

A HISTORICO-COMPARATIVE STUDY OF ZAMBIAN PLATEAU TONGA  
AND SEVEN RELATED LECTS

BY

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Vol. I

Submitted in partial fulfilment of the requirements for the degree of  
Doctor of Philosophy

SCHOOL OF ORIENTAL AND AFRICAN STUDIES

UNIVERSITY OF LONDON



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**ABSTRACT**

The aim of this thesis is a historico-comparative study of Zambian Plateau Tonga (Guthrie's M 64) and seven related lects (Valley, Toka, Ila, Lenje, Soli, Suɓiya and Totela). Some previous studies have treated Suɓiya and Totela as a distinct subfamily of Bantu (Guthrie's K 40), while others agree in attaching it to M 60; S1 has also been associated with Lunda (Guthrie's L 51) and Luwale (Guthrie's K 14).

The present study is based on wordlists of some 650 items including Swadesh's 200-wordlist of basic vocabulary collected for each of the lects during a five-month field trip to Zambia in 1987. The study examines this data both synchronically (Chapter 2) and diachronically, attempting to reconstruct an inventory of Proto-Tonga consonant and vowel phonemes (Chapters 3) and relating this to Guthrie's Proto-Bantu (Chapter 5).

Hierarchically two broad subdivisions of the Tonga lects can be made. Suɓiya and Totela together form one branch of Tonga as evidenced by certain shared innovations. The other branch groups together Plateau, Valley, Toka, Ila, Lenje and Soli on the basis of another set of phonological developments and the six lects are collectively referred to as Core Tonga. However, this division cannot be rigidly adhered to because Suɓiya and Totela to some extent participate in innovations affecting one or more members of the core group. It cannot be decided at the moment whether Sɓ and Tt together with the core lects form one distinct subfamily of Bantu or whether Sɓ and Tt form a different subfamily with some other lects not studied here. (Chapter 4). Some of the innovations link neighbouring lects and point to diffusion of phonological features across a

geographical continuum. This convergence is further illuminated by the discussion of sociolinguistic factors in Chapter 6.

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KEY TO ABBRIVIATIONS AND SYMBOLS.

CB	Common Bantu > "became"
PT	Proto-Tonga ~ Symbol for palatal nasal.
P1	Plateau Tonga lect
I1	Ila lect
Lj	Lenje lect
S1	Soli lect
Vy	Valley lect
Tk	Toka lect
Sß	Sußiya lect
Tt	Totela
ALS	African Language studies
IAI	International African Institute
JAL	Journal of African Languages
JRL	Journal of Linguistic Research
SAL	Studies in African Linguistics
JL	Journal of Linguistics
C; cons.	any consonant
V; vow	any vowel
rd	round
h, H, ' $\bar{h}$ lo	high tone long vowel bearing 'high' tone low
/ /	"phonemic transcription"
[ ]	"phonetic transcription"
/	"in the environment of"
/	
/	

[gg] 'voiced' reinforced velar plosive  
zh voiced palatal fricative  
sh voiceless palatal fricative  
fi, ny palatal nasal

ACKNOWLEDGEMENTS.

I would like to thank all the people who in one way or the other made this study possible. My first gratitude goes to all my informants who kindly and patiently supplied the data on which this work is based. My sincere thanks also go to local administrators in the areas where I went for research for introducing me to the local people.

Many thanks go to the Association of Commonwealth Universities for the scholarship for from September 1986 to November 1989 and to the University of Zambia for granting me study leave and financial assistance from 1989-90 and to the School of Oriental and African Studies for a research grant in 1987.

My sincere appreciations also go to the Africa Educational Trust and Cox Memorial Fund for all the financial help they gave me.

I especially wish to extend my sincere appreciation to my supervisors Professor Theodora Bynon and Mr. Michael Mann for their unflinching academic support, encouragement and spiritual guidance during the writing of the thesis. I deeply appreciate the rigours both put me through during the writing of the thesis and this work would not have reached the present form without them. Needless to say that all the remaining errors in the thesis are entirely mine.

I wish to thank my wife, Violet, who supported me during the time of writing this thesis and to my children who missed my company.

To a special friend, Hamusankwa Gwanu who offered me accommodation during my fieldwork I say: Thank You.

Last but not least my thanks to my parents who made everything possible.

**TO MY PARENTS**

CHAPTER 1.

OBJECTIVES, METHODOLOGY AND THEORETICAL FRAMEWORK.

1.0 Introduction

1.1 Thesis objectives

The main aim of the present study is to undertake a comparative study of the Tonga lects with the view to reconstructing Proto-Tonga. We have adopted the use of the term 'lect' to refer to the speech forms studied here instead of 'language' or 'variety' because it is neutral (see 1.2, below). The thesis will be concerned with the phonological aspects of these lects mainly on the level of consonants and vowels.

The lects involved in the study are Plateau Tonga, Valley Tonga, Toka, Ila, Lenje, Soli, Suɓiya and Totela. In terms of geographical location all these lects form a contiguous group and are located in four provinces in Zambia as follows: Central Province (Lenje); Lusaka Province (Soli); Southern Province (Plateau, Valley, Toka and Ila); Western Province (Suɓiya and Totela). These eight lects have been chosen for this study because some writers have treated them as closely related (as for example Kashoki 1978). Other writers do not agree that all the eight belong to the same subgroup of Bantu (cf. for example Guthrie 1948: 54). The main controversy is over the inclusion or exclusion of Suɓiya and Totela in this subgroup. Reservations have also been raised regarding Soli (cf. van Edén (1936); Bryan 1959). Among the remaining five, Plateau was chosen by the Zambian government as official language to be used as medium of instruction in primary schools. It is also the one chosen as language of the media and of political administration for the speakers of these five namely,

Plateau, Valley, Toka, Ila and Lenje.

In the present study Plateau, Valley, Toka, Ila, Lenje and Soli will be termed the 'core lects' because as we shall show in Chapter 3 these lects share certain sound changes among themselves such as merging the long and short vowels of PT to short (3.2) and also in having similar tone patterns at least in citation forms (3.3). Sußiya and Totela do not share in these characteristics.

According to Kashoki (1978: 21) Plateau is spoken by a majority of people as a native 'language' compared to the other lects studied in this group. It is for this reason that we have even singled it out in the title of this thesis. The fact that it is spoken by most people could have influenced the Zambian government to give it official status. The assumption is that speakers of all the five lects in question can follow instruction, and that they can understand with little difficulty the radio programmes, in Plateau, cf Mytton (1978: 209) and Lehmann (1978: 119). This point will be discussed in more detail in 1.6.3 below. The other two lects, Sußiya and Totela, lie outside what we may call the core area of Tonga. They are found in an area which is predominantly Lozi speaking in the western province of Zambia. The reasons why these two lects have come under the strong influence of Lozi will also be discussed in chapter 6.

Before we go into the scrutiny of the data we would like to make the following personal preliminary observations. Among the speakers of the eight lects the Plateau, Valley and Toka people consider themselves 'Tonga'. This was seen when we interviewed informants during fieldwork. This is significant since generally speakers of Plateau ordinarily consider themselves the only ones who are Tonga. But our Valley and Toka informants all insisted that they were all legitimately

Tonga. Valley speakers in particular consider their speech as the 'purer' form of Tonga of which Plateau is the corrupted version. The speakers of Plateau, Valley and Toka can also understand speakers of Ila, but with some difficulty. However, conversation can be carried out between, say, a Plateau speaker and an Ila speaker each using their own speech form. This is also true of Lenje on the one hand and Plateau on the other. But when we come to Soli we find that mutual intelligibility is greatly reduced. This was experienced by the author as in some cases he had to resort to Nyanja (Guthrie N31c) to clarify things with the informants. On the other hand Lenje and Soli are neighbours. All the informants we met claimed to speak both Lenje and Soli. In Chongwe, which is traditionally a Soli speaking area some of the headmen <sup>claimed</sup> to be Lenje. Suβiya and Totela are also mutually closer to one another than they are to any of the other lects. The informants we interviewed for Totela and Suβiya informed us that they could understand each other's lect. These two lects are less known by the speakers of the other lects because in the Western province where they are found they are more in contact with other languages, which although they are Bantu are not closely related to the lects studied here.

The above preliminary observations are given on the strength that the present writer is a native speaker of one of the lects, namely P1 and has had considerable experience in teaching Tonga before undertaking recent fieldwork. We have also made these preliminary remarks so that we are clear about the issues we are dealing with in this thesis. A more extended discussion of the points of sociolinguistic nature raised in this section can be found in chapter 6.

## 1.2 Language, dialect and lect.

As Holm (1988: 4) has remarked some of the basic concepts in linguistics like *language* and *dialect* are not easy to define. But we are still called upon to clarify them so that it is not ambiguous how we are using them. So far we have been using the term *lect* without defining what we mean. In this section we shall discuss each of these terms. Many writers who have tried to define these terms have recognised the problems involved (as for example Chambers and Trudgill (1980: 3):

*In common usage a dialect is a substandard, low status, often rustic form of language, generally associated with the peasantry, the working class or other groups lacking in prestige....Dialects are also often regarded as some kind of (often erroneous) deviation from a norm-- as aberrations of a correct or standard form of language.*

As we can see in this quotation the popular notion brings in subjective value judgements. We agree with Chambers and Trudgill that this characterisation of dialects is not satisfactory. One of the reasons for its being unsatisfactory is that the so-called 'standard language' is usually imposed on the population. In the context of the present study the definition is inadequate for another reason too: the variety that can be called standard that has been accorded official status, namely Plateau, is not associated with class. This is because the majority of native Plateau speakers themselves are peasants. The term economic class is not applicable here either.

One other difficulty with dialects is that they too, like

language, are not to be taken as homogeneous entities. Granted that we can talk of regional dialects (e.g. London English and Norwich English), within each of these regions there are variations in the way people speak. It is not an easy matter to decide where one dialect ends and where another begins as linguistic characteristics change gradually. In other words dialects often form a continuum. (Trudgill 1974: 14). When we come to dialects across international borders we find that they are no longer called dialects but languages, for purely non-linguistic reasons.

But how do we distinguish between dialect and language if they merge into each other like this? A language can be viewed as consisting of a group of mutually intelligible dialects (Chambers and Trudgill 1980: 5). It follows that when two speech forms become unintelligible they should be viewed as different languages. There is a problem with this view. As Chambers and Trudgill observe mutual intelligibility on its own can be unhelpful as a criterion. Danish, Norwegian and Swedish are mutually intelligible but they are still called different languages. It is also possible to find a situation whereby speakers of a given dialect A will refuse to acknowledge to understand dialect B because they feel their own is superior. This is irrespective of whether speakers of dialect B readily acknowledge that they understand A. If attitudes of speakers are not taken into consideration clearly related speech forms may be classified as different languages. This means that as in the case of the dialects discussed above the decision to label one speech form language A and

another language B may depend on non-linguistic considerations as in the case of Norwegian, Danish and Swedish. The factors that come into play in such considerations are political, cultural and historical. Given the difficulties outlined above we can see that we cannot use the terms *language* and *dialect* without qualification. It is for this reason that a more neutral term, *lect*, has been opted for in this thesis. The term was probably first coined by Bailey who proposed it to replace *variety* and characterised it as:

*a completely non-committal term for any bundling together of linguistic phenomena (1973: 11).*

We shall be using the term *lect* in place of *variety* in this thesis because it is a more neutral term. However, as we shall be referring to works by other writers these terms i.e. *variety*, *language*, and *dialect*, shall be used in appropriate places when referring to works by other writers who use them.

### 1.3 Lect Areas Visited and Method of Data Collection.

#### 1.3.1 Lect Areas Visited and Informant particulars.

The data on which this study is based was collected during a fieldwork trip to Zambia between August and December 1987. Some of the areas where the lects are spoken and from which we collected the data are given in Table 1.1, below.

<u>Lect</u>	<u>Area Visited</u>	<u>Informant</u>	<u>Age</u>
Plateau	Chikuni (Monze district)	the author	33
Valley	Kafwambila (Gwembe district)	Mr. Sianyunya	appr. 45
	Maamba (Gwembe district)	Mr. Maamba	appr. 60
	Sinazeze (Gwembe district)	Mr. Siabbalo	appr. 50
Toka	Zimba (Kalomo district)	Ms. Mulota	appr. 20
	Zimba (Kalomo district)	Mr. Mbwayu	appr. 34
Ila	Namwala secondary school (Namwala district)	Ms. P. Ndombe	17
	Chief Mukobela' Palace	Chief Mukobela	appr. 70
	Chibombo (Kabwe district)	Ba- Fanwell	46
Soli	Manyika (Lusaka Rural district)	Ba- Malita	appr. 50
	Chongwe	Mr. Luputa	appr. 60
Suŕiya	Simungoma	Mrs. Nalisa	appr. 50
Totela	Sesheke	Mr. Tapisa	45

Table 1.1. Lect Areas Visited and Informant particulars.

The author is the source of the information relating to Plateau. Data from the other lects was elicited by the author from the informants given in Table 1.1 above. Wherever possible we supplemented some data from existing published material for the lects where this was possible<sup>1</sup>. Data of this nature has been incorporated in the field data. The primary instrument used in collecting data was a questionnaire consisting of 679 words whose equivalents were sought.

<sup>1</sup>. Plateau: data supplemented from Carter (1962); Collins (1962)

Two versions of this were prepared, in English and Plateau Tonga which was the medium of communication used with regard to the majority of the lects. Originally, further items were designed to elicit information on morphology, tonology and connected speech but these items were omitted because of unforeseen pressure of time in the field. There were two parts to the questionnaire. The first part consisted of Swadesh's 200-word list. This list was included because we were also interested in collecting data that would allow us to discover shared basic vocabulary agreement between the lects. The second part of the questionnaire was designed to seek information on the sound correspondences between the lects. Thus all in all we ended up with 679 items for each of the eight lects. The questionnaire was initially conceived in Plateau Tonga. This is because this is the medium understood by the speakers of most of the lects as our aim was initially to reach people in the rural areas. But more important is the fact that the writer is a native speaker of Plateau. The idea to undertake the present study came about because the author noticed differences between his lect, Plateau, and the other lects. It is because he was aware of some of the differences particularly with regard to vocabulary and pronunciation (and even at the phonological level) that he decided to write the questionnaire from the point of view of Plateau. Each page of the questionnaire had two columns: the first was the Plateau Tonga version of the word list; the second was the translation into English. The third column was left blank to be filled with the informants's responses.

As the questionnaire was made up of a list of words we simply asked our informants the following questions: in the case of nouns the question was *What do you call X*, where *X* is a noun. When the

object was something we could point to we did so to clarify matters. Where the object was not something in our vicinity or could not be pointed to we tried to explain what we meant by circumlocution, that is, what was meant by the Plateau equivalent without actually giving it. In the case of the verbs the question we asked was *How do you say Y*, where Y is a verb. As with the nouns where what we were looking for was not clear from the Pl word we had to explain what was required. In both nouns and verbs some informants gave us more than one item corresponding to that of Plateau. This happened when there was a difference in the meaning between the Plateau word and its cognate in another lect. If one of the responses was identical or similar to that of Plateau we noted it but did not use it finally in our analysis. Instead we opted for the form that was different. The decision was partly arbitrary, but we also wanted to maximize the differences between the lects. It was important to do so for the lexicostatistical study (see 4.6).

When eliciting information from Lenje, Valley, Toka and Ila the medium of communication was exclusively Plateau Tonga. In Soli, communication broke down from time to time as the informant could not understand most of Plateau Tonga material. When this problem arose we resorted to speaking in Nyanja, the only other Zambian language accessible to both the researcher and the informant at the time. The problem with Suβiya and Totela was much worse as the informants did not understand Plateau at all (see 1.3.3 below.) When eliciting information from the speakers of these two lects the author realized at the very beginning that the Plateau Tonga version of the questionnaire had to be abandoned for the reason just given. The alternative was to explain things in Lozi, the local language, but the author could not

speak Lozi either. This situation necessitated bringing in a third person who could speak English. In this way the author addressed the question to the intermediary in English, the latter translated that question into Lozi for the informant, who finally gave the response in Suβiya or Totela. Clearly this state of affairs was not ideal to the kind of research we were doing. The danger was that there was no way that the author could have known whether the responses given were genuine, that is Suβiya or Totela, and not mere repetitions of the Lozi responses that our intermediary produced. What this all means is that we cannot totally rely on the data from Suβiya and Totela.

#### 1.3.2 Transcription of data.

When the responses were given the author recorded this immediately in the third column of the questionnaire. In Soli, Suβiya and Totela the tones of the words were marked impressionistically by the author on the spot. This was because we were not able to record the responses on tape (see 1.1.4 below). In the remaining lects tones were also marked on the spot but since we recorded the responses on the tape we were still able to revise the tone marking at a later date. As regards notation we actually used two systems, the phonetic transcription and the orthography as regards Pl, Vy, Tk and Il. Generally the writing systems of many Zambian languages closely resemble the pronunciation. However, the following exceptions were observed. In the case of Plateau, Valley and Toka we found it necessary to clarify between some of the symbols used in ordinary orthography. We explain each of them in turn.

(a): The voiced velar fricative which in ordinary orthography is symbolised as k was transcribed as [ɣ]. This I.P.A. symbol is close to the pronunciation of what is written as k. The symbol k was used to represent the plosive [kk];

After the homorganic nasal, [ɣ] has an alternant [k]; (see 2.2.2.6, Table 2.12 below).

(b): The voiced bilabial fricative written as b in orthography, is given the phonetic presentation [β] in this thesis. We have left the symbol b to stand for the geminate [bb]. After the homorganic nasal, [β] is realised as [b]; (see 2.2.2.6).

(c): The symbol zh was used to stand for the voiced palatal fricative. In orthography this is symbolised as c. In this thesis we reserved c for the geminate [cc]. After the homorganic nasal, zh is realised as c (i.e. [tʃ]); (see 2.2.2.6).

(d): The symbol sh stands for the voiceless palatal<sup>- alveolar</sup> fricative (I. P. A. [ʃ]).

(e): The glottal fricatives are symbolised as h for the voiceless one and hh for the voiced one.

(f): The symbol ' ' over a vowel symbolises 'low' tone while ' ' stands for 'high' tone. In 3.3 Low and High tones are also symbolised as 'l' and 'h', respectively.

(f). The symbol {N} stands for a 'homorganic' nasal.

We would also like to mention that most of our data consist of nouns and verbs. They were recorded in their 'full' form. This means that the nouns were recorded with their class prefix. Where it was necessary as when there was alternation in the stem between the singular and plural forms the plural was also recorded. Otherwise only the singular was elicited. In the case of verbs they were recorded in

the infinitive form. The infinitive has the structure: infinitive prefix-root-final vowel a (or ku-/yu-stem-a).

### 1.3.3 Circumstances of Data Collection

As we stated above, the research on which this study is based was undertaken between August and December 1987. Ideally the months of August, September, October and mid-November are the best time to do research in Zambia, especially our kind of research which involved going into the villages. During these months life in the villages is more relaxed as there is not much work to do in the fields. But as it turned out, we found when we got there that there were much more serious problems that we had not anticipated. Our research trips demanded that we visit the areas mentioned in Table 1.1 above in person instead of posting the questionnaire to prospective informants. We had arranged that the University of Zambia was going to assist us with transport in the form of a Land Rover to take on our trips. This was not to be as the University was also faced with insufficient Land Rovers or any other form of transport which they could spare. The only alternative then was to use public transport. This made our mobility highly constrained in the following way. Public transport operates along the main lines of communication linking government administrative or business centres. Consequently, we were only able to reach the district administrative centres, called *bomas*. But the original idea was that from there we would be able to reach the villages to record the information. But public transport into the villages was not available. As we could not walk long distances we just had to seek informants living in these administrative centres who could speak the lect of the area, with the provision that they were native speakers.

The exceptions to this general problem was in the collection of data on Plateau Tonga which the author himself provided. In the Ila speaking area we were also able to reach Chief Mukobela's palace or capital because it was within manageable walking distance from the boma. We intended to visit each lect area at least twice. But because of travelling difficulties this was not possible. Although we had theoretically five months to do the research the time we actually spent with the informants was two months in all, for the reasons we have already given.

#### 1.3.4 Informants.

One of the problems that we faced in the field was finding informants willing to be interviewed, as we have already indicated. This problem was most severe in the case of Suɓiya and Totela. Sesheke, where these two lects are spoken lies on the border between Zambia and Caprivi Strip. Caprivi Strip is essentially part of Namibia which at the time of the fieldwork was controlled by South Africa. A number of native Namibians, mostly Suɓiya speaking had fled into Zambia as refugees because of the freedom war that had been going on in their country for a long time. From time to time there were also military incursions of South Africans into Zambia in hot pursuit of the Namibian freedom fighters and refugees. This fighting involved the Zambian Army as well whose presence was visible in the area. Given this situation there was always tension in Sesheke. A stranger was always looked upon with suspicion. All these things made it very difficult for us to get informants in spite of the fact that we had introductory letters from the University of Zambia. Potential informants, both of Suɓiya and Totela, were afraid of coming forward

because they thought we were agents of the South African government. The two informants we finally got, one for Suḥiya and another for Totela were even reluctant to give us their names and the dates of their birth. They certainly refused to be taped. It is for reasons like these that data on these two lects is incomplete, especially where tone is concerned. Tone in these lects was marked impressionistically, on the spot as data was being written down.

In the case of Soli the problem was that we could not find a literate person in Soli to read the Soli words for us on the tape. By the time we found one we were leaving the area because we were running out of time and finances. As a result the Soli data are not on tape.

#### 1.4. Theoretical Framework.

In this thesis we are going to take the Comparative Method (as described for example by Keiler 1972; Antilla 1972; Arlotto 1972; Lehmann 1973; Goyvaerts 1975 and Bynon 1977) to enable us to reach the goals we set for ourselves above. As we said in 1.1 above the objectives of this study are: 1. to make a comparative-historical study of the present-day Tonga lects; 2. to reconstruct the phonemes of the proto-lect, which we shall call Proto-Tonga, from which all the present-day lects are presumed to have descended; 3. to study the development of the phonological inventory of each of the lects from that of Proto-Tonga; 4. to try and determine the degree of relatedness of the lects under study. We shall also discuss certain socio-linguistic aspects of speaker behaviour to see how far there has been convergence between geographically close lects; see Chapter 6 below. Before we describe the method we have adopted in this thesis we shall first examine, in chronological order, the various other methods

that have been employed in studies of closely related lects. This review is undertaken in order to put our approach in a proper perspective and thereby hopefully justify it.

#### 1.4.1 Traditional dialectology.

This theory perhaps dates back to 1876. It arose as a test and application of the principles of the Neogrammarian school. The Neogrammarians took the position that language change is orderly and that it is accessible to systematic investigation (Bynon 1977: 24). Because change is orderly it must be rule-governed. To systematically account for the phenomenon of language change Neogrammarians postulated two important mechanisms, 1. Sound Change and 2. Analogy. Sound change operates at the phonetic/ phonological level while analogy primarily operates at the morphological and syntactic level. Sound change, the neogrammarians claimed, is governed by the regularity principle. This was the claim that the conditions that affect sound change are purely phonetic ones and that: a. the direction of sound change is the same for all members of a speech community (all things being equal); b. all the words in which the sound undergoing change occurs in the same phonetic environment are affected in the same way (Ostoff and Brugmann, quoted in Bynon 1977: 25). It is this principle that, indirectly, Georg Wenker's work put to the test in respect of the consonants of West Germanic. This claim will be put to the test in the present thesis. It will be shown in some instances that certain sounds did not undergo the expected sound change in spite of the fact that the phonetic requirements are met (see for example 3.1.7.3 which deals with the reflexes of PT \*p.)

Eighteenth century grammarians believed that the literate upper

class speech was older and much more rational than the local speech form. However, linguists soon discovered that local speech forms preserved some of the features not found in the the so-called rational speech of the upper class. Since the non-standard forms preserved ancient features not found in the standard language it was felt that they represented the unbroken and unchanged form of the ancient language. This realisation gave rise to publications of dialect monographs and later maps (as represented by the work of Georg Wenker in his study of High and Low German and Jules Gilliéron in France). These maps were meant to show the geographical distribution of the local variants of a given feature. (Bloomfield 1933: 323 and Hockett 1958: 471-7).

One of the basic questions addressed by traditional dialectologists was whether or not dialect boundaries existed and whether precise bundles of isoglosses would emerge to mark them off. This problem was in fact one of the main preoccupations of traditional dialectologists. It is for this reason that we could not use the methods and aims of traditional dialectology in the present study because our main concern was not to mark off precise dialect boundaries but to establish the linguistic distance between the lects. The other reason is that following the method of traditional dialectology or dialect geography would have required us to have considerable resources in terms of personnel to help elicit information from village to village and also financial resources to enable us realise the aims of traditional dialectology. In a thesis like ours we could not afford these resources.

#### 1.4.2 Structural Dialectology.

Structural dialectologists shifted their attention from the apparently, atomistic view of traditional dialectology to looking at the whole linguistic system of which individual features formed part. Perhaps the most important figure in this regard is Uriel Weinreich who argued that structural dialectology was indeed possible, (Weinreich 1950). He contended that the difference between dialect systems was one of inventory and distribution and developed the method of the diasystem to make explicit these two facts. He argued that the diasystem itself had a psychological reality for bidialectal speakers. In spite of its popularity in its time it was flawed because it was unable to account for certain facts about language.

One of the shortcomings of the diasystem <sup>was that it</sup> had no way of distinguishing between related and unrelated languages. Secondly the diasystem of distribution or incidence in cognate words can be seen as no more than a synchronic variant of the comparative method.

In its study of the distribution of the phonemes in cognate words structural dialectology presupposes common origin of these words. In fact Weinreich operated with some kind of synchronic copy of reconstruction. Although we are not dismissing this theory we have felt that it is important to first do the reconstruction before any satisfactory study using the method of structural dialectology can be undertaken.

#### 1.4.3. Generative Dialectology.

According to Chomsky (1965: 3) and his collaborators the central task of a linguist is to account for a speaker-hearer's linguistic *knowledge* or *competence* of his language which underlies his

performance. The linguist must account for why it is possible that the speaker-hearers are able to produce and understand sentences or utterances that they may have never produced or heard before. Chomsky and other researchers have been concerned with this creative aspect of human language. A *theory* that addresses itself to these questions including how children acquire language and whether or not there is such a thing as Universal Grammar has come to be known as *Transformational-Generative Grammar*.

*Generative Dialectology* was conceived within the general framework of *Transformational Generative Grammar* (Halle 1962) and may be summed<sup>up</sup> as follows (Petyt 1986: 37).

*If a generative description of phonology consists of a set of ordered rules applying to the underlying forms, then clearly two or more such grammars may differ in having different underlying forms and/or a different set of rules and/or a different order of rules. But linguists of this school, hold that when the grammars of different dialects are compared it is normally the case that they will have the same underlying forms and a majority of the same rules.*

Generative dialectologists have added that in addition to sharing the same rules some forms will be generated by 1. the addition of one or more rules in some dialects, 2. the deletion of some rules in some

dialects, 3. different ordering of some of the rules and 4. a simplified form of a rule in some of the dialects. This theory of language variation and change found expression for example in the work of Brown (1972) in her study of Lumasaaba a language spoken in Uganda. The *language* breaks down into the northern and southern group of dialects. Her task was to establish that the two major groups of lects share the same common denominator of underlying forms and a set of phonological rules. According to Brown the southern dialects share the same set of rules, which are not applicable in the northern dialects. Further, among the northern dialects the differentiation is made on the fact that some of them share some rules which are not shared by the others within the group.

Newton (1972) studied Greek dialects within the same theory. He set out to show that the Greek dialects have common underlying forms. Dialects came to be the way they are now because of the way they applied the common phonological rules. Some lects applied certain rules while others did not. The forms of rules also differed much along the same lines described by Brown (1972) for Lumasaaba in the preceding paragraph. However, Newton ran into considerable ordering paradoxes in his rules. Generative dialectology was essentially rule based as it was claimed that language change is the result of change in the generative grammar. One of the arguments raised against generative dialectologists is that the model is too *abstract*. As Francis (1983:175) remarked if we set the same underlying structure for all the lects we may find ourselves in problems in that this underlying structure may not have a psychological reality for the speakers of one or more lects. The theoretical claims of generative dialectology have now been largely discarded because they could only be

maintained by postulating unjustifiably abstract representations.

In addition, as far as the present study is concerned we were unable to use the generative dialectology method because the model is largely dependent on morphophonemic alternations. For a study like ours which involves eight lects all having fairly complex morphologies we would have been required to first establish the morphophonemics of each of these lects as a preliminary to a generative dialectal study, a task which has not even been completed for Plateau.

#### 1.4.4. The Comparative Method

As we pointed out in 1.0 above the present study has been undertaken within the framework of the comparative method. This method is based on the following basic assumptions (Jeffers and Lehiste 1972: 15):

(1) The relatedness hypothesis: This hypothesis says that if two or more languages resemble each other to such an extent not accountable for by borrowing or chance then the resemblance can only be explicable by historical connection. That is to say, the resemblances can be said to be later developments of an earlier parent language. The languages that are presumed to be descendants of a single parent language, or *proto-language*, are called *daughter* languages. Any feature present in common must have been present in the parent language. Those features that disagree can be attributed to borrowing.

(2) Regularity hypothesis: This can enable us to reconstruct the forms in the parent language.

The comparative method mainly investigates words with similar meanings and form in languages suspected of being related by common ancestry in order to discover the sound correspondences and

reconstructing the parent language. One usually compares sounds in particular positions and environments of words suspected of being cognates (that is words that are suspected of having descended from the same proto-language and have the same form and meaning). In the actual establishment of the sound correspondences the researcher must consider the phonetic environments in which the correspondences occur. If it can be established that two or more correspondences occur in contrasting environments the researcher then reconstructs one segment for contrasting sets. Reconstruction of all of the parent language proceeds after the sound correspondences have been established.

According to Bloomfield (1933: 311) the comparative method reconstructs uniform proto-languages existing at points in time and traces the developments which took place after each parent language split up into the next parent language. The mechanism that shows such successive splits is called the *family tree hypothesis*. An integral part of the comparative method is the assumption that after a parent language has split up into daughter languages the speakers of these respective daughter languages lose linguistic contact and develop independently.

Language split is based on the notion of *phonological restructuring*. It is said that the sound system of a language is restructured when the system of phonological contrasts is changed to such an extent that old sound contrasts are lost, new ones are introduced or when the elements of the phonological system are realigned. At this point the change is irreversible and a phonological system which is both innovative from the point of view of the parent language and distinct from the point of view of the cognate languages is established.

