SPEECH SOUNDS IN ANDAMANESE :

A DESCRIPTIVE STUDY

Dissertation submitted to the
Jawaharlal Nehru University in partial fulfilment
of the requirement for the award of the Degree of

MASTER OF PHILOSOPHY

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2001

DEDICATED TO
MY HONEY FRIEND.....

Dated: 19th July, 2001

DECLARATION

This dissertation entitled **Speech Sounds in Andamanese: A Descriptive Study**, submitted by me for the award of the degree of **Master of Philosophy** is an original work and has not been submitted so far in part or full, for any other degree or diploma of any University.

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This dissertation entitled **Speech Sounds in Andamanese: A Descriptive Study**, submitted by **Chandan Kumar**, Centre of Linguistics and English, School of Language, Literature and Culture Studies, Jawaharlal Nehru University, New Delhi, for the award of the degree of the **Master 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 other university.

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

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CHAPTER ONE

INTRODUCTION

1.1   Outline

The aim of this dissertation is an attempt to formulate a descriptive study of the speech sounds in the Andamanese language. The Andamanese group of languages are presently nearly on the verge of extinction, in particular, due to the rapidly decreasing population as well as due to language shift and contact with other languages. In recent years for example, it has been seen that a large number of Andamanese speakers, especially the young, prefer to speak a Port- Blair dialect of Hindi rather than Andamanese. Even the older generations, who still largely do speak Andamanese, are today incorporating the vocabulary of Hindi and even to some extent, Bangla into their verbal repertoire. Language is a system of communication that binds people together through centuries of experience; a loss of language at its basic structural level therefore entails a loss in specialised knowledge of language that only a native speaker possesses. Further, it has been reported that there are about 6000 languages spoken in the world today, and over half of them will not be spoken by the end of the next century. This fact alone underscores the urgent and important need for description of languages, before they are no more and become extinct. This study will thus aim at a study of the speech sounds of the Great Andamenese language, which will be useful for further linguistic research.
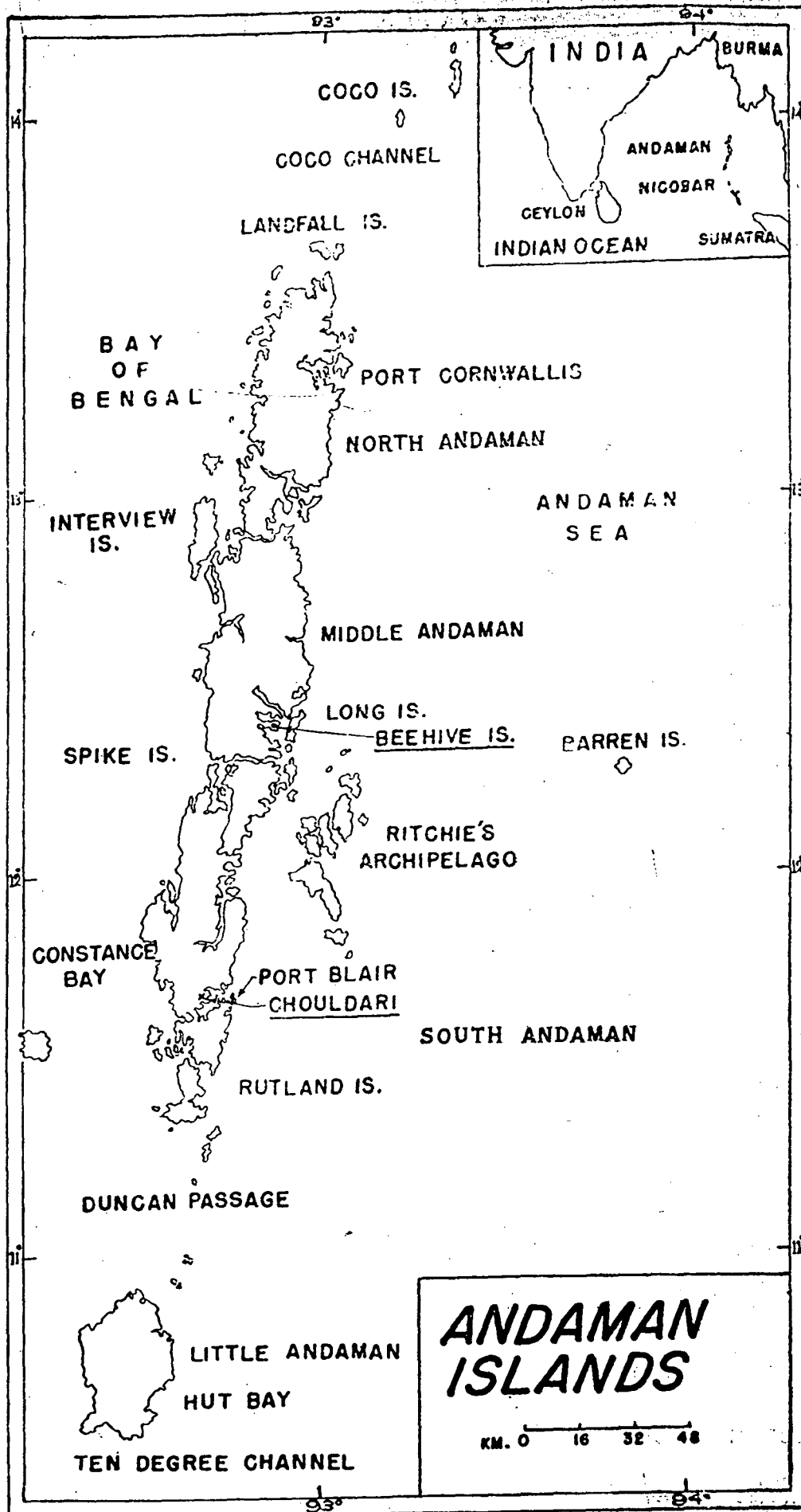
Fig. 1. Showing locations of Chouldari and
Beehive midden sites

1.2 Land and People

1.2.1 Geographical Location

The Andaman and Nicobar islands form a part of the Indian sub-continent and consist of a chain of approximately 223 islands, located in the Bay of Bengal at the south-east of the Indian sub-continent- between 10^0 $13'$- 10^0 30'N latitudes and 90^0 15'E- 93^0 10'E longitudes. These islands are the homeland of one of the most primitive communities in the world, a community that has till recently managed to retain most of its ancient and primitive customs, far removed not only from those of mainland India, but even from the capital Port Blair. The chain of islands that make up a total length of 353 kms. are separated from each other by innumerable narrow passages, which look like a "closely knitted elongated stretch of land."(Dutta, 1978, p.7) The average breadth of the islands is 24 kms., with an estimated total land area of 6340 kms. Of this, approximately 2415 sq. kms. are covered by dense tropical growth of evergreen and deciduous trees.

The Andaman Islands are divided into two main groups of islands, Great Andaman and Little Andaman. Great Andaman is further sub-divided into three separate groups- North Andaman, Middle Andaman and South Andaman, together making up a length of about 258 kms. The maximum length and breadth of Little Andaman is 42 kms and 26 kms respectively. The entire land surface of the Andamans is hilly, enclosing

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narrow valleys; there are no rivers as such, and during the monsoon period, the islands are drained by non-perennial showers.(Ibid., p.8) The capital, Port Blair is situated at a distance of 1255 kms from Calcutta and 1135 kms from Chennai and it is only in recent times that some influence of this mainland is beginning to become visible in some of the tribes. (See map on pp. 2)

1.2.2 Andamanese People

The population of the Andaman and Nicobar islands can be divided into two groups. While the people inhabiting the Andaman group are called 'Negrito', those of the Nicobar group are known as 'Mongoloids'. It is this latter group that has somewhat accepted the fact that change is integral to the cultivation of the life process, and this is generally cited as the reason for their prosperity and the multiplication of their population.(Chakraborty, 1990, p.i) On the other hand, the Negrito population of the Andaman has been further sub-divided into two groups – those of the Great Andaman and those of the Little Andaman. The Little Andaman group comprised of the Onge, Jarawa and Sentinel tribes while the Great Andaman group was made up of ten tribes i.e. Cari, Kora, Bo, Jeru, Kede, Kol, Juwai, Puchikwar, Boli and Bea. Today, however the population of the island has depleted so much that there is not a single surviving member left of 8-9 of these tribes, and the few remaining people claim to be members of the Jeru tribe. From a population of 625 (1901 census), the last century has seen

this indigenous tribal population come down to a mere 32,(in 1993, when the data was recorded) with very severe prospects of extinction.

Anthropologists today, especially after seeing the severity of the population situation have started undertaking a number of studies on these tribes- in particular, they are attempting at a documentation of their language, culture, traditions, folklore etc. In these studies, a history of these islands also occupies an important place. The first mention of the existence of these groups of islands can be found in the 2nd century, in Ptolemy's *Annotated Atlas of the World*. He referred to these islands as 'Buzacata'. Subsequently, these islands are referred to by Itsing, a Chinese Buddhist monk of the 7th century, as 'Andaban', and also in the writings of Marco-Polo, Frair Odric, Nicolo Conti and others. However, As Dilip Chakraborty notes, the first historical account covering these islands occurs in the travel and adventure narratives of two Muhammadan wanderers of the ninth century, in their journeys across India and China.(Chakraborty, 1990, p.2) They referred to these islands as "being inhabited by Negritos"(Mouat, in Chakraborty, Ibid.,)Etymologically, the name Andaman has been said to have been derived from 'Hanuman'. The Malays referred to the Andamanese as 'Handuman' or 'monkey-people'-a corrupted version of the original 'Hanuman'; Marco-Polo called them 'Angamanain- probably an oblique Arabic dual word indicating the two Andamans. The Chinese and Japanese have known them since the first millennium A.D, and called it

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Yang- to Mang and Andaban respectively. All these references however are mostly conjectural and the present form that is Andaman has probably emerged out of a combination of all these names (Manoharan, 1989, pp.2-3). The first authentic record of the history of the Andaman islanders is only available after the British came into contact with them in 1788. Other than these foreign documentations, the Andaman and Nicobar Islands have also found mention in the works of Krishnaswamy Iyengar. He stated that king Rajendra Chola II, one of the great kings of South India also visited the Nicobar islands during his expedition in the 11th century A.D; as does the Tamil epic poem *Manimekalai* (2nd century B.C)- albeit indirectly. These various documents all go on to prove the fact that these islands have been existing and have been inhabited since a very long time.

It is only however from the late 18th century onwards that these islands began to take on an interest for the then rulers of India, the East India Company. It was in 1789 that Lord Cornwallis ordered for a penal settlement to be set up in these islands, and the entry of Lieutanant Archibald Blair with his establishment thus signalled the beginning of the entry of non-natives into the islands. The islanders, who had always been wary of outsiders, did not accept the move warmly. The hostility continued for years, until the Britishers, owing to the high death rate, finally abandoned the settlement in 1794. Following the Sepoy Mutiny of 1857, the penal community was once more established on the islands; this time

however, the native tribes did not hide their hostility, and organised a well-planned attack on the settlement. But the manner of retaliation led to one of the worst cases of colonial genocide. Subsequent spreading of diseases like bronchitis, syphilis, measles etc. due to increasing contacts between natives and non-natives reduced the latter's resistance powers and caused large - scale deaths. Other reasons for population decline included the consumption of opium, again an outside influence, which contributed to lower birth rates and the indiscriminate clearing of forests, making the tribals easy prey to illnesses like malaria (Chakraborty, Ibid., p.10). These were the major factors responsible for the sharp decline in the population of these islands from a figure of 3000-3500 in the mid - nineteenth century to a mere 625 at the turn of the 20th century. Since then, the population decline has continued as a multiplier effect. Many young men of reproductive age had lost their lives during various battles with colonisers. The Japanese massacre of the Andamanese during the Second World War also contributed to this steady and continual decline of the indigenous population.

V. Gyansundaram and K. S. Rajyashree have, in their study, titled 'Language Loss/Maintenance: A Case Study of Andamanese' attempted to portray this disturbing trend of population loss during the course of the 20th century:(V. Gyansundaram and K. S. Rajyashree, 2000,p.74)

Year	1901	1911	1921	1931	1951	1961	1971	1975	1988	1998
Population	625	453	209	90	23	19	24	23	28	36

The sharp decline evident in the first half of the century corroborates the above facts. It is indeed a great tragedy that is man-made rather than natural means that are largely responsible for the perilous state that these tribes today find themselves in.

1.3 Andamanese Language

A question that has led to tremendous debate among linguists, anthropologists and researchers is whether the Andamanese language can be classified as an independent language family. The language is classified in the census as "an unclassified language" spoken by "a few remaining individuals of the tribe of the same name"(Nigam, 1972, in Manoharan, 1989,p.173). This is more or less a repetition of Radcliff-Brown's claim that "the Andamanese languages constitute a separate family having no other apparent affinity with any other family of language"(Radcliff-Brown, 1964, p.495). Further, he also pointed out that within this family, all the languages are closely related to each other, and have the same grammatical and root structure (Chakraborty, *op cit.* p.8). Recent studies have corroborated this point further, with the grouping of the various language communities of India into five convenient language families viz: Andamanese, Astro-. Asiatic, Dravidian, Indo-Aryan and Tibeto-Burman.

Manoharan has grouped the Andamanese family of language into two main groups, each with its own sub-division, as seen in the tree diagram on the following page (Manoharan, 1989, p.173).

Traditionally, each tribe has had its own distinct language and questions of identity even today continue to be closely linked to language use, as boundaries for each tribe are very clearly defined. It is impossible for any individual from one tribe to visit an area belonging to another tribe, without taking prior permission. Each language, similarly, has its own distinctive and clearly defined features - at times we even see the existence of a number of different dialects within a particular tribe (Ibid., p.5). Radcliff- Brown's seminal study gives the example of one such tribe:

> In the Aka-Bala tribes there were two dialects, one in the southern half of the Archipelago, which was allied to Aka-Bea, and the other in the northern half, showing affinities with Aka-Puchikwar. Even in a small tribe as the Aka-Cari, it would seem that there were differences of dialect. Thus, even from the point of view of language, the tribes were not entirely homogeneous.(Radcliff-Brown, in Manoharan, 1989, p.5)

Tribal identity and languages should not therefore be seen as similar or homogeneous. At one level, we see certain tribes, whose members were bilingual or even tri- lingual (when they would be able to speak the language of adjoining tribes as well), while at the other end of spectrum, many tribes living in distant areas or at a great distance from each other, did not even know of the existence of many of the others, let alone have an

