjectival predicate	148
4.2.2.2 Noun as S argument of adjectival predicate	148
4.2.2.3 Adjectival predicates with suffix {-g}	149
4.3 Verbal Clauses I: Core arguments	152
4.3.1 Intransitive clauses	153
4.3.2 Denominalized verbs	156
4.3.3 Transitive clauses	158
4.3.4 Ditransitive clauses	160
4.4 Verbal Clauses II: Peripheral arguments	162
4.5 Negative clauses	163
4.5.1 Negation with 'naḏem'	164
4.5.2 Negation with suffix {-ma}	166
4.5.3 Use of 'ḵag'	167
4.6 Imperative clauses	168
4.6.1 Simple Imperative clauses	168
4.6.2 Prohibitive clauses	169
4.7 Interrogative clauses	170
4.7.1 Yes/No question	170
4.7.2 Wh-question	172
4.8 Complex sentences	176
4.8.1 Co-ordination	177
4.8.2 Complementation	177
4.8.2.1 Complement internal clauses	177
4.8.2.2 Complement external clauses	181
4.9 Function of {ḏi}	184
4.9.1 Grammatical relations	188
4.9.2 Definiteness	191

4.10 Cleft sentences / relativization	192
4.11 Conclusion	196
Chapter 5 Jarawa and Typology	
5.0 Introduction	197
5.1 Language typology	197
5.2 Phonological typology of Jarawa	199
5.3 Morphological typology of Jarawa	200
5.3.1 Root and Affixes	200
5.3.2 Noun morphology	201
5.3.3 Pronominal system	202
5.3.4 Adjective class	202
5.3.5 Verbal morphology	203
5.4 Word order typology of Jarawa	203
5.4.1 Word order in clauses	204
5.4.2 Peripheral arguments	205
5.4.3 Complement clauses	206
5.4.4 Adpositions	207
5.4.5 Comparative adjective	208
5.4.6 Noun-adjective order	208
5.4.7 Demonstrative-numeral-noun	209
5.4.8 Genitive-noun (Possessive)	209
5.4.9 Adjective-Adverb (Intensifier)	210
5.4.10 Verb-adverb (manner of adverbs)	211
5.4.11 Copula construction	211
5.4.12 Causative construction	213
5.4.13 Negation	213
5.4.14 Question particle	215
5.4.15 Cleft sentences/relativization	218

5.5 Conclusion	218
Chapter 6 Conclusion	220-231
Bibliography	232-260
Appendix IA: Word List-Noun	261-266
Appendix IB: Word List-Verb	267-274
Appendix IC: Word List-Adjective and Adverb	275-276
Appendix II: Sentences	277-332
Appendix III: Distribution of verbal suffixes on verbs	333-340
Appendix IV: Map I: Andaman & Nicobar Islands	341
Appendix IV: Map II: Jarawa Reserve Area	342

## Abbreviations

PN	-	Personal Name
REF	-	Referentiality/Definiteness
POSS	-	Possessive
LOC	-	Locative
COP	-	Copula
DEM	-	Demonstrative
DEM-A	-	Demonstrative Adjective
PDEM	-	Proximate Demonstrative
DDEM	-	Distant Demonstrative
PM	-	Place Marker
VS	-	Denominalization / Verbalizer Suffix
INTM	-	Interrogative Marker
BENF	-	Benefactor
INTSF	-	Intensifier
VEVD	-	Verifiable Evidential Marker
NVEVD	-	Non-Verifiable Evidential Marker
EVD	-	Evidential Marker
NEVD	-	Non-Evidential Marker
ASS	-	Assertive Marker
HYP	-	Hypothetical Marker
NEG	-	Negative Marker
EM	-	Empty Morpheme
PL	-	Plural
COMPM	-	Comparative Marker
CAUS	-	Causative



1	-	First Person
2	-	Second Person
3	-	Third Person
ACC	-	Accusative

## Map & Tables

Map 1	Location of Andaman and Nicobar Islands, Republic of India	4
Table 1.1	Population of non-autochthons in Andaman and Nicobar Islands	6
Table 1.2	Religion-wise population of non-autochthons in Andaman and Nicobar Islands	7
Map 2	Comparative picture of indigenous population in Andaman in 1800 and 2000	16
Map 3	Distribution of the communities of Andaman prior to 1860	17
Table 2.1	Jarawa vowel phonemes	40
Table 2.2	Jarawa consonant phonemes	46
Table 2.3	Distribution of Jarawa consonants in syllable	60-61
Table 2.4	Distribution of Jarawa vowels at word level	62-63
Table 2.5	Distribution of Jarawa consonants at word level	63-65
Table 2.6	Usage of mi form and ma form	70-71
Table 3.1	Jarawa personal pronouns	77
Table 3.2	ma and mi pronominal forms	78-79
Table 3.3	Independent pronominals and their prefixed forms	81
Table 3.4	Names of body parts in Jarawa	87-90
Table 3.5	Jarawa nouns used for kinship terms	90
Table 3.6	Names of fauna	91-92
Table 3.7	Names of flora	92
Table 3.8	Jarawa words related to nature and the cosmos	93
Table 3.9	Names of cultural artefacts	94
Table 3.10	Possessive forms	97
Table 3.11	Numerals	102
Table 3.12	Functions of { <i>də</i> } as postposition with reference to semantic roles	132-133
Table 3.13	Examples of Jarawa compound nouns	139
Table 3.14	Examples of Jarawa denominalised verbs	140

# Chapter 1: Introduction

## 1.0 Introduction

This dissertation aims to present a descriptive grammar of the Jarawa language. Sound system, morphology and syntax of the language have been examined and analyzed to arrive at conclusion. This study also makes an attempt to classify the language typologically. According to Radcliff-Brown (1948), the word 'Jarawa' has been derived from the Aka-Bea language of the Great Andamanese group, which meant 'stranger' 'or someone who should be afraid of'. The people who speak Jarawa belong to a hunter-gatherer community living along the western coast of the Andaman & Nicobar Islands, a part of Union Territory of India. The term 'Jarawa' is used for both the language and the people/community, although Jarawas call themselves *əŋ*<sup>1</sup>.

The Andaman Islands have been the home for indigenous communities comprising of Great Andamanese, Onge, Jarawa and Sentinelese (see §1.4 for detailed discussion). All these communities represent 'the first Palaeolithic colonizers of South-East Asia' (Thangaraj et al, 2003) and 'remained in isolation for a longer period than any known population of the world' (Kashyap et al, 2004). The archaeological evidence for an early occupation of Andamans is scant because of the nomadic lifestyle of the inhabitants and the limited number of explorations that have taken place. At present, the oldest confirmed radio-carbon

---

<sup>1</sup> Instead of using the term *əŋ* for this community, I will make use of the term 'Jarawa' throughout the dissertation, because this community and their language are known worldwide by this term for centuries. Changing the term may create confusion among readers.

date is just >2000 years old and there are no artefacts to suggest contact or trade with the world outside the archipelago (Cooper 1993). Native islanders' relationship with Palaeolithic colonizers and their isolation from outside world for longer times have been the subject of interest and inquisition of scientists, anthropologists, archaeologists, human evolutionists and linguists for centuries. Though, the focus of the present study is the Jarawa language and people using this language, it will be difficult to understand this community in isolation; the reason being that the different communities of the islands have witnessed conflict and contact with the outside world at different stages of history which had affected all of them individually and collectively in varying ways. Thus, in order to understand Jarawa, their habitat, and their plight in the course of history, it is necessary to explore the geography of the islands and examine the historical stages of the region with special reference to all the indigenous communities of Andaman and Nicobar Islands.

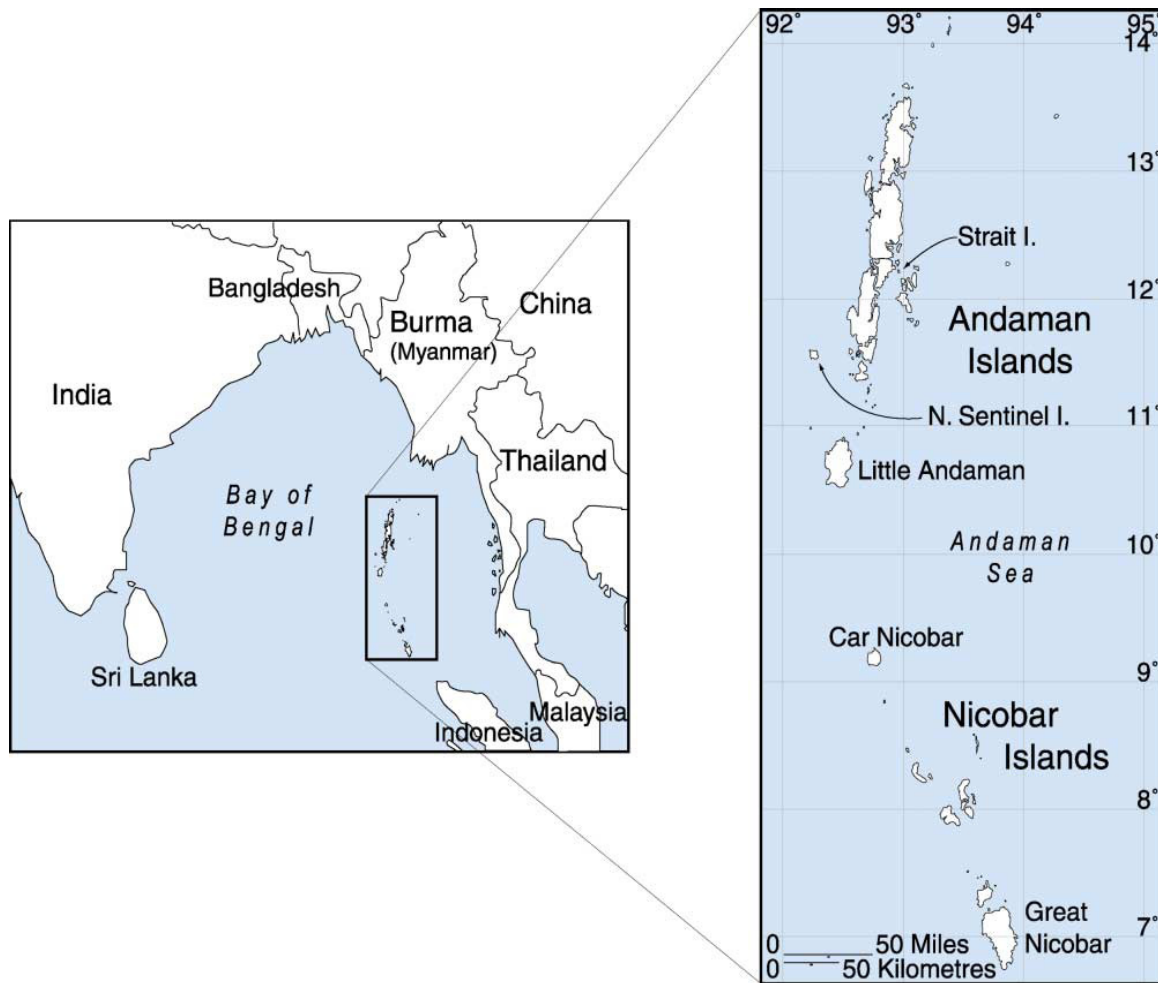
The present chapter concentrates on a brief discussion of the islands, its history, and native population. Section 1.1 presents a geographical description of the islands. Section 1.2 discusses the demography of the Islands with reference to Non-Autochthons (non-indigenous) population of the islands. The history of the islands is discussed in Section 1.3. Section 1.4 presents a brief introduction of the natives of the islands. Section 1.5 focuses on Jarawa, their physical characteristics, social structure and customs, as well as tools and artefacts used by Jarawas. Review of literature is provided in Section 1.6. Section 1.7 depicts the methodology adopted for fieldwork in the Andaman Islands. The organization of this dissertation is discussed in Section 1.8.

## 1.1 Landscape

An archipelago of 572 islands, rocks and rocky outcrop covering an area of 8249 sq km in the Bay of Bengal constitutes Andaman and Nicobar Islands which is a part of the Union Territory of India. It has two sets of islands, namely Andaman, and Nicobar. The two sets of islands are separated by a 150 km wide channel called the Ten Degree Channel. Andaman is spread over 6408 sq km, and is made up of about 550 islands, rocks and rocky outcrop out of which only 26 are permanently inhabited. Nicobar covers an area of 1841 sq km stretching over 24 islands out of which 11 are permanently inhabited.

The islands of the archipelago lie in a crescent that stretches from Cape Negrais of Myanmar to the Banda Arc of Sumatra of Indonesia. The Andamans are considered to be the extensions of the submerged Arakan Yoma mountain range of Myanmar, while the Mentawai Islands to the south and southwest of Sumatra are presumed to be a southern continuation of the Nicobars.

The Andaman Islands lie between latitudes 10°13' and 10°30'N and longitudes 90°15'E and 93°10'E. The entire set of Andaman Islands is divided into two: Great Andaman and Little Andaman. Little Andaman is 120 km south from the town of Port Blair. Great Andaman has three main islands, namely North, Middle and South Andaman, separated by narrow passages. The nearest landmass in the north is Myanmar, roughly 280 km from Landfall Island, the northern most islands in the group. The closest landmass to Great Nicobar in the south is Sumatra, which is located at a distance of 145 km. The capital of Andaman and Nicobar Islands, Port Blair, is a small town in South Andaman, at a distance of 1,225 km from Kolkata and 1,190 km from Chennai.



Map 1: Location of Andaman and Nicobar Islands, Republic of India

(Source: Thangaraj K, Singh L, Reddy AG, Rao VR, Sehgal SC, Underhill, PA, Pierson M, Frame IG and E Hagelberg (2003) Genetic affinities of the Andaman Islanders, a vanishing human population. *Current Biology* 13:86–93.)

To the east of Middle Andaman is a group of islands known as Ritchie's Archipelago, while the Labyrinth group of islands is situated southwest of South Andaman. Ninety per cent of the total area of the Andaman group comprises reserve forests and protected areas. Thirty six per cent of this land is demarcated

as tribal reserves. Narcondam and Barren are two islands of volcanic origin. The former is supposed to be extinct, while the latter is still active.

The Nicobar group is spread over an area of 1841 sq km of which 1542 sq km covered by forests. This group consists of 24 islands in three distinct clusters. The northern group consists of Car Nicobar and Batti Malv; the central or the Nancowry group includes Tillangchong, Chowra, Teressa, Bompoka, Trinkat, Kamorta, Katchal, and Nancowry. The southern group consists of the two large islands of Little and Great Nicobar together with Pigeon, Megapode, Kondul, Pilo Milo, Menchal, Teris, Trak and Meroe Islands. The entire Nicobars have been declared a tribal reserve.

This group of islands is situated in the equatorial belt and has a tropical climate which is warm, moist, and equitable. The temperature here ranges from 18°C to 35°C. They receive rains from both the North East and the South West monsoons, with average annual rainfall in the range of 3000–3500 mm.

## **1.2 Demography**

The present day Andaman and Nicobar Islands is home to people belonging to different sects and religions. The arrival of non-autochthons (non-indigenous) started with the establishment of the British colony when the colonizers brought in with them labourers, convicts and others. Many of them settled in the Islands. Government policies in the Post-Independence era were also marked by inhabiting the Islands with non-autochthons to colonise the Islands. In this era the first settlers on the islands were groups mostly consisting of refugees from Bangladesh (then East Pakistan) and Sri Lanka. The inflow of non-autochthons continued and islands were populated by different types of communities. The

group of non-autochthons included people who came to the Islands to seek jobs (some as contract labourers) and for trades. This resulted in a varied population which settled in various pockets throughout the Islands. Some of these pockets are located on the fringes of Jarawa Reserve Area. The population of Andaman and Nicobar Islands is presented in Table 1.1, with a religion-wise break-up in Table 1.2 based on the Census Report of India (1971-2001).

Table 1.1: Population of non-autochthons in Andaman and Nicobar Islands

	1971	1981	1991	2001
<b>TOTAL POPULATION</b>	115133	188741	280661	356152
Male	70027	107261	154369	192972
Female	45106	81480	126292	163180
<b>RURAL POPULATION</b>	88915	139107	205706	239954
Male	53195	78401	111986	128961
Female	35720	60706	93720	110993
<b>URBAN POPULATION</b>	26218	49634	74955	116198
Male	16832	28860	42383	64011
Female	9386	20774	32572	52187



Table 1.2: Religion-wise population of non-autochtons in Andaman and Nicobar Islands

RELIGION	1971	1981	1991	2001
Hindu	70134	121793	189521	246589
Christian	30342	48274	67211	77178
Muslim	11655	16188	21354	29265
Sikh	865	991	1350	1587
Buddhist	103	127	322	421
Jain	14	11	17	23
Others	2020	1357	886	1089

### 1.3 History

Little is known about the history of Andaman and Nicobar Islands before the establishment of the British colony, because of which it is very difficult to project a complete and precise account of these islands. What we do know is either in the form of scattered Government reports after the settlement of the British colony, or a few books and travelogues which had been prepared based on observation and speculation. To produce a detailed study of the islands with focus on the Jarawa people, we need to view their history in terms of different periods, based on either (1) direct contact with the people after colonisation of

the islands or (2) observation/speculation made by voyagers. The history of the Andamans can be divided broadly into four periods: Pre-Penal Settlement Period (till 1776), Colonial Period (1776–1947), Independence and after (1947–1996), and Post-1997 Period (till date).

### 1.3.1 Pre-Colonial Period

The first description of the islands is found in Ptolemy's map of the world, dating back to the second century AD. This map showed some spotted tiny islands, referred to as Buzacata, in the Indian Ocean. Historical sources show that China and Japan knew about the islands in the first century AD. Another description is found in the narrative of two Arab travelers who traversed the greater part of India and China in the ninth century. These Arab travelers in 857 AD described the people of Andaman as follows:

*The people on this coast eat human flesh quite raw; their complexion is black, their hair frizzled, their countenance and eyes frightful, their feet are very large, and almost a cubit in length, and they go quite naked. They have no sort of barks or other vessels; if they had, they would seize and devour all the passengers they could lay hands on.*

(Mukherjee 2003:i)

*Ajaib-al-Hind*, a text of the eleventh century noted:

*No one to this day has landed on the Andaman where people are cannibals.*

(Mukherjee 2003:ii)

Marco Polo after coasting by the Andaman and Nicobar Islands in 1290 on his way to Italy mentioned Andaman as Angamanain and described the people in the following manner:

*Angamanain is a very long island. The people are without a king, and are Idolaters, and are no better than wild beasts. And I assure you all the men of this Island of Angamanain have heads like dogs, and teeth and eyes likewise; in fact, in the face they are all just like big mastiff dogs! They have a quantity of spices; but they are a most cruel generation, and eat everybody that they can catch, if not of their own race.*

(Mukherjee 2003:i)

These descriptions were not made by observing, watching and making notes with close examination of these people, but from a brief sail past the islands, and a short telescopic view of the inhabitants. A description of the land and the people is to be found after the British established their colony, first in 1789 and then in 1858. After the independence of India in 1947, the Indian government took over the territory and settled the Indian population from the mainland.

### **1.3.2 Colonial Period**

The 1771 survey of the Andaman Islands by John Ritchie, a hydrographer of the East India Company, may be considered as the beginning of a new epoch in the history of the islands, and the starting point of the Colonial Period. It seems that to establish a base in the Indian Ocean to protect and escort crew members and victims of shipwrecks to safety was an important requirement of the British colonisers. It also became inevitable for its strategic importance, following the establishment of a Danish mission in the Nicobar Islands and the steady consolidation of Dutch control over the East Indies. In 1788–89, the Government of Bengal sent Lieutenants R. H. Colebrooke and Archibald Blair of the Royal Indian Marine (the British naval force in India) to carry out a survey of the region and prepare a report. In 1789, Blair established a base on the south-east bay of

South Andaman. It was named Port Cornwallis after the then Governor-General, and is known as Port Blair at present. In 1792 the base was shifted northwards to a better strategic location, to present-day Diglipur. The second settlement suffered extreme ill-health and a high mortality rate, leading to abandonment of the settlement on these islands in 1796. However, the impact of contact between the colonisers and their convicts and native islanders had been long and insidious. Portman (1899) acknowledges:

*Of what took place between 1794 and 1858 we have no knowledge, but when we re-occupied the Andamans in the latter year, the Aka-Bea-da were by far the stronger and more numerous tribe.*

(Portman 1899: 703)

*It appears to me quite possible that some disease was introduced among the Jarawas by the people of Lieutenant Blair's Settlement which reduced this tribe considerably in numbers, and thus enabled the Aka-Bea-da to obtain the upper hand.*

(Portman 1899: 703)

In the year following the first Independence Movement in 1857 the British again established a settlement in Andaman. Nonetheless, there are conflicting views regarding the setting up of a penal colony in the islands. Some Indian historians are of the opinion that the main objective of the establishment of a penal colony in the islands was to transport the rebels to a place where they posed no political threat to the British. However, Portman (1899) recorded the contrary. He explicitly noted:

*I have often heard it asserted that we occupied the Islands after the Mutiny in order to have some distant and safe place across the sea to send our rebels and criminals to, when in the state of the country it would not have been safe to keep them in India; and that the*

*Andamanese have been killed off as a natural result of the occupation, and the country taken from them without their consent and for no fault of their own. But such was not the case. Long before the Mutiny the conduct of the Andamanese had made it imperative that the Islands should be occupied and friendly relations established with the Aborigines, and this would have done sooner had the Mutiny not broken out.*

(Portman 1899: 186)

After the First Independence Movement, the East India Company was abolished and its administration taken over by a Court of Directors in London under the Queen. Taking a lesson from the extinction of Tasmanians, the Court of Directors maintained that the islanders should be treated “with every kindness” so long as these islanders recognized British superiority or did not pose any obstacle to the British interest in the process of colonisation. Portman (1899) noted:

*The English have nothing to reproach themselves with regarding the Andamanese, whatever may have been the case in Tasmania; and, having the unfortunate experiences of that penal colony, and our treatment of the aborigines there, before them, the Government of India adopted a policy towards the aborigines of the Andaman Islands which has made them above all races of savages, the most carefully tended and petted.*

(Portman 1899:209-210)

The first phase of colonisation (1789–1796) witnessed two events. The Jarawa people behaved in a friendly manner with the colonisers whereas the Aka-Bea people attempted to resist every effort of colonisation. The second phase of settlement (1858) was marked with similar resistance from the Aka-Beas, while the Jarawas were of a peaceful disposition. By 1863, some of the Great Andamanese communities were befriended and many of them were put in Homes made for them in and around Port Blair. The rationale behind keeping

them in Homes was to civilise them. It was soon observed that inmates of the Homes started falling sick. A number of diseases proliferated first among the inmates of the Homes and then spread over the territory deep inside the forest. As a result the Homes were closed down and their inmates sent back to their habitat. Portman (1899) clearly mentions that his predecessors could do very little for the communities other than saving them from one disease or another. Even after realising the consequences of contact, the colonisers were keen to bring them within the fold of friendliness. The *raison d'être* of this action was threefold. First, they wished to ensure that victims of shipwrecks would be treated well and brought back to Port Blair; second, to ensure that the plan of colonisation would not be resisted; and finally, to ensure that natives would help them recapture fugitive convicts (Portman 1899: 49). To achieve this colonial interest, the authorities tried to befriend the Jarawas, ignoring the consequences. Portman (1899) records:

*In January 1876 two expeditions were sent to search for the Jarawas, and one party visited four villages, in which they left quantities of unsuitable presents, and brought back specimens of the Jarawa weapons, and utensils. It was unfortunate that, at the outset, the Jarawa huts should have been looted thus, and the presents left, being such things as matches, pipes, tobacco, and looking glasses, the uses of which were unknown to the savages, were useless to them, and by no means compensated them for the articles taken away.*

(Portman 1899: 717-8)

These expeditions were not the last ones. For years, such expeditions were organised. Members of such expeditions belonged to Great Andamanese, particularly Aka-Bea communities and also included convicts. The Aka-Bea community was traditionally an enemy of the Jarawas. They never missed an

opportunity to kill the Jarawas or plunder their camps (Mukhopadhyay 2002: 33). This seems to be one of the reasons why the peaceful Jarawas were hostile to outsiders.

Later, colonisers abandoned the idea of colonising the Jarawas, but they formed a Bush Police and established its posts along the periphery of the Jarawa territory. The objective of these Bush Police posts was to prevent Jarawas from entering the settlement areas. However, the expeditions did not entirely stop till the colony fell.

### **1.3.3 Independence and After (1947-1996)**

After India's Independence in 1947, Andaman and Nicobar Islands came under the administration of the government of India which changed the policy towards the Jarawas. According to Singh (2002), India adopted a friendly attitude towards the Jarawas and instructed the Bush Police to do the same. However the government's policy to settle the refugee population in Andaman Islands paved the way for immigration of more non-Jarawa population to the islands. The justification for colonisation by the Indian government was to grow more food and make the islands self-sufficient in the matter of food (Census 1961: Xliv). This resulted in the clearing of a large number of forest areas on the Andaman Islands. This reduced the territory of the Jarawas. Till 1950, the Jarawas were spread over a large area, from Ferrarganj in the south to Mayabunder in the north. By 1960, large numbers of villages were settled through the Jarawa territory from Port Blair in south to Diglipur in the north. In the process of rehabilitation of the refugees from Bangladesh in the Andamans, the administration felt the need to create a buffer zone; the Jarawa Reserve Area was thus demarcated in 1957. The primary purpose of the buffer zone was to create

land for the rehabilitation programme and to establish Bush Police posts on the periphery of the reserve area to protect the settlers and forest workers from the Jarawas' fury. Secondly, the land cleared for the settlement was often very close to the Jarawa habitat. This close proximity of two distinct demographic groups who had no knowledge of each other created a mutual distrust. Jarawas were unfamiliar with such demarcation. For them, the settlement of villages was an encroachment into their territory and habitat. The population of non-Jarawas went on increasing. Moreover, the exploitation of natural resources (especially timber, and occasionally other resources which may be of use to the Jarawas) by the employed workers and settlers continued. Timber factories were also set up.

The government was keen to befriend the Jarawa people. The post-Independence policy significantly meant no more sending of punitive expeditions to catch or kill Jarawas. In 1968, three Jarawas were caught in Kadamtalla by villagers, who were taken to the police station and were kept for over a month, but then sent back to their habitat with a lot of gifts like bananas and coconuts (Singh 2002). This helped the administration to extend a friendly hand to the Jarawas. Meanwhile a contact party was also formed, and sent frequently to the same area in the Kadamtala region. The objective of the contact party was to build trust among the Jarawas by offering gifts. There are no reports of destroying their huts or taking their belongings away, unlike with previous colonisers. By the end of 1997, the Jarawas made contact with friendly gestures.

#### **1.3.4 Post-1997 Period**

The sudden appearance of Jarawas in the open during the day in October 1997 was a surprise to both local settlers and the administration. This was the first group of Jarawas of the Kadamtalla region in Middle Andaman who came out to



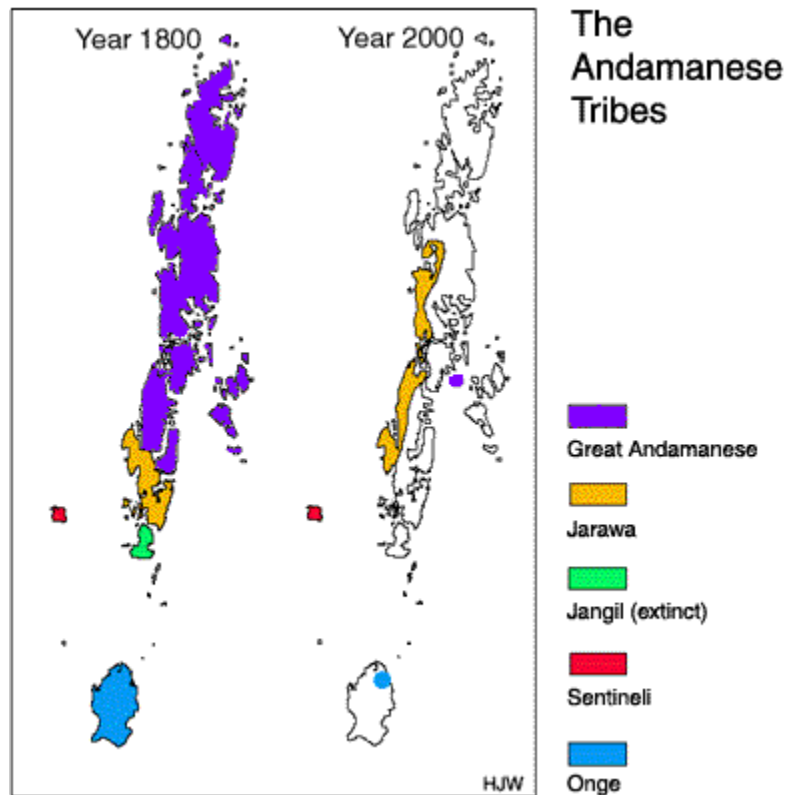
break the mutual mistrust and hostility that had prevailed for a century. Their intention was to extend a friendly gesture, rather than confrontation. The administration responded with a similar gesture by offering them food and gifts, like bananas and coconuts. This resulted in a relation of trust between the Jarawas and the administration. Consequently, more Jarawas started coming out of their earlier designated areas, meeting with local settlers, the police force, and tourists. Finally in October 1998, Jarawas of South Andaman also came out into the open like the Jarawas of Middle Andaman.

For the Jarawas, this friendly contact was initially to have an experience of other world. When they realized that the other world is a store house of food, implements, and easy transportation, they started exploiting these amenities. The administration soon realized that this contact may prove fatal for the Jarawa. According to Mathew (2002), half of the population was infected with several diseases — measles, pneumonia, acute upper and lower respiratory tract infection and fungal infection of skin — between the third week of September and the third week of October, 1999. Consequently, the administration decided to stop this contact. Whenever Jarawas appeared on the road or settlement areas, the administration tried to send them back to their habitat.

#### **1.4 Inhabitants of the islands**

Based on linguistic and cultural affinities, Radcliffe-Brown (1948) classified the Andaman Islanders into two broad categories. One group comprises ten communities of Great Andaman; the other is made up of Jarawa of Great Andaman, Onge of Little Andaman, and the inhabitants of Sentinel Island. The former peoples are called Great Andamanese and the latter Little Andamanese.

Map 2 presents a comparative picture of indigenous population in Andaman in 1800 and 2000.

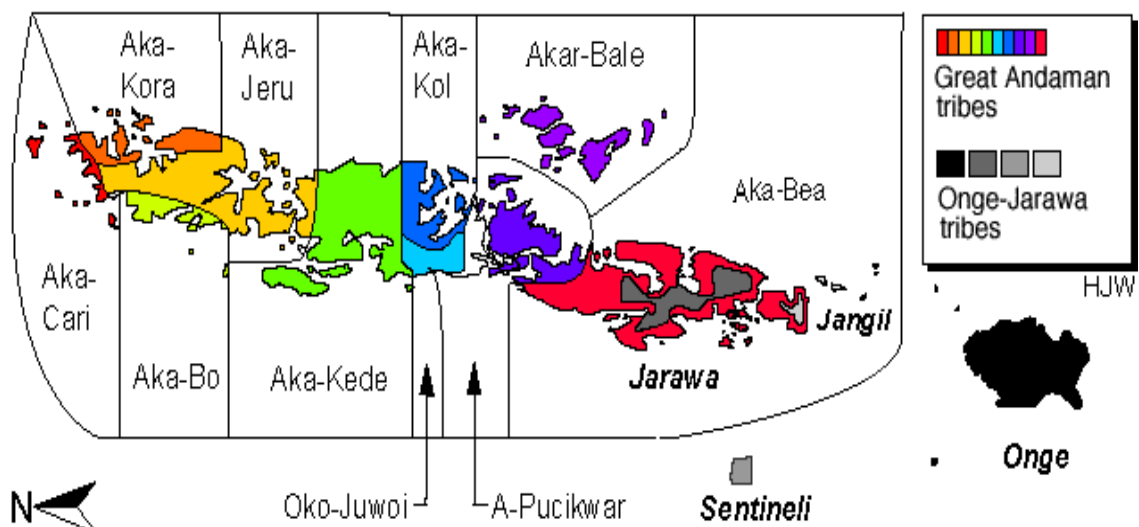


Map 2: Inhabitants of the Andamans

(source: [www.andaman.org](http://www.andaman.org))

#### 1.4.1 Great Andamanese

Great Andamanese is a category which applies to ten communities inhabiting the region from South Andaman to North Andaman. These communities include Aka-Cari, Aka-Kora, Aka-Bo, Aka-Jeru, Aka-Kede, Aka-Kol, Oko-Juwoi, Aka-Pucikwar, Akar-Bale and Aka-Bea. Map 3 presents the distribution of these communities before 1860.



Map 3: Distribution of the communities of Andaman prior to 1860

(source: [www.andaman.org](http://www.andaman.org))

All the ten communities of the Great Andamanese group were spread over the entire Great Andaman region before the establishment of the British colony in 1858. They had their own distinct territory. Jarawas and Jangil occupied a small area of southern Andaman. Since Great Andamanese communities met with heavy losses when they came in contact with the colonisers. According to the 1901 census, the population of Great Andamanese had shrunk to 625. The 1931 census reported their number as 74 plus 16 (74 of pure breed and 16 of half breed) and only 23 survived till 1974 (Chakraborty 1990), and only a small increase in population has been observed, and their numbers have now crossed 40 (Abbi 2006).

Radcliffe-Brown (1948: 11–12) notes that all the languages of the Great Andamanese group were closely related to one another. They had the same grammatical structure, and a large number of roots were the same in all or in several of them. Abbi (2006) found that the present day Great Andamanese is an

amalgam of all the surviving communities of Great Andamanese. She had further observed that there were still a few speakers of four distinct Great Andamanese languages, namely Bo, Jeru, Khora and Sare. However, after the death of Jirake, Boro, Nao Junior, and Boa in the last seven years, the speakers of only two languages survive now. It was further observed that the languages were not passed on to the next generation (Abbi et al 2007: 325-343). Jangil became extinct in the beginning of the twentieth century.

#### **1.4.2 Onge**

The Onge community once occupied the entire Little Andaman but they are now settled in two settlement areas or camps: Dugong Creek and South Bay. Initially, they came into contact with the British who befriended them only to have control over the island. Later, after 1950, the non-Onge population started settling in once the Indian government decided to move refugees to the Andaman Islands. These non-Onge populations brought diseases and disturbed the ecological balance of the islands; consequently, the Onge population started declining. At present their population is around 104. Their language appears to be similar to Jarawa (Abbi 2006; Blevins 2007).

#### **1.4.3 Jarawa**

The Jarawas inhabit the west coast of South and Middle Andaman Islands. In the initial phase of colonisation and in the early years of its second phase, the Jarawas occupied the southern part of South Andaman and Rutland Island further south. In the second phase of settlement, most of the harbour and penal settlements were established in these areas. By the end of the nineteenth century, the entire area came under settlement and forest operations. This resulted in the

forceful eviction of the Jarawas from their land. And they were compelled to move northward. By that time there were decline in power and population of the Great Andamanese group of people. This paved a safe route for the Jarawas to move north.

As Portman (1899) noted, the Jarawas were friendly to the colonisers in the first phase of colonisation. However, the initiative of the British authorities to befriend them and resultant expedition parties sent off to search and catch Jarawas became a cause of distrust. This distrust was further strengthened in post-independent India when the administration of the Andaman region settled villages on the fringes of Jarawa territory during 1950s–60s and constructed the Andaman Trunk Road during the 1970s, which cuts through the middle of the Jarawa territory. Singh (2002) admits that it was a historic blunder on the part of the government. Singh (2002) further claims that the first contact with the Jarawas was established in Kadamtalla region in 1969 by the Bush Police. After that the administration took the decision to continue to befriend the Jarawas and build trust. The contact party comprised of administrative officials and a handful of experts. Initially, they would leave gift items hanging from trees on the sea shore. After some time it was observed that the Jarawas had begun to tie creepers from trees so that the visitors could hang gifts. This was the beginning of building trust; though the Jarawas avoided visitors till the beginning of 1974. In April 1974 the contact party succeeded in meeting a group of Jarawas of the Kadamtalla region. The friendly relation thus formed was restricted to the contact party; the entry of other non-Jarawas into Jarawa territory was persistently resisted. It was observed from the beginning that the Jarawas never resorted to attack until non-Jarawas entered their territory and indulged in undesirable activities (which included hunting pigs and deer, and the felling of

trees). Many unpleasant encounters were also reported when the Andaman Trunk Road was constructed (Singh 2003).

In April 1996, a Jarawa boy named Enmei in the Kadamtalla region was found with a broken leg, and was sent to Port Blair for medical treatment. He was discharged in October 1996 and sent back to his habitat with a lot of gifts. This became the turning point which marked the end of earlier hostilities and distrust. After a year, in October 1997, a group of young Jarawas appeared in Uttara Jetty, with Enmei among them. Again, they were sent back with a lot of gifts. After that, their visits to Jetties became regular, and more and more Jarawas started coming out in the open (*Report of the Expert Committee on the Jarawas of Andaman Islands* 2003, henceforth Report 2003).

When I visited the area in Feb–March 2007, the Jarawa population was 273. Now they have crossed 340 (gathered from personal communication with the Secretary, Tribal Welfare, Andaman and Nicobar Administration in 2010). Jarawas are monolinguals. However, they have now started picking up some Hindi words from settlers and tourists. They still prefer their hunting-gathering life style, though they are attracted to settlement areas and enjoy receiving gifts from settlers and tourists.

#### **1.4.4 Sentinalese**

The Sentinalese are the inhabitants of Sentinel Island. They have resisted all possible contact with the outsiders till date. Hence little is known about them and their language. It is their resistance that has helped them to survive.

### **1.4.5 Jangil**

Little is known about this community. The Jangils became extinct at the beginning of the twentieth century.

## **1.5 The Jarawa people**

Jarawas belong to the Negrito stock. They have a short stature. The colour of their skin is black and hair is frizzy. Children have dark reddish-brown hair while adults have black curly hair. Signs of ageing are not easily observable; adults thus often have child-like expressions. They are, in general well-built but lean, and are healthy and strong. The basic unit in the Jarawa social structure is the nuclear family, with further organisational levels which make up the community. These facts have been discussed in the following sub-sections.

### **1.5.1 Social structure and customs**

The social structure of the Jarawas consists of three units: the nuclear family, the local group or band, and territorial groups. Of territorial groups, there are three. Division into territorial groups is not based on any difference in social, cultural or linguistic make-up. Rather, it denotes authority over a particular territory, and game-hunting and foraging activities within the territory. Thus, the Jarawa community has three socially discernible territorially divided groups. The northern group occupies the western part of Middle Andaman Islands while the central and southern groups occupy the western part of South Andaman. Among Jarawas, the northern, southern and central groups are known as Tanmad, Boiab, and Thidong respectively. Among non-Jarawas, these groups are known as Kadamatalla Jarawa, Tirur Jarawa and R.K. Nallah Jarawa respectively. While no one from another territory can forage or collect honey within a group's territory

without prior permission from the group, movement of Jarawas within and beyond the territory is not restricted. Generally, when members of one group enter the territorial area of another group, they are treated as guests with rights over the territory; the host group also invites the guests for foraging activities. When the guests leave the area, they are offered gifts like honey, boar's meat, and fish. (Report 2003)

The unit of social organisation, that is, the nuclear family, consists of a husband, a wife and their children. Children can be from the present marriage or earlier marriages. Apart from the nuclear family, there exist two other distinct groups: the bachelors (unmarried young boys above 6-7 years of age) and the maidens (unmarried young girls above 6-7 years of age). Widowers live with the bachelor group while widows stay with the maiden group.

Each local group or band is composed of several families and members of bachelor and maiden groups camp and move together from one place to another. Most of the members of these groups are related to each other through consanguinal or affinal relations. The affiliation of the members of these local groups is not permanent in nature. Rather, processes of fusion and fission operate. It is possible that members of a local group may split into smaller groups and move in different directions. It is also possible that they coalesce again later. Meanwhile, these small breakaway groups may unite with another group for a short or long period.

A territorial group comprises of several local groups or bands of the same territory. The territorial division enjoys autonomy. Social interactions between territorial divisions occur regularly through marriage and social visits. Each member of each territory is known to all by his or her name.



The Jarawa community follows certain kinds of customs. The most important of them is the ceremony performed on the attainment of adolescence. Known as *lepa*, the ceremony is generally performed when a boy attains the age of thirteen or fourteen years. During *lepa*, the boy hunts a wild boar on his own (he may be assisted by his kin) and offers the game to his kin and others present. For girls, the *opamame* ceremony celebrates the attainment of puberty. From the very first day of menarche, her movement is restricted to a small square area surrounded by four posts. A mixture of *alam* (a reddish soil), pig fat, and gum extracted from a creeper, is applied on her head, neck, and face. During her menstrual period she does not talk to any person, does not bathe, and remains seated or lies down on *dewa* leaves. Every morning these leaves are changed. Some food restrictions are also observed: she is not supposed to consume pig meat and honey. She only eats a kind of mollusc and drinks water. After three days, she takes a bath and consumes pig meat, especially pig fat. She also takes small children into her lap and prays for fertility. On that day all women and girls of that camp assemble, dance and sing around the girl. She is decorated with floral ornaments. After *lepa* and *opamame*, the boy and the girl are renamed. (Report 2003)

For marriage, generally the parents of the child or the elder members of the family start discussing the match when the child is one or two years old. After the age of seven or eight, the prospective bride or groom may stay in the local band of the would-be in-laws, and move from one place to another with that band, but they belong to the bachelor and maiden groups till the marriage is solemnised. Sometimes such proposed marriage is not solemnised. Age is not counted in calendar years, but it appears to be that the general age of marriage is eighteen to twenty years for boys, and fourteen to fifteen years for girls. If the proposed husband of a girl dies before the marriage, the girl may be compelled

to marry some widower. The widow and widower may also marry with mutual consent. (Report 2003)

During the menstrual period of the wife, the husband does not sleep with her. During the first pregnancy, both the partners remove all ornaments and do not paint their bodies with white clay, breaking away from normal practice. During parturition the woman is kept on planks of *jungli supari* (a kind of wild tree of which the nut is widely used in India) in a corner, with a fire nearby. Elderly women of the camp attend the birth of the child. After delivery the umbilical cord is cut with the head of an arrow, and the mother feeds the baby her colostrum, which is a secretion similar to milk produced just before birth. Both the parents take care of the child from birth onwards. The child is breastfed till the age of two or three, though after teething begins, breastfeeding is supplemented with food. Usually the mother provides breast milk to the child, but if necessary other women of the same group also do so. Generally this kind of situation arises when the mother is not present. It is also observed that an unmarried girl may also put her breast into the child's mouth to stop it from crying when the mother has gone to collect food. Thus, the responsibility to take care of the young children is shared by the elders and teenage girls. During the movement of the group from one place to another, the infants are carried along.

### **1.5.2 Tools and Artefacts**

Jarawas mostly make use of forest products for their tools and artefacts, though they also employ iron and fibres. They have been collecting iron and fibres for many years, earlier from shipwrecks on the seashore and later from settlements/villages. They use iron to make arrow tips, knife and knife-like implements, while fibres are used to make fishing nets. The tools and artefacts

are mostly gender-specific and function-oriented. Men make and use tools and implements necessary for hunting while women make and use fishing nets and cane baskets. Foraging activities are distributed among men and women. Hunting wild boar is limited to men. Fishing in streams, *nallahs* (inlets from the sea), and other small pits is done by women and children. Fishing in and around the sea is done by both men and women but preferably by men. Collecting honey and other forest products, like fruits, is carried out by both; timber collection is mostly done by women.

As far as their habitation is concerned, the Jarawas construct two major kinds of huts, (1) semi-permanent and (2) temporary. Known as *cadda hut<sup>hu</sup>*, semi-permanent huts are large oval or round community huts constructed at frequently visited places. Though meant for all seasons, they are especially favoured as places to stay during the rains. They can accommodate twenty or more families at a time. They also have accommodation for bachelors and maidens. Generally bachelors (including widowers) and maidens (including widows) live in dormitory style, situated at two ends of the semi-permanent huts. The area for bachelors is known as *thorkalang cadda*, and that for maidens *thorkongo cadda*. Besides these, each family has a demarcated place, called *thula*, to live, with fire nearby. Each family marks their place with four posts where the husband, wife and their small children sleep. Each semi-permanent hut has a central fireplace used for baking or boiling meat, besides the individual hearth for each family. There is a hanging platform for storing pig-fat and meat, above the central fireplace. One or two hanging platforms are also used for household items. Pig skulls are also kept hanging from the roof tied with cane strips. (Report 2003)

Temporary huts are of two types. One is very temporary in nature and usually used during hunting and gathering when there is a requirement for shelter for the night or for a few days. The other kind is more durable and used for a longer period. Both types of temporary huts are lean-to-type huts and have a definite pattern of construction. Temporary huts built for short duration accommodate the members of a hunting or gathering squad while temporary huts built for a longer duration can house a family. Durable temporary huts are used mostly during dry seasons. Lean-to-type huts in general are of two types, either they face an open space or face away from an open space. Inside the forests these kinds of huts generally face an open space, but along the sea shore, both kinds of huts are found. (Sarkar 1990)

## **1.6 Previous studies**

There has been plenty of work done on Andaman and Nicobar Islands, but my concern in the present work is restricted to the studies conducted on the Jarawa language. The first work on Jarawa language is by Nair (1974), followed by Rajasingh and Ranganathan (2000), Senkuttuvam (2000), Sreenathan (2001), Rajasingh (2002), Abbi (2006, 2009) and Blevins (2007).

### **1.6.1 Nair (1974)**

Nair (1974) presents a preliminary report on Jarawa. His analysis is based on a small amount of linguistic data. He described the sound system of Jarawa with not much discussion of other parts of grammar.

### 1.6.2 Rajasingh and Ranganathan (2000)

Rajasingh and Ranganathan (2000) had a specific objective in working on Jarawa. They collected data with the intention to prepare a primer for the administrative staff and police force working in and around the Jarawa Reserve Area. They collected words and sentences used by the Jarawas. Their work includes words and sentences and their pronunciation alongside translation into English and Hindi. In the introduction, a list of alphabets (symbols) is provided which are used in determining the pronunciation of words and sentences of Jarawa. At the phonetic level there are a lot of critical gaps in this list of alphabets. For example, the sound [v] is not represented, but there are a large number of words in the primer which employ the consonant [v]. Moreover, the list provided by the authors contains a voiceless bilabial aspirated plosive [p<sup>h</sup>], but their data, rather shows a voiceless bilabial fricative [ɸ]. Hence, the data fails to represent the former, i.e., [p<sup>h</sup>].

### 1.6.3 Senkuttuvam (2000)

His work is an attempt to present the phonological sketch of Jarawa language from his first-hand data (as he was the part of Expert Committee constituted by the Government of India). He claims that Jarawa is closer to the Dravidian language family but does not provide historical evidences such as cognates. The work reveals many phonological misrepresentations. For instance, he tentatively posits a back velar stop /q/ and glottal stop /ʔ/ in the Jarawa inventory. Similarly, he puts forward labio-dental fricatives /f/ and /v/, but the occurrence of /f/ is rare in his data while /v/ shows up in many words. The bilabial approximate /w/ is shown substitutable by /v/ in his description, for example /ya:w/ vs. /ya:v/ 'tail'.

He describes five nasals as phonemes but in his description the dental, alveolar, retroflex, palatal, and velar are shown to be occurring as homorganic nasals. He also considers length as phonemic but his data-set lacks any of this evidence, since /*va:ya:/* vs. /*va:ya/* 'grandmother', and /*va:na:/* vs. /*va:na/* 'weep' in his data-set, demonstrates that length is not phonemic in this language. Moreover, he does not distinguish between the phonetic symbols for dental and retroflex sounds in his work which creates further confusion.

#### **1.6.4 Sreenathan (2001)**

Sreenathan (2001) makes an attempt to present the psychological and cultural state of the Jarawas through their language. He collected first-hand data to this end (as he was the part of the Expert Committee constituted by the Government of India), and presents, in this work, a phonological analysis of the language. His attempt to relate language to the psychological state of the Jarawas is not my concern here, but rather the fact that in the area of language analysis, he failed to represent the sounds properly. There are many sounds represented by one and the same symbol which creates confusion. For example, his phonetic chart demonstrates that dental and retroflex stops are two different phonemes. But he employs the symbols /*t/* and /*d/* for both types of stops. He also fails to note the existence of voiceless aspirated plosive sounds, which are in abundance in Jarawa.

#### **1.6.5 Rajasingh (2002)**

Rajasingh (2002) presents a brief description of the sound system of Jarawa based on his earlier collaborative work (Rajasingh and Ranganath 2000). He provides the placement of vowels and consonants on the phonetic chart, and a word as

evidence for each phoneme. A drawback of his work is that he does not use different symbols for different types of sounds. For instance, he posits dental stops and retroflex sounds, but uses the same symbol for both types of sounds. Similarly, dental, alveolar, palatal, and velar nasals are represented by the same IPA symbol. In his data, there are labio-dental fricatives /f/ and /v/, but he does not place these sounds in the phonetic chart. Furthermore, what is described at one place as bilabial fricative is transcribed as labio-dental fricative /f/ in another place. Moreover, he does not clarify why he assumes that these sounds are phonemes in this language at all.