There have been a number of criticisms against the comparative method. One of these is that the reconstructions do not tell us precisely how the reconstructed forms were pronounced in the ancestor language. As Lehmann tries to show:

*on the basis of Greek ph Germanic b, Slavic b, Latin b, Sanskrit bh, and Armenian bh, we may posit PIE bh. We cannot determine precisely its pronunciation. Nor do we know whether the Proto-Indo-European labial velars were articulated as velars followed by labial rounding, as velars with simultaneous labial closure, or as still other sounds (Lehmann 1962: 92.)*

It has also been pointed out above that the comparative method assumes each branch of a language or daughter language reflects independent testimony to the forms of the parent language and that the features held in common by the daughter languages were present in the parent language. The thinking behind this position is that shared features are the result of common inheritance and not due to contact or mutual influence.

One of the theories that has seriously challenged the method of the comparative method is the *wave theory*, advanced by Schmidt (1872). The wave theory argues that linguistic innovations spread in wave-like fashion from one language or dialect to another and that the agents of such a spread are the speakers of neighbouring languages or dialects. The argument stems from the observation that neighbouring languages often share innovations that cannot be joint inheritance from an intermediary ancestor language. Sometimes different linguistic changes may spread over a speech area and each change may be carried

over a part of an area that may not coincide with the part covered by an earlier change. Consequently these successive changes will be shown as a network of isoglosses. It was observed that it was a weakness of comparative method that this wave-like diffusion of sound change cannot be accounted for. It can be inferred from this that while the comparative method can be applied to sort out loans between distinct languages it is not equipped to deal with this problem in the case of dialects Hockett (1958: 472).

We can sum up the main shortcoming of the comparative method by saying that it is confined to the investigation of divergent <sup>developments</sup> ~~thereby~~ neglecting convergence. We have nevertheless elected to use this method in spite of the shortcomings because it is the one that can enable us to establish the relationship between the lects under <sup>study</sup> , by working out the scope and order of innovative changes. Bearing in mind that the ancestor language is not attested, this seemed an essential step in assessing the present-day situation. Although the comparative method was originally developed to establish the relationship between Indo-European languages, it has been applied successfully in the studies of other language families as well, for example in the comparative studies of African language families the most developed of which is the <sup>studies of the language</sup> Bantu family. Much of what we currently know about the Bantu language family is largely due to the comparative work undertaken within this paradigm, especially if we look at such works as Bleek (1860), Meinhof (1932), and Guthrie (1948; 1967-71). The present study seeks to contribute to the investigation of the Bantu languages by filling the regional gap in Zambia. However, being conscious of the one-sided picture resulting from comparative reconstruction as far as the present situation in Zambia is concerned,



we have endeavoured to give in Chapter 6 a brief sketch of current convergent developments using as our model the accommodation theory championed by Trudgill (1986).

### 1.5 Previous Classifications of the Tonga Lects.

Linguists are not in agreement over the composition of what we have called the Tonga group. In this section we shall make an overview of the previous attempts to classify the lects which have in the past been assigned to this group.

Doke (1945) was probably the first linguist to use the term *Tonga group* to refer to the group of lects we are studying in this thesis. He included them in his Central Zone of the Bantu languages as follows:

#### 1. Doke's Classification of Tonga lects (1945. p. 40).

##### **Tonga group .**

- (a). Tonga: Dialects: Northern and Southern, We and Totela.
- (b). Ila: Dialects: (Lundwe and Maala).
- (c). Mukuni (or Lenje): Dialect: Twa.

##### Zambezi group 4 (allied to Tonga):

- (a). Suβiya.
- (b). Luyi.
- (c). Leya.

Western-Central zone.

Lwena or Luvale: dialect: Chokwe.

Luchazi, Lwimbi; Mbunda, Nkangala.

Lunda (Ndembu).

Soli.

As we can see each of the above main groups consists of regional variants. In (a) we find the term *northern*. Doke did not elaborate on what this term applied to. We shall interpret it as follows: that *northern* probably meant what we call *Plateau Tonga* in this thesis. He also used the term *We*. We shall assume that what he meant by this term is what we have called *Valley* here. We shall not use the term *We* to refer to *Valley* because the former is usually seen by the *Valley* speaker as offensive and derogatory. The term is not generally acknowledged by them. These people call themselves *the real Tonga* and any other designation of them is unwelcome. We shall return to this point in section 1.6.4 where we deal with attitudes of speakers towards one another's lect. The other point to note in Doke's classification is that of *Maala* and *Lundwe*. The term *Maala* as the people of *Namwala* use it refers to a locality. However it is the people of *Maala* who claim to be the *real Ila*. It is perhaps in this sense that Doke used the term. As for *Lundwe* this is contentious, because according to the people interviewed during the field work they were surprised to hear that some people call them by this name. These people are found in a small area between *Plateau Tonga* proper and *Ila* and in fact their speech form reflects some aspects of both *I1* and *P1*. We discuss the problem of *Lundwe* as it relates to some sound changes in *Ila* in Chapter 6.

In his classification, Doke had another group which he subsumes under Zambezi Group 4. The members of this group were listed as Suβiya, Luyi and Leya. According to Doke this group is aligned to Group 3 above. This classification is interesting for a number of reasons. The first one is that Luyi is included in this group when other scholars have put it in the Luyana group of lects (cf. Lisimba 1982). If we look at Guthrie's classifications (Guthrie 1948; 1967-71) we find that Luyi is not put in this group that Doke called the Zambezi group. Furthermore Guthrie puts Suβiya in a different group with Totela, K 40. The other problem with Doke's classification is that he puts Leya in the Zambezi group but excludes Toka. This classification is problematic because it has been asserted by some of our informants that Leya and Toka are almost indistinguishable from one another. Indeed the Leya and Toka are generally known as Toka-Leya. This is indeed the term we might have used in this thesis instead of just Toka. We chose Toka because it is shorter than the generally used term although we could have easily used Leya without changing the substance of our findings.

The standard classification of the Tonga lects is to be found in Guthrie (1948: 57) and 1967-71: Volume 3, Part II, p.16). These are given in (ii) below. It will be seen that the difference between Guthrie's classification in 1948 and that of 1967-71 lies only in the detail given to M. 64. (Tonga). The classifications given below are taken from Guthrie word for word except for the symbolisation β in K42 which Guthrie gives as B for Suβiya in 1945 and as b in 1967-71.

ii. Guthrie's Classification

(a). (1948: p. 57)

M. 60.	K. 40
61. Lenje.	41 Totela.
62. Soli.	42 Suβiya.
63. Ila.	
64. Tonga & co.	
a. Tonga.	
b. Toka.	
c. Leya.	

b. (1967-71. Vol. 3 Part. II p. 15.)

M. 60. Lenje-Tonga Group.	K. 40 Suβiya Group
M. 61 Lenje (Ciina Mukuni).	41. Totela
M. 62 Soli.	42. Suβiya
M. 63 Ila.	
M. 64 Tonga Cluster.	

Guthrie's classification differs significantly from that of Doke. Guthrie added Soli and Lenje to this group. Suβiya and Totela are conspicuously absent in this classification. They are given as K 40 as we have already indicated above. Nevertheless the classification as given in (ii) above is the one that has generally been followed by many linguists.

Another attempt to classify the Tonga lects can be found in Bryan (1959). Her classification largely follows that of Guthrie (1948) but she called the whole group the *Ila group*. She was hesitant on the

question of whether or not Soli belonged to this group. Her thoughts on this issue were that Soli belonged to another linguistic group L.10 which includes Lunda, Luvale and Chokwe.

The most recent study in the subgrouping of the Zambian languages can be found in Kashoki (1978: 19-21). In this study we find that there is now a total of fifteen members in the Tonga group. Added to Guthrie's subgroup given above are Shanjo, Fwe, Twa(of Kafue) and Twa(of Lukanga), Lumbu, Sala, Totela, Sußiya, Lundwe and Leya. The linguistic groups in Kashoki were based on many criteria ranging from purely linguistic ones (i.e. shared vocabulary and grammatical characteristics) to 'informed opinion' (Kashoki 1978:17). Although Kashoki's classification is valuable as a starting point for more careful classification in future, we shall not include for investigation all the lects Kashoki subsumed under the Tonga group. In particular we shall not include Shanjo, Twa, Fwe, Lumbu, Lundwe, Sala, Leya because we could not realistically manage to obtain sufficient data for all of them in a study like this which is constrained both in terms of time and financial resources. However, in future one might want to carry out more extended research that includes all these lects and study them along the same lines as the current thesis.

Lehmann (1978) like Kashoki undertook a lexico-statistical study of the languages of the Kafue basin. Her study confirmed the existence of what she called the *Tonga Group* (Lehmann 1978:119). According to her this group includes Tonga (presumably Plateau Tonga, Valley and Toka), Ila and Lenje. She remarks, quoting Torrend (1931:v) that one of the outstanding features of this group is that it is the only one in Bantu which has an infix -o- in numerals. This vowel is not found in

cognate words in wider Bantu. For example for 'two, three, four people' respectively these lects have 'βantu βoβile, βotatwe, βone'. If we look at the Bemba renderings of the same numerals we shall find *βaβili, βatatu, βane*. Torrend was prompted to call the Tonga group *βantu βotatwe* purely on the basis of this infix -o-. However we find that some of the lects now included in this subgroup, namely, Soli do not have this infix, which renders the term *Bantu Botatwe* irrelevant. However, Suβiya and Totela which have this construction as the βantu βotatwe group are excluded from this classification by some scholars as we have mentioned *above*.

The foregoing review of the classification of the Tonga lects indicates that there are problems. The major problem is to delimit the lects that can be called members of the Tonga group. It is the aim of this study to try and provide an answer to this problem by applying the vocabulary collected during field work to comparative analysis.

## 1.6. THE GENERAL LANGUAGE SITUATION IN ZAMBIA.

### 1.6.1 Introduction.

Language issues in Zambia are inextricably intertwined with ethnic identity problems. It has often been said that there are seventy-three ethnic groups in Zambia which reflect the same number of languages. These ethnic groups and putative languages are distributed in Zambia's nine politico-administrative provinces. However the Zambian government has only recognised seven of these as major languages for the purposes of education, administration and the media. The 'languages' in question and the areas where they are spoken are Tonga (Southern province and parts of Central province); Nyanja/Cewa (Eastern province); Lozi (Western province); Kaonde, Lunda, and Luvale (North-western province)

Bemba (Copperbelt, Luapula and Northern provinces). Out of these seven only four are taught as subjects from primary school to secondary school. These are 'Tonga', Lozi, Nyanja and Bemba. In actual fact there has not been a careful study of the languages in Zambia to enable us to decide how many languages are actually spoken or to distinguish between 'language' and 'dialect' of a language. This in itself is a difficult task as there is no agreed upon definition of these terms (see 1.2). It is quite likely that the number of languages is much less than the ones frequently cited. (On this issue see Miti (1988), who undertakes a brief review of the language situation in Zambia in the light of Kashoki (1978).

In general, in Zambia, people often identify themselves with the dominant lect in their province. This may be their mother lect or the lect of the dominant group. The other criterion applied by which people identify themselves is 'ethnic' group. There are cases when ethnic group coincides with the dominant lect. In other cases there is a conflict. In the southern province, for example there are the four Tonga lects Ila, Plateau, Valley, and Toka. When asked what they are the speakers of Ila would identify themselves as Ila; the Plateau and Valley would quarrel between themselves over the ownership of the term *Tonga*, and Toka speakers would say they are Toka. Can we say that we have four ethnic groups in the southern province or not? All these people together are said to belong to the larger entity called 'Tonga.' Is this entity what is to be identified as the ethnic group or is it a dialect continuum that might be termed 'the Tonga language'? There is no doubt that Plateau, Valley, Toka and Ila are mutually intelligible (see Chart 4.10 in Chapter 4). But it is only an accident of history that Plateau was chosen as the 'standard' lect.

In the Western province the question of language and identity is even more interesting. It is perhaps accurate to say that everybody in this province speaks Lozi in their adult life (Carter 1962 ). But 'Lozi' is not the name of an ethnic group. It is a language which resulted from the contact of Luyana and Kololo, neither of which is currently spoken in this province. There are other languages which were spoken before Kololo came into <sup>the area</sup> ~~the~~ Some belong to the Luyana language family. A study of the Luyana dialects can be found in Lisimba (1981). It is significant that Lozi does not appear in Lisimba's study. In terms of identity all the speakers of the Luyana lects would identify themselves by the label 'Lozi' and not by any of the names of lects like, Mulonga, Kwandi, Kwangwa, etc. Among those that do not belong to the Luyana group are Suɓiya and Totela.

In the North-western province there are three lects spoken, each one dominant in its local area. These as already indicated above are Luvale, Lunda and Kaonde. According to Roberts (1976 p.67) it would seem that Lunda and Luvale belong to one big family which he calls LUNDA, and that this family also includes Chokwe, Mbunda and Luchazi. These are said to be branches of Luvale (see Roberts 1976, p.67). As far as the main lects Luvale, Kaonde and Lunda are concerned there is no problem of identity for ordinary people. A Luvale person has no allegiance to Lunda or Kaonde. It is because ordinary people want to keep these three lects distinct that the government has failed to find a compromise lect in this province.

The three provinces Copperbelt, Luapula and Northern and also part of Central Province, all have Bemba as the 'standard' language. In the Northern province there are other lects spoken apart from Bemba. These include Mambwe and Namwanga whose claimed linguistic relationship to

Bemba is surely a forced one (see <sup>for example</sup> Kashoki 1978: 22). In the other provinces, namely, Copperbelt, Luapula and part of Central province the local lects are historically related to Bemba.

The Eastern province like the Western province has many lects spoken there. On top of this Nyanja is the most widely spoken lingua franca. Nyanja is an urban variety of Cewa. There is no ethnic group called Nyanja in Zambia. 'Nyanja' in this respect is on the same level as Lozi. The lect which seems to be on its own in terms of linguistic proximity with the other lects in Eastern province is Tumbuka. But being in the minority group they are forced to learn Nyanja.

Finally, let us look at the Lusaka and Central provinces again. The Lusaka province was mainly inhabited by the Soli people in pre-colonial times. But as Lusaka town grew bigger and eventually became the Capital City of Zambia it attracted people from all over the country. Secondly, as climate and the soils were suitable for farming around the town colonial settlers bought farms there. The Soli people were pushed eastward of the town into the less fertile hills to leave the more habitable places for the European settlers to build farms. The farms then attracted labourers not only from the displaced Soli but from the migrant labourers from the Eastern province as well. These factors combined *together* helped to reduce the status of Soli even in its own homeland. Nyanja grew up as the most widely spoken medium in the Lusaka area. During fieldwork in the Soli area we discovered that people even in the villages spoke Nyanja. It is perhaps safe to say that most Soli people are bilingual in Soli and Nyanja. This is especially so in Chongwe area which is roughly fifty kilometers east of Lusaka town. There is another reason why Nyanja became prominent in

the Lusaka area. Nyanja was deliberately chosen as the language of the police and the armed forces in general. Consequently it became the most widely spoken lect in most urban areas in Zambia. As the Soli people were only a few kilometres from the growing Lusaka town it is understandable why they were particularly affected. Soli has never been taught in school in Soliland. Instead Lenje has been the medium of instruction.

In the Central province, especially in the Kabwe district Lenje is the native lect. However, in Kabwe town itself Bemba is the most widely spoken lect. As a result schools teach Bemba instead of Lenje. In the rural Kabwe district Lenje and Plateau Tonga are both taught. This has led to resentment on the part of the local people because they feel that foreign languages are given preference instead of their own. It is instructive to note that even Plateau is seen as 'foreign'.

To summarise the language situation in Zambia, we can say that there there are seven indigenous official languages, namely, 'Plateau Tonga', Lozi, Nyanja, Kaonde, Luvale, Lunda and Bemba. These are the the ones approved in the mass media and education. Four of these, Plateau Tonga, Lozi, Nyanja and Bemba are also taught in secondary schools up to the General Certificate of Education (G.C.E) level. These four follow English in official recognition. English was chosen as the official language as a compromise because no one local language is understood widely enough to be acceptable by every one.

#### **1.6.2 Contact between the Tonga lects.**

At the attainment of political independence from Britain in 1964, Zambia inherited road and railway networks which had been built merely to enhance colonial economic interests. This can be seen in the fact

that there was only one railway line stretching from the southern end in Livingstone to the copper mining towns in the north-west. The railway line had a parallel road running beside it all the way. They both started from Cape Town in South Africa as part of the grand plan of John Cecil Rhodes's, the British empire builder who had the dream of building the railway and road to connect Cape Town in South Africa to Cairo in Egypt. The road is popularly known as the Great North Road.

As was to be expected both the railway line and road passed through commercially viable areas, such as in areas suitable for agriculture and other economic activities. Consequently a number of commercial and administrative centers grew up along the line of rail and road. The railway line and road cut through only some of the Tonga speaking areas namely, Toka, Plateau, Lenje and Soli. Of these four only Plateau benefited most in the sense that more commercial and administrative towns were built in the Plateau area than in the other Tonga speaking areas. This is in spite of the fact that the administrative capital is situated in Livingstone in the Toka area. Toka is the southernmost lect. Several factors might have favoured Plateau area for the establishments of commercial centres, but only one seems to be paramount. The Plateau area was favoured because the soil there was found to be good and the climate healthy for agriculture (Roberts, 1976 p.150). It is for this reason that more towns were built in this area along the line of rail when compared to other Tonga speaking areas. The areas that did not benefit from the railway and the Great North Road are Valley, Ila, Sußiya and Totela areas. To reach these areas less reliable gravel roads were built. It is true that local administrative centers were built in each of these areas but they are still difficult to reach from the line of rail. Because Valley,

Ila, Suɓiya and Totela areas were in what we may call peripheral areas, they *provided* little economic interests *for* the colonial settlers. One can ask how the above exposition bears on the question of contact between the various lects. It is not the case that all the Tonga lects are located in the same area. Toka, Valley, Plateau and Ila are located in one province, the Southern province; Suɓiya and Totela in Western province, Lenje in Central and Soli in Lusaka province of Zambia. To reach the Central province from the south one has to cross the Kafue river. This had posed a barrier which separated Soli and Lenje from the rest. The building of the rail and road across this big river from the south right through the central province meant that contact was now much easier between some of the lects at least. Those that were left out are Suɓiya Ila and Totela. We cannot say for certain how contact was maintained between the south and central provinces before the road and railway bridges were built across the Kafue river. But the fact that the lects on either side of the river have remained mutually intelligible right to the time of bridge building implies that some form of contact had been taking place, for example by using boats and ferries to get from side of the river to the other. But when we look at Soli in terms of mutual intelligibility with say Plateau one finds that this natural barrier had an effect. It is quite difficult for a Plateau person to understand Soli in a conversation although a Soli would not have as much difficulty. We shall try to explain later why Plateau is easier to be understood by the speakers of other lects (see 1.6. (2-3) below).

Although Plateau, Valley, Toka and Ila are spoken in the same province it does not follow that they have an equal chance of contact. Plateau and Ila have no major natural barriers between them. We can

assume that although colonial penetration into Zambia did not do much to enable the speakers of these two lects to reach each other much more easily we can assume that contact had been going on with ease in pre-colonial times. One could travel from one area to another even on foot since there are no major rivers and mountains to hinder this kind of travelling. What is perhaps surprising is that the two lects have kept their distinct identity even given the fact that contact between them might have been regular. No Ila person would like to be identified as Plateau(='Tonga' in the layman's usage). But it is true however that there has been borrowing of vocabulary between the lects as we shall see in Chapter 3 and as we shall also see in the high degree agreement in vocabulary.

Valley, Toka and Plateau are even much closer. Indeed when people speak of Tonga they mean all these three as a unit. However actual contact between the three is not so smooth. This is because of the existence of so many hills between them which must have made travelling on foot quite difficult. But still mutual intelligibility between these three lects is quite high. This implies that these three lects have always remained in contact. This gets further support if we examine Chart 4.10. There we can see that agreement in basic vocabulary between Toka, Valley and Plateau is indeed very high. The question then arises as to whether we are right to give these three lect status or whether we should in fact be talking about local varieties of Tonga. The reason for giving these three distinct lect status lies principally in the inventory of consonantal phonemes (see Chapter 2, Charts 2.6-7 above). Differences at the tonal level is negligible at least if we look at the surface tonal patterns of lexical items in isolation (see 3.3.3).

Finally let us look at Totela and Suβiya. The speakers of these two lects are in active contact with each other as the two lects are found in one area, Sesheke district. However neither of the speakers of these two are in active contact with the speakers of Pl, Vy, Tk, Il, Lj and Sl . As Map 6.1 shows two rivers form physical barriers between Suβiya and Totela on one hand and the core lects on the other. The map shows that <sup>the</sup> river Machili forms the eastern boundary between these two subgroups of lects. Between Suβiya and Totela locations we can see also that there runs <sup>the</sup> river Njoko. We did not visit these rivers in person to assess their size but we were informed that they do not form communication barriers and Totela and Suβiya are found on either side of each of these rivers. This implies that there has been active contact between the two. Map 1.1 shows that Suβiya shares a border with Toka. But even given this the two lects are still far apart. These two lects share one thing in common. The speakers of Toka and Suβiya are both bilingual in Lozi. Lozi is the dominant medium in the areas where these two lects are spoken. Totela also shares borders with Toka and Ila. But mutual intelligibility is still very low.

How far Totela and Suβiya have been in contact with the rest of the Tonga lects especially Plateau, Valley, Ila and Toka, their closest neighbours is not clear. Unconfirmed reports from our informants suggest that in fact Totela is a very recent creation which dates from the nineteenth century during the Lozi incursions into the Ila country. There is no group of people that answers to the name 'Totela', according to our informants. Our informant Mr. Tapisa argues that 'Totela' is a Lozi creation. According to him the present so-called Totela people are descendants of captives taken from among the Ila

people during the Tonga-Lozi war. Historians have not reported this creation by the Lozi. More oral history might perhaps confirm it. Ila, Totela and Suḽiya share one phonological trait not found elsewhere in Zambia. This is the phenomenon of /y/ which corresponds to /z/ in cognate lexical items in Ila, Totela and Suḽiya. If this kind of correspondence cannot be explained in terms of shared innovation one perhaps can look to contact as the source. But it is not easy to say for certain which lect would have borrowed because the lexical items with /z/ corresponding to /y/ in the other Tonga lects are basic like 'bird', 'to breathe', etc.

#### 1.6.3 The question of prestige lect among the Tonga lects.

Among the packages that came with colonial intrusion were missionary activities and western-style education. The most prominent missions to be set up in the southern province were the Chikuni and Rusangu missions run by the Catholics and the Seventh Day Adventists, respectively (Snelson 1970: 88). Both missions are situated in Monze district in the heart of Plateau Tonga. The benefits to the residents of this area have been big. Apart from evangelical work these missions became focal centers of learning. This is especially so with respect to Chikuni Mission. At Chikuni mission we find the oldest primary and secondary schools in the Southern Province. After these two centres other satellite missions were built to enhance evangelical work and also to build primary schools in many areas of Monze district. It follows that many people received formal education in these areas. The Jesuits at Chikuni Mission together with the Sisters were running many schools in the surrounding areas. This state of affairs implies that the local lect, Plateau was committed to writing. Plateau Tonga

consequently became the medium of instruction in schools even in areas as far away as the Lenje speaking areas. This also applies to the mass media in general. If we compare this situation with what is obtaining in the other areas where other Tonga lects are traditionally spoken we find that secondary schools, for example, were built only recently after 1964, that is after Zambia had gained political independence from Britain.

The consequence of what we have said above is that many people could speak Plateau in addition to their native lect. This trend has continued up to *today*. Among the core lects, Plateau is the most widely understood and spoken. This was brought about not only because the lects themselves are related but because Plateau was deliberately promoted in education by the colonial government, in the local media and administration at grassroots level. In other words Plateau received an official status.

The other reason for promoting Plateau Tonga was political. In the whole of Tongaland the most prominent chief to be promoted by the colonial government was Chief Monze. The main reason for this is that Monze was found to be the one with some kind of status among all the Tonga 'chiefs'. His area was also fertile and this factor made Monze the center of agriculture not only in the Southern Province but in Zambia as a whole. It is not difficult then to see why the Jesuit missionaries made Monze district their headquarters. The Jesuits in Chikuni own vast areas of ranching land. The Mission is only twenty kilometres east of Monze's palace.

But it is not true that it was only Plateau that received attention. Lenje and Ila were also committed to writing. Grammars were written for these two, (see Madan, (1908) for Lenje and Smith

(1907) for Ila). But none of these lects received the promotion that Plateau Tonga received.

Perhaps the irony of Plateau lies in its orthography. Although we have been saying above that this is the lect that received attention by both the missionaries and the colonial administration the orthography in which it was written reflected Valley and Toka, e.g. the spellings *sy*, *zy*, *fw*, *vw*. These were recommended for Tonga orthography. It should be mentioned also that although the spellings were akin to *Vy* and *Tk* pronunciation Plateau readers always read them as if they had the Plateau pronunciation namely [hy], [hhy], [hw] and [hhw]. Recently the government recommended that orthography should be 'standardized' to reflect Plateau pronunciation of the sounds given above. But in fact this recommendation seems to have been influenced by the Tonga Committee who were themselves Plateau speakers. It had nothing to do with whether or not there were learning difficulties attached to these two sounds. The truth of the matter is that [sy] and [zy] are stigmatized in Tonga. This is because Valley itself is not a prestige lect. It is perhaps on such considerations that Plateau spelling was recommended (see Chapter 6).

Plateau does not exert any influence among the speakers of Sußiya and Totela. This is because these two lects are physically separated from Plateau. There are other languages/dialects spoken in the surrounding areas of Totela and Sußiya such that Plateau does not have a direct link to these two lects. The main medium of communication in this area is Lozi as already indicated above. The government through the Ministry of Information publishes newspapers throughout the country in the eight recognised local languages, namely, Tonga (= Plateau) in the Southern Province, Lozi for the Western, Bemba for Northern,

Luapula and the Copperbelt; Nyanja for Eastern; Kaonde, Lunda and Luvale for North-Western and Lenje for Central province. As we can see the Tonga group is represented by Tonga and Lenje. This is not surprising as Plateau is not unanimously accepted as the 'standard' medium among all the various Tonga peoples. The Lenje (i.e. the speakers of Lenje) have been particularly vocal in this respect. They see Plateau as an intrusion. Nevertheless it is still true that most Tonga people would understand Plateau better than Lenje.

One further factor that has promoted Plateau is its literature. There is more published literature in this lect in terms of novels and other forms of literature than in any of the remaining lects. As Plateau is the medium of instruction in the southern province and to some extent in some of the Lenje areas in the central province it means that many school children first learn to read and write in Plateau before they learn to do so in their own lect. Related to this is the fact that in radio broadcasting Plateau is the medium chosen for the Tonga audience. All these factors account for the present prestige status of Plateau.

#### 1.6.4 ATTITUDES OF TONGA SPEAKERS TOWARDS EACH OTHER'S LECT.

The above description has tried to give an account of the situation of the Tonga lects with respect to the relative ease of reach they have of one another, that is actual contact. We shall now shift our focus and look at how speakers of the Tonga lects view one another's lect. We are not aware of previous sociolinguistic studies of this nature with regard to the Tonga lects. What we are reporting here is firsthand knowledge of the present writer who happens to be a native speaker of one of the lects, namely Plateau Tonga. The term

'Tonga' in published literature (e.g. Hopgood 1940, Collins 1962 and Goldsmith 1984) would seem to refer to the variety we have termed 'Plateau' Tonga in this thesis. Furthermore there is an implied belief that what is applicable to Plateau Tonga is equally applicable to the other lects as well especially Valley and Toka. In some more general sense then 'Tonga' means Plateau, Valley and Toka. Ordinarily, however, the people who can come forward and claim to be *Tonga* are those of Plateau and Valley. When the present writer was doing fieldwork in the Valley area he was often reminded by the informants that *real Tonga is the one that is spoken in the Valley. In other words people of the Gwembe Valley think Plateau Tonga is degenerate. The Valley people would not accept labels such as 'Valley' or 'We' as some people would derogatorily call them.*

CHAPTER 2.

THE PHONOLOGICAL SYSTEMS OF TONGA LECTS<sup>1</sup> IN OUTLINE

2.0 Introduction

The aim of the present chapter is to outline the phonological system of each of the eight lects studied in this thesis. The outline will be undertaken within the framework of autonomous phonology. The analyses both of the phonological inventories and of morphophonological processes are not exhaustive but are focussed on issues of relevance to the comparative reconstruction undertaken in chapter 3ff. We indicated in chapter 1 the deficiencies in the data of some of the lects especially Sß and Tt. The phonological statements which follow are limited by the data we have. In those lects for which we have access to further material, we shall try to make more detailed analyses that go beyond the data collected in the field. The discussion of tone is deferred until Chapter 3, section 3.3.

The lects we are studying here have not yet been subjected to thorough synchronic phonological analysis (discounting specifically tonological studies of P1). However, S1 received a historical phonological study (Eeden 1936) relating this lect to Ur-Bantu as reconstructed by Meinhof (1932). Doke (1928) undertook a phonetic study of I1 in which he also included comparative material from Tonga (that is, P1), but this work did not address any questions of systematic phonology. Carter (n.d.) includes a study of vowel and consonant morphophonemics of Tonga (i.e. P1 and Vy).

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1. Henceforth the lects are abbreviated as follows:  
Plateau = P1; Valley = Vy; Toka = Tk; Ila = I1; Lenje = Lj;  
Soli = S1; Sußiya = Sß and Totela = Tt.

2. 1. Vowel inventory.

The following observations can be made about vowels in the Tonga lects. All the Tonga lects have the vowels /i e a o u/. These may be represented as in Figure 1 below.

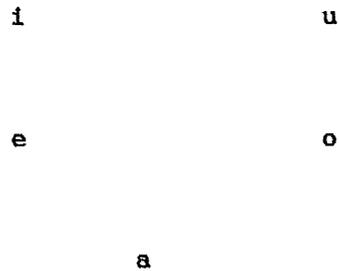


Fig. 2.1 The Vowels of the Tonga Lects.

The vowels in the above figure are not an issue since all the Tonga lects distinguish these vowels. We discuss in the next section the interpretation of what have been represented as a sequence of identical vowels.