ANDAMANESE FAMILY OF LANGUAGES

- Little Andaman
  - Onge
  - Jarawa
  - Sentinelese
- Great Andaman
  - South Andaman
    - Bea
    - Bale
  - Non-South Andaman
    - Middle Andaman
      - Puchikwar
      - Juwoi-kol
        - Juwoi
        - Kol
      - Kede
    - North Andaman
      - Bo-Cari
        - Bo
        - Cari
      - Jeru Kora
        - Jeru
        - Kara
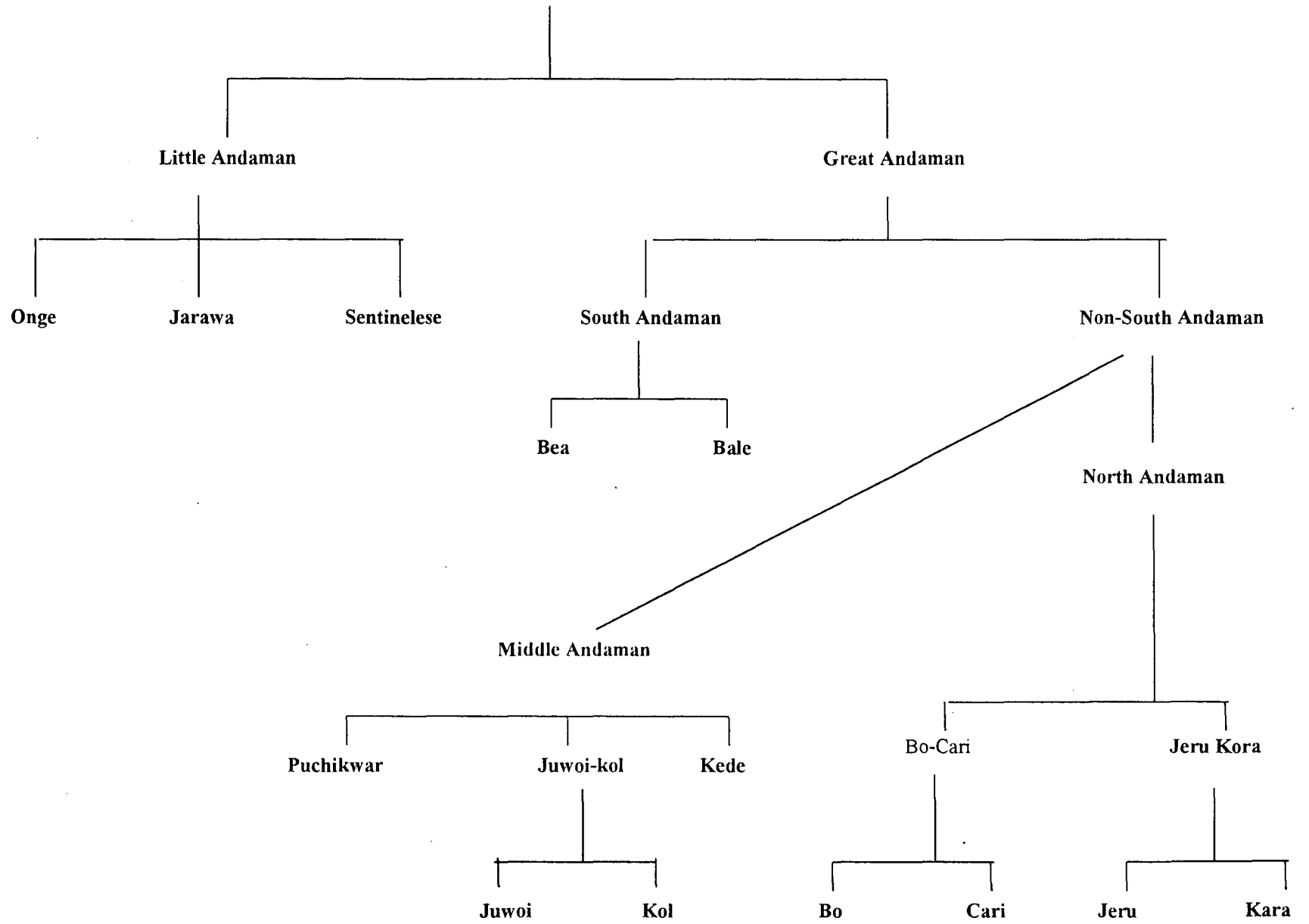
awareness regarding their language. Such complexities all combine together to provide for a fascinating and intriguing socio-linguistic study of the area.

1.4 Existing Research

Most studies that have been undertaken on the Great Andamanese are anthropological documents. The earliest works date from the mid 1860's, with works such as *Adventures and Researches among the Andaman Islands (1836)* by F. J. Mouat, *Manual of Andamanese Language (1887)* and *History of our Relations with Andamanese (1889)* by M. V. Portman, *Aboriginal Inhabitants of Andaman Islands (1932)* by E. H. Man and of course A. R. Radcliffe Brown's seminal anthropological work, *Andaman Islanders (1922)*. Most of these works are on the society and culture of Andamanese, although Brown's work is considered indispensable for the purpose of any anthropological work on the region. In more recent times, Pratap C. Dutta's volume, *The Great Andamanese: Past and Present (1978)* offers a reconstructing of the cultural history of the islands, on the basis of material exhumed from the area.

F.J. Mouat's work not only offers a general description of the various islands and descriptions of encounters with tribals, but also deals with some of their characteristics, habitats and language, which he says "was barely sufficient for the expression of their few simple wants"(Chakraborty, *op cit* p.5). His work was followed by E.H.Man, who

made a special study of the language of the Beas and also compiled an extensive vocabulary of this language. M. V. Portman's Manual focuses on the various Andamanese dialects as spoken by each individual tribe. It begins with an introduction on the grammar of the region, starting with the basic alphabet and its pronunciation, and continuing with the idea of word formation, parts of speech and syntax. The grammar is a functional one, its main purpose being to serve for conversation as required by Government officials. Portman then goes on to compose an English-Andamanese dictionary, a comprehensive account of words as spoken by members of the various Great Andamanese tribes. The second and third part of the manual constructs a number of sentences regarding the weather, coastal and jungle life, food and drink, diseases and relationship; and finally concludes with a list of articles relating to food, essential items and names of trees in the area.

However S. Manoharan's *Study of Andamanese Language,* based on his fieldwork in 1976-77 is supposed to be the first proper linguistic study of the language. Till date, this study remains the most exhaustive study of the language, which serves as the benchmark for all succeeding research. He has divided his studies into two parts. The first part is a descriptive study while the second deals with a comparative and typological study of this language. In his study, Manoharan has set up 31 phonemes of which 28 are segmental phonemes. Out of these 28 segmental phonemes, 21 are

consonantal phonemes and 7 are vowel phonemes. He has worked out the phonemes by comparing minimal and sub-minimal pairs by using the distribution method.

S. Manorahan gives the following phonemic chart (Manoharan,*op cit* p.11).

Vowels:

	Front	Central	Back
High	i		u
High-mid	e		o
Mean-mid	ε		ɔ
Low		a	

Consonants:

		Bilabial	Alveo Dental	Alveolar	Retroflex	Palatal	Velar	Port Velar
	VL	p	t		t	c		k
Stop	VD	b	d		d	j		
	Asp		th					
	Slit	ɸ					x	
Fricative Groove				s				
Nasal		m		n		ñ	n	
Lateral								
Flap								
Trill				r				
Semi Vowel		w				r		

However, it will also be worth mentioning the different phonemic systems evolved by various authors in their earlier works like Portman (1898),

Brown (1948) and Basu (1952). Manoharan's study too is not a very detailed study. None of the authors have done a detailed phonetic description. Moreover, most of these scholars were anthropologists and they did not possess enough phonetic understanding of the language.

1.4 Aims and Objectives of the Study

Based on past research, it can, therefore, be said that descriptions of the Andamanese language as available today are preliminary, highly inadequate, unexhaustive and superficial. However, they can serve as the reference material for a more exhaustive description of the phonetic and phonological study of Andamanese. For this purpose more data and more sophisticated tools and techniques need to be employed, especially for the vowels. The scope of the present research will be an attempt to provide a description of phonetic and phonological patterns of the language. Further, this study will constitute the first step towards a more serious and in-depth study of the language. This work would serve as a valuable base from which further research on various aspects of the language can be undertaken.

However, it has to be remembered that M. Phil being a time-bound study, it will not be possible in this case to undertake a very detailed research on the speech sounds of Andamanese. For present purposes therefore, I will be concentrating on the phonetic and phonological aspects of speech sounds in the language.

CHAPTER TWO

METHODOLOGY

2.1 Introduction and Background:

Methodology is the most important tool in any kind of research activity, whether subjective or data based. The term 'research' has been given a number of definitions by various academicians but the *Oxford Advanced Learner's Dictionary of Current English* probably offers the most succinct, generic description of the term, as

> ... a careful investigation or inquiry, especially through search
> for new facts in any branch of knowledge(p. 1069).

This continual search for the unknown, which governs research, is regarded by many as a "voyage of discovery"(Kothari, 1995, p.1). In academics however, research takes on a technical meaning in some subjects, where it comprises of various steps - of formulating a hypothesis, collecting, organising and evaluating data, analysing it in order to arrive at a conclusion and finally carefully testing the conclusions to see if they fit the formulating hypothesis. These various steps can be depicted through the following flow chart (Ibid., p.14) given on the next page.

Research can be grouped into four kinds of study - exploratory or formulative, descriptive, diagnostic and hypothesis testing. Explorative

Research Process in flow Chart

Define Research problem

Review concepts and theories

Review existing research

2

Design Research

3

Collect Data

4

Analyse Data

5

Interpret and report

6

FF

FF
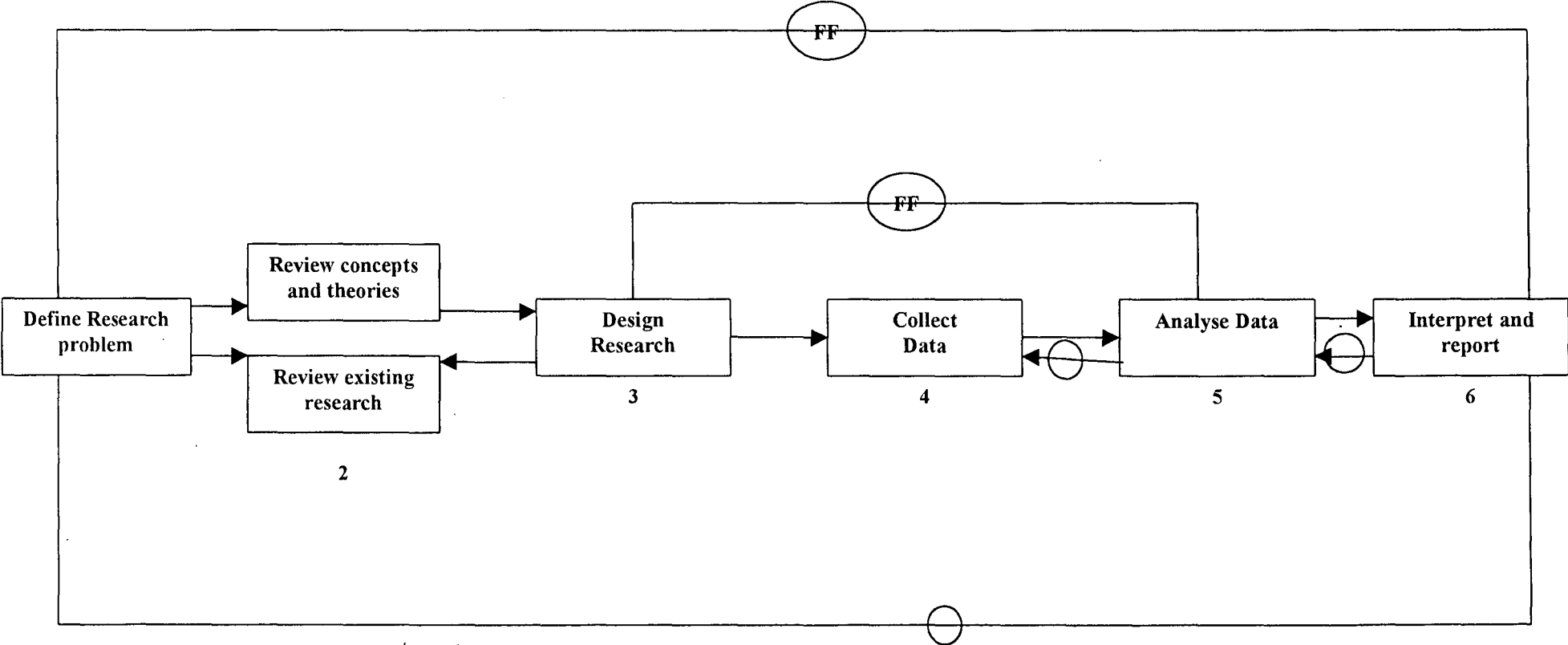
F = Feed back

FF = Feed forward

research is undertaken in order to gain new insights into an already existing phenomenon, descriptive research aims to accurately portray the characteristics of individual situations or groups, diagnostic research determines frequency of occurrence of an object or its association with another object, while hypothesis research aims to test hypotheses of causal relationships between variables. The present work of research, which is mainly data-based is more of the second type, aiming as it does at a classification and description of linguistic speech sounds in Andamanese. However, it is also diagnostic to a certain extent, as the analysis also focuses on the occurrence of certain sounds in various positions in the language.

Throughout the ages, as stated in the beginning, methodology has been a topic of serious debate amongst academicians. In linguistics and language studies, three clear phases may be distinguished: (i) pre-structuralist or traditional referring to the period before Saussure (ii) the structuralist trend emerging from the late nineteenth and early twentieth century onwards and (iii) the cognitive or post-structuralist phase, which became prevalent from the mid 1950's, especially with Noam Chomsky's ideas of transformational generative grammar.

For the traditionalists, language as a discipline was inferior to the twin topics of logic and philosophy. Focusing on the written, rather than the spoken form of writing, linguistic description lacked scientificity, objectivity and precision. During the nineteenth century, the study of language came to be known as "philology" and was mainly a comparative exercise, i.e. "the analysis of similarities and differences within a family of related languages" (Abrams, 1993, p.103). At the same time, language was also studied as a chronological history - analysis of the evolution of language families and changes within particular languages over a period of time - this is known as the diachronic method of language study. These methods initiated the first steps towards a more scientific study of language. By the end of the nineteenth and the beginning of the twentieth century however, another new trend was beginning to emerge, with concentration on the systematic interrelations between the components of a single language at a particular time, rather than over a period of time. This synchronic study gained its major impetus from the structuralist system of the study of language.

The emergence of structuralism in the late nineteenth and early twentieth century, in particular through the contributions of Ferdinand de Saussure, therefore, marked a tremendous advancement in the scientific study of language. For the structuralists, any kind of linguistic analysis is conducted

as empirical studies based on data, leaving little room for selectivity. It is therefore a data based objective, inductive and empirical study of language (Kovacs, 1981, p.211) and grammar is here derived from a process of inductive generalisation. The aim of such an approach is to provide a framework for the acquisition of reliable knowledge about language, rather than a systemisation or explanation of things that are already known or are assumed to be known (Garvin, 1972, p.7). Further, structuralists feel that any kind of language and data analysis had to begin from the sound system of the language, which allows scientific statements to be made. They construct models in order to learn about various objects. Models may be defined as constructed representation of concepts to describe and explain their structure and for function. They are of three types:

a) models which have the objective of undertaking studies of the concrete process and phenomena in languages. This kind of study was first attempted by the Prague structuralists.

b) research models, first made by the American descriptivists, which aim to lead linguists to the discovery of research phenomena.

c) models, the object of which are linguistic descriptions rather than processes and phenomena in languages or research procedures (Apresjan, 1973, p.112).

The second type of model, i.e. research models can be further sub-divided into three groups based on the nature of the primary material:

(a) whether it is only text i.e. all the facts about the language are drawn from the text. These are known as classical decipherment models.

(b) whether it is a mixture of text as well as grammatical sentences. In this case, the linguist takes the help of an informants to decides whether the sentences are grammatical or not.

(c) whether it is not only the above two but in addition contains semantic invariants, i.e. in addition to the above, the informant in this case also determines whether any two sentences have the same meaning (ibid., p. 112).

Against the background of the structuralists emphasis on form and surface structure a new revolution came into action in the field of linguistic theory i.e. Chomskyan Linguistics. Chomsky succeeded in replacing many of the assumptions that were popular in structuralism. According to him, the

structuralists merely described, but did not explain linguistic facts. His contribution to linguistics is thus two fold. First, he questioned the goal towards which structuralist linguistic theory was oriented, and redefined the aims and function of grammar and secondly, he defined the form that this new grammar ought to take. Chomsky formalised the properties of his alternative system of grammatical description - transformational - generative grammar - with mathematical rigour and precision (Ballen, 1971, pp.392-393). The entire concept of grammar was redefined and new currents of thought were generated. Earlier structuralist theories, as discussed above, aimed to 'discover' or extract a grammar from the data collected from informants, and the ultimate goal of linguistics was to find rules to make up a perfect, objective language. Chomsky rejected these notions outright. For him, the grammar of a particular language is, in effect, a hypothesis on the principles of sentence formation in that language and represent a factual claim concerning the rules underlining the data that has been collected. Truth or falsity of the hypothesis is decided according to how well the grammar succeeds in organising data, how satisfactory an explanation it provides for the empirical observation, how far reaching the generalisations are and how successfully it can accommodate new data (Ibid.). In all, Chomsky therefore replaced

'discovery' with 'evaluation' and 'inductive' with 'deductive' emphasising all the while on ideas of rationality.

This present research work on the speech sounds of Andamanese language however is primarily a descriptive data - based study.

2.2 Aims and objectives of the present study

As already discussed in the preceding chapter, this present study aims to provide a descriptive study of the speech sounds in Andamanese, which would serve as a valuable base from which further detailed research on the language can be undertaken. Moreover, as this particular language is currently on the verge of extinction, it becomes all the more imperative that a detailed linguistic study is undertaken as soon as possible, before it is too late and Andamenese language is totally lost to us.