#### **1.6.6 Abbi (2006)**

Abbi (2006) described the languages of Andaman with focus on Great Andamanese, Onge and Jarawa; this work being a comparative study of the three languages. This study is based on fieldwork conducted in 2001–2002. She also provides supplementary data on Great Andamanese from her 2004–2008 project. Based on the linguistic evidence she collected, Abbi is the first linguist who proposed that Great Andamanese and Jarawa-Onge are two different language families. She is also the first linguist to identify retroflex and voiceless aspirated plosives in these languages, giving detailed phonetic charts and description of phonotactic occurrences.

#### **1.6.7 Blevins (2007)**

Blevins (2007) made an attempt to relate Jarawa-Onge to Austronesian language families. By employing comparative methods of historical linguistics, she demonstrated that Jarawa and Onge are the two lost sisters of the Austronesian

language family. Her analysis is based on earlier works on Onge and Jarawa, including my field-data-set<sup>2</sup> then available to her.

## **1.7 The Present Study and its Methodology**

### **1.7.1 Present Study**

As I have mentioned in the beginning of this chapter, the present study was undertaken to arrive at a descriptive grammar of Jarawa,. For this purpose, Jarawa data was collected during fieldwork conducted during November 2003 to July 2006. Based on the data elicited, an attempt has been made to present this descriptive grammar and its position in the typology of languages.

### **1.7.2 Methodology**

At the outset, I would like to admit that the data elicitation was not an easy task. In my effort to collect data among the monolingual Jarawa community, I came across three significant challenges: firstly, to accustom my ear to sound system of the target language; secondly, to initiate data collection from the monolingual community and thirdly, to learn the language. Each challenge had its own sets of problems and required careful steps to move forward. Another substantial task was to avoid cultural barriers between the researcher and the consultants, as we did not know each other's cultural and social norms. I did know that any minor violation of their cultural and social norms might land me in a situation of mistrust which might further lead to unacceptability within the community. Even my research permit given by the administration contained restrictions and

---

<sup>2</sup> I had been doctoral fellow at the Max Planck Institute for Evolutionary Anthropology, Leipzig/ Germany and she had been scientist there when the paper was written.



conditions about how to behave; how, when and where to contact these people, with instructions about what to do and what not to do. Within these restrictions, I followed some careful principles and techniques based on the situation. In subsequent sub-sections I will present an account of the general method of field linguistics and some of the ways I adopted to elicit data from the target community.

### **1.7.2.1 Selection of consultants**

Selection of consultants is a fundamental issue in conducting any linguistic research, particularly for writing a grammar of an unknown or not very well known language. The first requirement for the selection of consultants is that the consultant must be a native speaker. This was not the problem in this community, since everybody was a native speaker of Jarawa. We generally also divide the consultants based on age, sex and region. Data collection was done primarily in the Kadamtalla region (see § 1.7.2.2). Both the sexes were accessed for this work. All age-groups were consulted but the corpus of this study contains people above 15 years of age. The determination of age is ad-hoc and based on the guesses of the researcher; for the community does not have any system to count the age in terms of a calendar year. Nor is there any demographic record of Jarawas available in Government documents.

### **1.7.2.2 The Selection of the area**

Jarawa people are divided into three groups based on their territorial divisions (see § 1.5.2). The data was mostly collected in Kadamtalla region. This is because the research permit had clear instructions to visit Jarawa Reserve Area with the staffs of Adim Adivasi Janjaati Vikash Samiti (AAJVS) stationed at Kadamtalla

and to collect data in the presence of staff. Nonetheless this region had many advantages. It was easy to visit the Jarawas of RK Nallah. It was also easy for me to visit the Jarawas through the sea-route. The corpus of this thesis hence contains data provided by the Jarawas of other two regions also. This could be made possible because of Jarawas of other regions visiting the Kadamtalla region and also because of my own initiative and the availability of opportunities to make short visits to the other two regions along with the AAJVS staff.

### **1.7.2.3 Tools for the study**

I used two tools in the course of this research, namely, (1) systematic observation and (2) questionnaire. In systematic observation, participant observation seemed to be the best option since the community is monolingual. In such circumstances, a structured questionnaire generally does not work. Hence an unstructured questionnaire was adopted as a tool; however structured questionnaire was also employed whenever it was possible.

#### **1.7.2.3.1 The questionnaire**

There are two kinds of questionnaire, structured and unstructured. I adopted both the methods. The method of unstructured questionnaire was, however, followed for the major part of the fieldwork. There were two reasons to adopt the unstructured questionnaire: whenever I visited the community, I came across different situations and different speakers. Mostly depending on the situation and the consultant, I made an attempt to elicit data accordingly. Many times I used these occasions as opportunities to cross-check previously elicited data. Varied situations and varying speakers made my data rich.

The structured method was adopted only in restricted cases. There are two things to be noted in this regard: the structured method was adopted while pictorial method was employed, i.e. collecting data with the help of pictures; and there was an attempt to verify the data.

#### **1.7.2.3.2. Systematic observation**

##### **Participant observation**

In order to collect linguistic data in a monolingual community, participant observation is one of the significant methods. This method not only allowed me to observe the way they speak, but also provided me an opportunity to know how they perform other activities. It also helped me note down the conversation, and its context. Moreover, it helped consultants get rid of their hesitation in the presence of an outsider, since I became a part of their daily lives. This provided me the opportunities to learn many things about their social and cultural norms without disturbing them. Throughout my fieldwork in the Andamans, I adopted participant observation method along with other methods which are described in § 1.7.4.

##### **1.7.2.4 Field Procedures**

I followed different techniques to collect data in the field. These techniques included pictorial method, showing objects to them to know the name of those objects; listening to their conversations, and recording those conversations. In the initial phase, carefully listening to their conversations, recording pieces of conversations, and listening to those conversations back home where I used to stay were the major steps I took. This helped me accustom my ear to the sound system of the language. Meanwhile, I started collecting data with help of pictures

related to body-parts, birds, animals, fish etc. It was followed by noting words by pointing to objects that were lying around. I also attempted to list words related to daily activities such as run, walk, sleep, eat, drink etc. by pointing to these activities if somebody was enacting them. Moreover, I kept noting down simple sentences which I could understand (after collecting some data). I also noted the contexts of sentences/conversations. As time passed I picked up the language and tried to speak small phrases. This gave me an opportunity to learn, converse, and collect further data on the language.

### **1.7.3 Limitations of the study**

Despite all the efforts made by me to elicit maximum amount of, there were limitations to this study. Firstly, there was a very limited amount of time available to be in contact with the community. As mentioned earlier, the condition that AAJVS staff must be present at all times caused a severe restriction of contact between the researcher and the consultants. Secondly, whenever the group of Jarawas stayed far away from the road side along the sea shore, contact with Jarawas depended on the short visits made available with AAJVS staff. It is true that I was totally dependent on the mercy of the AAJVS staff. Thirdly, it had, always, been a problem and challenge to obtain data from a monolingual community to write a descriptive grammar. I am aware that there is a lot of grammatical information which may have escaped my attention. Readers will also agree with me that it is not possible to unearth each and every grammatical information of the language in a limited time period. Hence, this work is a modest attempt to present a descriptive grammar of the Jarawa language from a typological point of view based on the data I could elicit from my consultants during the period of my stay at Great Andaman.

## **1.8 Organization of the present work**

Chapter 2 describes the sound system of the language. This chapter begins with the identification of sounds and their phonemic status in the language. To establish the phonemic status of the sounds, minimal and sub-minimal pairs are provided. Moreover, the distribution of sounds at syllable and word level is also discussed. This chapter also investigates syllable structure and other phonological processes found in this language.

Chapter 3 discusses the morphology of the language. This includes noun morphology, verbal morphology, adjectives and adverbs. Copulas and postpositions are also described. Noun morphology also deals with pronouns and nouns, and their behaviour in the language. Verbal morphology consists of suffixes and prefixes which are attached to the verbs, and their usage. There is also a brief discussion on adjectives and adverbs in the same chapter.

Chapter 4 gives an account of the syntactic structure of the language. This description includes verbless predicates and verbal predicates. This chapter also focuses on negative constructions, interrogative clauses and imperative structures. Complex constructions are also included in this chapter.

Chapter 5 concentrates on the typological features of the language. An attempt is made to classify and categorize the language typologically.

Chapter 6 presents the conclusion of the thesis.

## CHAPTER 2: PHONETICS AND PHONOLOGY

### 2.0 Introduction

The preceding chapter was a detailed description of Andaman, its history and culture, the Jarawa community, their history, culture, and society. The present chapter discusses the phonetics and phonology of the language with focus on segmental phonology and describes the vowel and consonant inventory. Furthermore, I will make an attempt to enquire into the phonemic status of the sounds<sup>3</sup> present in Jarawa. This will be followed by a discussion of syllable structure and other phonological phenomena in the language.

The chapter is organized in the following manner. Section 2.1 focuses on the problems of sounds and phonemes in this language and the criteria that have been employed to claim the phonemic status of a sound. It also talks about phonemic contrasts of sounds, where I provide minimal pairs. I go on to describe the phonemic distribution of sounds in syllables and words. Then I provide the occurrences of sounds in different environments. In section 2.2 the syllable structure of Jarawa is discussed. Section 2.3 describes syllabification, and section 2.4 deals with word structure. Section 2.5 focuses on the morphophonemics of Jarawa phonology. A brief conclusion of the chapter is presented in section 2.6.

---

<sup>3</sup> The term sound, in this dissertation, is used for phone.

## 2.1 Sounds and Phonemes

In this section I discuss different techniques that were employed in establishing whether a particular sound is a phoneme in this language. I also present the methodological principles adopted.

The sound inventory of Jarawa contains 41 sounds, of which 28 are consonants and 13 are vowels. However, it is difficult to claim that all the sounds are phonemes in this language, for it is difficult to provide minimal pairs for every pair of sounds in order to establish the phonemic status of a particular sound. Even so, I have made an attempt to provide minimal pairs wherever the corpus contains such data. The main problem in researching the sound system of Jarawa is that we are not able to claim with authority that a particular sound is a phoneme in this language, because the language demonstrates considerable variation. Since there is a lot of variation at the level of sounds, it is pertinent to discuss this aspect first. There are instances where two pairs of sounds, for example /p/ and /b/ can be used interchangeably in the words like *bət<sup>h</sup>e* 'go'. The word *bət<sup>h</sup>e* can be pronounced as *pət<sup>h</sup>e*. Since we have minimal pairs which demonstrate that these two sounds are phonemes in this language, we may deduce that in such words they are in free variation. But in the case of palatal plosives /č/ and /j/ it becomes hard to decide whether they are phonemes or they are allophones of the phone /č/ since we lack minimal pairs.

We can deduce from the preceding observation that whether a sound is a phoneme or allophone is not always distinct. This difficulty arose during research mainly due to lack of minimal pairs for each pair of sounds. Further, those pairs of sounds which have minimal pairs also demonstrate some variation

in the words. In order to assert a conclusive result in such circumstances we needed to enquire the phonological knowledge of speakers. Phonological knowledge of speakers contains the phonological contrast which amounts to minimal pairs. However, when a community is monolingual, it becomes difficult to decipher every aspect of phonological contrast for each phoneme. In this context it is important to state the methodological principles adopted to identify phonemes. Four methodological principles were employed to state the phonemic status of a sound in this language.

1. Phonological contrast: This highlights whether the particular sound is contrastive in nature by looking at minimal pairs. There are some pairs of sounds which have minimal pairs.
2. Variability among sounds: If there is no minimal pair for a pair of sounds, an attempt was made to find out if there is any variability between the sounds; and, if it exists, what the contexts of occurrences are for those sounds in the language. If there is any variability and if it is difficult to claim the phonemic status of the sounds, I have adopted pattern congruity as the method to support the claim; for example in the case of the sounds /č/ and /j/.
3. Distribution of sounds: I have also made an attempt to investigate the distribution of sounds at syllable level and word level. Examining the occurrences of sounds at different levels assists in determining whether the variability of the sounds is due to some kind of conditioning (phonological or lexical) or it is an idiolectal variation.
4. Statistical criterion: Since some pairs of sounds show alternation among themselves, it becomes difficult to infer which sound has the actual representation in the words. To determine the actual representation of



sounds in words, I have adopted a statistical criterion where the frequencies of occurrences of two sounds are evaluated. That is, if one sound is used more frequently in a word than the other, the former is considered to be the phoneme, and latter an idiolectal variation. This criterion is employed if there is no viability of having definite sets of rules which apply to a set of data to claim the allophonic status of certain sounds.

## 2.2 Phonemic Contrasts

In this section, I will attempt to provide minimal pairs to establish the phonemic status of vocalic and consonantal sounds wherever it is possible.

Vowels in this language can be classed in three groups: two front vowels, two back vowels and three central vowels. The front vowels are [i] and [e], back vowels [u] and [o], while the central vowels are [ɨ], [ə] and [a]. There are also two mid-low vowels, [ɛ], and [ɔ], but their phonemic status is not clear. Their occurrences in the data of our corpus are limited, and I could not obtain any minimal pairs. Length is also phonemic in this language; hence we have short and long vowels. However, no length distinction was found in the case of the high-mid central unrounded vowel. Thus we have 13 vowels. Some nasalized vowels were also found, but their phonemic status can not be established in the present work.

Among the 28 consonants, there are voiced and voiceless plosives along with voiceless aspirated plosives. Sounds like nasals, trill and retroflex flap, lateral and retroflex lateral also occur in this language. There are two approximants, labial and palatal. There are also a few fricatives like pharyngeal fricative, and

bilabial fricative. Two labialised consonants exist, pharyngeal fricative, and voiceless aspirated velar plosive.

### 2.2.1 Vowels

Jarawa exhibits the basic seven vowel system which is illustrated in table 2.1.

Table 2.1: Jarawa vowel phonemes

	Front	Central	Back
High	i		u
High-mid		ɨ	
Mid	e	ə	o
Low		a	

This basic seven vowel system can further be categorized into two groups: one which has qualitative contrasts in itself and another which contains quantitative differences. In qualitative difference, Jarawa employs three way distinctions in the height: high, mid, and low; three way distinction of tongue position: front, central, and back; and two way distinction in the position of lips: rounded and unrounded. There is one vowel which may be categorized as a high-mid central unrounded vowel [ɨ]<sup>4</sup>. The minimal pairs and sub-minimal pairs are given in the next section to demonstrate their phonemic contrasts.

---

<sup>4</sup> Though this symbol represents high central unrounded vowel in IPA, I have used this symbol for high-mid central unrounded vowel in order to avoid confusion with schwa.

### 2.2.1.1 Qualitative Contrasts

Qualitatively, vowels in Jarawa consist of high, mid, and low vowels in front, central, and back positions with rounding and non-rounding features. This three-way combination of articulation yields seven vowels. These vowels are /i, e, u, o, a, ə, ʉ/. The phonemic status of /ʉ/ has been established in this language but it is still difficult to provide acoustic evidence to claim that the phoneme /ʉ/ is a high-mid central unrounded vowel. At the auditory level, this phoneme seems to be a little bit higher than the mid central unrounded vowel /ə/ but lower than the high central unrounded vowel /ɪ/. Moreover, two mid-low vowels have been encountered, but their phonemic status is not clear. Their occurrences are also limited in the data and I do not have any minimal pairs at present. I will present their distribution in phonological structure in section 2.1.2. Below I present some minimal pairs and near-minimal pairs to establish the phonemic status of vowels.

#### **/i/ vs. /e/**

The close high front unrounded vowel /i/ stands in contrast with the half close mid front unrounded vowel /e/.

(2.1) /li/ 'Proximate Demonstrative'

(2.2) /-le/ 'Plural Marker'

#### **/i/ vs. /u/**

The high close front unrounded vowel /i/ contrasts with the high close back rounded vowel /u/.

(2.3) /hiɾu/ 'black' /innə-gə cew/ 'smells good'

(2.4) /hulu/ 'hot' /unnə/ 'return home'

### **/i/ vs. /ɪ/**

The high close front unrounded vowel /i/ is also in contrast with the central half close mid unrounded vowel /ɪ/

(2.5) /ukɪ/ 'bird's wing'

(2.6) /ugi-k-æt<sup>h</sup>e/ 'fly<sub>[V]</sub> (compound word made of ugi-k- æt<sup>h</sup>e, here æt<sup>h</sup>e means 'go' -k- is an empty morpheme, and /ugi/ may correspond to a bird or its feather)

### **/e/ vs. /o/**

The half close mid front unrounded vowel /e/ stands in contrast with the half close mid back rounded vowel /o/

(2.7) /tape/ 'moon'

(2.8) /tapo/ 'good'

### **/u/ vs. /o/**

The high close back rounded vowel /u/ contrasts with the half close mid back rounded vowel /o/

(2.9) /oɫ<sup>h</sup>u/ 'mind/head'

(2.10) /uɫʰu/                      name of a person

**/o/ vs. /a/**

The half close mid back rounded vowel /o/ differs from the open low central unrounded vowel /a/

(2.11) /topo/                      'snake'

(2.12) /tapo/                      'good'

**/a/ vs. /ə/**

The open low central unrounded vowel /a/ contrast with the half close mid central unrounded vowel /ə/

(2.13) /h<sup>w</sup>awə/                      'watercourse'

(2.14) /h<sup>w</sup>əwə/                      'wild boar'

**/ɨ/ vs. /ə/**

The half close mid central unrounded vowel /ə/ is in contrast with the half close high-mid central unrounded vowel /ɨ/

(2.15) /ukɨ/                      'bird's wing'

(2.16) /-ugə/                      'flesh' (part of a compound word /hu-ugə/ 'pig's flesh')

### 2.2.1.2 Quantitative Contrasts

Whether quantitative contrast appears across the board in this language is not clear because not all the quantitative contrasts have minimal pairs. However, there is evidence of some minimal pairs, which indicate there is quantitative difference in this language. The data presented here covers both types of cases. I have divided the examples into two groups; one which has minimal pairs and another which does not.

**Vowels Group A.** This group consists of those vowels which have minimal pairs and near-minimal pairs. It is evident from these examples that length is phonemic in this language.

#### */a/ vs. /a:/*

(2.17) */təpə/* 'good'

(2.18) */tə:pə/* 'want/seek<sub>[v]</sub>'

#### */i/ vs. /i:/*

(2.19) */ipə/* 'bark'

(2.20) */i:pə/* name of a person

#### */ə/ vs. /ə:/*

(2.21) */čəw/* 'wild potato'

(2.22) */lə:w/* 'honey'

**Vowels Group B.** In this group I have placed those vowels for which we do not have minimal pairs but there are instances where lengthening of vowels has been observed.

**/e/ vs. /e:/**

(2.23) /pela/ 'soil'

(2.24) /pe:l/ 'shell fish'

**/u/ vs. /u:/**

(2.25) /ulli/ 'stone'

(2.26) /u:ɖu/ 'cough'

**/o/ vs. /o:/**

(2.27) /olla/ 'today'

(2.28) /o:lleg/ 'Lakralunda' (name of a place in Kadamtala region)

### 2.2.2 Consonants

Jarawa has 28 consonantal sounds which are given in table 2.2. Among these 28 consonants are voiced and voiceless plosives, and voiced nasals. It also has voiceless aspirated plosives. It employs five places of articulation for voiced and voiceless plosives and voiced nasals. The aspirated counterparts of the voiceless plosives are also attested. The voiceless aspirated plosives are found at four places, dental, retroflex, palatal and velar. Non-nasal continuants like trill, retroflex flap, lateral, and retroflex lateral also occur in this language. Their

distribution in the phonological structure of this language is limited. It has two approximants, labial and palatal; a trill and a retroflex flap, and two laterals, alveolar, and retroflex. There are a few fricatives like pharyngeal fricative, and bilabial fricative, though the bilabial fricative was not found in abundance. There is one labialised pharyngeal fricative /h<sup>w</sup>/ and one labialised voiceless velar aspirated plosive /k<sup>hw</sup>/.

Table 2.2: Jarawa consonant phonemes

	Bilabial	Dental	Alveolar	Retroflex	Palatal	Velar	Pharyngeal
Unaspirated Plosives	p b	t d		ʈ ɖ	č ǰ	k g	
Aspirated Plosives		t <sup>h</sup>		ʈ <sup>h</sup>	č <sup>h</sup>	k <sup>h</sup> k <sup>hw</sup>	
Nasals	m	n			ɲ	ŋ	
Fricatives	ɸ				ʃ		h h <sup>w</sup>
Trill			r				
Tap/flap				ɽ			
Lateral			l				
Approximant	w				j		

### 2.2.2.1 Plosives and Retroflex

Jarawa uses voiceless and voiced plosives. It also distinguishes between aspirated and unaspirated plosives. Voiceless and voiced unaspirated plosives occur at five places of articulation, bilabial, dental, retroflex, palatal and velar. Thus the inventory contains voiceless plosives /p, t, ʈ, č, k/ and voiced plosives are /b, d, ɖ, ǰ, g/. For aspirated voiceless plosives, only four places of articulation



are used: dental, retroflex, palatal, and velar. Thus /t<sup>h</sup>, t̪<sup>h</sup>, t̪ʰ, k<sup>h</sup>/ are the voiceless aspirated plosives. I have categorized the plosive sounds into three groups (Plosives Group A, B and C below): one which has minimal pairs, the second which does not have minimal pairs, and the third which lacks minimal pairs but presents a lot of variability. I also discuss the variation in the usage of these sounds. I have adopted the methodological principle stated in section 2.1 to decide whether there are phonemes or allophones.

**Plosives Group A.** In this group I describe those plosives and retroflex which have minimal pairs. Though there exists variation in the usage of the sounds, I will attempt to discuss the variation, and thereafter based on the methodological principles, decide the phonemic status of the sounds.

### **/p/ vs. /b/**

The voiceless unaspirated bilabial plosive /p/ differs from the voiced unaspirated bilabial plosive.

(2.29) /pe:l/            'shell fish'

(2.30) /be:l/            'dewli fish'

(2.31) /poq/            'honey found inside the tree'

(2.32) /bod/            'make net basket'

These minimal pairs demonstrate that the sounds /p/ and /b/ are phonemes in this language. As said earlier, there are instances where these sounds seem to be in free variation. Thus, the word /bət̪<sup>h</sup>e/ 'go' is also pronounced pət̪<sup>h</sup>e. Similarly,

*/pit<sup>hi</sup>/* ‘bad’ is, sometimes, articulated as *bit<sup>hi</sup>*. But instances of /b/ realised as /p/ in words like *bæt<sup>he</sup>* are around 10–20%. Similarly, the instances of /p/ realised as /b/ in words like */pit<sup>hi</sup>/* are again around 10–20%. The frequencies of usage of /p/ or /b/ in these words led me to consider */bæt<sup>he</sup>/* as the form for ‘go’. Similarly I have taken */pit<sup>hi</sup>/*, not */bit<sup>hi</sup>/* as a form for ‘bad’ used in this language. It is difficult to ascertain whether it is a kind of a synchronic phenomenon or there is some diachronic process that the language has undergone, since its closest sister, Onge, still does not have the bilabial voiceless plosive (Abbi 2001, 2005; Sharma and Dasgupta 1978).

#### ***/t/ vs. /d/***

The voiceless unaspirated dental plosive /t/ contrasts with the voiced unaspirated dental plosive /d/.

(2.33) */pato/* ‘ornament’ (ornamental string of leaves around waist)

(2.34) */pado/* ‘rope’

With this pair of sounds I have not found any variation.

#### ***/t/ vs. /t<sup>h</sup>/***

The voiceless unaspirated dental plosive /t/ stands in contrast with the voiceless aspirated dental plosive /t<sup>h</sup>/.

(2.35) */pato/* ‘ornament’ (ornamental string of leaves around waist)

(2.36) */pat<sup>ho</sup>/* ‘fishing net’

I have not observed any variation in this pair of sounds.

**/t<sup>h</sup>/ vs. /d/**

The voiceless aspirated dental plosive /t<sup>h</sup>/ differs from the voiced unaspirated dental plosive /d/.

(2.37) /pat<sup>h</sup>o/        'fishing net'

(2.38) /pado/        'rope'

Again, no variation was found in this pair of sounds.

**/t<sup>h</sup>/ vs. /ɽ<sup>h</sup>/**

The voiceless aspirated dental plosive /t<sup>h</sup>/ stands in contrast with the voiced aspirated retroflex /ɽ<sup>h</sup>/.

(2.39) /pat<sup>h</sup>o/        'fishing net'

(2.40) /paɽ<sup>h</sup>o/        'arrow'

This pair of sounds again lacks variation.

**/ɽ<sup>h</sup>/ vs. /ɖ/**

The voiceless aspirated retroflex /ɽ<sup>h</sup>/ is contrastive with voiced retroflex /ɖ/.

(2.41) /ɽ<sup>h</sup>i/        copula

(2.42) /d̪i/                    referential marker

No variation has been observed in this pair of sounds.

**/č/ vs. /čʰ/**

The phoneme /č/ is a voiceless unaspirated palatal plosive while /čʰ/ is a voiceless aspirated palatal plosive.

(2.43) /čətali/            ‘the day before yesterday’

(2.44) /čʰedali/        ‘now’, ‘at present’

Again there is no variation between the two sounds.

**/k/ vs. /g/**

The phoneme /k/ is a voiceless unaspirated velar plosive while /g/ is a voiced unaspirated velar plosive.

(2.45) /ukɛ/                ‘bird’s wing’

(2.46) /ugə/                name of a person

This pair of sounds has some variations. For example, the word /kɛyɔ/ ‘forest’ can be articulated as /gɛyɔ/. But such variation is limited to this word. We have a word /gəgapa/ ‘talk’ which does not demonstrate any variation. Similarly there is a word /kag/ ‘breast’ which does not show any variation. Hence, /k/ and /g/ are considered phonemes in this language.

**Plosives Group B.** In this group I place those sounds for which no minimal pairs exist in the corpus, but which seem to be phonemes. I will attempt to discuss if there is any variation between the pairs of sounds.

**/d/ vs. /ɖ/**

The voiced unaspirated dental plosive /d/ differs from the voiced unaspirated retroflex /ɖ/.

(2.47) /bod/ 'make net basket'

(2.48) /poɖ/ 'honey found inside the tree'

No variation observed in this pair of sounds.

**/t/ vs. /ɖ/**

The voiceless unaspirated retroflex /t/ contrasts with the voiced unaspirated retroflex /ɖ/.

(2.49) /otɖ:re/ 'back of the neck'

(2.50) /oɖə/ 'hair'

This pair of sounds lacks variations.

**/t/ vs. /t̚/**

The voiceless unaspirated dental plosive /t/ stands in contrast with the voiceless unaspirated retroflex /t̚/.

(2.51) /t-ita/ 'eat<sub>[V]</sub>'

(2.52) /t̪a innə/ 'cockroach'

This pair of sounds does not show any variation.

**/t/ vs. /t<sup>h</sup>/**

The voiceless unaspirated retroflex /t/ differs from the voiceless aspirated retroflex /t<sup>h</sup>/.

(2.53) /t̪a innə/ 'cockroach'

(2.54) /t̪<sup>h</sup>il̪ə inə/ 'weevil'

No variation has been observed between this pair of sounds.

**/k/ vs. /k<sup>h</sup>/**

The phoneme /k/ is a voiceless unaspirated velar plosive while /k<sup>h</sup>/ is a voiceless aspirated velar plosive.

(2.55) /kopel/ name of a person

(2.56) /k<sup>h</sup>o/ 'hold<sub>[V]</sub>'

This pair of sounds does not demonstrate any variation.

**Plosives Group C.** In this group there is only one pair of sounds. In this pair we have palatal plosives. However, the corpus lacks minimal pairs to

confirm that they are phonemes. A lot of interchangeability has been observed in this pair, but this is not true of all the words where one or the other occurs. If we take pattern congruity as the principle to establish the phonemic status of this pair of the sounds, we may claim that these sounds are phonemes in this language.

### */č/ vs. /j/*

The phoneme /č/ is a voiceless unaspirated palatal plosive while /j/ is a voiced, unaspirated palatal plosive. Their existence as distinct phonemes has not been established. The data so far demonstrates that they are in free variation in this language, and no minimal pairs exist on record to claim that they are distinct phonemes. We have seen above in the case of bilabial sounds /p/ and /b/ that though they can sometimes be substituted for one another, they are still distinct phonemes, since minimal pairs for them have been found. The same is the case with the sounds /k/ and /g/. In the case of /č/ vs. /j/, there are words like /čə:w/ ‘wild potato’ which may be pronounced as /jə:w/. But also attested are words like /čawa:ja/ ‘walk<sub>[V]</sub>’ which is never articulated as /jawa:ja/. There are, in fact, a lot of words that begin with /č/ which cannot be replaced by /j/. This creates the suspicion that these sounds could be considered as distinct sounds in this language. However, the question is still open as to whether /č/ and /j/ are distinct phonemes in this language or they are allophonic variants of the same phone.

(2.57) /čawa:ja/      ‘walk<sub>[V]</sub>’

(2.58) /jagijə/      ‘fall<sub>[V]</sub>’

### 2.2.2.2 Nasals

Jarawa uses voiced nasals. It employs four places of articulation for the nasals, bilabial, dental, palatal, and velar. Thus, we have four nasals in this language, /m, n, ɲ, ŋ/. They seem to be in contrast with each other. However, the minimal pairs for these nasals are not straightforward. Rather, I will demonstrate here that contrasts exist between the following pairs: /m/ and /n/, /m/ and /ɲ/, /n/ and /ɲ/, and /n/ and /ŋ/. However, minimal pairs have not been found for the pair /ɲ/ and /ŋ/.

#### **/m/ vs. /n/**

The phoneme /m/ is a voiced bilabial nasal while /n/ is a voiced dental nasal. They stand in contrast in Jarawa.

(2.59) /m-*apo*/        'my elder brother'

(2.60) /n*apo*/        'fish'

#### **/m/ vs. /ɲ/**

The phoneme /m/ is a voiced bilabial nasal, while /ɲ/ is a voiced palatal nasal. They are in contrast in this language.

(2.61) /m*a:g*/        'mine'

(2.62) /ɲ*a:g*/        'no'



**/m/ vs. /ŋ/**

The phoneme /m/ is a voiced bilabial nasal, while /ŋ/ is a voiced, velar nasal. They stand in contrast in this language.

(2.63) /mi ~ ma/      1<sup>st</sup> Person Pronoun

(2.64) /ŋi~ŋa/      2<sup>nd</sup> Person Pronoun

**/n/ vs. /ɲ/**

The phoneme /n/ is a voiced dental nasal, whereas /ɲ/ is a voiced palatal nasal. The examples (2.65-2.66) demonstrate their contrastive nature.

(2.65) /iniɲala/      ‘know<sub>[V]</sub>’

(2.66) /iɲijač<sup>h</sup>e/      ‘forget<sub>[V]</sub>’

**/n/ vs. /ŋ/**

The phoneme /n/ is a voiced dental nasal, while /ŋ/ is a voiced velar nasal. The examples below show contrast.

(2.67) /ən-/      generic possessive marker for humans

(2.68) /əŋ/      ‘Jarawa’

**2.2.2.3 Fricatives**

Jarawa has a few fricatives. Among those fricatives is the voiceless bilabial fricative /ɸ/, though at present, evidence of minimal pairs which demonstrate its

existence as a separate phoneme has not been found. Similarly, the voiceless palatal fricative /ʃ/ is found in this language, but as the corpus suggests, it seems to be an allophone of the voiceless aspirated plosive /č<sup>h</sup>/; they exist in free variation. Other kinds of fricatives are the voiceless pharyngeal fricative /h/ and the labialized voiceless pharyngeal fricative /h<sup>w</sup>/. According to the corpus, it is difficult to establish whether they are distinct phonemes or they stand in allophonic distribution. In the present study, I have considered /ϕ/ and /h/ as phonemes, and /ʃ/ and /h<sup>w</sup>/ as sounds, but further inquiry is required to ascertain whether they are phonemes or are in allophonic distribution in this language.

/ϕ/

(2.69) /aϕle/                      ‘fasten<sub>[V]</sub>’

I was unable to find any alternate sounds for /ϕ/. Further, the Jarawa corpus does not contain minimal pairs of /ϕ/ with other corresponding sounds to support a claim that it is phonemic in the language. This sound can occur syllable-initially and -finally, but its occurrences at word level are limited to initial and medial positions. Thus, based on the corpus, it is difficult to claim whether it is a phoneme or a sound in this language. Since there is no variability, the present work assumes that it is a phoneme.

**/č<sup>h</sup>/ vs. /ʃ/**

/ʃ/ is a voiceless palatal fricative while /č<sup>h</sup>/ is a voiceless aspirated palatal plosive. They are in free variation in this language; /ʃ/ can always substitute the sound /č<sup>h</sup>/. The examples in (2.70) and (2.71) demonstrate their variation.

(2.70) /ʃɛla/                      name of a woman

(2.71) /č<sup>h</sup>ɛla/                      name of a woman

Here the phoneme /č<sup>h</sup>/ and sound /ʃ/ seem to be in allophonic distribution as they are in free variation. However, in one word /naʃa/ 'penis' in my corpus, it seems that the phoneme /ʃ/ is not substituted by /č<sup>h</sup>/. /č<sup>h</sup>/ is, moreover, a phoneme, as is evident from examples (2.43) and (2.44), but /ʃ/ does not seem to be. Hence, /ʃ/ is considered to be in free variation with /č<sup>h</sup>/ in this language.

**/h/ vs. /h<sup>w</sup>/**

The phoneme /h/ is voiceless pharyngeal fricative and /h<sup>w</sup>/ is its labialised counterpart.

(2.72) /hu<sup>t</sup>h<sup>u</sup>/                      'big/fat'

(2.73) /h<sup>w</sup>əwə/                      'wild boar'

Since they cannot be substituted for each other, I will consider them as phonemes. /h/ appears syllable-initially and syllable-finally, while /h<sup>w</sup>/ can only

occur syllable-initially. There is no evidence to say that these two sounds can be substituted. There is also no evidence as to whether these sounds can be replaced by any other sounds in this language.

#### 2.2.2.4 Trill, Flap and Laterals

At the sound level, Jarawa exhibits one trill, one tap, and two lateral approximants — an alveolar lateral and a retroflex lateral. Thus, the inventory is /r, ɽ, l, ɭ/. It is evident from examples in (2.74– 2.77) that the sounds /r, ɽ, l/ are phonemes in this language. The occurrence of sound /ɭ/ is limited in my corpus and I do not have evidence to claim that the sound /ɭ/ is a phoneme, nor to claim that it is a variant of another sound, particularly /l/.

##### */r/ vs. /ɽ/*

(2.74) /wara/                      ‘crow’

(2.75) /waɽa/                     ‘swim<sub>[V]</sub>’

##### */ɽ/ vs. /l/*

(2.76) /hiɽu/                      ‘black’

(2.77) /hulu/                      ‘hot’

#### 2.2.2.5 Approximants

Jarawa has two approximants, bilabial /w/ and palatal /j/. The examples presented in (2.78) and (2.79) are minimal pairs which demonstrate that they are

phonemes in this language. Moreover, we have not observed any variation between this pair of sounds.

*/w/ vs. /j/*

(2.78) */wa:na/*        'weep<sub>[V]</sub>'

(2.79) */ja:nə/*        'egg'

### 2.3 Phonemic distribution

In this section, I will discuss the distribution of sounds, examining which sounds can occur syllable-initially, -medially, and -finally. I will also make observations on the occurrence of sounds at the word level, that is, which sounds which can occur word-initially, -medially, and -finally. In Jarawa, there are different structures for the distribution of vocalic and consonantal sounds. Vowels always form the nucleus of a syllable. Therefore, it is unnecessary to examine the occurrences of a vowel in syllable-initial syllable-medial or syllable-final positions. Hence, I have dealt with vocalic sounds only vis-à-vis words where they can occur word-initially, -medially or -finally. For consonants, I have made an attempt to examine whether they can appear as onset or coda in a syllable. Moreover, I have also tried to see whether there is a possibility to consider their occurrences at the word level. No consonant clusters have been found at syllable level.

#### 2.3.1 At syllable level

Syllables in Jarawa consist of an optional onset and an optional coda. Data suggests that Jarawa constitutes a syllable using one consonantal sound at onset

and one at coda position. However, there are restrictions on the usage of sounds at different levels. Hence, a word consisting of CVCV contains two syllables, CV and CV. In the case of a word of CVCCV structure, I have considered this word as consisting of two syllables, CVC and CV (for a detailed discussion of syllabification, see section 2.5).

### 2.3.1.1 Consonants

Most of the consonants are found syllable-initially and -finally. The sounds /t<sup>h</sup>, č, č<sup>h</sup>, j, ɲ, r, h<sup>w</sup>/ are not found syllable-finally. Table 2.4 presents the occurrences of consonants at syllable level. I have considered polysyllabic words to demonstrate that these consonants can occur syllable-finally because there is no evidence for the occurrence of these sounds in monosyllabic words. Wherever possible, I have made an attempt to provide monosyllabic words.

Table 2.3: Distribution of Jarawa consonants in syllable

Consonant	Initially	Finally
p	<i>paɬ<sup>h</sup>o</i> 'arrow'	<i>a:p</i> 'jackfruit'
ɸ	<i>ɸi:na</i> 'a kind of mosquito'	<i>aɸle</i> 'bind <sub>[V]</sub> '
b	<i>boĩja</i> 'small'	<i>le:b</i> 'road/path'
t	<i>taŋ</i> 'tree'	<i>t<sup>h</sup>otkili</i> 'small vehicle'
d	<i>dojə</i> 'girl'	<i>bod</i> 'make net basket <sub>[V]</sub> '
t <sup>h</sup>	<i>t<sup>h</sup>ulə</i> 'sleep <sub>[V]</sub> '	<i>ən-ahot<sup>h</sup>wag</i> 'tie <sub>[V]</sub> '
t	<i>aɬiba</i> 'speak <sub>[V]</sub> '	<i>peɬpel</i> 'butterfly'
t <sup>h</sup>	<i>t<sup>h</sup>omaje</i> 'wave'	

ɖ	<i>ɖag</i> 'coconut'	<i>ənahodɖ</i> 'tooth'
c	<i>čawa:ja</i> 'walk <sub>[V]</sub> '	
c <sup>h</sup>	<i>č<sup>h</sup>umijə</i> 'stick used to make fishing net'	
j	<i>ʃagijə</i> 'get down <sub>[V]</sub> '	
k	<i>ka:ja</i> 'mother'	<i>t<sup>h</sup>it<sup>h</sup>əkdəhə</i> 'candwa fish'
k <sup>h</sup>	<i>h<sup>w</sup>ət<sup>h</sup>k<sup>h</sup>ele</i> 'bald'	<i>ənik<sup>h</sup>wa</i> 'ear'
g	<i>gəgapə</i> 'sing <sub>[V]</sub> '	<i>oha:g</i> 'flower'
m	<i>mala</i> 'many'	<i>na:m</i> 'firewood'
n	<i>na:po</i> 'fish'	<i>t<sup>h</sup>inon</i> 'hillock'
ɲ	<i>ɲono</i> 'to feed milk'	
ŋ	<i>ŋi</i> 'you'	<i>čala:ŋ</i> 'snake'
r	<i>čokogere</i> 'helicopter'	
ʈ	<i>waʈa</i> 'swim <sub>[V]</sub> '	<i>həʈk<sup>h</sup>əjə</i> 'a kind of insect'
l	<i>lə:w</i> 'honey'	<i>pe:l</i> 'shell fish'
w	<i>wa:na</i> 'weep <sub>[V]</sub> '	<i>a:w</i> 'bow'
y	<i>jakeka</i> 'day after tomorrow'	<i>oʈ<sup>h</sup>aj-le</i> 'boil <sub>[V]</sub> (potato)'
h	<i>hut<sup>h</sup>u</i> 'big'	<i>h<sup>w</sup>a:h</i> 'stream / creek'
h <sup>w</sup>	<i>h<sup>w</sup>əwə</i> 'pig'	

### 2.3.2 At word level

At the word level, most of the sounds occur word-initially, word-medially and word-finally.

#### 2.3.2.1 Vowels

At the word level there is ample evidence to claim that vowels can occur word-initially, -medially or -finally. However, their distribution is not uniform across these positions. Only short vowels can occur in all three positions, whereas long vowels may occur only word-initially or-medially. I have presented the occurrences of short and long vowel in table 2.4.

2.4: Distribution of Jarawa vowels at word level

Vowels	Initially	Medially	Finally
i	<i>iŋkə</i> 'thirst'	<i>hiɽu</i> 'black'	<i>piɽ<sup>hi</sup>i</i> 'bad'
e	<i>ekane</i> 'bring <sub>[V]</sub> '	<i>petpel</i> 'butterfly'	<i>ča:lahe</i> 'stay <sub>[V]</sub> '
u	<i>unnə</i> 'come back <sub>[V]</sub> '	<i>hulug</i> 'hot'	<i>hiɽu</i> 'black'
o	<i>ohag</i> 'flower'	<i>halog</i> 'cane tree'	<i>paɽ<sup>ho</sup></i> 'arrow'
a	<i>aɸle</i> 'bind <sub>[V]</sub> '	<i>taŋ</i> 'tree'	<i>pela</i> 'land'
ə	<i>əŋka:b</i> 'old man'	<i>itəŋ</i> 'a kind of tree'	<i>iŋkə</i> 'thirst'
ɬ		<i>wɛwə</i> 'rain'	<i>ukɬ</i> 'wing'
i:	<i>i:nnen</i> 'non-Jarawa'	<i>əni:pi:l</i> 'hand'	
e:	<i>e:poči</i> 'name'	<i>le:b</i> 'road/path'	
u:	<i>u:dɖu</i> 'cough'	<i>bu:č<sup>hu</sup></i> 'vessel/pot'	



o:	<i>o:t<sup>h</sup>ahe</i> 'sneeze [V]'	<i>no:ha</i> 'bird'	
a:	<i>a:p</i> 'jackfruit'	<i>ta:po</i> 'want/seek [V]'	
ə:	<i>əŋ</i> 'Jarawa'	<i>lə:w</i> 'honey'	

### 2.3.2.2 Consonants

The table below illustrates the occurrences of consonants at the word level in Jarawa.

2.5: Distribution of Jarawa consonants at word level

Consonants	Initially	Medially	Finally
p	<i>pa<sup>t</sup>h<sup>o</sup></i> 'arrow'	<i>čap<sup>t</sup>h<sup>e</sup></i> 'climb'	<i>a:p</i> 'jackfruit'
ϕ	<i>ϕi:na</i> a kind of mosquito	<i>aϕle</i> 'bind <sub>[V]</sub> '	
b	<i>boi<sup>ja</sup></i> 'small'	<i>t<sup>h</sup>apabad</i> a kind of flower	<i>le:b</i> road/path
t	<i>taŋ</i> 'tree'	<i>t<sup>h</sup>otkili</i> 'small vehicle'	
d	<i>dojə</i> 'girl'	<i>pado</i> 'fishing net'	<i>bod</i> 'make net basket [V]'
t <sup>h</sup>	<i>t<sup>h</sup>ulə</i> 'sleep [V]'	<i>ən-ahot<sup>h</sup>wag</i> 'tie [V]'	
t	<i>a<sup>t</sup>iba</i> 'speak [V]'	<i>petpel</i> 'butterfly'  <i>totk<sup>h</sup>olo</i> a kind of	

		flower	
t <sup>h</sup>	t <sup>h</sup> omaje 'wave'	pat <sup>h</sup> o 'arrow'	
d	dag 'coconut'		anahod 'tooth'
c	čawa:ja 'walk <sub>[V]</sub> '		
c <sup>h</sup>	č <sup>h</sup> umija 'stick used to make fishing net'	ač <sup>h</sup> u 'bad smell'	
j	ja:ija 'get down <sub>[V]</sub> '		
k	ka:ja 'mother'	t <sup>h</sup> it <sup>h</sup> akdaha 'candwa fish'	
k <sup>h</sup>	k <sup>h</sup> o 'hold <sub>[V]</sub> '	ənik <sup>h</sup> wa 'ear' h <sup>w</sup> ət <sup>h</sup> ele 'bald'	
g	gəgapə 'sing <sub>[V]</sub> '	ənkegili 'dumb'	oha:g 'flower'
m	mala 'many'	əmal 'hive'	na:m 'firewood'
n	na:po 'fish'	t <sup>h</sup> inon 'hillock'	t <sup>h</sup> inon 'hillock'
ɲ	ɲoɲo 'feed milk <sub>[V]</sub> '	ɲijač <sup>h</sup> e 'forget <sub>[V]</sub> '	
ŋ	ŋi 'you'		čəla:ŋ a kind of snake
r		čokogere 'helicopter'	
ʃ		waʃa 'swim <sub>[V]</sub> ' hət <sup>h</sup> əja 'a kind of insect'	

l	<i>lə:w</i> 'honey'	<i>ullel</i> 'big water' <i>ipilhunu</i> 'one-handed'	<i>pe:l</i> 'shell fish'
w	<i>wa:na</i> 'weep[v]'	<i>əŋhowal</i> 'pool of water'	<i>a:w</i> 'bow'
y	<i>jakeka</i> 'day after tomorrow'	<i>oŋ<sup>h</sup>aj-le</i> 'boil <sub>[v]</sub> (potato)'	<i>oŋa:j</i> 'name'
h	<i>huŋ<sup>h</sup>u</i> 'big'	<i>noha</i> 'bird'	<i>hwa:h</i> 'stream/creek' <i>wa:h</i> a kind of wild tuber
h <sup>w</sup>	<i>h<sup>w</sup>əwə</i> 'pig'		

## 2.4 Syllable Structure

The syllable structure of Jarawa consists of an optional onset and coda, and a nucleus. Thus, it attests all the four variants of minimal possible syllable structures — V, CV, VC, and CVC. Examples in (2.80) illustrate this.

(2.80)

- (a) V            *e:*    'yes'
- (b) CV          *mi*    1<sup>st</sup> P Pronominal
- (c) VC          *əŋ*    'Jarawa'
- (d) CVC        *ka:g*   'breast'

## 2.5 Syllabification

Jarawa attests all the four variants of minimal possible syllable structures, but the present corpus suggests that only one consonant is allowed in onset and coda positions. If a word is composed of more than one syllable, the parsing of the syllable would be as shown in (2.81).

(2.81)

- |     |       |        |
|-----|-------|--------|
| (a) | CVCV  | CV.CV  |
| (b) | CVCCV | CVC.CV |
| (c) | VCVC  | V.CVC  |

## 2.6 Word Structure

Words in Jarawa may be monosyllabic, disyllabic, or polysyllabic entities. These combinations are explained with reference to the occurrences of vowels in the beginning of words, or medially or finally. I consider here words which end with a consonant (closed syllable) or without a consonant (open syllable). Let us consider the following words:

### Monosyllabic

#### Open

(2.82) V                    *e:*    'yes'

(2.83) CV                    *ka*    interrogative marker



**Polysyllabic words****Trisyllabic****Open**

(2.93) VCVCV      *aʈiba*      'speak<sub>[v]</sub>'

(2.94) CVCVCV      *čiləhe* 'star'      *h<sup>w</sup>eč<sup>h</sup>ebə* 'earthquake'      *janela* 'egg'

(2.95) VCCVCCV      *orgont<sup>h</sup>o*      'short'

(2.96) CVCVCV      *t<sup>h</sup>ujuni'*      female pig'

**Closed**

(2.97) VCVCVC      *ič<sup>h</sup>itarŋ*      'root of a plant'

(2.98) VCCVCVC      *əŋhowal*      'pool of water'

(2.99) CVCVCVC      *t<sup>h</sup>apabad*      'a kind of flower'

**Tetrasyllabic****Open**

(2.100) VCVCVCV      *ilijema*      'see.not<sub>[v]</sub>'

(2.101) CVCVCVCV      *t<sup>h</sup>učatəgə*      'where'

(2.102) VCCVCVCV      *ənkegili*      'dumb'

(2.103)VCVCCVCV      *ipilhunu*      ‘one-handed’

### Closed

(2.104)VCVCVCVC      *ənohabag*      ‘a piece of glass used to look one’s face’

## 2.7 Morphophonemics

In this section I will discuss the phonological changes which occur in this language. There are two kinds of phonological processes which will be discussed here. Section 2.7.1 focuses on two forms of pronominals, which I have termed the ‘mi form’ and the ‘ma form’, conditioned according to how they are used. Section 2.7.2 presents a complex phenomenon which Jarawa exhibits, wherein two words are taken together and the form of the second word is reduced. For example, *mi* ‘1GEN’ and *pat<sup>h</sup>o* ‘arrow’ are taken together and pronounced as */mat<sup>h</sup>o/* ‘my arrow’. Here *pat<sup>h</sup>o* is only pronounced as */t<sup>h</sup>o/*. This phenomenon is very common in Jarawa.

### 2.7.1 *mi* vs. *ma*

There are two forms of pronominals in each person in Jarawa. For the first person there are */mi/* and */ma/*, for second person */ŋi/* and */ŋa/* or */ni/* and */na/*, and for third person */hi/* and */hiwa/*, though we have shorter forms for these pronominals which are not taken into consideration in this section. These pronominals are used in the positions of subject and object of a verb, and as possessive pronouns. Throughout the dissertation I have taken */mi/*, */ŋi/*, and */hi/* form as ‘mi form’ and */ma/*, */ŋa/*, and */hiwa/* or */wa/* as ‘ma form’. However, there is a great difference in the usage of the mi form and the ma form in the syntax, especially in possessive

constructions (for detailed discussion, see § 3.3.1). In the present chapter, I enquire into whether there is any phonological reason to use *mi* vs. *ma* forms, particularly in possessive constructions. In these constructions, for first and second person any either form may be used, but only /*wa*/ is permitted for third person. The examples in table 2.6 illustrate some of the patterns of usage of *mi* and *ma* forms.