2.1.1 Double Vowels and long vowels.

(1). In our notation there are sequences of identical vowels in juxtaposition morpheme internally as well as at morpheme juncture in Pl and in the remainder of the core lects. Writing on Pl, some linguists such as Carter (n.d. 1) have suggested that these vowel sequences are heterosyllabic:

'In Tonga there is no short/long vowel distinction. Vowel characters written adjacent (e.g. -oo-) represent vowels in separate syllables: kuboola 'to come' has four syllables not three (ku-bo-o-la)'

Collins (1962. 3) made a similar observation when he suggested that

what for example is written as 'aa' should be read as 'two a's run together'. Neither Carter nor Collins have offered phonetic interpretations of these vowel sequences. However, we accept as a working hypothesis at least Carter's position that sequences of identical vowels, (hence forth 'double' vowels), are 'heterosyllabic', in contrast to 'tautosyllabic' where two vowel symbols are regarded as components of the same syllable.

(2). Double Vowels morpheme internally as well as at morpheme juncture were also observed in Sβ and Tt during data collection in the field and they were not perceived as being phonetically in any way different from the sequences in P1. The researcher however observed that some of the words with vowel sequences morpheme internally in Sβ and Tt had corresponding single vowels in P1 and the remaining core lects.

Double vowels have been heard in Sβ and Tt with greatest frequency after a semivowel or before a prenasalised consonant and it is possible that there is no single/ double contrast in this position. In all the Tonga lects double vowels may also be the result of a morphophonemic process of assimilation as when a noun prefix or infinitive prefix is attached to a vowel initial stem (see 2.1.3, below). Data showing contrast of single vowels with double vowels in Sβ and Tt is given in Table 2.1 below.

(3). It will transpire in a later section (3.2.2.1) that sequences of identical vowels in Sβ and Tt correlate quite closely with the similar phenomenon in lects such as Bemba where vowel length is commonly held to be tautosyllabic.

(4). Double vowel spellings may thus have different

interpretations in the core lects on one hand and Sβ and Tt on the other, but no instrumental studies have been done to determine the nature of double vowels in these lects.

However, Table 2.1, below gives a number of near minimal pairs in which single and double vowel appear to contrast between consonants at the commencement of verb stems.

Tt.

---

ku-zááka (441a)	'to build'	cf.	ku-zála (440a)	'to spread bed'
ku-lééla (381)	'to look after child'	cf.	ku-léma	'to be heavy'
ku-βíika (221)	'to put'	cf.	ku-βíla (222)	'to boil'
kú-coola (531)	'to break'	cf.	ku-cova (298),	'to pedal'
kú-kóóla (471a)	'to cough'	cf.	ku-kóka (113d)	'to pull'
kú-kúúka (51)	'to flow'	cf.	ku-kula (474b)	'to grow'

---

Table 2.1 Near minimal pairs showing distinctive vowel length in Sβ and Tt.

With the above remarks we can now examine the processes that affect vowels in Tonga. Most of the morphophonological processes affecting vowels are shared by all the Tonga lects. In the outlines to follow below, we shall deal with all the lects together except where specifically indicated (most frequently in the case of Sβ and Tt).

2.1.2 Vowel Harmony in the Tonga lects

2.1.2.1 Vowel harmony in the core lects.

One of the (morpho)phonological phenomena found widespread in the languages of the world is 'vowel harmony'. It may be defined as a process whereby within a certain designated domain, usually the word, all vowels are required to share one or more phonological properties. The vowels of a language are divided into two mutually exclusive sets and all vowels within the stipulated domain must be, say, either front or back, high or low rounded or unrounded, etc. (Katamba 1989: 211).

Writing on the same subject Goldsmith (1990: 304) generally agrees with Katamba's characterisation of vowel harmony but he goes further by suggesting that the two vowel sets could possibly overlap and not necessarily be mutually exclusive. One of the languages often quoted in generative phonology as exhibiting vowel harmony is Turkish. Lyons (1968: 128) gives the following characterisation of vowel harmony in Turkish: (1) all the syllables of the word take the same 'value' for the feature [back]; (2) the feature [round] can take the value 'positive' only in the first syllable of the word and in suffixes which have <sup>a</sup>[+high] vowel. (See also discussion in Goldsmith 1990: 304).

Vowel harmony in the Tonga lects does not strictly speaking depend on height. We can generally talk about two harmony sets involving medial vowels in Tonga. The two sets are {a, i, u} and {e, o}. A form of vowel harmony common in Eastern Bantu languages is found in the core lects. It constrains the quality of word medial vowels (commonly known as 'extension vowels'). The canonical situation can be represented by assuming a system of three vowels {<sub>E</sub> a<sub>E</sub> u<sub>E</sub>} in

extension position realised as in Chart 2.1 below. (The symbol  $i_E$  indicates extension vowel).

		Following vowel		
		$i_E$	$a_E$	$u_E$
Preceding	i	i	a	u
	e	e	a	u
	a	i	a	u
	o	e	a	o
	u	i	a	u

Chart 2.1 Vowel Harmony in the core Lects.

The five vowels i to u to the left of the vertical line represent the immediately preceding vowel which may be the first vowel of the stem or itself an earlier extension vowel. The columns are headed by the three 'extension' vowels  $i_E$ ,  $a_E$  and  $u_E$ . Chart 2.1 may also be expressed by Rule 2.1a-b, below.

Rule 2.1 (a).  $i_E \rightarrow e_E / \{e\}C_o \_\_\_\_\_\_$   
 $\{o\}$

(b).  $u_E \rightarrow o_E / oC_o \_\_\_\_\_\_$

</i/ in extension position becomes /e/ when preceded by /e/ or /o/ and an indefinite number of consonants; /u/ similarly becomes /o/ when preceded by /o/).

Examples to illustrate Rules 2.1(a) are given in Tables 2.2 and 2.3 below while those illustrating Rule 2.1b can be found in Table 2.3 below.

Pl.

---

γulilila	'to cry for'	cf. γulila,	'to cry'
γúletela	'to bring for'	cf. γúleta	'to bring'
γusambila	'to wash for'	cf. γusamba	'to wash'
γúlotela	'to dream for'	cf. γúlotá	'to dream'
γúluγila	'to vomit for'	cf. γúluγa,	'to vomit'

---

Table 2.2 Vowel Harmony involving the Applied extension in Pl.

The applicative extension is generally presented as {Il}- in Bantu, but as the data in Table 2.1 show the extension has two realisations, /il/ and /el/. /el/ is found after /e/ and /o/, otherwise it is /il/. This also applies to the causative extension where the vowel /i/ of {is} varies depending on the preceding vowel. This is predicted by Chart 2.1 and Rule 2.1a above. Because the vowel of the extension in the applied <sup>Verb form</sup> is not constant we can represent the applied extension as {I1}, where 'I' indicates that the vowel is subject to harmonic rules, i.e. it can be either /i/ or /e/.

There is also in Bantu what is known as <sup>the</sup> 'reversive' extension. Traditionally this is presented as {U1} or /U1U1/. Examples from Pl can be seen below in Table 2.3.

Unextended Form		'Reversive Form'	
γúzimba	'to swell'	γúzimbulula	'to unswell'
γuzika	'to bury'	γuzikula	'to dig out/exhume'
γúlemba	'to write'	γúlembulula	'to rewrite'
γúzamba	'to wind'	γuzambulula	'to unwind'
γuyoβola	'to hide'	γuyoβolola	'to gather together'
γuhhumba	'to cover'	γuhhumbula	'to uncover'

Table 2.3 Verb forms with reversive extension in Pl.

It can be seen that after /o/ the extension {ul} is realized as {ol} or {olol}, in conformity with Rule 2.1b. This rule cannot be collapsed with Rule 2.1a because {ul} is constant after all the other vowels. Since the reversive extension alternates between {ul} and {ol} it is best to represent it with a morphophonemic form {U1} as was done for the applicative above.

It has been convenient to illustrate vowel harmony by describing realisations of particular derivative verbal extensions, although the rules capture a general constraint on the phonology of most of the Tonga lects, as we shall see in 2.1.2.3 below.

2.1.2.2 Vowel Harmony in Sß and Tt.

Sß and Tt present a conflicting picture of vowel harmony in that in some verb forms, such as the applicatives, vowel harmony is just as in PI (Table 2.2) while in the others, like the causative verb forms, the causative extension is invariant /is/, presented in Table 2.4.

Sß and Tt show an invariant causative extension is, irrespective of the vowel, as can be seen in Table 2.4 which gives examples from Tt.

Tt.

---

kúkánísa	'to cause to refuse'	(cf. <u>kúkána</u> 'to reject').
kutáßísa	'to cause to please'	(cf. <u>kutáßa</u> 'to please').
kuténdísa	'to use'	(cf. <u>kuténda</u> 'to work').
kusékísa	'to cause laughter'	(cf. <u>kuséka</u> 'to laugh').
kußékísa	'to cut with'	(cf. <u>kußéka</u> 'to cut').
kutóndísa	'to show'	(cf. <u>kutónda</u> 'to see').
kusúkísa	'to bring down'	(cf. <u>kusúka</u> 'to climb down').

---

Table 2.4 Verb forms with the causative extension {is} in Tt.

Since the extension in Sß and Tt is invariant we can represent it as {is}.

The passive extension in Sß and Tt behaves in a similar manner to the causative in that the extension in both lects is {iw} as in

kulowa/kulówiwa 'to bewitch', where we might have expected {ew}. We have only limited data on the reversive extension as it is only represented by one item kwíyálúla (Tt) and kwíyalúla (Sß) whose underived form are kwíyála and kwíyála respectively.

It can be seen from the above examples of Sß and Tt that vowel harmony does not apply to all the eligible cases. In particular we have seen no evidence of it in causative verb forms.

Sß and Tt are heavily influenced by Lozi, which serves as a lingua franca in the locality where Sß and Tt are spoken. Rule 2.1a does not apply at all in Lozi. For example in Lozi the applied extension is either /el/ or /ez/ with consonant<sup>following</sup>, depending on the shape of the verb stem, but with invariant /e/. Similarly, the causative extension has the form /is/ in all verb stems. Discussions of the applied and causative extensions in Lozi can be found in Mwisya (1977 : 110-112). As Sß and Tt people speak Lozi most of the time, there is a possibility that they transferred the Lozi pronunciation habits onto Sß and Tt. Most of the Sß and Tt lexical items which are at variance with Rule 2.1a have identical reflexes in Lozi.

### 2.1.2.3 Vowel Harmony in General in the Tonga lects.

The above description of vowel harmony has been exemplified only in extended verb forms. There is in addition a general restriction on vowel cooccurrence which we must capture for the entire lexicon. The general picture in the core lects can be represented as Chart 2.2 below. The symbol '+' says that the vowel in the vertical column can be followed by that on the horizontal row. The symbol '-' indicates that the vowel in the vertical column cannot be followed by the vowel

in the horizontal row on top.

The vowel constraints in question operate within the stem between the first or subsequent vowel and a following non-final vowel. A number of apparent exceptions are excluded from this definition:

- (1). reduplicated stems (e.g. Pl gomagoma 'to peck' (573a) and Il kútematema 'to peck as woodpecker') are seen as two separate stems;
- (2). other elements may occur between the prefix and the stem, (e.g. /o/ in oβilo, 'two' (176) cf. βilo 'second' or mujibelo 'Saturday' (656) and yúlúmwéhi 'leftside' (87a) which may be regarded as having two prefixes).
- (3). certain perfective stems are formed by a process of vowel infixation (see discussion of Table 2.5a), e.g. tandaβala which is derived from the infixation of <i> as follows:  
/tandaβa<i>le/ is pronounced as [tandaβede], the resultant vowel assimilation generating a derived vowel [e] in apparent violation of the harmony constraint since the preceding vowel is [a].

With the exceptions accounted for let us now look at chart 2.2, below.

		Following Vowel				
		a <sub>2</sub>	e <sub>2</sub>	i <sub>2</sub>	o <sub>2</sub>	u <sub>2</sub>
Preceding	a <sub>1</sub>	+	+	+	-	+
Vowel	e <sub>1</sub>	+	+	-	-	+
	i <sub>1</sub>	+	-	+	-	+
	o <sub>1</sub>	+	+	-	+	-
	u <sub>1</sub>	+	+	+	-	+

Chart 2.2. Vowel Restriction in the core lects.

Chart 2.2 may be discussed in conjunction with the vowel harmony chart of Eastern Bantu given in Chart 2.3 below, which is an alternative formulation of Chart 2.1.

		Following Vowel				
		a <sub>2</sub>	e <sub>2</sub>	i <sub>2</sub>	o <sub>2</sub>	u <sub>2</sub>
Preceding	a <sub>1</sub>	+	-	+	-	+
Vowel.	e <sub>1</sub>	+	+	-	-	+
	i <sub>1</sub>	+	-	+	-	+
	o <sub>1</sub>	+	+	-	+	-
	u <sub>1</sub>	+	-	+	-	+

Chart 2.3. Vowel Restriction in Eastern Bantu.

The 'ideal' Eastern Bantu chart forbids the sequence a<sub>1</sub>/e<sub>2</sub> and u<sub>1</sub>/e<sub>2</sub>. If we look at chart 2.2 we can see that the sequence a<sub>1</sub>/e<sub>2</sub> is permitted, thereby violating Chart 2.3. The lexical items in which such a sequence is found are Pl yubadela 'to pay fine' (259a) and zhibádéla 'hospital' (260) and similar forms in the other core lects as well. It cannot be ascertained that yubadela is a loan word but since it occurs together with zhibadela which is itself a loan in as far as

the concept 'hospital' is foreign to Tonga we shall assume that kubadela is also a loan. We can therefore account for the presence of the sequence  $a_1/e_2$  due to loaning.

The sequence  $u_1/e_2$  is also a violation of the harmony constraint. There is one example in Lj which cannot be accounted for, namely fußela 'red' (116c). All the other items in the core lects with the sequence  $u_1/e_2$  which violate the harmony constraint are in the perfective verb form which may be accounted for as having derived vowel /e/ or the violations are in nouns with two prefixes as yúlúmwéhi, where lu is a possible class 11 prefix.

Let us now look at the data involving Sß and Tt in Chart 2.4 below.

		Following vowel				
		$a_2$	$e_2$	$i_2$	$o_2$	$u_2$
Preceding Vowel.	$a_1$	+	+	+	-	+
	$e_1$	+	+	-	-	+
	$i_1$	+	+	+	-	+
	$o_1$	+	+	-	+	-
	$u_1$	+	+	+	-	+

Chart 2.4 Vowel co-occurrence  
restrictions in Sß and Tt.

Chart 2.4 differs from Chart 2.3 in the same way as Chart 2.2, at the intersection of  $a_1/e_2$  and  $u_1/e_2$ . One of the words that

violate Chart 2.3 is cipátela 'hospital' already accounted for above as a loan. The others are inaléli (Sß), 'star' (152c), ciyáleto 'bird's nest' (317c), kukátela (Sß), 'to pound earth down' (621b) and kulápela (Sß/Tt), 'to pray' (629d). Except for inaléli the other lexical items given here would seem to be derived: el in kukátela and kulápela may be seen as an applied extension. The word kulápela is also found in Lozi where the applied extension is invariably {el}. This word is likely to be a loan into Sß and Tt from Lozi. The other sequences in Chart 2.4 which violate Chart 2.2, but which would seem to incorporate an extension, are:

(1)  $i_1/e_2$ : musitelo, 'cattle manure', (312d), kwaafipelwa (Sß)/kufipelwa (Tt), 'to be out of breath' (646bc), mutiβelo (Sß), 'feather', (45d);  $u_1/e_2$  kúpútéla (Tt) 'to wrap' (253a), kulamuléla/(Sß)/kulámuléla (Tt), 'to stop fight' (352b), and kútáhuléla (Tt), 'to weed' (640e); (we also have ntúngweezi (Tt), 'star' (152b)) in which derivation cannot be made certain at the moment.);

(2)  $e_1/i_2$ : in genyisa (Tt), 'warm' (179c) which is likely to incorporate a causative extension {is};

(3)  $e_1/o_2$ : kutemoona (Sß/Tt), 'to frown' (625d). This verb is possibly derived from kutemauna with fusion assimilation. See 2.1.3.

(4)  $u_1/o_2$ : kúkúkóla, (Tt) 'to pick groundnuts' (644a). There is no evidence of <sup>i</sup>derivation in this verb.

In general we have seen many cases of violations in Sß and Tt of the expected vowel harmony. Many of the cases arise from the fact that vowel harmony is not fully operative in these lects as in the case of the invariant causative {is}.

The foregoing discussion has been an attempt to describe the

phenomenon of vowel harmony in the Tonga lects both in derived and in nonderived words. It has been found that the phenomenon is generally operative in all the core lects. Sß and Tt show exceptions. In the section below we shall attempt to describe other vowel phenomena that are found when two vowels are juxtaposed.

### 2.1.3 Resolutions of Vowel Juxtapositions in the Tonga lects.

Where two vowels come next to each other at morpheme juncture, various adjustments are made that vary according to the nature of the juncture. For example at word juncture, the final vowel of the first word is always fully assimilated to the first vowel of the following word, e.g. /mwána oyo/ is realised as /mwánooyo/. The morphological contexts that will concern us are between infinitive prefix and verb stem; between noun prefix and stem; and in a few cases of word formation the process of infixation that yields perfective stem of certain verbs.

In some cases adjustment leads to a single vowel (so involving syllable reduction), in others to a sequence of two similar vowels, possibly preceded by a semivowel. The following are the forms of adjustment that will concern us here: (for the purposes of simplicity examples in 1-5 below will be drawn from one lect, Pl, but all the other lects behave in a similar manner).

- (1). fusion: the resultant vowel is identical to neither input vowel but shows features of each /ma-inyo/ which is realised as /menyo/ 'teeth'; /ma/ is noun class 6 prefix.
- (2). regressive assimilation e.g /mu-ombe/ which is realised as /moombe/ 'calf'; /mu/ is noun class 3 prefix.
- (3). semivocalisation of initial high vowel with or without

syllable reduction, e.g. /mu-ána/ which is realised as /mwána/ 'child', /mu/ is noun class 1 prefix; /yu-íma/ which is realised as /ɣwííma/ 'to stand'. There is no syllable reduction in /ɣwííma/.

(4). like vowels are unchanged, but may be reduced to a single vowel, e.g. /ma-ála/ which is realised as /mála/ (class 6) 'fingernails', cf. singular luála which is realised as /lwála/.

(5) . in some cases, no adjustment is observed, e.g. /yuulu/ which does not change.

In any given morphological context, the forms of adjustment found are complementary, dependent on the particular vowel sequence, although in the case of nouns, whether there is syllable reduction is dependent on the lexicon.

Table 2.5a and 2.5b illustrate vowel adjustment at the juncture of noun prefix and stem with or without syllable reduction; Table 2.5c similarly illustrates verbal infinitives (there is never syllabic reduction at this juncture). Charts 2.5a and 2.5b summarise the processes. Note that in Chart 2.5b no examples have been found of adjusting a+i and a+u; on the other hand all the examples that have been found in which vowels fail to adjust involve these two sequences (see Table 2.6), so it is possible that /ai/ and /au/ should be added to the complementary processes of chart 2.5b.

We suggest that identical vowel sequence or 'double vowel' at the juncture of infinitive prefix and the verb stem, e.g. ɣwaamba 'to say' (127), be viewed as resulting from this morphophonological process. This is because in the imperative and subjunctive verb forms ɣwaamba is realised as amba ! and ngámbe, respectively.

In the case of noun stems with initial vowel however, the distinction between syllable reducing and syllable preserving juncture must be explicit in the lexical base. A convenient convention might be to prefix the syllable reducing stems with a '+' sign rather than the normal hyphen. This behavior is probably to be regarded as marked while syllable preserving juncture, which is common to verbs and the majority of nouns, is unmarked.

An occasional context in which we find patterns of adjustment comparable to that in Chart 2.5a is found in perfective stem of verbs e.g. lulama which becomes luleme.

In the following examples the tones are indicated but we shall not discuss how they have been assigned since this section specifically deals with vowels. The abbreviations 'pl' and 'sg' stand for 'plural and 'singular', respectively.

Pl.

---

muána	--->	mwána	'child'	pl. βaána	--->	βána
luála	--->	lwála	'fingernail'	pl. maála	--->	mála
muúngu	--->	múngu	'pumpkin'	pl. miúngu	--->	myúngu
liínyo	--->	línyo	'tooth'	pl. maínyo	--->	menyo
liíhyo	--->	líhyo	'eye'	pl. maíhyo	--->	mehyo
muánja	--->	mwanja	'cassava'			
muáya	--->	mwáya	'year'	pl. miáya	--->	myáya

---

Table 2.5a Processes of adjustment (with syllable reduction) between noun prefix and stem.

Assimilation can also be seen in environments other than that involving prefix and stem. Examples of this can be seen in some perfective verb stems drawn from Pl, e.g. tandaβede 'straight' (155a), (cf. perfective form tandaβala). The non-perfective form is tandaβala; kede (nonperfective kala) (155b), huundenye (non-perfective huundana) 'narrow' (101a); lede (cf. non-perfective lala); All the above examples show change in the final syllable from a to e. (The alternation between /d/ and /l/ and between /n/ and /ny/ will not be discussed here).

Pl.

---

muanda --->	mwaanda	'hundred'	pl. mianda---	myaanda
yaambo --->	yaambo	'case'	pl. tuambo---	twaambo
yaano --->	yaano	'folktale'	pl. tuano---	twaano.
muindi --->	mwíindi	'shin'	pl. míindi---	míindi
muono --->	moonono	'fishing'	pl. miono---	myoono.
		'basket'		
mueβo --->	mweeβo	'jaw'	pl. mieβo---	myeeβo
mueto --->	mweeto	'trap'	pl. mieto---	myeeto

---

Table 2.5b Processes of adjustment (without syllable reduction) between noun prefix and stem.

It can be seen in Tables 2.5a-b that nouns seem to fall into two categories in as far as the result of the juxtaposition of the vowel of the prefix with the initial vowel of the stem are concerned.

Let us now see what happens to the vowel initial verb stems when the infinitive prefix yu is prefixed to them; see Table 2.5c below.

P1.

---

yuamba	---	ɣwaamba	'to say'
yuenda	---	ɣweenda	'to say'
yuímba	---	ɣwíimba	'to sing'
yuanga	---	ɣwaanga	'to tie'
yuαβa	---	ɣwaaβa	'to share'

---

Table 2.5c Processes of adjustment

(without syllable reduction) at the  
junction of infinitive prefix and  
verb stem in P1. (There is never reduction  
in this position).

Unlike the nouns, there is no syllable reduction in case of verbs. All the above vowel phenomena in Tables 2.5a-2.5c are summarised in Chart 2.5<sup>a</sup> below. (Noun prefixes end in the vowel /a/, /i/ or /u/ (except the nasal classes of class 9/10 whose prefix is a homorganic nasal, symbolised as {N}).

	Stem				
prefix	-i	-e	-a	-o	-u
i-	-	ye	ya	yo	yu
a-	e	-	a	-	-
u-	wi	we	wa	-	u

Chart 2.5a Processes of adjustment (with syllable reduction) at the juncture of morpheme boundary in Pl.

	Stem				
prefix	-i	-e	-a	-o	-u
i-	ii	yee	yaa	yoo	yuu
a-	# <sup>1</sup>	ee	aa	oo	# <sup>1</sup>
u-	wii	wee	waa	oo	uu

Chart 2.5b Processes of adjustment (without syllable reduction) at the juncture of morpheme boundary in Pl.

1. The symbol '#<sup>1</sup>' in Chart 2.5b shows that the expected pattern does not apply here. The pattern in Chart 2.5b breaks down because the sequences /ai/ and /au/ are not affected by any form of assimilation which would result in /ee/ or /oo/ (see Table 2.6, below).

Charts 2.5(a) and (b) show that in the configuration  $V_1V_2$ , where  $V_1$  and  $V_2$  are identical there is no semivocalisation. They also show that the combination of the vowels /u+o/ gives /oo/, rather than /woo/ or /wo/. In such a configuration instead of the semivowel being formed we can say that /u/ assimilates to the following /o/.

We suggest that the verb roots be entered in the lexical base with a single vowel, and that the double vowel arises from morphophonological processes. Confirmation of this can be found in the imperative and subjunctive.

In the imperative construction, prefixes are optional, so that ywaamba and ywaanga in Table 2.5c above take the form amba ! and anga ! respectively. In the subjunctive construction too, these verb stems have each a single vowel, as in , ngambe 'that I say' and ngange 'that I tie', respectively. This suggests to us that it is more persuasive to say that the double vowel in infinitives such as ywaamba is a result of a morphophonological process.

The above data suggest to us that nouns and verbs should be treated differently. This is because there are no cases of verbs where vowel doubling does not follow semivocalization at morpheme juncture whereas in the case of nouns doubling is lexically determined.

There are lexical items in which vowel fusion is never applied i.e. when two unidentical vowels are juxtaposed nothing happens to the vowels as Table 2.6 below shows.

P1.

---

maulu	(class 6 prefix, <u>ma</u> )	'legs' (sg. yuulu)
yaunda	(class 12, prefix <u>ya</u> )	'small feed' (pl tuunda)
maila	(class 6 prefix, <u>ma</u> )	'millet'
yaindi	(class 12 prefix, <u>ya</u> )	'long ago' (cf. zhiindi 'time')
máinza	(class prefix <u>ma</u> )	'rainy season'

Table 2.6 Items in which vowel fusion does not apply in P1  
and the vowels remain unchanged.

Table 2.6 shows that in some cases sequences of unidentical vowels are allowed as for example /ai/ and /au/. This creates a problem with Chart 2.5 above. The data in Table 2.6 above may be best analysed as incorporating a 'zero' consonant between the vowels that fail to undergo vowel fusion or assimilation. It is this 'consonant' that prevents these possible vowel processes to take place.

## 2.2. The consonants.

### 2.2.1 The Consonant inventory of the Tonga Lects.

In the present section we present the consonant inventories of the Tonga lects in the form of charts (Chart 2.6-2.10) for each lect or group of lects followed in section 2.2.2 by the discussion of the morphophonotactics and morphophonology of each lect. There is a set of consonants whose pronunciation is preceded by a nasal articulation.

These nasals are called 'prenasalised' consonants (Ladefoged 1971: 34). They are seen as sequences and have not been separately shown on charts. It will be seen that one of the characteristics distinguishing Pl, Vy and Tk from the rest of the other Tonga lects is the presence in the former of the so-called 'reinforced' consonants /b d k g c j z/. These consonants are called 'reinforced' because they are produced with relative longer duration compared to the so-called 'light' consonants namely /p t β l s zh γ h hh m n ŋ/.

Other general observations may be made in the light of the consonant inventories below:

(1). Lj and Sl differ from all the other lects in that they lack voiced plosives except as prenasalized consonants. The only voiceless non-prenasalised plosives found are /p t k/. In the case of voiced fricatives only /β/ has been found. But Carter (n.d.: 3) was more inclined to treat /β/ in Pl as an approximant alongside /w/ and /y/, rather than as a fricative. It may be that this analysis can also be applied to Lj and Sl. Lj and Sl also lack /v z zh j/.

---

1. The following symbols are used instead of International Phonetic Association (I.P.A.) symbols: zh for I.P.A. [ʒ]; hh for I.P.A. [h] and j for [dʒ].

although they have /f s sh c/.

(2). Pl, Vy and Tk are the only ones among the Tonga lects that clearly have voiced stops /b d g/ other than after nasal. We shall argue in chapter 3 (e.g. 3.10.1) that these consonants are likely to be innovations in these three lects since most of the reflexes with these consonants are confined to the continuous area that encompass Pl, Vy and Tk.

(3). Pl and Vy differ from Tk in having the voiced fricative /ɣ/.

(4). Only Pl has the voiced palatal fricative [zh]

(5). Il is found somewhere between Pl, Vy and Tk on the one hand and Lj and Sl on the other, sharing with Pl the glottals /h/ and /hh/ and sharing with Lj and Sl the voiceless fricative /sh/ and the lack of non-prenasalised voiced plosives.

Let us now look at the consonants in the individual lects below.

2.2.1.1 The consonant inventory of Pl.

Chart 2.6 below gives the consonants of Pl.

	bil.	alv.	pal.	velar	gl.
stop	p, b	t, d		k, g	
fric	β	s, z	zh	ɣ	h, hh
affr.			c, j		
nas.	m	n	ɱ	ŋ	
lat.		l			
s/v.	w		y		

Chart 2.6. The Pl consonants.

2.2.1.2 The consonant inventory of Vy and Tk.

The consonants of Vy and Tk are given in Chart 2.7 below. The consonants of these two lects are given together because they are almost identical. Vy differs from Tk only in that the former has /ɣ/ which the latter does not have. Tk substitutes /k/ in corresponding words.

	bilabial	labiodental	alveolar	palatal	velar
stop	p, b		t, d		k, g
fric.	β	f, v	s, z		ɣ(ŋk)
affr.				c, ɟ	
lat.			l		
nas.	m		n	ɲ	ŋ
s/v	w			y	

Chart 2.7 The consonants of Vy and Tk.

2.2.1.3 The consonant inventory of Il.

The consonants of Il are given in Chart 2.8 below.

	bilabial	alveolar	palatal	velar	glottal
stop	p	t		k,	
fric.	β	s, z	sh		h, hh
affr.			c		
lateral		l			
nas.	m	n	ɲ	ŋ	
s/v	w		ɣ		

Chart 2. 8 The consonants of Il.

2.2.1.4 The consonant inventory of Lj and Sl.

The consonants of Lj and Sl are presented together because they are identical.

	bilabial	labiodental	alveolar	palatal	velar
stop	p,		t,		k,
fric.	β	f	s	sh	
affr.				c	
lat.			l		
nasal	m		n	ɲ	ŋ
s/v	w			y	

Chart 2.9. The Lj and Sl consonants.

**2.2.1.5 The consonant inventory of Sß and Tt.**

As with Vy/Tk and Lj/SI we give Sß and Tt together because they have an identical inventory of consonants.

	bil.	labiodental	alv	pal.	velar	glott
Stop	p, (b)		t, (d)		k, (g)	
fric.	ß	f, v	s, z	sh		h, hh
affr.				c		
nasal	m		n	ñ	ŋ	
lat.			l			
s/v	w			y		

**Chart 2.10 The consonants of Sß and Tt.**

The voiced plosives [b d g] have been placed in brackets in Chart 2.10 because they appear to be marginal, occurring only in the words given in Tables 2.7a and 2.7b below. (The words in Table 2.7a below are also listed in the Appendix)

Sß.