2.3 Delimiting the scope of research

Detailed research on all aspects of any particular language would naturally be a time-taking process, and Andamanese is no exception. Rather, in the case of Andamanese, the problems encountered in attempting such study become immense mainly due to three reasons. Firstly, undertaking fieldwork is a problem, as it requires government clearance to go to the field

and collect data. It also involves a lot of expenditure, which is difficult to arrange for, unless some kind of financial assistance is provided. Secondly, Andamanese being a language with few remaining native speakers, and with most of the younger generation preferring to speak dialects of Hindi, it is difficult to get data from a wide range of informants. And lastly, since not much work has been done on the language, there is little background material that one can rely on. A detailed study of this language will not only involve large amount of data collection but also an analysis of language at all levels i.e. phonetic, phonological, morphological and semantic. MPhil being a time-bound research programme of approximately a year, it is naturally not possible to do an advanced study on all these aspects. For the purpose of the present study, I have therefore limited the scope to a phonetic as well as bit of phonological analysis of the language.

2.4 Methodology of the present study

This present study has been conducted in two steps. The first step involves the elicitation of data and the second step involves an analysis of collected data. Data elicitation further has two parts:

(a) preparation and collection

(b) transcription

Preparation and collection: Data is primarily of two types - primary and secondary. Primary data are those collected from the source/speaker for the first time by the researcher and are thus original in character. Secondary data, on the other hand, refers to data already collected and/or reported in literature therefore having already been processed. Time paucity and financial constraints were major factors due to which no personal fieldwork of the region could be undertaken. The data used is therefore *primarily secondary*, derived out of four sources:

(1) four cassettes containing approximately 500 words, recorded from the archives of Central Institute of Indian Languages (C.I.I.L.), Mysore. This data had been collected in 1993 by (C.I.I.L.), in order to prepare an Andamanese primer and for this present study, the data was recorded by qualified technicians in the sound - proof lab in the Institute. Five informants provided the necessary data - Noh Senior (Chacha) (male), Noh Junior (male), Jo (boy), Tong (girl), Likhu (male).

(2) data collected by my supervisor, Prof. Vaishna Narang during her field trip to the Andaman and Nicobar Islands during 1996-97.

(3) two primers and a glossary of Hindi-Andamanese words, with their meaning and phonetic pronunciation published by C.I.I.L., Mysore.

(4) a basic word list already available from S. Manoharan's seminal study of the Andamanese language (Manoharan, 1989, pp.109-137).

Transcription: The second step in data elicitation is transcription. Transcription is a method of writing down speech sounds in a systematic and consistent manner, and this is also known as 'notation' or 'script' (Crystal, 1980, p.361). Transcription aims to record as accurately as possible all the utterances that the writer can perceive and identify in a stream of speech. Two main types of transcription are recognised- phonetic (broad) and phonemic (narrow). In the former, sounds are symbolised on the basis of their articulatory or auditory identity, while in the latter, the only units symbolised are those with a linguistic function, i.e. the phonemes. Transcription can never be perfect, however, experienced and highly trained linguistics can approximate gross phonetic facts at a more detailed level. Further, no two listeners, regardless of their competence, will ever transcribe all utterances exactly the same.

Keeping in mind these limitations, the collected data was transcribed by myself, and the entire list of words was then checked and rechecked thrice by a group of friends. At times, two of us would transcribe the same word simultaneously, thereby reducing the scope of error. For the transcription, I have used the International Phonetic Alphabet (IPA) symbols, an accepted ideal standard for transcription. Further, I have undertaken both narrow phonemic transcription as well as broad phonetic transcription.

The second step in the procedure is the analysis of data; which is undertaken after the entire process of transcription is over. As far as the

present study is concerned, the raw data was first categorised on the basis of initial sounds - for example - all words starting with /p/ were grouped into one. Then the minimal and sub-minimal pairs were extracted, and on the basis of that phonemic chart of vowels and consonants were made, and the data was classified in order that it could be analysed at a phonetic and phonological level. Each phoneme was classified on the basis of its occurrence in different positions, i.e. initial, medial, and final.

2.5   Chapterisation

The dissertation is divided into four chapters. The first chapter deals with history of the people and their language, existing research, aims and objectives and attempts to set out the guidelines and framework within which the study will be conducted. The second chapter undertakes a detailed description of methodology used in the research process. The third chapter deals with the analysis of speech sounds i.e. segmental phonemes, minimal and sub-minimal pairs, diphthongs, nasalisation, consonant sequence, syllabic sequence. The last chapter is a brief summary and conclusion, which will bring together all the data and analysis into some form of concrete logical conclusion.

CHAPTER THREE

Analysis and Description of speech sounds

A detailed analysis and description of speech sounds in Andamanese is being dealt in this chapter. The phonemic distribution and phonetic features of each one of the phonemes are given together. The first section deals with the consonants in which each one of the consonant is described primarily on the basis of articulatory terms. The second section deals with the vowel phonemes in similar format.

3.1 Segmental Phonemes:

The phonemic system of Andamanese is made up of thirty-two segmental phonemes of which twenty-four are consonants and eight are vowels. The inventory of segmental phoneme is as follows.

3.2   Consonants

As stated earlier twenty-four consonants can be recognised in this language. The consonants are classified on the basis of manner and point of articulation as given in the following IPA chart of consonant phoneme. (given in the following page). The vertical columns show the place of articulation and horizontal rows, the manner of articulation. The consonants require a certain degree of constriction in the vocal tract - either total occlusion or a narrowing. It is these different degrees of closure, which are known as manner of articulation.

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Phonemic Chart: Consonants

Place of Articulation →

Manner of Articulation	Bilabial		Alveo Dental		Alveolar		Retroflex		Palatal		Velar		Post Velar	
	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd
S Plosive T Unasp	P	b	t	d			ṭ	ḍ			k	g		
O asp P	pʰ		tʰ				ṭʰ				kʰ			
Affricates									c	j				
Nasals		m				n				ɲ		ŋ		
Trill						r								
Fricative					s				ʃ				h	
Lateral						l								
Approximants		w								y				

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3.2.1 Description and distribution of distinctive consonant phonemes

Stops:

It is a term used in the phonetic classification of speech sounds on the basis of their manner of articulation. Stop is produced with total occlusion in the oral cavity and with the velum raised so that no air escapes through the nasal passage. Because of these two closures the eggressive air stream is momentarily completely dammed up, and unable to get through the vocal tract at all. The air is therefore, compressed behind the point of articulation, and will escape with a small explosion when the active articulator is removed from the contact with passive one. There are twelve stop consonant phonemes in this language. They are represented by /p/, /b/, /ph/, /t/, /d/, /t^h/, /ʈ/, /ɖ/, ʈ^h/,

/k/, /g/ and /k^h/. A brief articulatory description of each one of them on the basis of place and manner criteria is given below.

/p/ is a voiceless unaspirated bilabial stop. In articulating the Andamanese /p/ the air passage is completely blocked by closing the lip and raising the soft palate; the air is compressed by pressure from the lungs, and when the lips are opened the air suddenly escapes from the mouth, and in doing so makes a popping sound the vocal cords do not vibrate as a result voiceless sound is

produced. Regarding its distributions, it occurs in all the positions, viz. initial, medial and final

Initial	Medial	Final
/pɔːr/ 'bamboo'	/oːprɔ/ 'window'	/dup/ 'jingam tree'
/piːr/ 'a cane'	/ərəkərapʈoe/ 'waist bone'	/biːp/ 'dust'

Allophonic Variants: /p/ has two allophones (p), and (p').

(p) voiceless unaspirated bilabial stop occurs in all the positions as discussed above.

(p') voiceless unaspirated unreleased bilabial stop, sometimes occurs in the syllabic final position.

/suːp'/ 'basket',   /kəllaʈop'/ 'snail'   /keːp'/ 'spring'

/b/ is a voiced unaspirated bilabial stop. The Andamenese /b/ is produced exactly like /p/ described above, except that the force of exhalation is weaker and the vocal cords vibrate producing a voiced sound. Regarding its distributions, it occurs only in two positions, viz. initial and medial. It has no allophonic variation.

Initial	Medial
/bol/ 'leaves'	/Jubu/ 'fly'
/beːmo/ 'butterfly'	/kɔwbu/ 'umbrella'

/pʰ/ is a voiceless aspirated bilabial stop. This sound is produced in the same way as that of /p/ except for the fact that sound is aspirated one. It gives a strong puff of air exhaled simultaneously with the release of the air stream stopped in the oral chamber. Regarding its distributions, it occurs only in two positions, viz, initial and medial. It has no allophonic variation.

Initial	Medial
/pʰaːl/ 'wave'	/ʈɛpʰe/ 'octopus'
/pʰaʈka/ 'crow'	/ʈaːpʰo/ 'type of tree'

/t/ is a voiceless unaspirated alveo-dental stop. It is articulated when the air passage is completely blocked by raising the soft palate and raising the tip of the tongue to touch the teeth-ridge, the air is compressed by pressure from the lungs, and when the tongue is removed from the teeth-ridge, the air suddenly escapes through the mouth, and in doing so makes a plosive sound. The vocal cords do not vibrate, as a result voiceless sound is produced. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

Initial	Medial	Final
/teremlɔʈ/ 'stick'	/mɔtkəbɔ/ 'skin'	/ʈijiːt/ 'horizon
/tutumɔl/ 'fan'	/mettaymul/ 'milk'	/koːt/ 'laugh'

Allophonic Variants:

/t/ has to allophones (t) and (t¹).

(t¹) voiceless unaspirated unreleased alveo-dental, sometimes occurs in the syllabic final position.

/erbaːt'/ 'extinguish fire'   /tirpileːɛɔt'/ 'all teeth'   /ʈɔkʰoteːt'/   'tree leaves'

(t) voiceless unaspirated alveo-dental stop occurs elsewhere.

/d/ is a voiceless unaspirated alveo-dental stop. It is articulated in the same manner as that of /t/ except that the force of exhalation is weaker and the vocal cords are made to vibrate so that voice is heard. Regarding its distributions, it occurs only in two positions i.e. initial and medial. It has no allophonic variation.

Initial	Medial
/du/ 'that distant'	/pʰuːdot̪əŋ/ 'palm tree'
/di/ 'this'	/hutkʰdoe/ 'globe'

/tʰ/ is a voiceless aspirated alveo-dental stop. It is articulated in the same way as that of /t/ except for the fact that the sound is aspirated one. Regarding its distributions, it occurs only in the two positions, viz. initial and medial. It has no allophonic variation.

Initial	Medial
/tʰoruːbe/ 'frog'	/jetʰo/ 'a sea snake'
/tʰiː bel/ 'broom'	/mɔcotʰaro/ 'cock'

/t̪/ is a voiceless unaspirated retroflex stop. It is produced when the tip of the tongue is curled back in the direction of the front part of the hard palate. Vocal cords are held wide apart, as a result a voiceless sound is produced. Regarding its distributions it occurs in all the positions, viz. initial medial and final.

Initial	Medial	Final
/ʈəuɖe/ 'rat'	/caːyʈɔlo/ 'flower'	/aːʈ/ 'fire'
/ʈɛle/ 'elephant'	/tanʈɔ/ 'necklace'	/perɛːʈ/ 'an ant'

Allophonic variants:

/ʈ/ hs two allophones (ʈ) and (ʈ'),.

(ʈ) voiceless unaspirated retroflex stop occurs elsewhere

(ʈ') voiceless unaspirated unreleased retroflex stop sometimes occurs in syllabic final position.

/ʈɔkʰoteːʈ'/ 'cloud'   /eraː batʈ'/ 'tail'

/ɖ/ is a voiced unaspirated retroflex stop. It is articulated in the same way as that of /ʈ/ except for the fact that vocal cords vibrates and the voiced sound is produced. Regarding its distributions, it occurs only in the initial and medial positions. It has no allophonic variation.

Initial	Medial
/ɖiːu/ 'run'	/pʰaːlɖuo/ 'big wave'
/ɖuːm/ 'contipede'	/tutɖiːlo/ 'island'

/ʈʰ/ is voiceless aspirated retroflex stop. It is produced in the same way as that of /ʈ/ except for the fact that the sound is aspirated one. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final. It has no allophonic variation.

Initial	Medial	Final
/ʈʰɛbala/ 'elbow'	/ʈʰɛrcotuʈtʰɔmo/ 'cap'	/tokomeʈʰ/ 'pillow'
/ʈʰimikʰu/ 'forest'	/ʈʰɔkotɔraceʈʰo/ 'root of trees'	/teremiʈʰ/ 'light'

/k/ is voiceless unaspirated velar stop. During its articulation the air passage is completely blocked by raising the back of the tongue to touch the fore part of the soft palate, the soft palate being at the same time raised so as to shut off the nose passage; the air is compressed by pressure from the lungs and when the contact of the tongue with the palate is released by lowering the tongue,

the air suddenly escapes through the mouth and in doing so makes a plosive sound. The vocal cords do not vibrate; as a result a voiceless sound is produced. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

Initial	Medial	Final
/kɔːlɔ/ 'eagle'	/pʰikku/ 'a badder fish'	/pʰiluk/ 'a tree'
/keːr/ 'black ant'	/totkɔwbaːlɔ/ 'field'	/mɔːrɔk/ 'an oyster'

Allophonic Variants:

/k/ has two allophonic variants (k) and (k')

(k') Voiceless unaspirated and unreleased post velar stop sometimes occurs in the syllabic final position.

/reːk'/ 'big crab'   /luk'/ 'lift'   /erteːk'/ ' middle portion of hunting bambo.

/k/ voiceless unaspirated velar stop occur elsewhere.

/g/ is a voiced unaspirated velar stop. It is formed exactly like that of /k/ except that the force of exhalation is weaker and the vocal cords are made to vibrate so that voiced sound is produced. Regarding its distribution it occurs only in the medial position. It has no allophonic variants.

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+--------------------------------------------------+
|                    Medial                        |
|                                                  |
|   /uetagugum/   'flying something'               |
|                                                  |
|   /otɔngeralottɔm/   'uprooting trees'.          |
|                                                  |
+--------------------------------------------------+
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/kʰ/ is a voiceless aspirated velar stop. It is articulated in the same way as that

of /k/ except for the fact that the sound is an aspirated one. Regarding its

distributions, it occurs only in two positions i.e. initial and medial. It has no

allophonic variation.

Initial	Medial
/khiːnɔ/ 'grass'	/ʈakʰototɔm/ 'branch'
/kʰeɳe/ 'cat'	/ercnimikʰa/ 'bell'

Affricates

A term used in the classification of consonant sounds on the basis of their

manner of articulation. It refers to a sound, produced when the air -pressure

behind a complete closure in the vocal tract is gradually released, the initial

release produces a plosive, but the separations, which follow, is sufficiently

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slow to produce audible friction, and there is thus a fricative element in the sound also. However, the duration of friction is usually not as long as would be the case 'for an independent fricative sound. If it is very brief indeed the term 'affrication ' is used. There are only two affricate consonant phonemes in this language- /c/ and /j/. A brief articulatory description of each one of them one the basis of place and manner criteria is given below.

/c/ is a voiceless unaspirated palatal affricate. In producing this sound, the air - passage is completely blocked by raising the soft palate and by raising the tip and blade of the tongue, air is compressed by pressure from the lungs. When the tongue is removed from the teeth ridge, the air escapes through the mouth, as a result some friction is heard. The vocal cords do not vibrate, as a result voiceless sound is produced. Regarding its distributions, it occurs in all the positions, viz. initial medial and final. It has no allophonic variants.

Initial	Medial	Final
/cokbiː / 'fins'	/urcɔ/ 'net'	/kɔʈpʰeːc/ 'earthen pot'
/carrolo/ 'parrot'	/ucle/ 'shirt'	/ʈɛwterbec/ 'cloud'

/j/ is a voiced unaspirated palatal affricate. It is produced exactly as /c/ except that the vocal cords are made to vibrate so that 'voice' is produced during the articulation of the sound. Regarding its distributions, it occurs only in initial and medial positions. It has no allophonic variants.

Initial	Medial
/julu/ 'clothes'	/ijoːkke/ 'eat'
/jiːrmu/ 'horse'	/ejire/ 'bad words'.

Nasals:

It is a term used in the phonetic classification of speech sounds on the basis of manner of articulation. It is a type of consonant segment, which, like a stop, is produced by a structure of complete closure; a nasal, however, unlike a stop, has no simultaneous velic closure. The air-stream, therefore, though prevented from passing through the mouth, is not dammed up; it is entirely diverted through the nose. There are four nasal consonants in this language: /m/, /n/, /ɲ/ and /ŋ/. A brief articulatory description of each one of them is given below on the basis of place and manner criteria.