Table 2.6: Usage of *mi* form and *ma* form

1 <sup>st</sup> Person		2 <sup>nd</sup> Person		3 <sup>rd</sup> Person
<i>mi</i> form	<i>ma</i> form	<i>mi</i> form	<i>ma</i> form	
<i>mi čaḍḍa</i>	<i>ma-čaḍḍa</i>	<i>ḡi čaḍḍa</i>	<i>ḡa-čaḍḍa</i>	<i>wa-čaḍḍa</i>
'my hut'		'your hut'		'his/her hut'
<i>mi paṭ<sup>h</sup>o</i>	<i>ma-paṭ<sup>h</sup>o</i>	<i>ḡi paṭ<sup>h</sup>o</i>	<i>ḡa-paṭ<sup>h</sup>o</i>	<i>wa-paṭ<sup>h</sup>o</i>
'my arrow'		'your arrow'		'his/her arrow'
<i>mi ipaḍa</i>	<i>m-ipaḍa</i>	<i>ḡi ipaḍa</i>	<i>ḡ- ipaḍa</i>	<i>h- ipaḍa</i>
'my injury'		'your injury'		'his/her injury'
<i>mi a:ʋ</i>	<i>m-a:ʋ</i>	<i>ḡi a:ʋ</i>	<i>ḡ-a:ʋ</i>	<i>wa-a:ʋ</i>
'my bow'		'your bow'		'his/her bow'



<i>mi əččəle<sup>5</sup></i>		<i>ŋi əččəle</i>		<i>wa əččəle</i>
'my child'		'your child'		'his/her child'

<i>m-itəjile</i>		<i>ŋ-itəjile</i>		<i>wa-itəjile</i>
'my friend'		'your friend'		'his/her friend'

In the above data, there are three things that are evident. First, there is no change in the possessive prefix of the third person; second, the *mi* form can attach to any word, across the board; third, the *ma* form occurs with those words which have back vowels in the first syllable of the word. The data also confirms that the *ma* form is only used when there is affixation; i.e. attaching of the possessive prefix to the possessed noun. If there is no affixation and rather, both the possessive pronominal and the possessed noun are used as two independent words, the *mi* form is generally used. Note that the environments showing vowel harmony suggested that the process at work is, in fact, affixation.

### 2.7.2 Reduced forms

There is a general tendency in Jarawa to reduce the form of a nominal or verb when it is used in a possessive construction or in compound words. As mentioned previously, */mi paɬ<sup>h</sup>o/* 'my arrow' can be articulated as */maɬ<sup>h</sup>o/*. In */maɬ<sup>h</sup>o/* there are two morphemes, *mi* '1GEN' and *paɬ<sup>h</sup>o* 'arrow', where */paɬ<sup>h</sup>o/* is reduced to */ɬ<sup>h</sup>o/* and combines with */ma/* to become */maɬ<sup>h</sup>o/*. The general rule to reduce the form is to take last syllable of the possessed noun and join it with the

<sup>5</sup> It is observed that there is no affixation of possessive prefix with *əččəle* 'child'.

possessive prefix. Another example is with the compound word *ugi-k-æt<sup>h</sup>e* 'fly'. In this compound are two words, /*ugi*/ and /*bæt<sup>h</sup>e*/ where the phoneme /*b*/ has been deleted in /*bæt<sup>h</sup>e*/. There is no evidence so far to show why /*k*/ is inserted in this compound. Therefore, I will consider /*k*/ as an empty morpheme here.

## 2.8 Conclusion

This chapter has discussed the problems associated with the identification and establishment of sounds in Jarawa, and the methodological principles adopted to decide whether a sound is a phoneme or not in this language. I have also covered vowels and consonants. In the discussion of the distribution of the sounds, I have demonstrated the occurrences of consonants at both syllable and word level and the occurrences of vowels at word level. The chapter also analysed the phonological processes in which there was an issue related to the use of 'mi' and 'ma' forms in possessive constructions. I have also observed that there is a tendency in this language to use reduced forms in the case of possessive constructions and compounds of two words, where the second word is reduced.

## Chapter 3: Morphology

### 3.0 Introduction

The preceding chapter was a detailed examination of phonetics and phonology of Jarawa. This chapter focuses on Jarawa morphology with specific emphasis on different word classes. Jarawa is an agglutinating language and has simple morphology in terms of affixation, i.e. it takes prefixes and suffixes. There are two kinds of prefixes: one is pronominal which attaches to verbs, adjectives, and nouns; the other indicates definiteness or referentiality, and attaches only to verbs. The principal functions of suffixes are (1) to convey plurality when attached to nouns, and (2) to express mood, modality, and evidentiality when attached to verbs. They can also, however, attach to adjectives, where they may denote either state or evidentiality.

The chapter is organized in the following manner. In section 3.1, a brief introduction to the concepts of morpheme and word in Jarawa is presented. Section 3.2 focuses on word classes in Jarawa, and section 3.3 discusses noun morphology. A detailed examination of Jarawa verb morphology is presented in section 3.4 and of Jarawa adjectives in 3.5. Section, 3.6 presents adverbs, and section 3.7 postpositions. Section 3.8 is a discussion of copula, and section 3.9 focuses on word formation. A brief conclusion is presented in 3.10.

### 3.1 Morpheme/word

The criterion that has been followed throughout the dissertation to identify a morpheme is: a phonologically defined set of segments having a constant range

of meaning in the overall structure of the language is a morpheme. Phonetic criteria of the production of a defined set of segments in one breath, or with a pause, have also been taken into consideration, particularly to decide whether two morphemes are articulated as a word or two different words.

In Jarawa, a morpheme may be a free root which exists independently, as in the case of /*napo*/ 'fish'. It may be a bound root which occurs with obligatory prefixes (possessive prefixes in the case of a noun) as in *ən-odə* 'hair' (where {*ən-*} is used as generic possessive marker for humans). Sometimes, a verb may be a bound root such as *ən-ətəhə* 'sit' (imperative) for humans. In both cases whether it is the nominal root *odə* 'hair' or verbal root *ətəhə* 'sit', they cannot occur independently if they refer to human beings. The nominal root *odə* 'hair' can be used for the hair of humans as well as non-human animals while verbal root *ətəhə* 'sit' is only used for human beings. In the case of non-humans, the third person genitive marker would be used with such a root. For example, if the hair of a dog is to be referred to, *wɛmə wa-odə* 'dog 3POSS-hair'.

Thus, a bound root has to be prefixed with some morpheme(s). There are two kinds of prefixes which co-occur with nominals: one is the definite genitive marker (personal possessive pronoun), and the other the generic human possessive pronoun {*ən-*}. The morpheme {*ən-*} is a more obvious choice for prefixation in case of humans. It has two interpretations in this language; one is a generic interpretation for humans, and the other, a second person pronominal.

There are other kinds of morphemes which can attach to roots/stems — whether free or bound — as prefixes or suffixes; these can be classified as bound morphemes. For instance, the word *bət<sup>h</sup>e-jə* 'go-VEVD' contains two morphemes;

one is *bətʰe* 'go' and the other is {-jə} 'VEVD'. Here *bətʰe* 'go' is a free morpheme and {-jə} 'VEVD' is a bound morpheme. A morpheme which occurs as a free root or bound root, will, in the present study, be referred to as a lexical word, and a morpheme which has to be attached to a root/stem as an affix, as a bound morpheme.

### 3.2 Word classes

In order to identify word classes in Jarawa, it is necessary to go beyond notional definitions that entail much overlapping. Therefore, a scrutiny of different words is attempted through different diagnostic tests. Consequently, two more criteria, morphological diagnosis, and syntactic distribution, have been employed to identify different word classes in Jarawa. The morphological test is based on the choice of the occurrences of prefixes and suffixes with the root form. Specifically, the choice of a prefix or a suffix depends upon the lexical category of the root. For instance, Tense Aspect and Mood (TAM) category only comes with a verbal roots or a root used as the verbal predicate of a clause. In the syntactic distribution test, the occurrences of lexical roots in certain syntactic configurations have been evaluated. The distribution of lexical roots in a clause/sentence depends upon the lexical category they belong to. For instance, a lexical root may occur either as a subject, object, adjunct, or predicate, in a clause. After scrutiny it was found that Jarawa has six kinds of word classes: noun, verb, pronoun, adjective, adverb, and postposition. Nouns, verbs, adjectives and adverbs are open classes, where nouns and verbs are abundant while adjectives and adverbs are fewer in number; postpositions and pronouns are closed classes with a small number of lexemes. In (3.1) these classes are arranged in decreasing order of the number of words in each class.

(3.1) noun > verb > adjective > adverb > pronoun > postposition

### 3.3 Noun Morphology: Nouns and Noun Phrases

This section focuses on nouns and pronouns, and their morphological behaviour in the language. The section also discusses other categories that could be part of a Noun Phrase (NP), and their behaviour within the phrases. An NP can have noun or pronoun as head. Section 3.3.1 discusses pronouns and their different forms, section 3.3.2 focuses on nouns and their forms, and section 3.3.3 deals with the noun phrase and elements which could be part of the noun phrase.

#### 3.3.1 Pronouns

Pronouns are heads of NPs. They have no lexical content, and either refers to some nouns which may have occurred within the sentence, or draw reference from context. These types of NPs occur at the place of noun-headed NPs to avoid repetition. There are three kinds of pronouns: personal pronouns (pronominals), demonstrative pronouns, and interrogative pronouns.

##### 3.3.1.1 Personal pronouns

Jarawa uses personal pronouns to refer to humans and non-humans. It employs *mi* as first person, *ŋi* as second person, and *hi* as third person pronoun. Second person has, however, three variants {*ŋi*, *ni*, and *ən*} and third person has two variants {*hi* and *əhi*}. {*ən*} has two functions in this language. First, it is used as second person pronominal (generally as subject and possessive forms). Second, it is used as a pronominal that has generic interpretation for humans. Jarawa personal pronouns are summed up in table 3.1 below.

Table 3.1: Jarawa personal pronouns

1 <sup>st</sup> Person	<i>mi</i>
2 <sup>nd</sup> Person	<i>ŋi ~ ni ~ ən</i>
3 <sup>rd</sup> Person	<i>hi ~ əhi</i>

Of these pronouns, first person and second person pronouns are used to refer to human beings while third person pronouns can be used to refer to both humans and non-humans, as illustrated in examples (3.2–3.6).

(3.2) *mi omohə*

1 sleep

I/we sleep.

(3.3) *ŋi bəŋ<sup>h</sup>e-jə*

2 go-VEVD

You are going.

(3.4) *hi ma napo ɖ-ija*

3 1ACC fish REF-give

He gave me the fish.

(3.5) *mi ih-ita*

1 3-eat

I ate that<sub>[-human]</sub>.

(3.6) *he h-ita*

3 3-eat

He ate that<sub>[-human]</sub>.

There are no plural counterparts of these pronominals in Jarawa. Thus, the same personal pronouns can be used for both singular and plural. For example, the personal pronoun *mi* could mean first person singular or first person plural depending upon the context in which the communication is carried out. The sentence (3.7) demonstrates that there is no plural form of these pronominals.

(3.7) *mi bæt<sup>h</sup>e-jə*

1 go-VEVD

I/we are going.

The corpus collected in the field shows that this sentence (3.7) was used when a person was talking about himself, and also when he was talking about a group of people. As we have seen above, second person and third person pronouns have variants which can be termed as allomorphs of the respective pronouns. Apart from the allophonic variations of these pronouns, the pronouns have “ma” and “mi” forms in all the persons (see § 2.7.1). These two forms of pronominals are shown in table 3.2.

Table 3.2: ma and mi pronominal forms

Person	mi form	ma form
1 <sup>st</sup> Person	<i>mi</i>	<i>ma</i>



<b>2<sup>nd</sup> Person</b>	<i>ŋi ~ ni ~ ən</i>	<i>ŋa ~ na</i>
<b>3<sup>rd</sup> Person</b>	<i>hi ~ əhi</i>	<i>hiwa</i>

It is difficult to describe the exact behaviour of these two forms; at the level of morphology (particularly possession) these forms seem to occur in free variation. In the present study these pronominals are divided into two groups according to their usage. At the level of syntax, there seems to be distinction: one form is used as subject and the other form is used as object. Forms like *mi*, *ŋi*, and *hi* are always used in subject position of a sentence/clause. *ma*, *ŋa*, and *hiwa* are used in object position of a sentence/clause. This is illustrated in examples (3.8) and (3.9).

(3.8) *ŋi ma əjojəba*  
 2 1ACC see  
 You saw me.

(3.9) *mi ŋa napo d-ija*  
 1 2 ACC fish REF-give  
 I gave you the fish.

These examples show “mi” forms in the subject position and “ma” forms in the object position of the clause. However, examples like (3.10) show that mi forms may also be used in the object position of a clause.

(3.10) *mi napo ŋi h-ija*  
 1 fish 2 3-give  
 I gave you a fish.

This raises the question as to whether the hypothesis that “mi” forms are subjects and “ma” forms are objects is valid. It is also difficult to say whether it is an idiolectal variation. In the present study there is no answer to this issue. However, the usage of “mi” forms in object position is limited to a few instances in the present corpus. Also, as far as “ma” forms are concerned, they can never occur as subject of the clause. Thus, we assume in the present study that the distinction between these forms is as hypothesised.

In the case of possessive constructions, both the forms are possible. Within the scope of this study, it can only be said that the distinction between “mi” and “ma” forms seems to be phonological to some extent, though not always (for detailed discussion, see § 2.5.1).

### **3.3.1.1.1 Morphological nature of personal pronouns**

Pronominals in Jarawa can occur independently or can be attached to nouns, verbs, adjectives or some other words. They can attach to a noun as a possessive prefix; they can be prefixed to a verb either as an S(ubject) argument of an intransitive verb or as an O(bject) argument of a transitive verb; and they can also attach to predicative adjectives as their S argument.

It has been observed that these pronominals are prefixed to verbs, nouns, or adjectives which begin with a vowel. In such cases the forms that are prefixed are phonologically similar shortened forms of the independent forms. The independent forms and their prefixed forms are given in table 3.3.

Table 3.3: Independent pronominals and their prefixed forms

Person	Independent forms		Prefixed forms
1 <sup>st</sup> Person	<i>mi</i>	<i>ma</i>	<i>m-</i>
2 <sup>nd</sup> Person	<i>ηi ~ ni</i>	<i>ηa ~ na</i>	<i>η- ~ n- ~ ən-</i>
3 <sup>rd</sup> Person	<i>hi</i>	<i>hiwa</i>	<i>h- ~ hi- ~ ih- ~ he- ~ əh-</i>

The prefixed form for the first person is {*m-*}, and is used for both *mi* and *ma*. Second person has three variant forms in the “*mi*” form and two in the “*ma*” form. The prefix {*η-*} is used for *ηi* and *ηa*, and {*n-*} for *ni* and *na*. {*ən-*} is used only as the prefixed form. In third person category, there are many prefixed forms. These different forms are generally used as co-referring elements in a clause. The third person category co-refers to third person object NPs in the clause. The third person prefixed forms seem to be lexically conditioned.

A pronominal S argument of an intransitive verb which begins with a vowel may be prefixed to the verb. This is illustrated in example (3.11).

- (3.11) *m-aʔiba*  
 1-say  
 I say/said.

This is optional. The above sentence can also be uttered without prefixing the pronominal, as given in (3.12).

(3.12) *mi atiba*

1 say

I say/said.

In transitive constructions, a pronominal O argument of a transitive verb which begins with a vowel is prefixed to the verb. (3.13) illustrates the prefixation of the O argument to the verb.

(3.13) *mi η-əjojəba*

1 2ACC-see

I saw you.

Note that in the case of a ditransitive construction, a pronominal IO (Indirect Object) does not get prefixed to the verb; shown in (3.14)

(3.14) *hi čonel qi ma h-ija*

3 banana REF 1ACC 3-give

He gave me the banana.

One possible explanation involves the presence of prefix *{h-}* on the verb, which prevents the indirect object pronominal to be prefixed with the verb. The verbal prefix *{h-}* denotes the presence of a Direct Object (for detailed discussion, see § 3.4.1.2.2). In (3.15) referential marker *{q- ~ qi}* is prefixed to the verb *{ija}* when the DO is demoted but in (3.16) when *{h-}* is attached to the verb, *{qi}* stands independently.

- (3.15) *mi    ηa        napo    d-ija*  
 1    2ACC   fish   REF-give  
 I gave you the fish.

- (3.16) *hi    ma        čonel    di        h-ija*  
 3    1ACC   banana   REF    3-give  
 He gave me the banana.

This supports the hypothesis that the prefixation of {*h-*} to transitive or ditransitive verbs replaces the attachment of any other elements including IO in ditransitive constructions.

A similar structure is found in the possessive construction, where the attachment of the possessive prefix to the possessed noun is optional (3.17 and 3.18).

- (3.17) *m-a:w*  
 1-arrow  
 My arrow.

- (3.18) *mi    a:w*  
 1    arrow  
 My arrow.

In (3.17) there is a possessive prefix *m-* on the possessed noun *a:w* 'arrow', while in (3.18) the possessive pronoun is not prefixed, but uttered as a different word. This flexibility is not allowed with inalienable possessions such as body parts,

and kinship terms. In such cases prefixation is obligatory. This is illustrated in (3.19).

- (3.19) *m-ik<sup>h</sup>wa*  
 1POSS-eye  
 My eye.

Pronominals can also be attached to the Interrogative Marker (INTM) *ka*. *ka* generally occurs at the beginning of a yes/no question. In this construction, the pronominal, used as the S(ubject)/A(gent) argument of the clause, is suffixed to the interrogative marker. Consider example (3.20).

- (3.20) *ka-ŋi kekahəʔə olleg də bəʔ<sup>h</sup>e*  
 INTM-2 tomorrow Olleg LOC go  
 Will you go to Olleg tomorrow?

This is not obligatory, as illustrated by (3.21).

- (3.21) *ka ŋi kekahəʔə olleg də bəʔ<sup>h</sup>e*  
 INTM 2 tomorrow Olleg LOC go  
 Will you go to Olleg tomorrow?

Nonetheless, the occurrence of (3.20) is more frequent than (3.21) in daily usage.

The morphological behaviour of pronominals of this language raises the question of whether what I have called prefixation is truly affixation, or these reduced

pronominals are in fact, clitics. Further investigation is required to determine the precise nature of these reduced forms.

### 3.3.1.2 Demonstrative pronoun

In Jarawa, there are two kinds of demonstrative pronouns: one indicating proximate object(s) while another denoting distant object(s). The proximate demonstrative is *li* and the distal demonstrative is *luwə*. In this section, we discuss the use of demonstratives as pronouns. These demonstratives are also used as adjectives and adverbs (discussed in sections 3.3.5 and 3.3.6 respectively).

In (3.22), *li* is used as a third person pronominal where it refers to a person who is climbing the tree. In fact, *li* is employed more frequently for third person references than *hi* in subject position. *luwə* is used for distant object(s). Sometimes it creates problems in interpreting the data because the same lexeme is also used as adjective or adverb. Sentence (3.23) demonstrates the use of *luwə* as demonstrative pronoun.

(3.22) *li tan də ʃapɬ<sup>h</sup>e-jə*  
 PDEM tree LOC climb-VEVD  
 He is climbing the tree.

(3.23) *luwə paɬ<sup>h</sup>o*  
 DDEM arrow  
 That is an arrow.

### 3.3.1.3 Interrogative pronoun

In Jarawa, there are two interrogative pronouns: *onne* ‘who’ and *onəhə* ‘what’. Another question word *onəhəle* ‘what-*VS*’ seems to be derived from *onəhə* ‘what’. I propose this due to the {-*le*} suffix, which is generally employed with nouns to denominalise them (for detailed discussion, see § 3.9.2). *Onəhəle* may, here, mean ‘what are (you) doing?’ or ‘why are (you) doing?’ Other question words like *kahaje* ‘where’, *t<sup>h</sup>učəgə* ‘where’, *nojč<sup>h</sup>e* ‘how many’ may have some differences since these words are used with Interrogative Marker (INTM).

### 3.3.2 Nouns and noun classification

Nouns can be morphologically classified into two groups according to their occurrence with possessive prefixes. Nouns which do not obligatorily take possessive prefixes can be classified as free forms, and those which obligatorily take possessive prefixes as bound forms. Nouns denoting body parts or kinship terms exist as bound forms; the morphemes which stand for names of body parts or kinship terms must be prefixed with a possessive pronoun. For instance, the word *ecepo* ‘eye’ cannot occur in isolation — it must occur with a possessor, as in *wa-ecepo* ‘his eye’, *m-ecepo* ‘my eye’, *ŋ-ecepo* ‘your eye’, *ən-ecepo* ‘eye {human generic interpretation}’, and so on. Similarly, kinship terms also must occur with possessive prefixes. There is, however, a slight difference between the usages of possessive prefixes with these two types of bound forms. In the case of a body part, the nominal component can take possessive prefix {*ən-*} which has generic interpretation for humans but kinship terms never take this prefix. It may be because body part nominal may be referred to in general, but in the case of a kinship term it must be interpreted as belonging to a specific individual; it is yours, his, or mine (for detailed discussion, see § 3.3.3.1).



Accordingly, my classification of Jarawa nouns is generally based on whether they take affixes obligatorily. There are thus two kinds of nouns: one which take affixes obligatorily (Class I) and the other which does not (Class II).

I also make an attempt to classify Jarawa nouns on a semantic basis. This gives rise to three categories: celestial bodies, cultural artefacts, and flora and fauna.

#### a) Noun Class I

Noun Class I consists largely of nouns denoting body parts and kinship terms. In section (i) below I focus on nouns related to body parts, and in section (ii) I present a discussion of nouns related to kinship terms.

##### (i) Body part nouns

As mentioned earlier, nouns which are names of human body parts are bound roots in Jarawa; otherwise they may occur as free roots. They can occur with the generic human possessive prefix or the definite possessive prefix (for details, see § 3.3.3.1). There are two body part nouns *čeŋ* ‘blood’ and *h<sup>w</sup>et<sup>b</sup>* ‘nerve’ which occur as free roots. Also attested are compound nouns, like *ən-ijɲabotalaŋ* ‘nostril’, which is composed of two nouns, *ijɲabo* ‘nose’ and *talaŋ* ‘hole’, and an obligatory prefix {*ən-*}.

Table 3.4: Names of body parts in Jarawa

	Body part	Jarawa word
1.	nose	<i>ən-ijɲapo</i>

2.	nostril	<i>ən-ɪnəpotalaŋ</i>
3.	ear	<i>ən-ik<sup>h</sup>wa</i>
4.	ear hole	<i>ən-ik<sup>h</sup>wagdalaŋ / ən-ik<sup>h</sup>watalaŋ</i>
5.	hair	<i>ən-odə</i>
6.	beard	<i>ən-imugə</i>
7.	eye	<i>ən-epo / ən-ečepo</i>
8.	eyeball	<i>ən-epohi<sup>w</sup>ugə</i>
9.	eyebrow	<i>ən-epoŋ<sup>h</sup>ugə</i>
10.	head	<i>ən-ot<sup>h</sup>a:p</i>
11.	mouth	<i>ən-imun</i>
12.	forehead	<i>ən-eč<sup>h</sup>emug</i>
13.	lips	<i>ən-imun</i>
14.	neck	<i>ən-inŋ<sup>h</sup>ug</i>
15.	neck bone	<i>ən-olawana</i>
16.	back of neck	<i>ən-amataŋ</i>
17.	hand	<i>ən-ipil</i>
18.	finger	<i>ən-ɔm</i>
19.	nail	<i>ən-opetaŋ</i>
20.	palm	<i>ən-opagna</i>
21.	arm	<i>ən-onŋgəjag</i>

22.	armpit	<i>ən-i:pi:lə</i>
23.	shoulder	<i>ən-alaŋ</i>
24.	stomach	<i>ən-ajktʰə</i>
25.	navel	<i>ən-eh<sup>w</sup>aɫ</i>
26.	waist	<i>ən-epoja</i>
27.	chest	<i>ən-akotaŋ</i>
28.	leg	<i>ən-ipo</i>
29.	thigh	<i>ən-ŋanaɔo</i>
30.	knee	<i>ən-oɭaj</i>
31.	sole	<i>ən-uh<sup>w</sup>aŋnaɔo</i>
32.	tooth	<i>ən-ahodɫ</i>
33.	back	<i>ən-inon</i>
34.	backbone	<i>ən-et<sup>h</sup>otaŋ</i>
35.	blood	<i>čeŋ</i>
36.	bone	<i>ən-ogjag</i>
37.	breast	<i>ən-aka:g</i>
38.	cheek	<i>ən-otahiŋbo</i>
39.	chin	<i>ən-ipitaŋ / ən-ipitã</i>
40.	nerve	<i>h<sup>w</sup>et<sup>h</sup>o</i>
41.	skin	<i>ən-itəjaŋ</i>

42.	toe	<i>ən-uh<sup>w</sup>etan</i>
43.	tongue	<i>ən-aɖal</i>

## (ii) Kin nouns

Kin nouns are a smaller set; they denote relationships that exist in that community. Kin nouns are bound roots which, when combined with the definite possessive prefix, express kinship terms. For example, *m-awela* ‘my wife’s brother’ is never articulated without one of the definite possessive prefixes {*m-*}, {*ŋ-*} or {*wa-*}. Table 3.5 presents some kin nouns found in Jarawa. In this table, I have omitted the possessive prefix.

Table 3.5: Jarawa nouns used for kinship terms

	<b>Kin noun</b>	<b>Jarawa word</b>
1.	father	<i>-ummə</i>
2.	mother	<i>-kaja</i>
3.	husband	<i>-a:gi</i>
4.	wife	<i>-əŋa:p</i>
5.	elder sister	<i>-a:mi</i>
6.	elder brother	<i>-a:pə</i>
7.	son / daughter	<i>-aɟə</i>
8.	younger brother / sister	<i>-aik<sup>h</sup>waɟə</i>

## Noun Class II

In Jarawa the majority of nouns exist as free roots. As a sample, in the following sections I present a brief list of nouns related to flora and fauna, nature, humans, cultural artefacts, place names, and so on.

### (i) Flora and fauna

It would be an impossibly large task to present every word related to flora and fauna in this section. The Andaman Islands (particularly the Jarawa Reserve Area) contain certain animals such as wild boar, deer, wild goats, and elephants. Elephants were introduced by the British. Wild boars are part of the food habits of the Jarawa people whereas deer and wild goats are not. There are insects, birds, and reptiles found in the jungle of Andaman. Some nouns related to these groups are listed in table 3.6.

Table 3.6: Names of fauna

	Animal name	Jarawa word
1.	snake	<i>topo</i>
2.	rat	<i>uɪg</i>
3.	pig	<i>h<sup>w</sup>əwə</i>
4.	piglet	<i>oloŋa</i>
5.	elephant	<i>t<sup>h</sup>ehu:t<sup>h</sup>u<sup>6</sup></i>

---

<sup>6</sup> The word *t<sup>h</sup>ehu:t<sup>h</sup>u* 'elephant' is actually a compound in which *t<sup>h</sup>e* seems to be copula *hu:t<sup>h</sup>u* means 'fat or big'

6.	crow	<i>wara</i>
7.	butterfly	<i>pe:ʈpe:l</i>
8.	crocodile	<i>aru:gəʃʃə</i>
9.	deer	<i>ka:ʈ<sup>h</sup>opijalə</i>
10.	snake (cobra)	<i>čala:ŋ</i>
11.	dog	<i>wɪmə</i>
12.	mosquito	<i>h<sup>w</sup>i:na, ʃi:na</i>

Andaman has a dense forest with many species of plants and trees. Jarawa people have a strong body of knowledge of the flora of their area. In table 3.7, I list some representative items which are useful in the life of the Jarawas.

Table 3.7: Names of flora

	<b>Plant name</b>	<b>Jarawa word</b>
1.	jackfruit	<i>a:p</i>
2.	a kind of jungle/wild tuber	<i>čə:w</i>
3.	banana	<i>čonel</i>
4.	coconut	<i>ɖa:g</i>
5.	a kind of jungle/wild tuber	<i>wa:h</i>
6.	a kind of jungle fruit	<i>əmmi:n</i>

## (ii) Nature

Nouns which describe nature and the cosmos are few in Jarawa. These words are free roots. A sample list of such words is in table 3.8.

Table 3.8: Jarawa words related to nature and the cosmos

	English word	Jarawa word
1.	sun	<i>jehejə</i>
2.	moon	<i>tape</i>
3.	star	<i>čilape</i>
4.	earth	<i>pela</i>
5.	air	<i>bi:jiŋ</i>
6.	sky	<i>paŋnaŋ</i>
7.	rain	<i>wəwə</i>

## (iii) Cultural artefacts

This section deals with items which are keys to the daily activities of the Jarawa people. These include different types of baskets, bows, arrows, ornaments, and other objects. Table 3.9 presents some of these nouns.

Table 3.9: Names of cultural artefacts

	English gloss	Jarawa word
1.	bow	<i>a:w</i>
2.	arrow	<i>pa:t<sup>h</sup>o</i>
3.	wooden basket for honey collection	<i>u:hu</i>
4.	knife	<i>to:wa:ɖ</i>
5.	rope/ bow string/ knitting fibre	<i>pado</i>
6.	fishing net	<i>pat<sup>h</sup>o</i>
7.	net basket	<i>pot<sup>h</sup>o</i>
8.	basket made out of cane	<i>ta:ɽka</i>
9.	cooking vessel	<i>bu:ɕ<sup>h</sup>u</i>

### 3.3.2.1 Gender

Jarawa lacks grammatical gender; thus there is no inflection for gender, nor is there any gender agreement within the Noun Phrase. However, the language has different lexical items to indicate the (natural) sex of an object. The examples in (3.24) demonstrate the occurrence of nouns in different genders. In (3.24), the words *əŋka:w* ‘old man’ and *əŋka:ja:b* ‘old woman’ as well as *ta:hwə* ‘bachelor’ and *ta:hwəja:b* ‘spinster’ indicate that the form {-ja:b} represents feminine gender.



However, the use of *ja:b* was found in only these two pairs of words, preventing any definitive statements on the matter of gender in Jarawa.

(3.24)	man	/əŋa:gi/	old man	/əŋka:w/
	woman	/əŋa:b/	old woman	/əŋka:ja:b/
	boy	/ta:wə/	bachelor	/ta:hwə/
	girl	/do:jə/	spinster	/ta:hwəja:b/

### 3.3.2.2 Number

Countable nouns in Jarawa are classified as singular and plural where singular denotes a single entity and plural indicates more than two entities. To express singular number, Jarawa makes use of zero marking while to denote plural, the language employs the suffix {-le}. The examples in (3.25) and (3.26) illustrate number marking in Jarawa.

	<b>Noun (stem)</b>	<b>+ suffix</b>	<b>Plural Noun</b>
(3.25)	<i>paŋ<sup>h</sup>o</i>	+ <i>le</i>	<i>paŋ<sup>h</sup>ole</i>
	arrow	PL	arrows
(3.26)	<i>do:jə</i>	+ <i>le</i>	<i>do:jəle</i>
	girl	PL	girls

However, the plural marking for plural nouns is not obligatory. Thus, example (3.25) can be reproduced without {-le}. Hence both the examples (3.27) and (3.28) are correct (see also § 3.3.3.3).

(3.27) *naja pat<sup>h</sup>o-le*  
 two arrow-PL  
 two arrows

(3.28) *naja pat<sup>h</sup>o*  
 two arrow  
 two arrows

### 3.3.2.3 Case marking

There is no overt syntactic case marking in Jarawa to differentiate between nouns in their different grammatical roles. Generally word order serves this purpose. Nonetheless Jarawa expresses the semantic case of the noun by means of postpositions, as shown in example (3.29). A detailed discussion of case marking is presented in section 3.7.

(3.29) *tenmej olleg də bəʔ<sup>h</sup>e*  
 Tenmey Olleg LOC go  
 Tenmey is going to Olleg.

### 3.3.3 Possession

Possession in Jarawa is expressed by prefixation of pronouns to the possessed noun. The possessive pronouns used in the language are similar to the personal pronouns used in other types of constructions. The possessive forms of pronominals are listed in table 3.10. The table 3.10 differs from the table 3.3 in listing the phonologically conditioned variants (“mi” and “ma” forms), and the

shortened forms (possessive prefixes) together (usage patterns of different forms of pronominals discussed in detail in § 2.5).

Table 3.10: Possessive forms

Person	Possessive Forms
1 <sup>st</sup> Person	<i>mi~ma~m</i>
2 <sup>nd</sup> Person	<i>ηi~ηa~na~η~n</i>
3 <sup>rd</sup> Person	<i>wa~w</i>

### 3.3.3.1 Inalienable possession

Inalienable nouns constitute those nouns which cannot be separated from the humans who possess them. These generally include the names of body parts. However, kinship terms are also included in inalienable nouns in Jarawa. Inalienable nouns exist as bound roots in this language and are prefixed with possessive pronouns as illustrated in example (3.30).

- (3.30) *m-odə*  
 1POSS-hair  
 my/our hair

Here *odə* stands for 'hair', but 'hair' cannot be expressed independently in this language if it refers to the hair of humans; it must be prefixed with a possessive prefix. Similarly, when kinship terms are to be expressed, they also have to be prefixed with possessive pronouns. However, there is a difference in the prefixation of possessive prefixes to the names of body parts and kinship terms. Kinship terms are (a) human specific, and (b) individual specific. That is, the

relationship between two or more individuals in the community is specific to those individuals and/or groups. Hence, they always refer to a definite individual/group in relation to another definite individual/group. Thus, when a kinship term is expressed in this language, it takes a definite possessive pronoun, as in example (3.31).

- (3.31) *m-awela*  
 1 POSS-brother-in-law  
 My brother-in-law (wife's brother)

Kinship terms are also formed by apposition. These kinds of kinship terms are used for address, not for reference terms. Thus, 'father of someone' will be translated as 'someone father'. The examples (3.32–3.33) exemplify the use of juxtaposed NPs for address terms. Note that the use of these address terms as reference term attracts the obligatory prefixation of possessive prefix as shown in (3.32a–3.33b).

- (3.32) *čajwaj ummə* Cayway's father (address term)  
 Cayway father

- (3.32a) *čajwaj wa-ummə* Cayway's father  
 Cayway 3POSS-father

- (3.33) *enme kaja* Enme's mother (address term)  
 Enme mother

- (3.33b) *enme wa-kaja* Enme's mother  
 Enme 3POSS-mother

In contrast, body parts may belong to a specific individual, an indefinite individual, or humans in general. In Jarawa, *ən-* is used as indefinite possessive prefix, which encodes indefinite generic interpretation related to humans. Thus, body parts take both kinds of personal possessive pronoun prefixes: definite when referring to a definite possessor, and generic when referring to humans in general. This is illustrated in example (3.34).

- (3.34) *ən-odə*  
 POSS<sub>[HUMAN]</sub>-hair  
 hair

Thus, ‘hair’ may be *ən-odə* for the hair of humans in general as in (3.34), or *m-odə* ‘my hair’ as given in (3.30).

### 3.3.3.2 Alienable

Nouns other than body parts and kinship terms are alienable nouns in Jarawa. Possession of an alienable noun is expressed by prefixing a possessive pronoun, as shown in (3.35–3.37).

- (3.35) *mi čadqa*  
 1POSS hut  
 My hut.

- (3.36) *ŋi čadqa*  
 2POSS hut  
 Your hut.

- (3.37) *wa*      *čadqa*  
           3POSS   hut  
           His/her hut.

If there are two nouns where one is possessor and the other is possessed, then the structure is *possessor* + 3POSS + *possessed* as given in (3.38).

- (3.38) *innen*            *wa*      *čadqa*  
           Non-Jarawa    3POSS   hut  
           Non-Jarawa's hut

### 3.3.4 Noun Phrase

This section presents a detailed examination of the constituents of the Noun Phrase which may include demonstratives, numerals, adjectives, and other kinds of nominal modifiers.

#### 3.3.4.1 Basic Noun Phrase

The noun phrase in Jarawa consists of a noun and optional modifiers like genitives, numerals, descriptive adjectives, and adverbs. Numerals and genitives precede the noun while descriptive adjectives follow the nouns. Adverbs follow the adjectives. The schema of a noun phrase is presented in (3.39) and illustrated in (3.40).

- (3.39) [Demonstrative] [Possessor] (Numeral) {(POSS)-(Noun)} (Adj (Adv)]

- (3.40) *mi naja paʔ<sup>h</sup>o-le ut<sup>h</sup>u t<sup>h</sup>uhumə*  
 1POSS two arrow-PL big very  
 My two very big arrows.

In this construction, *mi* functions as possessor which is also used as a possessive marker, so {*mi*} serves for both possessor and possessive prefix. But if the possessor and the possessed are both nominals, the possessive prefix will get attached to the possessed noun and the order of noun phrase will be as illustrated in (3.41).

- (3.41) *innen naja wa-paʔ<sup>h</sup>o-le hut<sup>h</sup>u t<sup>h</sup>uhumə*  
 Non-Jarawa two 3POSS-arrow-PL big very  
 Non-Jarawa's two big arrows.

### 3.3.4.2 Demonstratives

Jarawa does not have any article, though the morpheme *ɖi* sometimes seems to refer to definiteness; however it seems to function as a morpheme which demonstrates grammatical relations as well (for detailed discussion see § 4.9).

As mentioned earlier in § 3.3.1.2, *li* indicates proximity, while *luwə* denotes distance in this language.

- (3.42) *li paʔ<sup>h</sup>o*  
 this arrow  
 This arrow.

- (3.43) *luwə paʔ<sup>h</sup>o-le*  
 that arrow-PL  
 Those arrows.

### 3.3.4.3 Numerals and number marking

Jarawas have a counting system up to three, though recently they have coined a word for four. More than three or four suggests ‘many’. After some contact with officials of the Indian government and local residents, they have started showing their fingers to denote counting, and seem to be in the process of including the Hindi counting system in their communication with outsiders. The counting system of Jarawa is given in table 3.11.

Table 3.11: Numerals

	English Gloss	Jarawa
<b>1</b>	one	<i>waja</i>
<b>2</b>	two	<i>naja</i>
<b>3</b>	three	<i>kaŋitəʃile</i>
<b>4</b>	four	<i>ənə itəʃile (malawə)</i>
<b>5</b>	five	<i>mala ʔ<sup>h</sup>uhumə</i>

Jarawa does not use the strategy of invoking numerals to count objects in syntactic structure, unless asked to specify the number of objects. In such cases numerals precede the nouns, unlike adjectives, which follow the nouns. Nouns are classified as singular and plural (see § 3.3.2.2 for discussion of number), with optional plural marking. There are two nouns, *do:jə-le* ‘girls’ and *tawə-le* ‘boys’



which are generally used in plural reference. This may be because girls and boys live in groups rather than in isolation, and are thus considered a plural entity rather than individuals. However, when a woman gives birth to a girl child, the child is referred to as *do:j acəle* 'girl child'.

#### 3.3.4.4 Adjectives and Modifiers

In Jarawa, there are adjectives, possessive pronouns/prefixes, numerals, and quantifiers which function as nominal modifiers. Adjectives follow the noun while possessive prefixes (genitives) and numerals precede the nouns. It is illustrated in the examples (3.44–3.47).

- (3.44) *paɬ<sup>h</sup>o*      *huɬ<sup>h</sup>u*  
 arrow      big  
 A big arrow.

- (3.45) *mi-paɬ<sup>h</sup>o*  
 1POSS-arrow  
 My arrow.

- (3.46) *innen*              *wa-čadɬa*  
 Non-Jarawa      3POSS-hut  
 A non-Jarawa's arrow.

- (3.47) *naya pat<sup>h</sup>o*  
 two arrow  
 Two arrows.

### 3.4 Verbal morphology

This section discusses verbs and verb phrases. Section 3.4.1 focuses on the verb and its root forms. Section 3.4.2 deals with inflection and affixation related to verbs. Causative constructions are described in 3.4.7.

#### 3.4.1 Verbs and verb roots

Like nouns, verbal roots can also be classified as free or bound. Free roots exist independently while bound roots have an obligatory prefix. Verbs used exclusively for human actions are generally bound roots. For example, *ən-ətəhə* ‘sit’ contains the prefix {*ən-*}, and the root *ətəhə* which has been recorded as *m-ətəhə* ‘I sit’, *he-təhə* ‘s/he sits’, and *ən-ətəhə* ‘you sit’. Thus *ənətəhə* may mean (a) ‘you sit’, or (b) ‘sit<sub>[HUMAN]</sub>’. For non-humans, the verb for ‘sit’ is *oho*. The {*ən-*} prefix is not obligatorily for verbs used for both humans as well as non-humans. For instance, *ahapela* ‘run’ is used for both and therefore does not have the {*ən-*} prefix.

#### 3.4.2 Verbal affixes

In Jarawa, verbs take one prefix and one suffix. Generally, in the prefix category are pronominals (PRO), referential/definiteness markers (REF) or co-referencing element (COREF), while as suffix are evidentiality marker (EVD) modality ((MOOD)

and negative marker (NEG). The structure of a verb with its affixes is presented in (3.48).

(3.48) (PRO) (REF) (COREF) + Verb + (EVD) (MOOD) (NEG)

Only one prefix and one suffix may be attached to a verb in a clause. For example, if a clause has both a referential/definiteness marker and co-referential marker, the verb may take only the co-referential marker as a prefix, and the referential/definiteness marker occurs as a separate word, as illustrated in (3.49).

(3.49) *ma      čonel      d̥i      h-ija*  
 1ACC   banana   REF   3-give  
 Give me the banana.

Alternatively, the referential marker {*d̥i-*} may attach to the verb, in which case the co-referential marker gets deleted, as (3.50) demonstrates.

(3.50) *ma      čonel      d̥-ija*  
 1ACC   banana   REF-give  
 Give me the banana.

Similarly in the case of suffixes, one of the suffixes denoting evidential marker, modality marking or negative marking can be attached to a verb. (3.51) and (3.52) demonstrate the use of suffixes {-*hə*} and {-*ma*} and (3.53) and (3.54) show that both suffixes cannot attach simultaneously.

(3.51) *mi allema-hə*  
 1 come-HYP  
 I will come.

(3.52) *mi allema-ma*  
 1 come-NEG  
 I did not come.

(3.53) \**mi allema-hə-ma*  
 1 come-HYP-NEG  
 I will not come.

(3.54) \**mi allema-ma-hə*  
 1 come-NEG-HYP  
 I will not come.

### 3.4.3 Agreement

Jarawa verbs do not exhibit agreement with nominals in the clause. Sometimes, there is a co-referring element prefixed to the verb, but I refrain from calling it agreement because this co-referring element also has other functions. The examples (3.55–3.57) demonstrate that there is no agreement morphology in this language.

(3.55) *mi čonel t-ita*  
 1 banana REF-eat  
 I eat banana.

- (3.56) *ŋi čonel t-ita*  
 2 banana REF-eat  
 You eat bananas.

- (3.57) *hi čonel t-ita*  
 3 banana REF-eat  
 S/he eats.

### 3.4.4 TAM

Verbs in Jarawa do not carry tense and aspect information morphologically. However, it is possible to indicate time periphrastically through temporal adverbs. It seems that the Jarawas' perception of time does not extend beyond three days. If an action has happened four days earlier, the temporal adverb *palahe* 'long before' is used. Verbs take some suffixes which indicate modality and evidentiality (for detailed discussion see § 3.4.5.1). The examples (3.58–3.60) illustrate that there is no morphological marking of tense and aspect in Jarawa.

- (3.58) *mi t-ita*  
 1 REF-eat  
 I eat / am eating.

- (3.59) *kiŋaje mi čonel t-ita*  
 yesterday 1 banana REF-eat  
 Yesterday, I ate banana.

- (3.60) *kahiunen mi čonel t-ita*  
 tomorrow 1 banana REF-eat  
 Tomorrow I will eat.

### 3.4.5 Function of suffixes: evidentiality and modality

Modality in Jarawa is marked as a verbal inflection. The morphemes indicating mood are verb-sensitive: a morpheme can attach to a specific verb or group of verbs. The kinds of modality marked in Jarawa are assertive and hypothetical.

Jarawa expresses evidentiality morphologically. Evidentiality in Jarawa falls into two types: verifiable and non-verifiable. In verifiable cases, the speaker presents the event as truth, and the hearer can verify the truth of the statement by examining. In non-verifiable cases, the hearer does not have this facility. The Jarawas distinguish two types of evidentials in the non-verifiable category: one where the event is recent, so its effect of the event is still present; and the other where the event is not in the recent past, so its effect may have been lost.

#### 3.4.5.1 Evidential Marker

Jarawa employs evidential markers. This language distinguishes verifiable evidential marker and non-verifiable evidential marker. Verifiable evidential markers imply that the event can be verified by hearers and non-verifiable evidential markers signify that event cannot be verified. The suffix {-jə} ~ {-wa} is the verifiable evidentiality marker. The suffixes {-t<sup>h</sup>e} and {-b} are non-verifiable evidentiality marker.

## I. Verifiable Evidential Marker

### a. {-jə}

The presence of this suffix indicates that the statement made by the speaker can be verified by the hearer or other participants of the communicative event. This is used when the action/event is still in progress, or the object referred to in the event is still available. The examples below include context to make the usage clear.

*Context for (3.61): Some Jarawas are constructing a hut. Someone comes in and asks what they are doing. The reply would be (3.61).*

- (3.61) *mi čaḍḍa-le-jə*  
 1 hut-VS-VEVD  
 I/we am/are making the hut.

*Context for (3.62): Someone is climbing a tree and someone else asks what he is doing. The reply would be (3.62).*

- (3.62) *li taŋg ɖə čapɽ<sup>h</sup>e-jə*  
 PDEM tree LOC climb-VEVD  
 He is climbing the tree.

From examples (3.61) and (3.62), a possible inference is that {-jə} is marking present time and progressive. But this hypothesis requires further investigation here; there are other examples which indicate something else. Consider for instance, the example in (3.63).

*Context for (3.63): One person asks another when he will go. If the listener intends to go on the same day, the reply would be (3.60).*

- (3.63) *olla mi bæt<sup>h</sup>e-jə*  
 today 1 go-VEVD  
 I/we will go today.

From example (3.63) one might interpret the morpheme {-jə} as a marker of future tense, or present tense with progressive aspect indicating future time. The first option (future tense marker) is less likely because in (3.61) and (3.62) the same morpheme is used for present tense with progressive aspect. As it happens, in many languages of the world present tense with progressive aspect does indicate future time. However, example (3.64) below contradicts these two hypotheses.

*Context for (3.64): Someone wanting to know the whereabouts of Cayway's mother might be told the following.*

- (3.64) *čajwaja kaja lə:w d-enge-jə*  
 name mother honey REF-bring-VEVD  
 Cayway's mother has gone to bring honey.

The example (3.64) demonstrates that the cayway's mother has left for jungle and will bring honey, but she has not come yet. From this interpretation one might opt for a third option, that this morpheme indicates incomplete action. The example (3.65) shows a different usage.



*Context for (3.65): An official who was expected is standing on the side of the road with some bananas. A Jarawa man sees the bananas and calls out to his wife as below.*

- (3.65) *majoəba allema babu čonel d-enge-jə*  
 name come officer banana REF-bring-VEVD  
 Mayoəba, come, the officer has brought the bananas.

The example in (3.65) demonstrates perfective aspect and thus refutes all the three hypotheses. If we reconsider examples (3.61–3.65), we will find that except in (3.64), wherever {-jə} is used, it represents visual evidence. Before we make a final statement, let us look at some more examples.

*Context for (3.66): The researcher reaches the place where some Jarawas are staying and asks where the others have gone. The reply is as below.*

- (3.66) *əŋ di kɛjə də bəɬ<sup>h</sup>e-jə*  
 Jarawa REF forest LOC go-VEVD  
 Jarawa have gone to the forest.

This example does not rely on visual evidence because the others have already left for the forest. This is an example of perfective aspect, and is therefore in opposition to (3.61) and (3.62) which encoded progressive aspect. Before we reach at a conclusive result, we may consider the example given in (3.67).

*Context for (3.67): There is a drum inside the jungle. One of the Jarawas who is to pass it on to a non-Jarawa brought to the sea-shore in a dinghy. Officially, he is not allowed to give the drum to a non-Jarawa, and may, as happens sometimes, say he will do so but*

later not comply. As he leaves for the place where the drum is, he is asked whether he will bring the drum and he replies as below.

- (3.67) *mi olo-olo d-ene-jə*  
 1 drum REF-bring-VEVD  
 I will bring the drum.

In (3.67) this morpheme seems to represent the truth of the action/event. A comparison of all the examples suggests that {-jə} is not only used where visual evidence is available, but also where the action, event, or the object in the clause can be verified by other participants (in this case, the hearer) of the communicative event.