---

i-dálo	'skin'/'hide'	(137e)
ku-gáná	'to scratch ground (as fowl)'	(447a)
ká-gába	'tin container'	(559a)
kú-gáya	'to grind'	(566)
ci-gáya	'grinding mill'	(567)
ku-gúnka	'to cut hair'	(567d)
ci-guluße	'pig'	(583a)
ku-béca	'to bet'	(611a)
mu-gißeelo	'Saturday'	(656)

---

Table 2.7a Non-nasalsed Voiced plosives in Sß.

Table 2.7a shows that [d] is represented by one item, [b] two and [g] by six. [b] and [g] in the following respective words refer to culturally foreign items: kágába, kubéca and kúgáya/cígáya and mugißeelo. Since these are foreign words we can treat them as aberrant forms. The rest of the words with [d] and [g] have no obvious outside sources. But since they are in very few words we can say that [d] and [g] are marginal to the phonemic inventory of Sß. After discounting kágába and kubéca as foreign we have no evidence of words with non-prenasalsed [b]. This sound can also be treated as marginal in the phonemic inventory. We have no data with non-prenasalsed [j] either. Jacottet (1896) also suggests that Sß does not have voiced non-

prenasalised plosives. Tt also has marginal voiced plosives. We give the data below.

Tt

---

(a) kubéza	'to bet'
(b) kudáma	'to hit'
(c) kugáya	'to grind (with a mill)'
(d) kugényisa	'to warm oneself at fire'

---

**Table 2.7b Lexical items with nonprenasalised  
of voiced stops in Tt.**

Items (a) and (c) refer to culturally new activities in the Totela society as indicated in Table 2.7a above. Nevertheless, these two lexical items are widespread in Bantu. Outside the Tonga group there are other languages like Ndebele and Nyanja, to name just two in which these lexical items are found with the voiced stops /b/ and /g/ respectively. The ultimate source for these lexical items is not known (although it could be suggested that (a) is a borrowing from English 'bet'). Because these plosives are found in a few words only they will be treated as marginal to the phonemic inventory of Tt.

2.2.2 Observations on P1 Sounds.

We shall start by looking at the co-occurrence restrictions in terms of which consonant can co-occur with which vowel. Generally each of the consonants of P1 can be followed by each of the vowels /i e a o u/. Non-occurrence of such sequences is restricted to a few consonants. We give the phonotactics chart below. The brackets '< >' indicate that there are fewer words allowing the sequence in question.

2.2.2.1 Consonant, Semivowel and Vowel Sequences in P1.

	i	e	a	o	u
p, t, b, d, c, j, β, s, z, zh, γ, l, m, n, ŋ, η	+	+	+	+	+
k, g,	<->	<->	+	+	+
h, hh	+	-	-	+	+
y	-	+	+	+	+
w	+	+	+	-	-

Chart 2.11 Consonant, semivowel and Vowel sequences in P1.

The velar consonants /k/ and /g/ cannot be followed by /i/ and /e/ in non-derived forms (except for the suspicious ones in Table 2.8, below). As these restrictions are found before front vowels it can be suggested here that /ki ke gi ge/ might have historically developed into /ci ce ji je/ . 'Softening' or fronting of /k/ and /g/ before a front vowel or /y/ is well attested in the languages of the world,

including English, (see Katamba 1989: 86-87). If this supposition is also true for Pl we can say that there was possibly a period, perhaps during PT when /k/ and /c/ on one hand and /g/ and /j/ were in complementary distribution whereby the first named each pair occurred before /a o u/ while the latter were found before /i e/ (see Chapter 3.1.12.1 and 3.1.16 ( Table 3.25 ))

/g/ is found before /i/ and /e/ only in words which are possibly loans, see Table 2.8, below.

/ŋ/ is generally found before /a o u/. Those words in which /ŋ/ precedes /i/ and /e/ are not everyday words and they include: ŋéé 'screaming (e.g. of child)' and yuniŋinya 'to wriggle'. This then raises the question as to whether /ŋ/ is a distinctive sound or an allophone of /n/ since its distribution is quite limited. See 2.2.2.3 for further discussion.

Pl

---

yúgela	'to cut hair'
yágelo	'scissors'
mugelo	'trench'
gílázi	'glass'

---

**Table 2.8 Examples of [g] before**  
**[i] and [e] in Pl.**

As these words are a special case (i.e. they are borrowed) we can say that /g/ is only marginally found before front vowels.

In the case of the intervocalic semivowels /y/ and /w/ certain restrictions obtain, as can be seen in Chart 2.12, below.

In a sequence like V<sub>1</sub>yV<sub>2</sub> only the vowels /e, a, o, u/ can fill the slot occupied by V<sub>2</sub>.

/w/ can be followed by the vowels /i/, /e/ and /a/ but not by /o/ and /u/. The vowel /u/ cannot follow /w/ because like /yi/ the gesture in the pronunciation of [w] is already included in the pronunciation of [o] and [u]. It would seem that /w/ is deleted before [o] and [u]. But as we shall show in the reflexes in Chapter 4 (Charts 4. (1-7) PT \*w was lost in all the lects before [+rd] vowels. Similarly, \*y was also lost before \*i.

2.2.2.2 Consonant-Semivowel Sequences in Pl.

	y	w
p, b, β, t, d l, m, n	+	+
s, z, j, k, g, γ, η	-	+
zh, c	-	-

Chart 2.12 Consonant-semivowel sequences in Pl.

As can be seen /s z j k g γ η zh c/ cannot be followed by /y/. In addition /zh c/ cannot be followed by /y/ or /w/.

### 2.2.2.3 Observations on the velar nasal /ŋ/

/ŋ/ is generally found as a homorganic consonant before /k/ and /g/. There are however some lexical items in our data in which /ŋ/ is found in prevocalic position. Four such instances were recorded and only three of them, namely nánda 'house', nombe 'cattle' and munanga 'doctor', have CB etymologies; one, nóla 'scotchcart', is presumably a loan since it refers to an object of recent acquisition. The rest are onomatopoeic. Those nouns that have a CB etymology have been reconstructed with initial \*g by Guthrie, namely \*-gánda, \*gombe and \*-ganga. These nouns were reconstructed for class 9/10 (prefix {N}). There is a phenomenon in Bantu known as the Ganda Law by which in the structure NC<sub>1</sub>VNC<sub>2</sub>, where N = a homorganic nasal and 'C<sub>1</sub>' a voiced plosive, NC<sub>1</sub> dissimilates to NN, where NN is homorganic with deleted C<sub>1</sub>, that is NC<sub>1</sub>VNC<sub>2</sub> becomes NNVNC<sub>2</sub>. One might say that in the nouns nánda, nombe and munanga the representation at one level of analysis should be ngánda, ngombe and munganga and that the first NC assimilates as follows: nnánda, nnombe and mu-nnanga. Although traces of Ganda Law can be found in I1 there is no synchronic basis that the analysis given here for P1 does apply. For example the following words exist in P1: mbámbe, 'that I make', ndandala 'type of drum', ndémbéla, 'flag', ngámbe 'that I say'.

If we look at the plural forms of nánda 'house' and nombe 'cattle' namely maánda (cl. 6) and toombe (diminutive, cla. 13)), respectively we see no evidence for initial g. However, since the velar nasal is generally found before velar obstruents and since in the above mentioned items the prefix is ŋ we can posit a non-surfacing

**g** as the initial consonant along the same lines we did for Table 2.6 (2.1.3). Positing a **g** satisfies the condition for the Ganda Law to apply as indicated above.

We can also see that in all the above words /g/ is found before /a o u/.

#### 2.2.2.4 Observations on the palatal nasal /ŋ/

The palatal nasal /ŋ/ can be followed by all the vowels and it can also precede the homorganic consonants /c/ and /j/. One of the issues that we need to address with respect to the palatal nasal is its relationship with the sequence /nty/. In phonetic terms they are both pronounced as [ŋ]. In written Pl, and any other Tonga lect for that matter both /ny/ and /ŋ/ are represented by the symbol ny as we have done in the data in the appendix. Nevertheless we can show that in Pl, verb stems ending in [n] have the following forms in the causative:

Pl.

---

γύβona	'to see'	γύβonya	'to cause to see'
γυνana	'to apply oil on body'	γύνanya	'to cause to apply oil on body'
γútuna	'to be unfit'	γutunya	'to make unfit'
γuhhyana	'to dance'	γuhhyanya	'to cause to dance'

---

Table 2.9 Examples of causative forms of verbs with final  
consonant /n/ in Pl'.

Final n + ya in the causative verbs is not distinguishable from [ŋa] from the point of view of pronunciation. This then raises the question of whether /ŋ/ as a phoneme exists in Pl or in any of the other lects.

---

1. The causative extension morpheme is (y).

Pl

---

- (a). munyama 'animal'
  - (b). múnyo 'salt'
  - (c). nyényézi 'star'
  - (d). línyo 'tooth'
  - (e). múnyono 'jealousy'
  - (f). lunya 'cruelty'
  - (g). yunyema 'to be angry'
  - (h). yunyunya 'to sprinkle'
  - (i). yunyona 'to make straight'
- 

Table 2.10 Pl nouns and verbs including  
ny within the stem.

We suggest that ny be analysed as a distinctive nasal on distributional grounds. In the verb yunywa (31), 'to drink' we find that it is followed by /w/. Similarly in item (h) above it can be followed by the passive extension /w/: yunyunywa. We would like to argue that ny in this sequence is actually /ñ/ because if it were the sequence /ny/ we would not get /w/ after it. Phonotactic constraints in the Tonga lects prohibit clusters <sup>r</sup><sub>k</sub> /yw/ or /wy/.

The problem with how ny may be analyzed applies in the other lects as well. However, the conclusions are not necessarily the same as the ones arrived at in Pl (See 3.1.3)

2.2.2.5 Observations on the prenasalised consonants.

The problem we would like to investigate here is whether prenasalized consonants should be considered as unit phonemes or clusters. We shall first review various definitions given of prenasalized consonants by other linguists below.

In a review of the literature on the study of prenasalized consonants Herbert (1986: 7) observes that definitions of prenasalized consonants have sometimes been made with reference to other nasals. There have also been disagreements in these definitions. For example Chomsky and Halle (1968:317) distinguish prenasalized consonants from the other types of nasal consonants by observing the activity of the velum in the articulation of the two types of consonants as follows:

*Phonetically, prenasalized consonants differ from the more familiar type of nasal consonant in that the velum, which is lowered during the period of oral occlusion, is raised prior to the release of oral occlusion, whereas in the more familiar common type of nasal consonant the velum is raised simultaneous with or after the release of oral occlusion.*

Armstrong (1940: 31) recognizes the existence of prenasalized consonants in Kikuyu and defines them as follows (emphasis Armstrong's):

*It is phonetically sound to recognize mb, nd, ng, and nj as single consonant sounds with a nasal 'kick-off'.*

Ladefoged (1971: 33) gives a similar definition:

*Another use of the oro-nasal process common in African languages is in the formation of a series of voiced stops which*

*contrast with other fully voiced stops by having a short nasal section during the first part of the articulation.*

Notice that the above definitions (especially Armstrong and Ladefoged), explicitly refer to voiced series of voiced prenasalized stops, perhaps implying that there are no voiceless prenasalized stops.

Doke (1935: 73) would seem to recognize voiceless prenasalized consonants, although he does not employ the term *prenasalized* in his definition:

*A nasal compound in Bantu is a composite sound in which a nasal consonant is conjoined to another consonant homorganic to it  
e.g. mb, nd, nt, ns, nk, etc.*

It is not our concern in the present study to make a phonetic analysis of prenasalized consonants of the Tonga lects. Doke's characterisation of prenasalised consonants will suffice for our purpose because it takes into account the fact that a 'nasal compound' (or 'prenasalized consonant' in our terms) involves a nasal consonant which is conjoined to another, homorganic consonant. In other Bantu lects sequences of a nasal and an oral consonant exist, e.g. in Nyanja mtengo 'tree' in which the nasal is not homorganic with the following consonant. Such sequences do not exist in the Tonga lects. We list in Chart 2.13 below those that exist in the Tonga lects:

Plateau		Valley		Tk		Il		Lj/SI		Sβ/Tt	
p	mp	p	mp	p	mp	p	mp	p	mp	p	mp
t	nt	t	nt	t	nt	t	nt	t	nt	t	nt
kk	ηkk <sup>1</sup>	kk	ηkk	kk	ηk	k	ηk	k	ηk	k	ηk
bb	mbb <sup>1</sup>	bb	mbb	bb	mbb	--	--	--	--	--	--
dd	ndd <sup>1</sup>	dd	ndd	dd	ndd	--	--	--	--	--	--
gg	ηgg <sup>1</sup>	gg	ηgg	gg	ηg	--	--	--	--	--	--
cc	fcc <sup>1</sup>	cc	fcc	cc	fcc	c	fic	c	fic	c	fic
jj	ñjj <sup>1</sup>	jj	ñjj	jj	ñjj	--	--	--	--	--	--
β	mb <sup>2</sup>	β	mb	β	mb	β	mb	β	mb	β	mb
--	--	f	mf	f	mf	--	--	f	mf	f	mf
--	--	v	mv	v	mv	--	--	--	--	v	mv
s	ns	s	ns	s	ns	s	ns	s	ns	s	ns
--	--	--	--	--	--	sh	fish	sh	fish	--	--
zz	nzz	nzz	nzz	z	nz	z	nz	--	--	z	nz
zh	nc	--	--	--	--	--	--	--	--	--	--
l	nd <sup>2</sup>	l	nd	l	nd	l	nd	l	nd	l	nd
γ	ηk <sup>2</sup>	γ	ηk	--	--	--	--	--	--	--	--
h	Nh	--	--	--	--	h	Nh	--	--	--	--
hh	Nhh	--	--	--	--	ñ	ññ	--	--	--	--
w	ηg	w	ηg	w	ηg	w	ηg	w	ηg	w	ηg
y	ñj	y	ñj	y	ñj	y	ñj	y	ñj	y	ñj

Chart 2.13 Prenasalised consonants in the Tonga lects.

1 and 2. See discussion of reinforced consonants in 2.2.2.6 below.

We have already seen in the various definitions above that linguists are agreed that these sounds should be considered as unit or composite sounds rather than sequences from the phonetic point of view. Although one may take sides with one or the other of the various phonetic characterisations of prenasalised consonants given above, these definitions need not be decisive in considering whether prenasalized consonants are to be considered unit phonemes or sequences. The phonemic status of a sound is discovered by an analysis of the place of that sound in the entire linguistic system of a language.

Lanham (1955: 34) treats the nasal compounds /nd/ and /ng/ in Gitonga Inhambane as unit phonemes because /d/ and /g/ do not exist independently. Other considerations motivating the unit analysis of prenasalized consonants concern economy of description (Vail 1971: 24). All the issues raised above have a bearing on prenasalized consonants in Tonga. We would like to explore whether these sounds are unit phonemes or clusters. There are several reasons for thinking that prenasalised consonants are not unit phonemes in the Tonga lects. One of these albeit not the overriding one is that considering them as unit phonemes would inflate the phonemic inventory. Another reason is that prenasalised consonants are generally morphologically derived, that is, they straddle morphological boundaries. For example consider [mb] in the noun mbúla 'species of fruit'. It would be misleading to consider [mb] a single phoneme because the base form of this noun is /Nβula/; that is to say [β] after a vowel as in múβula 'species of fruit tree' alternates with [b] after the homorganic nasal prefix {N} of classes 9 and 10. It is true that in some cases the nasal prefix has become

inseparable from the stem, e.g. mbezo, 'adze' where there is no alternation of [b] and [β] in Pl. In such a case the decision as to how the noun may be analysed is based on what we take to be the norm in terms of the prefix in that particular class.

There are some prenasalized consonants that cannot be easily shown to be derived. These are found in positions other than stem initially, as in the Pl verb yúlemba, 'to write'. This has led some linguists to say that [mb] as in the current example is a phoneme since it is not derived from /N+β/. As far as the Tonga lects are concerned, non-derived prenasalized consonants occur in non-initial position in both noun and verb stems and are rarely found in the initial position of verb stems; in the case of stem initial position of nouns the nasal component is always a class prefix. Whether the prefix can be replaced by another class prefix is another matter and depends largely on the the lexical item concerned. The fact that non-derived prenasalized stops are generally confined to C<sub>22</sub> position points to the fact that they cannot be unit phonemes for, generally, phonemes in the languages of the world will occur stem initially if anywhere at all<sup>1</sup>.

[b], [d], [j] and [g] do not exist as independent phonemes in I1, Lj and S1 but we get prenasalized stops [mb], [nd], [ɲj] and [ŋg]. We would also like to point out that /β/ and /l/ exist in I1, Lj and S1 and that it is also possible to interpret [mb] and [nd] as the realisation of /N+β/ and /N+l/, respectively.

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1. Exceptions to this include /ŋ/ in English.

2.2.2.6. Observations on Reinforced consonants in Pl.

The consonants of Pl comprise two series termed 'light' and 'reinforced' consonants (Carter n.d.: 3-4). According to Carter *Light consonants, even when classed as 'plosives' are characterised by approximation rather than contact of the articulator and point of articulation (e.g. tongue and roof of the mouth) and the distinction between these consonants and semivowels is rather artificial. 'Reinforced' consonants are probably accompanied by glottal constriction, and 'voiced' consonants in this group are often partially devoiced. Duration of contact is longer for consonants in this group and they are tentatively classed here as 'gemimates', symbolised by [:] after the phonetic character'.*

We shall adopt the term 'reinforced' to characterise these consonants. Carter listed the following as comprising reinforced consonants in Pl: b, d, k g, c, j, v (i.e. our hhw), z, zy (i.e. our hhy). The other consonants  $\beta$ , p, m, t, l, s,  $\text{f}$  zh and  $\gamma$  were termed light consonants.

The present writer and Dr. K. Hayward did some laboratory work on some plosives of Pl. Our findings confirm those of Carter's (n.d.) cited above. It was found that [b], [d] and [g] were longer than [p], [t] and [k]. These consonants were tested syllable initially and the following were the average durations of plosives in msec for the words in our list.

	Closure	Closure+	Closure	Closure+	
		aspiration.		4aspiration.	
p	142	193	b	193	209
t	135	199	d	165	184
k	132	214	g	169	211

Fig. 2.2 Comparison of the duration of 'light' and 'reinforced' consonants in Pl.

The present writer provided the data and it was his pronunciations that were analysed. Variations in the above durations were found but there was no other Pl informant available to corroborate our findings.

Of the three 'voiced' stops listed above, [g] was found to be less voiced and more aspirated. From the phonetic point of view [g] might thus be classed together with [p], [t] and [k], rather than with [d] and [b]. In terms of morphophonemic alternations, however [b], [d] and [g] pattern together.

The other finding which confirmed Carter's analysis was that [b], [d] and [g] affect the pitch of the preceding vowel by lowering it.

Although no phonetic study has been carried out to study [b], [d] and [g] in Vy and Tk we can assume that they are not remarkably different since these lects are very close.

Reinforced consonants are generally found in fewer words compared to the light consonants. This is particularly so with regard to [cc] and [gg]. For example while [gg] can be found stem initially there are no known verbs in which this reinforced consonant is in stem final position. Non-prenasalised [cc] is found in even fewer words compared

to other reinforced consonants. It is mainly found in words of foreign origin. Only items (b) and (f) in the table below seem to be indigenous.

Pl.

---

a.	γucisa	'to iron'
b.	γucilila	'to follow'
c.	γucada	'to wed'
d.	γúcumaila	'to preach'
e.	cúβi	'playfulness'
f.	γúkwiculula	'to revenge'

---

Table 2.11 Lexical items with non-prenasalized /c/.

2.2.2.7 Epenthetic [g] and [j] in Pl.

We have seen that the prenasalized consonants [mb], [nd], [ŋc] and [ŋk] have their sources in the concatenations /Nβ/, /Nl/, /N ɟ/ and /Nɣ/, respectively. Pre-nasalized consonants /ŋj/ and /ŋg/ do not have a single source. We give examples below of the morphophonemic origins of some instances of /ŋj/ and /ŋg/. Let us examine Table 2.12 below.

Indicative

Subjunctive

---

(a) $\gamma w i m b a$	'to sing'	$\eta j i m b e$	'that I sing'
(b) $\gamma w i l i n d a$	'to pass	$\eta j i n d e$	'that I pass'
(c) $\gamma w e e n d a$	'to walk'	$\eta j e n d e$	'that I walk'
(d) $\gamma \acute{u} y a \gamma a$	'to build'	$\eta j a \gamma e$	'that I build'
(e) $\gamma u y a l a$	'to spread bed'	$\eta j a l e$	'that I spread bed'
(f) $\gamma w a a m b a$	'to say '	$\eta g a m b e$	'that I say'
(g) $\gamma o o n a$	'to sleep'	$\eta g \acute{o} n e$	that I sleep'
(h) $\gamma \acute{u} \acute{u} m a$	'to beat'	$\eta g \acute{u} m e$	'that I beat'
(i) $\gamma w a a \beta a$	'to share'	$\eta g a \beta e$	'that I share'
(j) $\gamma u w a$	'to fall'	$\eta g w e$	'let me fall'

---

Table 2.12. Epenthetic /j/ and /g/ in Pl.

The above examples contrast the indicative and the subjunctive verb forms. The subjunctive is formed by prefixing the first person pronoun to the verb stem and suffixing the subjunctive marker e. The first person pronoun is a homorganic nasal {N}. In all the above examples we can see that epenthetic /j/ is inserted between {N} and /i e y/: /y/ is deleted after [j] after the insertion of the latter. Epenthetic /g/ is inserted between {N} and each of: /a o u w/. The epenthesis takes place in this morphological environment only.

If we now look at (d) and (e) we can see that after {N}, /y/ has the alternant /j/. One of the questions this alternation raises is one of generality. Although we have only given two examples above,

/j/ is always inserted between /N/ and /y/ just as /g/ is inserted between /N/ and /w/. However, /y/ is always deleted after /j/, hence njyale is realised as njále.

There is a relationship between some of the reinforced consonants and class 5 nouns in Pl, Vy and Tk. When these nouns are put in the plural (Class 6 prefix generally ma-) some of the reinforced consonants e.g. /b/, /d/ and /k/ show alternation with light consonants /β/, /γ/ and /l/ respectively. Others like /j/ and /g/ alternate with a 'zero consonant'. It is these nouns with initial /j/ and /g/ in class 5 alternating with zero consonant in class 6 that we shall concentrate on here. We give examples below.

Class 5	Class 6	
jila	maila	'millet'
janza	maanza	'hand'
jámba	máámba	'hoe'
gaβo	maaβo	'species of fruit'
gáŋko	mááŋko	'wasp'
gano	maano	'wisdom'

Table 2.13a. g or j in class 5 opposed to 0 (zero consonants, in class 6 (prefix ma-).

The problem in Table 2.13a is how to characterise the noun stems, whether they would be analysed as /j/- or /g/-initial. If we compare

the singular and the plural we might want to say that consonants /j/ and /g/ are prefixes of class 5. This would not be correct because there are other nouns in class 5 which begin with these consonants but which do not have alternant stems, e.g. class 5 jeleele versus class 6 majeleele 'cliff' or gondo versus mágondo 'knee'). But it can be seen that the alternations in Table 2.13a are similar to the alternations involving epenthetic /j/ and /g/ discussed in Table 2.12 above. The only difference between the data in Table 2.12 and that in Table 2.13a is that in the former prenasalised /j/ and /g/ are not reinforced.

Pl.

---

bili	'huge body'	muβili	'body'	(class 4 )
belo	'huge thigh'	zhiβelo	'thigh'	(class 7 )
domo	'huge lip'	mulomo	'lip'	(class 4)
dundu	'huge hill'	múlúndu	'hill'	(class 4 )
gunda	'huge field'	muunda	'field'	(class 4)
gulu	'huge anthill'	zhuulu	'anthill'	(class 7 )
jeβo	'huge jaw'	mweeβo	'jaw'	(class 4 )
jindi	'huge shin'	mwííndi	'shini'	(class 4 )

---

Table 2.13b Augmentatives of class 5 compared with other classes.

We can say that the data in tables 2.13b /β/ and /l/ are strengthened in class 5. The feature strengthening these consonants must be also the one responsible for the presence of /j/ and /g/ in

Tables 2.13a-b in stems which are otherwise vowel initial. The epenthetic /j/ and /g/ in Tables 2.12 may point to lost consonants in the initial position of the stems in question which seem to be obscured in a synchronic analysis.

As a satisfactory account of the alternations in Tables 2.12-13(a-b) requires us to go beyond the phonological outline of the present chapter we shall defer further discussion of this matter to chapter 3 and future research. We would just like to point out that the phenomena we have observed regarding reinforced consonants and alternations in the initial consonants of some of the nouns of classes 5 and 6 are applicable to Vy and Tk but not in the other five lects.

The relevance of the discussion of Tables 2.12 and 2.13(a-b) is<sup>to</sup> show that reinforced consonants exist in some of the Tonga lects. It will be seen in Chapters 3 and 4 that reinforced consonants are characteristic of P1, Vy and Tk.

#### 2.2.2.8 Observations on contrast between light prenasalized and reinforced prenasalised consonants.

Reinforced pre-nasalized consonants are written with double characters while those in the light series are not. We give P1 examples which show the contrasts.

(1a): [mbale]	'that I may read'	cf. [γuβala]	'to read'
(1b): [mbbale]	'that I may carry on back'	cf. [γúbbala]	'to carry on back'
(2a): [ndule]	'that I may be bitter'	cf. [γulula]	'to be bitter'
(2b): [nddule]	'that I may be expensive'	cf. [γúddula]	'to be expensive'
(3a): [ngume]	'that I may hit'	cf. [γúúma]	'to beat'
(3b): [nggume]	'that I may touch'	cf. [γúgguma]	'to touch'
(4a): [njále]	'that I may spread bed'	cf. [γuyala]	'to s spread bed'
(4b): [njjale]	'that I may close'	cf. [γujjala]	'to close'
(5a): [ncise]	'that I hurt'	cf. [γuzhisa]	'to hurt'
(5b): [nccise]	'that I iron'	cf. [γuccisa]	'to iron'

---

Table 2.14 Contrasts involving prenasalised reinforced and light consonants.

These contrasts are not available in I1, Lj, S1, Sβ and Tt because these lects lack the non-prenasalized consonants /b, d, g/. While both the a-forms and the b-forms are pronounced with a nasal 'kick off' as suggested by Armstrong, native speakers perceive the difference between them. (Carter, n.d : 7 observes that while the obstruents /b, d, g/ are reinforced they are neither light nor reinforced when they occur after a homorganic nasal). We would like to add that the difference between the a-forms and the b-forms above lies in the duration of the

homorganic nasal. In the b-forms the duration of the nasal is longer than in the a-forms.

The other reinforced consonants are /z, j, c, k/; they are presented as /nzz ŋjj ŋcc ŋkk/ respectively in line with the other reinforced consonants; (see Chart 2.12 ). Phonetically these prenasalized consonants behave in the same way as the prenasalized consonants of the b-forms above.

To sum up our discussion so far we can say that all the Tonga lects have prenasalized consonants. P1, Vy, and Tk have an additional series of prenasalized consonants of the reinforced series /b, c, d, j, k, g/. Strictly speaking, the term 'homorganic' alone is not adequate to describe the nasal component preceding the prenasalized consonants. This is because in P1 and I1 we get nasalized /h/, and /hh/ but there is no glottal nasal that is homorganic with these consonants.

### 2.2.3. Observations on Vy and Tk.

We give, below, the table of sound sequences of Vy and Tk. It will be seen that some of the sequences are identical to those of P1 given above. However, there are some phonotactic constraints that affect P1 but not Vy and Tk; see Chart 2.14, below.

2.2.3.1 Sequences of consonants, semivowels and vowels in Vy and Tk.

	i	e	a	o	u
p, b, t, d, l, γ, β, c, j, m, n, ŋ, s, z,	+	+	+	+	+
g, k, ŋ	-	-	+	+	+
f, v	-	-	-	+	+
y	-	+	+	+	+
w	+	+	+	-	-

Chart 2.14 Sequences of consonants, semivowels and vowels in Vy and Tk.

As in Pl we find that /g/ and /k/ can only be followed by /a o u/. Those words in which /g/ can be followed by /i/ and /e/ have already been accounted for in Table 2.8 above under the discussion of Pl. However, it should be remembered that Tk does not have /γ/; instead it has /k/ for every Vy /γ/. In this respect, /γ/ in the first row in Chart 2.14 should only be read as referring to Vy. This implies that Tk differs from Vy and Pl (see Chart 2.11) in that the sequence /ki/ is allowed in Tk. Chart 2.14 also shows that the following sequences are not allowed in Vy and Tk: /fa fe fi fy va ve vi vy /. As there are no examples to show what would happen if such sequences arose we can illustrate this by examples of loan words from English.

English	Vy.	cf. P1
(a) 'to fail'	γúfweela	γúhweela
(b) 'farm'	fwaamu (class 5)	hwaamu
(c) 'vaselíne'	vwásifilini (class 1a)	hhwásifilini
(d) 'Vicks'	vwíyisi (class 1a)	hhwíyisi
(e) 'film'	fwilimu (class 5)	hwilimu

Table 2.15 Loans from English in which /f/ and /v/ are followed by a non-round vowel.

Table 2.15 indicates that /w/ is inserted between the consonants /f/ and /v/ on one hand and the following nonround vowel. We would also like to point out that in P1 the English words in table 2.15 have the epenthetic [w] as in Vy and Tk but instead of /f/ and /v/ P1 has /h/ and /hh/, respectively.

#### 2.2.3.2. Consonant-Semivowel sequences in Vy and Tk.

Chart 2.15 gives the restrictions on which consonant can be followed by a semivowel /y/ or /w/ in a string VCSV, where 'V' = a vowel, 'C' = a consonant and 'S' = /y/ or /w/. (Some of the material has been obtained from Fell (1918) and Griffin (1915 ).

	y	w
p, b, β, d, t, l, s, z, m, n	+	+
k, g, γ, ŋ, f, v, j	-	+
c, ŋ,	-	-

Chart 2.15 Consonant and Semivowel sequences in Vy and Tk.

All the consonants of the Tonga lects can precede /w/, with the exception of /c/. That /c/ cannot precede /w/ is understandable if we accept the characterisation that the sound [c] comes from the sequence /ky/ or /ki/.