/m/ is a voiced bilabial nasal. During the articulation of /m/, the two lips are brought together and the oral passage is blocked completely. The soft palate is

lowered to let the compressed air from the lungs pass though the nasal passage freely. The tongue is held in the neutral position. When the lips are opened, some portion of the compressed air also passes through the mouth, leading to a weak plosion. The vocal cords remain vibrating, as result voiced sound is produced. Regarding its distributions, it occurs in all the positions, viz., initial, medial and final.

Initial	Medial	Final
/mino/ 'potato'	/jemo/ 'a shark'	/duːm/ 'centipede'
/mɔcco/ 'hen'	/ʈoymo/ 'grasshopper'	/taːtom/ 'ground'

Allophonic Variants:

/m/ has two allophones: (m) and (m')

(m') a voiced unreleased bilabial nasal, sometimes occur in the final syllabic position.

/miyaytutculojɔm'/   'tamarind tree'   /okɔːtʰɔm'/   'sneezes'

(m) a voiced bilabial nasals occur elsewhere.

/n/ is voiced alveolar nasal consonant. It is formed when the mouth-passage is completely blocked by raising the tip of the tongue to touch the teeth-ridge.

The soft palate is lowered to that, when air is emitted by pressure form the lungs, it passes out through the nose; the vocal cords are made to vibrate to that 'voice' is produced. Regarding its distribution it occurs in all the positions, viz, initial, medial and final.

Initial	Medial	Final
/nyure:/ 'fish'	/rɛ:nmu/ 'iron'	/it^{h}u:n/ 'drop'
/nip^{h}o/ 'small mosquito'	/rɛ:nmo/ 'tuberculosis'	/caecɔn/ 'hammer'.

Allophonic variants:

It has two allophones (n') and (n).

(n') voiced alveolar unreleased nasal consonant, sometimes occur in the syllabic final position.

/kata:n'/ 'stars'   /pərain'/   'water shower'

(n) voiced alveolar nasal occur elsewhere.

/ɲ/ is a voiced palatal nasal. This sound is produced by the hard palate and front of the tongue. The breath stream is interrupted at some point in the oral

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cavity while being allowed to enter the nose and create resonance. The soft palate is lowered so that the air passes through the nose. The vocal cords are made to vibrate; as a result 'voice' is produced. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final. It has no allophonic variants.

Initial	Medial	Final
/ɲoːco/ 'house'	/ibeːliɲɲe/ 'cut'	/ɔɲ/ 'tree'
/ɲyoː/ 'camp'	/raːtkɔlɔɲo/ 'he slipped'	/ŋuːɲ/ 'dew'

/ŋ/ is a voiced velar nasal. It is produced when the mouth-passage is completely blocked by raising the back of the tongue to touch the fore part of the soft palate, the soft palate is in its lowered position, so that when the air is emitted by pressure from the lungs it passes through the nose: the vocal cords are made to vibrate, so as a result 'voice' is produced. Regarding its distributions, it occurs in all the positions, viz. initial, medial and final.

Initial	Medial	Final
/ŋet̪en/ 'dark'	/t̪oŋkʰuː/ 'glass'	/buːruŋ/ 'hill'
/ŋuːɲ/ 'dew'	/keːŋe/ 'cat house'	/taːrboriŋ/ 'aeroplane'

Allophonic variants:

It has two allophones (ŋ') and (ŋ)

(ŋ') a voiced velar nasal, sometimes occurs in the syllabic final position

/tɔylocoŋ'/   'deer'   /mietɛŋ'/

'darkness'

/ŋ/ voiced velar nasal occur elsewhere.

Liquids:

It is a term used by the phonetician in the classification of speech sounds on the basis of manner of articulation. It is articulated by the tip of the tongue touching the teeth-ridge in such a way that though there is a complete closure in the middle of the mouth, yet a passage for the air is left on one or both sides of the tongue; the soft palate is in its raised position; the vocal cords are made to vibrate so that 'voice' is produced. There are two liquid consonants in this language: /l/ and /r/

/l/ is voiced alveolar lateral. It is produce by stricture of complete closure in the centre of the vocal tract, so that there is lateral passage of the air-stream, round the side or sides of the obstruction. The soft palate is raised to sheet off

the nasal passage. The sides of the tongue are lowered so that the air is free to escape along the sides of the tongue without any friction. The vocal cords are made to vibrate so that 'voice' is produced. Regarding its distributions it occurs in all the positions, viz. initial, medial and final.

Initial	Medial	Final
/le:le/ 'cradle'	/bi:lu/ 'ship'	/tʰumel/ 'honey
liʈkʰɛmo/ 'water frog'	/bolmɔ/ 'leech'	/ʈa:l/ 'gold'

/r/ is voiced alveolar trill. It is produced from a stricture of intermittent closure. The tip of the tongue is loosely held near the teeth ridge and set in vibration by the action of air stream. The soft palate is raised to close the nasal passage. The vocal cords are made to vibrate as a result 'voice' is produced. Regarding its distributions it occurs in all the positions, viz., initial, medial and final.

Initial	Medial	Final
/rɛ:pʰe/ 'food/rice'	/carrolo/ 'parrot'	/ke:r/ 'snore'
/rɛ:nmu/ 'iron'	/tereŋ/ whole'	/i:r/ 'wave'

Fricative:

It is a term used in the phonetic classification of consonant sounds on the basis of their manner of articulation. It is articulated with a stricture of close approximation; that is the two articulators are brought so close to each other that the gap between them is very narrow with audible frictions. There are three fricative found in this language: /s/, /s/, and /h/

/s/ is voiceless alveolar fricative. It is articulated by the blade of the tongue against the teeth - ridge, the front of the tongue being at the same time somewhat raised in the direction of the hard palate. The teeth are close together; the sound cannot be pronounced with the mouth wide open. The space between the blade of the tongue and the teeth-ridge is extremely narrow. The soft palate is in its raised position, and the vocal cords do not vibrate. Regarding its distribution, it occurs only in two positions, viz. initial and medial.

Initial	Medial
/suːbi/ 'snake'	/ɔːrsuːbi/ 'black sea snake'
/siːro/ 'ocean'	/nuttise/ 'bed sheet'

/s/ is voiceless palatal fricative. It is articulated by the tip and blade of the tongue against the hind part of the teeth-ridge, the whole of the main body of the tongue being simultaneously held in a raised position. The teeth are close or fairly close together; the sound cannot be properly pronounced with the mouth wide open. The space between the blade of the tongue and the teeth ridge is narrow, though wider than for /s/. On the other hand the air channel in the region of the palate is narrower than in case of /s/. The soft palate is in its raised position, and the vocal cords are made to vibrate. Regarding its distribution, it occurs in all the position, viz., initial, medial, and final.

Initial	Medial	Final
/ʃurum/ 'a crab'	/cerʃo/ 'sneeze'	/adiʃ/ 'god'
/ʃotta:ymuniyo/ 'people'	/uʃuy/ 'deep'	/adiʃ/ 'god'

/h/ is a voiceless post velar fricative. In the articulation of this sound, the tongue remains in the neutral or relaxed position leaving the oral cavity wide open. In fact the mouth is held in vowel position and the air stream in the lungs passes through the wide open glottis and the soft palate is raised to close the nasal passage. The vocal cords do not vibrate. Regarding its distribution, it occurs only in the initial position.

Initial	
/hitkətʰa/ 'circle'	/hələteracol/ 'light'

Semi-Vowels

They are defined as independent vowel-glides in which the speech - organs start by forming a weakly articulated case or fairly close vowel and immediately more to another sound of equal or greater prominence; the initial vowel position is not held for any appreciable time. It is the rapid gliding nature of these sounds, combined with the use of rather weak force of exhalation, which renders them consonantal. There are two semi-vowels in this language: /w/ and /y/.

/w/ is a voiced labial semi-vowel. In articulation of /w/ the lips are closely rounded; there is considerable raising of the back of the tongue in the direction of the soft palate; the soft palate is in its raised position; the vocal cords are made to vibrate so that voice is heard. Regarding its distributions, it occurs in all the positions; viz. initial, medial and final.

Initial	Medial	Final
/weraːkuikɔm/ 'smokes cigratte'	/kolɛwbe/ 'laugh'	/biyuːw/ 'light'
/wetaːrkʰaidueson/ 'listening to radio'	/kɔwbu/ 'umbrella'	/ɖulaːw/ 'ghost'

/y/ is a voiced palatal semi-vowel. In articulation of this sound the speech-organs start at, or near the position of short' /i/ and immediately leave this for some other sound of equal or greater prominence. The front part of the tongue is raised rather high in the direction of the hard plate, the lips are spread; the soft palate is in its raised position; the vocal cords are made to vibrate, so that voice is heard. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

Initial	Medial	Final
/yuʃu/ 'fresh water snake'	/maːye/ 'father'	/birey/ 'a bat'
/yele/ 'return'	/caːyʈɔlo/ 'flower'	/ulluːy/ 'whistle'

The Phonetic variation chart and Phonemic Distribution chart of given in the following pages respectively.

Phonetic Variation Chart: Consonants

Place of Articulation →

Manner of Articulation ▼	Bilabial		Alveo Dental		Alveolar		Retroflex		Palatal		Velar		Post Velar	
	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd	Vl	Vd
S Plosive T Unasp O P Asp	pp¹ pʰ	b	tt¹ tʰ	d			ʈʈ¹ ʈʰ	ɖ			kk¹ kʰ	g		
Affricates									c	j				
Nasals		mm¹				nn¹				ɲ		ŋŋ¹		
Trill						r								
Fricative					s				ʃ				h	
Lateral						l								
Approximants		w								y				

Phonemes Distribution Chart: Consonants

	Initial	Medial	Final
p	√	√	√
b	√	√	X
p^h	√	√	X
t	√	√	√
d	√	√	X
t^h	√	√	X
ṭ	√	√	√
ḍ	√	√	X
$ṭ^h$	√	√	√
k	√	√	√
g	X	√	X
k^h	√	√	X
c	√	√	√
j	√	√	X
s	√	√	X
ʃ	√	√	√
h	√	X	X
m	√	√	√
n	√	√	√
ɲ	√	√	√
ŋ	√	√	√
l	√	√	√
r	√	√	√
w	√	√	√
y	√	√	√

3.2.2 Contrast of minimal and sub-minimal pairs

Voiceless Vs Voiced

[p/b]

/pɔːr/	'bamboo'	/pɛrɛːt/	'an ant'
/bɔːr/	'wind'	/bereːt/	'a frog'

[ʈ/d]

/ʈiː/	'place'
/di/	'this'

[c/j]

/celmo/	'a flower'	/etbocokke/	'cut'
/jelmo/	'a worm'	/etbojokke/	'sharpen'

Aspirated Vs Unaspirated

[p/pʰ]

/puroː/	'a stone'
/pʰuroː/	'owl'

[t/tʰ/

/erbaːtte/	'put off light'
/erbaːttʰe/	'wing of fish'

[ʈ/ʈʰ]

/ʈumeːl/	'bee hive'
/ʈʰumeːl/	'honey'

[k/kʰ]

/kiːno/	'honey'
/kʰiːno/	'grass'

Nasals:

[m/ɲ]

/myo:/	'rock'
/ɲyo:/	'camp'

[m/ŋ]

/ɔ:m/	'a tree'
/ɔ:ŋ/	'jungle plantain tree'

[n/ɲ]

/niyo/	'jaw'
/ɲiyo/	'they'

[n/ŋ]

/pʰon/	'a big see crab'	/niyo:wbe/	'they'
/pʰoŋ/	'cave'	/ŋiyo:be/	'you'

Alveolar

[r/l]

/bɔ:r/	'wind'	/bo:r/	'thorny creeper'
/bɔ:l/	'tree'	/bo:l/	'sweet water

snake'

3.2.3 Consonant Sequence

Andamanese language permits only a sequence of two consonants.

Distribution of consonant sequence.

Word initial consonant sequence are not found in this language with exception of ɲy-. This language is also marked by the absence of word final consonant sequence. However CC sequence in word medial position is found in abundance.

Possible word – initial consonant sequence

Cluster Starting with	Example	Gloss
ɲy-	ɲyo:	camp
ɲy-	/ɲyu:wre/	fish

Possible word-medial consonant sequences are found in abundance in word-medial position. The table below gives the list of consonant sequences occurring in word-medial position.

Sequence Starting with	Example	Gloss
-pb-	ʈɔ:pbe	bath
-pʈ-	jire:pʈo:p	wasp
-pr-	o:prɔ	window
-pl-	Ontoplɔ	one
-tb-	etbo:cokke	sharpen
-tpʰ-	to:tpʰollo	beach
-tɖ-	tutɖi:lo	island
-tk-	etkɔwbo	bark of tree
--tkʰ-	hutkʰudoe	globe
-tc-	Etcow	fruit of tree

-tm-	Celetmɔ	bread
-ta-	əbilikʰutɲio	/rayer room/temple
-tr-	etrakʰo	edge of bow
-tl-	ŋutli:p	skin your
-ʈb-	kɔʈbe:lo	a sea snake
-ʈpʰ-	kɔʈpʰe:c	eastern pat
-ʈt-	kɔ:ʈtotco	white ant hive
-ʈɖ-	a:ʈɖo:p	fire wood chips
-ʈkʰ-	-iʈkʰemo	water frog
-ʈc-	miyaytuʈculojɔmi	tamarind tree
-ʈm-	kɔʈmɔra:y	white art
-ʈl-	a:ʈluru	fire
-kb-	cokbi:	fins
-kt-	Ektertu:t	push
-kʈ-	ekʈene	pull
-kkʰ-	bilikkʰ	spider
-kc-	ertɛkcɔ:kɔ	middle one
-kn-	ekno:ʈʈe	pero
-kɲ-	ekɲe:le	puruse
-kŋ-	ekŋɔ:le	hoe
-kr-	krinkɔ:so	strait island
-kl-	iklɔ:ʈʈe	insert
-kʰd-	hirkʰdoe	round
-ckʰ	Usumulcaytarckʰo	keeping something on top
-cm-	kʰulicmo	a thorny crepper
-cl-	ɖi:dettecla:w	jungle ghost
-sɖ-	tʰe:sdu	my
-sy-	asyu:wbi	who
-mb-	emboya	marriage
-mʈ-	cɔmʈɔm	suparee tree
-mkʰ-	ɲɔmkʰoɲ	your arbet

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-nt-	caetəʈeituntɔplɔ	One packet
-ntʰ	utuːntʰiritalille	Swinging her children
-nʈ-	pəroinʈoɲ	bread
-ng-	oʈɔngeralottɔm	uprooting trees
-nd-	unɖujiroːl	shivering
-nk-	koːnkuro	full hand
-nc-	ʈhiːtaŋɔroiʈuncuimo	house lock
-nm-	rɛːnmu	iron
-nr-	ŋɔnrɔːno	your ankle
-ŋt-	erʈɔːŋtutke	thorn in branch
-ŋʈ-	ʈɔːŋʈutʰijut	shade of trees
-ŋk-	tʰoŋkurɔ	my palm
-ŋkʰ-	ʈoŋkʰu	glass
-ŋm-	eŋmɔcom	scratching
-ŋl-	uʈɔːŋleurameʈʰum	putting soil between trees
-ŋb-	tebolbe	run away
-lt-	termoltərciʈallo	Zig-zag line
-lɖ-	paːlɖuwo	big wave
-lm-	jiːlmo	land tortoise
l ŋ-	ʈelŋe	mosquito
-rp-	tʰɛrpili	my tooth
-rb-	tʰɛrbuːjum	ear ring
-rpʰ	tʰɛrpʰaːra	parting of hair
-rt-	pirtaːrɛycopobaːlɔ ŋ	rainbow
-rʈ-	kʰidiːrʈɔɲ'	coconut tree
-rʈh	penoʈʰisorʈʰi	cot
-rɖ	tʰiʈerɖitʰ	gap in the wall
-rk-	tʰɛrkɔtʰojum	nose ring
-rkʰ-	kʰeŋetʰirkʰuru	big cat
-rc	tʰɛrcotuʈ tʰɔmo	cap

-rj	t^hɛjuk^{h}ubɛc	my moustache
-rs-	ɔːrsuːbi	a black sea snake
-rm-	t^hɛrmine	My stomach
-rn-	kaːrnɔ	Type of potato
-rɲ-	erɲoboːrɔɲ	humming
-rŋ-	erŋoːtra	twinkling
-rl-	t^hɛrlɔʈ	my stick
-rw-	ərwə	boat
-wb-	nɔwbaːo	water snake
-wp^h-	ɛlɛːwːp^{h}o	thick
-wt-	tɔwtaːmme	front portionof hunting bamboo
-wʈ-	ɛlɛːwʈeːʈ	short one
-wɖ-	ʈɔwɖe	rat
-wc-	diyuːwcoɲ	A shark
-ws-	liyuːwsi	surmai fish
-wm-	biyuːwmoy	torch
-wn-	ɲawnobɔ	you sit down
-wr-	ɛraːwrɔ	tail
-wl-	karaːwlu	snail
-yp-	kɛyp	red mud used to decorate
-yb-	caːybe	what
-up^h-	cabaːyp^{h}e	job
-yk^h-	caːyk^{h}ute	why
-yc-	ɛycorɔːk	ladder
-yl-	ʈɔylacoɲ	deer

Heterogeneous Consonants Sequence

C₂ → / C₁ ↓	P	b	ɓʰ	t	d	tʰ	ʈ	ɖ	ʈʰ	k	g	kʰ	c	j	s	ʃ	h	m	n	ɲ	ŋ	r	l	w	y
p		√					√															√	√		
bʰ																									
pʰ																									
t		√	√				√	√		√		√	√					√	√	√		√	√		
dʰ																									
tʰ																									
ʈ		√	√	√	√					√		√	√					√					√		
ɖ																									
ʈʰ																									
k		√		√			√					√	√					√	√	√		√	√		
gʰ																									
kʰ				√																					
c												√						√					√		
j																									
s								√																	√
ʃ																									
h																									
m		√					√					√													
n				√			√	√	√	√		√						√				√			
ɲ																									
ŋ				√			√			√		√						√				√	√		
l		√		√			√											√		√	√				
r	√	√	√	√			√	√	√	√	√	√	√	√	√			√	√	√	√		√	√	
w		√	√	√			√	√					√		√			√	√			√	√		
y	√	√	√									√	√										√		

Geminate Consonants:

Geminate consonants are nothing but double consonants phonetically. A double consonant is one whose duration extends over two syllables (Abercombie, 1967, p. 82) i.e., there is always a syllable break between the two consonants.