#### b. {-wa}

The suffix {-wa} is also used as verifiable evidential marker. The occurrences of the suffixes {-jə} and {-wa} are mutually exclusive (see Appendix III). It seems, therefore, that are allomorphs. The examples in (3.68–3.69) represent the use of the suffix {-wa}.

- (3.68) *mi inčo-wa*  
 1 drink-VEVD  
 I drank water.
- (3.69) *tenmej ta:ŋ d̥i ičilo-wa*  
 name tree REF cut-VEVD  
 Tenmey is cutting the tree.

The conditioning environment for occurrences of the allomorphs {-jə} and {-wa} seems to be phonological. {-jə} can occur with verbs which end with front vowels, and {-wa} with those which end with a back vowel.

## II. Non-Verifiable Marker

### a. {-t<sup>h</sup>e}

As we have seen in § 3.4.5.1.1, Jarawa uses a suffix that indicates that the action which is happening, (has) happened, or will happen, can be verified by the participants of the communicative events. The suffixes {-t<sup>h</sup>e} is used to denote that the action cannot be verified. The example (3.70) represents the use of this morpheme.

- (3.70) gəc<sup>h</sup>əhə      mi      inčo-t<sup>h</sup>e  
                  before now      1      drink-NVEVD  
                  I drank water earlier (before now).

### 3.4.5.2 Non-Evidential Marker

#### {-b}

The morpheme {-b} has two variants: {-b} and {-bə}. The meaning of this morpheme is not clear. It appears only with *ita* 'eat', as in (3.71). In the present work this morpheme is glossed as NEVD.

- (3.71) *mi h<sup>w</sup>əwə t-ita-b*  
 1 wild boar REF-eat-NEVD  
 I ate (the meat of) wild boar.

The corpus suggests that it also attaches to the adjective *qomo* ‘fine’ as given in (3.72).

- (3.72) *mi qomo-bə mi ŋ-aṭiba*  
 1 good-NEVD 1 2ACC-tell  
 When I am cured, I will tell you.

Since the data available is limited to these examples, further investigation is required to arrive at its precise meaning.

### 3.4.5.3 Modality Marking

#### I. Assertive Mood

##### {-jag}

The assertive/emphatic marker {-jag} has two variant forms {-jag} and {-g}. The conditioning environment for the occurrences of these two variants is phonological. If a verb ends with the vowel /a/, the {-g} suffix will be attached to it. {-jag} is used in all other cases. It generally indicates emphatic mood or shows a strong assertion. For example, in sentences (3.73–3.75) it means that the speaker emphasizes or asserts the action of giving and going.

(3.73) *mi ih-ija-g*  
 1 3-give-ASS  
 I really gave that.

(3.74) *hi bæt<sup>h</sup>e-jag*  
 3 go-ASS  
 He has gone.

(3.75) *mi pɪpə h-ija-g torči d-ija*  
 1 money 3-give-ASS torch REF-give  
 I gave you money, give me the torch.

## II. Hypothetical Mood

The hypothetical mood marker is generally used for actions which are doubtful or uncertain if they can occur. The suffix {-hə} expresses hypothetical mood.

### {-hə}

The suffix {-hə} indicates the hypothetical mood. It incorporates those actions/events which are supposed to occur in future, but there is no certainty whether it will take place. It also includes doubtful events/actions.

*Context for (3.76): A group of Jarawas is to move to another place. At the time of moving, one of the Jarawas asks the researcher whether he would come to the place they are supposed to move, as shown in (3.75).*

- (3.76) *ka ni allema-hə*  
 INTM 2 come-HYP  
 Will you come?

The sentence (3.76) has two interpretations: (1) the speaker is uncertain whether the addressee will come to that place, or (2) the speaker was certain that the addressee will not come to that place.

*Context for (3.77): Two Jarawas are together. A government official comes and informs them that Talu's father has gone to Baratang. The Jarawas gossip among themselves and then utter (3.79) in surprise. Talu's father had told them that he would go to Baratang, but they were certain that he would not.*

- (3.77) *talū-əba aʔiba mi barataŋ də bəʔ<sup>h</sup>e-hə*  
 name-father say 1 place.name LOC go-HYP  
 Talu's father said that he would go to Baratang (the addressees were uncertain about his going).

### 3.4.6 Function of prefixes

There are three types of prefixes generally attached to verbs. One is the pronominal, which, when attached to a verb as prefix, has two different functions: (a) subject of intransitive verb or object of transitive verb, or (b) co-referencing element. Only third person pronouns can be used as co-referencing elements. These two different functions of pronominals are described here as two different prefixes.

Another element which can be prefixed to a verb is referential/definiteness marker. Usually part of a noun phrase (S or O argument of a clause), it can attach to a verb as a prefix when there is no intervening element between the referentiality marker and the verb.

#### 3.4.6.1 Pronominals

Pronominals in Jarawa are more likely to be prefixed to verbs that start with a vowel. Subject pronominals attach to an intransitive verb while object pronominals attach to a transitive verb. If the verb is ditransitive, neither subject nor indirect object pronominals attach to the verb. The nature and distribution of these pronominals have been discussed in detail in § 3.3.1.1. Therefore, in this section we will concentrate only on the use of the definiteness/referential marker and co-referencing marker.

#### 3.4.6.2 Referential/definiteness marker {*di-*}

It seems that there are different functions of {*di-*}. Sometimes it denotes referentiality and sometimes definiteness. Though referentiality and definiteness are similar concepts, I discuss separately, to distinguish between references made to the visual (within sight of speaker-hearer), and non-visual (indefinite object; its reference is derived from the preceding context). The former uses the referential marker and the latter the definiteness marker. For instance, in (3.78), *iŋ* 'water' refers to water within sight of the speaker-hearer.

- (3.78) *ma iŋ d-ija*  
 1ACC water REF-give  
 Give me that water. (water is seen)

In (3.78), this morpheme is employed with the noun *pɛpə* ‘money’. In this example, the speaker refers to money which he has just given, that may not have a visual reference; the reference for this noun is drawn from the previous context (for detailed discussion, see § 4.9.2).

- (3.78) *mi pɛpə d-ija tɔrči h-ija*  
 1 money REF-give torch light 3-give  
 I gave you money, give me a torch light.

### 3.4.6.3 Co-referencing element {*hi-*}

The third person pronominal is employed to co-refer with a third person object nominal of the clause. This pronominal is prefixed to the verb. It has different allomorphs, {*hi-*}, {*ih-*}, {*ihi-*}, {*əhi-*}, and {*h-*}. It can also be used to refer to indefinite objects. In the sentence (3.79), {*ih-*} is used as 3<sup>rd</sup> person pronoun which refers to an object. In (3.80), {*h-*} is employed to co-refer with the noun *iŋ* ‘water’. *iŋ* is here indefinite because it is not within sight. In (3.81), {*h-*} co-refers with the nominal *conel* ‘banana’ which has moved to second position. In (3.82), there is no {*h-*}, because {*dj-*} has been prefixed to the verb.



- (3.79) *mi ih-ita*  
 1 3-eat  
 I ate that (food).

- (3.80) *ma iŋ-e h-ija*  
 1ACC water-EM 3-give  
 Give me water (water is not seen).

- (3.81) *jugd<sup>h</sup>a čonel đi ma h-iya*  
 PN banana REF 1ACC 3-give  
 Yugdha gave me the banana.

- (3.82) *jugd<sup>h</sup>a ma čonel đ-ija*  
 PN 1ACC banana REF-give  
 Yugdha gave the banana to me.

#### 3.4.6.4 Conflict between {*đi-*} and {*hi-*}

We have observed that one of the functions of {*đi-*} is to indicate definiteness, and that {*hi-*} co-refers with the O argument of the clause as well as indefiniteness; and they usually prefix to the verbs. Both the morphemes {*đi-*} and {*hi-*} cannot prefix to the verb together. {*đi-*} can stand alone while {*h-*} has to be prefixed to the verb obligatorily. As a syntactic rule, {*đi-*} will be prefixed to the verb when there is no intervening element between it and the verb. In such cases, {*h-*} is dropped. In sentence (3.83) we have both {*đi-*} and {*h-*} but {*đi-*} is not closer to the verb. In

sentence (3.84) {*d̥i*} is closer to the verb but stands alone. In (3.85) {*d̥i-*} is prefixed to the verb and {*h-*} is dropped. The sentences (3.84) and (3.85) demonstrate the conflict between {*d̥i*} and {*h-*}, and the resolution to that conflict: {*h-*} is dropped.

(3.83) *tete*    *paṭ<sup>h</sup>o*    *d̥i*    *ma*    *h-ija*  
 PN        arrow    REF    1ACC    3-give  
 Tete gave me the arrow.

(3.84) *tete*        *ma*        *paṭ<sup>h</sup>o*    *d̥i*        *h-ija*  
 PN        1ACC    arrow    REF        3-give  
 Tete gave the arrow to me.

(3.85) *tete*        *ma*        *paṭ<sup>h</sup>o*    *d̥-ija*  
 PN        1ACC    arrow    REF-give  
 Tete gave the arrow to me.

### 3.4.7 Causatives

Jarawa uses two kinds of strategies to form causatives: morphological and syntactic. Morphological causatives are formed by prefixing the causative morpheme {*wa-*} to the verbs, while syntactic causatives are formed by using the verb of cause {*woj̥oṭ<sup>h</sup>o*} with the main verb.

#### 3.4.7.1 Morphological causatives

Morphological causatives in Jarawa are part of the verbal morphology. The causative morpheme {*wa-*} is prefixed to a verb to form the causative

construction. For example, in (3.86), *t<sup>h</sup>ulə* ‘sleep’ is an intransitive verb which takes {*wa-*} as a prefix, adding the meaning ‘cause’, to become ‘cause to sleep’.

- (3.86) *aččəle wa-t<sup>h</sup>ulə*  
 child CAUS-sleep  
 Make the child sleep.

In such constructions, the causer is treated as the agent (A) argument of the verb; and the causee as the patient or O argument. This is evident from the use of the definiteness/referential marker {*d<sub>i</sub>*} which is used with the S or O argument of the clause. The sentences (3.87–3.88) illustrate this.

- (3.87) *wa-mummə aččəle d<sub>i</sub> wa-t<sup>h</sup>ulə*  
 3POSS-father child REF CAUS-sleep  
 His/her father made the child sleep.

- (3.88) *wa-kaja aččəle d<sub>i</sub> wa-le-jə*  
 3POSS-mother child REF CAUS-eat-VEVD  
 His/her mother is making the child eat.

In (3.88) the verb {*le*} ‘cause to eat’ seems to be a suppletive morpheme of *ita* ‘eat’ which occurs only in causative constructions. In (3.88), *aččəle* ‘child’ is treated as the patient (O argument) of the verb *le*. The direct object can also be used constructions where the lexical verb is already transitive. In such condition, the causee which is treated as the O argument of the verb will be coded as IO, and

the second argument becomes DO. For instance, in (3.89) *čonel* ‘banana’ is introduced as the patient or O argument of the verb *le*, making *aččale* ‘child’ an IO. The construction in (3.89) is identical to that found with ‘give’.

- (3.89) *wa-kaja*            *aččale* *ḍi*    *čonel*    *ḍi*    *wa-le-jə*  
 3POSS-mother    child    REF    banana    REF    CAUS-eat-VEVD  
 His/her mother is feeding the banana to the child.

Our corpus has only two verbs at present which represent morphological causatives, but its productivity cannot be denied with other verbs in larger context. Since there is another option to express causation, i.e. the syntactic causative, the corpus lacks more examples for morphological causatives.

### 3.4.7.2 Syntactic causatives

Syntactic causatives are formed using the independent word for causation along with the lexical verb. In the present study it is, however, difficult to establish whether the independent word for causation is a causative verb. Hence in this work the independent word is glossed as causative (CAUS). The modality/evidentiality suffix is attached to the main verb rather than the causative (verb).

In causative constructions, if the lexical verb is intransitive, the causer acts as A argument of the clause and the causee becomes the O argument. According to general syntactic rules, the O argument will take definiteness/referential marker {*ḍi*}. Thus, the schema of syntactic causative constructions of intransitive verbs

would be as given in (3.90). In (3.91), the lexical verb *indəʔ* 'take bath' has been causativised. Thus, the causer *wami* 'his/her elder sister' becomes the A argument of the clause and *hiwa* '3ACC' becomes the O argument of the clause.

(3.90) [causer]<sub>NP</sub> [cause]<sub>NP</sub> [cause verb]<sub>VP</sub> [lexical verb]<sub>VP</sub>

(3.91) *w-a:mi*                      *hiwa*    *wojot<sup>ho</sup>*    *ində*  
 3POSS-elder sister    3ACC    CAUS    bathe  
 His/her elder sister bathed him.

If there are peripheral arguments, like adjuncts, in such causative clauses, they precede the lexical verb. Thus, the schema for causative constructions of intransitive verbs with peripheral arguments would be as given in (3.92) and illustrated by (3.93).

(3.92) [causer]<sub>NP</sub> [cause]<sub>NP</sub> [cause verb]<sub>VP</sub> [adjunct]<sub>PP</sub> [verb]<sub>VP</sub>

(3.93) *wa-kaja*                      *əččəle*    *dj*    *wojot<sup>ho</sup>*    *taŋ*    *də*    *čapt<sup>he</sup>-jə*  
 3POSS-mother    child    REF    CAUS    tree    LOC    climb-VEVD  
 His/her mother is making the child climb up the tree.

Similarly, if the lexical verb is transitive, the O argument remains the O argument of causative clause, but the A argument of the transitive clause becomes IO of the causative clause. The O argument precedes the lexical verb

---

<sup>7</sup> The verb *indəʔ* 'take bath' is an intransitive verb in this language.

while IO precedes the cause verb. In general, the schema of causative construction of transitive verbs is presented in (3.94) and illustrated in (3.95).

(3.94) [**causer**]<sub>NP</sub> [**causee**]<sub>NP</sub> [**cause verb**]<sub>VP</sub> [**object**]<sub>NP</sub> [**verb**]<sub>VP</sub>]]]

(3.95) *wa-kaja            aččale    ɖi    woŋo<sup>h</sup>o    iŋ-e            ɖi    inčo-wa*  
 3POSS-mother    child    REF    CAUS            water-EM    REF    drink-VEVD  
 His mother made the child drink water.

This kind of pattern for causative constructions indicates that Jarawa makes use of two clauses to form causative constructions. This is presented in (3.96).

(3.96) [**causer**]<sub>NP</sub> [**cause**]<sub>NP</sub> [**Verb**<sub>[CAUSE]</sub>]<sub>VP</sub>] [**arguments**]<sub>NP</sub> [**adjuncts**]<sub>PP</sub> **Verb**]<sub>VP</sub>]]

### 3.5 Adjectives and Adjective Phrases

Jarawa has descriptive adjectives or what can be called pure adjectives. It has adjectives (a) related to colour terms, (b) which describe/define a noun, and (c) which qualify a noun. Numerals and determiners/demonstratives are not discussed in this section, they are talked about in detail in other sections (for detailed discussion of numerals, see § 3.3.3.2; for determiners, see § 3.3.3.1). Jarawa distinguishes between descriptive and other types of adjectives like numerals, demonstrative adjectives. Syntactically, the word order of descriptive adjectives is different from that of other types. Though mentioned briefly in the section on noun phrase, it would be better to go into detail about these adjectives below.

### 3.5.1 Descriptive adjectives

Jarawa uses descriptive or pure adjectives attributively and predicatively. In both cases the adjective follows the noun. When it is used attributively, it simply modifies the immediate noun, but when it is used predicatively, it is used as the predicate of a verbless clause. Attributive use follows the pattern in (3.97). This is illustrated by example (3.98.)

(3.97) **Noun + Adjective**

(3.98) *paŋ<sup>h</sup>o huŋ<sup>h</sup>u*

arrow big

big arrow

### 3.5.2 Demonstrative adjectives

Jarawa lacks the use of copula between demonstrative pronouns and nominals. This causes demonstrative adjectives and demonstrative pronouns to appear the same. (3.99) illustrates this.

(3.99) *li paŋ<sup>h</sup>o-le*

PDEM arrow-PL

These are arrows.

The sentence (3.99) can also mean only the phrase 'these arrows'. It is difficult to syntactically assess whether (3.99) is a clause or a phrase. If this phrase is employed as a subject or an object of a clause, then it can be interpreted as a demonstrative adjective. For instance, in example (3.100), *luwə paŋ<sup>h</sup>o-le* 'those

arrows' is an example of a demonstrative adjective as this entire noun phrase is used as an object of the clause.

- (3.100) *luwə*      *paʔ<sup>h</sup>o-le*    *ɖ-enɟe*  
 DEM-A    arrow-PL    REF-bring  
 Bring those arrows.

### 3.5.3 Degree of adjectives

Jarawa differentiates between degrees of comparison. The language displays positive, comparative, and superlative degrees. The degree of comparison is not expressed morphologically. Rather, syntactic strategies are employed to express degree of comparison. Positive degree is formed by using noun and adjective, illustrated by (3.101).

- (3.101) *tenmej*    *t<sup>h</sup>i*      *čew*  
 PN            COP    good  
 Tenmey is good.

In the comparative degree involving comparison of two nouns, the noun being compared precedes, without any additional morpheme (it has zero case marking). The standard of comparison follows, and appears with a morpheme {wɛ} which is, in the present study, referred to as the comparative morpheme (COMPM). This morpheme may also be referred to as a postposition, as it is used after the standard of comparison, not with the adjective. In this work {wɛ} is taken as a comparative morpheme because its use is limited to comparison in the



present corpus, and there is no other comparison-denoting element in such constructions.

- (3.102) *ugə momo wε tʰi učəhə*  
 Ugə Momo COMPM COP short  
 Ugə is shorter than Momo.

The superlative degree is formed by combining the adjective with an adverb, or by using a new word which is not morphologically similar to the positive form of a descriptive adjective. In (3.103), there is an adverb *tʰuhumə* ‘very’ which is used to indicate superlative degree.

- (3.103) *kopel-wa-a:w tʰi hutʰu tʰuhumə*  
 Kopel-POSS-bow COP big very  
 Kopel’s bow is the biggest one.

In example (3.104), *tomono* ‘shortest’, is morphologically different from the positive form, *učəhə* ‘short’.

- (3.104) *m-a:w tʰi tomono*  
 1POSS-bow COP shortest  
 My bow is the shortest one.

In comparative and superlative degrees, the copula *tʰi* is used before the adjective as linking verb which links the noun with the adjective.

### 3.5.4 Adjective Phrases

Unlike numerals and the possessive prefix, the Adjective Phrase follows the nouns. They may contain adverbs (intensifiers).

## 3.6 Adverbs

Jarawa has adverbs as a distinct word class. There is no derivational process to convert adjectives into adverbs in this language. The adverbs which exist in this language are purely lexical items. In this work adverbs will be classified as intensifiers, temporal adverbs, and spatial adverbs.

### 3.6.1 Intensifier

These are adverbs which modify adjectives or verbs. The number of adverbs in this group is very small; only two or three such adverbs are attested. One of them is *t<sup>h</sup>uhumə* ‘very’. The adverb *t<sup>h</sup>uhumə* is widely used to modify descriptive adjectives and verbs. For instance, in example (3.105), *t<sup>h</sup>uhumə* modifies an adjective and in example (3.106) it modifies a verb. In both cases it follows the element which it modifies.

(3.105) *pa<sup>t</sup>ʰo talu t<sup>h</sup>uhumə*

arrow long very

A very long arrow.

(3.106) *ahapela t<sup>h</sup>uhumə*

run very

Run (very) fast.

### 3.6.2 Temporal adverbs

Temporal adverbs are those adverbs which denote time, like *today*, *tomorrow*, *morning*. Jarawa divides time as today, a day before today, a day after today. The day is divided into morning before sunrise, morning after sunrise, noon, evening, and night.

### 3.6.3 Spatial adverbs

Jarawa divides immediate space into two different categories: proximate and distant. Some examples of spatial adverbs include *ik<sup>h</sup>ə* ‘here (more proximate)’, *lijə* ‘here’, *luwə* ‘there’, *but<sup>h</sup>ə* ‘near’, and *no:da* ‘far away’. The usage of two other words, *lihəle* and *luwhəle* is not clear. The adverbs *lijə* ‘here’ and *luwə* ‘there’ take suffix {-*k<sup>h</sup>ə*} and *ik<sup>h</sup>ə* ‘here’ takes {-*gə*}. Though the meaning of these suffixes is not clear, these are glossed as PL ‘place marker’ in the present study.

## 3.7 Postposition

In the present study it is difficult to ascertain whether Jarawa has postpositions. Only two morphemes are attested which could be termed as postpositions. These are {*də*} and {*ɲač<sup>h</sup>e*}. {*də*} is glossed as locative (LOC) and {*ɲač<sup>h</sup>e*} is glossed as comitative (COM). {*də*} is a multifunctional morpheme. It is employed to indicate place of location, source of location, goal of location, and sometime it is also used

with temporal and spatial adverbs. {*nač<sup>he</sup>*} marks the comitative. Note that use of {*də*} as a postposition appears to be vague. Sometimes this morpheme was found as a separate word (particularly with longer words polysyllabic words) and sometimes seemed to exist as a suffix (especially with monosyllabic and disyllabic words). As for {*nač<sup>he</sup>*}, it is evident that this morpheme is used as a postposition.

### 3.7.1 Use of {*də*}

The morpheme {*də*} has multiple functions in this language. It used with nominals which indicate location of actions/events, and with temporal and spatial adverbs. In location of actions/events it specifies place of location, source of location and goal of location.

#### 3.7.1.1 Place of location

The morpheme {*də*} is used with nominals to express the place of location of the action/event. In (3.107), {*də*} has been employed with *čadqa* 'hut'. The combination gives the place of location for the verb action *čalahe* 'stay'.

- (3.107) *mi čadqa də čalahe-jə*  
 1 hut LOC stay-VEVD  
 I will stay at the hut.

### 3.7.1.2 Source of location

This morpheme is also used with nominals to indicate the source of location of the action/events. For instance, in sentence (3.106) *pɪpə* ‘leaf’ is falling from the tree. In (3.108) ‘tree’ is the source of location of the action ‘falling’. Hence *tan* ‘tree’ takes {*də*}.

- (3.108) *tan də pɪpə huwaji-jə*  
 tree LOC leaf fall-VEVD  
 The leaf is falling from the tree.

### 3.7.1.3 Goal of location

This morpheme is also employed with nominals to express the goal of location of the action/event. For instance, in sentence (3.109) Olleg is the name of a place which is the goal of the verb *bait<sup>h</sup>e* ‘go’. Hence it takes {*də*}.

- (3.109) *ut<sup>h</sup>a olleg də bait<sup>h</sup>e*  
 Utha Olleg LOC go  
 Utha is going to Lakralunda/Olleg.

### 3.7.1.4 Temporal adverbs

When temporal adverbs (like English *morning, evening, yesterday*), denote points of time, they take the morpheme {*də*} as shown in (3.110). If used for periods of time, they do not take {*də*}; see example (3.111).

- (3.110) *kahijunen də mi napo t-ita-b*  
 morning LOC 1 fish eat-NVEVD  
 In the morning, I ate the fish.

- (3.111) *kiŋaje mi olleg də bæt<sup>he</sup>*  
 yesterday 1 place.name LOC go  
 Yesterday, I went to Olleg.

### 3.7.1.5 Spatial adverbs

When a speaker uses a spatial adverb to refer to an object which has an attachment with a place, the adverb takes the morpheme {*də*}. It can be illustrated from the example (3.112).

- (3.112) *luwa də mi-paŋ<sup>ho</sup>*  
 there LOC 1POSS-arrow  
 There is my arrow.

The summary of the use of {*də*} is presented in table 3.12.

Table 3.12: Functions of {*də*} as postposition with reference to semantic roles

Descriptive Names	Semantic roles
place of location	locative
source of location	ablative

goal of location	destination
temporal adverbs	point in time
spatial adverbs	place

### 3.7.2 Use of {*ɲač<sup>h</sup>e*}

Another word that is used as postposition is {*ɲač<sup>h</sup>e*}. This postposition is employed when a person accompanies another person in an action/event. Sentence (3.113) demonstrates the use of {*ɲač<sup>h</sup>e*}. Note that in (3.113) the second person pronoun which is the S argument of the clause is dropped. (3.114) is the response for the question asked in (3.113). I have used the term comitative (COM) for this postposition.

(3.113) *onne d̪aŋ (d̪i-aŋ) ɲač<sup>h</sup>e allema*  
 who REF-Jarawa COM come  
 Which Jarawa did you come with?

(3.114) *mi topo-d̪ ɲač<sup>h</sup>e allema*  
 1 Topo-REF COM come  
 I came with Topo.

### 3.8 Copula {t<sup>hi</sup>}

The morpheme {t<sup>hi</sup>} has various usages in this language. It is used for identifying an entity, or to qualify a noun. This morpheme also comes with the negative particle, if the negative particle is used for short responses. It is also used with spatial adverbs in short responses. Sometimes this morpheme appears with verbs when the verb is used in adverbial relation to the main verb. Based on the different usages of {t<sup>hi</sup>}, it can be termed a copula in this language.

Unlike the verb which follows the object, this copula precedes the nominal predicates or adjectival predicates. Jarawa is an SOV language. The expected word order is noun, then nominal predicate or adjectival predicate, followed by copula. However, the copula is used between the subject and the nominal predicate or adjectival predicate. This copula may be inflected for modality/evidentiality, but we have few examples which demonstrate this. Followings are the usage of {t<sup>hi</sup>}.

#### Usage of {t<sup>hi</sup>}

**1. Identity:** It is used to indicate the identity of a noun. For instance, in example (3.115) *Tenmey* is a proper noun (the name of a person), *əŋ* means the Jarawa community and {t<sup>hi</sup>} connects both the nouns.

- (3.115) *tenmej*    t<sup>hi</sup>    əŋ  
           Tenmey COP    Jarawa  
           Tenmey is Jarawa.



However, if there is a pronoun instead of the noun, no copula will be used, as shown in example (3.116).

- (3.116) *mi əŋ*  
 1 Jarawa  
 I/we am/are Jarawa.

In (3.117) below,  $\{t^hi\}$  is employed with the interrogative pronoun *onne* ‘who/which’. Here it seems that there are two clauses [*onne t<sup>hi</sup> əŋ*]<sub>i</sub> and [ $\emptyset$ : *lə:w d-ahole*]. The first clause, ‘it is which Jarawa’, becomes the A argument of the second clause ‘collected the honey’ (for detailed discussion see § 4.10).

- (3.117) *onne t<sup>hi</sup> əŋ      lə:w      d-ahole*  
 who COP Jarawa honey REF-collect  
 It is which Jarawa who collected the honey?

**2. Quality:** It is also used with a descriptive but predicative adjective. For instance, in example (3.118) *ut<sup>ha</sup>* is a proper noun, the name of a person, *ut<sup>hu</sup>* means ‘fat’, and  $\{t^hi\}$  comes in between the noun and adjective.

- (3.118) *ut<sup>ha</sup>      t<sup>hi</sup>      ut<sup>hu</sup>*  
 name COP fat  
 U<sup>ha</sup> is fat.

However, if there is a pronoun instead of the noun,  $\{t^hi\}$  will not be used, as in the example (3.119).

(3.119) *hi ut<sup>hu</sup>*

3 fat

He is fat.

**3. Negative particle:** It is also used with the negative particle *naqem* 'not'.  $\{t^{hi}\}$  is employed with negative particle when the negative particle is used for a short response of a sentence or clause. This is illustrated by the example (3.120a and 3.120b).

(3.120a) *ka pramod t<sup>hi</sup> əŋ*

INTM Pramod COP Jarawa

Is Pramod a Jarawa?

(3.120b) *t<sup>hi</sup> naqem*

COP not

He is not.

In (3.120a) there is a question and we get the response as in (3.120b). However, it is not essential to get the question like (3.120a) everytime, and hence the meaning of the sentence can be derived from the context in which the conversation is carried out.

**4. Spatial adverbs:** It is used with place adverbials like *noqa* 'far' and *but<sup>ha</sup>* 'near'. Generally, it is employed in short responses to a question. (3.121a) and (3.121b) illustrate the use of  $\{t^{hi}\}$  with place adverbs.

(3.121a) *ka olleg t<sup>hi</sup> noḡa*  
 INTM Olleg COP far  
 Is Olleg far away?

(3.121b) *t<sup>hi</sup> noḡa*  
 COP far  
 It is far away.

5. Sometimes it is also used with other verbs, especially when there are two verbs, and one verb is used as an adverb. The verb which is used as an adverb will take {*t<sup>hi</sup>*}, as in the example (3.122)

(3.122) *mi t<sup>hi</sup> čawaja allema*  
 1 COP walk come  
 I came walking.

6. Sometimes when the S argument of the intransitive verb is an adjective, {*t<sup>hi</sup>*} follows the adjective and precedes the verb (see 3.123 below).

(3.123) *malawə t<sup>hi</sup> bəṭt<sup>he</sup>*  
 many COP go  
 Many (Jarawa) have gone.

### 3.9 Word formation

Jarawa uses four strategies to form new words. They are:

1. Compounding
2. Denominalization
3. Reduplication
4. Empty morpheme

#### 3.9.1 Compounding

Jarawa uses compounding of two or more words to coin a new word. The strategy to make compounds is to use two nouns to form a compound as given in (3.124).

$$(3.124) \quad \text{ən-ijapo-talaŋ} \quad = \quad \text{nostril}$$

[+HUMAN]-nose-hole

Jarawa also uses compounding of a noun with an adjective to form new words as given in (3.125).

$$(3.125) \quad \text{ij-tapo} \quad = \quad \text{fresh water (drinking water)}$$

water-good

Similarly the compound Noun + Noun + Adjective is also attested, as shown in (3.126).

$$(3.126) \quad \text{h}^{\text{w}}\text{a-ij-tapo} \quad = \quad \text{watercourse (stream with clear, good drinking water)}$$

stream-water-good

Table 3.13: Examples of Jarawa compound nouns

Jarawa	English
<i>ən-ik<sup>h</sup>wag-talaŋ</i> [HUM-ear-hole]	earlobe
<i>ən-epo-hi<sup>u</sup>gə</i> [HUM-eye-ball]	eyeball
<i>ən-epo-<sup>t</sup>hugə</i> [HUM-eye-small.hair]	eyebrow

### 3.9.2 Denominalisation

Generally nouns can be changed to verbs by suffixation. The verbalising suffix (VS) {-le} serves the function of changing nouns to verbs. This is shown in (3.127–3.128) and table 3.14 presents more examples of denominalised verbs.

(3.127) *ča:q̄q̄a + le = ča:q̄q̄ale*

hut + VS = to construct a hut

(3.128) *uq̄qu + le = uq̄qule*

cough + VS = to cough

Table 3.14: Examples of Jarawa denominalised verbs

Jarawa	English
<i>t<sup>h</sup>uhəb-le</i> fire-VS	to burn wood
<i>wočewoče-le</i> piling-VS	to put together
<i>t<sup>h</sup>ui-le</i> swing-VS	to swing
<i>taŋg-le</i> bicycle <sup>8</sup> -VS	to ride bicycle
<i>ipo-le</i> bark-VS	to remove the bark of a tree

### 3.9.3 Reduplication

Reduplication in Jarawa is the repetition of a syllable or a word. The repetition of a syllable is shown in (3.128) and (3.129). The words *eweewe* ‘itching’ and *wočewoče* ‘piling’ exhibit repetition of syllables *ewe* and *woče* respectively.

(3.128) *eweewe* ‘itching’

(3.129) *wočewoče* ‘piling’

---

<sup>8</sup> This word is referred to bicycle or any type of vehicle; hence this verb refers to using any kind of vehicle.

However, an entire word can also be reduplicated. If a word like a verb (only verbal category is present in my corpus) is reduplicated, it has the function of adverbial modifier. The example in (3.129) demonstrates how the word *cajwaj* ‘walk’ is reduplicated.

- (3.129) *mi čawaja čawaja allema*  
 1 walk walk come  
 I came walking.

### 3.9.4 Empty morpheme

An empty morpheme has been observed attached to nouns. The meaning of this empty morpheme is not clear, hence it is classified as “empty”. It is generally attached to personal names but also to other nouns. It is shown in the examples (3.130–3.132).

- (3.130) *babu-i*  
 official-EM  
 Official

- (3.131) *dippu-i*  
 Dippu-EM  
 Dippu (Personal Name)

- (3.132) *iŋ-e*  
 water-EM  
 Water

It has two allomorphs, /i/ and /e/. /i/ is attached to words which end with a high vowel, and /e/ is attached elsewhere.

### **3.10 Conclusion**

I have discussed the morphology of Jarawa in this chapter. This included noun morphology, verbal morphology, and causatives. This chapter also dealt with other word classes like adjectives, adverbs and postpositions, and discussed copula constructions. In noun morphology it was observed that pronominal-headed NPs behave differently from nominal-headed NPs.

Jarawa makes use of verifiable evidential, assertive mood, and hypothetical mood. We have noticed a word order phenomenon in this language, where the copula precedes the nominal predicates or adjectival predicates.

In the adjective class we found two types of adjectives: (a) descriptive adjectives, and (b) demonstrative, numerals, and possessives. Descriptive adjectives follow the noun whereas demonstrative, numerals, and possessives precede the noun. Adverbs are classified into two groups: (a) intensifiers, and (b) participle forms of verbs.



## CHAPTER 4: SYNTAX

### 4.0 Introduction

The preceding chapter was a detailed study of Jarawa morphology. The present chapter attempts to describe the syntactic structure of Jarawa: syntactic strategies (how the language conveys commands, requests; the formation of questions, the use of Reported Speech, and so on) and clause structure. The chapter will elaborate these structures and their variances.

The chapter is organized in the following manner. In section 4.1, I present a brief introduction to Jarawa clause structure. Section 4.2 discusses the verbless clause in which a nominal or an adjective may play the role of a predicate. In section 4.3 is a detailed discussion of the verbal clause with core argument. Section 4.4 discusses verbal clauses with peripheral arguments. Section 4.5 focuses on the negative construction, and section 4.6 describes imperative structures (includes commands, requests, and prohibition). Section 4.7 concentrates on how interrogative constructions are formed: it further focuses on yes/no and wh-question types. In section 4.8, complex sentences are discussed, and a close examination of direct speech is presented. Section 4.9 attempts to depict the function of definiteness/referential morpheme  $\{di\}$  which seems to be used in the ergative-absolutive system. Section 4.10 presents the conclusion of the chapter.

### 4.1 Clause Structure

Jarawa employs two types of clausal structures: verbless clauses where nominals or adjectives function as head of the predicate; and verbal clauses where verbs

are the head of the predicate, with core arguments and/or peripheral arguments. Both types of clauses have different morphological and syntactic structures. Verbless clauses generally lack modality categories which are part of verbal clauses.

Verbless clauses (nominal predicates and adjectival predicates) contain nouns or adjectives as the head. Morphologically, adjectival predicates differ from nominal predicates at least in terms of affixation, but cannot be classified as verbal predicates for they combine with a marker {-g} which differentiates adjectival predicates from nominal predicates. I have made an attempt to investigate whether the morpheme {-g} is equivalent to the suffix {-g} which is attached to verbal predicate. It has been observed that no other suffixes, which can be attached to verbal predicates, can be attached to adjectival predicates. In the case of nominal predicates there is no prefixation of S argument pronominals, but in adjectival predicates such prefixation is possible in cases where adjectival predicates begin with a vowel. Otherwise, adjectival predicates follow the syntactic structure of nominal predicates.

The copula can be the head of a predicate; it takes modality suffix. Data in the corpus, at this point, is limited to only one sentence. Thus it is difficult to ascertain whether the copula should be considered as a predicate. Moreover, it has another function in the syntactic structure of the language: it is sometimes used with verbs used to indicate adverbial function (detailed discussion in § 3.8). In this dissertation copula constructions are described under verbless clauses.

Clause structures are also defined in terms of the arguments. In verbal clauses, the core arguments S (subject), A (agent), O (object) are defined in terms of the

Subject of intransitive verb, Agent of transitive verb and Object of transitive verb respectively.

## **4.2 Verbless clauses**

The two types of verbless clauses — nominal predicates and adjectival predicates — differ morphologically and syntactically. Nominal predicates do not bear any morphological marking, whereas adjectival predicates can have morphological marking.

### **4.2.1 Nouns as head of verbless clause**

While verbal predicates take modality and evidential categories as suffixes, and adjectival predicates may also take a suffix (for detailed discussion see § 3.5 and § 4.2.2.3), nominal predicates never take such suffixes. Also, unlike verbal and adjectival predicates, pronominals are not prefixed to S argument of nominal predicates.

Nominal predicates have two different kinds of structures depending on whether the S argument is a noun or a pronominal. If a pronominal is the S argument of the nominal predicates, the clause is formed by juxtaposition, i.e. the pronominal followed by the nominal predicate. If a noun is the S argument, the copula *t<sup>hi</sup>* is employed in the clause.

#### **4.2.1.1 Pronominal as S argument of nominal predicate**

Nominal predicates can have a pronominal as the S argument of the clause. When a pronominal is the S argument of the clause, the pronominals preceding the nominal predicates are juxtaposed. The structure of a verbless clause in the

case of a pronominal being the S argument of a nominal predicate is given in (4.1).

(4.1) [S]PRO [VL P]NP

It must be noted that the copula  $t^hi$  can never be used in such clauses. Furthermore, the pronominal is never prefixed to the nominal predicate in such constructions. For instance, in example (4.2), *mi* is the first person pronoun which is the S argument of the nominal predicate  $\partial\eta$ , thus we have “*mi*  $\partial\eta$ ” without prefixing the pronoun to the predicate nominal. It seems that such distinction is necessary to maintain since there is prefixation of the pronoun to the nouns in possessive constructions (for detailed discussion see § 3.3.2.4).

(4.2) *mi*  $\partial\eta$

1 Jarawa

I am/we are Jarawa.

#### 4.2.1.2 Noun as S argument of nominal predicate

If the S argument of the nominal predicate is a nominal headed noun phrase, the copula  $t^hi$  appears between the two nominals, i.e. the copula  $t^hi$  precedes the nominal predicate. (4.3) represents the structure of a nominal headed noun phrase as the S argument of a nominal predicate. For example, if we have a proper name instead of *mi* in the sentence (4.2), we will get the sentence (4.4). The examples in (4.5–4.6) support this claim. Note the absence of any kind of suffixation on the nominal predicate in this type of structure.

(4.3) [S]NP [COP] [VLP]NP

(4.4) *tenmej t<sup>hi</sup> əŋ*  
 Tenmey COP Jarawa  
 Tenmey is Jarawa.

(4.5) *ut<sup>ha</sup> t<sup>hi</sup> tawə*  
 Ut<sup>ha</sup> COP boy  
 Ut<sup>ha</sup> is a boy.

(4.6) *noru t<sup>hi</sup> əŋka:b*  
 Noru COP old man  
 Noru is an old man.

#### 4.2.2 Adjective as head of verbless clause

Another type of verbless clause uses adjectives as predicates of a clause. Like nominal predicates, adjectival predicates also have two different structures: one which has pronominal as the S argument of the adjectival predicate and another where the noun is the S argument of the adjectival predicate. This type of verbless clause also has one more different structure where the suffix {-g} is attached to the adjectival predicate. Thus, we have three different kinds of structures for adjectival predicates: pronominal as an S argument, noun as an S argument, and the adjectival predicates with suffix. All the three types differ in their structures.

#### 4.2.2.1 Pronominal as S argument of adjectival predicate

Like nominal predicates, adjectival predicates also take pronominals as their S arguments. Two different strategies are employed when pronominals are used as the S arguments of adjectival predicates. The first is pronominals (full form) to be followed by adjectival predicates beginning with a consonant as given in (4.7) and illustrated in (4.8).

(4.7) [S]PRO [VLP]ADJP

(4.8) *mi čew*

1 good

I am/we are fine.

If the adjectival predicate begins with a vowel, the pronominal is prefixed to it. This is contrary to nominal predicates where the pronominal as S argument does not get prefixed (see (4.1)). In (4.9) the pronominal *mi* 'I' is prefixed to the adjective *ipaḍa* 'injury'.

(4.9) *m-ipaḍa*

1-injury

I am/we are injured.

#### 4.2.2.2 Noun as S argument of adjectival predicate

Another kind of construction, where a noun is the S argument of the adjectival predicate, employs copula  $\{t^{hi}\}$  between the S argument and the adjectival predicate, like the nominal predicate. (4.10) represents this structure and (4.11)

illustrates it. It must be noted that when  $\{t^hi\}$  is used in the adjectival predicate construction, there is no kind of suffixation to the adjectival predicates.

(4.10) [S]NP [COP] [VLP]ADJP

(4.11)  $ut^ha$   $t^hi$   $ut^hu$

U $t^ha$  COP fat

U $t^ha$  is fat.

The copula  $\{t^hi\}$  may be prefixed to an adjective starting with a vowel. In (4.12),  $t^h-ero$  is the combination of  $t^hi$  'COP' and  $ero$  'angry'.

(4.12)  $ut^ha$   $t^h-ero = t^hi ero$

U $t^ha$  COP-angry

U $t^ha$  is angry.

#### 4.2.2.3 Adjectival predicate with suffix $\{-g\}$

The suffix  $\{-g\}$  appears in verbless clauses with adjectival predicate. This suffix can be used with constructions having a pronominal as the S argument as well as those having a noun as the S argument of the adjectival predicate. The structure of such clauses is presented in (4.13). Examples (4.14–4.15) illustrate it.

(4.13) [S] [VLP-g]ADJP

- (4.14) *pat<sup>h</sup>o talu-gə*  
 arrow big-EVDV  
 The arrow is big.

- (4.15) *ŋi telo-gə*  
 2 thin-EVDV  
 You are thin.

The suffix {-g} has two allomorphs, {-g} and {-gə}. The meaning of {-g} suffix is not very clear. The similar suffix {-g} is employed with verbs to indicate assertion (for detailed discussion, see § 3.4.5.1.2.b), but it is not clear whether it is the same suffix with similar function or it is just a visual evidential marker. There are two instances where they seem to be different. In example (4.16), {-gə} is attached to adjective *ero* ‘angry’. But if we observe the paradigm of its use with *ero*, it can be claimed that {-gə} is attached with only 2nd Person and 3rd Person pronominals (4.164.17), not with 1st Person pronominals (4.18). In case of verbal predicates, {-g} is attached to verbs with all three pronominals; this illustrated by examples (4.19–4.21). In the present work the suffix {-g} is referred to as visual evidential (EVDV) in case of an adjectival predicate.

- (4.16) *ən ero-gə*  
 2 angry-EVDV  
 You are angry.



(4.17) *əh ero-gə*  
 3 angry-EVDV  
 He is angry.

(4.18) *m ero*  
 1 angry  
 I am/we are angry.

(4.19) *mi bəʔ<sup>h</sup>e-jag*  
 1 go-ASS  
 I/we went (emphatic).

(4.20) *ŋi bəʔ<sup>h</sup>e-jag*  
 2 go-ASS  
 You went (emphatic).

(4.21) *hi (li) bəʔ<sup>h</sup>e-jag*  
 3 go-ASS  
 S/he went (emphatic).

No semantic difference was observed between the copula construction of adjectival predicate and the construction of adjectival predicates with the suffix. What was encountered in the field was that they occur interchangeably in both kinds of constructions. Hence the sentence (4.14) can be reproduced as (4.22).

- (4.22) *pa<sup>h</sup>o t<sup>h</sup>i talu*  
 arrow COP big  
 The arrow is big.

Further, it must be noted that when the {-g} suffix is used with adjectival predicates, {*t<sup>h</sup>i*} is not employed. Hence, if we employ both the copula {*t<sup>h</sup>i*} and the suffix {-g} in same clause like the sentence (4.22), it becomes ungrammatical.

- (4.23) \* *pa<sup>h</sup>o t<sup>h</sup>i talu-gə*  
 arrow COP big-EVDV  
 The arrow is big.

### 4.3 Verbal Clauses – I: Core arguments

Apart from verbless clauses, Jarawa has verbal clauses. In a verbal clause, a verb is the central part of predication. These verbal predicates generally contain core arguments of the clause, essential express the activity/event, and peripheral arguments which provide additional information about the activity/event.

As discussed in the section 4.1 as core arguments, a verbal clause can have subjects (generally referred to S and A) and objects (referred to O). These S, A, and O are defined as: S, the subject of intransitive verbs; A, the subject of transitive verbs; and O, the object of transitive verbs. This distinction is very significant, as these categories have different roles in the grammar of a language. The category O can further be split into DO and IO. DO is the direct object of the clause, also called the patient of the clause, which has the direct effect of the

action. IO does not bear the direct effect of the action; it could be benefactor, goal etc. The general schema of a clause in Jarawa is given below.

(4.24) [**Subject**<sup>9</sup>]<sub>NP</sub> {[**IO**]<sub>NP</sub> [**DO**]<sub>NP</sub>} **Verb**]<sub>VP</sub>

Other than core arguments, there are peripheral arguments. These peripheral arguments provide additional information. They are optional in the clause. These include temporal and spatial adverbs and/or nouns. The schema given in (4.25) represents the structure of a clause in Jarawa with peripheral arguments.

(4.25) [**Temporal adverb/Nouns**]<sub>ADVP</sub> [**Subject**]<sub>NP</sub> {[**Spatial Adverbs/Noun**]<sub>NP</sub>} {[**Object**]<sub>NP</sub>} **Verb**]<sub>VP</sub>

In addition to these broad categories are smaller categories like referential marker (see § 4.9), locational marker (see § 3.7), and others. These categories emerge in certain specific contexts in a clause.

#### 4.3.1 Intransitive clauses

In intransitive clauses, Jarawa employs S arguments of intransitive verbs as core arguments, and intransitive verbs as the head of predication. There are some denominalised verbs which function as intransitive verbs. We may put these denominalised verbs in two categories, one in which they form part of weather-type constructions, and another in which they form part of transitive verbs (semantically); however, syntactically, they behave as intransitive verbs of the clause (for detailed discussion, see § 4.3.2). Generally, intransitive clauses in Jarawa can be formed as given in (4.26).

---

<sup>9</sup> Subject in all the schema refers to NPs which function as S and/or A of the clause.

(4.26) [Subject]<sub>NP</sub> {[REF<sup>10</sup>]} [Verb<sub>IN</sub>]<sub>VP</sub>

(4.27) is an example of an intransitive clause in Jarawa.

(4.27) *mi bæt<sup>h</sup>e*  
 1 go  
 I am/we are going.

If the S argument of an intransitive verb is a noun with specific reference, then it takes the morpheme *ɖi*. This *ɖi* specifies the S argument (NP) of the clause. It is generally prefixed to the verb if the verb begins with a vowel and there is no intervening element between *ɖi* and the verb. For instance, in sentence (4.28), *h<sup>w</sup>əwə* ‘wild boar’ is a common noun, but here if it refers to a specific wild boar which is sleeping (and it may be seen), *ɖi* appears after the noun *h<sup>w</sup>əwə* ‘wild boar’.

(4.28) *h<sup>w</sup>əwə ɖi omohə*  
 boar REF sleep  
 The wild boar is sleeping.

*ɖi* can be prefixed to the verb *omohə* ‘sleep’ because it starts with a vowel. See example (4.29).

---

<sup>10</sup> REF is referred to the marker which is used for definiteness and referential interpretation. It includes both, definite object and specific, and indefinite but specific object.

- (4.29) *h<sup>w</sup>əwə d-omohə*  
 boar REF-sleep  
 The wild boar is sleeping.

In case *h<sup>w</sup>əwə* does not refer to a specific wild boar, it will not take *d*, as given in (4.30).

- (4.30) *h<sup>w</sup>əwə omohə*  
 boar sleep  
 A wild boar is sleeping.

If the S argument of an intransitive verb is a pronominal, and the verb start with a vowel, the pronominal can be prefixed to the verb. For example, the intransitive verb *aṭiba* ‘say’ has *mi* ‘I/we’ as the S argument of the intransitive clause in (4.31–4.32); this clause can be articulated as *mi aṭiba* as given in (4.31) or *maṭiba* ‘I/we said’ as given in (4.32).

- (4.31) *mi aṭiba*  
 1 say  
 I/we said.

- (4.32) *m-aṭiba*  
 1-say  
 I/we said.

### 4.3.2 Denominalised verbs

Denominalised verbs are derived from nouns by adding the verbaliser suffix (VS) {-le} (for detailed discussion, see § 3.9.1). These denominalised verbs may fall into two broad categories: weather-type verbs, and activity/event-type verbs. The weather-type verbs are a limited set. In such clauses, there is no S argument and denominalized verbs express the action/event. Example (4.33) illustrates denominalised weather-type constructions.

- (4.33) *wɪwə-le*  
 rain-VS  
 It may rain.

In (4.33) *wɪwə* 'rain' is a noun which is denominalised to a verb by adding verbaliser suffix {-le}. Here *wɪwə* functions as the head of the predicate as well as the S argument of the predicate.

The other types of denominalised verbs, which are activity/event oriented verbs, are also formed in a similar manner, but in such clauses the noun functions as the head of the predicate as well as the O argument of the clause. For example, in (4.34) *čadq̄a-le* represents denominalised verb where *čadq̄a* 'hut' is a noun. In this construction, it can be said that *čadq̄a* with the verbalizer suffix has become the predicate, but *čadq̄a* in itself becomes an O argument of the clause inherently.