2.2.4 Observations on Phonotactic constraints involving Il consonants and vowels.

2.2.4.1 Consonant, Semivowel and Vowel sequences.

The restrictions involving the combinations of consonants and vowels in Il are given in Chart 2.16 below.

	i	e	a	o	u
p, β, m, t, l, n, ŋ, c, sh, k	+	+	+	+	+
z, s	-	+	+	+	+
h, hh	-	-	-	+	+
w	+	+	+	+	-
y	+	+	+	+	+

Chart 2.16. Consonant-vowel sequences in Il

Let us now look at the gaps in Chart 2.16, starting with /s/ and /z/. These obstruents cannot be immediately followed by the vowel /i/. /s/ alternates with /sh/ while /z/ alternates with /hh/ before /i/. This latter alternation is of interest because previous studies of Il report that /z/ alternates with [zh] when /i/ immediately follows; see Doke (1928: 133). Smith (1907: 7) treats /sh/ and /zh/ as 'compound consonants'. The term compound was perhaps used to mean 'affricate' or digraph. As /s/ and /z/ are not found before /i/ one might want to treat them as allophones of <sup>/sh/</sup> and <sup>/zh/</sup>, respectively. However, this would not be correct because the pairs /s/:/sh/ and /z/:/zh/ contrast before the other four vowels. Another way of looking at this problem is to give the following analysis of [sh] and [zh]:

/se/ ---->	[se]	/sye/ ---->	[she]
/sa/ ---->	[sa]	/sya/ ---->	[sha]
/so/ ---->	[so]	/syo/ ---->	[sho]
/su/ ---->	[su]	/syu/ ---->	[shu]
/ze/ ---->	[ze]	/zye/ ---->	[zhe]
/za/ ---->	[za]	/zya/ ---->	[zha]
/zo/ ---->	[zo]	/zyo/ ---->	[zho]
/zu/ ---->	[zu]	/zyu/ ---->	[zhu]

Chart 2.17 Analysis of [sh] and [zh] in Il.

The above suggestion can easily be handled in an abstract phonological description and it is probably the better way of resolving the problem at hand. However, the approach we have adopted in this thesis <sup>re-</sup> lies on analyses that can be observed in 'surface phonology'.

2.2.4.2 Consonant-semivowel sequences in Il

The restrictions involving the combinations of consonants and semi-vowels are given in Chart 2.18, below.

	y	w
i. p, β, t, l, m,	+	+
ii. k, ny[fi],	-	+
iii. s, n	-	+
iv. h,	-	-
v. hh	-	+
vi. c, sh	-	-

Chart 2.18: Consonant-semivowel sequences in Il.

If we now look at the constraint in row (iii) we find /s/ and /z/ cannot occur before /y/. This can be accounted for as in Chart 2.17 above. Another observation in Chart 2.18 is that there are no sequences /cy/ and /shy/ nor /cw/ and /shw/. [c] and [sh] already contain the element [y] in their pronunciation and as such <sup>the sequences</sup> [cy] and [shy] <sup>are</sup> redundant. The sequence /yw/ is also not permitted in any of the Tonga lects and since [c] and [sh] contain the gesture for [y] in their production we cannot have these sounds followed by a [y].

2.2.5. Observations on Lj and Sl.

2.2.5.1 Consonant-Vowel sequences in Lj and Sl.

The charts 2.19 and 2.20 below combine the phonotactics of both Lj and Sl. This is because the restrictions in both lects are the same.

	i	e	a	o	u
p, β, t, k, l, m, n, ny[ŋ]	+	+	+	+	+
s	-	+	+	+	+
f	-	-	-	+	+
ŋ	-	-	+	+	+
w	+	+	+	-	-
y	-	+	+	+	+

Chart 2.19 Consonant, semivowel and vowel sequences in Lj and Sl.

As the chart shows the restrictions are fewer in Lj and Sl compared to lects like Pl. With respect to the consonant /s/ before /i/ we can see that the constraint is the same as in Il discussed in Chart 2.16-17

above. In addition we can see that /f/ occurs only before the /o/ and /u/. The constraint is the same as that discussed above under Vy and Tk. (See Table 2.15)

2.2.5.2 Consonant-semivowel combinations in Lj and Sl

Basically the restrictions here are similar to those of Il illustrated in section 2.2.4.1-2, above. The only difference in the present case is the addition of /f/ in the inventory.

	y	w
<u>p, β, t, m, n, l</u>	+	+
<u>s, ɲ, c, f, k,</u>	-	+
<u>sh, ny[ɸ], ŋ</u>	-	-

Chart 2.20 Consonant and semivowel sequences in Lj and Sl.

The phonotactic constraint described for Il in respect of the sequence /si/ and /sy/ also applies to Lj and Sl. Chart 2.19 above also indicates that /c/ is found before /w/. This rules out for Lj and Sl the analysis of /c/ as /ky/ already suggested for Pl, Vy, Tk and Il.

We do not have enough data to conduct a detailed analysis of Lj and Sl morphophonemics. However, after {N}, /β/ and /l/ have the alternants /d/ and /b/ respectively as in all the Tonga lects.

2.2.6. Summary.

We now give a conspectus of the phonemic inventories of the Tonga lects in one Chart 2.20 and 2.21 below. Vowels and consonants are

given in vertical column on the left hand side while individual lects are listed from left to right. The intersection of sound with lect will be marked by a '+' if that sound exists in the lect in question and by a '-' if it does not. The brackets ( ) indicate that only a few lexical items have the sound in question. On the other hand [ ] indicates an allophonic realization of the preceding sound. This is particularly relevant to consonants with alternant forms after a homorganic nasal.

In *asmuck* as we have taken the decision that prenasalized consonants are not unit phonemes we shall not include them in the phonemic inventory, just as we have excluded consonant clusters with semivowels.

Vowel	P1	Vy	Tk	I1	Lj	S1	Sß	Tt
i	+	+	+	+	+	+	+	+
i:	-	-	-	-	-	-	+	+
e	+	+	+	+	+	+	+	+
e:	-	-	-	-	-	-	+	+
a	+	+	+	+	+	+	+	+
a:	-	-	-	-	-	-	+	+
o	+	+	+	+	+	+	+	+
o:	-	-	-	-	-	-	+	+
u	+	+	+	+	+	+	+	+
u:	-	-	-	-	-	-	+	+

Chart 2.21 Vowel Inventories of Tonga lects

Consonant	P1	Vy	Tk	I1	Lj	S1	Sβ	Tt
p	+	+	+	+	+	+	+	+
b	+	+	+	-	-	-	(+)	(+)
t	+	+	+	+	+	+	+	+
d	+	+	+	-	-	-	(+)	(+)
k	+	+	+	+	+	+	+	+
g	+	+	+	-	-	-	(+)	(+)
c	+	+	+	+	+	+	+	+
j	+	+	+	-	-	-	-	-
β	+	+	+	+	+	+	+	+
f	-	+	+	-	+	+	+	+
v	-	+	+	-	-	-	+	+
s	+	+	+	+	+	+	+	+
z	+	+	+	+	-	-	+	+
sh	-	-	-	+	+	+	+	+
zh	+	-	-	-	-	-	-	-
γ	+	+	-	-	-	-	-	-
h	+	-	-	+	-	-	+	+
hh	+	-	-	+	-	-	+	+
l	+	+	+	+	+	+	+	+
m	+	+	+	+	+	+	+	+
n	+	+	+	+	+	+	+	+
ñ	+	+	+	+	+	+	+	+
ŋ	+	+	+	+	+	+	+	+
w	+	+	+	+	+	+	+	+
y	+	+	+	+	+	+	+	+

Chart 2.21 Consonant Inventories of Tonga consonants

CHAPTER 3.

3. SOUND CORRESPONDENCES AND RECONSTRUCTION OF PROTO-TONGA

In chapter 2 we attempted to establish the consonant inventories and relevant morphophonemic processes found in each of the Tonga lects. It is the aim of the present chapter to relate these inventories by reconstructing the sound system of the ancestor lect which we shall term 'Proto-Tonga', or 'PT' in short. The theoretical framework within which we shall conduct the reconstruction is described above in §1.2.4.

The correspondences presented will be based mainly on verb and noun stems. Other lexical categories will not be considered because their membership is very restricted. Furthermore non-stem morphemes like conjunctions belong to a few closed systems within which regularity of correspondence cannot be formally demonstrated because the data is too limited to afford recurrent patterns.

We shall distinguish different kinds of stems. In Bantu, verb stems fall into two categories: the 'simple' (unextended) stems and the extended ones. Generally the unextended stems have the canonical shape  $-CVC_2-a$ , where 'C' stands for an obstruent, nasal, liquid or semivowel and 'V' stands for any vowel. The final vowel /a/ stands for the vowel ending in indicative verbs. Other canonical shapes include  $-CV-a$  and  $-CVC_2^N-a$ . In some stems there may be a homorganic nasal preceding 'C'. Furthermore, some verb stems incorporate a semivowel after an obstruent, nasal or liquid. There are different correspondences specific to a given stem-type. This will become clear in the discussions below. Any verb stem longer than  $-CVC_2-a$  or  $-CVNC_2-a$

is likely to have a verbal extension incorporated in it. We shall find that consonants and vowels in extension position are subject to certain constraints.

Noun stems have the canonical shape  $-C_1V_1C_2V_2$ . As in the case of verbs there are noun stems in which there may be a homorganic nasal preceding 'C<sub>2</sub>' and some stems incorporate a semivowel after an obstruent, nasal or liquid. These will be treated as forming a subset. Trisyllabic and other longer stems are generally few and in most cases they are derived by various nominalization processes. As in the case of verb stems, correspondences in extension position of noun stems have their own peculiarities; see for example discussion of the correspondences involving P1 /n/ in 3.1.2 (Table 3.2b).

In some cases it is necessary to refer to a correspondence obtaining in a specific environment. For example in a stem of the shape CVCV we may refer to C<sub>1</sub> or V<sub>1</sub> if the correspondence applies to the first consonant or the first vowel of the stem. We may also refer to C<sub>2</sub> or V<sub>2</sub> position to draw attention to correspondence obtaining in the second consonant or second vowel position.

Finally, other explicit references will be made pertaining to the sound preceding or following the one currently being discussed. This way we hope to delimit the context in which a given type of correspondence is found. Examples of such restrictions can be seen in Table 3.26, where before /i/, P1 /s/ corresponds to /sh/ in I1, Lj and S1 whereas elsewhere /s/ is found in all lects. Some correspondences appear to be unconditioned, e.g. those involving P1 /t/, /m/ and /n/.

The analysis that follows seeks to be exhaustive, that is, the correspondences and reconstructions should account fully for all the

data in the Appendix leaving for comment only a small residue of 'aberrant' forms. The sets of correspondences that will be used in the reconstruction will be called "correspondence series" or CS in short. The term 'correspondence series' is employed here to refer to instances where a Pl sound shows consistency of correspondence which may be either unconditioned or conditioned by environment in word-structure or by phonetic context. In the tabulations of the correspondences each correspondence series is followed by the reference numbers of the items that support it. When appropriate we shall present lexical items on which the correspondences are based which are also thought to be putative reflexes from PT forms. These lexical items will be termed 'reflex sets'.

For purely practical reasons the items of Pl are given in the first column. This has no theoretical significance; we are merely continuing the way we designed the questionnaire. Another reason is that the researcher being native speaker of Pl is aware of sound alternations existing in this lect. For this reason a CS is one where Pl has a uniform entry, while entries in the cognates of other lects may show variants. However, the method we have adopted here also forces us to split the putative correspondence series in two or more subsets of correspondence series if there are variations in the reflexes of any of the lects. Examples of such a split can be seen in the separation of the treatment of Pl /s/ before /i/ from that of Pl /s/ before other vowels.

We shall proceed in our study as follows. We shall first attempt to give the correspondence series together with their phonetic environments as far as our data allow us. Then we shall seek to reconstruct the proto-segments on the basis of the established

correspondences.

In the following tables we first list the correspondences in which all the Tonga lects have the sound in question in comparable cognates. Where a lect lacks a cognate we indicate this absence with a dash '-'. It is often not possible or desirable to give all the correspondences in tabular form because doing so would create, in some cases, very large tables covering a page or more (e.g. Table 3.7). A practical solution to this was devised whereby only a limited number of correspondences are tabulated and the rest of the correspondences listed by reference numbers of the Appendix. The reference numbers together with the items that are tabulated read as one table. As we have already indicated C.S. are grouped according to realisation in Pl. Prenasalised consonants are generally treated separately, but may sometimes be subsumed under the corresponding single consonant (e.g. t and nt in 3.1.8).

3.1 Consonants

3.1.1 Correspondence series involving P1 /m/

P1	Vy	Tk	Ii	Lj	S1	Sß	Tt	References
m	m	m	m	m	m	m	m	71, 151, 329, 332, 337, 338, 399, 384, 469, 473, 478, 489, 497, 529, 586, 588, 590, 616, 652, 665
m	m	m	m	m	m	-	m	338, 408
m	m	m	m	m	-	-	-	73a, 293a, 395a
m	m	m	-	m	m	m	m	96a
m	m	m	-	m	-	m	m	76a
m	m	m	m	m	-	m	m	174a

(See also: 13a, 32a, 77a, 87a, 97a, 106a, 132a, 109a, 146a, 164a, 193a, 252a, 275a, 306a, 314a, 316a, 339a, 349a, 356a, 376a, 386a, 397a, 434a, 444a, 458a, 474a, 485a, 498a, 535a, 537a, 542a, 554a, 557a, 563a, 573a, 575a, 591a, 596a, 601a, 612a, 631a, 645, 652a).

Table 3.1. Correspondence series involving P1 /m/ in all environments

P1 /m/ corresponds to /m/ in all the other lects in all environments. There are 71 lexical items in which the correspondences in Table 3.1 are found.

The correspondence is symbolized as \*m in PT.

3.1.2 Correspondence series involving P1 /n/.

P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
n	n	n	n	n	n	n	n	100, 141, 247, 250, 337, 362, 396, 449, 586, 589, 665
n	n	n	n	n	-	n	n	12a
n	n	n	n	n	n	-	n	20a, 99a
n	n	n	n	n	n	n	-	130a

(See also 47a, 50a, 54a, 62a, 72a, 89a, 112a, 139a, 140a, 188a, 193a, 233a, 252a, 261a, 249a, 314a, 331a, 333a, 349a, 352a, 355a, 410a, 411a, 421a, 424a, 426a, 429a, 444a, 458a, 474a, 475a, 485a, 486a, 499a, 509a, 527, 542, 557a, 573, 599a, 622a, 630a).

Table 3.2a: Correspondence series involving P1 /n/ in all environments

There are 57 lexical items in which the correspondences in Table 3.2 are found. P1 /n/ corresponds to /n/ in all the lects in all the environments. Note that /ny/ has been treated as representing a simple consonant [ŋ], see 3.1.3 below.

There are however, a few lexical items showing skewed correspondences of P1 /n/. These are given in Table 3.2b. An alternation /m/ versus /n/ can be found in P1 yu-doneya versus Vy yudomeya 'to light a cigarette' (547). (547) is a patent loan word, though from an unknown source. Other reflex sets, in which /n/ alternates irregularly with /l/, are shown in Table 3.2b. It is

noteworthy that all of these alternations are in extension position, and, with the exception of 533a, C<sub>2</sub> is prenasalised.

	(333a)	' (344a)	(477a)	(533a/b)
	'rooster'	'tick'	'to hatch'	'to undo sewing'
P1	muziŋgini	nzéŋgéne	γύγoŋkona	γúdaβununa
Vy	muziŋgili	nséŋgéle	γύγoŋkona	γúdaβulula
Tk	-----	nséŋgéle	kúkoŋkona	kúzambununa
Il	-----	nséŋgéle	-----	kúzambulula
Lj	-----	máséŋgéle	kúkoŋkola	-----
Sl	-----	-----	-----	-----
Sβ	-----	maséŋgele	-----	-----
Tt	-----	-----	-----	-----

Table 3.2b Skewed correspondences of /n/

The correspondences /n:/ /l/ (and /n:/ /m/) in the above examples are irregular. Items (333a) and (344a) represent stems that probably incorporated extensions, in PT. The discrepancy between P1 /n/ and /l/ in the other lects in these two nouns may be accounted for if we compare the behaviour of the applied verb extension -il- when it is suffixed to the verb stems ending in a simple nasal e.g. /m/ and /n/. The rule is that -in- is found after verb stems that end in a nasal whereas the alternant -il- occurs elsewhere including after stems ending in prenasalized consonants. In (333a) and (344a) the lects with /l/ seem to follow this latter pattern suggesting an irregularity in P1 in the nouns in question. Even in P1 other nouns have the extension -ele or -ili as in: zhi-pembele 'rhinoceros'; mwiŋgili 'species of

tree' and zhißengele, 'species of bird'.

(477a) would also seem to have an extension in the form of -on-. This ending in P1 contrasts with that of yúdonkola, 'to pierce' ((548a), in Appendix). As the stems of (477a) and (548a) both end in -nk- the extension should have been either on or -ol- in both verb stems. However -ol- is the regular ending rather than -on- given in P1. P1 again represents an irregularity.

Let us look at (533a). The verb stem here has an extension in the form -ulul in Vy and -unun- in P1. This extension is generally known as the 'reversive' in Bantu. Further treatment of this extension can be found in 2.1.2.1 (Table 2.3). There is no question of assimilation here because the putative simple stem would be -daß-, which does not end in a nasal. We are unable to account for the form of (533a) at present.

### 3.1.3 Correspondence series involving P1 /ny/.

<u>P1</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>S1</u>	<u>Sß</u>	<u>Tt</u>	<u>References</u>
ny	ny	ny	-	ny	ny	ny	ny	96a
ny	ny	ny	-	ny	ny	-	-	152a
ny	ny	ny	ny	ny	ny	-	-	3a
ny	ny	-	-	-	-	-	-	36a

Table 3.3a Correspondence series of P1 /ny/ in the environment before [-rdl].

The above correspondences are exemplified in only a few cognates. However they are exemplified in C<sub>1</sub> and C<sub>2</sub> positions of stems and before the vowels /a, e, i/ or alternatively before non-round vowels. As far as Il, Lj and S1 are concerned Table 3.3a shows complementarity with

Table 3.3b below where /ny/ suggests an alternant /n/ before round vowels and /w/:

(31)	(156)	(125)
'to drink'	'to suck'	'salt'
P1 yúnywa	yúnyoŋka	múnyo
Vy yúnywa	----	múnyo
Tk kúnywa	kúnyoŋka	múnyo
I1 kúnwa	kúnŋka	mwíno
Lj kúnwa	----	mwíno
SI kúnwa	----	----
Sβ kúnywa	kunyoŋká	mwínyo
Tt kunywá	kunyóŋka	----

Table 3.3b: Reflex sets of P1 ny before [trd]:

There are two counter examples to Table 3.3b. The first mú-nyono 'malice' (297b) where we have a palatal nasal in Lj and SI in spite of the fact that the following is a back vowel. The other is P1 línyo versus Sβ and Tt línyo 'tooth' (173). The problem with (173) is that Sβ and Tt form has a palatal nasal in contradiction to Table 3.3b. It is possible here to argue that the original PT nasal was \*n which became reinforced in accordance to the phenomenon associated with class 5 nouns. The problem is how to account for differential treatment of (125) and (173). Perhaps \*I was lost after i of Class 5 prefix <sup>\*</sup>(li-), but retained after /u/ of class 3 <sup>\*</sup>(mu-).

3.1.4: Correspondence series involving P1 /ŋ/. There are only three instances of prevocalic /ŋ/ in our data as Table 3.4 below shows.

P1	Vy	Tk	Il	Lj	S1	Sβ	Tt	References.
ŋ	ŋ	ŋ	ŋ	ŋ	ŋ	ŋ	ŋ	597
ŋ	-	ŋ	ŋ	ŋ	ŋ	-	-	584a
ŋ	ŋ	ŋ	ŋ	ŋ	ŋ	-	-	585

Table 3.4 Correspondence series involving P1 /ŋ/

It was pointed out in Chapter 2 (section 2.2.2.3) that this nasal is synchronically marginal <sup>in</sup> the Tonga. lects. Item (585a) ŋóla 'scotchcart' is a loan word and (584a) ŋánda 'house' and (597) munanga or ŋanga 'witchdoctor' are in Ganda Law environment described in 2.2.2.3 and could be attributed to PT \*g. There is uncertainty about the velar nasal and since it is found in so few words prevocalically we feel we cannot reconstruct it for PT.

3.1.5 correspondence series involving P1 /β/ and /mb/.

3.1.5.1 Correspondence series involving P1 /β/

The above correspondences show no variation. They are found in all positions and before all vowels.

P1	Vy	Tk	Il	Lj	Sl	Sβ	Tt	References
β	β	β	β	β	β	β	β	83, 123, 157, 187, 201-2, 212, 216, 220-222, 224, 222, 224, 229, 231-2, 234-5, 289, 303 345, 390, 433, 656
(See also 23a, 24a, 26a, 53a, 61a, 75a, 84a, 112a, 130a, 133a, 175a , 176a, 182a, 192a, 142a, 203a, 204a, 205a, 206a, 207a, 208a, 209a, 210a, 211a, 213a, 214a, 215a, 217a, 218a, 219a, 223a, 225a, 226a, 227a, 228a, 230a, 233a, 236a, 237a, 238a, 239a, 240a, 241a, 268a, 288a, 318a, 326a, 340a, 375a, 403a, 451a, 452a, 454a, 457a, 464a, 479a, 491a, 507, 517a, 533a, 534a, 541a, 555a, 556a, 560a, 561a, 593a, 650a, 582a, 583a, 593a, 623a, 643a)								

Table 3.5. Correspondence series involving P1 /β/.

For /mb/ see section 3.1.5.2, Table 3.6 below. There are 98 items in which the correspondences above are found in our data.

There are a few lexical stems that do not fit into the above regularity. The first one is P1 /β/ in yúβija, which corresponds to 'zero' consonant in Sl kwipa, 'to be bad' (219). The other two which show apparent alternations with /β/ and with /b/ are the natural consequence of a change in noun class. We should just note here that the correspondence /β/ to /b/ in (30) and (649) is expected because /Nβ/ is realised as mb (see Table 2.14 in Chapter 2). Similarly /β/ is realised as [bb] in class 5 (See 2.2.2.7, Table 2.13b).

### 3.1.5.2 Correspondence series involving P1 /mb/.

P1 /mb/ corresponds to /mb/ in the other lects in all environments except apparently before /y/. Let us look at Table 3.6 below.

P1	Vy	Tk	Ii	Lj	Sl	Sß	Tt	References
mb	mb	mb	mb	mb	mb	mb	mb	127, 135, 158, 180 231-2, 285, 303, 466, 526
mb	mb	-	mb	mb	mb	-	-	21a
mb	mb	mb	mb	mb	mb	-	-	205a, 233a
mb	-	mb	-	-	mb	-	mb	131a
mb	mb	mb	-	-	-	-	-	124a
(See also 9a, 108, 312a, 313a, 320a, 333a, 335a, 351a, 365a, 387a, 409a, 418a, 435a, 443a, 496a, 511a, 512a, 526aa, 526a, 564a, 598a, 599a, 625a, 641a, 648a, 658a, 663a, 670a, 678a)								

**Table 3.6 Correspondence series involving P1 /mb/**

The correspondence series in Tables 3.5 and 3.6 are in complementary distribution. The correspondences in Tables 3.5 and 3.6 show similar alternations to those in Tables 3.14a and 3.14b below.

We reconstruct PT \*ß.

3. 1. 6 Correspondences involving /l/ and /nd/.

3. 1. 6. 1 Correspondence series involving Pl /l/.

Pl	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
1	1	1	1	1	1	1	1	15, 22, 37, 48, 64, 71, 90, 115 118, 123, 136, 160, 177, 216, 222, 224, 242, 258, 260, 266, 277, 280, 281, 285, 310, 334, 343, 344, 346, 347, 360, 361, 381, 382, 383, 384, 385, 388, 390, 394, 399, 519, 525, 531, 605, 652, 656
1	1	1	-	1	1	1	1	203a
1	1	1	1	-	-	1	1	16a, 24a, 204a
<p>(see also 6a, 13a, 47, 92a, 108a, 113a, 119a, 148a, 164a, 172a, 176a, 179a, 186a, 215a, 217a, 230a, 237a, 238a, 244a, 245a, 248a, 249a, 253a, 257a, 259a, 262a, 265a, 269a, 270a, 274a, 275a, 276a, 283a, 284a, 290a, 301a, 305a, 307a, 308a, 321a, 322a, 324a, 340a, 325a, 350a, 358a, 364a, 366a, 367a, 375a, 376a, 377a, 378a, 379a, 380a, 385, 386a, 387a, 391a, 392a, 393a, 398a, 400a, 402a, 407a, 414a, 417a, 419a, 358a, 430a, 440a, 442a, 443a, 446a, 48a, 450a, 453a, 454a, 463a, 464a, 465a, 470a, 471a, 480a, 481a, 483a, 493a, 506a, 510a, 512a, 515a, 517a, 518a, 522a, 527a, 528, 534a, 544a, 546, 548a, 553a, 562a, 568a, 569a, 570a, 578a, 580a, 583a, 585a, 595a, 596a, 609a, 612a, 619a, 621a, 625a, 627a, 628a, 633a, 634a, 640a, 641a, 643a, 644a, 646a, 650a, 655a, 657a, 567a, 659a, 661a, 675a, 677a)</p>								

Table 3. 7 Correspondence series involving Pl /l/

P1 /l/ corresponds to /l/ in all environments and stem positions. Note however, that [l] is not found after {N}, nor with class 5 prefix for which see Tables 3.8 and 3.16 below. /l/ is in complementary distribution with [d] after {N} in all the lects (see Table 3.8 below) and in class 5 it has a reinforced alternant [dd] in P1, Vy and Tk (see Table 3.16, section 3.1.11.2).

There are 174 lexical items in which the correspondences in Table 3.7 are found.

3.1.6.2 Correspondence series involving P1 /nd/.

P1	Vy	Tk	I1	Lj	S1	Sβ	Tt	References.
nd	nd	nd	nd	nd	nd	nd	nd	98, 178, 385, 467a
nd	nd	nd	nd	nd	nd	nd	-	414a
nd	nd	nd	nd	nd	nd	-	nd	621a, 669a
nd	nd	nd	nd	nd	nd	-	-	206a, 243a, 286a, 353a
nd	nd	-	nd	nd	nd	-	-	207a
nd	nd	nd	nd	nd	-	-	-	121a, 315a 412a
nd	nd	nd	nd	nd	-	-	nd	660a
(see also 48a, 248a, 321a, 378a, 391a, 413a, 419a, 445a, 446a, 476a, 514a, 520a, 546a, 608a, 638a, 646a, 667a)								

Table 3.8 Correspondence series involving P1 /nd/.

P1 /nd/ corresponds to /nd/ in all environments. /nd/ does not occur in C<sub>1</sub> position. However nouns in classes 9 and 10 this is allowed but as the realisation of /Nl/ (e.g. P1 ndongwe 'groundnuts'). The prefix cannot be separated from the stem. We can in fact make a generalisation to include [mb] and [ŋk] which are the phonetic realisations of /Nβ/ and /Nγ/ respectively (see Chapter 2, Chart 2.12).

However, in the current problem there are 33 lexical items in which the correspondences in the above table are found. As indicated in 3.1.6.1 above /l/ is not found after {N} in which position it is in complementary distribution with /d/. We reconstruct \*nd for Tables 3.7 and 3.8 provisionally, pending discussion of the correspondence of P1 /d/ in 3.1.11.2 below. We are assuming that the synchronic alternation /l/ to /d/ after /n/ was operative in PT as well.

3.1.7 Correspondence series involving P1 /p/ and those in which S1 has /p/ corresponding to /y/, /w/ and zero consonant in P1 and other core lects.

3.1.7.1 Reflex sets in which P1 has /p/.

P1 /p/ corresponds to /p/ in all the core lects and to /h/ in Sβ and Tt (Table 3.9b), although a few cases show /p/ also in Sβ and Tt (Table 3.9a and Table 3.10b). There are however lexical items in S1 and sometimes in Lj as well in which /p/ corresponds to /h/ in Sβ and Tt. In some of these cases we get /y/, /w/ or /∅/ in P1 and the other core lects; see 3.1.7.2 (Table 3.10a) below.

We shall be concerned with two problems in this section: (a)

When do Sß and Tt have /p/ and when /h/; when does Pl, Vy, Tk and Il have a zero consonant or /y/ and when /p/. These two questions are interrelated but we shall deal with the first one in 3.1.7.1 and the second in 3.1.7.2.

There are three cognates which show a correspondence of /p/ in all the eight lects. These are given in Table 3.9a, below. Since there are only three cognates showing invariant /p/ in all the lects we cannot at the moment say whether this is the regular correspondence or not until we have considered all the other correspondences. The complete uniformity in Table 3.9a could easily be due to lect contact, especially since Sß and Tt have no cognates in many of words with /p/ in the core lects as Table 3.9c below shows.

	(246)	(250)	(251)
	'to suffer'	'to get well'	'to wipe out dirt'
<hr/>			
Pl	γúpenga	γúpona	γupuyuta
Vy	γúpenga	γúpona	γupuyuta
Tk	kúpenga	kúpona	kupukuta
Il	kúpenga	kúpona	kupukuta
Lj	kúpenga	kúpona	kupukuta
Sl	kúpenga	kúpona	kupukuta
Sß	kupénga	kupóna	kupúkuta
Tt	kupénga	kupóna	kupúkuta

Table 3.9a Reflex sets in which Pl /p/ corresponds to /p/ in all the lects.

We shall now turn our attention to Table 3.9b below.

There is a limited number of lexical items in which P1 /p/ corresponds to /h/ in Sß and Tt. These are given in Table 3.9b below. For ease of reference the lexical stems of P1 and Sß/Tt are included on the right hand <sup>Side</sup><sub>k</sub> of the table.