Geminated consonant Clusters

-tt-	ka:yttɔ/ etto:p/ ettay	jack fruit tree/ cover/ blood
-tt-	loyeʈto	pumpkin
-kk-	mijo:kke	eat
-cc-	mɔcco	hen
-ss-	issu:ye	burn
-nn-	inno	water
-mm-	purummomyo:/ emmulu	big rock / egg
-ɲɲ-	rɛ:ɲɲɔ	pebbles
-ɲɲ-	iɲɲarɔ:wlam/ ibe:liɲɲe	shower/ cut, saw
-ll-	Kɔllo	eagle
-rr-	carrolo	parrot

From the above table we can say that all voiceless unaspirated stops found in this language, namely /t/, /ʈ/, /c/ and /k/ except /p/ have geminated consonant sequence. Secondly nasal consonants found in this language i.e. /m/, /n/, /ɲ/ and /ŋ/are geminated one in this language. Thirdly liquid /l/ and /r/ also occur as geminates in this language.

Geminated Consonant Cluster

C₁ \ C₂	p	b	pʰ	t	d	tʰ	ʈ	ɖ	ʈʰ	k	g	kʰ	c	j	s	ʃ	h	m	n	ɲ	ŋ	r	l	w	y
p																									
b																									
pʰ																									
t				√																					
d																									
tʰ																									
ʈ							√																		
ɖ																									
ʈʰ																									
k										√															
g																									
kʰ																									
c													√												
j																									
s															√										
ʃ																									
h																									
m																		√							
n																			√						
ɲ																				√					
ŋ																					√				
r																						√			
l																									
w																									
y																									

3.3 Vowels

Vowels are sounds articulated without a complete closure in the mouth or a degree of narrowing which would produce audible friction; the air escapes evenly over the centre of tongue.

In Andamanese language, eight vowels phonemes have been recognised from the data. The vowel phonemic chart is given in the next page and each one of them is described on the basis of articulatory terms.

3.3.1 Descriptions and distribution of each vowel phonemes

/i/: is a short high front unrounded vowel. It is articulated when the front part of the tongue is raised in the direction of hard palate, to an almost close position. The lips are spread while articulating. It occurs in all the three positions.

Initial	Medial	Final
/i/i/ 'urine'	/iɖit/'hole`	/bei/'bottle'
/inora/'bucket'	/lim/'area stone	/liːpʰi/ 'a tree'

/e/ is a short mid-front unrounded vowel. This vowel is produced by raising the front part of the tongue towards the palate but not as high as /i/. The lips are spread. Regarding its distribution, it occurs in all the positions, viz., initial, medial and final.

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Phonemic Chart: Vowels

Part of Tongue →	FRONT		CENTRAL		BACK	
Height of Tongue ↓	Unrounded	Rounded	Unrounded	Rounded	Unrounded	Rounded
High	i					u
Lower High						
Higher Mid	e					o
Mean Mid			ə			
Lower Mid	ɛ					ɔ
Higher Mid						
Low					a	

Intial	Medial	Final
/ettay/'blood'	/jero/'papaya tree'	cayo:ne'oil'
/etcol/ 'gill of the fish	/cel/'water falls	di:de/'noon'

/ə/ is a central unrounded vowel.. During the production of this vowel the central part of the tongue is raised. The tongue lies in the neutral position. The lips stretch a little less than the shape for /e/ phoneme. Regarding the distributions it occurs in only two positions, viz. initial and medial.

Initial	Medial
/əra/'pig'	/təuɖe/'rat
/əra:tubulu/ 'Lame'	/mɔtkəbo/ 'slan'

/ɛ/ is a short unrounded lower mid front vowel. During the production of this vowel, the front part of tongue is raised towards the hard palate. Regarding the distributions, it occurs in all the positions viz., initial, medial and final.

Intial	Medial	Final
/ɛy/ 'vomit'	tɛle/ 'elephant'	/berɛ/ 'parshaw fish'
/ɛtʰaːrɔ/ 'male'	tɛlebo/ 'dandush fish	/aː/ɛ/ 'lightning'

/a/ is a short unrounded low back vowel. This vowel is produced by the central part of the tongue. The tongue remains in the neutral position but lowering of the lower jaw makes it an open vowel.. The lips are open and spread a little; neither round nor spread totally. Regarding its distributions, it occurs in all the positions; viz., initial, medial and final.

Initial	Medial	Final
/aroː/ 'pharrow fish'	/Caecɔn/ 'hammer'	Kata/ 'daughter'
araː/ɛːpʰa/ 'window'	/poːttale/ 'an arrow'	/pʰatka/ 'crow'

/ɔ/ is a short rounded lower-mid back vowel. In the production of this sound; the back part of the tongue is raised towards the soft palate. The tip of the tongue remains unraised and is retracted to a certain degree so as to enable the back part of the tongue to rise to the required height. The lips are rounded.

Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

Initial	Medial	Final
/ɔ/ɔ/ 'axe'	/mɔtkɔbɔ/ 'skin'	/tʰaːtɔ/ 'house'
/ɔtkɔrnɔ/ 'net'	/caːytɔlo/ 'flower'	/miːnɔ/ 'type of potato

/o/ is a short rounded mid back vowel. While producing this sound the back portion of the tongue is raised. The lips are protruded and rounded. The soft palate is raised and the vocal cords are vibrating. It occurs in all the positions, viz., initial, medial and final.

Initial	Medial	Final
/otkatta/'short'	tɔytccoɳᴵ 'deer'	/kɔllo/ 'Eagle'
/ottcʈtɔya/ 'watch'	/cowba/ 'asmall fish'	tɔːro/ 'Sand'

/u/ is a short rounded high back vowel. While producing this vowel, the back portion of the tongue is raised as high as possible towards the soft palate, but the tip of the tongue is not raised. The lips are rounded and

protruded. The soft palate is raised and vocal cords are vibrating. Regarding its distributions, it occurs in all the positions viz, initial, medial, and final.

Initial	Medial	Final
/ullukʰu/ 'cobra'	/iːmulu/ ' 'egg'	/julu/ 'dress'
/uluwcː/ 'fountain'	/sulu/ 'type of print	/iːttu/ 'a fish'

3.3.2 Minimal and sub minimal pairs: Vowels:

/mimi/ 'mother'	/mime/ 'brother's wife'
/piːr/ 'a cane'	/puːr/ 'sound made by clapping hand with thigh
/piːr/ 'a cane'	/pɔːr/ 'bamboo'
/rɛːnmu/ 'iron'	rɛːnmo/ 'tuberculosis'
/ɲya/ 'have (it)'	/ɲyoː/ 'camp'
/pʰoroːt/ 'pharsnaw fish'	/pʰorɔːt/ 'a black sea worm'
/kal/ 'a small sea crab'	mɔːl/ 'shangar fish
/cɔːy/ 'mother's matter'	/coːy/ 'a tree'

/ara:/ 'pig'	/aro:/ 'phassaw fish'
/ekka: dum/ 'thin'	ekkɔ;dum/ 'thick'
/ettɔ:le/ 'decorate'	ettu:le/ 'beat'
/di/ 'this'	/du/ 'that (distant)'
/di/ 'this'	/do/ 'this (proximate)'
/du/ 'that (distant)'	/da/ 'this'
/pu:r/ 'Sound made by clapping hands with thigh	/pɔ:r/ 'bamboo'
/bo:l/ 'thorny creeper'	bɔ:l/ 'tree'
/a:t/ 'fire'	/ɔ:t/ 'a tree'
/aro:/ 'pasrhaw fish'	/ara:/ 'pig'
mu:r/ 'foam'	/ma:r/ 'a fish'
tutumol/ 'mosqueto net'	tutumɔl/ 'fan'
/esorɛ: kke/ 'sing'	/ssorɔ:kke/ 'fish'

3.3.3 Phonetic Variation

Naslisation: In the normal or oral articulation of vowels the soft palate is raised so that it blocks the nasal passage. If however, the soft palate is

lowered, the air can pass through the nose as well as the mouth, and the vowels so articulated are nasalised. Nasalisation in Andamanese is not phonemic. But as the data show, one does find some vowels in Andamanese with full nasalisation, which may be due to the influence of nasalised phonemic vowels in Port Blair Hindi. Data also show that some vowels sometimes get nasalised, if it is preceded or followed by nasal sounds.

/tʰoɲkurɔ/	'my palm'
/hutkʰudoe/	'globe'
/mɔcco/	'hen'
/cɛletmɔ/	'bread'
/tʰitermɔ/	'pen / pencil'
/tɔra:mlukʰimi/	'balance'

3.3.4 Phonemic Variation:

Vowel length in Andamanese language is phonemic. The contrast of vowel length is illustrated by the following:

| [i/i:] | /mirit/ 'a fish' | /miri:t/ 'pigeon' |
| | /ti/ 'g' | /ti:/ place' |

| [e/e:] | /tercɳ 'whole' | /tere:ɳ / 'whole fish' |

| | /le/ 'smoke' | /le:/ 'land crab |

| | /dolemo/ 'squirel' | /dole:mo/ 'big lyaid |

| [ɛ/ɛ:] | | |

| | /kolɛwbe/ 'length' | /ɛlɛ:wbe/ 'small' |

| [/o/o:] | /bol/ 'rope' | /bl:l/ |

| [ɔ/ɔ:] | /tɔw/ 'a tree' | /tɔ:w/ 'sky' |

| [a/a:] | /ta/ 'hands' | /ta:/ 'sound made by clapping' |

3.3.4. Distribution of /i:/, /e:/, /ɛ:/, /a:/, /o:/ /ɔ: /and /u:/

/i:/ Regarding its distribution, it occurs in all the positions, viz, initial, medial and final.

Initial	Medial	Final
/:mulu/ 'egg'	/ni:pʰo/ 'small mosquito'	/cokbi:/ 'fins'
/i:ɳno/ 'water'	/ji:rmu/ 'house'	/ti:/ 'place'

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/e:/ Regarding its distributions of /e:/, it occurs in all the positions, viz. initial, medial and final.

Intial	Medial	Final
/e:toe/ 'bone'	/te:ɔ/ 'crocodile'	/uluwe:/ 'fountain'
	/ce:yo/ 'knife'	/sure:/ 'a fresh water snake'

/ɛ:/ Regarding its distribution, it occurs in only one position viz., medial.

Medial

/bɛ:mo/ 'might angle'

/le:c'/ an arrow'

/a:/ It occurs in all the positions, viz., initial, medial and final

Initial	Medial	Final
/a:t/ 'fine'	ta:l/ 'gold'	/bowa:/ 'earth'

/aːle/ 'light'	/pʰːl/ 'wani'	/kɔcaː / 'cycle

/oː/ It occurs in all the positions, viz, initial, medial and final

Initial	Medial
/oːprɔ/ 'window'	/lujiroːyəm/ 'dance'
/oːkra/ 'type of fish'	/boːtʰo/ 'cyclone'

/ɔ/ It occurs in all the positions, viz, initial, medial and final

Initial	Medial	Final
/ɔːm/ 'tree'	/tɔːw/ 'sky'	/urɔː/ 'an arrow'
/ɔtkɔrnɔ/ 'net'	/kɔːlɔ/ 'eagle'	

/u/ It occurs only in two pose i.e. medial and Final

Medial	Final
/muːr/ 'foam'	/pʰuː/ 'cow dung'
/duːllɔ/ 'moon'	

Phonemes Distribution Chart: Vowel

Vowel	Initial	Medial	Final
i	√	√	√
i:	√	√	√
e	√	√	√
e:	√	√	√
ə	√	√	√
ɛ	√	√	√
ɛ:	X	√	X
a	√	√	√
a:	√	√	√
ɔ	√	√	√
ɔ:	√	√	√
o	√	√	√
o:	√	√	√
u	√	√	√
u:	X	√	√

3.3.5 Diphthongs:

A diphthong is a vowel sound consisting of a deliberate i.e. intentional glide, the organs of speech starting in the position of one vowel and immediately moving in the direction of another vowel. A diphthong, moreover, consists of single syllable – that is the vowel glide must be performed with a single impulse of the breath. (Peter Mac Carthy, English Pronoumication), the analysis of data show following diphthongs in Andamanese language.