- (4.34) *mi čaḍḍa-le-jə*  
 1 hut-VS-VEVD  
 I/we are constructing a hut.

Syntactically, these denominalised verbs behave like intransitive verbs. Hence, the S argument of such clauses may take *ḍi*. Since the O argument of such clauses itself becomes a part of the predicate, it does not take *ḍi* as it happens in the case of transitive clauses. The sentence in (4.35) illustrates the use of *ḍi* in such clauses.

- (4.35) *əŋ ḍi čaḍḍa-le-jə*  
 Jarawa REF hut-VS-VEVD  
 Jarawas are constructing a hut.

Unlike verbal predicates, in these types of clauses *ḍi* is not prefixed to the denominalised verb even if it starts with a vowel. Thus, in sentence (4.36) *ḍi* is not prefixed, and hence the prefixation of *ḍi* results in ungrammaticality.

- (4.36) *ut<sup>h</sup>a ḍi uḍḍu-le-jə*  
 Ut<sup>h</sup>a REF cough-VS-VEVD  
 Ut<sup>h</sup>a is coughing.

- (4.37) \**ut<sup>h</sup>a ḍ-uḍḍu-le-jə*  
 Ut<sup>h</sup>a REF-cough-VS-VEVD  
 Ut<sup>h</sup>a is coughing.

### 4.3.3 Transitive clauses

Transitive clauses are headed by transitive verbal predicates and have two core arguments, A and O. In such clauses, A precedes the O, and O precedes the verb. The structures of transitive clauses vary according to the object NP: it will have a different structure if the object NP is headed by a noun, or headed by a pronominal. The verbal predicates can bear different prefixes based on the object NP. If the object NP is headed by a definite noun or indefinite but specific it will take referential marker *qi*. If it refers to an indefinite noun, it will take prefix {*h-*}. If a pronoun heads an object NP, there will be neither referential marker *qi* nor prefix {*h-*} on the verb; rather, the pronoun may be prefixed to the verb. The structure of a transitive clause is below (4.38) and illustrated by (4.39).

(4.38) **[Subject]<sub>NP</sub> [Object]<sub>NP</sub> {[REF]}Verb<sub>TR</sub>]<sub>VP</sub>**

(4.39) *mi h<sup>w</sup>əwə t<sup>11</sup>-ita-b*  
 1 boar REF-eat-NVEVD  
 I/we ate the wild boar.

If the object of a transitive clause is a pronominal and the transitive verb starts with a vowel, the object pronominal is generally prefixed to the transitive verb (for prefix forms see § 3.3.1.1). The example (4.40) demonstrates the prefixation of pronominals with the transitive predicates.

---

<sup>11</sup> The verb *ita éat'* takes {*t-*} as prefix which seems to be the allomorph of *qi*. Since this prefix does not appear with any other verb, I assume {*t-*} as the allomorph of *qi*. If we attach the pronominal prefix, then it will be *m-ita* 'I eat'. However there is no further evidence for the support of the hypothesis that they are allomorph.



(4.40) *tenmej m-əjojəba*

Tenmey 1-see

Tenmey saw me.

If the object of the transitive verb is a noun, it takes referential marker *d̥i* (for detailed discussion see § 3.4.1.1.4.4). It specifies the noun phrase which it follows. In example (4.41) the nominal object *čonel* ‘banana’ takes *d̥i* which specifies some particular bananas. This *d̥i* may come independently after the noun *čonel* ‘banana’ in a clause such as (4.41), or it may be prefixed to the verb *eŋge* ‘bring’ provided there is no intervening element between *d̥i* and the verb, as given in (4.42). In both cases it specifies the noun it follows.

(4.41) *mi čonel d̥i eŋge-jə*

1 banana REF bring-VEVD

I/we have brought the banana.

(4.42) *mi čonel d̥-eŋge-jə*

1 banana REF-bring-VEVD

I/we have brought the banana.

If the noun *čonel* ‘banana’ refers to some non-specific banana, the prefix {*h-*} is attached to the verb, as shown in (4.43) (for detailed discussion, see § 3.4.1.1.4).

- (4.43) *mi čonel h-enje-jə*  
 1 banana 3-bring-VEVD  
 I/we have brought a banana.

#### 4.3.4 Ditransitive clauses

In ditransitive clauses, a ditransitive verbal predicate heads the clause, and has three core arguments, A, IO, and DO. The IO and DO are part of O, are divided according to their functions and usage in the clause.

The order of A and ditransitive verbs is fixed. A precedes the O (IO and DO) and the ditransitive verb follows the O, as in transitive clauses. However, the order of the objects is not fixed. The IO can follow the DO or precede it. Nonetheless, the position of *qi* is fixed. Since *qi* is employed to specify the Object NP, it moves with the direct object. The clausal structure of a ditransitive construction is given in (4.44). The example (4.45) demonstrates the ordering of A, O, and verb in ditransitive clauses.

- (4.44) **[Subject]<sub>NP</sub> [Indirect Object]<sub>NP</sub> [Direct Object]<sub>NP</sub> {[REF]} Verb<sub>DT</sub>]]<sub>VP</sub>**

- (4.45) *mi ŋa napo q-ija*  
 1 2ACC fish REF-give  
 I/we gave you the fish.

Since the position of IO and DO is not fixed in ditransitive clauses, we may get the clausal structure of a ditransitive clause as in (4.45) below. (4.46) illustrates the clausal structure of a ditransitive clause where the DO precedes the IO.

(4.45) [Subject]<sub>NP</sub> [Direct Object]<sub>NP</sub> [REF] [Indirect Object]<sub>NP</sub> Verb<sub>DT</sub>]]<sub>VP</sub>

(4.46) *mi napo qi ŋa h-ija*

1 fish REF 2 ACC 3-give

I/we gave you the fish.

Three properties are observed in cases when the indirect IO follows the DO: (a) *qi* moves with the DO; in other words, *qi* comes just after the DO; (b) the verb may take co-referencing prefix {*h-*} which refers to the DO (for detailed discussion, see § 3.4.1.1.4); and (c) if a pronominal is the IO and happens to be adjacent to verb beginning with a vowel, this pronominal never gets prefixed to the verb. Prefixing the IO to the ditransitive verb results in ungrammaticality of the sentence as shown in (4.47).

(4.47) \* *mi napo qi ŋ-ija*

1 fish REF 2ACC-give

I/we gave you the fish.

If the indirect object is a lexical noun phrase, this noun phrase also takes *qi*, as shown in (4.48).

(4.48) *mi napo qi topo qi h-ija*

1 fish REF Topo REF 3-give

I/we gave Topo the fish.

#### 4.4 Verbal Clauses – II: Peripheral arguments

In addition to the core arguments of the verb, there may be peripheral arguments in a clause. They are usually temporal adverbs, spatial adverbs, and nouns which have spatial significance.

- (4.49) *mi olleg də bæt<sup>h</sup>e*  
 1 Olleg LOC go  
 I/we will go to Lakralunda/Olleg.

In intransitive clauses, these peripheral categories have different positions. The temporal adverbs come at the beginning of the clause and spatial adverbs occur after the subject and before the verb. The sentence structure of the intransitive clause with peripheral categories is as given in (4.50).

- (4.50) **{{Temporal adverbs/noun}<sub>NP</sub> {{[LOC]}}<sub>PP</sub> [Subject]<sub>NP</sub> {{[Spatial Adverbs/noun]<sub>NP</sub> [LOC]}}<sub>PP</sub> [Verb<sub>IN</sub>]<sub>VP</sub>**

It must be noted that here the locative marker is presented with curly brackets when it comes with temporal adverb or noun. These curly brackets here represent optionality. Examples are shown in (4.51) and (4.52).

- (4.51) *kekahəte də mi bæt<sup>h</sup>e*  
 tomorrow LOC 1 go  
 I/we will go tomorrow.

- (4.52) *kekahəte mi olleg də bəɬ<sup>h</sup>e*  
 tomorrow 1 Olleg LOC go

Tomorrow I/we will go to Olleg/Lakralunda.

A clause with transitive verbs has temporal adverbs at the beginning of the clause, and spatial adverbs follow the subject of the clause. The general schema to arrange these arguments in a clause of Jarawa is given in (4.53) followed by examples in (4.54) and (4.55).

- (4.53) **[Temporal adverbs/noun]<sub>NP</sub> {[LOC]<sub>PP</sub>} [Subject]<sub>NP</sub> {[Spatial adverb/noun]<sub>NP</sub> [LOC]<sub>PP</sub>} [Object]<sub>NP</sub> Verb<sub>TR</sub>]<sub>VP</sub>]**

- (4.54) *kiɬaje də ɲi napo di aik<sup>h</sup>wa*  
 yesterday LOC 2 fish REF kill

Yesterday, you killed the fish.

- (4.55) *kiɬaje ɲi olleg də napo di aik<sup>h</sup>wa*  
 yesterday 2 Olleg LOC fish REF kill

Yesterday you killed the fish at Olleg/Lakralunda.

#### 4.5 Negative clauses

Negation in Jarawa can be expressed in two ways: either by using the independent negative word *naɬem* or the suffix *-ma*. Both are used for clausal negation. There is no semantic difference between the two, but the suffix *-ma* has restricted use in the language while *naɬem* can be used across the board.

#### 4.5.1 Negation with *naɖem*

The position of this negative element in a clause is after the predicate. To negate a declarative clause, the structure in (4.56) is to be used.

(4.56) [subject]<sub>NP</sub> {[object]}<sub>NP</sub> Verb ]<sub>VP</sub> [naɖem]<sub>NEG</sub>

(4.57) *ut<sup>h</sup>a allema naɖem*

U<sup>t</sup>ha come NEG

U<sup>t</sup>ha did not come.

(4.58) *mi olleg də bæt<sup>h</sup>e naɖem*

1 Olleg LOC go NEG

I/we will not go to Olleg/Lakralunda.

This is a general strategy to negate the clause whether it is a declarative, an interrogative, or an imperative sentence. The examples (4.59) and (4.60) show interrogative and imperative sentences, respectively.

(4.59) *onne ɖi lə:w d-ɛŋge-jə naɖem*

who REF honey REF-bring-VEVD NEG

Who didn't bring the honey?

(4.60) *bæt<sup>h</sup>e naɖem*

go not

Do not go.

*naɖem* is the only negative element which can be used in verbless clauses. The structure of verbless clauses with *naɖem* is presented in (4.61). The examples which follow demonstrate the use of *naɖem* in these environments. *naɖem* occurs after the nominal or adjectival predicate.

(4.61) [Subject]<sub>NP</sub> [VLP]<sub>VLP</sub> [naɖem]]<sub>NEGP</sub>

(4.62) *mi innen naɖem*

1 non-Jarawa NEG

I am/we are not non-Jarawa.

(4.63) *tenmej t<sup>hi</sup> do:je naɖem*

Tenmey COP girl NEG

Tenmey is not a girl.

(4.64) *m-ero naɖem*

1-angry NEG

I am/we are not angry.

(4.65) *tenmej t<sup>hi</sup> ero naɖem*

Tenmey COP angry NEG

Tenmey is not angry.

In sentence (4.65), the copula *t<sup>hi</sup>* can alternatively be prefixed to the predicative adjective *ero* 'angry'.

- (4.66) *tenmej t<sup>h</sup>-ero naqem*  
 Tenmey COP-angry NEG  
 Tenmey is not angry.

#### 4.5.2 Negation with suffix {-ma}

Another way to negate the sentence in Jarawa is to employ suffix {-ma} on the verbal predicate. But in such constructions, the verbal predicate does not take any other suffix (for instance, modality suffixes). Thus the {-ma} suffix replaces any other suffixal markings. Sentence (4.67) demonstrates the use of the {-ma} suffix for negation. In this sentence, *allema* 'come' does not have any other suffix. (4.68) is ungrammatical because *allema* 'come' bears the suffix {-hə} which does not allow the suffix {-ma} to negate the sentence. In such cases, one has to employ *naqem* to express negation.

- (4.67) *ut<sup>h</sup>a allema-ma*  
 Ut<sup>h</sup>a come-NEG  
 Ut<sup>h</sup>a did not come.
- (4.68) \* *ut<sup>h</sup>a allema-hə-ma*  
 Ut<sup>h</sup>a come-HYP-NEG  
 Ut<sup>h</sup>a may not come.



(4.69) *uṭ<sup>h</sup>a allema-hə naḍem*

Uṭ<sup>h</sup>a come-HYP NEG

Uṭ<sup>h</sup>a may not come.

### 4.5.3 Use of *naḡ*

For short responses or an answer to a yes/no question, Jarawa uses the negative particle *naḡ* at the beginning of the negative response, followed by the negated sentence. For instance, the negative response to the yes/no question given in (4.70) would be (4.71).

(4.70) *ka ḡa-kaja pečame*

INTM 2POSS-mother die

Has your mother died?

(4.71) *naḡ ma-kaja pečame naḍem*

No 1POSS-mother die NEG

No, my/our mother has not died.

The suffix {-*ma*} can be used instead of *naḍem*.

(4.72) *naḡ ma-kaja pečame-ma*

No 1POSS-mother die-NEG

No, my/our mother has not died.

An affirmative response of (4.70) is presented in (4.73).

- (4.73) *je: ma-kaja pečame*  
 yes 1POSS-mother die  
 Yes, my/our mother has died.

## 4.6 Imperative clauses

Jarawa does not use distinct expressions for requests and command, nor does the language have any kind of morphological marking to show imperatives. Syntactically, the predicate with its core argument expresses all types of imperatives, whether request, command, advice, or order.

### 4.6.1 Simple imperative clauses

Simple imperative clauses in Jarawa use a verbal predicates with its core argument; that is, (transitive) verb + object NP. Sometimes they make use of vocative forms in such constructions, though there is no different morphological form for vocatives; the name of the person referred to is used as it is. The schema in (4.74) presents this structure, and is followed by examples.

- (4.74) **[[Vocative]<sub>NP</sub> [[Object]<sub>NP</sub> Verb]<sub>VP</sub>]]**

- (4.75) *unnə*  
 go back  
 Go back.

- (4.76) *iŋ-e d-enge-jə*  
 water-EM REF-give-VEVD  
 Give me/us water.

- (4.77) *ma iŋ-e d̥-ija*  
 1ACC water-EM REF-give  
 Give me/us water.  
 OR  
 Give me/us my/our water.

The example in (4.78) below illustrates the use of the vocative where either a person's name or a form of address may be used. In these constructions, there is no morphological marking for vocative.

- (4.78) *čajwaj ummə olo olo d̥-ija*  
 Cayway father (voc) plastic bottle REF-give  
 Cayway's father, give me/us the plastic bottle.  
 OR  
 Cayway's father, pass the plastic bottle.

#### 4.6.2 Prohibitive clauses

Prohibitives are a kind of command, order, or advice to not to do something. In Jarawa, these are formed by putting the negative element *naɖem* after the verb, like it happens in simple negative sentences.

- (4.79) *ullel d̥ə bəɬ<sup>h</sup>e naɖem*  
 sea LOC go NEG  
 Don't go in the sea.

Morphological negation may also be used, i.e. the suffix {-*ma*}. (4.80) demonstrates the use of negative suffix {-*ma*} in prohibitives.

- (4.80) *ullel də bəʔ<sup>h</sup>e-ma*  
 sea LOC go-NEG  
 Don't go in the sea.

#### 4.7 Interrogative clauses

Interrogatives in Jarawa are of two types: 'yes/no' questions and wh-questions. In first type, the interrogative marker *ka* is used at the beginning of the sentence, while in the second type question words (interrogative pronouns) are used to create the interrogative. However, there are some instances where the interrogative marker is used even in wh-questions. All these structures are described in the following sub-sections.

##### 4.7.1 Yes/no questions

The schema of a yes/no question is presented in (4.81).

- (4.81) **ka + [subject]<sub>NP</sub> + {[object]<sub>NP</sub> + Verb]<sub>VP</sub>?**

In (4.81), object has been put within the curly bracket (to show optionality) since intransitive verbs do not take an object. However, instead of an object some peripheral arguments like a spatial NP may come between the subject NP and the verb.

(4.82) *ka    ŋa-kaja           pečame?*

INTM 2POSS-mother   die

Did your mother die?

(4.83) *ka    ŋi    čonel    di    he-eŋge-jə?*

INTM 2    banana    REF 3-bring-VEVD

Will you bring the banana?

(4.84) *ka    ŋi    olleg-də           bæt<sup>h</sup>e-jə?*

INTM 2    Olleg-LOC           go-VEVD

Will you go to Olleg/Lakralunda?

Yes/no questions may also be formed out of verbless clauses by using the interrogative marker *ka* as shown in (4.85), followed by some examples.

(4.85) **[ka] [subject]<sub>NP</sub> [VL Predicate]<sub>VL</sub>P**

(4.86) *ka    ŋi    əŋ?*

INTM 2    Jarawa

Are you a Jarawa?

(4.87) *ka    u<sup>h</sup>a    t<sup>h</sup>i    əŋ?*

INTM U<sup>h</sup>a    COP    Jarawa

Is U<sup>h</sup>a a Jarawa?

- (4.88) *ka əh-ero?*  
 INTM 3-angry  
 Is he angry?

- (4.89) *ka tenmej t<sup>h</sup>-ero?*  
 INTM PN COP-angry  
 Is Tenmey angry?

#### 4.7.2 Wh-question

In wh-questions in Jarawa, some NPs in the clause are replaced corresponding question words (interrogative pronouns/adverbs). The wh-words stay in situ, i.e. the question word used for the subject NP would stay in canonical subject position and the question word used for the object NP would stay in canonical object position. Other question words (interrogative adverbs like when and where) also appear in canonical positions. Interrogative sentences with wh-words explored below.

##### 1. *onne* 'who'

The question word *onne* 'who' is used for humans. It can be employed for the S argument of an intransitive verb, the A argument of a transitive verb, and an indirect object (including benefactors).

- (4.90) *onne di olleg-də bət<sup>h</sup>e?*  
 who REF Olleg-LOC go  
 Who went to Olleg/Lakarlunda?

- (4.91) *onne ɖi hiwa čonel ɖi h-ija-g?*  
 who REF 3ACC banana REF 3-give-ASS  
 Who gave the banana to him?

- (4.92) *hi onne ɖi aɪk<sup>h</sup>wa?*  
 3 who REF kill  
 Who did he kill?

- (4.93) *ɲi onne ɖi napo ɖi h-ija?*  
 2 who REF fish REF 3-give  
 Who did you give the fish to?

## 2. *onəhə* 'what'

*onəhə* 'what' is generally used for the object of the clause. This wh-word usually refers to non-humans.

- (4.94) *hi ɲa onəhə ɖi h-ija-g?*  
 3 2 ACC what REF 3-give-ASS  
 What did he give to you?

- (4.95) *ɲi titabə ɖi onəhə ɖi h-ija-g?*  
 2 Titabə REF what REF 3-give-ASS  
 What did you give to Titabə?

### 3. *onəhə-le* 'why'

*onəhə-le* has two different meanings: one is 'what is being done' and another is 'why'. It is composed of two morphemes, *onəhə* 'what' and the {-le} suffix. The suffix {-le} is employed for two purposes in this language: either to indicate plurality or to denote denominalisation. If we take the first meaning of *onəhə-le*, it suggests that {-le} is a verbaliser suffix and it yields the meaning of 'what is being done'.

- (4.96) *ŋi onəhə-le?*  
 2 what-vs  
 What are you doing?

The second meaning of *onəhə-le* is illustrated in the examples below.

- (4.97) *ŋi onəhə-le d-ič<sup>h</sup>e?*  
 2 what-vs REF-make/do  
 Why did you do that?

- (4.98) *hi onəhə-le wanna?*  
 3 what-vs weep  
 Why is s/he weeping?

### 4. *nojč<sup>h</sup>e* 'how many/much'

The word *nojč<sup>h</sup>e* is used for 'how many' and 'how much'.



(4.99) *luwə-kʰə-ɖə*    *ŋi*    *nojčʰe*    *omohə?*

there-PM-LOC    2    how many    sleep

How many days will you sleep there? (cf. How long will you stay there?)

There are some cases where the interrogative marker *ka* is employed in this type of wh-question, as shown in (4.100). It was not ascertained why *ka* appears in such cases. The ordering of the interrogative marker and other constituents of the clause is as we have in other interrogative constructions, where we have interrogative marker in the beginning of the clause followed by other constituents.

(4.100) *ka-ŋa*    *paʰo-le*    *nojčʰe?*

INTM-2POSS    arrow-PL    how many

How many arrows do you have?

(4.101) *ka-ŋi*    *kahiunen*    *onəhə*    *ɖi*    *h-ija-g?*

INTM-2    morning    what    REF    3-give-PST

What did you give in the morning?

Some constructions involve the structure **SUB + INTM + question word**. These constructions mostly contain the subject NP and the question word for 'where'. For example, in the sentence (4.102) there is a subject NP *čajwaj* and question word *tʰučəʔəgə*, consequently we have '*čajwaj ka tʰučəʔəgə*'

(4.102) *čajwaj ka t<sup>h</sup>učətəgə*

Cayway INTM where

Where is Cayway?

This sentence can also be formed without *ka*:

(4.103) *čajwaj t<sup>h</sup>učətəgə*

Cayway where

Where is Cayway?

Putting the interrogative marker *ka* at the beginning of the sentence causes ungrammaticality. For example:

(4.104) \* *ka čajwaj t<sup>h</sup>učətəgə*

INTM PN where

Where is Cayway?

#### 4.8 Complex sentences

The present corpus shows evidence of coordination, and of direct and indirect speech. There is no substantial evidence for complex sentences involving subordination. Distinguishing between direct and indirect speech is difficult since no complementiser or any particle is used in such constructions.

### 4.8.1 Coordination

The conjunction *ən* 'and' is used to join two simple sentences. This conjunction is also used when two nouns are joined. The examples below demonstrate the use of the conjunction *ən*.

(4.105) *tenmej h<sup>w</sup>əwə t-ita ən bət<sup>h</sup>e*

Tenmey boar REF-eat and go

Tenmey ate and went.

(4.106) *tenmej ən ut<sup>h</sup>a bət<sup>h</sup>e*

Tenmey and Ut<sup>h</sup>a go

Tenmey and went.

### 4.8.2 Complementation

In this section we will discuss two kinds of complement clauses: clause internal complement clauses and clause external complement clauses. The first type occurs within a clause, in the object position within the VP. Jarawa is an SOV language and therefore any clause that fills the object position should precede the verb. However, it is possible to have a complement clause which follows the verb as well. This type of clause is clause external complement clauses. Direct or indirect speech is included in the clause external complement clause.

#### 4.8.2.1 Complement internal clauses

It is difficult to ascertain if Jarawa has clause internal complement clauses because it is not evident whether these types of clauses are NPs or complement

clauses. I will make an attempt to uncover whether these types of constructions are complement clauses or complement nominalisations. Examples like (4.107) suggest both these possibilities.

- (4.107) *mi ujijə d-ipale-jə                    dɪ bæt<sup>he</sup>-jə*  
 1    fish    REF-fish<sub>[V]</sub>-VEVD    REF    go-VEVD  
 I will go for fishing.

- (4.108) [*mi*]<sub>i</sub> [*∅*]<sub>A</sub> [*ujijə*]<sub>NP</sub> [*d-ipale-jə*]<sub>VP</sub> [*dɪ*] [*bæt<sup>he</sup>-jə*]<sub>VP</sub>

Two verb phrases are employed here, a main verb phrase and a dependent verb phrase. Semantically both the verbs carry their lexical meaning, and they follow the syntactic rules of a simple clause.

Here there are two clauses: (1) [*mi*]<sub>NP</sub> [*ujijə*]<sub>NP</sub> [*d-ipale-jə*]<sub>VP</sub> 'we will do fishing' and (2) [*mi*]<sub>NP</sub> [*dɪ*] [*bæt<sup>he</sup>-jə*]<sub>VP</sub> 'we will go'. In (1), the verb is *ipale* 'fish<sub>[V]</sub>' and in (2) the verb is *bæt<sup>he</sup>* 'go<sub>[V]</sub>'. *ipale* is a transitive verb; thus it takes NP *ujijə* 'a kind of fish' as an object NP. This results in the use of the referential marker *dɪ* with the object *ujijə*. *mi* 'first person pronoun' serves as a subject for both the clauses.

In example (4.109) below, *it<sup>həgə</sup>* 'cut' is a transitive verb, so it takes an object NP; this object NP takes definiteness marker *dɪ*. This entire verb phrase can be considered as a clause, although the example in (4.109) differs from (4.107). In (4.107) both the verbs take the evidentiality suffix whereas in (4.109) only the main verb takes the evidential suffix. However, the absence of the suffix in (4.109) does not pose any problem to the analysis of the clause, instead the verb

in (4.109) *bæt<sup>h</sup>e* which is intransitive. In intransitive constructions, the subject NP takes *qi* if headed by a noun; if headed by a pronoun, it does not take *qi*. *qi* always follows the NP it refers to. Thus, the *qi* in (4.109) does not refer to the subject NP; for the subject NP is headed by a pronoun, and it is too far away from the subject NP (see § 4.9 for conditions for the use of *qi*). Here it means refers to the dependent clause, or what we can call the clause internal complement clause.

- (4.109) *tan q-it<sup>h</sup>əgə q-æt<sup>h</sup>e-jə (qi-bæt<sup>h</sup>e-jə)*  
 tree REF-cut REF-go-VEVD  
 I will go for cutting wood.

Two questions raised by this discussion are given in (4.110).

- (4.110) (a) What is the reason for using *qi* with *bæt<sup>h</sup>e* in this clause?  
 (b) *bæt<sup>h</sup>e* is an intransitive verb, and hence it cannot take an object NP or a complement clause.

In (4.107) there are clearly two clauses with two verbs, each verb takes evidential marker. In (4.109) only the main verb takes evidential marker. They also seem to be embedded within one another. If they are two clauses embedded within one another, we need to answer the question raised in (4.110). As we will notice again in section 4.9, *qi* is a marker of definiteness/referentiality and it also specifies grammatical relations. This morpheme is generally used with nominals functioning as either S argument or O argument. It is also used with the nominal which is IO of the clause. Since this morpheme is definiteness marker, we cannot

rule out the use of this morpheme with the nominal in A argument position but the corpus reveals a seldom use of *qi* with nominal in A argument position. Based on these facts we may infer that *qi* is used for the clause [*ujijə*]<sub>NP</sub> [*q-ipale-jə*]<sub>VP</sub> treating it as an NP. Is it a plausible answer? It is still open for further research. The second problem poses a grave problem. Since *bæt<sup>he</sup>* is an intransitive verb it cannot take an object NP. Dixon (2010) proposed three criteria to identify a complement clause which is reproduced in (4.111).

(4.111)

- (I) It has the internal structure of a clause, at least as far as core arguments are concerned.
- (II) A complement clause functions as a core argument of another clause. If a complement clause is in O function, for instance, it should show at least some of the syntactic properties of O in that language.
- (III) A complement clause will always describe a proposition; this can be a fact, an activity, or a state (it may not be a place or a time).

(Dixon 2009:129)

In Jarawa, clause internal clauses have the structure of a normal clause. They denote a proposition. In the case of (4.107) it denotes an action. They also demonstrate the syntactic properties of O (for detailed discussion see section 4.9), it is, however, misleading to say that *ujijə q-ipale-jə* functions as the O of *bæt<sup>he</sup>*, since *bæt<sup>he</sup>* is an intransitive verb and it cannot take an O argument. I, still, submit that such clauses are possibly made of two clauses: one is the main clause and the other is the clause internal complement clause. This is based on the

assumption that these clause internal complement clauses are peripheral arguments of the clause in case of (4.107). It is still an open question whether they are complement clauses or not.

#### 4.8.2.2 Complement external clauses

Another kind of complement clause is the clause external complement clause. These types of clauses are not internal to the verb phrase of the main clause; rather they exist as a different (dependent) clause. Direct and indirect speech is considered as a clause external complement clause.

It is difficult to distinguish direct speech from indirect speech; for there is no marking in both types. There are some instances where the difference between direct and indirect speech seems to be employed, but the distinction between the two could not be established. As the deictic center for pronouns in the utterances indicates that such constructions are instances of direct speech, hence we categorize these types of constructions as direct speech.

In such constructions, there are two clauses: one which is called reporting speech consisting of reporting verb and another which is referred to reported speech. In the present study reporting speech is referred to as main clause while reported speech is referred to as dependent clause. In Jarawa the reported speech follows the reporting verb but there is no particle or marker to distinguish the two clauses: main clause and dependent clause. Thus, the direct speech in Jarawa has the structure as given in (4.112).

(4.112) **[Reporting Verb]<sub>MCL</sub> [Reported Speech]<sub>DCL</sub>**

The examples below illustrate the use of direct speech in declarative sentences, interrogative sentences and imperative sentences.

### a) Declarative sentences as reported speech

If the dependent clause is declarative, the syntactic structure remains the same. The schema for this kind of construction is presented in (4.113) and illustrated in (4.104-4.105).the examples that follow.

(4.113) **[Reporting Verb]<sub>MCL</sub> [Reported Speech]<sub>DCL</sub>**

(4.114) *čew m-aheapa naru čonel igejī*

Cew 1ACC-say PN banana cut

Cew told me that Naru would cut a banana.

(4.115) *naru m-aheaba mi ləkəralundə-də bæt<sup>he</sup>*

PN 1ACC-say 1 Larkalunda-LOC go

Naru said to me, "I will go to Larkalunda."

### b) Interrogative sentences as reported speech

If the dependent clause is a yes/no question, its structure remains the same as it would normally be, even when used in clause external complement clause. The schema is given in (4.116) and illustrated in (4.107-4.108).

(4.116) **[Reporting Verb]<sub>MCL</sub> [Yes/No Question Clause]<sub>DCL</sub>**



- (4.117) *dipu m-aṭiba ka ɲi h<sup>w</sup>atapo-də bəɬ<sup>h</sup>e*  
 PN 1ACC-say INTM 2 Hwatapo-LOC go  
 Dipu asked me, “Are you going to H<sup>w</sup>atapo?”

- (4.118) *sapan hiwa aṭiba ka gəč<sup>h</sup>ehə ɲi napo ɖi i:tə:-hə*  
 Swapan 3ACC ask INTM before now 2 fish REF eat-HYP  
 Swapan asked him, “Have you had fish today?”

Interrogative dependent clauses have the same syntactic structure as simple wh-question clauses. Thus the schema of such clause external complement clause is presented in (4.119), and (4.120) illustrates it.

(4.119) **[Reporting Verb]<sub>MCL</sub> [wh-question clause]<sub>DCL</sub>**

- (4.120) *dipu hiwa aṭiba onne h<sup>w</sup>əwə ɖ-ak<sup>h</sup>wa*  
 Dipu 3ACC ask who boar REF-kill  
 Dipu asked him, “Who killed the wild boar?”

### c) Imperative sentences as reported speech

Imperative dependent clauses behave as normal imperatives. The schema is presented in (4.121) and illustrated in the following examples.

(4.121) **[Reporting Verb]<sub>MCL</sub> [Imperative Clause]<sub>DCL</sub>**

- (4.122) *dipu m-aṭiba unna*  
 Dipu 1-say go home  
 Dipu told me to go home.

- (4.123) *naru ŋ-aṭiba čonel t-ita*  
 Naru 2-say banana REF-eat  
 Naru told you to eat a banana.

#### 4.9 Function of {*d̥i*}

The uses of morpheme *d̥i* seem to be various. Generally, this morpheme appears after a noun phrase to indicate definiteness. It can occur with a S(ubject) NP or O(bject) NP but rarely occurs with A(gent) NP of a clause. This usage of *d̥i* suggests that it is also employed to express grammatical relations in a clause. This morpheme is also used with VPs which appear to be clause internal complement clauses. It occurs after the constituents, it is refers to; hence, it moves with the constituents in a clause if they move to other places in a clause. However, there are certain conditions on the use of the morpheme *d̥i*. The conditions to employ *d̥i* in a clause are as follows:

**i) This morpheme never occurs with pronominals.**

Pronominals never take *d̥i* to express definiteness/referentiality or grammatical relation in a clause. *mi* 'I' in example (4.124) is attached to the verb but it can occur independently in such clauses. In example (4.125) there are two

pronominals, one as A and another as O, but neither bear the morpheme *d̥i*.

These examples suggest that pronominals never take *d̥i*.

(4.124) *m-aṭiba*  
 1-say  
 I say/said.

(4.125) *mi ṅ-əjojəba*  
 1 2-see  
 I saw you.

- ii) **This morpheme can occur with nominal headed NPs.**
- iii) **This morpheme is generally employed with the S/O of a clause. This morpheme may occur with an A, but this pattern is very rare in this language.**

In example (4.126), *tenmej* 'name of a person' is a noun and S of the verb *allema* 'come', so the noun *tenmej* takes *d̥i*. Similarly, in example (4.127) there are two nominal headed NPs, *innen* 'non-Jarawa' as A, and *əṅ* 'Jarawa' as O of the verb *əjojəba* 'see'. In this clause the O takes *d̥i*, which is attached to the verb. However, *əṅ* 'Jarawa' in example (4.128) takes *d̥i*. The example in (4.128) has two clauses. The first is an intransitive clause in which the S takes *d̥i*, but in the second clause, *əṅ* 'Jarawa' is the A of the verb *aik<sup>h</sup>wa* 'kill' which takes *d̥i*.

(4.126) *tenmej* *ɖi* *allema*

Tenmey REF come

Tenmey has come.

(4.127) *innen* *əŋ* *ɖ-əjojəba*

non-Jarawa Jarawa REF-see

A non-Jarawa saw the Jarawa.

(4.128) *h<sup>w</sup>əwə* *ɖi-ahapela* *əŋ* *ɖi* *ihi-aik<sup>h</sup>wa*

wild boar REF-run Jarawa REF 3-kill

The wild boar was running and a Jarawa killed that.

- iv) **This morpheme may occur with interrogative pronoun *onne* ‘who’. The resulting phrase (*onne ɖi*) has a different interpretation (for detailed discussion, see § 4.10 on cleft/relativization).**

(4.129) *onne* *ɖi* *aŋiba*

who REF speak/say

Who said that?

- v) **Post-posed O does not take *ɖi*, i.e. if the O comes after the verb, *ɖi* does not appear.**

Jarawa is an SOV language but sometimes employs SVO pattern. If an O is moved to final position, we do not get *qi* with O. As a result, in (4.130), the O does not take *qi*. But if this O occupies the position before the verb in a clause as given in (4.131), it takes *qi*. However, if the O is preposed, i.e. moved to the place before A, *qi* is employed with O as given in (4.132).

(4.130) *babu ilijema tenmej*  
 official see.not Tenmey  
 The official did not see Tenmey.

(4.131) *babu tenmej q-ilijema*  
 official Tenmey REF-see.not  
 The official did not see Tenmey.

(4.132) *tenmej qi babu ilijema*  
 Tenmey REF official see.not  
 The official did not see Tenmey.

- vi) **Verb Phrases also take *qi* if the verb phrase constitutes the internal part of the clause, i.e. when verb phrases are used as clause internal complement clauses, the verb phrase takes *qi*.**
- vii) **This morpheme is the part of the NP it refers to (see examples (4.131 and 4.132).**

#### 4.9.1 Grammatical relations

Different grammatical roles and the relations between them can be expressed by various means at the syntactic level. Some languages employ case marking to differentiate the different roles of the core arguments; some languages resort the fixed word order for the same purpose. In the case of Jarawa, grammatical relations between arguments are expressed through referential marking.

Jarawa does not demonstrate any kind of case marking on its core arguments S, A and O. It does, however, use a referential marker, usually with S or O, rarely with A. This rareness of its use with the A of a transitive verb suggests that this referential marker *d̥i* is employed to indicate grammatical relations. These grammatical relations entail that this language follows ergativity-absolutive patterns; however, the context for the use of ergativity-absolutive is referentiality/definiteness. The other strategy to differentiate S/O from A is specific to pronominal arguments and deals with prefixation of S/O to the verb which is not possible with A.

Let us look first at pronominals. Pronominals never take *d̥i*, but can be prefixed to verbs if a verb begins with a vowel. It has been observed in section 3.3.1.1 that prefixation of pronominals to verbs is possible only for S or O pronominals, and not A pronominals. For example, in (4.133) we have prefixation of the S argument to the verb *aʈiba* 'say'. Similarly in (4.133) the O argument of the verb *əjoʒaba* 'see' is prefixed.

(4.133) *m-aṭiba*  
 1-say  
 I say/said.

(4.134) *mi η-əjojəba*  
 1 2ACC-see  
 I saw you.

The distinction between S/O and A is more apparent when nominals are used in these positions. The morpheme *ḡi* is always used with the NPs in S or O position. For instance, in examples (4.135–4.141) S takes *ḡi* since all the verbs in these examples are intransitive verbs.

(4.135) *tenmej ḡi allema*  
 Tenmey REF come  
 Tenmey has come.

(4.136) *wɛwə ḡi allema*  
 rain REF come  
 It will rain (lit. The rain will come).

(4.137) *uṭ<sup>h</sup>a ḡi bəṭ<sup>h</sup>e*  
 Uṭ<sup>h</sup>a REF go  
 Uṭ<sup>h</sup>a will go.

(4.138) *əŋ*        *d̪i*        *čalahe*

Jarawa    REF    stay

Jarawa is staying.

(4.139) *h<sup>w</sup>əwə*        *d̪i*        *ahapela*

wild boar    REF    run

The wild boar was running.

(4.140) *tawale*        *d̪i*        *omohə*

Tawale    REF    sleep

Tawale is sleeping.

(4.141) *əŋ*        *d̪i*        *aʔiba*

Jarawa    REF    say

Jarawa said.

Similarly, in examples (4.142–4.144) the morpheme *d̪i* is employed with the O of transitive verbs. It is clear here that S arguments of intransitive verbs and O arguments of transitive verbs are treated similarly, i.e. both S and O take referential marker *d̪i* while A of transitive verbs does not take referential marker *d̪i*.

(4.142) *əŋ*        *tenmej*        *d̪i*        *aʔiba*

Jarawa    Tenmey    REF    say

Jarawa told Tenmey.



- (4.143) *tenmej əŋ d̥i at̥iba*  
 Tenmey Jarawa REF say  
 Tenmey said to Jarawa.

- (4.144) *innen əŋ d̥-əjojəba*  
 non-Jarawa Jarawa REF-see  
 Non Jarawa saw Jarawa.

Based on the preceding discussion I conclude that Jarawa marks grammatical relations through the use of the definiteness/referential marker *d̥i*. This language employs a split system of ergative-absolutive to denote grammatical relations and the context of the use of this ergative-absolutive is referentiality/definiteness.

#### 4.9.2 Definiteness

The morpheme *d̥i* is also used to indicate definiteness. The sentence (4.145) demonstrates that *d̥i* is employed with the noun *iŋ* ‘water’ when the water is within sight of the speaker-hearer. Hence, *iŋ* ‘water’ in (4.145) refers to some particular water or a specific container which has water. If the water is not seen, the co-referencing prefix *h-* is used instead of *d̥i* as given in (4.146).

- (4.145) *ma iŋ d̥-ija*  
 1ACC water REF-give  
 Give me that water (water is seen).

- (4.146) *ma iŋ h-ija*  
 1ACC water 3-give  
 Give me water (water is not seen).

Again, the sentence (4.147) shows that *ɖi* is employed with the noun *pɪpə* ‘money’ which means ‘the money that I gave you’, but *torci* ‘torch’ does not take *ɖi*, and refers to any torch (the speaker cannot see the torch).

- (4.147) *mi pɪpə ɖ-ija torči h-ija*  
 1 money REF-give torch 3-give  
 I gave you the money, give me a torch.

But the use of *ɖi* in sentence (4.148) raises a question about the criteria employed to consider an NP to be definite. In this sentence, *ɖəwəɖəwə* ‘biscuits’ is neither seen nor not does it refer to a definite packet of biscuits. It may be the case that the reference here is to a specific kind of packets of biscuits which the researcher (myself) generally used to bring during fieldwork.

- (4.148) *ɖəwəɖəwə ɖ-eŋge-ja*  
 biscuits REF-bring-VEVD  
 Bring a packet of biscuits. (lit. Must bring a packet of biscuits).

#### 4.10 Cleft sentences/relativisation

In this language, there is at present no clear cut evidence for relativisation. There are, however, some constructions which suggest that relativisation may be

employed in this language. These constructions are reminiscent of English cleft constructions. The example (4.149) appears to be a simple interrogative clause where there is an interrogative pronoun *onne* ‘who’ and a noun phrase *əŋ* ‘Jarawa’, connected with a copula *tʰi*. Literally it means ‘it is which Jarawa?’

- (4.149) *onne tʰi əŋ?*  
 who COP Jarawa  
 Which Jarawa is there? (Who is there?)

In (4.149) above, the interpretation of the clause is ‘one of the Jarawas, but not certain which’. This interpretation suggests two things: (1) this clause denotes some indefinite entity, and (2) it seems that it may be similar to ‘it is which Jarawa who is there?’ Moreover, this entire clause could be the S or A argument of a clause. For instance, in (4.150) *onne tʰi əŋ* functions as the A argument of the verb *odehe* ‘cut’. The structure of (4.150) can be represented as (4.151).

- (4.150) *onne tʰi əŋ taŋ odehe*  
 who COP Jarawa tree cut  
 It is which Jarawa who cut the tree?

- (4.151) **[*onne tʰi əŋ*]<sub>i</sub> [ $\emptyset$ ]<sub>i</sub> [*taŋ*]<sub>NP</sub> [*odehe*]]<sub>VP</sub>**

In (4.151) there are two clauses. One clause is [*onne tʰi əŋ*] and the other clause is [ $\emptyset$  *taŋ odehe*]. In the second clause, [ $\emptyset$ ] refers to the first clause. The interpretation of the entire clause would be “It is which Jarawa who cut the tree?”

There is another kind of construction in (4.152). In this example, *qi* is used instead of *t<sup>hi</sup>*. (4.150) offers an indefinite interpretation of the noun while (4.152) presents a definite interpretation of the noun. In both the examples, we have a set of Jarawas and in that set there is someone who performed the action. However, (4.150) informs the hearer that the set in itself is indefinite. But (4.152) suggests that there is a definite set of Jarawas and one of them performed the action. In other words, they (Jarawas) are sure of the set or subset of Jarawas referred to.

Jarawas always live in a band and keep on moving from one place to another. Suppose that a tree was cut when a particular band were staying at some different place. This means that they are not aware of which Jarawa had cut the tree. But if a tree was cut after they had reached the place, this means the tree was cut by someone from the same band. The proposition ‘the tree was cut’ when they were staying away from the place refers to cutting done by an indefinite set of Jarawas, whereas the proposition ‘the tree was cut after they had reached the place’ refers to cutting done by a definite set of Jarawas. This is the difference between the examples (4.150) and (4.152). It must be noted that these two types of constructions *onne t<sup>hi</sup>* and *onne qi* are mutually exclusive.

- (4.152) *onne qi əŋ taŋ odehe*  
 who REF Jarawa tree cut  
 It is which Jarawa who cut the tree?

It must be noted that the language does not have entire clause all the time. Sometimes there may be the part of the clause, i.e. only one phrase *onne qi* or *onne t<sup>hi</sup>*. These phrases have the same interpretation as we had in (4.150) and

(4.152). For instance, in (4.153) the clause seems to be a simple interrogative clause which has an interrogative pronoun *onne* 'who', the O *lə:w* 'honey' and a verb *enɟe* 'bring'. This clause has only one additional constituent *tʰi* 'COP'. It was unclear earlier why the interrogative pronoun *onne* 'who' in A position takes *tʰi* or *ɖi*. Now it is clear that in these types of constructions the noun phrase has been dropped but the interpretation of the clause is similar to that of (4.150) or (4.152).

- (4.153) *onne tʰi lə:w ɖi-enɟe?*  
 who COP honey REF-bring  
 It is which Jarawa who collected/brought honey?

The corpus contains a few examples of the type mentioned in (4.153). The examples (4.154–4.156) exemplify the use of such constructions where noun phrases have been dropped.

- (4.154) *onne ɖi hiwa čonel (ɖi) h-ija*  
 who REF 3ACC banana (REF) 3-give  
 Who gave banana to him?

- (4.155) *onne tʰi hiwa wa-mummə?*  
 who COP 3ACC 3POSS-father  
 Who is his father?

- (4.156) *onne*    *d̪aŋ* (*d̪i-əŋ*)    *nač<sup>h</sup>e*    *allema*  
 who    REF-Jarawa    with    come  
 It is which Jarawa who did you come with?

#### 4.11 Conclusion

This chapter described the structures of verbless and verbal clause types. Verbless clauses include structures which have two nouns in juxtaposition, or a noun with an adjective. In verbal clauses, the focus was on clauses with verbs as the head of predicates; they include intransitive verbs, transitive verbs, ditransitive verbs and denominalised verbs. I also examined the various structures forming simple clauses, such as interrogative sentences, imperative sentences, negation, and so on. Complex sentences were also described, which include coordinating structures and complementation. The language employs clause internal complement clauses and clause external complement clauses. Clause external complement clauses consist of direct speech. Relative clauses were also discussed and the use of *t<sup>h</sup>i* and *d̪i* with interrogative pronouns, especially *onne* 'who', was clarified.

## Chapter 5: Jarawa and Typology

### 5.0 Introduction

The present study is a descriptive grammar of Jarawa. I would like to now investigate the data in order to determine the position of Jarawa in a typological framework. So far Chapter 2 described the phonetics and phonology of Jarawa; Chapter 3 investigated the morphological properties of Jarawa; Chapter 4 was an attempt to discuss the syntactic structures in the language. This chapter will investigate which kinds of typological patterns this language demonstrates.

The chapter is organized as follows. Section 5.1 contains an overview of typology, including morphological typology and word order typology formulated by Greenberg, and the developments which followed (Hawkins (1983), Dryer (1992, 2007)). Section 5.2 presents a general outline of the typology of Jarawa. Section 5.3 gives the morphological typology of Jarawa. Section 5.4 aims at the word order typology of Jarawa with reference to Greenberg (1963). A brief conclusion is presented in section 5.5.

### 5.1 Language typology

Typology literally means the study of types. In linguistics, typology means the study and classification of languages according to their structural features. However, typology differs from general classification and taxonomy. According to Marradi (1990) classification in general means the attributes are considered one at a time, and entails that the classification is built on a single attribute at each level. Classification means division of attributes at one level; at another

level another attribute will be considered, to split the group further. In taxonomy, the attributes are considered in succession, while in typology multiple attributes are taken together to group languages.

The term “typology” was introduced in linguistics in the 19<sup>th</sup> century by the Schlegel brothers, as an attempt to classify the languages of world based on a morphological criterion, i.e. how morphemes combine into words. Based on this morphological criterion, there were three types of languages: isolating, agglutinating, and fusional. Sapir added a new type, called synthetic. Another kind of classification emerged with Greenberg’s seminal work (1957) on word order typology. In this work he took multiple attributes to define a type.

*...the simultaneous application of a set of individual criteria, a process which can be conveniently conceptualized in terms of a multidimensional attribute space. The attributes will presumably be chosen in that they represent closely related aspects of the same general class of phenomena which may reasonably be expected to reveal significant mutual connections.*

(Greenberg (1957:76))

Comrie (1988) stipulates that the main concern of typology is to find language universals, but at the same time diversity is observed in languages; the objective is also to explain why languages demonstrate such diversity. Comrie (1981) has described three reasons for languages to have common structural properties, (a) due to genetic relatedness, (b) due to contact, and (c) due to the general characteristics of human language. In his opinion, typologists are concerned with the third one. Bickel (2007) discusses the concern of the 21<sup>st</sup> century typologist. He says that typologists in 21<sup>st</sup> century are interested in developing the variables to capture crosslinguistic similarities and differences, to explore universal and



local skewings in the distribution of these variables, and finally to propose and explain why we have such skewing. He further states that our ultimate goal is to describe what is where and why. Thus typological classification is not only restricted to finding out the properties shared by languages but to explain why languages differ from each other.

## 5.2 Phonological typology of Jarawa

In a discussion of typological features of the phonology of a language, the following points are generally discussed:

- i) Whether the language is tonal or non-tonal.
- ii) Which kind of vowel system has been adopted?
- iii) Which kind of distinction is present at consonantal level?
- iv) What is the syllabic structure?
- v) What kinds of syllabic structure are common in this language at word level?

Jarawa is a non-tonal language. It employs a seven-vowel system with a three-way distinction in height and a two-way distinction in the horizontal position of the raised part of the tongue. Thus, this language has /i/, /e/, /a/, /o/, /u/, /ə/ and /ɨ/. This seven-vowel system also has contrast in length.

The consonant system in this language contains plosives in abundance, followed by nasals. Plosives demonstrate a five-way distinction in place {bilabial, dental, retroflex, palatal and velar} and two-way distinction of voicing. Thus, the language has /p, b/, /t, d/, /ʈ, ɖ /č, ǰ/ and /k, g/. Aspiration is also distinctive in voiceless plosives except /p/. Two fricatives {voiceless bilabial and pharyngeal}

are also attested. Two approximants, bilabial and palatal, with a trill, a tap, and a lateral are also present. No voiced consonant has aspiration at all. Labialisation is not common in this language but one labialised pharyngeal fricative and one labialised aspirated voiceless velar plosive are also found.