P1	Vy	Tk	Il	Lj	S1	Sß	Tt	References.		
										P1. : Sß/Tt
p	p	p	p	p	p	h	h	60, : 242	-pa- -pal-	-ha- -hal-
py	py	py	py	-	py	hy	hy	104a:	-py-	-hy-
py	py	py	py	-	py	hy	hy	255:	-py-	-hy-

**Table 3.9b** Correspondence series involving P1 /p/ and /h/ in Sß/Tt.

The above table shows four lexical items in which P1 and the remaining core lects have /p/ and Sß and Tt /h/. As the data indicate there are too few items on which to base any firm conclusions about the correspondences. Nevertheless, as a conjecture, we can say that the data in Table 3.9b come from the source in which PT had \*p and that only Sß and Tt changed this original consonant to /h/. This analysis forces us to re-examine the data in Table 3.9a above in which Sß and Tt have /p/ instead of /h/. We can attribute the data in 3.9a to sources in which PT had \*p but that the lexical items that have /p/ in Sß and Tt are possibly loans.

There are however lexical items in S1 and sometimes in Lj as

well in which /p/ corresponds to /h/ in Sß and Tt. In some of these cases we get /y/, /w/ or zero consonant in P1 and the other core lects. We deal with these latter correspondences in 3.1.7.2.

Before we turn to 3.1.7.2 we would like to show that there are correspondences in which the core lects have /p/ and that in the words involved there are no comparable words in Sß and Tt; see table 3.9c below. The significance of Table 3.9c will be seen when we discuss the data in Table 3.10a below.

P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
p	p	p	p	p	p	-	-	243a, 252a, 406a, 487a
p	p	p	p	p	-	-	-	45a, 245a, 377a, 437a, 515a
p	p	p	-	p	p	-	-	248a, 254a
p	p	p	-	p	-	-	-	628a
p	p	p	-	-	-	-	-	106a, 249a, 322a, 647a
p	p	-	-	-	-	-	-	19a
p	-	-	-	-	-	-	-	617a

**Table 3.9c Correspondence series involving P1 /p/ in all stem positions and environments.**

There are 18 lexical items in which the above correspondences are found. Out of these sixteen of them are verbs. Of the sixteen verbs six have /p/ in C<sub>1</sub> position which were elicited

with the infinitive prefix {yu}. We shall only give Pl forms here: yúpanda 'to clear woods for farming' (243a); yúpumuna 'to rest' (252a); (Pl yúpatila 'to be jammed' (245a); yupindula 'to turn inside out' (248a); yupwaya 'to crash' (254a) and yupola 'to change residence' (249a). In all these verbs the /u/ of the infinitive prefix {yu} is the environment where we get the correspondence /w/ in Table 3.10a below although this is not the case in the present case.

There are six lexical items in which /p/ is found after /m/. Out of these one is a class 9/10 noun namely Pl mpemo 'nose' (106a). The rest are verbs of which we give only the Pl forms: yusimpa 'to erect pole in the ground' (406a); Pl yulampa (377a) 'to be tall'; yúhumpa 'to become blunt' (647a); yuumpa 'to burn' (19a); yúywempa 'to snatch' (617a).

There also some verbs in which /p/ is found in C<sub>2</sub> position. Two are found after /a/ e.g. (Pl: yútapaula 'to scatter' (515a)) and Il kúzapula 'to tear' (322a); Others are found after /o/ or /u/ in respective lects: (Pl yuhyupuya 'to slip from grip' (437a); yuyupa 'to peel' (459a); yúyopela 'to button up' (628a)). In this C<sub>2</sub> position shall also include one noun Pl muyupa 'milk' (487a). All these are discussed again in Table 3.10b below where we discuss their relationship with the data in Table 3.10a.

3.1.7.2 Reflex sets in which S1 has /p/ but P1 /y/, /w/ or zero

consonant.

The reflex sets in which S1 has /p/ but P1 and some core lects /y/, /w/ or zero consonant.

	(14) 'black'	(15) 'blood'	(17) 'bone'	(134c) 'short'	(247) 'hoe handle'
P1	γusiya	βulowa	zhíhuwa (-hwááhwí		mw-íini
Vy	γusiya	βulowa	cífuwa	-----	mwíini
Tk	kusiya	βulowa	cífuwa	-----	mwíini
I1	kushiya	βulowa	cíhuwa	-----	mwíini
Lj	kushiya	βulowa	cífuwa	-----	múpini
S1	kushipa	milopa	cifúpa	-fupi	múpini
Sβ	kusiha	malohá	cifuhá	-fuhí	muhíini
Tt	kusiha	malóha	cifúha	-fuhí	múhini
	(259b)	(291) 'to become less'	(450a) 'to tear	(121b) 'root'	
P1	-----	γúzheya	γuyaula	-----	
Vy	-----	kúceya	γúyaula	-----	
Tk	-----	kúceya	kúyaula	-----	
I1	-----	kuceya	kúzapula	-----	
Lj	kulipila	kúceya	-----	-----	
S1	kulipila	kúcepa	-----	múpishípiishi	
Sβ	kulihá	-----	-----	muhísi	
Tt	kulíha	-----	-----	múhísií	

Table 3.10a. Reflex sets in which S1 has /p/ but P1 /y/, /w/ or zero consonant.

We can make the following observations about the above table.

1): in items (14), (15), (17), (121b), (134c), (247) and (259b) /p/ in S1 corresponds to /h/ in Sβ and Tt.

(2): in some of the items like (14), (15), (17) and (291a) /y/ and /w/ in P1 correspond to /p/ in S1 and Lj and to /h/ in Sβ and Tt.

(3): item (247) shows that the 'zero' consonant in Pl, Vy, Tk and Il corresponds to /p/ in Sl and sometimes in Lj and to /h/ in Sß and Tt.

(4): (291) is similar to (14). The only difference in the former is that there are no cognates in Sß and Tt.

(5): Finally we can see that in (450a) there is a 'zero' consonant in Pl, Vy and Tk against /p/ in Il. However, (450a) is problematic particularly for Pl, Vy and Tk because of the existence of item (322a): yúzapula which is identical to the Il form. Speakers in the lects concerned use either form freely. We shall ignore (450a) and (322a) for the sake of the present discussion.

We shall suggest two possibilities in the development of the data in Table 3.10a above. The first one is to say that the PT forms had originally \* $\Phi$  which was lost in Pl and some of the lects but that \* $\Phi$  developed into /p/ in Sl and /h/ in Sß and Tt. This would imply merger in Sl, Sß and Tt with the developments suggested in 3.1.7.1 above where PT \*p was retained in Sl but developed into /h/ in Sß and Tt. Depending on the vowel preceding  $\Phi$ , the reflex in Pl, Vy, Tk and Il is /w/ or /y/ (i.e. /w/ after /o u/ and /y/ after /i e/). There is a problem with this kind of development. This concerns the complete disappearance of PT \* $\Phi$ . As such we do not know what happened to this sound in other environments like stem initially, after /a/ and after the nasal. Apart from item (247) where /p/ in Sl and /h/ in Sß and Tt correspond to 'zero consonant' to the remaining lects the development of \* $\Phi$  in various lects is non-stem initial position. It is therefore uncomfortable to suggest a proto-segment which was only found in restricted positions and environment.

We shall reserve final judgement until we have considered the second alternative below.

The second alternative is the one that suggests PT \*p as the original PT consonant for Table 3.10a. Looking at (14, 15, 17, 247 and 291 ) one might say that perhaps PT \*p was lost after the vowels /i/, /e/, /o/ and /u/ in Pl, Vy, Tk and Il and that the semivowel we get in these cognates is determined by the preceding vowel, i.e. /y/ after /i/; /e/ and /w/ after /o/ /u/ as already suggested in the preceding paragraph. The vowels /i e o u/ share the feature [-low]. This means we could derive all the items in the above table from forms that had \*p in PT. /h/ in Sß and Tt developed as suggested for the correspondences in Table 3.9b above while /p/ was retained in Sl and sometimes in Lj. There are problems with this suggestion as can be seen in Table 3.10b. The data show that /p/ appears in the environments in which it would be expected to have been lost in some lects or have the correspondence /h/ in others. We supply these data in Table 3.10b below. Table 3.10b also includes cases in which the correspondence in Sß and Tt is /p/ rather than /h/, contrary to the observations in Tables 3.9b and 3.10a above.

	(45a)	(437a)	(459a)	(487a)
	'feather'	'to slip from grip'	'to peel'	'milk'
<hr/>				
P1	pepe	γuhyupuγa	γuyupa	muγupa
Lj	lipepe	kusupuka	-----	mukupa
Sl	-----	kushipuka	-----	makupa
Sβ	-----	-----	-----	-----
Tt	-----	-----	-----	-----
	(502a)	(515a)	(542b)	(628a)
	'whip'	'to scatter'	'to be bent'	'to button up'
P1	-----	γútapaula	-----	γúγopela
Lj	císwepu	kútapuula	kupetama	kúkopela
Sl	císwepu	-----	kupetama	-----
Sβ	-----	-----	kupetama	-----
Tt	ciwépu	-----	kupetama	-----

Table 3.10b Reflex set with /p/ after /a e i o u / in P1, Lj, Sl, Sβ and Tt only.

One item shows /p/ in P1 (<γupandula 'to split (e.g. wood)') corresponding to /θ/ in Vy and Il (<γwaandula/kwaandula). We shall treat this as a divergent correspondence.

The foregoing has explored the correspondences involving /p/ in P1 and Sl. We have also suggested two possible sources for the correspondences. We cannot attribute all the above cognates to a single source in PT because there are too many data that would not be accounted for. For example if we say that PT \*p became /w/ in P1, Vy,

Tk and Il we cannot account for /p/ in these lects in yuhyupuka (437a); yuyupa (459a), yúyopela (628a) and muypupa (487a). We cannot even account for the data in Table 3.9a (namely yúpa (60) yupala (242), yúpya and yúpya (104a) since in these words /p/ is preceded by the infinitive prefix {yu-}. There are also other grammatical elements that can precede /p/. We shall illustrate <sup>the</sup> from data in Pl. In Pl the second and third person subject singular pronouns are both represented by a homophonous {u} in certain tenses. These pronouns can be directly prefixed to verb stems beginning in /p/ such as those in Table 3.9b e.g. úpé 'that you give'. The third person object pronoun singular is {mu}- can also be prefixed to verb stem beginning with /p/ e.g. βámúpa 'they have given him'. Finally /p/ in Pl can be preceded by /i/ as in the case of reflexive pronoun {li}, e.g. βálipa 'they have given themselves up'. Since /p/ in Pl can be preceded by any of the vowels /i e a o u/ it is difficult to maintain the suggestion that PT \*p was lost in Pl after certain vowels especially /i e o u/ although such an environments can be stated as after [-low]. The only data that can be accounted for are those in Table 3.10a.

If however, we propose that the correspondences in Table 3.10a are from PT \* $\emptyset$  and that we get /w/ after /o u/ and /y/ after /i e/ as suggested already we can exclude Table 3.9b. The data in Table 3.10b may be accounted for as skewed items. Then Table 3.9b can be derived from PT \*p. The problems with this suggestion have already been indicated above. As can be seen from the data  $\emptyset$  is no longer realised in any of the lects unless we were to suggest that it became /p/. We shall abandon this position in favour of PT \*p for the following reasons. The main reason deals with the fact in Sl /p/ is reflected not only in Tables 3.9(a-b) but also in Tables 3.10(a-b). Similarly we

get /h/ for the Sβ and Tt reflexes in Tables 3.9b and 3.10a. We feel that S1 represents the original situation in all the correspondences presented above. At this point we can also look at the situation in wider Bantu. For S1 milopa 'blood' (15), cifupa 'bone' (17) and -fupi 'short' (134) we get the following respective Nyanja equivalents mlopa 'blood', cipfupa 'bone' and -fupi 'short'. S1 -cepa 'to become few' (291a) has also an equivalent in Nyanja, namely -cepa. These forms of Nyanja persuade us to believe that we should reconstruct PT \*p'. We shall therefore maintain that the environments in which P1, Vy, Tk and Il have /y/ or /w/ should remain as [-low]. There is an obvious problem with the data in Table 3.9a-b but data from wider Bantu have persuaded us to reconstruct PT \*p.

3.1.7.3 Summary of correspondences involving /p/.

Table	P1	Vy	Tk	Il	Lj	S1	Sβ	Tt	PT	
3.9b	p	p	p	p	p	p	h	h	*p	3.1.7.1

Chart 3.1a Summary of correspondences involving P1 /p/.

Table	P1	Vy	Tk	Il	Lj	S1	Sβ	Tt	PT	Environment	Reference.
3.10a	w	w	w	w	w	p	h	h	*p	/[o u]__	3.1.7.2
3.10a	y	y	y	y	p	p	h	h	*p	/[i e]__	3.1.7.2
3.10c	p	p	p	p	p	-	-	-	*p	elsewhere	3.1.7.2

Chart 3.1b Summary of the correspondences involving S1 /p/.

1. It is possible that S1 /p/ diffused into Soli area; see Chapter 6

3.1.8 Correspondence series involving Pl t.

Pl	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
t	t	t	t	t	t	t	t	22, 35, 42, 43, 68, 111, 187, 212, 251, 382, 388, 455, 478, 500, 519, 522, 525, 526, 529, 530, 531, 532, 590, 603, 676
t	t	t	t	t	t	-	t	253a, 294a, 511
t	t	t	-	t	t	t	t	373a
t	t	t	-	t	-	-	-	74a
t	t	-	t	-	-	-	-	86a
t	-	t	-	-	t	-	-	131a

(See also 56a, 81, 137a, 218a, 263a, 278a, 290a, 294a, 359a, 376a, 393a, 420a, , 425a, 431a, 463a, 482a, 490a, 493a, 506a, 507a, 508a, 509a, 510a, 512a, 514a, 515a, 516, 517a, 518a, 520a, 521a, 523a, 524a, 527a, 528a, 608a, 609a, 666a).

Table. 3.11: Correspondence series involving Pl /t/.

Pl /t/ corresponds to /t/ in all environments and stem positions. In one word, (531), Pl /ty/ corresponds to /c/ in Sß and Tt in the verb stem -tyol-/-col- 'to break'. There is no other example of this kind of correspondence. Although the development is entirely plausible a correspondence series cannot be established on the strength of a single item. The correspondences in Table 3.11 are found in 70 items.

The correspondence series is symbolised as \*t in PT.

### 3.1.9 Correspondence series involving P1 /k/.

There are 17 correspondences (given in Tables 3.12a and 3.12b) in which P1 /k/ corresponds to /k/ in all the lects. These correspondences are of interest because, from the point of view of P1 and Vy, they contrast with the regular correspondences in Table 3.21 (section 3.1.15.1 below) where /k/ in other lects corresponds to /ɣ/ in P1 and Vy. In Chapter 2 we pointed out that /k/ is a reinforced consonant in P1 and that it is associated with the strengthening in class 5 prefix (see 2.2.2.6, Table 2.13a). Secondly, /k/ in P1 is associated with loss of stem initial and postvocalic /i/ still present in some lects like Il, Lj, S1, Sβ and Tt (see 3.2.8).

The correspondences in which P1 /k/ corresponds to /k/ in all the lects are given in Tables 3.12a (11 lexical items) and 3.12b (6 lexical items).

<u>Pi</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sß</u>	<u>Tt</u>	<u>References</u>
k	k	k	k	k	k	-	-	90a
k	k	k	k	k	k	-	-	523
k	k	k	k	k	k	k	k	136a
k	k	k	k	k	k	k	k	500a
k	k	k	k	k	k	k	k	221, 505
k	k	k	k	-	-	k	k	328a
k	k	k	k	k	-	-	-	405a
k	k	-	k	-	-	-	-	494a
<u>k</u>	<u>k</u>	<u>k</u>	<u>k</u>	<u>k</u>	<u>k</u>	<u>-</u>	<u>-</u>	<u>498a, 594a</u>

Table 3.12a. Correspondence series involving Pi /k/.

(In the Il, Lj, Sl, and Tt reflexes /k/ is preceded by /i/, which is not found in the other lects. (11 items)).

<u>Pi</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sß</u>	<u>Tt</u>	<u>References</u>
k	k	k	k	k	k	k	k	497 (kumi/má-γumi; 5/6)
k	k	-	k	k	k	-	-	21a (kumbi/ma-γumbi; 5/6)
k	k	k	k	k	k	-	-	496a (kombo/má-γombo; 5/6)
k	k	k	-	-	-	-	-	501a (kwa/ma-γwa; 5/6)
k	k	k	k	k	k	-	-	503a (kowa/ma-γowa; 5/6)
<u>k</u>	<u>k</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>137a (kutu/má-γutu; 5/6)</u>

Table 3.12b. Correspondence series involving Pi /k/ in classes 5 and 6 noun (6 items).

Let us first examine the correspondences in Table 3.12a by giving the cognates in which the correspondence series in Table 3.12a are based:

	(90a)	(136)	(500)	(523a)
	'to live'	'to sit'	'to become satiated)	'to put load on head'
P1	γukala	γukala	γúkuta	γútuka
Vy	γukala	γukala	γúkuta	γútuka
Tk	kukala	kukala	kúkuta	kútuka
I1	kukala	kukala	kúkuta	kútwika
Lj	kukala	kwikala	kúkuta	kútwika
S1	kwikala	kwikala	kwíkuta	kútwika
Sß	-----	kwikála	kwííkuta	-----
Tk	-----	kwííkála	kwííkúta	-----

Table 3.12c Reflex sets in which P1 /k/ is preceded by /i/  
in some lects.

As table 3.12c indicates some of the lects have cognates in which /k/ is preceded by /i/ or /ii/ but that this vowel is consistently missing in the other lects like P1, Vy and Tk. Since /γ/ in P1 and Vy regularly corresponds to /k/ in the other lects we should now try to account for the presence of /k/ in Table 3.12c.

The first question to ask is whether /k/ in P1 and Vy in the correspondences above is related to the absence of /i/ before this consonant. In order to try and answer this question we should also find out whether there are any cases in P1 and Vy in which /k/ is preceded by /i/ stem initially or postvocally. If such examples exist then the incidence of P1 /k/ in Table 3.12c cannot be attributed to the loss of this vowel. Going by the data in the above table one

would expect that when /i/ precedes we should always get /ɣ/ instead of /k/ in P1 and Vy. Let us examine the data below.

	(221)	(328a)	(405a)	(494a)
	'to put'	'to bury	'to put wood on fire'	'to put axe in handle'
P1	ɣúβika	ɣuzika	ɣúsika	ɣúɣwika
Vy	ɣúβika	ɣuzika	ɣúsika	ɣúɣwika
Tk	kúβika	kuzika	kúsika	kúkwika
Il	kúβika	kuhhika	kúshika	-----
Lj	kúβika	-----	kúshika	-----
Sl	kúβika	-----	-----	-----
Sβ	kuβíika	kuzíika	-----	-----
Tt	kuβíika	kuzíika	-----	-----
CB	*-bíik-	*-díl̥k-	-----	-----
	(505)			
	'fire-place			
P1	zhíko			
Vy	cíko			
Tk	cíko			
Il	cíko			
Lj	cíko			
Sl	cíko			
Sβ	cíko			
Tt	cíko			

Table 3.12d Lexical items in which /k/ is preceded by /i/ in all the lects.

It is also true in Pl and Vy that the consonant /ɣ/ is also found after the vowel /i/ as can be seen in items (55a) hiyunku/siyunkwe, 'fog' (55a); yusiya 'to arrive' (404) and yúsiñdiyila 'to accompany' (414). Given this situation it is important to delimit specifically which /i/ we are talking about instead of assuming an unconditioned environment /i/. We shall now pursue this point below.

Item (405a) has a restricted distribution in wider Bantu and for this reason very little can be said about this item.

In items (221) and (328) we have a long vowel preceding /k/ in Sß and Tt. Vowel length here is attributed to PT (see 3.2.2.1.). This (i.e. long vowel) is one of the environments in which the following /k/ was reinforced in Pl which in turn was also accompanied by reduction of vowel quantity in the remaining core lects. Pl has the reinforced /k/ in (494a) because etymologically the form in PT was \*-kú¹k-. PT \*¹ here occurred postvocally and this is another environment where we get reinforcement of /k/ in Pl. In Table 3.12c above we have reinforced /k/ in Pl again because this consonant immediately follows postvocalic \*i of PT (i.e. \*-tu¹k-). It is suggested here that postvocalic \*i developed into postvocalic \*v which has <sup>Q</sup> reinforcing characteristic as in class 5

If we look at the etymologies of items (221) and (328a) we find that in the cases under discussion CB \*k was preceded by a long vowel and a cedilla vowel respectively. In the cases where CB \*k was preceded by \*I we find that this vowel is absent in Pl and Vy but reflected as /i/ in remaining lects. However, the following CB \*k is reflected as a reinforced consonant as already indicated in the previous paragraph. But it is not the case that \*I caused reinforcement of the following \*k. If this were so item (404) -sik-

(CB \*-pík-) would have been reinforced. In this case CB does not have a reinforced reflex in P1 because CB \*I was <sup>a</sup> short vowel. But if \*I occurred stem initially as is the case in *items* (90a, 136 and 500 in Table 3.12c).

P1 zhiko 'fire-place' (505) does not have a preceding /i/ in any of the lects and yet we get a reinforced /k/ in P1 and Vy. The reinforced consonant here may be accounted for by referring to the CB source. This item was reconstructed as CB \*-yíko. As we can see \*-yí- here is found stem initially and therefore and this is the position for reinforcement in P1.

There are two other items in which /k/ is reinforced in P1 but without a preceding /i/ in relevant lects. The first one, P1 yukoma 'to hit nail with hammer (as in roof-making) (498a). This item does not have preceding /i/ etymologically. The reinforced /k/ here may be due to borrowing. The second lexical item, P1 zhikóci 'cart' (594a), is likely to be a borrowed word as well and this may account for this divergence.

Let us now look at the correspondences in Table 3.12b. The correspondence series in Table 3.12b represents correspondences found in the initial position of class 5 noun stems. In the plural, (class 6, ma-), /k/ in P1 and Vy alternates with /γ/. There is no alternation between the singular and plural forms in the other lects. For the summary and reconstruction of the correspondences involving P1 /k/ and /γ/, see 3.1.15.3 below.

3.1.10 Correspondence series involving P1 /b/

3.1.10.1 Correspondences involving P1 /b/ versus /p/ in

Il, Lj, S1 Sß and Tt.

P1	Vy	Tk	Il	Lj	S1	Sß	Tt	References.
b	b	b	p	p	p	p	p	260, 273, 277
b	b	b	p	p	p	-	p	253a
b	b	b	p	-	p	-	-	274a
b	b	b	p	-	-	-	-	259a, 263a, 265a, 275a
b	b	b	p	p	p	-	-	261a, 262a
b	b	-	p	-	-	-	-	276a
b	b	b	p	-	-	-	p	278a
b	b	b	-	-	-	-	-	264a, 270a, 516a
b	b	b	p	p	p	-	p	253a
b	b	-	-	-	-	-	-	271a
b	-	-	-	-	p	-	-	622a

Table 3.13a: Correspondence series involving P1 /b/ versus /p/ in Il, Lj, S1 Sß and Tt in all environments except after /N/ (for which see Table 3.6).

P1 /b/ corresponds to /b/ in Vy and Tk and to /p/ in Il, Lj, S1, Sß and Tt in all stem positions and all environments except after {N}. Correspondences after /N/ can be found in section 3.1.5.2, Table 3.6 above. P1, Vy and Tk have voiced stops in environments other than after nasal, (see chapter 2, Charts 2. (6-10) and compare also Chapter 3 sections in 3.1.11. (1-2) and 3.1.12.1 below). Most of the words

are restricted to Pl, Vy and Tk, although Il, Lj and Sl have some cognates as well. Where there are cognates in Il, Lj and Sl and to a lesser extent Sß and Tt the cognates are special lexical items such as onomatopoeic words. This is certainly the case for items Pl yubutaila 'to wrap' 253a; Pl yubatiya 'to stick' 263a; Pl yuboloya 'to burst' 270a; Pl yubulumuya 'to run aimlessly' 275a and Pl zhíbutu 'parcel' 278a. Furthermore, two cognates (Pl zhíbadéla 'hospital' (260) zhibutula (277) 'shorts') refer to concepts or cultural items that have recently come into the Tonga culture. The possibility of borrowing in the case of (260 and 277) cannot be easily dismissed, although we are unable to identify the source lects. The two words in question are given in Table 3.13b below.

260 'hospital'	277 'shorts'
Pl zhíbadéla	zhibudula
Vy cibádéla	cibudula
Tk cibádéla	kabudula
Il cipátéla	kaputula
Lj cipatala	kaputula
Sl cipatala	kaputula
Sß cipátéla	kaputula
Tt cipátéla	kaputula

Table 3.13b. Suspected borrowed words.

These nouns are also found in other Bantu lects. In some of the lects the cognates have /b/. Such lects include Shona (S.10) and Ndebele (S.44). Others have /p/ in both nouns, such as Bemba (M.42), Kaonde (L. 40). Yet others like Nyanja (N. 31b) have the /p/-form for 'hospital' and the /b/-form for 'shorts'. Although the object

'shorts' is a foreign cultural item the word itself would seem to have Bantu origins. For instance, in Bemba there exists the verb ukuputula, 'to cut', which is conceivably etymologically related to the noun akaputula as in (277) above. As Zambian lects are in constant contact especially by speakers in urban areas, Tonga speakers might have borrowed from Bemba speakers. Nevertheless, nothing for certain is known about the ultimate origin of this word. The word for 'hospital' is even more difficult to trace as it is also widespread in Southern and Central Africa. On the other hand assuming that the lexical items in question are borrowed and had the bilabial voiced stop it is likely that this consonant was adopted as voiceless in those lects which do not have [b], while as all the Tonga lects have [p] the development p to b is not likely.

There is another set of correspondences involving Pl /b/ versus /β/ in some lects. These are given in 3.1.10.2 below:

3.1.10.2 Correspondence series involving Pl /b/ and /β/ in Il, Lj, S1  
Sβ and Tt.

Let us now look the correspondences in Tables 3.14a and 3.14b in which Pl /b/ corresponds to /β/ in Il, Lj, S, Sβ and Tt. The correspondences in Table 3.14b are found in the initial position of noun stems of class 5 whose plural are class 6, prefix ma- in which /b/ has the alternant /β/ in Pl, Vy and Tk. It is suggested that because /b/ is morphophonemically derived the initial consonant should be posited as /β/.

The items in Table 3.14a comprise of one noun múbi/mwiβi, (267a) and two verbs kúba/kwiβa/kwiβa (256), 'to steal' and yúbala/kwiβala (257). The former two words are clearly etymologically related. (256)

has cognates in other Bantu lects such as Bemba, ukwiβa and Nyanja kuba. This verb was reconstructed as \*-yíβ by Guthrie. Item (257a) represents the correspondence in the verb yúbala/kwiβala 'to carry on the back'. It has no Bantu etymology.

The three correspondences in Table 3.14a are similar to those observed in Table 3.12a. In both cases it is P1, Vy and Tk that do not have the vowel /i/ preceding the consonant in the correspondences. In the present case the absence of this vowel coincides with the plosive /b/, which also happens to be a reinforced consonant. (A discussion of the alternation between 'reinforced' and 'weak' consonant can be found in 2.2.2.6.) As we have indicated the vowel /i/ is a reflex of CB \*I. We shall return to these forms later.

P1	Vy	Tk	Il	Lj	Sl	Sβ	Tt	References
b	b	b	β	β	β	β-		256a (P1 yúba: Il kwíβa)
b	b	b	-	-	β	-	-	267a (P1 múbi: Sl mwíβi)
b	b	b	β	-	-	-	β	257a (P1 yúbala: Il kwíβala)

Table 3.14a. Correspondence series involving P1 /b/ in all environments except after /N/ and class 5 prefix.

(In Il, Lj, Sl, Sβ and Tt reflexes of 256a, 267a, and 275a, /β/ is preceded by /i/, which is not found in the other lects.)

<u>P1</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sß</u>	<u>Tt</u>	<u>References</u>
b	b	b	ß	ß	ß	ß	ß	258 (báßa/máßaßa cls. 5/6)
b	b	b	ß	ß	ß	ß	ß	266 (bele/máßele cls. 5/6)
b	b	b	ß	ß	ß	-	-	272a (bozu/máßozu cls. 5/6)
b	b	b	ß	-	-	-	-	268a (b1ßi/máßißi cls. 5/6)
<u>b</u>	<u>b</u>	-	<u>ß</u>	-	-	-	-	<u>192a</u> (báßa/máßáßa cls. 5/6)

Table 3.14b. Correspondence series involving P1 /b/ in Class 5 and 6.

There are two other correspondences that we need to point out. The first one is P1 (269a): yúbila 'to sink', which has the cognates kwíßila in Il and kúpila in Lj and Sl. The correspondences series b:ß:p does not belong to either Table 3.13a or Tables 3.14(a-b). Nevertheless P1 yúbila regularly corresponds to Il kwíßila according to the correspondence series discussed here (Table 3.14(a-b), but Lj and Sl kúpila reflect the alternate correspondence series in Table 3.13a, suggesting that they may have been borrowed from P1.

The second item is (611a): P1 yubeja, 'to bet' which has the cognates Sß kubéca and Tt kubéza. The issue here is that Sß/Tt has /b/, rather than /p/ as in Table 3.13a or /ß/ as in Table 3.14(a-b). The practice of betting is likely to be a recent cultural acquisition in Tonga society and that this activity was not present in PT period. (611a) has an irregular correspondence because it is a borrowed concept.

In Table 3.13a above we observed that /b/ is restricted to P1, Vy and Tk while the other lects have /p/. The words involved in these correspondences appear to be either borrowed or onomatopoeic. Since onomatopoeic words are unpredictable we shall treat the correspondences

in Table 3.13 as peripheral for the purposes of reconstruction.

In Table 3.14b the correspondences are regular in the environment specified, that is after class 5 noun prefix which has the characteristic of strengthening in Pl, Vy and Tk. As we can see in the table, /b/ in singular nouns alternates with /β/ in the plural. This alternation is parallel to that given in Table 3.12b above where there is an alternation between /k/ and /γ/ in class 5 and class 6 respectively in Pl and Vy. In fact the whole correspondence series in Table 3.14a-b is parallel to that of Table 3.12a-b above since the same environment is involved.