-ei   /caetə ʈei/   'packet'

-iu-   /corɔlotirjiukʰu./

-ei-   /caetə ʈeicɔpʰe/   'many packet'

-ui   /kʰəleʈmorasui/   'makes chappati'

-ui-   /ʈʰi:taŋɔroiotuncuimo/   'house lock'

-ei   /bei/   'bottle'

-ɛi-   /tʰɛi/   'cooking utensils'

-ɔi-   /re:mucɔtin/

-ai-   /pəroinʈoŋ'/   'bread'

-ai-	/pərain'/	'water shower'
-ui-	/wera: kuikɔm/	'smokes cigarettes'
-ai-	/weta:rkʰaidueson/	'listening to radio'
-oi-	/ətʰireniʃietəra:ncəroi/	'slipping'

iu	-	1
ei	-	3
εi	-	1
ai	-	2
ɔi	-	1
oi	-	2
ui	-	3

Figure
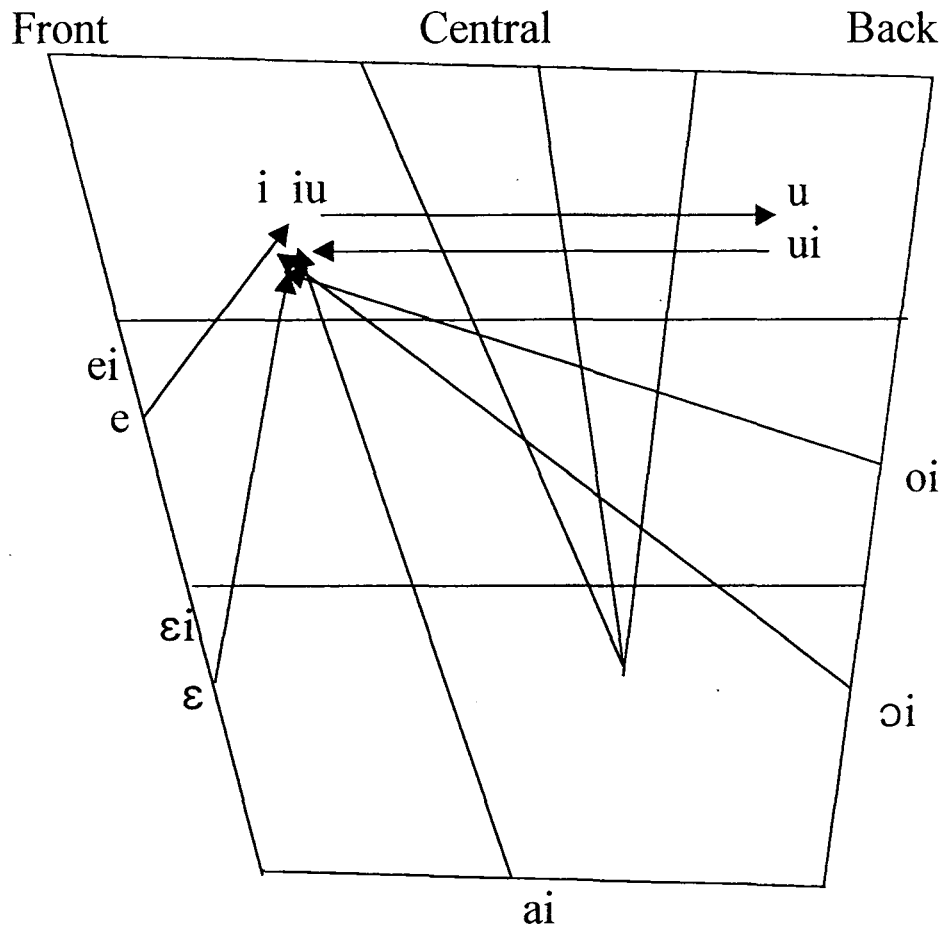
Initial vowel of a diphthongs may start with any four points on the vertical axis, close, half –close, half open and open but the diphthong finally, as the data show, ends with front high vowel (i) except in one instance in which the diphthong ends with back high vowel (u)

3.4 Syllabic structure

Syllable may be defined as a unit of pronunciation typically larger than a single sound and smaller than word. (David Crystal, 1980, p.342. A first dictionary of linguistics and phonetics). The notion of a syllable is very real to native speakers as it takes care of the rhythm of the language.

As far as the language under study is concerned the syllables range from one to seven. Further, the language is dominated by trisyllabic and tetrasyllabic word. The syllable are further classified into open and closed. A syllable, which is asserted by a consonant, is said to be a closed syllable, and one which has no asserting consonant is said to be an open syllable. (David Abercrombei, 1980, p. 42. Elements of General phonetics).

Monosyllable

Open

CV	/bo/	'an oyster'
CV	/ce/	'thorn'
CV	/jo/	'song'
CV	/ko/	'bow'
CV	/le:/	'smoke'
CV	/pʰuː/	'cow dung'

CV	/di/	'this'
CV	/da/	'this proximate'
CV	/du/	'that distant'
CV	/ʈaː/	'sound made by clapping hands'
CV	/ʈiː/	'place'
CCV	/ɲyoː/	'camp'
CCV	/ɲya/	'have it'

Close

VC	/iːr/	'wave'
VC	/ɛy/	'Vomit'
VC	/ɔɲ/	'a jungle plantain tree'
VC	/ɔːʈ/	'a bat'
VC	/ɔːm/	'a tree'
VC	/aːʈ/	'fire'
CVC	/pɔːr/	'bamboo'
CVC	/peːc/	'utensils'
CVC	/piːr/	'a cane'
CVC	/biːp/	'dust'
CVC	/bol/	'rope'
CVC	/pʰɛc/	'pot'

CVC	/pʰaːl/	'wave'
CVC	/pʰon/	'cave'
CVC	/ʈɔːp/	'bath'
CVC	/ʈaːl/	'gold'
CVC	/ʈɔːw/	'sky'
CVC	/ɖuːm/	'Centipedes'
CVC	/ɖup/	'jingam tree'
CVC	/cel/	'water falls'
CVC	/keːr/	'snore'
CVC	/koːʈ/	'laugh'
CVC	/suːp/	'basket'
CVC	/myo/	'rock'
CVC	/maːr/	'a fish'
CVC	/muːr/	'foam'
CVC	/lɛc/	'arrow'
CVC	/lɛːc/	'weapon to kill sheep'
CVC	/lim/	'a sea stone'
CVC	/laːw/	'outsider, ghost'
CVC	/loːl/	'there'
CVC	/rɛːk/	'big crab'

Bisyllabic

Open

CVV	/diːu/	'sun'
CVV	/cɔaː/	'type of fish'
CVV	/keːo/	'small crab'
CVV	/bei/	'bottle'
CVV	/ʈeːɔ/	'crocodile'
CVV	/tʰɛi/	'cooking utensils'
CVV	/ɲeɔ/	'house'
VCV	/ili/	'urine'
VCV	/əra/	'pig'
VCV	/urɔː/	'an arrow'
CVCV	/ʈʰaːtɔ/	'house'
CVCV	/ʈʰɛːco/	'my head'
CVCV	/ɖɪːde/	'moon'
ÇVCV	/ceːyo/	'knife'
CVCV	/juɭu/	'clothes'
CVCV	/jeːtʰo/	'a sea snake'
CVCV	/jemo/	'a shark'
CVCV	/jero/	'papaya tree'

Bisyllabic

Open

CVV	/diːu/	'sun'
CVV	/cɔaː/	'type of fish'
CVV	/keːo/	'small crab'
CVV	/bei/	'bottle'
CVV	/ʈeːɔ/	'crocodile'
CVV	/tʰɛi/	'cooking utensils'
CVV	/ɲeɔ/	'house'
VCV	/ili/	'urine'
VCV	/əra/	'pig'
VCV	/urɔː/	'an arrow'
CVCV	/ʈʰaːtɔ/	'house'
CVCV	/ʈʰɛːco/	'my head'
CVCV	/ɖɪːde/	'moon'
CVCV	/ceːyo/	'knife'
CVCV	/julu/	'clothes'
CVCV	/jeːtʰo/	'a sea snake'
CVCV	/jemo/	'a shark'
CVCV	/jero/	'papaya tree'

CVCV	/jubu/	'fly'
CVCV	/kaːkɔ/	'banana tree'
CVCV	/kaʈa/	'daughter'
CVCV	/kɔːlɔ/	'eagle'
CVCV	/kɔcaː/	'cycle'
CVCV	/kʰiːno/	'grass'
CVCV	/kʰɛɲeː/	'eat'
CVCV	/suːbi/	'snake'
CVCV	/siːro/	'ocean'
CVCV	/saːre/	'sea'
CVCV	/sulu/	'types of fruit'
CVCV	/mino/	'potato'
CVCV	/maːye/	'father'
CVCV	/maːrɔ/	'honey bee'
CVCV	/niːpʰo/	'small mosquito'
CVCV	/ɲoːco/	'house'
CVCV	/leːle/	'cradle'
CVCV	/laːca/	'a sea bird'
CVCV	/luːro/	'flame'
CVCV	/lɛco/	'suck'

CVCV	/liːpʰi/	'a tree'
CVCV	/rɛpʰeː/	'meal'
CVCV	/rɔːwɔ/	'boat'
CVCV	/bowaː/	'earth'
CVCV	/boːtʰo/	'cyclone'
CVCV	/pʰɛco/	'sword'
CVCV	/pʰuroː/	'owl'
CVCV	/towaː/	'type of fish'
CVCV	/bɛːmo/	'nightingale'

VCCV	/immɔ/	'husband, wife (terms of address)'
VCCV	/inno/	'water'
CVCCV	/cukbi/	'big tortoise"
CVCCV	/cerʃo/	'fins'
CVCCV	/jiːlmo/	'sneeze"
CVCCV	/jiːrmu/	'land tortoise"
CVCCV	/kɔwbu/	'horse'
CVCCV	/rɛːnmu/	'umbrella'
CVCCV	/mɔllo/	'eagle'
CVCCV	/keːlla/	'god'
CVCCV	/rɛːnmu/	'iron'
CVCCV	/mɔtto/	'road'
CVCCV	/mɔcco/	'hen'
CVCCV	/polmɔ/	'leech'
CVCCV	/pʰaʈka/	'crow'
CVCCV	/ʈoŋkʰa/	'glass'

CVCCV	/ʈoymo/	'grasshopper'
CVCCV	/ʈʰurto/	'wirst'
CVCCV	/ʈʰutbɔ/	'my stomach'
CVCCV	/nyure:/	'fish'
VCVC	/iʈʰu:n/	'drop'
VCVC	/era:ʈ/	'wing of bird'
VCVC	/epʰuk/	'lungs'
CVCVC	/bire:y/	'a bat'
CVCVC	/biyu:w/	'light'
CVCVC	/bu:ruŋ/	'hill'
CVCVC	/pʰorɔ:c/	'house'
CVCVC	/ta:to:m/	'ground'
CVCVC	/te:reŋ/	'whole fish'
CVCVC	/ʈʰɛʈɔŋ/	'whole hand'
CVCVC	/ʈʰume:l/	'honey'
CVCVC	/ʈʰijɔm/	Well decorated house'
CVCVC	/ʈʰipʰul/	'bed cover'
CVCVC	/ʈʰipʰoŋ/	'iron rod to dig with'
CVCVC	/ʈʰatat/	'my tongue'
CVCVC	/ɖula:w/	'ghost'
CVCVC	/jicər/	'rain'
CVCVC	/jurɔ:y/	'dance'
CVCVC	/jibe:ʈ/	'swallow bird'
CVCVC	/ke:liw/	'whirlpool'
CVCVC	/kara:y/	'black ant'
CVCVC	/kaʈa:n/	'stars'
CVCVC	/kɛreŋ/	"whole fish'
CVCVC	/khide:r/	'coconut'
CVCVC	/miri:t/	'pigeon'
CVCVC	/mɔ:rɔk/	'an oyster'
CVCVC	/nyu:re/	'fish'
CVCVC	/luʃuy/	'deep'
CVCVC	/lɛsar/	'dark'

CVCCVC	/tʰirbin/	'my forehead'
CVCCVC	/ʈʰɛrtɛk/	'my waist'
CVCCVC	/ʈʰɛrlɔʈ/	'my stick'
CVCCVC	/ʈʰɛrtap/	'my chin'
CVCCVC	/ʈʰerbuːt /	'my ears'
CVCCVC	/ʈʰerkʰum/	'shoulder joint'
CVCCVC	/cɔmʈɔm/	'suparee tree'
CVCCVC	/kɔʈpʰeːc/	'earthen pot'
VCCVC	/ettoːp/	'cover'
VCCVC	/ettay/	'blood'
VCCVC	/etcow/	'fruit of tree'
VCCVC	/ulluːy/	'whistle'

Trisyllabic

Open

VCVCV	/inora/	'bucket'
VCVCV	/iːmulu/	'egg'
VCVCV	/iːjilu/	'cold thing'
VCVCV	/iːjiyo/	'lowest tide'
VCVCV	/eluru/	'flame'
VCVCV	/ekaːtʰu/	'sprouting seeds'
VCVCV	/ɛɲoːrè/	'cut'
VCVCV	/ɛrɔne/	'coral flower'
VCVCV	/ɛʈʰaːrɔ/	'male'
VCVCV	/uluʃu /	'cobra'
VCVCV	/uluweː/	'fountain'
VCVCV	/ubaːlɔ/	'aeroplane'
CVCVCV	/bərabə/	'mat'
CVCVCV	/pʰɔʈole/	'spear'
CVCVCV	/pʰorubi/	'frog'
CVCVCV	/ʈaʈamo/	'lizard'
CVCVCV	/ʈʰɛbala/	'elbow'
CVCVCV	/ʈʰɛpʰilu/	'my stomach'

CVCVCV	/ʈʰumɔʈɔ/	'my feet'
CVCVCV	/ʈʰemeca/	'my liver
CVCVCV	/ʈʰumɔʈo/	'leg'
CVCVCV	/ʈʰiːmikʰu/	'forest'
CVCVCV	/ʈʰerulu/	'my eyes'
CVCVCV	/ʈʰeriːnɔ/	'tears
CVCVCV	/ɖolemo/	'big lizard'
CVCVCV	/cayoːne/	Oil
CVCVCV	/caːlemo/	'black snake of the ocean'
CVCVCV	/juruwaː/	'sea ghost'
CVCVCV	/kalaːbo/	'cockroach'
CVCVCV	/koːnkuro/	'full hand'
CVCVCV	/kɔroʃo/	'necklace'
CVCVCV	/koburɔ/	'old umbrella'
CVCVCV	/lurupʰe/	'air bubble'
CVCVCV	/lureːmo/	'rope'
CVCCVCV	/tutɖiːlo/	'island'
CVCCVCV	/tʰɛrnoko/	'my checks'
CVCCVCV	/tʰɛrkɔtɔ/	'my nose'
CVCCVCV	/ʈʰuŋkarːra/	'my nails
CVCCVCV	/ʈʰuŋkurɔ/	'my palm'
CVCCVCV	/ʈʰukcaːra/	'my chest'
CVCCVCV	/ʈʰumrɔnɔ/	'my ankle'
CVCCVCV	/ʈʰɛrnaːmo/	'mole on check'
CVCCVCV	/ʈʰɛrmine/	'my brain'
CVCCVCV	/carrolol/	'parrot'
CVCCVCV	/caːyʈɔlo/	'flower'
CVCCVCV	/liʈkʰɛmo/	'water frog'
CVCCVCV	/mɔtkəbɔ/	'skin'
CVCCVCV	/siːrbele/	'waist belt'
CVCCVCV	/cɛletmu/	'bread
CVCCVCV	/jurɔːybe/	'dance'

CVCCVCV	/kolɛwbe/	'laugh'
CVCCVCV	/krinkɔ:so/	'strait island'

Closed

CVCVCVC	/so:yatec/	'a leaf'
CVCVCVC	/pʰɔ:rətɔŋ/	'bamboo tree'
CVCVCVC	/pʰu:dotəŋ/	'palm tree'
CVCVCVC	/pʰorɔ:ke:t/	'heaven'
CVCVCVC	/tokometʰ/	'pillow'
CVCVCVC	/tutumol/	'mosquito net
CVCVCVC	/teremi:tʰ/	'light'
CVCVCVC	/ʈɛkulul/	'boil'
CVCVCVC	/kɔpʰoʈɔŋ/	'banana tree'
CVCVCVC	/re:ŋotɔŋ/	'peepal tree'
CVCVCVC	/pərain/	'water shower'
CVCVCVC	/biumɔc/	'torch light'
CVCVCVC	/caecɔn/	'hammer'
CVCVCVC	/niopoŋ/	'jail'
CVCVCVC	/ni:akʰom/	'stone cave'
CVCVCVC	/mieteŋ/	'darkness'
CVCVCCVC	/teremlɔʈ/	'stick'
CVCVCCVC	/ta:rboriŋ/	'aeroplane'
CVCVCCVC	/ʈɔylocoŋ/	'deer'
CVCVCCVC	/ʈɔ:terbec/	'cloud'
CVCVCCVC	/kəllaʈop'/	'snail'
VCVCVC	/e:coʈɔy/	skull bone'
VCVCVC	/i:jeyɔm/	'falling tide'
VCVCVC	/irulu:c/	'cold'
VCCVCCVC	/ettaycow/	'kidney'
CVCVCVV	/ʈɔkʰtei/	'money
CVCVCVCV	/ɖu:loka:ra/	'half moon'

CVCCVCVCV	/cukbitima/	'small tortoise'
CVCCVCVCV	/kona:su:bi/	'jungle snake'
CVCVCVCCV	/korɔbittu/	'centipede'
CVCVCVCCV	/ka:ytatoko/	'jack fruit'
CVCVCVCCV	/la:ɔcoʈe/	'a bird'
CVCVCVCCV	/ma:rojugu/	'honey bee'
CVCVCVCCV	/mɔcotʰaro/	'cock'
CVCVCVCCV	/miaitucu/	'tomato/lemon'
CVCVCVCCV	/bilurɔ:wɔ/	'rainbow'
CVCVCVCCV	/tərabollo/	'type of fish'
VCVCVCV	/i:kʰʈɔlo/	'flower'