Jarawa has a (C)V(C) syllable structure with no consonant cluster either in initial position or in final position. In this language the common phonological structure of words is CV.CV. However, other kinds of phonological structures of words like CVC.CV are also attested.

### **5.3 Morphological typology of Jarawa**

#### **5.3.1 Root and Affixes**

This language exhibits a two-way classification of roots: free roots and bound roots. Bound roots are human-specific, consisting of human body parts, kinship terms and some verbs which are used only for humans; free roots are used for other than non-humans.

Affixes fall into two categories, prefixes and suffixes. Possessive pronouns, pronouns, definiteness/referential marker, and causative elements can occur as prefixes. Plural marking, verbaliser, mood, modality and evidentiality marker are used as suffixes. Sometimes the copula is also prefixed to adjectives. Among the prefixes, only the causative prefix falls under affixes since other elements like possessive prefix, definiteness/referentiality marker and pronouns can occur independently in syntax. In the derivational category the causative element occurs as a prefix whereas the verbaliser element (the affix which changes a noun into a verb) is suffixed. Plural markings on nouns, and mood, modality and evidentiality markers on verbs fall under inflection category.

### 5.3.2 Noun morphology

Jarawa employs a three-way classification of nouns: human body parts, kinship terms, and other nouns. The human body parts and kinship terms are bound roots whereas other nouns are free roots. Human body parts obligatorily take definite possessive prefix or indefinite human generic possessive prefixes while kinship terms carry only the definite possessive prefix obligatorily. In example (5.1) *odə* 'hair' cannot occur as a free root if it refers to human hair; it must take a possessive prefix which may be the indefinite human generic possessive prefix *ən-* as in (5.1), or the definite possessive prefix like in (5.2). Similarly, *awela* 'brother-in-law' never occurs independently; it must occur with a definite possessive prefix like in (5.3). Other nouns like *napo* 'fish', *noha* 'bird' *čadqə* 'hut' occur as free roots. These nouns take a possessive prefix only when semantics requires it.

- (5.1) *ən-odə*  
 POSS[HUMAN]-hair  
 human hair

- (5.2). *m-odə*  
 1POSS-hair  
 my hair

- (5.3) *m-awela*  
 1POSS-brother-in-law  
 my brother-in-law (wife's brother)

Countable nouns are divided into two, singular and plural. Singular nouns bear zero affixation while plural nouns take plural suffix */-le/*, though plural marking is not obligatory. Nouns do not bear grammatical gender markings. No syntactic case marking is carried on nouns, i.e. subject, direct object and indirect object have zero case marking. This language has definiteness/referential marking on direct object and indirect object, which differentiates subject and object of a clause. The language makes use of semantic case marking for location, temporal and spatial nouns.

### **5.3.3 Pronominal system**

Jarawa employs a three-way classification of personal pronouns based on person. There are three persons: first person, second person, and third person. For third person pronoun Jarawa also makes use of demonstrative pronouns. There is no number and gender distinction in the pronominal system, neither in personal pronouns, nor in demonstratives. Like nouns, pronouns also do not bear any kind of case marking. One of the characteristic features of personal pronouns in Jarawa is that they can be prefixed to nouns, adjectives, and verbs (in the case of verbs, to only those beginning with a vowel, and with no other element intervening between the verb and personal pronoun).

### **5.3.4 Adjective class**

Adjectives can be divided into two broad categories: pure/descriptive adjectives form one group and demonstratives and numerals constitute another group. The division of adjectives is based on the use of adjectives in syntactic constructions. Pure adjectives follow nouns while demonstratives and numerals precede nouns. Pure adjectives consist of words related to dimension, age, colour, and value.

This type of adjectives also includes physical attributes. Possession is expressed by the use of pronominals.

### 5.3.5 Verbal morphology

Like nouns, verbs are also classified into two categories: bound roots and free roots. Only forms which are exclusively used for humans are bound roots. For instance, *ənətəhə* 'sit [HUMAN]' has two morphemes, *ən* and *ətəhə*, because this form has other forms like *mətəhə* 'I sit', *əhitəhə* 's/he/they sit', and *ənətəhə* 'you sit'. For other animals *oho* 'sit [NON-HUMAN]' is used.

Jarawa does not show tense or aspect marking on the verbs, nor does it have agreement marked on the verbs. However, a verb takes suffixes and prefixes with the proviso that only one prefix and one suffix can attach to the verb at a time. The principle function of suffixes in this language is to convey mood, modality, and evidentiality; the prefix indicates the presence of the direct object. This prefix is always the 3<sup>rd</sup> person pronoun and referred to as co-referencing element in the present work. Further, personal pronouns, used as S and O arguments of a verb, also get prefixed if there is no intervening element between pronoun and verb. A verb that starts with a vowel may also take the definiteness/referential marker as a prefix, provided there is no intervening element between the definiteness/referential marker and the verb.

## 5.4 Word order typology of Jarawa

Though the term "word order typology" was in use for a long time, it was Greenberg who brought the discipline to the forefront. Greenberg (1963) refers to linguistic typology as a field which discusses the linguistic patterns of language vis-à-vis some attributes. For instance, if a language is VSO, it will have

prepositions. These kinds of attributes are discussed in length in Greenberg (1963). Basically, linguistic patterns were discussed with features like the canonical pattern of subject, verb and object with reference to adpositions, noun-adjective relations, noun-genitive relations, and noun-numeral relations. This section focuses on word order in clauses, the position of the adposition, order of noun-adjective, noun-genitive, noun-numeral, adjective-intensifier, verb-adverb, and so on. This section will also investigate syntactic and morphological features correlating with the word order as proposed by Greenberg (1963).

#### **5.4.1 Word order in clauses**

Typologically, word order in clauses means the order of subject, object and verb. The order of these three elements determines the ordering of other pairs of elements in the language. For example, if a language is SOV, there is a greater chance that the language will have postpositions. Thus the order of subject, object, and verb may determine the order of noun and adposition.

Jarawa is an SOV language: the subject precedes the object and the object precedes the verb. This occurs in simple sentences which have a subject, a single object, and a verb. But when a simple sentence has two objects, the pattern may be subject, direct object, indirect object, and verb. Or it may be subject, indirect object, direct object, and verb. The difference between the two is that when the direct object is moved to the position immediately after the subject, the verb contains the information that there is a direct object inside the clause (for the difference in representation of direct and indirect object, see § 4.3.4). Let us consider the following examples.

- (5.4) *h<sup>w</sup>əwə* *ɖi* *omohə*  
 boar REF sleep  
 The wild boar is sleeping.

- (5.5) *mi* *h<sup>w</sup>əwə* *t-ita-b*  
 1 boar REF-eat-NEVD  
 I ate the wild boar.

In the case of ditransitives, the direct object and indirect object exhibit free word order between them, but follow the overall SOV in which the subject precedes the direct object, and direct object precedes the verb.

- (5.6) *mi* *ŋa* *napo* *ɖ-ija*  
 1 2ACC fish REF-give  
 I gave you the fish.

- (5.7) *mi* *napo* *ɖi* *ŋa* *h-ija*  
 1 fish REF 2ACC 3-give  
 I gave you the fish.

#### 5.4.2 Peripheral arguments

Like other SOV languages, Jarawa places peripheral arguments and/or adpositional phrases before the verb. The peripheral arguments and/or adpositional phrases are not syntactic arguments of a verb, but demonstrate the same pattern as object and verb. The precise positions these arguments occupy in

syntactic structures could vary. In intransitive clauses these arguments will just precede the verb while in transitive clauses they may occur before the object. The example in (5.8) illustrates the use of a peripheral argument of an intransitive verb, where the peripheral argument *olleg* ‘place name’ precedes the verb as object. Example (5.9) shows the position of the peripheral argument *olleg* ‘place name’ which precedes the object, and therefore precedes the verb.

- (5.8) *tenmej olleg də bətʰe*  
 Tenmey Olleg LOC go  
 Tenmey will go to Olleg/Lakralunda.

- (5.9) *kitaje ŋi olleg də napo di aikʰwa*  
 yesterday 2 Olleg LOC fish REF kill  
 Yesterday you killed the fish at Olleg/Lakralunda.

### 5.4.3 Complement clauses

Jarawa make use of two types of complement clauses: clause internal and clause external complement clauses. Clause internal complement clauses can also be referred to as predicate internal clauses since they occur within the VP. They precede the verb, like an object or peripheral argument. (5.10) presents the use of clause internal complement clauses.

- (5.10) *mi ujijə d-ɪpale-jə di bətʰe-jə*  
 1 fish REF-fish<sub>[V]</sub>-VEVD REF go-VEVD  
 I will go fishing.



In (5.10) we have two clauses, presented in (5.10a) and (5.10b) below. The clause in (5.10a) is a complement clause embedded in the main clause presented in (5.10b). The embedding of (5.10a) is evident in the presence of the morpheme *d̥i* which is generally employed with the S or O argument of a verb.

(5.10a)        [*mi*]<sub>NP</sub> [*ujijə*]<sub>NP</sub> [*d̥i-ɪpale-jə*]<sub>VP</sub>        ‘I will do fishing.’

(5.10b)        [*mi*]<sub>NP</sub> [*d̥i bət̥<sup>h</sup>e-jə*]<sub>VP</sub>        ‘I will go.’

The other kinds of complement clauses are clause external complement clauses, since these types of clauses follow the verbs. These types of complement clauses occur as the complement of the verb “say”, the reporting verb. The example in (5.11) demonstrates the use of clause external complement clause.

(5.11)    *čew*    *m-aheapa*    *naru*    *čonel*    *igeji*  
           PN        1ACC-say    PN        banana    cut  
           Cew told me that Naru would cut banana.

#### 5.4.4 Adpositions

Like other SOV languages, Jarawa also has postpositions, albeit very few of them. For instance, in example (5.12) and (5.13) the noun *olleg* ‘name of a place’ takes the location marker *d̥ə*.

(5.12)    *mi*    *olleg*            *d̥ə*    *bət̥<sup>h</sup>e*  
           1        Olleg            LOC    go  
           I will go to Olleg/Lakralunda.

- (5.13) *kiɬaye*      *ŋi* *olleg*      *də* *napo* *d̪i* *aik<sup>h</sup>wa*  
 yesterday 2 Olleg LOC fish REF kill  
 Yesterday you killed the fish at Olleg/Lakralunda.

#### 5.4.5 Comparative adjective (standard of comparison)

A typical feature of an SOV language is to place the marker of comparison after the standard of comparison. This is true of Jarawa. For instance, in (5.15) the standard of comparison is *momo* ‘name of a person’ which is compared with another noun *ugə* ‘name of a person’. The marker of comparison is *wɛ*. From the example it is evident that the marker of comparison follows the standard of comparison.

- (5.15) *ugə*      *momo*      *wɛ*      *t<sup>hi</sup>*      *učəhə*  
 Ugə      Momo      COMPM      COP      short  
 Ugə is shorter than Momo.

#### 5.4.6 Noun-adjective order

Jarawa adjectives follow the noun. However, this language distinguishes between descriptive adjectives and demonstratives/numerals. Descriptive adjectives follow the noun. In example (5.14) *hut<sup>h</sup>u* ‘big’ follows the noun *paɬ<sup>h</sup>o* ‘arrow’.

- (5.14) *paɬ<sup>h</sup>o*      *hut<sup>h</sup>u*  
 arrow      big  
 A big arrow.

#### 5.4.7 Demonstrative-numeral-noun

Unlike descriptive adjectives, numerals always precede the noun. Demonstratives precede the numerals. This is illustrated in the example (5.16).

- (5.16) *luwə naja paɬ<sup>h</sup>o*  
 that two arrow  
 Those two arrows.

#### 5.4.8 Genitive-noun

Jarawa exhibits possessor-possessed order. The possessive forms of pronominals are either prefixed to the possessed nouns or stand independently before the possessed nouns. Thus, possessive pronominals always come before the noun. In example (5.17), the 1<sup>st</sup> person pronominal is possessor and in example (5.18) the word *innen* 'non-Jarawa' is possessor.

- (5.17) *mi-paɬ<sup>h</sup>o*  
 1POSS-arrow  
 My arrow.
- (5.18) *innen wa-čadɬa*  
 non-Jarawa 3POSS-hut  
 Non Jarawa's arrow.

If a whole noun phrase is possessed, the order will be as presented in (5.19). In this language demonstratives and possessors are in complementary distribution.

(5.19) [(**Possessor**) (**Numeral**) {(**POSS**)-(**Noun**)} (**Adj** (**Adv**))].

In (5.19) the possessive prefix has been placed before the possessed noun in brackets which means it is optional. It is optional when there are pronominals which function as possessor. The examples in (5.20) and (5.21) represent the construction of the entire noun phrase with all the modifiers.

(5.20) *mi naja paʔ<sup>h</sup>o-le ut<sup>h</sup>u ʔ<sup>h</sup>uhumə*

1Possessor two arrow-PL big very

My two very big arrows.

(5.21) *innen naja wa-paʔ<sup>h</sup>o-le huʔ<sup>h</sup>u ʔ<sup>h</sup>uhumə*

non-Jarawa two 3POSS-arrow-PL big very

Non-Jarawa's two big arrows.

#### 5.4.9 Adjective-adverb (intensifier)

As adjectives follow nouns, degree adverbs follow adjectives in this language. Example (5.22) illustrates the use of the degree adverb *ʔ<sup>h</sup>uhumə* 'very' after the adjective *talʊ* 'long'.

(5.22) *paʔ<sup>h</sup>o talʊ ʔ<sup>h</sup>uhumə*

arrow long very

A very long arrow.

#### 5.4.10 Verb-adverb (manner of adverbs)

Degree adverbs follow verbs in this language. For instance, in (5.23) the verb *ahapela* ‘run’ precedes the degree adverb *t<sup>h</sup>uhumə* ‘very’. This usually does not happen in SOV languages.

- (5.23) *li*        *ahapela*    *t<sup>h</sup>uhumə*  
           PDEM    run        very  
           He runs very fast.

#### 5.4.11 Copula

The use of the Jarawa copula deviates from the expected SOV pattern. Dixon (2010) stated that copula constructions follow the pattern of either intransitive constructions or transitive constructions of the given language. From that point of view, the placing of the copula in Jarawa is interesting: the copula precedes nouns, predicative adjectives and verbs. For instance, in (5.24) the copula precedes the noun. Similarly attribution is expressed by predicative adjectives preceded by copula in the example (5.25). In the example (5.26), the verb *caɔwaja* ‘walk’ is used as adverb of the predicate *allema* ‘come’. Unlike other modifiers (particularly intensifiers) of the predicate, *caɔwaja* precedes the main verb *allema* and copula is employed before the verb *caɔwaja*.

- (5.24) *tenmej*    *t<sup>h</sup>i*    *əŋ*  
           Tenmey   COP   Jarawa  
           Tenmey is Jarawa.

- (5.25) *ut<sup>ha</sup> t<sup>hi</sup> ut<sup>hu</sup>*  
 Ut<sup>ha</sup> COP fat  
 Ut<sup>ha</sup> is fat.

- (5.26) *mi t<sup>hi</sup> čawaja allema*  
 1 COP walk come  
 I came walking.

Interestingly, the copula verb never occurs with pronominals. The examples in (5.27) and (5.28) demonstrate that when the subject of such constructions is a pronoun, the constructions are formed by the juxtaposing the subject and the nominal predicate. Thus, the copula construction is possible only when the copula subject is a nominal headed noun phrase; see examples (5.29) and (5.30).

- (5.27) *mi əŋ*  
 1 Jarawa  
 I am/we are Jarawa.

- (5.28) *mi čew*  
 1 good  
 I am fine.

- (5.29) *ut<sup>ha</sup> t<sup>hi</sup> hut<sup>hu</sup>*  
 Ut<sup>ha</sup> COP fat  
 Ut<sup>ha</sup> is fat.

- (5.30) *tenmej t<sup>hi</sup> əŋ*  
 Tenmey COP Jarawa  
 Tenmey is Jarawa.

#### 5.4.12 Causative construction

SOV languages have a tendency to form morphological causatives by means of suffixes. Contrary to this, Jarawa employs a prefix to form morphological causative. In example (5.31) is an intransitive verb *t<sup>h</sup>ulə* ‘sleep’. The causative form of the *t<sup>h</sup>ulə* is constructed by adding prefix {*wa-*}. The example in (5.34) represents a declarative sentence while (5.31) is an imperative sentence.

- (5.31) *əččəle wa-t<sup>h</sup>ulə*  
 child CAUS-sleep  
 Make the child sleep.

- (5.32) *wa-mummə əččəle ɖi wa-t<sup>h</sup>ulə*  
 3POSS-father child REF CAUS-sleep  
 His/her father made the child sleep.

#### 5.4.13 Negation

Jarawa employs two strategies to express negation: either putting a negative word at the end of a clause, or using a negative suffix to the verbs. Though the negative word can be used in any type of clause, whether verbal or verbless, the negative suffix is used only in verbal clauses. Examples in (5.33–5.38) illustrate

the use of the negative word while example (5.39) demonstrates negation of the verbal clause.

(5.33) *ullel də bæt<sup>h</sup>e naɖem*

Sea LOC go NEG

Don't go into the sea.

(5.34) *tenmej t<sup>h</sup>-ero naɖem*

Tenmey COP-angry NEG

Tenmey is not angry.

(5.35) *tenmej t<sup>h</sup>i ero naɖem*

Tenmey COP angry NEG

Tenmey is not angry.

(5.36) *m-ero naɖem*

1-angry NEG

I am not angry.

(5.37) *tenmej t<sup>h</sup>i do:je naɖem*

Tenmey COP girl NEG

Tenmey is not a girl.



(5.38) *mi innen naɖem*

1 non-Jarawa NEG

I am non-Jarawa.

(5.39) *uɬ<sup>h</sup>a allema-ma*

Uɬ<sup>h</sup>a come-NEG

Uɬ<sup>h</sup>a did not come.

#### 5.4.14 Question particle

Jarawa employs the question particle in yes/no questions. However, this question particle also has (limited) use in content questions (wh-questions). The examples (5.40) and (5.41) demonstrate the use of the question particle in yes/no questions of verbless clauses while examples (5.42) and (5.43) show the use in yes/no questions of verbal clauses.

(5.40) *ka ɲi əŋ?*

INTM 2 Jarawa

Are you a Jarawa?

(5.41) *ka uɬ<sup>h</sup>a t<sup>h</sup>i əŋ?*

INTM Uɬ<sup>h</sup>a COP Jarawa

Is Uɬ<sup>h</sup>a a Jarawa?

(5.42) *ka    ηa-kaja            pečame?*

INTM 2POSS-mother die

Did your mother die?

(5.43) *ka    ηi    čonel    d̥i    he-eŋge-jə?*

INTM 2 banana REF 3-bring-VEVD

Will you bring the banana?

As mentioned, the question particle may also be used in content questions. The examples (5.44) and (5.45) show this.

(5.44) *ka-ηi    kahiunen    onəhə    d̥i    h-ija-g?*

INTM-2 morning what REF 3-give-PST

What did you give in the morning?

(5.45) *ka    ηa-paŋ<sup>h</sup>o-le            nojč<sup>h</sup>e?*

INTM 2GEN- arrow-PL how many

How many arrows do you have?

However, the use of the question particle in content questions is limited. Mostly content questions are formed with the question word in situ. The examples (5.46–5.48) illustrate the usual way of forming content questions, where question words are employed without the question particle.

- (5.46) *luwə-k<sup>h</sup>ə-də*    *ŋi*    *nojč<sup>h</sup>e*    *omohə?*  
 there-PM-LOC    2    how many    sleep  
 How many days will you sleep there? (cf. How long will  
 you stay there?)

- (5.47) *ŋi*    *titabə*    *d̪i*    *onəhə*    *d̪i*    *h-ija-g?*  
 2    Titabə    REF    what    REF    3-give-ASS  
 What did you give to Titabə?

- (5.48) *hi*    *onne*    *d̪i*    *aik<sup>h</sup>wa?*  
 3    who    REF    kill  
 Who did he kill?

There is one example in the corpus which shows that the question particle may be used in between the noun phrase and the question word. In example (5.49) *čajwaj* ‘name of a girl’ is a noun phrase and *t<sup>h</sup>učətəgə* ‘where’ is a question word, and question particle comes in between the two. The example given in (5.49) can be articulated without question particle as given in (5.50). It is surprising that here the question particle cannot be used in the beginning of the sentence; the use of question particle at the beginning of the clause in (5.51) makes the sentence ungrammatical.

- (5.49) *čajwaj*    *ka*    *t<sup>h</sup>učətəgə?*  
 Cayway    INTM    where  
 Where is Cayway?

(5.50) *čajwaj tʰučətəgə?*

Cayway where

Where is Cayway?

(5.51) \* *ka čajwaj tʰučətəgə?*

INTM Cayway where

Where is Cayway?

#### 5.4.15 Cleft sentences/relativisation

Relative constructions are attested only in interrogative constructions. These types of relative constructions can be referred to as condensed relative clauses. They have two clauses: a main clause, followed by a relative clause. There is no overt relative pronoun or marker in this language but it can be interpreted as a relative clause. So far, it has been difficult to establish the exact nature and distribution of relative clauses, further research is required.

(5.52) *onne tʰi əŋ tan odehe?*

who COP Jarawa tree cut

It is which Jarawa who cut the tree?

#### 5.5 Conclusion

This language is SOV but it deviates from the SOV patterns in many respects. A tendency of SOV languages is to have postpositions, and this language also has a postposition. Like some SOV languages Jarawa employs noun-adjective and adjective-adverb patterns, but demonstratives, numerals and genitives precede

the nouns. In the comparative construction, the marker of comparison follows the standard of comparison. Peripheral arguments/adpositional phrases precede the verb. In complement clauses this language employs both the patterns, complement clauses can occur before the verb or after the verb. The negative particle or suffix appears at the end of clause.

## Chapter 6: Conclusion

The Jarawas are a monolingual community living along the western coast of Andaman Islands. The Jarawa people are primarily hunter-gatherers of Negrito stock, with short stature, black skin, and frizzy hair. There is no evidence of where they migrated from. Geneticists claim that these people were part of early migrations of Palaeolithic colonisers of Southeast Asia (Thangaraj et al. 2003: 86-93). Kasyap et al. (2004) commented that it appeared that the aboriginal populations of Andaman Islands remained in isolation for a longer period than any known ancient population of the world. The Jarawas came in contact with the outside world at the end of 1998. After full contact was established at the end of 1998, this is the first attempt to write a descriptive grammar of the language of the Jarawas. For data elicitation, the method of participant observation was adopted. During the initial phase, the pictorial method was also followed. In the pictorial method, pictures of body parts, fish, animals, insects, etc. were shown to the consultants to collect the data related to these pictures. Natural conversations among participants were noted down. Since the community is monolingual, learning the language of the participants was inevitable. The data collected in the span of four years has been the only source for writing the present thesis.

Based on the initial description, the data was further investigated in order to place Jarawa in the typological framework provided by Greenberg (1963) and later supplemented by Hawkins (1984) and Dryer (2007).

In segmental phonology, the sound inventory, syllabic structure, and phonological phenomena of the language were described. The discussion also

included problems associated with the identification and establishment of sounds as phonemes. In order to establish the phonemic status of a particular sound, four methodological principles were adopted. These principles were phonological contrast, variability among sounds, distribution of sounds and statistical criterion.

The sound inventory contains 41 sounds, out of which 28 are consonants and 13 are vowels. The vowel system was classified into two groups based on qualitative contrasts and quantitative difference. In qualitative difference, three-way distinction in height, three-way distinction in tongue position, and two-way distinction in the position of lips were found. One high-mid central unrounded vowel /ɪ/ was also attested. Length was found to be phonemic except for the high-mid central unrounded vowel. In the consonant category, voiceless and voiced plosives and voiced nasals were attested. These plosives and nasals were classified based on five places of articulation, namely bilabial, dental, retroflex, palatal, and velar. The aspirated counterparts of these plosives were also found (except bilabial). In the consonantal group, trill, flap, lateral sounds were also found. Two approximants, bilabial and palatal, were also attested. Bilabial fricative and pharyngeal fricative were also found, though this study could not establish bilabial fricative as a phoneme. Two labialised sounds, namely voiceless aspirated velar plosive and voiceless pharyngeal fricative, were also found.

The thesis also investigates the distribution of sounds at syllable level and word level. Most of the consonants are found both syllable-initially and -finally, but the sounds /t<sup>h</sup>, č, č<sup>h</sup>, j, ɲ, r, h<sup>w</sup>/ are not found syllable finally. Vowels were not taken into consideration at syllable level because vowels form the nucleus of a syllable whether it is initially or finally. At the word level short vowels were

found to occur at initial, medial and final position while long vowels were found to occur only initially and medially.

Syllable structure was also investigated, and it was found that the syllable in Jarawa has a nucleus with optional onset and optional coda; the language attests all four variants of minimal possible syllable structures: V, CV, VC and CVC. It was also found that the language allows only one consonant in onset position and one consonant in coda position. Words in Jarawa were found to be monosyllabic, disyllabic or polysyllabic.

In phonological processes, the use of *mi* forms and *ma* forms was discussed. Jarawa demonstrates the use of reduced forms in possessive constructions which are compound words consisting of a possessive prefix and an independent root. The first syllable of the independent root gets truncated and the reduced form is attached to the possessive prefix.

In the morphology it was found that this language is agglutinating in nature, and employs simple morphology in terms of affixation. There were a few prefixes and suffixes. In the prefix category, there were pronominals and the referential/definiteness marker whereas in the suffix category, were mood, modality or evidential marking with verbs, plural marking with nouns, and state/evidential marking with adjectives. Six word classes were found: noun, pronoun, verb, adjective, adverb, and postposition.

Two kinds of roots were attested: free root and bound root. Three kinds of prefixes were confirmed, which were possessive prefixes, pronominals, and the referential/definiteness marker. In the suffix category negative suffix, evidential



marker, mood/modality marking, state/evidential marking, plural marking, denominalisation suffix were attested.

Two kinds of Noun Phrases (NPs) were found: nominal headed NPs and pronominal headed NPs.

Pronominals are divided into three persons: first person, second person and third person. Plural counterparts of these were not found. Morphologically, pronominals were found to behave differently from nouns. Pronominals attach to nouns as possessive prefixes, adjectives as subjects of complement clauses, and to verbs as subjects of intransitive verbs or objects of transitive verbs. Two forms of pronominals are also attested. These two forms were the “mi” form and the “ma” form. Phonologically these forms demonstrated vowel harmony in the case of the possessive prefix. When the possessive prefixes are used as independent words, “mi” form is used. In syntax the “mi” form was found to be used as subject whereas the “ma” form was used as object. Though the morphological behaviour of pronominals indicated that they could possibly be considered as a clitic, in this study this phenomenon is left for further research.

Two kinds of demonstrative pronouns, proximate *li* and distant *luwə*, are attested. *onne* ‘who’, *onəhə* ‘what’, *kahaje* ‘where’, *t<sup>h</sup>učəgə* ‘where’, *nojč<sup>h</sup>e* ‘how many/much’ were observed as interrogative pronouns.

Nouns were classified into Class I (bound roots) and Class II (free roots). Class II were further classified semantically into celestial bodies, cultural artifacts, and flora and fauna.

Countable nouns were categorised as singular and plural. Singular nouns were found to be zero marked while plural nouns had suffix {-le}. The use of plural marking was found to be optional.

Possession is expressed by prefixation of pronominals. Inalienable nouns, consisting of body parts and kinship terms, were found as bound roots. In alienable possession both the nouns are free roots. In this kind of possession, the possessive prefix (pronominal) is attached to the possessed noun.

The lexically headed noun phrase contains a noun as head, and optional modifiers like possessive prefix, numerals, descriptive adjectives and adverbs. The possessive prefix, demonstratives, and numerals precede the noun, while descriptive adjectives and intensifier follow the noun.

Verbs in this language neither exhibit agreement nor carry tense and aspect information morphologically. Time reference is expressed periphrastically by the use of temporal adverbs. The Jarawas' perception of time does not go beyond three days. *palahe* 'long before' was found to be employed to express beyond three days. Verbs were found to possess a few prefixes and suffixes. Pronominals, referential/definiteness marking and co-referencing element were seen to be used as prefixes, and mood, modality and evidentiality markers as suffixes.

This language distinguishes between hypothetical and assertive moods, and evidentiality. Evidential markers convey whether the action is verifiable or non-verifiable. Hypothetical mood indicates future actions/events which are either doubtful or uncertain. Assertive mood expresses assertion or emphasis of the action/events.

Two kinds of causative constructions, morphological and syntactic, were found. Morphological causatives are formed by prefixing causative prefix {*wa-*} to verbs. Limited data suggested that morphological causative is employed to a handful of verbs, and the syntactic causative across the board. In syntactic causatives, the independent word is used to express causation along with the lexical verb.

In the adjective category, this language was observed to demonstrate descriptive adjectives, numerals, and demonstratives. Descriptive adjectives consist of words related to colour terms or which define, describe, and qualify nouns. Also found was marking of the degree of adjectives. In degrees of comparison positive, comparative, and superlative degrees are attested. The positive degree is formed by the noun phrase and adjective. The comparative degree was seen to be expressed syntactically. In the comparative degree, the standard of comparison was observed to precede the marker of comparison, and the adjective to follow the marker of comparison. Superlative degree was seen as formed by employing the intensifier or a completely new word which was not found to have any resemblance with the adjective of positive degree.

Adverb was also found as a separate word class. These are lexical items used as intensifiers, temporal adverbs, and spatial adverbs. No morphological derivational process was confirmed to form adverbs from adjectives.

No syntactic case marking was observed in this language. However, two morphemes were attested as postpositions to express semantic case. These morphemes were {*də*} and {*nač<sup>h</sup>e*}. The morpheme {*də*} has multiple functions in this language. This morpheme was found to express place of location, source of location, and goal of location. It was also frequently found with temporal and

spatial adverbs, but not always. The morpheme {*nač<sup>he</sup>*} expresses the commitative.

The morpheme {*t<sup>hi</sup>*} was identified as copula. This copula is used to identify an entity or qualify a noun. It was also seen employed with negative particles and with temporal and spatial adverbs in short responses. Sometimes this morpheme was also seen with verbs which were performing the function of adverbs. The corpus suggested that this copula does not take inflection, but one example was found where it was inflected for mood.

Four word formation processes were confirmed. These word formation processes were compounding, denominalisation, reduplication, and the use of empty morpheme. In compounding, three combinations were substantiated: noun-noun, noun-adjective, and noun-noun-adjective. In the denominalisation process, we saw that nouns are denominalised to verbs with the help of a suffix. In reduplication, Jarawa demonstrates syllable reduplication and word reduplication. As for word reduplication, the corpus suggested that verbs were reduplicated to serve the function of adverbial modifiers.

A notable phenomenon was also observed under word formation processes: a morpheme used mostly with personal nouns (but also other nouns) was discussed, but the meaning of this morpheme was not clear. Hence this morpheme was referred to as an empty morpheme.

In syntax, the different syntactic structures of Jarawa, and their variances were discussed. These syntactic structures included simple clause structures, interrogative constructions, imperative sentences, negative constructions, and

cleft constructions. It was also observed that this language follows the ergative-absolutive system.

In declarative sentences, verbless and verbal clauses were discussed. Verbless clauses consisted of non-verbal predicates like nouns and adjectives as the heads of clauses. Copula constructions were also included in verbless clauses. Verbal clauses contained verbs as heads of main clauses.

In verbless clauses we encountered two different types of clauses: one type had a nominal as the head of the predicate, and another had an adjective as the head of the clause. Verbless clauses also included copula constructions, since the use of copula constructions were mostly observed in this type. In verbless clauses with a nominal as head, two constructions were discussed: one where the S argument was a pronominal headed NP and another where it was a lexically headed NP. Lexical NPs were found to take copula constructions while pronominal headed NPs never take copula constructions.

In verbless clauses with adjectival predicates, three kinds of constructions were discussed. One was with prefixation of a pronominal S argument in adjectival predicates beginning with a vowel, and which never takes a copula. The second was copula constructions with a lexically headed NP as S argument which take a copula. The third was adjectival predicates suffixed for state/evidentiality, which also do not take the copula.

In verbal clauses there were four kinds of constructions discussed. These were intransitive, transitive, ditransitive, and constructions with denominalised verbs. All these constructions were found to have different structures.

We saw that in intransitive clauses with pronominal headed NP as the S argument, the NP can be prefixed to the verb (if the verb starts with a vowel). This is not allowed with a lexically headed NP. However, the lexically headed NP, if specific, takes the referential/definiteness marker in intransitive clauses.

Apart from these intransitive constructions, we encountered denominalised constructions. These were posited to include (purely intransitive) weather type constructions, and another type of construction, which semantically appeared to be transitive but, behaved as if they were intransitive clauses.

Transitive clauses were considered as a separate group, with a transitive verb as the head of the predicate. In such constructions two core arguments were confirmed. These core arguments are A(gent) and O(bject). In these constructions A precedes O and O precedes the verb. If the O argument is a pronominal headed NP, it generally attaches to the verb if the verb begins with a vowel. In the case of a lexically headed NP, we had observed the insertion of the referential/definiteness marker after it. This referential/definiteness marker was seen to always move with the D(irect) O(bject).

In ditransitive clauses, the position of A and the verb was found to be fixed in declarative sentences, i.e. A always occurs at the beginning of the clause, and the verb at the end of clause. The order of I(ndirect) O(bject) and DO might change. The referential/definiteness marker is used to specify the DO, hence this marker moves along with it. However, IO may also take referential/definiteness marker.

Apart from the core arguments, peripheral arguments of the clause were shown to have different positions in the clause. Temporal adverbs generally occur at the beginning while spatial adverbs/nouns just before the verb.

To express negation, this language makes use of an independent word *nađem* after a predicate (verbal or verbless), or a suffix *-ma* on a verb. There was no semantic difference observed between the two. We saw that the independent word *nađem* could be used across the board while the suffix *-ma* had restricted use.

Imperatives are formed by using the verb with its core argument. As we saw, there is no morphological marking to differentiate imperatives from other kinds of sentences.

In interrogatives, we looked at yes/no questions and wh-questions, which differ syntactically. Yes/no questions are formed by placing the interrogative marker *ka* at the beginning of a clause, while in wh-questions the wh-word occupied its situ position. The use of the interrogative marker with some wh-questions was also found.

In the category of complex sentences, I explored coordination and complement clauses. A conjunction *ən* 'and' was found to be used to express coordination. In coordinated clauses, it was found that conjunction *ən* 'and' can be employed at phrase level and clausal level to form coordinated clauses.

Two different kinds of complement clauses were also discussed. These two types of clauses were clause internal and clause external complement clauses. In a clause internal complement clause, the complement clause occurs within the main clause in the object position of the verb phrase. Clause external complement clauses were described as instances of direct speech in this language. Since the language was found to be SOV, meaning the object occupies

the slot before verb, these kinds of constructions were considered as clause external complement clauses.

Direct speech and cleft constructions were established as types of complex constructions found in Jarawa. It was suggested that there is only direct speech in this language (based on pronominal correlation). Cleft constructions were found to have two sub-types: *d̥i*-constructions and *tʰi*-constructions. The former suggests referential/definiteness of the entity referred to, and the latter indefiniteness of the entity referred to.

The morpheme *d̥i* was shown to have two different usages in this language. One usage is to indicate definiteness/referentiality, and the second is to express grammatical relation. Referentiality was treated in this dissertation as applicable when the entity referred to is within sight of the speaker-hearer. Definiteness, then, is applicable when the entity referred to is not within sight but the speaker-hearer has shared knowledge. . However, some restrictions were found on the use of this morpheme. It never occurs with pronominals and postposed Os. It can occur only with lexically headed S or O arguments of a clause. This morpheme was also seen employed with interrogative pronoun *onne* 'who' and clause internal complement clauses. In the case of the interrogative pronoun *onne* 'who', the cleft construction is formed.

The way this morpheme is employed in this language also indicated that this morpheme expressed grammatical relations, i.e. ergative-absolutive system. The language employs split ergative-absolutive system. In the case of definiteness/referentiality this morpheme was usually employed with S or O. The use of the morpheme with A was rare if S or O were found to be



definite/referential. Thus, this morpheme conveyed grammatical relations in the context of definiteness/referentiality. With an indefinite object this morpheme was not employed with S, O, or A.

Typologically, this language was found to be SOV. Postpositions were found. Descriptive adjectives and manner of adverbs follow the head while numerals and demonstratives precede the head. In the comparative degree, the marker of comparison follows the standard of comparison. The copula precedes non-verbal predicates in copula constructions. Negative particles or suffixes appear at the end of the clause.

## Bibliography

Abbi, Anvita 2001. *A Manual of Linguistic Fieldwork and Structures of Indian Languages*. Munchen: Lincom Europa.

Abbi, Anvita. 2006. *The Endangered Languages of the Andaman Islands*. Munchen: Lincom Europa.

Abbi, Anvita et al (2007). Where have all the speakers gone? A Sociolinguistic study of the Great Andamanese. *Indian Linguistics* 68: 325-343

Abbi, Anvita. 2009. 'Is Great Andamanese genealogically and typologically distinct from Onge and Jarawa?' *Language Sciences* 31: 791-812

Abdulali, h. 1962. The Wild Pigs in the Andamans. *Journal of the Bombay Natural History Society* 59.1: 281-283.

Acharya, S. and S. Datta. 1998. The Jarawas are Coming. *Sunday* 25.48: 36-39.

Agrawal, H. N. 1967. ABO blood groups and the sickle cell investigations among the Shompens of Great Nicobar, *Journal of Indian Anthropological Society*, 1: 149-150.

Agrawal, H. N. 1967. Physical characteristics of the Shompen of Great Nicobar, *Bulletin of Anthropological Survey of India*, 1967: 83-97.

Aiyangar, S. K. 1923. Rajendra, the Gangaikonda Chola. *Journal of Indian History* 2.3: 317-369.

Akerman, K. 1975. Baler Shell Implements from North-West Australia. *Mankind* 10: 16-19.

- Alexander, J. E. 1827. Notice regarding the Little Andaman Island, Bay of Bengal. *The Edinburgh New Philosophical Journal* 2: 43-48.
- Alexander, James Edward 1827. *Travels from India to England: Comprehending a Visit to the Burman Empire, and a Journey Through Persia, Asia Minor, European Turkey, Etc., in the Years 1825-26*. London: Parbury, Alien and Co.
- Andaman and Nicobar Administration, 1909. *Gazetteer*: Calcutta.
- Andaman and Nicobar Administration. 1977. *Retrieval from Precipice*, AAJVS, Port Blair.
- Anderson, C. W. B. 1905. *Exploration of Great Nicobar*. London
- Anderson, J. 1890. *The Selungs of the Mergui Archipelago*. London: Trubner and Co.
- Awaradi, S. A. 1990. *Computerized Master Plan (1991-2021) for Welfare of Primitive Tribes of Andaman and Nicobar Islands*. Port Blair: Andaman and Nicobar Administration.
- Awasthi, A. K. 1988. Plants used as food items by the tribals of Andaman and Nicobar Islands. *Journal of Andaman Science Association* 4.2: 128-131.
- Baer, A. 1995. Human Genes and Biocultural History in Southeast Asia. *Asia Perspectives* 34.1: 21-35.
- Baer, A. 2000. The Genetic History of the Orang Asli: Uniting Patchwork Data. *Bulletin of the Indo-Pacific Prehistory Association* 19.3: 3-10.
- Bailey, R. C., G. Head, M. Jenike, B. Owen, R. Rechtman and E. Zechenter. 1989. Hunting and Gathering in Tropical Rain Forest: Is it Possible? *American Anthropologist* 91: 59-82.

- Balfour, Patrick. 1935. *Grand Tour: Diary of an Eastward Journey*. New York: Harcourt, Brace and Co.
- Bamshad, Michael J. et al 1998. 'Female Gene Flow Stratifies Hindu Castes.' *Nature* 395 (15 October 1998): 651-652.
- Bamshad, Michael J. 2001. 'Genetic Evidence on the Origins of Indian Caste Population.' *Genome Research*, November 2001: 1-11.
- Banerjea, Kanak Tilak. 1998. 'Among the Jarawas.' *Sunday Statesman*, 8 February 1998:8.
- Banerjee, P. K. 1993. 'Imprints of Late Quaternary Climatic and Sea Level Changes on East and South Indian Coast.' *Geo-Marine Letters* 13: 56-60.
- Barbosa, D. 1921. *The Book of Duarte Barbosa*, 2. Cambridge: The Hakluyt Society.
- Basu, A. 1969. The Pahira: A population genetical study. *American Journal of Physical Anthropology* 21:229.
- Basu, B. K. 1990. *The Onge*. Calcutta: Seagull Books.
- Basu, D.N. 1952. A Linguistic Introduction to the Andamanese. *Bulletin of the Department of Anthropology*, Vol. 1-2, July pp. 55-70.
- Belcher, E.1867. Notes on the Andaman Islands. *Transactions of the Ethnological Society of London* 5: 40-49.
- Bellwood, P. 1978. *Man's Conquest of the Pacific: Prehistory of Southeast Asia and Oceania*. Auckland: Collins.
- Bellwood, P. 1985. *Prehistory of the Indo-Malaysian Archipelago*. New York: Academic Press.

- Béteille, A. 1998. The Idea of Indigenous People. *Current Anthropology* 19.2: 187-191.
- Bhargava, N. 1981. Plants in Folk Life and Folklore in Andaman and Nicobar Islands. In S. K. Jain, ed. *Glimpses of Indian Botany*, pp. 229-334. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.
- Bhattacharya, Asutosh. 1983. *Andhakarer Andamanese (In the Dark Andamans)*. Calcutta: A. Mukherjee and Co.
- Bickel, Balthasar 2007. 'Typology in the 21<sup>st</sup> Century: Major Current Developments. *Linguistic Typology* 11: 239-251.
- Binford, L. R. 1980. Willow Smoke and Dogs' Tails: Hunter-Gatherer Settlement System and Archaeological Site Formation. *American Antiquity* 45.1: 4-20.
- Bird-David, N. H. 1991. Hunter-gatherers and Other People: A Reexamination. In T. Ingold, D. Riches, and J. Woodburn, ed., *Hunters and Gatherers 1: History, Evolution and Social Change*, pp. 17-30. New York/Oxford: Berg.
- Bird-David, N. H. 1992. Beyond 'the Hunting and Gathering Mode of Subsistence': Culture Sensitive Observations on the Nayaka and Other Modern Hunter-Gatherers. *Man* (N.S.) 27: 19-44.
- Birdsell, J. B. 1950. Some implication of the genetic concept of the race in terms of spatial analysis. *Cold Spring Harbor Symposia on Quantitative Biology*, 15:259-314.
- Birdsell, J. B. 1977. The Recalibration of a Paradigm for the First Peopling of Greater Australia. In Allen, J. Golson, and R. Jones, ed., *Sunda and Sahul*, pp. 113-167. New York: Academic Press.

- Blevins, Juliette 2007. A long lost sister of Proto-Austronesian? Proto-Ongan, mother of Jarawa and Onge of the Andaman Islands. *Oceanic Linguistics* 46 (1): 155–198.
- Boden Kloss, C. 1903. *In the Andamans and Nicobars: The Narrative of a Cruise in the Schooner 'Terrapin', with Notices of the Islands, Their Fauna, Ethnology, Etc.* London: John Murray.
- Bonin, G. von. 1931. Beitrag zur kranilogie von Ost-Asien. *Biometrika* 24: 52-113.
- Bonington, M. C. 1931. Extract from the Census Report on the Andaman and Nicobar Islands, Census of India 1931, Vol. 2, Part III pp. 172-176.
- Bonington, M. C. 1933. *The Andaman and Nicobar Islands*. Calcutta: Superintendent Government Printing, India.
- Bonington, M. C. 1932. Census of India, 1931. Andaman and Nicobar Islands, Vol II, Parts 1 and 2. Calcutta: Government of India Publication.
- Bose, S. 1964. Economy of the Onge of Little Andaman. *Man in India* 44: 289-310.
- Bowdler, S. 1983. Seiving Seashells: Midden Analysis in Australian Archaeology. In G. Connah ed., *Australian Field Archaeology: A Guide to Techniques*, pp. 135-144. Canberra: Australian Institute of Aboriginal Studies.
- Bowrey, T. 1905. A Geographical Account of Countries round the Bay of Bengal (1699 to 1679). R. C. Temple. (ed.) Cambridge: The Hakluyt Society.
- Breuil, H. and Lantier, R. 1965. *The men of the Old Stone Age*. London: George G. Harrap Co. Ltd.
- Burenhult, N. 1996. Deep Linguistic Prehistory with Particular Reference to Andamanese. Lund University, *Dept. of Linguistics Working Papers* 45: 5-24.

- Burkitt, M. C. 1963. *The old stone Age*. New Delhi: Rupa & Co.
- Busk, George. 1865. 'Description of Two Andamanese Skulls.' *Transactions of the Ethnological Society* 4: 205-211.
- Campbell, Colonel Walter. 1864. *My Indian Journal*. Edinburgh: Edmonston and Douglas.
- Cappieri, M. 1954. Some Essential Features of Andamanese Anthropology and Demogenetics. *Proceedings of the 4<sup>th</sup> International Congress of Anthropological and Ethnological Science*, Vienna 1952, 1: 293-298.
- Cappieri, M. 1970. The Racial Homogeneity of the Andamanese, Part III: Osteological Examination and Anthropometry. *Mankind Quarterly* 11.2: 96-113.
- Census of India 1961. *The Andaman and Nicobar Islands, General report, Part I, Vol. xvii (17)*. Delhi: Government of India Press.
- Census of India 1981. *The Andaman and Nicobar Islands, General Economic Tables and Social and Cultural Tables, Part III, A and B, and Part IV, A*
- Chakraborty, D. K. 1977. *Great Andamanese of Strait Islands*. Calcutta: Anthropological Survey of India.
- Chakraborty, D. K. 1990. *The Great Andamanese*. Calcutta: Seagull Books.
- Chanda, Sudhendu. 1976. The Hostile Jarawa of Andaman and Semi Hostile Shompens of Great Nicobar Island. *Journal of Social Research* 19.2: 64-73.

- Chaturvedi, Y. 1980. Mammals of the Andamans and Nicobars: Their Zoogeography and Faunal Affinity. *Records of the Zoology Survey of India* 77: 127-139.
- Chengapa, B. S. 1958. In the Land of Hostile Jarawas and Other Wild Tribes of the Andaman Islands. *Indian Forester*, February 1958: 108-120.
- Choudhary, N. C. 1967. Tribes of Andaman Islands, *Indian Museum Bulletin*, January 1967, pp. 51-58.
- Choudhary, N. C. 1976. The Onge of Little Andaman-20 years after. *Journal of Social Research*. 19.2:51-63.
- Cippieri, M. 1953. 'Some essential features of the Andamanese anthropology and demogenetics.' *Journals of Anthropology Society (Bombay)* 7:1-39.
- Cipriani, L. 1953. Report on a Survey of the Little Andaman during 1951-1953. *Bulletin of the Anthropological Survey of India* 2.1: 61-82.
- Cipriani, L. 1954. A Survey of Little Andaman during 1954. *Bulletin of the Anthropological Survey of India* 3.2: 66-94.
- Cipriani, L. 1955. Excavations in Andamanese Kitchen-middens. *Actés du IVe Congrès International des Sciences Anthropologiques et Ethnologiques, Vienna*, II: 280-283.
- Cipriani, L. 1966. *The Andaman Islanders*. London: Wiedenfeld and Nicolson.
- Clark, G. 1992. *Space, Time and Man: A Prehistorian's View*. Cambridge: Cambridge University Press.



- Clifton, Mrs Talbot. 1911. *Pilgrims to the Isles of Penance: Orchid Gathering in the East*. London: John Long.
- Colebrooke, R. H. 1795. On the Andaman Islands. *Asiatick Researches* 4: 385-394.
- Comrie, Bernard 1981. *Language Universals and Linguistic Typology: Syntax and Morphology*. Chicago: Chicago University Press.
- Comrie, Bernard 1988. Linguistic Typology. *Annual Review of Anthropology* 17: 145-159.
- Connor, Steve. 1998. DNA Links "Stone Age" Tribe to First Humans. *Independent* 31. (August 1998)
- Cooper, Z. and H. Achyuthan. 1991. Archaeological and Geomorphological Investigations in the Andaman Islands. *Tropical Geomorphology Newsletter* 11: 7-9.
- Cooper, Z. and H. Raghavan. 1988. Analyses of Sediments from a Cave in the Andaman Islands. *Man and Environment* 12: 67-74.
- Cooper, Z. and H. Raghavan. 1989. Petrographic Features of Andamanese Pottery. *Indo-Pacific Prehistory Association Bulletin* 9: 22-32.
- Cooper, Z. and S. Bowdler. 1998. Flaked Glass Tools from the Andaman Islands and Australia. *Asian Perspectives* 37.1: 74-83.
- Cooper, Z. 1985. Archaeological Explanation in the Andaman Islands. *Indo-Pacific Prehistory Association Bulletin* 6: 27-39.