Some of the words in which /b/ in Pl, Vy and Tk corresponds to /β/ in the rest of the Tonga lects in both Tables 3.14a have cognates in wider Bantu. Some Bantu lects such as Chewa<sup>and</sup> Luganda have a reinforced consonant in the reflexes e.g. Luganda -bbir- 'sink' (269a) and -bba 'steal' (256a); Chewa [bba] 'to steal' (256a). All these reflexes agree with Pl, Vy and Tk in having a reinforced consonant stem initially. However there are some other Bantu lects that have /β/ in these items e.g. Bemba -iβa (256a) -iβila (269a). The two lexical items here have the CB reflexes \*-yīb- and \*-yībid-, respectively. The syllable \*-yī- is no longer realised in Pl, Vy and Tk while the other Tonga lects and Bemba retained the vowel /i/. It is likely that the loss of this syllable in these three lects and indeed in Luganda, Chewa gave rise to the following reinforced consonant. As far as Pl, Vy and Tk are concerned loss of the CB syllable \*-yī- always gave rise to a reinforcement of the following consonant. The data in Table 3.12c involving CB \*-yīk- is another case in point since in all the other reflexes (except after a homorganic nasal) CB \*k is reflected as /γ/ in Pl and Vy. Similarly in the

present case CB \*b has the reflex /β/ in all the environments (except after the homorgan(c nasal). A similar type of correspondence can be found in a few items involving CB \*-yIp- which is reflected as /j/ in Pl, Vy and Tk but as /ip/ in Sl (and in wide Bantu, e.g. Bemba). The point for discussing reflexes involving \*-yIk- and \*-yIp- in the present section is to try and show that there are related cases in the Tonga lects involving reinforced consonants which are all ultimately derived from the same environment in CB. Other cases involving reinforced consonants can be found in 2.2.2.6

Having now looked at correspondences involving Pl /β/ (section 3.5, Pl /mb/ Table 3.6) and various correspondences involving Pl /b/ we can try to reconstruct the original PT segment for these correspondence series. For the present reconstruction, we shall rely on the information given in Table 3.14a-b. This data will be taken in conjunction with the correspondence series discussed in Table 3.5 and Table 3.6 which deal with Pl /β/ and /mb/ respectively. The summary is given in Chart 3.2 below.

<u>Table</u>	<u>Pl</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sβ</u>	<u>Tt</u>	<u>Environment</u>	<u>Section</u>
3.14(a-b)	b	b	b	β	β	β	β	β	class 5 and analogous environments.	3.1.10.2
3.6	mb	after {N}	3.1.5.2							
3.5	β	β	β	β	β	β	β	β	elsewhere	3.1.5.1

Chart 3.2 Correspondences involving Pl /b, β, mb/.

We propose to symbolise these three series in complementary distribution of Pl /β/ as PT \*β. The reasons for suggesting this symbol are as follows. /b/ is found in restricted environments of

class 5 and after nasal. Secondly all the lects have /β/ in Table 3.5. This suggests that \*β is original.

3.1.11 Correspondence series involving /d/.

3.1.11.1 Correspondences involving /d/ in Pl and /t/ in other lects.

There are only three lexical items in our data in which Pl, Vy and Tk /d/ corresponds to /t/ in the other lects. These are given in Table 3.15 below.

	(259a)	(260)	(277)
	'to pay fine'	'hospital'	'pair of shorts'
Pl	yubadela	zhíbadéla	zhibudula
Vy	yubadela	cíbadéla	cibudula
Tk	kubadela	cíbadéla	kabudula
Il	kupatela	cípátéle	kaputula
Lj	-----	cipatala	kaputula
S1	-----	cipatala	kaputula
Sβ	-----	cípátéla	kaputula
Tt	-----	cípátéla	kaputula

Table 3.15 Reflex set involving /d/ in Pl

Corresponding to /t/ in other other lects.

Other correspondence series involving Pl /d/ can be found in 3.1.11.2 below. Also, correspondences involving /d/ after /N/ can be found in 3.1.6, Table 3.8, above. The cognates represented by (260) and (277) refer to foreign cultural items and they have already been discussed in 3.1.10.1 under the discussion of the correspondence series involving Pl /b/. We observed in 3.1.10.1, that /b/ in Pl, Vy and Tk corresponds to /p/ in Il, Lj, S1, Sβ and Tt. The correspondences in

the present case are similar to those of 3.1.10.1 in that P1, Vy and Tk have a voiced stop in environments other than after nasal. As this suggests local development, especially as the three lects concerned are spoken in a continuous area, we can say that the material in Table 3.15 should be treated as peripheral for the purposes of the reconstruction of PT.

The above correspondences are parallel with the correspondence series /b:/p/ (Table 3.13a) and /g:/k/ (Table 3.17a).

3.1.11.2 Correspondences series involving P1 /d/ in class 5 and 6 nouns.

There are 18 lexical items in which P1 /d/ corresponds to /d/ in Vy and Tk and to /l/ in the other lects in nouns of class 5. The correspondences in Table 3.16 below are found in mutually, exclusive environments with the correspondences involving P1 /l/ in 3.1.6 above.

P1	Vy	Tk	Il	Lj	S1	S8	Tt	References
d	d	d	l	l	l	-	-	53a, 541a, 546a
d	d	-	l	-	-	-	-	538a
d	d	d	-	-	-	-	-	10a, 536a, 552a, 542a, 547a, 553a, 554a, 556a
d	d	-	-	-	-	-	-	533a, 534a, 537a, 548a 555a
d	d	d	l	-	-	-	-	16a

Table 3.16 Correspondence series involving P1 /d/ in class 5

6 nouns.

/d/ in P1, Vy and Tk alternates with /l/ in plural (class 6, prefix ma-). Since /d/ in the above Table is morphologically determined we can say that the stems are all /l/-initial. This suggests that the

noun stems in all the cognates above should be treated as beginning in /l/. The above correspondence series compares with the series discussed in 3.1.6 where P1 /l/ has the correspondence /l/ in all the lects. After /N/, /l/ has the alternant /d/ as indicated in 3.1.6.1. These three correspondence series, 3.1.6, 3.1.6.1 and the present ones should be considered together for the purposes of reconstruction. We have seen the distributional restriction of /l/: it is in complementary distribution with /d/ after /N/ and in class 5. We give the summary in Chart 3.3 below.

Table	P1	Vy	Tk	Il	Lj	S1	S8	Tt	Environment	Reference
3.16	d	d	d	l	l	l	-	-	+class 5	3.1.11.2
3.8	nd		3.1.6.1							
3.16	l	l	l	l	l	l	l	l	elsewhere	3.1.6

Chart 3.3 Summary of the correspondences involving P1 /l/, /d/ and

/nd/

The correspondence series is symbolised as \*l in PT

The above correspondence series and restrictions are compared with those discussed in 3.1.9. and 3.1.15.1 involving /k/ and /γ/ and in 3.1.10.2 involving /b/ and /β/.

3.1.12 Correspondence series involving Pl /g/ and ng.

3.1.12.1 Correspondences involving non-prenasalized /g/ in Pl.

There are 16 lexical items involved in the correspondences in Table 3.17a below. The consonant /g/ is normally found after a homorganic nasal in Il, Sl, and Tt but in Table 3.17a we find examples of non-prenasalized /g/ in these lects:

Pl	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
g	g	g	k	k	k	k	k	120
g	g	g	g	k	k	g	g	566
g	g	g	g	k	g	g	k	567
g	g	g	g	-	k	g	-	559a
g	-	g	g	-	k	k	k	564a
g	g	g	-	-	-	k	k	569a
g	g	g	-	k	k	-	-	575a
g	g	g	-	k	-	-	-	316a
g	g	g	-	-	-	-	k	568a
g	g	g	k	k	-	-	-	574a

(See also 560a, 561a, 562a, 563a, 570a, 577)

Table 3.17a Correspondence series involving non-prenasalized /g/ in Pl.

The correspondences are found in all environments (except after (N) for which see Table 3.18) and in all stem positions. The above correspondences are parallel with the correspondence series /b:/p/

(Table 3.13a) and /d/:/t/ (Table 3.15). In the latter correspondence series the voiced plosives are restricted to Pl, Vy and Tk, but /g/ occurs in Il, Sl and Sß and Tt. The correspondence is presumably as in item (120) in the above table although /b/ appears to be common in Il and Sß. In some of the lexical items above Pl /g/ has a corresponding /g/ in Sß and Tt (566); Lj/Sl (567); Il (559a), (564a), (566), (567). The lexical items in question are exemplified in 3.17b, below. The glosses in the following examples refer to items which are likely to be of recent acquisition in the lects concerned.

kugaya	(566)	'to grind in a mill'	(in Il).
cigamba	(564)	'patch'	(in Il)
cigaba	(559)	'tin container'	(in Il and Sß)
cigayo	(567)	'grinding mill'	(Il, SL, Sß and Tt).

---

Table 3.17b: Suspected borrowed words with /g/.

We are unable to trace the sources of these lexical items. However there are apparently related words in other Bantu lects including Lozi, Nyanja, Shona and Ndebele.

In addition to the apparent loan words 120, 568, 669 three lexical items (574a) Pl γuguhya : Lj/Sl kukusha, 'to remove'; (575a) Pl γúguma: Lj/Sl kúkumya, 'to touch' and (316a) γúhugama : Lj kúfukama, 'to kneel' also show the correspondence /g/ : /k/. These words have no known cognates in wider Bantu. The question of whether PT had non-prenasalised \*g will be taken up after considering correspondences involving /ŋg/ in 3.1.12.2 below.

One lexical item (578a) has P1 /g/ corresponding to /ŋ/ in I1, Sβ and Tt as follows lúgwalo : lúnwalo : inólo. This word has a cognate in Lozi inolo. This correspondence will be treated as skewed. In item (656) Sβ has mugiβelo 'Saturday'. This noun is likely to be a loan.

3.1.12.2 Correspondence series involving P1 /ŋg/

There are 40 cases in which P1 /ŋg/ corresponds to /ŋg/ in all the lects. We have not found any variations in the following correspondences.

P1	Vy	Tk	I1	Lj	Sl	Sβ	Tt	References
ŋg	103, 246, 334, 394, 530, 597							
ŋg	ŋg	ŋg	ŋg	-	-	ŋg	ŋg	582a
ŋg	ŋg	ŋg	ŋg	ŋg	ŋg	-	-	119a
ŋg	ŋg	ŋg	-	-	-	-	-	126a, 342a
ŋg	ŋg	ŋg	ŋg	ŋg	-	ŋg	ŋg	171a, 354a
ŋg	ŋg	ŋg	ŋg	-	ŋg	-	-	344a
ŋg	ŋg	ŋg	ŋg	ŋg	-	-	-	448a

(See: 58a, 208a, 213a, 223a, 233a, 288a, 333a, 342a, 368a, 379a, 415a, 430a, 432a, 447a, 448a, 468a, 538a, 580a, 587a, 602a, 613a, 639a, 653a, 654a, 666a).

Table 3.18 Correspondence series involving P1 /ŋg/.

The above correspondences are found in all stem positions and they are overwhelmingly before back vowels; exceptions are P1/Vy muzingini 'rooster' (333a); P1 nzengéne 'tick' (344a) and P1 zhiyangilo 'crop' (448a) which are all derived forms. One item however suggests palatalisation to /ɲj/ before front vowel, namely (287a): (P1) yúzhenga : (Lj/S1) kúceñjeka, 'to deceive'; cf. Bemba ukuceñjela 'be cunning'. Even in P1 yúzhēñjela exists with the same meaning as in Bemba. The verb in this case incorporates an extension -el-. Data giving correspondences similar to (287a), i.e. /ng/: /nj/ can be found in Table 3.25 below.

Two other examples have /k/ after /N/ in some of the lects. These are (581a): P1 nguzu versus Lj ŋkusu, 'strength'; (583a) P1 nguluše versus Tt inkuluše, 'pig'. This correspondence is not completely surprising since /k/ in the present case is found in the lects which normally do not have /g/ as Table 3.17a above shows. Assuming that PT had a voiced consonant, devoicing did not affect those words in which the nasal and the following voiced stop are inseparable. In the present case the nasal prefix in the nouns of (581a) and (583a) is separable from the stems. In wider Bantu we find that CB voiced prenasalised stops have voiceless stop reflexes: e.g. in Lozi, CB \*mb, \*nd, \*ng have the reflexes p, t, k respectively.

The question now is whether we should posit \*g in PT. Evidence that this consonant existed in PT can be seen in Table 3.18 where it is attested after the homorganic nasal. Many of the lexical items exhibiting /ŋg/ have CB etymologies. This indicates that PT retained /ŋg/ in these words. Because of this one might reconstruct \*g for PT. It is true that internal reconstruction with P1 suggests g but on comparative evidence we cannot attribute g to PT. It is for this lack

of support from comparative data that we tentatively assume g was already absent in PT except in the restricted environment after (N).

3.1.13 Correspondence series involving Pl /c/[tʃ].

3.1.13.1: Correspondences involving Pl /c/[tʃ]

There are only six cases exhibiting the correspondences involving Pl /c/[tʃ]. These are given in table 3.19 below.

Pl	Vy	Tk	Il	Lj	Sl	Sβ	Tt	Referencees
c	c	c	c	c	c	-	-	302a, 594a
c	-	-	-	-	-	<c>	<c>	305a
c	c	c	c	-	-	-	-	596a
c	-	c	c	-	c	-	-	637a
c	-	c	-	-	-	-	-	304a

Table 3.19 Correspondence series involving Pl /c/.

(In Sβ and Tt the reflexes of (305a), /c/ is preceded by /i/, which is not found in other lects.)

In all but one word, this consonant is found in words which refer to recent cultural concepts like 'preaching', 'ironing' and 'church wedding'. We suggest that the correspondences in Table 3.19 should be treated as peripheral. Non-prenasalized /c/ in other lects regularly corresponds to /zh/ in Pl (see Table 3.20, in section 3.1.14). This correspondence series is thus comparable with Table 3.12 versus Table 3.21.

3.1.14 Correspondence series involving P1 /zh/[ 3]

P1	Vy	Tk	Il	Lj	Sl	Sβ	Tt	References
zh	c	c	c	c	c	c	c	160, 175, 279, 281 285, 289, 292, 298
zh	c	c	c	c	c	c	-	175a, 287a, 294a
zh	c	c	c	-	-	c	-	59a
zh	c	c	c	c	c	-	c	279a, 296a
zh	c	c	c	c	c	-	-	286a
zh	c	c	c	c	-	-	-	291a, 293a, 300a
zh	c	c	c	-	-	-	-	283a, 297a
zh	c	c	-	-	-	-	-	124a, 299a

(See also 108a, 282a, 284a, 288a, 290a, 295a, 301a)

Table 3.20 Correspondences involving P1 /zh/.

The above correspondences are found in all environments except after nasal in P1. P1 /zh/ does not occur after /N/. /zh/ in P1 alternates with /c/ after /N/ and this is indicated in Table 2.14.

Finally there is one lexical item (280) with the following correspondence: (P1) -zhaal- : -shaal- (Il, Lj, Sl, Sβ) : -sial- (Tt), 'to remain'. This correspondence is irregular and is discussed in the appendix. The summary of the correspondences is given in Chart 3.4 below.

Table	P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	Environment	Reference
3.19	c	c	c	c	c	c	c	c	[class 5]	3.1.13.1
									/V1	
3.20	zh	c	c	c	c	c	c		elsewhere	3.1.14.1

Chart 3.4 Summary of correspondences 3.1.13.1 and 3.1.14.1.

Table 3.20 shows that only P1 has reflexes different from the other lects. We can compare Table 3.20 to Table 3.21 below although in the present case only P1 has the continuant. We can symbolize PT as \*c.

3.1.15. Correspondences involving /ɣ/ and /ŋk/.

3.1.15.1: Correspondence series involving P1 /ɣ/.

The correspondences in Table 3.21 below are parallel with those in Table 3.20 above.

P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
ɣ	ɣ	k	k	k	k	k	k	85, 105, 144, 177, 229, 234, 251, 334, 404, 423, 449, 466, 467, 469 472-3, 478, 488-9
ɣ	ɣ	k	k	k	-	-	k	172a
ɣ	ɣ	k	k	-	-	k	-	327a

(See also 8a, 34a, 36a, 99a, 113a, 128a, 153a, 165a, 179a, 195a, 196a, 215a, 263a, 288a, 295a, 308a, 309a, 317a, 318a, 323a, 353a, 355a, 359a, 363a, 378a, 380a, 391a, 401a, 402a, 414a, 416a, 420a, 431a, 437a, 443a, 456a, 462a, 463a, 464a, 465a, 468a, 470a, 471a, 474a, 475a, 476a, 477a, 479a, 480a, 481a, 482a, 483a, 484a, 485a, 486a, 487a, 490a, 491a, 492a, 493a, 494a, 495a, 506a, 508, 510a, 527a, 540a, 543a, 547a, 602a, 613a, 619a, 628a, 630a, 633a, 635a, 638a, 640a, 641a, 644a, 645a, 651a, 659a, 661a, 668a)

Table 3.21. Correspondence series involving P1 /ɣ/

The above correspondences are found in all positions and environments except before /y/: for /ηk/ see Table 3.22 below.

3.1.15.2 Correspondence series involving Pl /ηk/.

<u>Pl</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sß</u>	<u>Tt</u>	<u>References</u>
ηk	141							
ηk	-	425a						
ηk	ηk	ηk	ηk	ηk	ηk	-	-	55a, 645a
ηk	-	ηk	ηk	-	-	ηk	ηk	156a
ηk	ηk	ηk	ηk	ηk	-	-	-	9a, 52a
ηk	ηk	ηk	-	ηk	-	-	-	664a
ηk	ηk	ηk	-	ηk	-	-	-	477a, 664a
ηk	ηk	ηk	ηk	-	ηk	-	-	484a
ηk	ηk	ηk	ηk	-	-	-	-	485a
ηk	ηk	ηk	-	-	ηk	-	-	634a
ηk	ηk	-	-	-	-	-	-	548a
ηk	-	-	-	-	-	-	-	565a

Table 3.22. Correspondences of Pl /ηk/ in all positions and environments except before /y/.

Only item (149a) does not fit into the pattern of Table 3.22; this is found in Pl yutyanka : Lj/Sl kutyana in which /ηk/ corresponds to /n/. Since this is the only lexical item in the present series with this kind of correspondence we shall treat it as an irregularity.

3.1.15.3 Summary of the correspondences involving P1 /k/ and /ɣ/.

Table P1 Vy Tk Il Lj Sl Sβ Tt environment section

---

3.12a	k	k	k	k	k	k	k	k	/Vi__	3.1.9
3.12b	k	k	k	k	k	k	k	k	/[class]__	3.1.9
3.22	ɲk	/ /N/__.	3.1.15.2							
3.21	ɣ	ɣ	k	k	k	k	k	k	elsewhere	3.1.15.1

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Chart 3.5 Summary of the correspondences involving P1 /k/,  
/ɣ/ and /ɲk/.

The above chart shows that only P1 and Vy have reflexes /ɣ/ corresponding to /k/ in all the cases except after {N} and in class 5. We reconstruct PT \*k because it is the reflex found in the majority of the lects, assuming that P1 and Vy underwent their own developments. /k/ is less restricted and from the point of simplicity and economy we have suggested to symbolize PT as \*k.

An alternative reconstruction would to posit \*ɣ in PT. It is possible that PT had \*ɣ which was in all environments in P1 and Vy except after the postvocalic \*i or \*v where it was reinforced. In all the other lects it would have developed to [k]. We shall not adopt to this alternative because although \*ɣ would parallel PT \*β and \*l its developments into the various forms in the present lects would require complicated rules. We shall stick with the first alternative.

Chart 3.5 is parallel with Charts 3.4.

3.1.16 Correspondence series involving P1 /j/.

<u>P1</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sß</u>	<u>Tt</u>	<u>References.</u>
j	j	j	y	c	c	w	w	362
j	j	j	y	c	c	y	y	361
j	j	j	y	c	c	y	y	360
j	j	j	-	c	-	-	-	74a
j	j	j	-	-	-	-	-	365a-6a, 369a
j	j	j	y	c	c	-	-	214a, 374a
j	j	j	-	c	c	y	y	373a
<u>j</u>	<u>j</u>	<u>j</u>	<u>y</u>	<u>c</u>	<u>c</u>	<u>-</u>	<u>-</u>	<u>374a</u>

Table 3.23. Correspondences involving P1 /j/ in all environments except after /N/. ( In the reflexes of Sß and Tt in (360) /y/ is preceded by /i/, which is not found the other lects. An initial /i/ is also found in other Bantu lects in 361, but not in Tonga).

Since /y/ and /w/ are semivowels that might plausibly be conditioned by preceding or following vowels, it is tempting to see their complementary realisations, but the data is too limited and the parallels too inexact to reach safe conclusions.

P1 Vy Tk Il Lj Sl Sß Tt References.

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j	j	j	y	c	-	h	hh	82
j	j	j	∅	-	-	h	h	363
j	j	j	-	c	p	--	-	370
j	j	j	y	c	p	y	y	29, 219

---

Table 3.24a. Correspondence series involving

P1 /j/ having divergent correspondences in

other lects. (In Sß and /Tt (82a, 363a) and Sl

(370a) the consonants are preceded by the vowel

/i/ which is not found in other lects.)

Table 3.24a covers miscellaneous correspondences especially as regards Lj, Sl, Sß and Tt. The lexical items in question are given below, supplying only those of relevant lects and data from Bemba and CB.

	(29)	(82a)	(360)	(363a)	(370a)
	'dirty'	'to kill'	'to close'	'to cook'	'nephew'
P1	γúβija	γujaya	γujala	γujiya	mújwa
Il	kúβiya	kuyaya	kuyala	kwika	-----
Lj	kúβica	kucaya	kucala	-----	múcwa
Sl	kwíipa	-----	kucala	-----	mwipwa
Sß	kuβiya	kwiháya	kwiiyalá	kwíihíka	-----
Tt	kuβiya	kwíihháya	kwíiyála	kwíihíka	-----
Be.	ukuβipa	kwipaya	-----	kw-ipika	mw-ipwa
CB	*-bííp	*-yìpag-	*-yìgad-	*-yìpik-	*-yìpua

Table 3.24b Comparison with cognates in Bemba and CB

Table 3.24b shows that the items in S1, S $\beta$  and Tt that have the initial vowel /i/ have similar cognates in Bemba and they also reflect CB stems with initial \*I. This then indicates that the lects like P1 without initial /I/ in the stem innovated more radically. If we compare the P1 stems with those of CB we can see the following correspondences in the initial position of the stems (82a, 363a, 370a) /j/ in P1 corresponds to \*-yIp- in CB. If the P1 stems have the source in the CB forms given above then the \*-yIp- gave rise to /j/. The development is likely to have taken place in stages. Since Guthrie uses \*y in the reconstructions \*-yI- as a typographical convention for 'zero consonant', it is likely that \*I developed into a preconsantal \*y in PT. This created the unwanted cluster \*-yp- which later developed into P1 /j/([dʒ]). The cognates in Lj and S1 developed along the same lines. The difference is that these two lects do not have the voiced palatal affricate /j/ (i.e [dʒ]), hence the development to /c/ (i.e [tʃ]). P1 -jal- from CB \*-yIgad-(360) is likely to have developed along the following lines. We suggest that \*I developed into \*<sup>1</sup> and then into preconsantal \*y as already suggested creating \*-ygal at some stage in PT. \*g was then palatalised and reinforced hence the reflex -jal-. This clearly suggests a merger of the reflexes of \*yp.

If we now turn to (370a) we can see that S1 lost CB \*y but retained \*p just as in Bemba.

	(66a)	(138a)	(364a)
P1	janza/maanza	julu	jilo
Vy	janza/maanza	julu	jilo
Tk	janza/maanza	-----	jilo
Il	-----	-----	-----
Lj	lyánsa/maansa	liculu	lfile
Sl	-----	lyulu	lfile
Sß	iyánza/mayánza	iyuulú	-----
Tt	iyánza/mayanza	iwúlu	-----

Table 3.24c Reflex sets involving class 5 nouns.

Table 3.24c involves nouns of class 5, whose plurals are in class 6 (prefix ma-). The plural forms of (66a) are supplied above to show the form the stem takes in the plural in P1, Vy, Tk, and Lj. The consonant /j/ in P1, Vy and Tk is the result of the strengthening effect of class 5. These nouns and similar ones in class 5 are discussed in 2.2.2.7.

From what we have seen we can say that /j/ in P1, Vy and Tk, /c/ in Lj and Sl and /h/, /hh/, /y/ and /w/ in Sß and Tt cannot be attributed to the same source. It is possible that the reflexes in Table 3.23 may be reflexes of PT \*j, while those in Tables 3.24a-b may be referable to \*p or \*g in the environment after Vi or after [+class 5].

Correspondences involving P1 /ɲj/ are given below.

	(93)	(95)	(209a)	(595)	(679a)
	'louse'	'many'	'dagga'	'to enter'	'railway line'
	(cl. 9/10)				(cls. 9/10).
P1	ɲjina	-ɲji	lúβáɲje	ɣúɲjila	ɲjáɲji
Vy	ɲjina	-ɲji	lúβáɲje	ɣúɲjila	ɲjáɲji
Tk	-----	-ɲji	lúβáɲje	kúɲjila	ɲjáɲji
I1	ɲjina	-ɲji	lúβáɲje	kwíɲjila	ɲjáɲji
Lj	ɲjina	-ɲji	lúβáɲje	kwíɲjila	ɲjáɲji
S1	-----	-ɲgi	mbáɲje	kwíɲjila	ɲjáɲji
Sβ	ɲgíná	-ɲgi	-----	kwíɲgila	-----
Tt	ɲgína	-ɲgi	-----	kwíɲgila	-----

Table 3.25 Reflex set involving P1 /ɲj/

As can be seen in Table 3.25 there are inconsistencies in the treatment of of P1 /ɲj/ in S1. In all but one item, (679a), S1 has /ɲg/ corresponding to P1 /ɲj/. (679a) may be treated as an exception because the word is likely to be a loan: (679a) is widespread in many Zambian languages including Nyanja and outside Zambia cognates can be found in Shona and Ndebele, both spoken in Zimbabwe.

The correspondences in Table 3.25 are overwhelmingly before front vowels (except the first syllable in (679a)). We can assume that the correspondences in Table 3.25 are in complimentary distribution with the correspondences in Table 3.18 (section 3.1.12.2) where the correspondences are overwhelmingly before back vowels.

The above correspondences are symbolised as PT \*ɲg.

We can assume that Sβ and Tt retained PT \*ɲg in all environments

whereas in Pl, Vy, Tk, Il and Lj \*ŋg has the reflex fĭj. Sl shows variability. An account for this kind of inconsistency can be found in Chapter 6 where we deal with sound change from sociolinguistic points of view.

One of the significant outcomes of the foregoing correspondences Tables 3.24(a-b) is the absence of complementary distribution of the reflexes involved. This, as has <sup>been</sup> already indicated may be attributed to multiple sources of the reflexes.

3.1.17. Correspondence series involving Pl /s/.

In the following correspondence series the position of /s/ in the stem will not be specified because the correspondences are generally regular irrespective of position.

3.1.17.1 Correspondence series involving Pl /s/ before /i/.

<u>Pl</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sß</u>	<u>Tt</u>	<u>References.</u>
s	s	s	sh	sh	sh	s	s	14, 103, 105, 404, 600
s	s	s	sh	sh	sh	s	s	142
s	s	s	sh	sh	sh	-	s	225, 621, 662a
s	s	s	sh	-	sh	-	s	654a
s	s	s	sh	-	-	s	s	607a, 668a
s	s	s	sh	sh	-	s	s	633a
s	-	-	sh	sh	sh	s	s	410

(See also: 405a, 406a, 407a, 408a, 411a, 412a, 414a, 415a, 532a, 634a, 642a, 653a, 663a)

Table 3.26 Correspondences of Pl /s/ before /i:/ /ii/ in all positions. ( In the Lj and Sl reflexes of (142), /sh/ is preceded by /i/ which is not found in the other lects).

P1 /s/ corresponds to /s/ in Vy, Tk, Sß and Tt and to /sh/[j] before /i/ in Il, Lj and Sl. These correspondences are found in all stem positions. There is however, one lexical item in P1 with /si/ which has the correspondence /hwi/ in Il. This is found in the word (P1) yúsißa : (Il) kúhwißa 'to spit' (403a). As this is the only example we have with this kind of correspondence we shall treat it as skewed in Il. The correspondences in Table 3.26 are found in 27 lexical items.

3.1.17.2: Correspondences involving P1 /s/ elsewhere.

<u>P1</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sß</u>	<u>Tt</u>	<u>References.</u>
s	s	s	s	s	s	s	s	49, 85, 180, 399, 396
s	s	s	s	-	-	s	s	424a, 426a, 427a
s	s	s	s	s	-	s	s	174a
s	s	s	s	-	-	-	-	150a, 297a, 418a
s	s	s	s	s	-	-	-	395a
								419a, 420a
s	s	s	s	s	s	-	s	296a
s	s	s	s	s	s	-	-	302a
s	-	-	-	s	s	-	-	170a
s	s	s	s	s	s	-	s	296a
s	s	s	-	-	-	-	-	132a, 460a, 615a

(See also: 1, 112a, 153, 126a, 193a, 196a, 397a, 398a, 416, 417, 419a, 400a, 401a, , 402a, 409a, 420a, 421a, 470a, 592a, 601a, 618a, 654a, 664a, 673a, 674a)

Table 3.27 Correspondence series involving P1 /s/ before /a, e, o, u, w/ and in all stem positions.

There are 47 lexical items in which the correspondences in Table 3.27 are found. They are found before /a, e, o, u, w/ and in all positions in the stem including after {N}. The environments in Tables 3.26 and 3.27 are mutually exclusive, since /s/ is not found before /y/ in P1. (See however, 3.1.22.2 for correspondences involving P1 hy).

3.1.17.3 Skewed correspondences involving P1 /s/ before /u/ and /w/

P1	Vy	Tk	I1	Lj	S1	Sß	Tt	References	
								P1:	II:
s	s	s	h	s	s	s	s	423 (ma-suyu: ma-huku)	
s	s	s	h	-	-	s	s	422a (βu-su: βu-hu)	
s	s	s	h	-	-	s	s	147a (yú-swa: kú-hwila:	
s	s	s	h	s	s	-	-	34a (ya-suyo : lu-huko)	

Table 3.28 Skewed correspondences of P1 /s/ before /u, w /.

There are 3 lexical items in which before /u/, P1 /s/ corresponds to II /h/ and one in which before /w/ P1 /s/ corresponds to II /h/. The correspondences of II in the above table are the ones that are problematic. As only four stems are represented we can say they are skewed correspondences. Some of the stems can also be found in Smith (1907)<sup>1</sup>. (34a), (147a), (422a) are recorded as lufuko, kufwila and βufu, respectively.