Closed

CVCVVCCVC	/pəroinʈoŋ/	'bread'
CVCVVCCVC	/beitarɔm/	'cork'
CVCVVCCVC	/ʈhiterephoŋ/	'fish'
CVCVVCCVC	/ʈakʰototɔm/	'branch'
CVCVVCCVC	/ʈʰiterephoŋ/	'pits'
CVCVVCCVC	/ɖɹ:ci:liʈɔŋ/	'sugarcane tree'
CVCVVCCVC	/caebeliŋ/	'cutter'
CVCVVCCVC	/lujiro:yəm/	'dance'
CVCVVCCVC	/remutaca:n/	'trishul'
CVCVVCCVC	/urmukuruc/	'big house'
CVCVVCCVC	/i:pʰilekɔm/	'rising tide'
CVCVVCCVC	/inoterpoŋ/	'well'
VCVCVCV	/ebuʃuʃe/ ʌ	'woman'

Pentasyllabic
Open

CVVCVCVV	/caetəʈei/	'pocket'
CVVCVCVCV	/caetajira/	'chilly'
CVCVCVCVCCV	/penotʰisorʈʰi/	'cot'

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CVCVVCVCV	/bireitɛcə/	'leaves'
CCVCVCVCV	/ʈɔkʰotokata/	'piece of wood'
CVCCVCVCCVCV	/tʰɛrcotuʈʈɔmo/	'cap'
CVCVCVCVCV	/sareka:tiyo/	'sea crocodile'
CVVCVCVCV	/neɔtokəta/	'stone chip'
VCCVCVCVCV	/erconimikʰa/	'bell'
VCVCVCVCV	/əra:tupulu/	'lamb'

Close

CVCVCCVCVCVC	/thitermɔlobum/	'straight line
CVCVCVCVCCVE	/ɖikʰi:litutbɔk/	'joints between sugarcane
CVVCVCVCVC	/neɔtataŋ	'roof'
VCVCCVCCVCVC	/əka:nternɔkom/	'rinsing mouth'

Hexasyllabic
Open

CVCVCCVCVCCVCV	ɖi:leʈmututkətal/	'ball'
CVVCVCVCVCV	/niutɛroloʈə/	'window of house'
CVVCVCCVCVCCV	/ɖi:utuntəra:llɛ/	'west'
CVCVCCVCCVCCVCV	/ʈutumrɔŋtutjilu/	'shawl'
CVCVCVCVCVCV	/ʈɔkotəra:bucu/	Root of tree'
CVVCVCCVCVCV	/ɖi:utuntəkara/	'east
VCVCVCCVCVCV	/i:kʰubinʈɔlokɔ/	'flower bloom'

Close

CVCVCVCVCVCVC	/tʰerulutudirim/	'pupil'
CVCVCCVCCVCVCVC	/miyaytuʈeulogɔm/	'tamarind tree
CVCVCCVCCVCVCCVCVC	miyaytuʈkattaʈɔn/	'lemon tree'

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Septasyllabic

Open

CVCVCVCVCVCV	/ŋɔmaːtɔtaraːtowɔ/	'your heel'
CVCVCVCVCVCCVCV	/ʈeburaːculuttʰuːwe/	'my wife's brother'

Closed

VCCVCVCVCVCVC	/akkaːmimitaraːʈɔŋ/	'queen'
CVCCVCVCCVVCVCVC	/pirtaːrɛycopobaːlɔŋ/	'rainbow'

CHAPTER FOUR

Summary and Conclusion

This present study has therefore attempted to detail and describe the speech sounds of Andamanese. The Andamanese group of languages is at present nearly on the verge of extinction. As in May, 1993, only 32 native speakers of this language remained. It is, therefore, absolutely essential to undertake a detailed linguistic study of this indigenous language before it is too late. Although the present study has been limited due to several factors, I hope it has achieved one of its objectives in providing a starting-point for further research.

One of the major limitations I faced while conducting this study was the total absence of any primary data collected on the basis of proper preparation--preparing questionnaire, basic word-list etc. -and most importantly, through personal fieldwork. These steps are crucial, especially in such data based research because each researcher has his/her own area of focus while conducting a study. Unfortunately I could not undertake any fieldwork due to paucity of time and financial constraints, and, as a result, had to rely primarily on secondary sources of data, in particular, the four cassettes recorded from the laboratories at CIIL, Mysore, data collected by my supervisor during her fieldtrip, and S. Manoharan's basic word list in his work, *A study of Andamanese*

Language. This data was transcribed using the International Phonetic Alphabet symbols, following which it was rechecked a number of times to minimize possibility of errors. After the process of transcription, the raw data was first categorised on the basis of initial sounds – for example – all the words beginning with /p/ were grouped as one. Following this, minimal and sub-minimal pairs were extracted, on the basis of which phonemic chart for vowels and consonants were made. Each phoneme was further classified on the basis of occurrence in different positions, i.e. initial, medial and final, and phonetic and phonological analysis was done.

The analysis of data show that the phonemic system of Andamanese is made up of thirty two segmental phonemes. Of these twenty four are consonants and eight are vowels.

Stops:

There are twelve stop consonant phonemes in this language. They are

represented by /p/, /b/, /p^h/, /t/, /d/, /t^h/, /ʈ/,/ɖ/, /ʈ^h/, /k/, /g/, and /k^h/.

/p/ is a voiceless unaspirated bilabial stop. Regarding its distributions, it

occurs in all the positions.

/b/   is a voiced unaspirated bilabial stop. Regarding its distributions, it occurs only in two positions, viz, initial and medial.

/pʰ/   is a voiceless aspirated bilabial stop. Regarding its distributions, it occurs in only two positions, viz, initial and medial.

/t/   is a voiceless unaspirated alveo-dental stop. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

/d/   is a voiced unaspirated alveo-dental stop. Regarding its distributions,

it occurs only in two positions, viz, initial and medial.

/tʰ/   is a voiceless aspirated alveo-dental stop. Regarding its distributions it

occurs only in two positions, viz, initial and medial. Regarding its

distributions it occurs only in two positions, viz, initial and medial.

/ʈ/   is a voiceless unaspirated retroflex stop. Regarding its distributions, it

occurs in all the positions, viz, initial, medial and final.

/ɖ/   is a voiced unaspirated retroflex stop. Regarding its distributions, it

occurs only in two positions, viz, initial and final.

/tʰ/ is a voiceless aspirated retroflex stop. Regarding its distributions, it

occurs in all the positions, viz, initial, medial and final.

/k/ is a voiceless unaspirated velar stop. Regarding its distributions, it

occurs in all the positions, viz, initial, medial and final.

/g/ is a voiced unaspirated velar stop. Regarding its distributions, it occurs in only one position i.e. initial.

/kʰ/ is a voiceless aspirated velar stop. Regarding its distributions, it occur only in two positions, viz, initial and final.

Affricates:
There are only two affricate consonant phonemes in this language- /c/ and /j/.

/c/ is a voiceless unaspirated palatal affricate. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

/j/ is a voiced unaspirated palatal fricative. Regarding its distributions it occurs only in two positions, viz, initial and medial.

Nasals:
There are four nasal consonant phonemes in this language:-

/m/, /n/, /ɲ/ and /ŋ/.

/m/　is a voiced bilabial nasal. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

/n/　is a voiced alveolar nasal. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final

/ɲ/　is a voiced alveolar nasal. Regarding its distributions, it occurs in all

the position, viz, initial, medial and final.

/ŋ/　is a voiced velar nasal. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

Liquids: There are two liquids in this language- /r/ and /l/.

/r/　is a voiced alveolar trill. It occurs in all the positions, viz, initial, medial and final.

/l/　is a voiced alveolar lateral. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

Fricative:　　There are three fricatives in this language- /s/, /ʃ/ and /h/.

/s/　is a voiceless alveolar fricative. Regarding its distributions, it occurs in only two positions, viz, initial and medial.

/ʃ/   is a voiceless palatal fricative. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

/h/   is a voiceless post velar fricative. Regarding its distributions, it occurs only in one position- initial.

Semi-vowel: There are only two semi- vowels in this language- /w/ and /y/.

/w/   is a voiced bilabial semi vowel. Regarding its distributions, it occurs in all the positions, viz, initial, medial and final.

/y/   is a voiced palatal semi- vowel. Regarding its distributions, it occurs in all the positions, viz, initial medial and final.

Further, the Andamanese language permits only sequence of two consonants. Words initial consonant sequence are not found in this language, with the exception of ɲy-. This language is marked by the absence of word final consonant sequence. However, word medial consonant sequences are found in abundance. The followings consonants -- /t/, /ʈ/, /k/, /c/, /s/, /m/, /n/, /ɲ/, /l/ and /r/ occurs as geminates consonant sequence in this language.

As far as vowels are concerned, eight vowels are recognized in this language.

/i/ is a short high front unrounded vowel. It occurs in all the positions.

/e/ is a short mid-front unrounded vowel. It occurs in all the positions.

/ə/ is a central unrounded vowel. It occurs in only two positions i.e. initial and medial.

/ɛ/ is a short unrounded lower mid-front vowel. It occurs in all the positions.

/a/ is a short unrounded low back vowel. It occurs in all the positions.

/ɔ/ is a short rounded lower-mid back vowel. It occurs in all the positions.

/o/ is a short rounded mid-back vowel. It occurs in all the positions.

/u/ is a short rounded high back vowel. It occurs in all the positions.

Nasalisation of vowel in Andamanese is not phonemic. But as the data shows some vowels get fully nasalised due to the influence of nasalised phonemic vowels in Port Blair Hindi. Vowel length in Andamanese is phonemic.

Diphthongization of vowel do to take place in this language and as the data show all the diphthongs ends with high front vowel /i/ except in one instance, when it ends with back high vowel /u/.

As far as the syllabic sequence of this language is concerned it ranged from one to seven. Further, the language is dominated by trisyllabic and tetraryllabic word.

However I hope that this present study, in which I have tried to document the features of speech sounds in Andamanese, will go a long way in helping the language to survive, which is already on the verge of extinction. If given the opportunity in Ph.D., I would carry on with the incomplete work, and undertake detailed research on topics not covered in this study. I would first undertake a fieldwork in the area. This would not only give me an opportunity to live among and interact with the natives of the area, in addition it would also provide me with valuable insights into the language. On the basis of the data collected as well as secondary sources already available, a more detailed linguistic analysis would be undertaken. This would include a check of phonetic and phonological patterns, as well as analysis of sounds at morphological, semantic, syntactic and well as morphophonemic and morphosemantic levels- the ultimate aim being to compile a comprehensive linguistic volume of the language. Furthermore, spectrographic analysis would

also be undertaken, whereby; a broad general picture of the formant patterns of vowels as well as an acoustic pattern of consonants would be arrived at. However, to achieve this, it is imperative to have a large data-bank, which is only possible through primary sources.

In spite of such limitations, this study, has I hope, been of some use in documenting and analysing the linguistic features of these unique indigenous group of people. If, in any way, it inspires greater attention to be focused on these rapidly depleting tribes – in particular, on their language and culture, I will consider my endeavor a success.

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APPENDICES

penot^hisorʈ^hi	cot
pərain'	water shower
pirta:rɛycopoba:lɔn	rainbow
pa:lɖuwo	big wave
pɔ:r	bamboo
purummomyo	big rock
pe:c	utensils
pi:r	a cane
bilurɔ:wɔ	rainbow
bire:y	a bat
bi:p	dust
biyu:w	light
bɛ:mo	nightingale
bu:ruŋ	hill
bolmɔ	leech
bowa:	earth
bo:t^ho	cyclone
ba:tterkɛ:l	mid-night
bərabə	mat
beitarɔm	cork
bol	rope
bireitɛcə	leaves
biumɔc	torchlight

beːmo	butterfly
billubiraːncəbo	rainbow
buːruin	mountain
buːruintutlupʰui	big/high mountain
buːliu	river/canal
Buliucor	water falling from dam
buliututərakatterpʰɛnne	bridge
biːlu	ship
bəraːba	mat
bei	bottle
beituntɔplo	one bottle
beitatirbui	two bottles
bərabaːtcut̪ɔ	rounding the mat
pʰɛcʰ	pot
pʰɛco	sword
pʰɔtole	spear
pʰat̪ka	crow
pʰɔːrət̪ɔŋ	bamboo tree
pʰuːdot̪əŋ	palm tree
pʰaːl	wave
pʰuroː	owl
pʰuː	cow dung
pʰon	cave

phormuca:w	lion, tiger
pʰorɔ:c	house
pʰorɔ:ke:t	heaven
pʰorubi	frog
teremlɔʈ	stick
tokomeʈʰ	pillow
tutumol	mosquito net
teremiʈʰ	light
tanʈɔ	necklace
tutumɔl	fan
ta:to:m	ground
tereŋkʰulitiʃuta:to:m	playground
tɔra:mɬukʰimi	balance
taji:beɔr	fish
te:reŋ	whole fish
to:tpʰollo	beach
tutɖi:lo	island
te:ɔ	crocodile
tɔrabollo	type of fish
towa:	type of fish
tereŋ	whale
ta:pʰo	type of tree
tirpile:ʃɔt'	all teeth

tirpile:tintɔplɔ	one teeth
tirpile:tatirbui	two teeth
teremi:t̪ʰ	light
teremi:t̪ʰtuntɔplɔ	one light
teremi:tatirbui	two light
toŋkʰu:	glass
toŋkʰu: tuntɔplɔ	one glass
toŋkʰutatirbui	two glasses
ta:rboriŋ	aeroplane
ta:rboriŋtuntɔplɔ	one aeroplane
ta:rboriŋtatirbui	two aeroplanes
tajeitudbekbijugun	bird fly
tajeitudbektuntɔplɔbijugun	one bird fly
tajeitudbektatirbuibijugun	two birds fly
tajeitudbekcɔpʰebijugun	many birds fly
termoltərcit̪allo	zig-zag line
teremlɔt̪	stick
tokomet̪ʰ	pillow
tutumol	mosquito net
t̪ʰɛrcyɔk	my face
t̪ʰirbin	my forehead
t̪ʰɛrnoko	my cheeks

tʰergilitubɛc	my eyebrow
tʰerulutukɔhɔ	my eye lids
tʰerulutudirim	pupil
tʰɛrkɔtɔ	my nose
tʰɛrjukʰubɛc	my moustache
tʰiːbel	broom
tʰoruːbe	frog
tʰɛi	cooking utensil
tʰɛrʈaotuntɔplɔ	sign of one feet
tʰɛrʈaotatirbui	sign of two feet
ʈɔktisetencir	bathing soap
ʈutumrɔŋtutgilu	shawl
ʈɔuɖe	rat
ʈɔylocoŋ'	deer
ʈɛle	elephant
ʈɛletirkɔtʰo	elephant trunk
ʈɛletirpʰiːlle	elephant tusk
ʈoymo	grasshopper
ʈaʈamo	lizard
ʈeːpʰi	land lizard
ʈɔŋleo	small tree
ʈɔkotəraːbuco	root of tree

t̪ɔŋtt̪ət̪ɔŋ	tree branch
t̪ɔkʰoteːt'	tree leaves
t̪ɔkʰotokata	piece of wood
t̪ɔːŋt̪utʰigu	shade of tree
t̪ɔːterbec	cloud
t̪akʰotot̪ɔm	branch
t̪oːle	potato
t̪ɛpʰe	octopus
t̪ebɔybe	wife
t̪et̪lyuːw	cap
t̪ɔːp	bath
t̪ɔrɔ	turtle
t̪aːl	gold
t̪aːt̪aːmo	lizard
t̪ɔwterbeːc	cloud
t̪ɔːw	sky
t̪ɔːro	sand
t̪unkenautunt̪ɔplɔ	one finger
t̪unkenautatirbui	two finger
t̪umɔtotattalot̪a	sleeper
t̪umɔtotattalotatunt̪ɔplɔ	one sleeper