- Cooper, Z. 1987. *A Report on Archaeological Investigations in the Andaman Islands from 1984 to 1986*. Submitted to the Homi Bhabha Fellowships Council, Bombay.
- Cooper, Z. 1988. Shell Artefacts from the Andaman Islands. *Australian Archaeology* 26: 24-41.
- Cooper, Z. 1989. Analysis of the Nature of Contacts with the Andaman Islands during the Last Two Millennia. *South Asian Studies* 5: 133-147.
- Cooper, Z. 1990a. Archaeological Evidence for Resource Exploitation in the Andaman Islands. *Man and Environment* 15.1: 73-81.
- Cooper, Z. 1990b. The Problem of the Origins of the Andamanese. *Bulletin of the Deccan College Post-graduate and Research Institute* 49: 99-104.
- Cooper, Z. 1990c. The End of 'Bibipoiye' (Dog Not) Days in the Andamans. In B. Meehan and N. White ed. *Hunter-Gatherer Demography: Past and Present*, pp. 117-125. The University of Sydney, Oceania Monographs 39.
- Cooper, Z. 1993a. The Origins of the Andaman Islanders: Local Myth and Archaeological Evidence. *Antiquity* 67: 394-399.
- Cooper, Z. 1993b. Perception of Time in the Andaman Islands. *World Archaeology* 25.2: 261-267.
- Cooper, Z. 1994. The Relevance of the Study of Abandoned Onge Encampments in Understanding the Archaeological Record in the Andaman Islands. In B. Allchin ed., *Living Traditions: Studies in the Ethnoarchaeology of South Asia*, pp. 235-63. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd.

- Cooper, Z. 1996a. Archaeological Evidence for Human Settlement in the Andaman Islands. *Indo-Pacific Prehistory Association Bulletin* 15.2: 139-142.
- Cooper, Z. 1996b. Archaeological Evidence of Maritime Contacts: The Andaman Islands. In H. P. Ray and J. -F. Salles, ed. *Tradition and Archaeology: Early Maritime Contacts in the Indian Ocean*, pp. 239-245. New Delhi:Manohar.
- Cooper, Z. 1997a. Salient Features of Site Location in the Andaman Islands. *Asian Perspectives* 36.2: 220-231.
- Cooper, Z. 1997b. *Prehistory of the Chitrakot Falls*. Pune: Ravish Publishers.
- Cooper, Zarine, 2002. *Archaeology and History: Early Settlement in Andaman Islands*. Delhi: Oxford University Press.
- Cooper, Zarine. 1989. Analysis of the Nature of Contacts with the Andaman Islands During the Last Two Millennia. *South Asian Studies* 5: 133-147.
- Coxon, Stanley W. 1915. *And That Reminds Me: Being Incidents of a Life Spent at Sea, and in the Andaman Islands, Burma, Australia, and India*. New York: John Lane Co.
- Critchfield, Jean. 1963. *Car Nicobarese Vocabulary*. Chicago: University of Chicago (mimeo).
- Cutting, Suydam. 1932. Natives of the Andaman Islands. *Natural History* 32.5: 521-530.
- Danda, A. K. 1988. 'Process of ethnic integration: Some theoretical and methodological problems.' *Human Science* 37:356-368.
- Danda, A. K. 1991. *Ethnicity in India*. New Delhi: Inter-India Publications.

- Danda, D. 1987. 'The Onge of Little Andaman.' *Human Science*, 24: 89-90.
- Danda, G. Dipali. 1987. 'Little Andaman and the Onge.' *Human Science* 36: 66-91.
- Das, A. R. 1977. *A Study on the Nicobarese Language*. Calcutta: Anthropological Survey of India.
- Das, V. and A. Kagal. 1990. Through the Prism of Clerkdom. *The Times of India: Sunday Review*, 16 September: 1-2.
- Dasgupta, D and S. R. Sharma. 1982. *A Hand Book of Onge Language*. Calcutta: Anthropological Survey of India.
- Devi, L. Dilly 1980. Man-Food Relationship among the Onge. in I. P. Singh and S. C. Tiwari (ed) *Man and Environment*.
- Director of Health Service, Andaman and Nicobar Administration 1982: Health Care Services in Andaman and Nicobar Islands, (report), Port Blair.
- Dixon, R. M. W. 2009. *Basic Linguistic Theory I and II*. Oxford: Oxford University Press.
- Dobson, G. E. 1875. On the Andamans and Andamanese. *Journal of the Royal Anthropological Institute*, London 4: 457-467.
- Dryer, M. S. 1992. The Greenbergian Word Order Correlations. *Language* 68: 81-138.
- Dryer, M. S. 2007. Word Order. In Shopen, T. (ed.) *Language Typology and Syntactic Description I*. Cambridge: Cambridge University Press.

- Dunn, F. L. 1968. Epidemiological Factors: Health and Disease in Hunter-Gatherers. In R. Lee and I. DeVore, ed. *Man the Hunter*, pp. 221-28. Chicago: Aldine.
- Dutta, P. C. 1962. *A Trial Excavation of a Kitchen-midden at South Andaman*. Wiener Völkerkundliche Mitteilungen 10: 17-29.
- Dutta, P. C. 1978. *The Great Andamanese: Past and Present*. Calcutta: Anthropological Survey of India.
- Dutta, P. C. 1983. Research in Biological Anthropology of the Andaman Negritos: A Critical Review. *Anthropologie* 21.3: 259-268.
- Dutta, T. R., R. Ahmed, S. R. Abbas, and M. K. V. Rao. 1985. Plants used by Andaman Aborigines in Gathering Rock-bee Honey. *Economic Botany* 39.2: 130-138.
- Ehlers, Otto E. 1898. *An Indischen Furstenhofen*. Berlin: Allgemeiner Verein für Deutsche Litteratur.
- Eichstedt, E. V. 1929. Über das Aussterben der Negritos auf den Andamanen. *Archiv für Rassen und Gesellschafts Biologie* 21: 1-4.
- Eichstedt, E. V. 1930. Unter den Andamaneischen Zwergnegern. *Die Umschau* 34: 246-268.
- Eichstedt, E. V. 1928. Die Negritos der Andamanen. *Anthropologischer Anzeiger* 5.3: 259-268.
- Ellis, A. J., E. H. Man, and R. C. Temple. 1882. Report of Researches into the Language of the South Andaman Islands, arranged by A. J. Ellis from the

- papers of E. H. Man and Lieut. R. C. Temple. *Transactions of the Philological Society of London*, pp. 44-73.
- Erickson, P. and S. Beckerman. 1975. Population Determinants in Andaman Islands. *Mankind* 10.2: 105-107.
- Flower, W. H. 1880. On Affinities of Natives of the Andaman Islands. *Journal of the Royal Anthropological Institute* 9: 108-135.
- Forest Statistics 1998. *Andaman and Nicobar Island Forest Department*. Port Blair: Van Sadan.
- Fox, A. G. 1995. Malayan Paleosociology: Implications for Patterns of Genetic Variation among the Orang Asli. *American Anthropologist* 97.2: 313-323.
- Fox, A. L. 1878. Observations on Mr. Man's Collection of Andamanese and Nicobarese Objects. *The Journal of the Anthropological Institute of Great Britain and Ireland* 7: 434-451.
- Fox, R. G. 1969. Professional Primitives: Hunter and Gatherers of Nuclear South Asia. *Man in India* 49.2: 139-160.
- Fytche, Albert. 1861. A note on Certain Aborigines of the Andamans. *Journal of the Asiatic Society of Bengal* 30: 263-267.
- Ganguli, P. 1961. Religious Beliefs of the Negritos of Little Andaman. *Eastern Anthropologist* 14.3: 243-248.
- Ganguli, P. 1966. Vocabulary of the Negritos of Little Andaman with Grammatical Notes and Materials. *Bulletin of Department of Anthropology* Vol. 15: 1-30.

- Gates, R. R. 1940. Blood Groups from Andamans. *Man* 140: 50-56.
- Glover, I. C. 1996. Recent Archaeological Evidence for Early Maritime Contacts between India and Southeast Asia. In H. P. Ray and J. F. Salles ed. *Tradition and Archaeology: Early Maritime Contacts in the Indian Ocean* pp. 129-158. New Delhi: Manohar.
- Gomes, A. G. 1990. Demographic Implications of Villigisation among the Semang of Malaysia. In B. Meehan and N. White, ed. *Hunter-Gatherer Demography: Past and Present* pp. 126-138. University of Sydney: Oceania Monograph, 39.
- Greenberg, Joseph H. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In Joseph Greenberg (ed.), *Universals of Language*. Cambridge, MA: MIT Press, 73-113.
- Greenberg, J. H. 1971. The Indo-Pacific Hypothesis. *Current Trends in Linguistics* 8: 807-871.
- Guha, B. S. 1952. Report of a Survey of the Inhabitants of the Andaman and Nicobar Islands During 1948-49, *Bulletin of the Department of Anthropology* Vol. 1:1-7
- Guha, B. S. 1954. A comparative study of the somatic traits of the Onges of Little Andaman. *Bulletin of Department of Anthropology* 3.2: 117-143.
- Gupta, Bandana. 1976. *The Andamans*. Calcutta: Jijnasa Publication.
- Gupta, P. and Basu, A. 1960. Dermatoglyphics of Onges of Little Andaman. *Bulletin, Anthropological Survey of India* 9.2: 51-63.
- Gupta, S. K. 1951. Census of India 1951: Andaman and Nicobar Islands.

Haughton, J. C. 1861. Papers Relating to the Aborigines of the Andaman Islands. *Journal of the Asiatic Society of Bengal* 1861: 251-263.

Hawkins, J. A. 1983. *Word Order Universals*. New York: Academic Press.

Hill, S. C. 1923-1928. Notes on Indian Piracy. *The Indian Antiquity* 52: 1-52; 53: 53-84; 54: 85-92; 55: 93-124; 56: 125-204; 57: 205-248.

Holland, T. H. 1904a. Ancient Kitchen-Midden in the Andamans. *Records of the Geological Survey of India* 31.1: 45.

Holland, T. H. 1904b. Ancient Kitchen-Midden in the Andamans. *Records of the Geological Survey of India* 31.2: 107-108.

Hutton, J. H. 1931. Notes on the Andamanese and the Nicobarese. *Man in India* 11:1-5.

Hutton, J. H. 1951. Less Familiar Aspects of Primitive Trade. *Proceedings of the Prehistoric Society* 7: 171-176.

Jafri, S. H. and S. N. Charan. 1992. Quench Textures in Pillow Basalt from the Andaman and Nicobar Islands, Bay of Bengal, India. *Proceedings of the Indian Academy of Science* 101: 99-107.

John Mase Field 1908. *The Travels of Marcopolo*. London: Everyman's Library.

Joshi, M. C. 1971. *Census of India 1971, Series 23, Andaman and Nicobar Island Part II-A*.

Justin, A. 1990. *The Nicobarese*. Calcutta: Seagull Books.

Kennedy, K. A. R. 1999. Paleoanthropology of South Asia. *Evolutionary Anthropology* 8.5: 165-185.



- Kloss, C. B. 1903. *In the Andamans and Nicobars – the Narrative of a Cruise in the Schooner 'Terrapin'*. London. (Reprint 1971, New Delhi: Vivek Publishing).
- Kloss, C. Boden 1903. *In the Andaman and Nicobars*. London: John Murry.
- Kumar, Umesh and Biswas, Samir. 2002. The Jarawas and Their Habitat: A Man-Nature Relationship. In Mukhopadhyay, K. et al (ed) 2002. *Jarawa Contact: Ours with them theirs with us*. Kolkata: Anthropological Survey of India.
- Lal, Parmanand 1976. *Andaman Islands: A Regional Geography*. Calcutta: Anthropological Survey of India.
- Lapicque, L. 1894. Ethnographie des iles Andaman. *Bulletins de la Societe d'Anthropologie de Paris* 3 Mai: 359-369.
- Leach, E. R. 1971. Kimil: A Category of Andamanese Thought. In P. Maranda and E. K. Maranda, ed., *Structural Analysis of Oral Tradition*. pp. 22-48. Philadelphia: University of Pennsylvania Press.
- Lehmann, Herman. 1955. The Andaman Islands. *St. Bartholomew's Hospital Journal*: 99-112.
- Lewis, R. F. 1912. *Census of India 1911. The Andaman and Nicobar Islands*. Calcutta: Superintendent Government Printing, India.
- Lewis, R. F. 1923. *Census of India 1921. The Andaman and Nicobar Islands*. Calcutta: Superintendent Government Printing, India.
- Majumdar, S. N. 1927. *McCrindles Ancient India as Described by Ptolemy*. Calcutta: Chuderverty, Chatterjee and Co. Ltd.

Majumder, R. C. 1975. *Penal Settlement in Andamans*. New Delhi: Ministry of Education and Social Welfare, Government of India.

Man, E. H. and R. C. Temple. 1880. Note on Two Maps of the Andaman Islands. *The Journal of the Royal Geographical Society* 50: 255-259.

Man, E. H. and Temple, R. C. 1877. *The Lord's Prayer in the South Andaman Language*. Calcutta.

Man, E. H. 1878a. The Andaman Islands. *The Journal of the Anthropological Institute of Great Britain and Ireland* 7: 105-109.

Man, E. H. 1878b. On the Arts of the Andamanese and Nicobarese. *The Journal of the Anthropological Institute of Great Britain and Ireland* 7: 451-467.

Man, E. H. 1882. On Andamanese and Nicobarese Objects. *The Journal of the Anthropological Institute of Great Britain and Ireland* 11: 268-294.

Man, E. H. 1883. On the Aboriginal Inhabitants of the Andaman Islands. *The Journal of the Anthropological Institute of Great Britain and Ireland* 12: 69-175; 327-434.

Man, E. H. 1885. *On the Aboriginal Inhabitants of the Andaman Islands*. Reprinted 1932, Great Britain: Bibling and Sons Ltd.

Man, E. H. 1885. On the Andaman Islands and their Inhabitants. *The Journal of the Anthropological Institute of Great Britain and Ireland* 14: 253-272.

Man, E. H. 1886. A Brief Account of the Nicobar Islands with Special Reference to the Inland Tribe of Great Nicobar. *The Journal of Anthropological Institute of Great Britain and Ireland* 15: 428-451.

- Man, E. H. 1888. *A Dictionary of the Central Nicobarese Language*. Reprinted 1975. Delhi: Sanskaran Prakashak
- Man, E. H. 1889. The Nicobar Islanders. *The Journal of Anthropological Institute of Great Britain and Ireland* 18: 354-393.
- Man, E. H. 1894. Nicobar Pottery. *The Journal of the Anthropological Institute of Great Britain and Ireland* 23: 21-27.
- Man, E. H. 1923. *Dictionary of the South Andaman Language*. Bombay: British India Press.
- Man, E. H. 1883 (Reprint 1975). *The Aboriginal Inhabitants of the Andaman Islands*. Delhi: Sanskaran Prakashak.
- Mann, R. S. 1976. Depopulation among Andaman Aborigines – An Analysis. *Journal of Social Research* 19: 37-50.
- Mann, R. S. 1980. *The Bay Islanders*. Bidisa: Institute of Social Research and Applied Anthropology.
- Manoharan, S. 1978. A Typological study of Andamanese and Nicobarese Language, 10<sup>th</sup> ICAES, Mysore.
- Marradi, A. 1990. 'Classification, Taxonomy, Typology'. *Quality and Quantity* 24: 129-157.
- Mathews, E. 2002. Health Problems and Health Care of the Jarawas in the Transition Phase. In Mukhopadhyay, K. et al (ed) 2002. *Jarawa Contact: Ours with them theirs with us*. Kolkata: Anthropological Survey of India.

Mathur, L. P. 1968. *History of the Andaman and Nicobar Islands (1756-1966)*. Delhi: Sterling Publishers Pvt. Ltd.

Mathur, L. P. 1985. *Kalapani: History of Andaman and Nicobar Islands with a Study of India's Freedom Struggle*. New Delhi: Eastern Book Corporation.

Mc Carthy, A. D. M. 1940. *Notes on the Jarawa Language*. Port Blair: Chief Commissioner's Press.

Mouat, Frederic John. 1863. *Adventures and Researches Among the Andaman Islanders*. London: Hurst and Blackett.

Moyne, Lord 1936. *Walkabout: A Journey in Lands between the Pacific and Indian Oceans*. London: William Heinemann Ltd.

Mukerjee, Madhusree. 1999. Out of Africa, Into Asia. *Scientific American* 280.1 (January 1999): 24.

Mukerjee, Madhusree. 2003. *The Land of Naked People: Encounters with Stone Age Islanders*. New Delhi: Penguin Books India Ltd.

Mukhopadhyay, K. 1989. *The tribal policy of Jawaharlal Nehru: Tribes and Tribal Policy*. In K.S. Singh (ed) Calcutta: Anthropological Survey of India, pp 12-26.

Mukhopadhyay, K. 2002a. A Brief History of Relationship Between the Jarawas and Others. In Mukhopadhyay, K. et al (ed) 2002. *Jarawa Contact: Ours with them theirs with us*. Kolkata: Anthropological Survey of India.

Mukhopadhyay, K. 2002b. Welfare of the Jarawas and Some Post-Colonial Thoughts. In Mukhopadhyay, K. et al (ed) 2002. *Jarawa Contact: Ours with them theirs with us*. Kolkata: Anthropological Survey of India.

- Mukhopadhyay, K. et al (ed) 2002. *Jarawa Contact: Ours with Them, Theirs with Us*.  
Kolkata: Anthropological Survey of India.
- Myka, F. 1993. *Decline of Indigenous Populations: The Case of the Andaman Islanders*.  
New Delhi: Rawat Publications.
- Myka, F. 1995. Of Adoption and Orphanages: The Biocultural Dynamics of  
Population Decline among the Andaman Islanders. *Man in India* 75.1: 1-9.
- Naidu, T. S. 1999. *The Jarawa: An Anthropological Perspective to Conserve the  
Endangered Stone Age Aborigines*. Pondicherry: Centre for futures Studies,  
Pondicherry University.
- Nair, V. S. 1979. A note on the Language of Jarawa. *Bulletin of Anthropological  
Survey of India* 28 (3-4): 17-38.
- Nigam, R. C. 1963. The Onge of Little Andaman – Their Maintenance  
Institutions. *Vanyajati* 11: 147-156.
- Nigam, R. C. 1955-56. Report on Field Investigations on Onge Speech. *Bulletin of  
the Department of Anthropology* Vol. 13: 127-146.
- Oldham, R. D. 1885. Notes on the Geology of the Andaman Islands. *Records of the  
Geological Survey of India* 28.3: 135-145.
- Olschki, I. 1960. *MarcoPolo's Asia*. Translated from Italian by J. A. Scott. Berkeley  
and Los Angeles: The University of California Press.
- Page, Michael F. 1952. *A Sea with Many Islands*. London: Robert Hale Ltd.
- Pandit, T. N. and Lall, T. 1985. The Tribal and Non-Tribal in Andaman Islands: A  
Historical Perspective. *Journal of Indian Anthropological Society* 20: 111-131.

- Pandit, T. N. 1974. Jarawa: Story of a Century of Mutual Hostility. *Daily Telegrams*, 16<sup>th</sup> and 18<sup>th</sup> March. Port Blair.
- Pandit, T. N. 1976a. The Original Inhabitants of the Andaman and Nicobar Islands. *Yojan* 15<sup>th</sup> of August, 1976.
- Pandit, T. N. 1976b. The Ethnic Situation in the Bay Islands. *Yojana*, 15<sup>th</sup> of August, 1976.
- Pandit, T. N. 1989. Tribal policy in the Andaman and Nicobar Islands: The impact of Nehru's philosophy. In K. S. Singh (ed) *Jawaharlal Nehru: Tribes and Tribal Policy*. Calcutta: Anthropological Survey of India, pp 83-92.
- Pandit, T. N. 1990. The Sentinelese. Calcutta: Seagull Books.
- Pandit, T. N. 1991. Close Encounters with Stone Age. *Sunday Times of India*, 28 April 1991: 1-2.
- Pandya, V. *Above the Forest: A study of Andamanese Ethnoanemology, and the Power of Ritual*. Delhi: Oxford University Press.
- Pandya, V. 1991. From Photography to Ethnography: Andamanese Documents and Documentation. *Visual Anthropology* 4: 379-413
- Pandya, V. 1999. 'To Contact or Not? The Jarawas of the Andaman Islands.' *Cultural Survival Quarterly* (Winter 1999): 59-65.
- Parkinson, C. E. 1923. *A Forest Flora of the Andaman Islands*. Simla: Government Central Press.
- Pelliot, P. 1959. *Notes on Marco Polo 1*. Paris: Imprimerie Nationale, Librairie Adrien-Maisonneuve.

- Pelliot, P. 1963. *Notes on Marco Polo 2*. Paris: Imprimerie Nationale, Librairie Adrien-Maisonneuve.
- Planning Commission, 1988. The Interim Report of Expert Group on the Primitive Communities of Andaman and Nicobar Islands, Delhi
- Portman, M. V. 1889. (Reprint 1990). *A History of Our Relations with the Andamanese*. 2 vols. New Delhi: Asian Educational Services.
- Radcliffe-Brown, A. R. 1909. The Religion of the Andaman Islanders. *Folklore* 20.3: 257-271.
- Radcliffe-Brown, A. R. 1914. Notes on the Languages of the Andaman Islands. *Anthropos* Vol. 9: 36-52.
- Radcliffe Brown, A. R. 1922 (Reprint 1948). *The Andaman Islanders*. Glencoe, Illinois: The Free Press.
- Radhakrishnan, R. 1978. 'Nicobarese Numerals.' 10<sup>th</sup> ICAES, Mysore.
- Rajasingh, V. R. and Ranganatha, M. R. 2000. *A Handbook of Jarawa Language*. Mysore: Central Institute of Indian Languages.
- Rajasingh, V. R. 2002. Structure of the Jarawa Language. In Mukhopadhyay, K. et al (ed) *Jarawa Contact: ours with them, theirs with us*. Kolkata: Anthropological Survey of India.
- Ramachandran, R. 2000. A People in Peril. *Fronline* 17.16: 84-86.
- Renaudot, E. 1733. *Ancient Accounts of India and China by Two Mohammedan Travellers (9<sup>th</sup> Century)*, translated from Arabic. London: Sam Harding.

- Report of the Expert Committee on the Jarawas of Andaman Islands*. July, 2003. New Delhi: MHA, Govt. of India.
- Rizvi, S. N. H. 1990. *The Shompen: A Vanishing Tribe of the Great Nicobar Island*. Calcutta: Seagull Books.
- Rodolfo, K. S. 1969. Bathymetry and Marine Geology of the Andaman Basin, and Tectonic Implications for Southeast Asia. *Geological Society of America Bulletin* 80: 1203-1230.
- Roychowdhury, Rabin. 2004. *Black Days in Andaman and Nicobar Islands*. New Delhi: Manas Publications.
- Safford, W. E. 1902. *The Abbott Collection from the Andaman Islands. Annual Report of the Smithsonian Institution 1901*, pp. 475-492. Washington: Government Printing Office.
- Sangal, P. M. 1971. Forest Food of the Tribal Population of Andaman and Nicobar Islands. *Indian Forester* 97.2: 646-650.
- Sarkar, B. N. 1985. The Jarawas of Andaman Islands: An Anthropometric Study. *Human Science* 34: 186-194.
- Sarkar, B. N. 1987. Dermatoglyphic Study of the Jarawa: A Negrito Tribe of Andaman Islands. *Human Science* 36: 346-358.
- Sarkar, B. N. 1989. Anthropometric study of the Jarawa of Andaman Islands. *Journal of Indian Anthropological Society* 24: 79-83.
- Sarkar, J. K. 1987. Befriending the Jarawa: A Challenging Task. *Human Science* 36: 1-12.



- Sarkar, J. K. 1989. Endangered Tribes and their Development in Andaman and Nicobar Islands. *Journal of Indian Anthropological Society* 24: 1-45.
- Sarkar, J. K. 1990. *The Jarawa*. Calcutta: Seagull Books.
- Sarkar, J. K. 1996. Tribal Development Administration for the Small Population: The Andaman and Nicobar Situation. *Journal of Indian Anthropological Society* 31: 57-61.
- Sarkar, J. 2002. No More Hostility: A Critical Phase in Jarawa Society. In Mukhopadhyay, K. et al (ed) 2002. *Jarawa Contact: Ours with them theirs with us*. Kolkata: Anthropological Survey of India.
- Sarkar, S. J. 1974. Socio-economic Aspects of Onge Fishing. *Anthropos* 69.3/4: 568-589.
- Sarkar, S. S. 1933. Negrito racial strain in India. *Nature* 137: 3477.
- Sarkar, S. S. 1952. Blood Groups from Andaman and Nicobar Islands. *Bulletin Department of Anthropology* 1.1: 25-30.
- Sarkar, S. S. 1954. *Aboriginal Races of India*. Calcutta: Book Land Ltd.
- Sekhsaria, P. 1998. Jarawa excursions. *Frontline*, 17 July: 66-71.
- Sekhsaria, Pankaj (ed.) 2007. *Troubled Islands*. Pune: Mudra
- Sekhsaria, Pankaj and Pandaya, Vishvajit 2010. *The Jarawa Tribal Reserve Dossier*. New Delhi: UNESCO.
- Sen, P. K. 1962. *Land and People of the Andamans*. Calcutta: Post Graduate Book Mart.

- Senkuttuvam, R. 2000. *The Language of the Jarawa*. Calcutta: Anthropological Survey of India.
- Service, Elman. 1971. The Andaman Islanders, In G. Prakash Reddy and V. Sudersen (ed) *Island Cultures of India*, Secunderabad.
- Sewell, R. B. S. 1925. Geographic and Oceanographic Researches in Indian Waters: The Geography of the Andaman Sea Basin, Part I. *Memoirs of the Asiatic Society of Bengal* 9: 1-26.
- Sharma, B. D. 1975. *Development of Small Tribal Communities: A theoretical Frame Workshop on Primitive Tribal Communities*. New Delhi: Ministry of Home Affairs.
- Sharma, B. D. 1976. An Approach to the Development of Onges of Little Andaman. *Journal of Social Research* 19.2: 25.
- Singh, Bhaktawar. 2002. Befreinding the Jarawa: Some Personal Experiences. In Mukhopadhyay, K. et al (ed) 2002. *Jarawa Contact: Ours with them theirs with us*. Kolkata: Anthropological Survey of India.
- Singh, K. S. 1985. *Tribal Society in India*. Delhi: Manohar.
- Singh, N. I. 1978. *The Andaman Story*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Singh, Raghubir. 1975. The Last Andaman Islanders. *National Geographic* 148: 66-9
- Sinha, Surjeet C. 1982. Reports of the Committee of Anthropologists on the Jarawa and Shompen Situations, Ministry of Home Affairs, Government of India, Delhi

- Solomon, V. 1902. Extracts from Diaries kept in Car Nicobar. *The Journal of the Anthropological Institute of Great Britain and Ireland* 32: 202-238.
- Sreenathan, M. 1998. Rhetorical violence: Language ideology and Jarawa hostility. *Man in India* 78: 355.
- Sreenathan, M. 2001. *The Jarawas: Language and Culture*. Calcutta: Anthropological Survey of India.
- Srinivasan, M. S. 1978-79. *Geology and Mineral Resources of the Andaman and Nicobar Islands. Andaman and Nicobar Information*. Port Blair: Government Printing Press.
- Stiles, D. 1993. Hunter-Gatherer Trade in Wild Forest Products in the Early Centuries AD with the Port of Broach, India. *Asian Perspectives* 32.2: 153-167.
- Stoliczka, F. 1870. Note on the Kjökkenmöddings of the Andaman Islands. *Proceedings of the Asiatic Society*, January, 1870, pp. 13-23.
- Sullivan, L. R. 1921. A few Andamanese skull with comparative notes on Negrito Craniometry. *Anthropological papers of the American Museum of Natural History*, 23: 174-199.
- Suryanarayan, V. and V. Sudarsen (ed) 1994. *Andaman and Nicobar Islands: Challenges of Development*. New Delhi: Konark Publishers.
- Syam Chaudhuri, N. K. 1977. *The Social Structure of Car Nicobarese Islanders*. Calcutta: Anthropological Survey of India.
- Symes, Michael. 1800. *An Account of an Embassy to the Kingdom of Ava, sent by the Governor-General of India in the Year 1795*. London: J. Debrett.

Taylor, Frederick. 1911. Native Life in the Andaman Islands. *Century Magazine* 82: 891-904.

Temple, R. C. 1900a. Extracts from the Bengal Consultations of the 18<sup>th</sup> Century Relating to the Andaman Islands. *The Indian Antiquary* 29: 103-116; 125-135, 167-171, 286-288; 32 (1903): 34-44, 86-91, 193-201.

Temple, R. C. 1900b. An Unpublished Document about the Nicobars. *The Indian Antiquary* 29: 341-347.

Temple, R. C. 1901a. *Census of India, Andaman and Nicobar Islands*, Government of India Publication, Calcutta.

Temple, R. C. 1901b. The Trade in Andamanese Slaves. *The Indian Antiquary* 30: 120.

Temple, R. C. 1901c. An Unpublished 18<sup>th</sup> Century Document about the Andaman Islands. *The Indian Antiquary* 30: 232-138.

Temple, R. C. 1903. *The Andaman and Nicobar Islands. Census of India 1901, vol. 3*. Calcutta: Office of the Superintendent of Government Printing (Reprint 1985. New Delhi: Usha).

Temple, R. C. 1900. Extracts from the Bengal Consultation of the XVIII<sup>th</sup> Century Relating to the Andaman Islands. *Indian Antiquary* April 1900: 103-116.

Temple, R. C. 1901. An Unpublished XVIII<sup>th</sup> Century Document about the Andamans. *Indian Antiquary* June 1901: 232-238.

Temple, R. C. 1929. Remarks on the Andaman Islanders and Their Country. *Indian Antiquary* July 1929.

- Theobald, W. 1862. Notes on Some Celts found in Bundelkhand and Some Chert Implements from the Andamans. *Journal of the Asiatic Society of Bengal* 31: 323-328.
- Thomson, D. F. 1939. The Seasonal Factor in Human Culture. *Proceedings of the Prehistoric Society* 5: 209-221.
- Tikader, B. K. 1984. *Birds of the Andaman and Nicobar Islands*. Calcutta: Zoological Survey of India.
- Toussaint, A. 1966. *History of the Indian Ocean*. translated by J. Guicharnaud. London: Routledge and Kegan Paul.
- Venkatesan, D. 1988. 'Innovations and Their Impact on the Onge of Little Andaman.' *Man in India* 68: 413-423.
- Venkateswar, Sita. 1997. Policing Power, Governing Gender, and Re-imagining Resistance: A Perspective on the Andaman Islanders. Ph.D. dissertation, Rutgers University. New Jersey.
- Venkateswar, Sita. 1999. The Andaman Islanders. *Scientific American* May 1999: 82-88.
- Verma, I. C. 1976. Health Problems of Tribal Communities in Andaman and Nicobar Islands, *Journal of Social Research* 19.2: 16-24.
- Vidyarthi, L. P. 1976. Development Plans of Tribes of Andaman and Nicobar Islands: An Action Oriented Report. *Journal of Social Research* 19.2: 74-85.
- Whitaker, R. and Z. 1986. The Andaman Tribes – Victims of Development. *Cultural Survival Quarterly* 10.2: 13-18.

Whitaker, R. 1985. Endangered Andamans: Managing Tropical Moist Forests. *The Environmental Series Group*. World Wildlife Fund, India, April 1985.

Yule, H. 1929. *The Book of Ser Marco Polo*. London: John Murray Albermarle Street.

Zide, Norman H. and Stampe David L. 1963. *Initial Consonants Proto-Munda-Nicobarese: Some Tentative Correspondences*. Chicago: University of Chicago (mimeo).

## Appendix IA

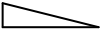
### JARAWA: WORD-LIST-NOUN

S No.	English Words	Jarawa Words
001.	old man	ənka:b
002.	pot	buč <sup>h</sup> u
003.	rock	penon
004.	rock (very big)	oɖəgə
005.	land / soil	pela
006.	root	t <sup>h</sup> ucə
007.	a kind of creeper	t <sup>h</sup> igul
008.	branch / thin stem	t <sup>h</sup> obučə
009.	smoke	bənel / pənel
010.	adze	tit <sup>h</sup> oǰǎ
011.	holding part of an adze	he apitaja
012.	cutting part of an adze	toe / tɔ
013.	rifle	hupətaŋ
014.	bullet	ənə:də
015.	a kind of leaf	t <sup>h</sup> ujijə
016.	pipe	t <sup>h</sup> ahə

017.	butterfly	petpel
018.	a kind of tree	itəŋ
019.	string from bark of itəŋ	opajəle
020.	cane tree	halog
021.	wooden basket	uhuwə
022.	creek	h <sup>w</sup> ət <sup>h</sup> ol
023.	fishing hook	ujjə
024.	plastic bottle	olo olo
025.	cap of a bottle	olo olo de dubə
026.	dry wood	nam / name
027.	stone	ulijə
028.	rope	pado
029.	arrow	pat <sup>h</sup> o
030.	bow	a:w
031.	fishing net	pat <sup>h</sup> o
032.	place	adəhə
033.	cough	uɖu
034.	a kind of tree from which they make uhu <sup>w</sup> ə	t <sup>h</sup> adɔ
035.	flower	ohag
036.	helicopter	čakogere / ŋeŋeŋe



037.	airplane	talah <sup>wə</sup> / tugənulə
038.	looking glass	ənohabag
039.	swing	t <sup>h</sup> uji
040.	flame	d <sup>h</sup> und <sup>h</sup> ul
041.	wind / air	biji:ŋ
042.	moon	tape
043.	sun	jehe
044.	dog	wəwəmə
045.	girl	do:jə
046.	boy	tawə
047.	banana	čonel
048.	ant	čadapa
049.	canoe	taŋ
050.	pit	oɖuəlleũ
051.	spade	dojə
052.	sand	bi:lə / bi:lə / bilowə / tet <sup>h</sup> al
053.	a kind of flower	t <sup>h</sup> apabaɖ
054.	friend	mahema / mitaǰəle
055. 056.	a kind of leaf whose soft stem serves to prepare broom	eboǰim

057.	stick used to make fishing net	č <sup>h</sup> umijə
058.	a kind of fruit	a:min-e
059.	pillar outside hut to extend it	t <sup>h</sup> ukčəɖɖa:jejə
060.	cutter 	toa:ɖ
061.	resin	bone
062.	forest	kijə / gijə
063.	pig	h <sup>w</sup> əwə
064.	honey	lə:w
065.	road / path	le:b
066.	a kind of flower	toɬk <sup>h</sup> olo
067.	sky	paŋgaŋ / paŋnaŋ
068.	coconut	ɖag
069.	string of leaf around head	ənajipotəhə
070.	string of wool around head	ənotohab
071.	string of leaf around waist	kaŋgapo
072.	string of leaf suspending around waist	pato (all of these ornaments are made of a leaf called <i>t<sup>h</sup>ujijə</i> )
075.	string of leaf suspending around neck over back	ənajinoɖandɔ
076.	string of leaf suspending around neck over chest	ənahodəwə

077.	string of leaf neck	ŋagitohabə
078.	eggs in honeycomb	ha:čimə
079.	honeycomb	čilemal
080.	honeycomb found inside tree	poɖə
081.	zeep	totkile
082.	truck	baɽaw
083.	wave	t <sup>h</sup> omaje / t <sup>h</sup> ome t <sup>h</sup> uhumə
084.	shells	t <sup>h</sup> ept <sup>h</sup> ew
085.	hut / home	čadɖa:
086.	wild potato	čə:w / jə:w
087.	wild potato	či:gijə
088.	wild potato	papa~baɖa
089.	wild potato	nadohətaŋ
090.	hillock/mound	t <sup>h</sup> inon
091.	crowbar/anvil	otahətə
092.	net basket	ta:ikə / ta:ɽkə
093.	pool of water	əŋhowal
094.	watercourse (nallah)	h <sup>w</sup> a-iŋ-tapo / h <sup>w</sup> awə
095.	time when no water is there	əŋtoh <sup>w</sup> a
096.	time when there is lot of water	onojə t <sup>h</sup> uw bot <sup>h</sup> ejə

097.	fresh water for drinking	iŋ-tapo
098.	bad water	iŋ-pit <sup>h</sup> i
099.	sea water	t <sup>h</sup> omajə
100.	thirst	iŋkə
101.	coal	nape:n
102.	ash	h <sup>w</sup> i:jə
103.	testis	ənik <sup>hw</sup> əg
104.	tooth	ənahod
105.	a kind of small mosquito	h <sup>w</sup> ikičín
106.	a kind of fruit	h <sup>w</sup> a:t <sup>h</sup> ə:
107.	pond	inkopotat <sup>h</sup> e
108.	a kind of fish which looks like snake	t <sup>h</sup> ugən

## Appendix IB

## JARAWA: WORD-LIST-VERB

S No.	English words	Jarawa words
001.	to fry	oč <sup>h</sup> enə: / oč <sup>h</sup> e-gə
002.	to drink	inčo-wa
003.	to eat	ita
004.	to walk	čawaja
005.	to run	əh-apela
006.	to sing/talk	gəgapa / gəgaba
007.	to fry fish	ənane-hə / eɽ <sup>h</sup> əɽuhagle
008.	to dig out (potato)	ipine
009.	to fry (potato)	ənane
010.	to boil (potato)	oɽ <sup>h</sup> aj-le
011.	to go for hunting	tahilə
012.	to go	bəiɽ <sup>h</sup> e
013.	to sleep	omohə
014.	to sleep	t <sup>h</sup> ulə
015.	to see	əjojəba / illiyema / ilin
016.	to sound	iɽ <sup>h</sup> əhəɽ <sup>h</sup> e

017.	to hear the sound of bus	u <sup>h</sup> i <sup>h</sup> i <sup>h</sup> igu i <sup>h</sup> əhə <sup>h</sup> e
018.	to quarrel / fight	ənija / ənija
019.	to angry	ero
020.	to push	əɖə / oɖə
021.	to pull	o <sup>h</sup> ĩ t <sup>h</sup> ege / eh <sup>w</sup> a
022.	to pull <small>[HUMAN]</small>	ən-ipə <sup>h</sup> t <sup>h</sup> eŋe
023.	to carry	ənena <sup>ɔ</sup> / ənəjale
024.	to lift	ət <sup>h</sup> okag <sup>t</sup> <sup>h</sup> e / at <sup>h</sup> okə <sup>t</sup> <sup>h</sup> e
025.	to stay / assemble	čalahe
026.	to write	ənobelijahije
027.	to speak /talk / name	a <sup>t</sup> iba
028.	to give	iya
029.	to cut	ičilo
030.	to cut hair	ən-o <sup>t</sup> <sup>h</sup> a / ən-oɖə-kali
031.	to cut firewood	həjut <sup>h</sup> u / nam oɖəhe
032.	to construct hut	čəɖɖa-le
033.	to hide arrow	hə-əja / ahowa
034.	to hide fish	ajigɖəwa
035.	to hide biscuit	əʃa <sup>t</sup> <sup>h</sup> a / əč <sup>h</sup> a <sup>t</sup> <sup>h</sup> a
036.	to fall	huwaji

037.	to throw	hogi / apine
038.	to forget	ot <sup>h</sup> a ən-ijijač <sup>h</sup> e
039.	to dig with a crowbar	ənohelə
040.	to dig with a spade	pelajit <sup>h</sup> ə
041.	to dig	ipine
042.	to come here	allema-gə
043.	to come here (to call up)	ənēwa
044.	to weep	wanna
045.	to laugh	əniji: / ənijə
046.	to smile	ən-agulemelegune
047.	to remember	ot <sup>h</sup> a ən-ijelaŋ
048.	to catch fish in sea	ullelədɑ
049.	to catch fish in stream	h <sup>w</sup> ɑdə
050.	to take	eŋge
051.	to hold / catch	k <sup>h</sup> o:
052.	to sit	ən-ə:təhə
053.	to stand	ɖokəkʰte / tokət <sup>h</sup> e
054.	to tie / fasten	aϕle-yə / ak <sup>h</sup> le
055.	to unfasten	ilibua
056.	to keep fish	napo ɖ-aye / he-əya

057.	to come closer	buɫ <sup>hə</sup> t <sup>h</sup> ame / ən-uhuwə
058.	to wet	ən-əŋgt <sup>hə</sup> / ənəŋt <sup>hə</sup> kaneha
059.	to rain	wəwə-le
060.	to take bath	ində
061.	to smell bad	aɟu / ač <sup>h</sup> u
062.	to be hungry	əŋjač <sup>h</sup> u
063.	to be thirsty	əbulə:
064.	to marry	əna əŋga-le
065.	to burn wood	t <sup>h</sup> uhəb-le
066.	to get frighten / scared	ən-ənpət <sup>h</sup> a
067.	to bring	ekane
068.	to bring	eŋge
069.	to climb	čapt <sup>h</sup> e
070.	to get	ən-ičajmə
071.	to get down	ʒagi-jə
072.	to scratch / itching	eweewe
073.	to fry banana	ekka
074.	to fish	waɫ <sup>h</sup> epa-le
075.	to fish (alone)	napowə
076.	to fish (alone but nearby)	ik <sup>h</sup> ə-wə də aik <sup>h</sup> wəkt <sup>h</sup> e



077.	to fish (in a group)	napo tahile
078.	to go home (to come back)	unnə
079.	to hunt (in a group)	pijale
080.	to hunt (one day tour)	howa
081.	to hunt (more than one day)	kijə tahile
082.	to kill with an arrow	aik <sup>h</sup> wa
083.	to steal	uiğəle
084.	to swim	waɾa
085.	to smell	ihune
086.	to wash hand	ən-ahopaho-le
087.	to know	oɫ <sup>h</sup> a injəla
088.	to bark	helahoə:
089.	to finish / to end	hojata / ič <sup>h</sup> eba
090.	to pull hair	ənodə h-igəɫ <sup>h</sup> e
091.	to jump down from tree	ənotoha
092.	to tell a lie	əhujəba
093.	to bop	ənetə / əŋgo
094.	to pluck off	pakjawaɟi
095.	to collect	ehaɬo
096.	to be quite	ən-aholagɫ <sup>h</sup> i

097.	to tie	ən-ahot <sup>h</sup> wag
098.	to untie	ilebuwə
099.	to sound in stomach	ən-ih <sup>w</sup> edə
100.	to throw	ipinunu
101.	tooth picking	ən-ahugluhə
102.	to spit	t <sup>h</sup> uwə
103.	to push	hə-ədɛ-jə
104.	to pull	ən-ahela-le
105.	to jump upwards	cowajǐ
106.	to become small	boǐja-gə
107.	to jump into water	əhanek <sup>hw</sup> edajǐ
108.	to massage	əneyom
109.	to shy	ən-ahimudijət <sup>h</sup> e
110.	to be dull (standing)	ən-howa
111.	to put together	hawočewoče-le
112.	to bite (by ant)	ənigine
113.	to embrace	t <sup>h</sup> owagə / eneje
114.	to sneeze	ən-ohot <sup>h</sup> ahe
115.	to pull a rope	pado he-eh <sup>w</sup> ag
116.	to hang	hehehe

117.	to carry on back	apa
118.	to be stationary	iwəčə
119.	to blow	əhubə
120.	to make	ič <sup>h</sup> e / ič <sup>h</sup> i
121.	to lift by hand	a <sup>h</sup> o <sup>h</sup> a-g
122.	to cut a tree	taŋg hi-it <sup>h</sup> ə
123.	to fall down (tree)	hewojabə
124.	to hammer	inɖə / k <sup>h</sup> očaleluhə toa
125.	to lift	əpa
126.	to swing	t <sup>h</sup> ui-le
127.	to ride bicycle	taŋg-le
128.	to rub	ač <sup>h</sup> ile-le
129.	to beat	onodəhejə
130.	to kiss	ən-imunəji
131.	to show	untopine
132.	to make arrows / bows	ejaja
133.	to make fishing net	uluhə pat <sup>h</sup> o
134.	to make net basket	bod
135.	to make necklace	hagulume
136.	to burn wood	t <sup>h</sup> uhəgle

137.	to shoot pig / fish / deer	hatitijə
138.	to click	ɲono
139.	to pain	ənihəd / ulleɖa / k <sup>h</sup> amohə
140.	to take this arrow	paɬ <sup>h</sup> o ɖə-ekəwaja
141.	to empty / vacant hut	čadɖa ɖ-epoha
142.	to make a move	ən-ət <sup>h</sup> uči / ən-ət <sup>h</sup> učə
143.	to fly	ugikəit <sup>h</sup> e
144.	to go up	t <sup>h</sup> ugeja-jə
145.	to remove the bark	ipole
146.	to cough	əna-udɖu-le
147.	to smell bad	inəgə piɬ <sup>h</sup> i
148.	to smell good	inəgə čew
149.	to tear leaf	ot <sup>h</sup> aheja
150.	to leak from the roof of hut	huijahuija
151.	to go to water source	inj ič <sup>h</sup> e
152.	to bring water / fetch water	inj əč <sup>h</sup> etahile

## Appendix IC

## JARAWA: WORD-LIST-ADJECTIVE-ADVERB

S No.	English Word	Jarawa Word
001.	far	no:ɖə
002.	near	buɽ <sup>h</sup> ə
003.	inside	itəla
004.	white	haləŋda
005.	black	hiɽu
006.	red	hoɽgidu
007.	blue	ələŋda
008.	many	mala
009.	one	wə:ja
010.	two	naja
011.	three	kaŋ itəjile
012.	four	ənə itəjile / malawə
013.	five	oyaɽ <sup>h</sup> e / mala ɽ <sup>h</sup> uhumə:
014.	hot (summer)	hulug
015.	bad	piɽ <sup>h</sup> i
016.	good	če:w

017.	morning (7-10 am)	kahiunnen
018.	noon	hejaiijə
019.	evening	tʰepale
020.	night	kiʰale
021.	today	olla
022.	tomorrow	kekahətə
023.	yesterday	kiʰaje
024.	day after tomorrow	jakeka
025.	day before yesterday	četali
026.	heavy	anponi
027.	left	kuh <sup>wə</sup>
028.	right	toheja
029.	mad	ənanač <sup>h</sup> egə
030.	mine own	ma-huəɖə
031.	your own	ŋa-huəɖə
032.	mine	ma:g
033.	happy	əmpoəwə
034.	sad	ijan-piʰi
035.	weak	gəro
036.	bald	h <sup>wə</sup> tʰk <sup>h</sup> ele

## Appendix - II

## JARAWA: SENTENCES

001. bib<sup>h</sup>uti    bəi<sup>h</sup>e-jə    allema-ma  
 PN            go-VEVD            come-NEG  
 Bibhuti, having gone, has not come back.

002. bib<sup>h</sup>uti    bəi<sup>h</sup>e-jə    allema    nadem  
 PN            go-VEVD    come        NEG  
 Bibhuti, having gone, has not come back.

003. kahiunen    allema    čawaja čawaja  
 morning    come    walk walk  
 In the morning we came walking.

004. əŋ            ɖi    aʈiba    he    h-ita  
 Jarawa    REF    speak    3    3-eat  
 Jarawa says, "he eats as he hita."

005. talu-əbba    ɖi    aʔiba    kiʔaje        miɖil sʔeʔ    ɖə    bæiʔ<sup>h</sup>e-hə  
 PN-father    REF speak    yesterday    place.name    LOC    go-HYP

Talu's father said yesterday, "We will go to Middle Strait."

006. čajwaj ummə        olo olo            ɖ-ija  
 PN father            plastic bottle    REF-give

Cayway's father, give the plastic bottle/pass the plastic bottle.

007. wa-kaja:-g            totanahi  
 3POSS-mother-EVD    PN

His/her mother is Totanahi.

008. čajwaj ummə    a:pa    ipo  
 PN        father    carry    PN

Cayway's father carries Ipo on his back.

009. čajwaj ummə    ipo    h-apa:-g  
 PN        father    PN    3-carry-ASS

Cayway's father carries Ipo on his back.



010. iskul də innen waja čadqa dɨ bəiʔ<sup>h</sup>e-jə  
 school LOC non-Jarawa children home REF go-VEVD

Non-Jarawa children are going home from the school.

011. majoba tibi d-əjojəba čajwaj ummə d-enge  
 PN TV REF-see PN father REF-bring

Mayoba, see the TV, Cayway's father has brought it.

012. əččəle-wə dɨ boɪja  
 child REF small

The child is small.

013. jehejə dɨ ʔagijə-gə  
 sun REF go down-ASS

The sun sets/is setting.

014. kangapo t<sup>h</sup>uhumə dɨ əč<sup>h</sup>eəʔ<sup>h</sup>aje-jə  
 cloth too much REF tear-VEVD

Too much cloth was torn/being torn.

015. innen            ɖi    kaŋɡapo    ɖ-əčʰeətʰaje-jə

non-Jarawa    REF    cloth            REF-tear-VEVD

A non-Jarawa tore the cloth/was tearing the cloth.

016. kaŋɡapo    odaje / otajehe    tʰuhumə-le-jə

cloth            tear                    too much-VS-VEVD

The cloth was torn.

017. mala-wə    ɖi    bæitʰe

many            REF    go

Many have gone.

018. li            taŋɡ    ɖə    čaptʰe-jə

PDEM    tree    LOC    climb-VEVD

He is climbing the tree.

019. taŋɡ    ɖə    pi:pə    ɖi    huwaʃi-jə

tree    LOC    leaf    REF    fall-VEVD

Leaves are falling from the tree.

020. mi napo d̥i ɲi h-ija  
 1 fish REF 2 3-give  
 I gave you the fish.
021. uʔ<sup>h</sup>a hi-inɖə-jə  
 PN 3-hammer-VEVD  
 Uʔ<sup>h</sup>a is hammering.
022. mi innen d̥-ijijema  
 1 Non-Jarawa REF-see.not  
 I did not see the non-Jarawa.
023. babu ilijema tenmej  
 official see.not PN  
 The official did not see Tenmey.
024. babu tenmej d̥-ijijema  
 official PN REF-see.not  
 The official did not see Tenmey.

025. əŋ m-ilijema

Jarawa 1-see.not

The Jarawa did not see me.

026. h<sup>w</sup>əwə ɖi-ahapela əŋ ɖi-aik<sup>h</sup>wa

boar REF-run Jarawa REF-kill

The boar was running and the Jarawa killed it.

027. h<sup>w</sup>əwə aik<sup>h</sup>wa bæi<sup>h</sup>e t<sup>h</sup>i noɖa

boar kill go COP far

To kill the boar we go far. (lit. Going to kill the boar is far)

028. mi hiwa napo ɖ-ija

1 3ACC fish REF-give

I gave him the fish.

029. mi ŋa napo ɖ-ija

1 2ACC fish REF-give

I gave you the fish.

030. hi ma napo d-ija

3 1ACC fish REF-give

He gave me the fish.

031. ŋi ma napo d-ija

2 1ACC fish REF-give

You gave me the fish.

032. kekahəʔa mi ŋa napo d-ija

tomorrow 1 2ACC fish REF-give

Tomorrow, I will give you a fish.

033. kiʔaje mi ŋa napo d-ija

yesterday 1 2ACC fish REF-give

Yesterday, I gave you a fish.

034. kekahəʔa də mi napo t-ita-hə

tomorrow LOC 1 fish REF-eat-HYP

Tomorrow, I will eat a fish.

035. mi napo t-ita  
 1 fish REF-eat

I ate a fish.

036. kiɕaje də mi napo t-ita  
 yesterday LOC 1 fish REF-eat

Yesterday, I had eaten a fish.

037. kiɕaje də mi gɕjə~kijə

Yesterday LOC 1 forest

Yesterday, I went hunting (Yesterday I went to the forest).

038. kiɕaje də mi tahilə

yesterday LOC 1 go

Yesterday, I went hunting.

039. kekahəɕa mi h<sup>w</sup>əwə tahilə-hə

tomorrow 1 boar go-HYP

Tomorrow, I will go for hunting. (Tomorrow, I will go for a boar.)

040. mi-mugə t<sup>hi</sup> bōija  
 1POSS-beard COP small  
 My beard is small.
041. mi-mugə t<sup>hi</sup> ut<sup>h</sup>u-t<sup>h</sup>uhumə  
 1POSS-beard COP big-very  
 My beard is very big.
042. mi dōmo-bə mi aṭiba-hə  
 1 fine-NVEVD 1 speak-HYP  
 When I am fine, I will talk to you.
043. kahiunen də ŋi onəhə t-ita-bə  
 morning LOC 2 what REF-eat-NEVD  
 What did you eat in the morning?
044. kahiunen də mi napo t-ita-bə  
 morning LOC 1 fish REF-eat-NEVD  
 In the morning, I ate fish.

045. mi η-əjojəba

1 2-see

I saw you.

046. hi m-əjojəba

3 1-see

He saw me.

047. ηi m-əjojəba

2 1-see

You saw me.

048. mi əη ɖ-əjojəba

1 Jarawa REF-see

I saw a Jarawa.

049. innen əη ɖ-əjojəba

non-Jarawa jarawa REF-see

A non-Jarawa saw a Jarawa.



050. innen m-əjojəba  
 non-Jarawa 1-see  
 A non-Jarawa saw me.
051. kiŋaje də mi ŋ-əjojəba  
 yesterday LOC 1 2-see  
 Yesterday, I saw you.
052. čajwaj ummə li waja  
 PN father PDEM 3POSS.child  
 This is Cayway's father's child.
053. mi palat<sup>həŋ</sup> ŋ-əjojəba  
 1 earlier 2-see  
 I saw you earlier.
054. palat<sup>həŋ</sup> mi ŋi əjojəba  
 earlier 1 2 see  
 I saw you earlier.

055. taŋ      ɖ-ithəgə      ɖ-iəɫ<sup>h</sup>e-jə

wood    REF-cut      REF-go-VEVD

I will go for cutting wood.

056. čə:w              ɖ-ipine              toto-hə

wild potato    REF-dig out    go-HYP

I will go for digging out wild potato.

057. ujijə      ɖ-ipale      toto-hə

fish      REF-fish    go-HYP

I will go for fishing.

058. ujijə      ɖ-ipale-jə      ɖi      bəiɫ<sup>h</sup>e-jə

fish    REF-fish-VEVD    REF    go-VEVD

I will go for fishing.

059. babu      ma      čonel      ɖ-ija

official    1ACC    banana    REF-give

The official gave me bananas.

060. moktčale                      bojĩ ya            t<sup>h</sup>i-jə  
 use.abusive.language   small/less      COP-VEVD  
 Don't use even less abusive language.
061. innen              d̥i    aṭiba    a:m      əŋ      d̥i    aṭiba    t<sup>h</sup>ei<sup>h</sup>ɛ  
 non-Jarawa   REF   speak   mango   Jarawa   REF   speak   mango  
 Non-Jarawas call it mango, Jarawas call it t<sup>h</sup>ei<sup>h</sup>ɛ.
062. mi    ih-ita  
 1      3-eat  
 I ate that.
063. mi    hi-əjojəba  
 1      3-see  
 I saw him/her/that.
064. mi    h<sup>w</sup>əwə    t-ita  
 1      boar      REF-eat  
 I eat pig.

065. kiʃaje h<sup>w</sup>əwə t-ita

yesterday boar REF-eat

I ate a pig yesterday.

66. kekahətə h<sup>w</sup>əwə t-ita

tomorrow boar REF-eat

I will eat a pig tomorrow.

67. ənəhoʃətə napo t-ita

all fish REF-eat

We all eat fish.

68. čə:w / jə:w babu t-ita

wild potato official REF-eat

The official ate wild potato.

69. mi napo ɖ-et<sup>h</sup>at<sup>h</sup>uhagle

1 fish REF-fry

I fried the fish.

070. əŋ        dʒi    aʃiba    he    h-ita

Jarawa    REF    speak    3    3-eat

Jarawa speaks, "he h-ita".

071. ka        na-kaja            pečame?

INTM    2POSS-mother    died

Did your mother die?

072. ka        na-mummə        pečame?

INTM    2POSS-father    died

Did your father die?

073. na:g    ma-kaja            pečame-ma~naɖem

no        1POSS-mother    died-NEG

No, my mother has not died.

074. na:g    ma-mummə        pečame-ma~naɖem

no        1POSS-father    died-NEG

No, my father has not died.

075. hi ma-čad̩da d̩ə čalahe

3 1POSS-hut LOC stay

He stays at my home.

076. kekahətə mi j<sup>h</sup>ulanpətər d̩ə bəi<sup>h</sup>t̩e-jə

tomorrow 1 place.name LOC go-VEVD

I will go to Jhulanpatra tomorrow.

077. əminə d̩i bič<sup>h</sup>e-jag he-ən̩ge-jə

a kind of fruit REF forget-ASS 3-bring-VEVD

I left əminə, I will bring it / I left əminə, I want to bring it.

078. ka ŋi d<sup>h</sup>aninala d̩ə bəi<sup>h</sup>t̩e-jə?

INTM 2 place.name LOC go-VEVD

Will you go to Dhani Nallah?

079. na:g mi ik<sup>h</sup>ə-gə čalahe-jə

no 1 here-PM stay-VEVD

No, I will stay here.

080. mi d<sup>h</sup>aninala də bəi<sup>h</sup>t<sup>h</sup>e-jə

1 place.name LOC go-VEVD

I will go to Dhani Nallah.

081. onahə:-le

what-VS

What are you doing (why)?

082. mi luwə də omohə

1 there LOC sleep

I will sleep there.

083. mi t<sup>h</sup>i čawaja allema

1 COP walking come

I came walking.

084. maktčale bōija t<sup>h</sup>i-jə

Use.abusive.language small/less COP-VEVD

Don't use even less abusive language.

085. mi ih-ita

1 3-eat

I ate that.

086. onne tʰi əŋ

who COP Jarawa

Which Jarawa is there? (Who is there?)

087. jehe ɖi nojčʰe unne ɖə ŋi bəitʰe

sun REF how go LOC 2 go

When will you go? (How far will the sun go when you go?)

088. omohə nojčʰe unne ɖə ŋi bəitʰe

sleep how go LOC 2 go

When will you go? (How long will you sleep and then go?)

089. ka ŋi ɖomo?

INTM 2 fine

Are you fine?



090. ka t<sup>hi</sup> dɔmo

INTM COP fine

Are you fine?

091. onne dɪ aʈiba

who REF speak/say

Who said that?

092. hi onəhə dɪ aʈiba

3 what REF speak/say

What did he say?

093. hiwa čonel onne dɪ h-ija

3ACC banana who REF 3-give

Who gave bananas to him?

094. onne dɪ hiwa čonel (dɪ) h-ija

who REF 3ACC banana (REF) 3-give

Who gave bananas to him?

095. hi ɲa onəhə dʒi h-ija

3 2ACC what REF 3-give

What did he give to you?

096. ɲi napo onne dʒi h-ija

2 fish who REF 3-give

Who did you give a fish to?

097. ɲi onəhə-le ~ onahə-le dʒi-ič<sup>h</sup>e?

2 what-VS / what-VS REF-make /do

Why did you do that?

098. hi jehākəɖə bəit<sup>h</sup>e

3 where go

Where did he go?

099. hi jehākəɖə lə:w dʒi ahole?

3 where honey REF collect

Where did he collect honey?

100. onne t<sup>hi</sup> lə:w d-enge?  
 who COP honey REF-bring  
 Who collected/brought honey?
101. ə:hi onahə-le lə:w dʒi-ahole?  
 Jarawa (3PL) what-VS honey REF-collect  
 Why did the Jarawas collect honey?
102. ŋa-t<sup>h</sup>o (ŋa-pat<sup>h</sup>o) t<sup>hi</sup> nojč<sup>h</sup>e unne  
 2POSS-arrow COP how far  
 How long is your arrow?
103. ma-t<sup>h</sup>o (ma-pat<sup>h</sup>o) t<sup>hi</sup> talu  
 1POSS-arrow COP long  
 My arrow is long.
104. ka-ŋi lə:w wa-t<sup>h</sup>-ahole nojč<sup>h</sup>e?  
 INTM-2 honey ??-COP-collect how  
 How do you collect honey?

105. luwa-k<sup>h</sup>ə də ŋi omohə nojč<sup>h</sup>e?

there-PM LOC 2 sleep how

How many days will you sleep there?

106. ka-ŋa pat<sup>h</sup>o-le nojč<sup>h</sup>e?

INTM-2 arrow-PL how

How many arrows do you have?

107. ka-ŋa lə:w nojč<sup>h</sup>e?

INTM-2 honey how

How much honey do you have?

108. ka-ŋi alug nojč<sup>h</sup>e d(i)-eŋge?

INTM-2 wild potato how REF-bring

How much wild potato have you got/brought?

109. onne t<sup>h</sup>i hi-wa wa-mummə?

who COP 3ACC 3POSS-father

Who is his father?

110. onne tʰi hi-wa wa-kaja?

who COP 3ACC 3POSS-mother

Who is his mother?

111. hi onne qi waja?

3 who REF 3POSS.child

Whose child is he/she?

112. luwa-kʰə də onne qi čonel-le?

there-PM LOC who REF banana-PL

Whose bananas are there?

113. luwa-kʰə də onne qi patʰo-le?

there-PM LOC who REF arrow-PL

Whose arrows are there?

114. ŋi nojčʰe unne hʷatapo də hilule bəitʰe?

2 how go place.name LOC place.name go

How will you go from Hilule to Hʷatapo?

115. ɲi nojč<sup>h</sup>e unne baɾabalu bəiɬ<sup>h</sup>e?

2 how go place.name go

How will you go to Baɾabalu?

116. hi-itat<sup>h</sup>e onne ɖi ɲa napo h-ija

3-ask who REF 2 fish 3-give

He asked, "Who had given fish to you?"

117. ənətə:hə:

sit

Sit.

118. tokagɬ<sup>h</sup>e

stand

Stand.

119. ik<sup>h</sup>ə-gə ɖə ənətə:hə:

here-PM LOC sit

Sit here.

120. čaɖɖa ɖə bəiɬ<sup>h</sup>e-jə

hut LOC go-VEVD

Go to the hut?

121. mahə/mahe čonel-le ɖi oɬ<sup>h</sup>eje

1.BENF banana-PL REF bring

Bring bananas for me.

122. k<sup>h</sup>o paɬ<sup>h</sup>o

hold arrow

Take/hold the arrow.

123. ma napo ɖ-ija

1ACC fish REF-give

Give me a fish.

124. ullele ɖə bəiɬ<sup>h</sup>e naɖem

sea LOC go NEG

Don't go in sea water.

125. ullele də bəi<sup>h</sup>e-ma

sea LOC go-NEG

Don't go in sea water.

126. le:b də bəi<sup>h</sup>e naɖem

road LOC go NEG

Don't go on the road.

127. ma-t<sup>h</sup>o (ma-pa<sup>h</sup>o) t<sup>h</sup>e-enɟe naɖem

1POSS-arrow COP-bring NEG

Don't take my arrow.

128. əččəle dʒi wa-t<sup>h</sup>ulə-wə

child REF CAUS-sleep-VEVD

Make the child sleep.

129. əččələwə kag ɲoɲo-wa

child breast feed-VEVD

(Breast)feed the child.



130. ik<sup>hə</sup>-h<sup>wə</sup>-də      bəi<sup>t</sup>h<sup>e</sup>    naɖem    wəji-koji    ərugjəji  
 here-steam-LOC    go      NEG      some      crocodile

Don't go in this stream, a crocodile is here.

131. hiwa    ŋewo  
 3ACC    call

Call him.

132. babu-i      ŋewo  
 official-EM    call

The official is calling you.

133. magt<sup>h</sup>e    naɖem  
 1.wake    NEG

Don't wake me up.

134. dipu    o<sup>t</sup>h<sup>e</sup>jə  
 PN      wake

Wake Dipu up.

135. ənət<sup>h</sup>učə

go away

Go away from here.

136. əhapela t<sup>h</sup>uhumə

run INTSF

Run fast/faster.

137. m-ilebua

1-unfasten

Unfasten me.

138. m-agle naɟem

1-fasten NEG

Don't fasten me.

139. bəi<sup>h</sup>e

go

Let's go.

140. əha bəi<sup>h</sup>e

okay go

Okay, go.

141. ma iŋ-e h-ija

1ACC water-EM 3-give

Give me water/Would you mind passing water, please?

142. ma iŋ-e ɖ-ɛŋge-jə

1 water-EM REF-bring-VEVD

Bring water for me/Give me water.

143. dipu itat<sup>h</sup>e ɕaɖɖa ɖə bəi<sup>h</sup>e

PN say hut LOC go

Dipu said to go to the hut.

144. dipu itat<sup>h</sup>e baɕabalu ɖə bəi<sup>h</sup>e naɖem

PN say place.name LOC go NEG

Dipu said not to go to Baɕabalu.

145. hi-wa waja            ɖi    aʈiba    waja-ɖi            kag    ɲoɲo-wa  
 3ACC   3POSS.mother   REF   ask    3POSS-child-REF   breast   feed-VEVD  
 Ask his mother to feed her child.

146. čew    m-aheapa    naru    čonel    igeʃi  
 PN    1-say            PN    banana    cut  
 Cew told me that Naru would cut banana.

147. naru    m-aheaba    mi    ləkəralunɖa    ɖə    bæiʈ<sup>h</sup>e  
 PN    1-say            1    place.name    LOC    go  
 Naru said to me, "I will go to Ləkəralunɖa."

148. dipu    m-aʈiba    ka    ɲi    h<sup>w</sup>atapo    ɖə    bæiʈ<sup>h</sup>e  
 PN    1-say            INTM 2    place.name    LOC    go  
 Dipu asked me, "Are you going to H<sup>w</sup>atapo?"

149. sapan    hi-wa    aʈiba    ka    gəč<sup>h</sup>ehə    ɲi    napo    ɖi    i:tə:-hə  
 PN    3ACC    say    INTM    before now    2    fish    REF    eat-HYP  
 Swapan asked him, "Have you had fish today?"

150. dipu hi-wa aṭiba onne h<sup>w</sup>əwə ɖ-ai<sup>k</sup>hwa

PN 3ACC say who boar REF-kill

Dipu asked him, “Who killed the wild boar?”

151. ka ɲi ləkəralunɖa ɖə bəi<sup>t</sup>hə?

INTM 2 place.name LOC go

Are you going to Ləkəralunɖa?

152. ka-ɲi kekahəṭa olleg ɖə bəi<sup>t</sup>hə?

INTM-2 tomorrow place.name LOC go

Will you go to Olleg/Ləkəralunɖa tomorrow?

153. ka-ɲi jakeka howa?

INTM-2 day after tomorrow go for hunting

Will you go for hunting day after tomorrow?

154. ka-ɲi gəč<sup>h</sup>ehə lə:w ahole?

INTM-2 before now honey collect

Did you get honey today?

155. ka-ŋi gəč<sup>h</sup>ehə lə:w ɖ-ilɪŋ?

INTM-2 before now honey REF-see

Did you see honey today?

156. ka-ŋi gəč<sup>h</sup>ehə naɖo t-ita-t<sup>h</sup>e?

INTM-2 before now food REF-eat-NVEVD

Have you had food today?

157. ka-ŋi inɖəla?

INTM-2 bathe

Do you take bath daily?

158. ka-ŋi h<sup>w</sup>əwə t-ita?

INTM-2 wild boar REF-eat

Do you eat a wild boar?

159. ka-ŋi napo t-ita t<sup>h</sup>i-na čew

INTM-2 fish REF-eat COP-2 good

Having had fish, is it good (are you feeling good)?

160. ka n-aɪk<sup>h</sup>waɪ<sup>h</sup>a-le nojč<sup>h</sup>e?

INTM 2POSS-brother-PL how

How many brothers do you have?

161. ka ŋ-anonãge?

INTM 2POSS-cloth

Do you have cloth?

162. ka ŋa-kaŋgapo

INTM 2POSS-cloth

Do you have cloth?

163. lijə paɪ<sup>h</sup>o

here arrow

This is an arrow/Here is an arrow.

164. luwahe a:w

there bow

There is a bow/That is a bow.

165. lijə ma-pat<sup>h</sup>o-le

here 1POSS-arrow-PL

These are my arrows.

166. luwa əŋ-ahaŋ wa-t<sup>h</sup>o-le

there jarawa-all 3POSS-arrow-PL

Those are all Jarawas' arrows/There are all Jarawas' arrows there.

167. ka ŋa-t<sup>h</sup>o?

INTM 2POSS-arrow

Where is your arrow?

168. ma-t<sup>h</sup>o ma-čadɖa

1POSS-arrow 1POSS-hut

My arrow is at my hut.

169. kohəho<sup>t</sup>o biskuɖ h-ija

all biscuit 3-give

Give biscuits to all/each one/everyone.



170. ma waŋ napo ɖi h-ija  
 1ACC some fish REF 3-give  
 Give me a few fish.

171. kəhəhoɥ<sup>h</sup>o ɖi čonel enoloja  
 all REF banana get  
 All/everyone should get bananas.

172. lijə paɥ<sup>h</sup>o ɖi boija  
 here arrow REF small  
 This is a short arrow.

173. luwahe paɥ<sup>h</sup>o ɖi talu  
 there arrow REF long  
 That is a long arrow.

174. wəhi napowə  
 many jarawa fish  
 Many Jarawas have gone for fishing.

175. wəhi            napo    tahile

many jarawa   fish    go

Many Jarawas have gone for fish/fishing.

176. pa<sup>h</sup>o    t<sup>h</sup>i    bōija

arrow   COP   small

The arrow is short.

177. pa<sup>h</sup>o    t<sup>h</sup>i    talu

arrow   COP   long

The arrow is long.

178. lijə    taŋ    t<sup>h</sup>i    bōija

this   tree   COP   small

This tree is short.

179. luwa    taŋ    talu    talu t<sup>h</sup>uhuma

there   tree   long   long very

That tree is long/very long.

180. tawle t<sup>hi</sup> orgont<sup>h</sup>o

PN COP short

Tawle is short.

181. topo t<sup>hi</sup> orkalan

PN COP tall

Topo is tall.

182. talu t<sup>hi</sup> hu<sup>t</sup>u

PN COP fat

Talu is fat.

183. tingle t<sup>hi</sup> telo

PN COP thin

Tingle is thin.

184. ačərəwa palahe t<sup>hi</sup> hu<sup>t</sup>u č<sup>h</sup>edali t<sup>hi</sup> aiqəh<sup>w</sup>ame

PN earlier COP fat now COP thinner

Acharawa was earlier fat, but now she is thinner.

185. čuṭ t<sup>h</sup>-ipilhunu = t<sup>hi</sup> ipilhunu

PN COP- COP

Cuṭ is one-handed.

186. raḷu t<sup>h</sup>-uk<sup>h</sup>unu = t<sup>hi</sup> uk<sup>h</sup>unu

PN COP-lame COP lame

Raju is lame.

187. hi t<sup>h</sup>-iṭ<sup>h</sup>əŋgem = t<sup>hi</sup> iṭ<sup>h</sup>əŋgem

3 COP-deaf COP deaf

He is deaf.

188. hi t<sup>h</sup>-ənkegili = t<sup>hi</sup> ənkegili

3 COP-dumb COP dumb

He is dumb.

189. čaḍḍa ḍi t<sup>h</sup>-olkalaŋ

hut REF COP-high

The hut is high.

190. t<sup>h</sup>inon t<sup>h</sup>uhumə  
 hillock INTSF  
 The hillock is high.
191. t<sup>h</sup>inon t<sup>h</sup>i boīja/waja/ogčan  
 hillock COP small/child/short  
 The hillock is small.
192. le:b t<sup>h</sup>i huṭ<sup>h</sup>u  
 road COP fat  
 The road is wide.
193. itʃel/le:b boīja  
 path/road small  
 The road is narrow.
194. əh-ero-gə  
 3-angry-EVD  
 He is angry.

195. ən-ero-gə

2-angry-EVD

You are angry.

196. m-ero

1-angry

I am angry.

197. ma-t<sup>h</sup>o (ma-pat<sup>h</sup>o) ɖi tingle wa-t<sup>h</sup>o (wa-pat<sup>h</sup>o) t<sup>h</sup>-objagune

1POSS-arrow REF PN 3POSS-arrow COP-long

My arrow is longer than Tingle's arrow.

198. ma-t<sup>h</sup>o (ma-pat<sup>h</sup>o) ɖi tingle wa-t<sup>h</sup>o (wa-pat<sup>h</sup>o) ɖi-ič<sup>h</sup>ebaune

1POSS-arrow REF PN 3POSS-arrow REF-long

My arrow is as long as Tingle's arrow.

199. ugə momo wε t<sup>h</sup>-učəhə

PN PN COMPM COP-short

Ugə is shorter than Momo.

200. momo ugə wε tʰ-orkalan

PN PN COMPM COP-tall

Momo is taller than Ugə.

201. topo orpetʰatʰihə

PN tallest

Topo is the tallest person.

202. m-a:w likʰə wε tʰ-obijagune

my-bow here COMPM COP-big

My bow is bigger than his.

203. kopel-a-a:w tʰi hutʰutʰuhumə

PN-3POSS-bow COP biggest

Kopel's bow is the biggest one.

204. luwə do:jə tʰa m-aja

there girl COP 1POSS-child

The girl who is there is my child. (That girl is my child.)

205. luwə ə<sup>h</sup>wəgune m-aik<sup>h</sup>waʔə

there sit 1POSS-brother

That who is sitting there is my younger brother.

206. m-a:w t<sup>h</sup>i-tormono

1POSS-bow COP-shortest

My bow is the shortest one.

207. o<sup>h</sup>oje-le ipale-jə

lady-PL fish-VEVD

Ladies are fishing with the fishing net.

208. h<sup>w</sup>əwə ɖi-ahapela əŋ ɖi ihi-aik<sup>h</sup>wa

wild boar REF-run Jarawa REF 3-kill

The wild boar was running and Jarawa killed that. (cf. 23)

209. əŋ ɖi-aɽiba ʃajwaj ummə kijəʔə unnə

Jarawa REF-say cayway father forest come back

Jarawa says, Cayway's father came back from the forest.



210. mi-mugə      bōija-g

1POSS-beard    small-EVD

My beard is small.

211. ma      iŋ-e      ɖ-ija

1ACC    water-EM    REF-give

Give me that water (seen).

212. ma      iŋ-e      h-ija

1ACC    water-EM    3-give

Give me some water (unseen).

213. ik<sup>h</sup>ə-gə      ənətəhə

here-PM    sit

Sit here.

214. čonel      ɖi      ma      h-ija

banana    REF    1ACC    3-give

Give me the banana.

215. ma čonel d-ija

1ACC banana REF-give

Give me the banana.

216. ma čonel di h-ija

1ACC banana REF 3-give

Give me the banana.

217. ma čonel d-enge-jə

1ACC banana REF-bring-VEVD

Bring the banana to me.

218. čonel di ma enge-jə

banana REF 1ACC bring-VEVD

Bring the banana to me.

219. babu-i ma čonel he-enge-jag

officer-EM 1ACC banana 3-bring-ASS

The official brought a banana for me.

220. babu-i        ma        he-enḡe-jag  
 officer-EM    1ACC    3-bring-ASS  
 The official brought a banana for me.
221. kekahəʈə    mi    h<sup>w</sup>əwə    tahlə-hə  
 tomorrow 1    boar    go-HYP  
 Tomorrow I will go for hunting.
222. kekahəʈə    mi    kijə    tahlə-hə  
 tomorrow 1    forest    go-HYP  
 Tomorrow I will go for hunting.
223. kekahəʈə    mi    allema-hə  
 tomorrow 1    come-HYP  
 I will come tomorrow.
224. əhi        onahə-le    lə:w        ɖi-ahole  
 Jarawa    what-VS    honey    REF-collect  
 Why did the Jarawas collect honey?

225. lə:w      ahole      ih-ita-b  
 honey      collect      3-eat-NVEVD  
 We collected honey and eat that.

226. ma      iŋ      h-ija      mi      inčo-hə  
 1ACC      water      3-give      1      drink-HYP  
 Give me water, I will drink.

227. mi      inčo-hə      ma      iŋ      ɖ-ija  
 1      drink-HYP      1ACC      water      REF-give  
 Give me water, I will drink.

228. gəč<sup>h</sup>əhə      mi      inčo-t<sup>h</sup>e  
 before now      1      drink-NVEVD  
 I took water earlier (before now).

229. ma-t<sup>h</sup>o      t<sup>h</sup>uč<sup>h</sup>ətəgə  
 1POSS-arrow      where  
 Where is my arrow?

230. ɲa-tʰo tʰučʰətəgə

2POSS-arrow where

Where is your arrow?

231. ma-tʰo di ma-čadɖa də

1POSS-arrow REF 1POSS-hut LOC

My arrow is at my hut.

232. mi napo di ɲi h-ija

1 fish REF 2 3-give

I gave you the fish.

233. \*əččələwə tʰi boija

child COP small

The child is small.

234. jehe čokilanji

sun set

The sun set.

235. jehe ɖi ʧokilanji

sun REF set

The sun set.

236. mi-mugə huʦ<sup>h</sup>u-gə

1POSS-beard big-EVD

My beard is big.

237. \* mi-mugə huʦ<sup>h</sup>u-gə t<sup>h</sup>uhumə

1POSS-beard big-EVD very

My beard is very big.

238. \*mi-mugə huʦ<sup>h</sup>u t<sup>h</sup>uhumə-gə

1POSS-beard big very-EVD

My beard is very big.

239. hi ejagija bəiʦ<sup>h</sup>e-jə

3 where go-VEVD

Where has he gone?

240. hi ejagiya bəit<sup>h</sup>e-jag

3 where go-ASS

Where did he go?

241. ə-t<sup>h</sup>i = əŋ-t<sup>h</sup>i lə:w d-enge-jə

Jarawa-COP honey REF-bring-VEVD

Who has brought honey?

242. onne t<sup>h</sup>i lə:w d-enge-jə

who COP honey REF-bring-VEVD

Who has brought honey?

245. ma-t<sup>h</sup>o talu-gə

1POSS-arrow long-EVD

My arrow is long.

246. m-ajigjija

1-leave

Leave me.

247. m-aϕle naɖem

1-fasten NEG

Don't fasten me.

248. ma iŋ-e ɖ-ɛŋge-jə

1ACC water-EM REF-bring-VEVD

Bring my water.

249. napo ɖi waŋ ma h-ija

fish REF some 1ACC 3-give

Give me some fish.

250. mi ik<sup>h</sup>ə-gə m-ətəhə

1 here-PM 1-sit

I am sitting here.

251. mi-č<sup>h</sup>e ənətəhə

1 sit

I will sit.



252. h<sup>w</sup>əwə      ɖi      omohə

wild boar    REF    sleep

The wild boar is sleeping.

253. h<sup>w</sup>əwə      ɖi      oho

wild boar    REF    sit

The wild boar is sitting.

254. h<sup>w</sup>əwə      ɖi      ahekana

wild boar    REF    hide

The wild boar is hiding.

256. enme    t<sup>h</sup>ijənlem    uwajaɬ<sup>h</sup>ə    kijə      tahlə

PN        PN            both        forest    go

Enme and Thiyənlem have gone to the forest (for hunting).

257. kekahətə    čajwaj ummə    səmpa    uwajaɬ<sup>h</sup>ə    ʃagɬ<sup>h</sup>ujə-hə

tomorrow    cayway father    PN        both        come-HYP

Tomorrow Cayway's father and Sampan will come.

258. ka-ŋi kijə tahilə nojč<sup>h</sup>e?

INTM-2 forest go how many

How many times did you go for hunting?

259. raja t<sup>h</sup>uč<sup>h</sup>ətəgə?

PN where

Where is Raja?

260. raja ka t<sup>h</sup>uč<sup>h</sup>ətəgə?

PN INTM where

Where is Raja?

261. \*ka raĵa t<sup>h</sup>uč<sup>h</sup>ətəgə?

INTM PN where

Where is Raja?

262. čajwaj t<sup>h</sup>uč<sup>h</sup>ətəgə

PN where

Where is Cayway?

263. čajwaj ka tʰučʰətəgə  
 PN INTM where  
 Where is Cayway?
264. \*ka čajwaj tʰučʰətəgə  
 INTM PN where  
 Where is Cayway?
265. mi enme ẽhẽ-nja-tʰe  
 1 PN with-go  
 I went with Enme.
266. onne ɖaŋ (ɖi-əŋ) njačʰe allema  
 who REF-Jarawa with come  
 Who did you come with?
267. čaɖɖa ɖə italəhə  
 hut LOC inside  
 Inside the hut.

268. kaŋgapo kəʈ<sup>h</sup>ijə

cloth tear

The cloth is/was torn.

269. dewa kaŋgapo ɖi ik<sup>h</sup>ə-ʈ<sup>h</sup>ə

PN cloth REF cut-NVEVD

Dewa tore the cloth.

270. əminə he-epohə mijə allema

a kind of fruit 3-forget 1 come

I forgot the fruit, I am coming.

271. əminə he-epohə mi enge-jə

a kind of fruit 3-forget 1 bring-VEVD

I forgot the fruit, I am bringing (it).

272. onne ʈ<sup>h</sup>i əŋ taŋ odehe

who COP Jarawa tree cut

Which Jarawa cut the tree?

273. əččəle wa-t<sup>h</sup>ulə

child CAUS-sleep

Make the child sleep.

274. əččəle čonel dʒi wa-le-jə

child banana REF CAUS-eat-VEVD

Feed the banana to the child.

275. əččəle woʒot<sup>h</sup>o inčo-wa

child CAUS drink-VEVD

Make the child drink.

276. əččəle woʒot<sup>h</sup>a taŋ dʒə čapt<sup>h</sup>e-jə

child CAUS tree LOC climb-VEVD

Make the child climb on the tree.

277. əhi t<sup>h</sup>i bəit<sup>h</sup>e

Jarawa COP go

All the Jarawa have gone.

278. ə-tʰi (əŋ-tʰi) bəi:

Jarawa go

Let us go.

279. əččəle ɖi wa-le-jə

child REF CAUS-eat-VEVD

Feed the child.

## Appendix – III

### Distribution of verbal suffixes on verbs

S. No.	Jarawa verbs	-jə	-jag	-bə	-t <sup>h</sup> e	-wa	-hə
1.	oč <sup>h</sup> enə: / oč <sup>h</sup> egə	X	X	X	X	X	X
2.	inčo	X	X	X	√	√	√
3.	ita	X	X	√	√	--	√
4.	čawaja	X	X	X	X	X	X
5.	əhapela	X	X	X	X	X	X
6.	gəgapa / gəgaba	X	X	X	X	X	X
7.	e <sup>t</sup> ətu <sup>h</sup> agle	√	√	X	X	X	--
8.	ipine	√	√	X	X	X	--
9.	ənane	√	√	X	X	X	--
10.	o <sup>t</sup> əj-le	√	√	X	X	X	X
11.	tahilə	√	X	X	X	X	√
12.	bəi <sup>t</sup> ə	√	√	X	X	X	√
13.	omohə	X	X	X	X	X	√
14.	t <sup>h</sup> ulə	X	X	X	X	X	X
15.	əjojəba	X	X	X	X	X	X
16.	i <sup>t</sup> əhə <sup>t</sup> ə	√	√	X	X	X	--

17.	ut <sup>h</sup> it <sup>h</sup> igu it <sup>h</sup> əhət <sup>h</sup> e	√	√	X	X	X	X
18.	ənija	√	--	X	X	X	X
19.	ero	X	X	X	X	X	X
20.	əɖə	--	--	--	--	--	--
21.	oʃi <sup>h</sup> t <sup>h</sup> ege	√	--	X	X	X	X
22.	ənəjale	√	--	X	X	X	X
23.	ət <sup>h</sup> okagt <sup>h</sup> e	√	--	X	X	X	X
24.	čalahe	√	X	X	X	X	X
25.	ənobelijahije	√	--	X	X	X	X
26.	aʃiba	X	X	X	X	X	√
27.	ija	X	√	X	--	X	X
28.	ičilo	X	X	X	√	√	√
29.	ən-odə-kali	√	--	X	X	X	√
30.	nam ɖ-odəhe	√	√	X	X	X	--
31.	čadɖa-le	√	X	X	X	X	X
32.	ahowa	X	X	X	X	X	X
33.	aigdəwa	--	--	--	--	--	--
34.	əč <sup>h</sup> at <sup>h</sup> ajə	--	--	--	--	--	--
35.	huwaʃi	√	X	X	X	X	X
36.	apine	√	--	X	X	X	X
37.	inijač <sup>h</sup> e	√	--	X	X	X	--



38.	ən-ohelə	√	--	X	X	X	X
39.	pela-jit <sup>h</sup> ə	--	--	--	--	--	--
40.	ipine	√	X	X	X	X	X
41.	allema	X	X	X	X	X	√
42.	ənēwa	--	--	--	--	--	--
43.	wanna	X	X	X	X	X	X
44.	əniji:	√	--	X	X	X	X
45.	ən-agulemelegune	√	X	X	X	X	X
46.	o <sup>t</sup> ʰa ən-ijelangə	--	--	--	--	--	--
47.	ulleləd̥a	X	X	X	X	X	X
48.	h <sup>w</sup> ad̥ə	X	X	X	X	X	X
49.	eŋge	√	√	X	X	X	--
50.	k <sup>h</sup> o:	X	X	X	X	X	X
51.	ən-ə:təhə	X	X	X	X	X	X
52.	tokət <sup>h</sup> e	√	√	X	X	X	--
53.	aϕle	√	√	X	X	X	--
54.	ilibua	X	X	X	X	X	X
55.	napo d̥-aye	√	--	X	X	X	X
56.	bu <sup>t</sup> ʰə t <sup>h</sup> ame	√	X	X	X	X	X
57.	ən-aŋgt <sup>h</sup> ə	--	--	--	--	--	--

58.	wəwə-le	√	X	X	X	X	X
59.	ində	X	X	X	X	X	X
60.	ač <sup>h</sup> u	√	√	X	X	X	X
61.	aŋgijač <sup>h</sup> uə	X	X	X	X	X	X
62.	əbulə:	X	X	X	X	X	X
63.	əna əŋgale	√	--	X	X	X	X
64.	t <sup>h</sup> uhəb-le	√	--	X	X	X	X
65.	ən-ənpət <sup>h</sup> a	√	√	X	X	X	X
66.	ekane	√	--	X	X	X	--
67.	eŋge	√	√	X	X	X	--
68.	čapt <sup>h</sup> e	√	√	X	X	X	--
69.	əničajmə	--	--	--	--	--	--
70.	ʃagijə	--	--	--	--	--	--
71.	eweewe	X	X	X	X	X	X
72.	ekka	X	X	X	X	X	X
73.	waɫ <sup>h</sup> epa-le	√	√	X	X	X	X
74.	napowə	X	X	X	X	X	X
75.	ik <sup>h</sup> ə-wə də aik <sup>h</sup> wəkt <sup>h</sup> e	--	--	--	--	--	--
76.	napo tahile	√	X	X	X	X	√
77.	unnə	X	X	X	X	X	X

78.	pijale	X	X	X	X	X	X
79.	howa	X	X	X	X	X	X
80.	kijə tahile	√	X	X	X	X	√
81.	aik <sup>h</sup> wa	X	X	X	--	X	X
82.	uigəle	--	X	X	X	X	X
83.	waɾa	X	X	X	X	X	X
84.	ihune	√	X	X	X	X	X
85.	ən-ahopaho-le	√	X	X	X	X	X
86.	oɬ <sup>h</sup> a inijəla	--	--	--	--	--	--
87.	helahoə:	--	--	--	--	--	--
88.	ič <sup>h</sup> eba	X	X	X	X	X	X
89.	ənoɖə h-igəɬ <sup>h</sup> e	√	--	X	X	X	X
90.	ənotoha	X	X	X	X	X	X
91.	əhujəba	X	X	X	X	X	X
92.	əŋgogə	--	--	--	--	--	--
93.	pakʃawaʃi	√	--	X	X	X	X
94.	ehaɬo-jə	√	--	X	X	X	--
95.	ən-aholagɬ <sup>h</sup> i	√	X	X	X	X	X
96.	ən-ahot <sup>h</sup> wag	X	X	X	X	X	X
97.	ilebuwə	X	X	X	X	X	X

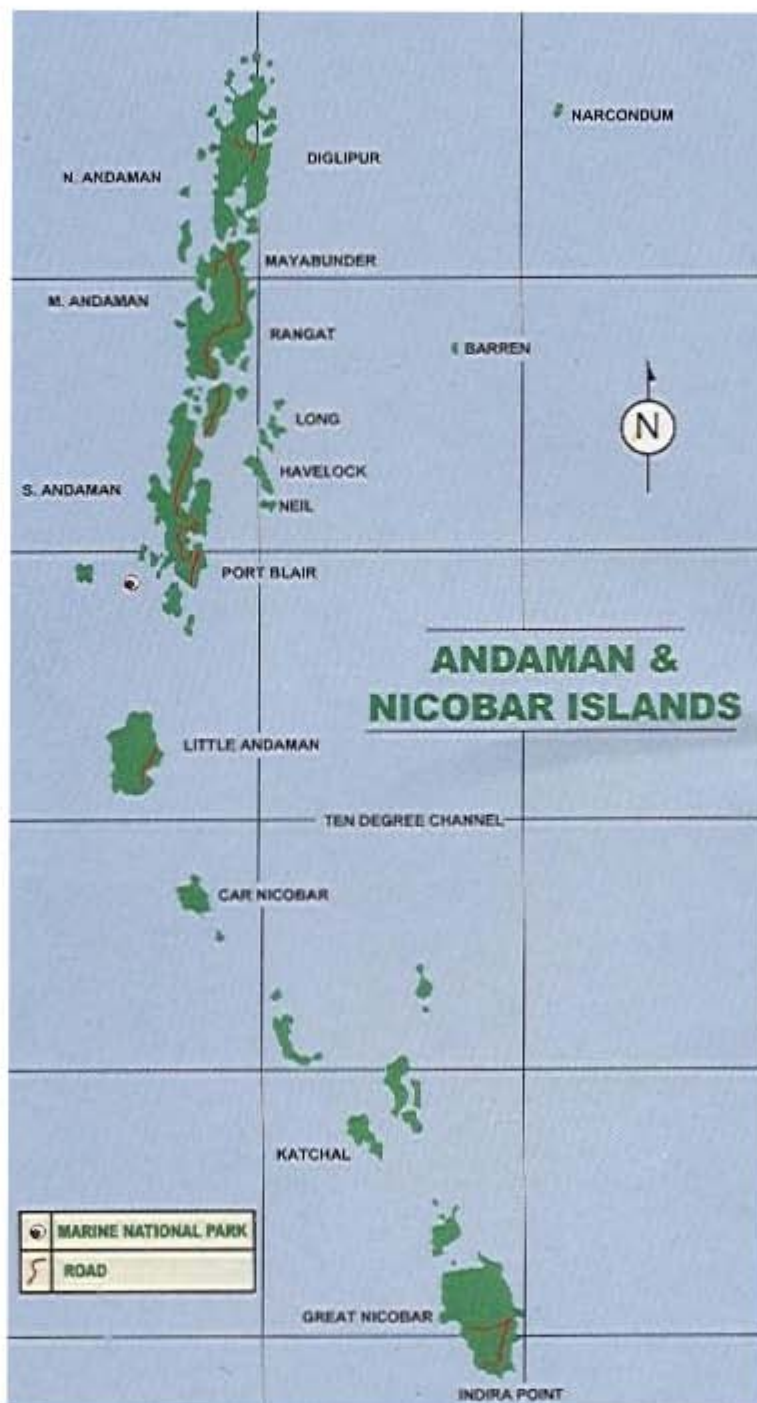
98.	ənih <sup>w</sup> edə	X	X	X	X	X	X
99.	ipinunu	X	--	X	X	X	--
100.	ən-ahuglu	X	--	X	X	X	√
101.	t <sup>h</sup> uwə	X	X	X	X	X	X
102.	ədə	√	X	X	X	X	--
103.	ən-ahela-le	√	--	X	X	X	--
104.	čowaǰi	√	X	X	X	X	X
105.	boǰja-gə	X	X	X	X	X	X
106.	əh-ane <sup>hw</sup> edǰaǰi	√	--	X	X	X	X
107.	ənejom	X	X	X	X	X	X
108.	ən-ahimudijət <sup>h</sup> e	√	--	X	X	X	X
109.	ənhowa	X	X	X	X	X	X
110.	ha-wočewoče-le	√	--	X	X	X	X
111.	ən-igine	√	--	X	X	X	X
112.	eneje	√	--	X	X	X	X
113.	ən-ohot <sup>h</sup> ahe	√	√	X	X	X	X
114.	pado he-eh <sup>w</sup> ag	X	X	X	X	X	X
115.	hehehe	X	X	X	X	X	X
116.	apa	X	--	X	X	X	X
117.	iwəčə	X	X	X	X	X	X

118.	əhubə	X	X	X	X	X	X
119.	ič <sup>h</sup> e	√	√	X	X	X	X
120.	aɫ <sup>h</sup> ohag	--	--	--	--	--	--
121.	it <sup>h</sup> ə	√	X	X	X	X	X
122.	hewojabə	X	X	X	X	X	X
123.	inɖə	X	X	X	X	X	X
124.	əpa	X	--	X	X	X	X
125.	t <sup>h</sup> ui-le	√	X	X	X	X	X
126.	taŋg-le	√	X	X	X	X	X
127.	ač <sup>h</sup> ile-le	√	--	X	X	X	X
128.	onodəhe	√	X	X	X	X	X
129.	ənimunəʃi	√	X	X	X	X	X
130.	untopine	√	X	X	X	X	X
131.	ejaja	--	--	--	--	--	--
132.	uluhə pat <sup>h</sup> o	X	X	X	X	X	X
133.	bod	X	X	X	X	X	X
134.	hagulume	--	--	--	--	--	--
135.	ɫ <sup>h</sup> uhəgle	√	X	X	X	X	X
136.	hatiti	√	X	X	X	X	X
137.	ɲono	X	X	X	√	√	--

138.	ənihəd	--	--	--	--	--	--
139.	paɫ <sup>h</sup> o də-ekəwaja	--	--	--	--	--	--
140.	čcaɫɫa d-epoha	X	X	X	X	X	X
141.	ənəɫ <sup>h</sup> uči	√	√	X	X	X	X
142.	ugikəəɫ <sup>h</sup> e	√	--	X	X	X	X
143.	ɫ <sup>h</sup> ugeja	√	--	X	X	X	X
144.	ipo-le	√	--	X	X	X	X
145.	əna-udɫu-le	√	--	X	X	X	X
146.	inə-gə pit <sup>h</sup> i	--	--	--	--	--	--
147.	inə-gə čew	--	--	--	--	--	--
148.	oɫ <sup>h</sup> ahe	√	√	X	X	X	X
149.	huiyahuija	--	--	--	--	--	--
150.	iŋ ič <sup>h</sup> e	√	√	X	X	X	X
151.	iŋ əč <sup>h</sup> e tahile	√	X	X	X	X	√
152.	iliŋ	X	X	X	X	X	X

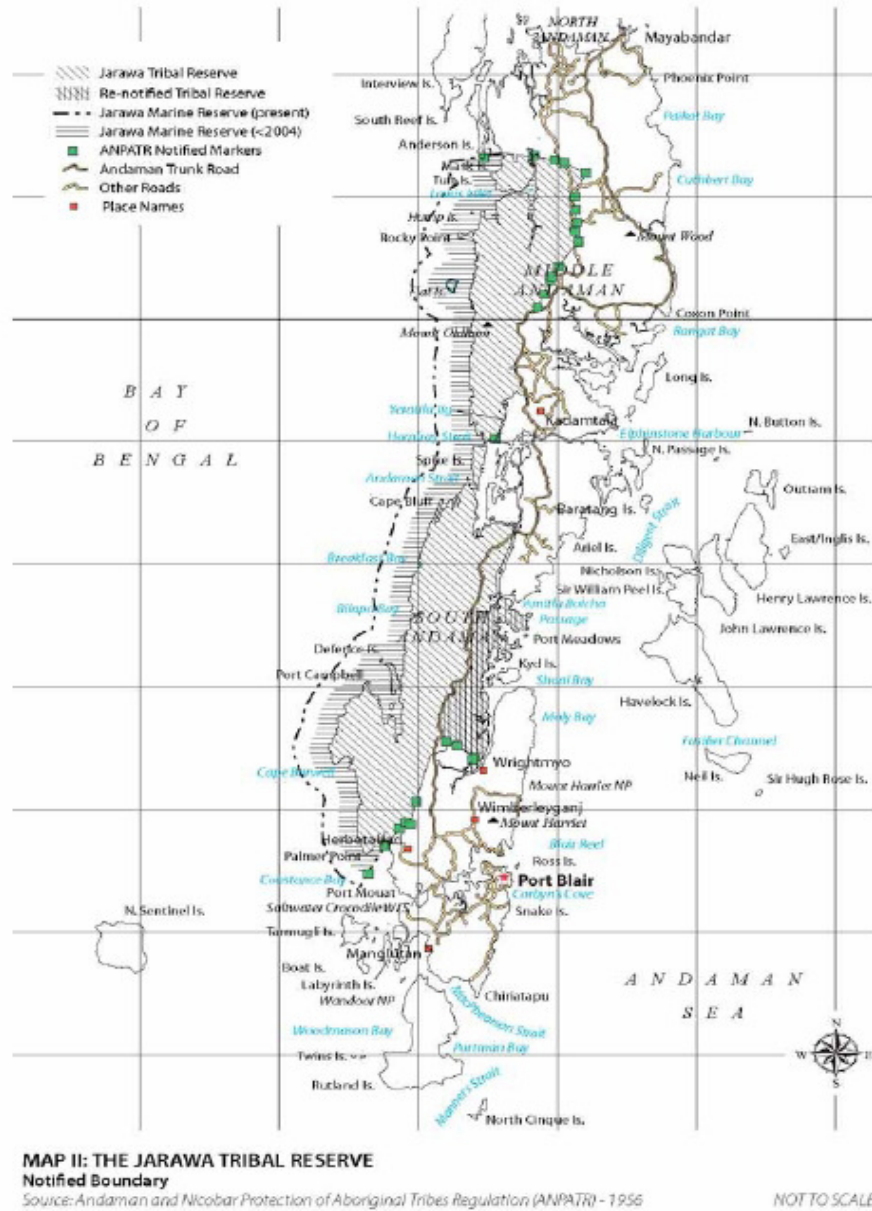
## Appendix IV: Maps

Map 1: Andaman and Nicobar Islands



Source: [www.andaman.nic.in](http://www.andaman.nic.in)

Map 2: Jarawa Reserve Area



Source: Sekhasaria, Pankaj and Pandya, V. 2010. The Jarawa Tribal Reserve Dossier. UNESCO