ʈumɔtotattaloʈatatirbui	two sleeper
ʈɔkʰotei	money
ʈɔkʰoteituntɔplɔ	one rupee
ʈɔkʰoteiktirbu	small change
tʰɛʈɔŋ	whole hand
tʰɛbala	elbow
tʰurto	wrist
tʰuŋkurɔ	my palm
tʰuŋkinəp	my finger
tʰuŋkaːra	my nails
tʰukcaːra	my chest
tʰɛpʰilu	my stomach
tʰɛŋgeːtʰ	my
tʰɛrtɛk	my waist
tʰɛcɔptʰumɔ	my thigh
tʰəramɔʈɔ	my leg
tʰɛɔərɔk	my knee
tʰumɔʈɔ	my feet
tʰumrɔnɔ	my ankle
tʰumɔʈɔtumikʰu	sole of feet
tʰutbɔ	my stomach

tʰɛrnaːmo	mole on cheek
tʰɛrinoe	open
t̪ɛkulul	boil
tʰɛrmine	my brain
tʰutbɔrtudilo	my heart
tʰutkɔrno	my lungs
tʰeːʃɖu	my
tʰemeca	my liver
tʰɛrcotut̪ tʰɔmo	cap
tʰucu tucu	my turban
tʰɛrkɔtʰojum	nose ring
tʰɛrbuːjum	ear ring
tʰumɔt̪o	leg
tʰɛrlɔt̪	my stick
tʰijɔm	well-decorated house
tʰiːmikʰu	forest
tʰumeːl	honey
tʰiterepʰoŋ	pits
tʰeruluːtatirbui	two eyes
tʰeruluːtunt̪əplɔ	one eye
tʰaːt̪ɔ	house

t̪ʰaːtotuntɔplɔ	one house
t̪ʰaːt̪otatirbui	two houses
t̪ʰɔkotəracet̪ʰo	root of trees
t̪ʰɔkotəracet̪ʰotuntɔplɔ	one root of tree
t̪ʰɔkotəracet̪ʰotatirbui	two roots of trees
t̪ʰutneɔ	my house
t̪ʰiterɖit̪ʰ	gap in the wall
t̪ʰipʰul	bed cover
t̪ʰitermɔl	pen/pencil
t̪ʰitermɔlobum	straight line
t̪ʰipʰoŋ	iron rod to dig with
t̪ʰɛco	my head
t̪ʰerulu	my eyes
t̪ʰeriːnɔ	tears
t̪ʰɛrbua	my lips
t̪ʰatat	my tongue
t̪ʰɛrpili	my tooth
t̪ʰerpiletərat̪ʰərale	my gum
t̪ʰɛrtap	my chin
t̪ʰɛrtapebeic	my beard
t̪ʰerbuːt	my ears

t̚ʰutlɔŋgo	my neck
t̚ʰɛrpʰaːra	my parting of hair
t̚ʰutʰbeic	my hair
t̚ʰutʰbeitərakeṭʰ	long pant
t̚ʰɛrṭalar	bald head
˙t̚ʰutṭalar	i am bald
t̚ʰerkʰum	shoulder joint
t̚ʰyɔtɔy	shoulder blade
t̚ʰiːtaŋɔroioṭuncuimo	house lock
t̚ʰiːtaŋɔroioṭuncuimoturtɔplɔ	one house lock
d̚oleːmo	big lizard
d̚iːciːliṭɔŋ	sugarcane tree
d̚ikʰiːlitokatta	piece of sugarcane
d̚ikʰiːlitutbɔk	joints between sugarcane
d̚iːu	sun
d̚uːllɔ	moon
d̚iːutuntəkara	east (sunrise)
d̚iːutuntəraːllɛ	west (sunset)
d̚iːde	noon
d̚iːdetteclaːw	jungle ghost
d̚oːlemo	squirrel

ɖuːlokaːraː	half moon
ɖuːm	centipede
ɖup	gingham tree
ɖulaːw	ghost
ɖiːleʈmututkəta	ball
ɖiːleʈmututkətatunɔplɔ	one ball
ɖiːleʈmututkətatirbui	two ball
ɖileːʈmutirkʰuru	big ball
ɖileːʈmuleo	small ball
kolɛwbe	laugh
konaːsuːbi	jungle snake
kuruɖe	thunder
keːr	snore
keːliw	whirlpool
koːt	laugh
kɔtpʰeːc	earthen pot
kɔtmɔraːy	white ant
krinkɔːso	strait island
kaːkɔ	banana tree
kalaːbo	cockroach
karaːy	black ant
kaʈa	daughter

ɖuːlokaːraː	half moon
ɖuːm ·	centipede
ɖup	gingham tree
ɖulaːw	ghost
ɖiːleʈmututkəta	ball
ɖiːleʈmututkətatunɔplɔ	one ball
ɖiːleʈmututkətatirbui	two ball
ɖileːʈmutirkʰuru	big ball
ɖileːʈmuleo	small ball
kolɛwbe	laugh
konaːsuːbi	jungle snake
kuruɖe	thunder
keːr	snore
keːliw	whirlpool
koːt	laugh
kɔʈpʰeːc	earthen pot
kɔʈmɔraːy	white ant
krinkɔːso	strait island
kaːkɔ	banana tree
kalaːbo	cockroach
karaːy	black ant
kaʈa	daughter

kaʈaːn'	stars
kɔːlɔ	eagle
kɔwbu	umbrella
kɔrɔbittu	centipede
kɔcaː	cycle
kɔpʰoʈɔŋ	banana tree
koːnkuro	full hand
kɔrɔːso	necklace
kɔrɔːsotuntɔplɔ	one necklace
kɔrɔːsotatirbui	two necklace
koʈʰurɛmo	pan
kɔpʰo	banana tree
kɔpʰo tucu	banana fruit
ko	bow
koeto	jackfruit
kɔllo	eagle
keːlla	god
kɛːreŋ	whole fish
kɔemo	ant
kəllaʈɔp'	snail
koytɔʈɔŋ	jackfruit tree
katɔn	star
keːo	small crab

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kaːyttə	jackfruit tree
kaːytatoko	jackfruit
kaːrnɔ	type of potato
koburɔ	old umbrella
kobukʰui	new umbrella
kərajpulcaytiʈʰitəraulle	far things look near
katsaregbanno	he makes tea
kʰidirtatʰu	coconut
kʰidiːrtərtec	coconut water
kʰidiːrtutkɔvo	outer covering of coconut
kʰidiːrtutco	coconut fruit
kʰidiːrʈɔŋꞌ	coconut tree
kʰideːr	coconut
kʰiːnɔ	grass
kʰidiːrʈoy	coconut shell
kʰɛŋeː	cat
kʰɛŋeːtuntɔplɔ	one cat
kʰɛŋetatirbui	two cat
kʰidirʈon	coconut tree
kʰeŋeleo	small cat
kʰidica:ywe	what is this
kʰəleʈmoraʃue	makes chappati

kʰeŋetʰirkʰuru	big cat
ca:ytəra:luktisioremo	weight balance
carrolo	parrot
cukbi	big tortoise
cukbitima	small tortoise
cɔmʈɔm	'suparee' tree
ca:yʈɔlo	flower
cokbi:	fins
ce	thorn
cerʃo	sneeze
cel	water falls
ce:yo	knife
caytaʃɔtʰ	bag
caebelɪŋ	cutter
caetajira	green chilly
caecɔn	hammer
cɛletmɔ	bread
cayo:ne	oil
ca:lemo	black snake of the ocean
cowa:	type of fish
cokbi:	fins
caetəʈei	packet
caetəʈeituntɔplɔ	one packet

caetəʈeicɔpʰe	many packet
caːyʈʰiːtiʈʰu	pulling cart
caːyʈʰiːtiʈʰutuntɔplɔ	one pulling cart
julu	clothes
jiːlmo	land tortoise
jicər	rain
jo	song
juruwaː	sea ghost
jurɔːybe	dance (v)
jurɔːy	dance
jeːtʰo	a sea snake
jemo	a shark
jibeːʈ	swallow bird
jiːrmu	horse
jero	papaya tree
jiːli	father's brother's wife
jubu	fly
sarekaːtiyo	sea crocodile
suːbi	snake
siːro	ocean
saːre	sea
suːp	basket
soːyatec	a leaf

sulu	type of fruit
siːrbele	waist belt (male)
Subi	snake
Subituntɔplɔ	one snake
həletəracol	light
himoltercet̪alo	zig-zag line
hirkʰdoe	round
hitkət̪ʰa	circle
hutkʰudoe	globe
Mino	potato
Miaitucu	tomato/lemon
Miailoboŋ	tamarind
mɔtto	road
mɔcco	hen
mɔcotʰaro	cock
Miriːt'	pigeon
Miyaytut̪culogɔm'	tamarind tree
Miyaytut̪kattat̪ɔŋ	lemon tree
Mietɛŋ'	darkness
mɔtkəbɔ	skin
mɛttəi	breast
miːnɔ	type of potato
Myo	rock

ma:ye	father
ma:r	a fish
ma:rɔ	honey bee
mɔycammulu	egg
mu:r	foam
Mettaymul	milk
mɔcɔ	hen
mɔcɔtuntɔplɔ	one hen
mɔcɔtatirbui	two hen
ma:rojugu	honey bee
ma:rojugutuntɔplɔ	one honey bee
ma:rojutatirbui	two honey bees
mɔ:rɔk	an oyster
neɔ	house
neɔtokɔta	stone chip
neɔtɔrataŋ	roof
neɔtakuŋ	door of house
Niutɛroloʈə	window of house
Netibenukanɛulitasojiyo	thermometer
Netibinosɔrokajiyo	injection
Niopoŋ	jail
Nyu:re	fish
ni:pʰo	small mosquito

niːaokʰom	stone caves
niːaokʰomtumkotmɔʈɔbe	way through caves
Niyatucu	piece of stone
Nucaərtiɖɔm	people are seeing
ɲoːcotatirbui	two houses
ɲoːco	house
ɲoːcotuntɔplɔ	one house
leːle	cradle
lɛc	arrow
Laoʈoekəraʈəŋ	skeleton
Lujiroːyəm	dance
leː	land crab
liʈkʰɛmo	water frog
lɛːc	weapon to kill fish
Lim	a sea stone
laːwpʰan	betel leaf
laːw	outsider, ghost
laːca	a sea bird
laːwɔcoʈe	a bird
loːl	there
Loyeʈʈo	pumpkin
Lurupʰe	air buble
luːro	flame

Lure:mo	rope
luʃuy	deep
lɛsar	dark
lɛco	suck
Lere:mo	white sand fly
Le	smoke
li:pʰi	a tree
li:ʈʈu	a fish
lɛ:ctuntɔplɔ	one arrow
lɛ:ctatirbui	two arrows
Labukʰumorɔcitaloʈa	wearing saree
rɛpʰe:	meal
Remutaca:n	trishul
ra	pig
re:ŋoʈɔŋ	peepal tree
re:k	big crab
rɛ:nmu	iron
rɔ:wɔ	boat
ro:wsu	kokkari fish
wera:kuikɔm	smokes cigarette
weta:rkʰaiɖueson	listening to radio
Idromʈəy	bone
Inoterpʰoŋ	well

Itolotoe	horn
lnora	bucket
Itbe:c'	dal
Ili	urine
Immɔ	husband, wife (term of address)
Issu:ye	burn
ijo:kke	eat
lnovitaʈʰacɔr	water that falls
iʈʰu:n	drop
Irulu:c	cold
i:kʰuʈɔlo	flower bud
i:kʰubinʈɔlokɔ	flower bloom
i:kʰuʈɔllɔ	flower
i:mututtəralakanʈoya	standing on this
i:mulu	egg
i:pʰilekɔm	rising tide
i:jeyɔm	falling tide
i:nno	water
i:r	wave
i:jilu	cold thing
i:jiyo	lowest tide
i:jilikmo	tiny one
Eluru	flame
Erconi/mikʰa	bell

Eka:tʰu	sprouting seeds
erʈɔ:ŋtutke	thorn in branch
era:ʈ	wing of bird
Erka:ra	tiny
Ebuʃuʃe	woman
Etto:p	cover
Ettay	blood
Ecco:wbe	built house
Ecca:ʃa:nɔ	old man
epʰuk	lungs
Etcow	fruit of tree
Etkɔwbo	bark of trees
eŋmɔcom	scratching
ere:ŋʈɔŋetaloʈa	putting hand into the shirt
e:coʈɔy	skull bone
e:toe	bone
ɛy	vomit
ɛwo:re	cut
ɛrɔne	coral flower
ɛmɛycca:	liver
ɛtʰa:rɔ	male
ɛttaylɛ:p	ovary

εttaycow	kidney
ərəkərapt̪oe	waist bone
əbilikʰutɲio	prayer room/temple
ə:cao	dog
ərwə	boat
əbiriccəo	wild cat
əra	pig
əkanyakomꞌ	he eats
əka:nterrəkomꞌ	rinsing mouth
əra:tubuɭu	lamb
əra:mbino	lying down
əka:mimirepʰirakot̪	mother gives the food
ət̪ʰienisietəra:ncəroi	slipping
əka:onokutumul	moving fan in sitting posture
əbuomut̪ulum	beating drums
Urmu kuruc	big house
Ullukʰu	cobra
Uba:lɔ	aeroplane
urɔ:	an arrow
Ullu:y	whistle
Uluwe:	fountain
Uluʃu	cobra
ut̪uttu:ne	sister's husband

Utkiye	pour out
Utbuliya:	feast
Utbeilɔ	wooden plank
unɖujiro:l	shivering
Urcɔ	net
Ulitəracɔr	shower
Uinokʰu:m	drinks water
u:ntɛla:mʻ	calling
uju:sərɔkɔm	sing a song
Uca:yaʈɔlokteŋum	listens to you
Ucayatuttəralakanʈaya	stands at the top
Uimututtrralakaono	sitting upon that
ubi:no	sleeps
Utumisitakoɪn	getting up from bed
Uile	shirt
Uca:yisɔrɔ	grinding something
ukʰɛlɛ:ʈmu:sitɔ	grinding flour
Ucaybi:li	cutting something
ukʰidiregɔr	scratching coconut
ui:nuʈe:n	takes water
ul:nukabere:ŋ	fill water
Ujuluci:r	wash clothes
Ujuludbi:n	rinse clothes

upʰɛcisiːr	clean utensils
uʈiːrbɛl	brooming
Unošiːr	clean the house
Ucaytajiratcittɔ	grinding spice
utʰuntiretbecikabor	combing children's hair
utʰuːmbecirakɛt	combing his hair
Uerkulupʰu	putting utensils in the oven
Usumulcaytarckʰo	keeping some thing on the top
Usumuttacaytalle	bring something down from top
uɖileʈmoraː tʰulimi	playing with the ball
Ulille	swinging
utuːntʰiritalille	swinging her children
uɖileːʈmutkɔtraʈʰul	kicking the ball with leg
uɖileːʈmorabatʰimi	kicking the ball with hand
uɖileːʈmoek	catching the ball
Uetajugum	flying something
uɖileːtmukabora	throw big ball
Uektertulɔm	shooting arrow
Uiktirsirtətayratirikom	catch to kill
Ujuroyaŋ'	she dances
Uitlikʰukəm	make
utʰiːrpʰoməm	digging the hole
Uiulutakatʰuːm	sowing the seeds

utɔːŋleurametʰum	putting soil between the trees
utʰiːtbereŋɘm	pouring water
Ueralukʰum	measuring
oloːŋa	light
Ottekɔkusire	remove
Otcaːme	arrest
Otkaːtta	short
otɔŋgeralottɔm	uprooting trees
Okopʰatɘm	pulling the bow
Omɘtɔkɔm	swims
oɲoːtapʰoŋekayekʰo	door opens at the top.
oɲoːkatʰoke	shuts the door
okɔːtʰɘmʻ	sneezes
oːprɔ	window
oːkra	type of fish
ɔroiaːra	type of flower
ɔrɔːnɔ	a sea snake
ɔtkɔrnɔ	lungs
ɔrɔːne	coral
ɔro	flower
ɔlɔ	axe
ɔco	net
ɔtkɔrnɔ	lungs

ɔte:ɲɔmꞌ	spits
ɔ:tʰo	morning
ɔ:rsu:bi	black sea snake
ɔ:m	tree
a:le	light
a:ʈ	fire
a:ʈtɛrmol	match box/match stick
a:ʈluru	fire
a:ʈlip	smoke
a:tcerep	axe
a:ʈɖo:p	fire wood chips
a:ʈtara:bi:ʈte	fire place
a:pʰotokoə	banana fruit
a:pʰo	banana tree
a:ʈta:co	bundle of woods
a:ʈta:cotuntɔplɔ	one bundle of woods
a:ʈta:cotatirbui	two bundle of woods
a:ʈtərculueratesi	putting utensils on the oven