In II there are many lexical items with /s/ immediately followed by /u/. It would appear that there is no restriction on such a sequence. The items in Table 3.28 have parallel correspondences involving P1 /z/ before /u/ given in Table 3.33(a-b) below where P1 /z/ corresponds to /hh/ in some cognates and to /z/ in others in II. It is possible that

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1. E. Smith (1907). A handbook of the Ila Language. Part II

Il preserved an original distinction before /w/ and /u/ which was lost elsewhere in Tonga; but with so little data no firm conclusions can be arrived at, but we return to this issue in Chapter 6.

<u>Table</u>	<u>Pl</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sß</u>	<u>Tt</u>	<u>environment</u>
3.26	s	s	s	sh	sh	sh	s	s	/__i,ii
3.27	s	s	s	s	s	s	s	s	/__a, e, o, u, w
-----									
<u>3.28</u>	<u>s</u>	<u>s</u>	<u>s</u>	<u>h</u>	<u>s</u>	<u>s</u>	<u>s</u>	<u>s</u>	<u>/- u, w</u>

Chart 3.6 Summary of the correspondences of Pl /s/

We reconstruct PT \*s because it is the one that is found in most cognates and since /sh/ is conditioned. The correspondences in <sup>a</sup>Table 3.28 are treated as skewed (hence the dotted line in Chart 3.6 above).

3.1.18.: Correspondence series involving Pl /y/.

Table 3.29 below represents correspondences of Pl /y/ in C<sub>1</sub> position and before all the vowels except /i/. Pl /y/ is not found before /w/ or after {N}. There are 34 items in which the correspondences below are found.

P1	Vy	Tk	Il	Lj	Sl	Sβ	Tt	<u>References</u>
y	y	y	z	y	y	z	z	32, 438, 449, 455, 616
y	y	y	z	y	-	z	z	12a, 440a, 441a
								453a
y	y	y	z	y	y	-	-	443a, 444a, 454a
y	-	y	z	y	y	-	z	452a
y	y	y	z	-	-	-	-	442a, 445a, 450a, 631a
								459a
y	y	-	z	-	y	-	-	18a
y	y	y	-	y	y	-	-	439a, 451a
y	y	y	z	y	y	-	-	456a,
y	y	y	z	y	-	-	-	121a, 457a
y	y	y	-	-	-	-	-	44a, 461, 460a
y	y	y	-	y	-	-	-	446a, 447a, 458a
y	y	y	-	y	y	-	-	451a
y	y	y	z	y	y	-	-	166a

Table 3.29 Correspondence series involving P1 /y/ in C<sub>1</sub> position.

P1 Vy Tk Il Lj Sl Sβ Tt References

---

y	y	y	y	y	y	y	y	566-7	P1: <u>-gaya/-gayo.</u>
								600	P1: <u>-siya</u> ; Il: <u>-shiya</u>
y	y	y	y	y	-	y	y	82a	P1: <u>-jaya</u> ; Il: <u>-yaya</u>
y	y	y	y	-	-	-	-	241a	P1: <u>-βuye</u> ; Il: <u>-βuye</u>
y	y	y	y	y	y	-	-	428a	P1: <u>-swaya</u> ; Il: <u>-swaya</u>
-	-	-	y	-	-	y	y	44b	Il/Sβ/Tt: <u>-tiya</u>

---

Table 3.30a Correspondences of P1 /y/ in C<sub>2</sub> and before all the vowels except /i/.

Table 3.30a shows that in C<sub>2</sub> position all the lects have the correspondence with /y/. The correspondences are found before all the vowels except /i/, and except after (N). Item (44b) above has no reflex in P1, Vy, Tk, Il, Lj and Sl but we have included it in the table because it has /y/ in C<sub>2</sub> position in Il, Sβ, and Tt.

There are also some lexical items that have no reflexes in Il, Sβ and Tt but that have nevertheless /y/ in C<sub>2</sub> position in the other five lects. The items include (P1/Sl looye 'rope' 122a, (P1/Vy lúβaya 'fence' 210a ), (P1/Lj/Sl yuβaya/kuβaya 211a 'to be blind'), (P1/Vy/Tk βiyo 'only' 226a), (all lects except Sβ/Tt yupwaya/kupwaya 'to crush' 254a ), (all lects except Sβ/Tt/Il yumwaya/kumwaya 'to scatter' 591a).

However, as with the other correspondence series we have looked at so far there are some here also which do not fit Table 3.29 or 3.30a. In C<sub>1</sub> position Il has /y/ in the following words kú-yasa 'to stab' (150a) and ciyangilo 'crop' (448a). At the same time, there are three

lexical items in which I1 and Tt have /z/ in C<sub>2</sub> position. These are given in Table 3.30b, below. Additionally I1 has two z's in kuzeeza 'to think' (166a), which compares with P1 yuyeeya. It is arguable that the second /z/ in I1 is a reduplication of the first.

	(70a)	(488)	(649a)
	'heart'	'fig tree'	'baobab tree'
P1	moyo	múyuyu	múβúyu
I1	mozo	múkuzu	ifúzu
Sβ	--	mukuzú	(muβuyú)
Tt	mózo	ikúzu	ifúzu

Table 3.30b. P1 /y/ corresponding to I1 /z/ and Tt /z/ and to Sβ /y/ or /z/ in C<sub>2</sub> position.

The problem cases are the items in Table 3.30b above which have /z/. These forms contradict the earlier suggestion that I1, Sβ and Tt have only /y/ in C<sub>2</sub> position. Although both /y/ and /z/ are found in C<sub>2</sub> position in I1, Sβ and Tt we can see that there is a generalisation that can be made with respect to the environment of preceding vowel. Table 3.30a shows that /y/ is found only in the environment after [-rd] vowels. This environment is mutually exclusive with Table 3.30b where we find /z/ after [+rd] vowel. We shall come to this point later.

If we now go back to Table 3.29 above we can see that it gives correspondences in which /z/ is found in C<sub>1</sub> position. This position is accessible to morphophonemic alternation which can be triggered by the prefix of classes 9 and 10 in the case of nouns or that which can be

brought about by the prefixation of the first person pronoun in subjunctive constructions exemplified in Table 2.12 ( section 2.2.2.7). We observed in the aforementioned section that after {N}, /y/ alternates with /j/ so that (82) kuyaya, 'to kill' becomes njáye, 'that I kill', in the subjunctive in Il. In this morphophonemic context it is possible  $\text{ñj}$  developed into  $\text{nz}$ . It is possible that this development took place in pre-PT period because CB \*j became PT \*z (see 5.9 below). Il would then be reflecting a development pre-dating PT. In synchronic terms we have seen that in some lects such as P1 /Ny/---> $\text{ñj}$  (see Chapter 2, 2.2.2.5, Table 2.12). We would like to suggest that it is from this that Il /z/ developed. However it is imposing a heavy burden to ask this hypothesis to account also for S $\beta$  and Tt development. If we adopt the former alternative which suggests a general development of PT \*y to z in Il, S $\beta$  and Tt the only problem cases are the data in Table 3.30a.

Let us now return to those lexical items in table 3.30b in which Il, Tt and S $\beta$  have /z/ in C<sub>2</sub> position. C<sub>2</sub> position is not accessible to morphophonemic alternations and for this reason the hypothesis given in respect of class 9 prefix and the prefixation of the first person pronoun cannot be applied in this position.

Given the two alternatives above we can say that the one which advocates general development of PT \*y to Il/S $\beta$ /Tt /z/ is a better one because we can account in terms of environment for those cases in which P1 has the reflex /y/ in these lects. The only real problem here is (241) cíŕuyé because /y/ is found after /u/ in Il. Similarly item (649) muŕuyú has /y/ after /u/ in S $\beta$ . The two forms here, (241a) and (649) can be treated as loans in the lects concerned.

Two cognate sets in which P1 /y/ corresponds to S1 /p/ are

discussed in 3.1.7.2 above; see also 3.1.19.1 below.

We can now summarize the foregoing discussion in Chart 3.7, below.

Table P1 Vy Tk Il Lj S1 Sß Tt environment.

---

3.30	y	y	y	y	y	y	y	y	/ [-rd]__
3.29	y	y	y	z	y	y	z	z	

---

Chart 3.7 Summary of the correspondence series involving P1 /y/.

The correspondence series is symbolised as \*y in PT.

The reason for suggesting PT \*y is that /z/ is restricted to Il, Sß and Tt. We cannot reconstruct PT \*z for Chart 3.7 also because this would clash with correspondences in 3.1.20.1. The items that have skewed reflexes in Il and Sß are (Il cifuye 'floor' 241a ) and (Sß mußuyú 'baobab tree' (649) respectively, shall be attributed to borrowing.

3.1.19. Correspondence series involving P1 /w/

P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
w	w	w	w	w	w	w	w	35, 68, 389
w	w	w	w	w	w	-	-	503, 592a, 606a, 677a
w	w	w	-	-	-	-	-	240, 461
w	w	w	w	w	w	-	w	8a
w	w	w	w	-	w	w	w	40a
w	w	w	w	w	w	-	-	191a
w	-	w	-	-	-	-	-	357a

Table 3.31. Correspondence series involving P1 /w/.

The above correspondences are exhaustive and they include P1 /w/ in all positions. Correspondences involving P1 /w/ after /ñ/ can be found in 3.1.3.1, Table 3.5 (lexical item (31), 'to drink') where irregularities in Il, Lj and Sl are discussed.

There are two cases in which P1 /w/ corresponds to Sl /p/ (and Sß and Tt /h/). These are discussed in 3.1.7.2 above.

It is perhaps better to treat the correspondences in Table 3.31a together with the correspondences in 3.1.7.2 (Table 3.10a) since correspondences involving P1 /w/ and /y/ versus S1 /p/ are the subject of the discussion there also.

Table	P1	Vy	Tk	Il	Lj	S1	Sß	Tt	Source	section
3.31	w	w	w	w	w	w	w	w	*w	3.1.19
3.9b	w	w	w	w	w	p	h	h	*p /[o u]__	3.1.7.2
3.31c	y	y	y	y	y	p	h	h	*p /[i e]__	3.1.7.2

Chart 3.8. Correspondence series involving P1 /w/ and /y/ with reflexes /p/ in S1 and /h/ in Sß and Tt.

Discussion of the correspondences involving P1 /w/ and /y/ versus /p/ in S1 and and /h/ in Sß and Tt can be found in 3.1.7.2 above.

3.1.20. Correspondence series involving P1 /z/

3.1.20.1. P1 /z/ before /i/.

P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
z	z	z	hh	sh	sh	z	z	158, 329, 332, 334, 346
z	z	z	hh	-	-	z	z	328a
z	-	z	hh	-	sh	z	-	335a
z	z	z	hh	sh	sh	-	-	392a
z	z	z	-	sh	sh	-	-	152a
z	z	z	-	-	sh	-	-	326a
z	z	z	hh	-	-	z	-	327a
z	z	-	hh	-	-	-	-	331a
z	z	z	hh	-	-	-	-	380a

Table 3.32 Correspondence series of P1 /z/ before /i;/ii/.

There are 13 items exhibiting the above correspondences which are all found before /i/ or /ii/. The above correspondences have been investigated in all stem positions, and after the nasal (N). Lj and Sl show palatalisation before /i/ as in the case of /s/ (3.1.17.1), and devoicing as in the case of /v/ in 3.1.21.1 Devoicing is a feature of Lj and Sl as can be seen in 2.2.1.4 and 4.1.5 and 4.1.6.

However, there is one cognate which does not follow the above pattern. This is (345): P1 nzißa (cl. 9/10) 'dove' versus (Lj;Sl) cißa (cls., 7/8, prefixes ci-/shi-), giving us the correspondence /z/ and a 'zero consonant'. This item may be a loan from a variety of Il reported by Guthrie as having izhißa. This word (i.e. izhißa) could

have been transferred to Lj and Sl as ciβa with regular devoicing and then re-analysed as ciɪβa.

3.1.20.2 Correspondences involving Pl /z/ before /u, w/;

Pl	Vy	Tk	Il	Lj	Sl	Sβ	Tt	References
z	z	z	hh	s	s	z	z	337, 341, 665
z	z	z	hh	s	s	z	-	340a

Table 3.33a Correspondences of Pl /z/ before /u/ and /w/ in C<sub>1</sub> position.

Pl	Vy	Tk	Il	Lj	Sl	Sβ	Tt	References
z	z	z	-	s	s	z	z	26a (Pl: <u>zuβa</u> )
z	z	z	z	s	s	z	z	157 (Il: <u>ɪzuβa</u> )
z	z	z	z	-	-	-	-	339a (Il: ku-zuma)
z	z	z	z	-	-	-	-	651a (Il: <u>nzuki</u> )

Table 3.33b Correspondences of Pl /z/ before /u/ and /w/

Tables 3.33(a-b) illustrate the correspondences of Pl /z/ before /u/ and /w/. They have been separated into subsets because of certain differences in some of the lects. Table 3.33a shows that before /u/ and /w/, Pl /z/ corresponds to /hh/ in Il. But in the same environment Table 3.33b shows the correspondence with /z/ in Il. Tables 3.33a-b

parallel the correspondences observed in Table 3.28 where P1 /s/ corresponds to /s/ before /u/ in some cognates and to /h/ in others in I1. Nevertheless we observed that the correspondences with /h/ are fewer and can be regarded as irregular. In the present case however we have four items having the correspondences with /hh/ against five with /z/ in the same environments in I1. Deciding which of Table 3.33a and 3.33b is regular can only be made with reference to the correspondence of P1 /z/ in the environment before the high vowel /i/. Since the correspondence in this environment is regularly /h/ in I1 we can say that before /u/ and /w/ P1 /z/ corresponds to /hh/ as well in I1 but that the forms with /z/ are deviant forms that are likely to be due <sup>to</sup>lect contact. This problem is taken up in Chapter 6.

There are three lexical items in P1 in which /z/ before /u/ corresponds to /f/ in Lj and S1. In all these three cases /z/ in P1 is in C<sub>2</sub> position. The lexical items involved are given in Table 3.33c below.

	(272)	(581a)	(605)
	'goitre'	'strength'	'beard'
P1	bozu	ηguzu	zhilezu
Lj	ciβofu	(ηkusu)	mulefu
S1	ciβofu	ηgufu	mulefu
Sβ	----	----	mulelu
Tt	----	iηgúzu	mulézu

Table 3.33c /z/ before /u/ corresponding to /f/ in Lj and S1 in final position.

Table 3.33c shows cases in which P1 /z/ corresponds to /f/ in S1. In two of the three cases Lj agrees with S1 in having /f/; in the third case, Lj has /s/ in accordance with the correspondence series in Table 3.33a; it is therefore irregular with respect to the present table, hence the brackets around it. These correspondences in Lj and S1 are of limited occurrence and we shall consider them as skewed. The strident fricatives in Lj and S1 are generally voiceless. Finally Sß and Tt show regular correspondence in the environment before /u/ and /w/.

Item (605) of Sß mulelu 'beard' has /l/ corresponding to P1 /z/. This is the only item with this kind of correspondence. It reflects CB \*-dédŭ. A reflex can be found in Lozi mulelu. It is quite likely that the form of Sß is a loan from Lozi.

### 3.1.20.3 Correspondence series involving P1 /z/ elsewhere

In the present section we consider correspondences of P1 /z/ before non-high vowels. The correspondences are similar to those found in Table 3.33b before /u, w/, (3.1.20.2) but that environment was considered separately because of conflicting correspondences in I1.

P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
z	z	z	z	s	s	z	z	220, 235
z	z	z	z	s	s	z	z	343
z	z	z	z	-	-	-	-	320a
z	z	z	-	-	s	-	-	318a
z	z	z	-	-	-	-	-	321a, 322a
z	z	-	-	-	-	z	z	323a
z	-	z	z	-	-	-	-	324a
z	z	z	z	s	s	-	-	623a
z	z	z	z	-	-	z	z	607
z	z	z	-	s	-	z	z	66

Table 3.33d. Correspondence series involving P1 /z/ before /a, e, o, /.

The above correspondences are exemplified in all stem positions and in the environments before /a, e, o/. The correspondences are also exemplified after {N}. As we can see all the lects have /z/ except Lj and Sl that have /s/ in accordance with general devoicing in these lects.

Two nouns in Sl have skewed correspondences: (P1) nzoŷa : (Sl) njoka , 'snake' (144) and (P1) muzohhu : (Sl) njofu , 'elephant', (336). The Sl forms suggest borrowing from Nyanja which are reflexes of CB \*jòkà and \*-jògŭ respectively .

3.1.20.4 Summary of the correspondences of P1 /z/ in all stem positions

Table	P1	Vy	Tk	I1	Lj	S1	Sß	Tt	environment.
3.32	z	z	z	hh	sh	sh	z	z	/_[i,ii] (all positions)
3.33a	z	z	z	hh	s	s	z	z	/_[u,w] (C <sub>1</sub> position)
(3.33b	z	z	z	z	-	s	z	z	/_[u] (C <sub>1</sub> position))
3.33c	z	z	z	hh	f	f	l	z	/-[u] (C <sub>2</sub> position)
3.33d	z	z	z	z	s	s	z	z	/-[a,e,o] all positions

---

Chart 3.9. Summary of the correspondences involving P1 /z/. (Table 3.33b is enclosed in brackets because it has irregular correspondences in I1).

As we have already observed in Table 3.33b, I1 presents conflicting correspondences before /u/ because in Tables 3.33a and 3.33c the correspondence is with /hh/ while in Table 3.33b we get /z/. We observed in Table 3.33a that the correspondence with /hh/ in I1 is the regular one involving P1 /z/ before /u/. Table 3.33c also shows the correspondences with /f/ in some of the items in Lj and S1. We have found three words only with this type of correspondence and we have treated them as skewed. The correspondences in Chart 3.9 are not found before /y/ for which see 3.1.22.2 (Table 3.34b below).

The above correspondence series are symbolised as \*z in PT.

3.1.21 Correspondence series involving Pl hh.

The following correspondence series will be discussed according to the environments in which they occur.

3.1.21.1: Correspondences involving Pl /hh/ before /i/

There are five lexical items involving the correspondences of Pl /hh/ before /i/. The correspondences are found in all stem positions.

Pl	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
hh	z	z	hh	sh	sh	z	z	604
hh	z	z	hh	sh	sh	z	z	83
hh	-	-	(sh)	sh	sh	z	z	84a
hh	z	z	hh	(∅)	(∅)	z	z	100
hh	-	-	-	-	-	-	-	143a

Table 3.34a Correspondences involving Pl /hh/ before /i/.

(In Lj, Sl, Sß and Tt reflexes of item (83), /sh/ is preceded by /i/ which is not present in the other lects).

In the following items: mísohhi 'tears' (604), kúhhißa 'to know' (83) and hhina 'name' (100), Il has the correspondence with /hh/ while in one case cishißa 'lake' (84a), the correspondence is with /sh/. As there are only three Il items involved in Table 3.34a we cannot make definite decisions as to what is the regular correspondence here in Il.

We have enclosed the items <sup>in</sup> question in brackets to highlight their peculiar nature. Nevertheless, parallels can be drawn with the correspondences in Table 3.34c, where before /o/ and /u/ the correspondences of Pl /hh/ are considered. Table 3.34c shows that Il has the reflex /hh/. This suggests that item (84a) in Table 3.34a is skewed. Although there are no lakes in the Ila area, there is a big river passing through this area, so that large expanses of water are not foreign to Ila people. Nevertheless, still, lacking in lakes, it is possible that (84a) is a loan.

In Lj and Sl item (lfina 'name' (100)) has the corre<sup>s</sup>pondence with 'zero' consonant in contrast with three cases in which the correspondence is with /sh/. Since there are only four words involved in Table 3.34a we cannot establish regularity here. However, Lj and Sl have voiceless fricative in Table 3.34a because there are no voiced fricatives in these lects. The same applies to Table 3.34c below.

3.1.21.2 Correspondence series involving Pl /hhy/.

Pl	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
hhy	zy	zy	hhy	-	-	-	-	492a
hhy	zy	zy	-	-	-	-	-	128a
hhy	-	-	-	-	-	-	-	330a, 579a, 614a
hhy	zy	-	-	-	-	-	-	630a

Table 3.34b Correspondence series involving Pl /hhy/.

Table 3.34b shows that there are very few items with Pl /hhy/ and that these have in turn very few cognates in the other Tonga lects. A parallelism can be seen with Table 3.34a above at least as far as Vy and Tk are concerned. In Tables 3.34a and 3.34b /hh/ before /i/ and /y/ in Pl corresponds to /z/ in the same environments in Vy and Tk. For this reason Table 3.34a and 3.34b are the same.

3.1.21.3: Correspondence series involving Pl /hh/ before /o, u, /.

The correspondences in the Table 3.34c are closely related to those in Table 3.34d below. There are 18 lexical items involved in the correspondences in Table 3.34c.

Pl	Vy	Tk	I1	Lj	Sl	Sß	Tt	References.
hh	v	v	hh	f	f	(hh)	(hh)	347
hh	v	v	hh	f	f	-	-	350a, 352a, 353a, 359a
hh	v	v	hh	f	f	v	v	115, 336
hh	v	v	hh	f	-	v	v	354a
hh	v	v	hh	-	-	-	-	348a, 349a, 351a, 355a, 356a
hh	v	-	hh	-	-	-	-	86a
hh	v	v	-	-	-	-	-	299a
hh	-	v	-	-	-	-	-	357a
hh	-	-	hh	-	-	-	-	612a
hh	-	-	-	-	-	-	-	632a

Table 3.34c Correspondence series involving Pl /hh/ before /o, u, /.

Item 347 is possibly a loan in Sß and Tt, hence the brackets. The above correspondences are found in all stem positions and before /o, u/ including after {N}. Lj and Sl have correspondences with the voiceless labiodental fricative because there is no voiced labiodental fricative in these two lects. It is because Il has the correspondence with /hh/ in Table 3.34c that a parallel was drawn with the correspondence /hh/ of Table 3.34a. Sß and Tt cannot be accounted for adequately because they have four cognates in Table 3.34c; three cognates have the reflex /v/ (Sß/Tt ímvula/ímvúla 'rain' (115), inzovu/inzóvu 'elephant' (336)) and (kuvúunga/kúvúnga 'to fold' (354a)) while one (Sß/Tt kuhhóla 'to receive wages' (347)) has the correspondence with /hh/. The latter case, (347), 'to receive wages', is likely to be a loan which came into the culture with the western money economy. If we compare the correspondences of Table 3.34c with those of Table 3.34d below we can see that Sß and Tt have the reflex /v/. This suggests that /v/ rather than /hh/ is the recurrent reflex.

To show that /v/ is the more likely regular correspondence in Table 3.34c we can make further comparisons with the reflexes of the correspondences involving Pl /h/ before /a, o, u, w/ in 3.1.22.3 below. The correspondence of /h/ before /o, u, / is /f/ in Sß and Tt. This further justifies saying that the regular correspondence in Table 3.34c is /v/ in these two lects. This means that Sß and Tt /hh/ is skewed in Table 3.34c.

3.1.21.4: Correspondences involving Pl /hhw/.

The correspondences in Table 3.34c are closely related to those in Table 3.34d above.

P1	Vy	Tk	I1	Lj	S1	Sβ	Tt	References
hhw	vw	vw	hhw	fw	fw	v	v	298
hhw	vw	vw	-	fw	-	vw	vw	76a
hhw	-	vw	hhw	-	-	-	-	358a
hhw	vw	vw	-	-	-	-	-	69a

Table 3.34d Correspondences involving Pl /hhw/ before /a, e, i, ii/.

There are only four cognates in our data showing the correspondences involving Pl /hhw/. The correspondences are found before the vowels /a, e, i, ii/ and after {N} in C, stem position. Missing from the above correspondences are the correspondences of Pl /hh/ immediately before /a/ and /e/. This is because words with such sequences in Pl are very few. There is only one noun and a related verb in Pl in which /hh/ is immediately followed by /a/, namely hhála 'harrow'; yu-hhala, 'to harrow'. This lexical item is a loan from English 'harrow'/'to harrow'. There are no indigenous words in Pl in which /hh/ is immediately followed by /a/.

One item (Pl yuzhohhwa versus Sβ/Tt kucová/kúcióva 'to pedal' 298) has the reflex /v/ rather than /vw/ in Sβ and Tt . It is unlikely that

this is a function of the following vowel since /w/ is allowed after /f/ as in kufwá/kúfwa. Item (298) may be treated as skewed especially since it refers to a probable loan word.

We can now summarize the above discussion in the following chart.

3.1.21.5 Summary of the correspondences involving P1 /hh/ before /i, ii, y/.

Table P1 Vy Tk Il Lj Sl Sß Tt environment.

---

3.32 z z z hh sh sh z z /\_\_[i,ii]

3.34a-b hh z z hh sh sh z z /\_\_[i,ii,y]

---

Chart 3.10 Summary of the correspondences involving P1 /hh/ before /i, ii, y/.

If we compare Chart 3.10 with the first line of Chart 3.9, we can see that before /i/, correspondences are identical except in P1, in which there is /z/ in Chart 3.9 and /hh/ in Chart 3.10. Chart 3.9 was reconstructed as PT \*z. We propose to reconstruct Chart 3.10 as PT \*zy since the environment before /y/ does not occur as an environment in Chart 3.9.

With this information we can now ask whether we should symbolize PT by \*hh, \*hhy or \*z for Chart 3.10. We cannot reconstruct \*hh or \*hhy because it would be uneconomical and phonetically implausible to derive /z/, /s/ and /sh/ from either /hh/ or /hhy/. We cannot

symbolize PT by \*z either because if we did we would not explain the correspondences in Pl, Vy, Tk, Sß and Tt in Chart 3.9 in which /z/ is found before /i/. If however, we reconstruct PT \*zy we can say that \*z before \*y weakened to /hh/ provided we postulate the loss of y before \*i(i) in these lects as suggested synchronically in 2.2.2.1. See also diachronic developments e.g. in Chapter 4, Chart 4.1).

3.1.21.6 Summary of the correspondences involving Pl /hh/ before

/o, u, w/.

Table Pl Vy Tk Il Lj Sl Sß Tt environment.

---

3.34c-d hh v v hh f f z z /\_ [o, u, w]

---

Chart 3.11 Summary of the correspondences involving Pl /hh/ before /o, u, w/.

We propose to reconstruct \*zw on the following grounds. The environments in the above correspondences are mutually exclusive from those given Chart 3.10. We can start by eliminating certain possible reconstructions. We cannot say that /hh/ is the continuation of the original PT consonant because its occurrence is restricted; it is not found before the vowels /a/ and /o/.

One alternative to /hh/ is /v/. This consonant is also ruled out because it is too restricted; it does not occur before /i/, /e/ and in only one case does it occur before /a/ (item 298: Sß/Tt ku-cová/ku-cóva), 'to pedal'.

Although /f/ is found before all the vowels, before front vowels in Tt we cannot reconstruct it for PT because, it is uneconomical and phonetically implausible to derive the consonant /z/ from it. In fact this is one of the reasons why we cannot reconstruct /hh/ and /v/ for PT. /vw/ and /fw/ are also eliminated for the same reason.

Finally, if we reconstruct /z/ there is going to be a clash with the correspondences in Chart 3.9, because /z/ occurs before /o, u/ in all the lects with the exception of Lj and Sl where the correspondence is with /s/. It is however possible to posit PT \*zw. The advantage with \*zw is that it is possible to derive the correspondences in Table Chart 3.11 from it. As far as the reflexes of P1 and I1 are concerned we can say that before \*w, PT \*z weakened to /hh/ while in all the other lects \*z became a labial dental fricative by assimilating to the labiality of \*w. In Vy, Tk, Sß and Tt this resulted in /v/ while in Lj and Sl, PT \*z became /f/ because these lects *are the* devoicing ones. We therefore suggest PT \*zw for the correspondence series in 3.1.21.6. We indicated in chapter 2, chart 2.11, that /w/ does not occur before <sup>a round</sup> <sub>ɹ</sub> vowel. This restriction can be traced back to PT. We would also like to point that P1's neighbour to <sup>the north</sup> Shona has a labiodental sibilant z orthographically written as zv. It is possible that developments in Shona spread to Plateau Tonga and that zv further developed into hhw in P1.

The reconstruction in Chart 3.10 is related to that of Chart 3.11. The two, \*zy and \*zw contrast before all vowels, although no examples have been found for the occurrence of these sounds before /e/. One question that arises from these two sounds concerns items in the present lects in which /z/ is immediately followed by /w/. These can be seen in table 3.34e below:

	(227a)	(341)	(342a)	(636a)
	'to ripen	'to come out/ from'	'to quarrel	'to leak'
<hr/>				
P1	γúβizwa	γuzwa	γúzwangana	γuzwihhya
Vy	γúβizwa	γuzwa	γúzwangana	-----
Tk	-----	kuzwa	γúzwangana	-----
I1	-----	kuhwa	-----	-----
Lj	-----	kuswa	-----	-----
S1	-----	kuswa	-----	-----
Sβ	-----	kuzwá	-----	kuzwiisa
Tt	-----	kuzwá	-----	kuzíísa

Table 3.34e Lexical items with /zw/ in Tonga lects.

Except item (341) the other three items have limited distribution and can be attributed to innovation or borrowing. Item (341) can also be attributed to borrowing or a relic from PT.

3.1.22 Correspondence series involving P1 /h/

3.1.22.1: Correspondences involving P1 /h/ before /i/

There are ten lexical items involving P1 /h/ before /i/. We give these in table 3.35 below.

P1	Vy	Tk	I1	Lj	S1	Sβ	Tt	References.
h	s	s	sh	-	-	-		429a
h	s	s	-	sh	sh	-	-	55a
h	s	s	sh	sh	sh	-	-	677a
h	s	s	sh	-	-	s	s	668a
h	s	s	sh	sh	-	-	s	662a
h	s	s	sh	sh	sh	-	s	430a
h	s	s	-	-	-	-	-	625a
h	s	-	-	-	-	-	-	87a, 348, 431

Table 3.35a Correspondences of P1 /h/ before /i/.

The correspondences are found in the environment before /i/ and in all positions. There is only one example of P1 /hi/ after /N/, γúlúmwéNhi, 'leftside' (87a), which corresponds to Vy γúlúmwénsi. Table 3.35a shows that only P1 has /h/. In I1, Lj and S1 the correspondence with /sh/ follows the general phonotactic constraint in these lects in which /s/ is not allowed before /i/ and /y/ ( see 2.2.5. (1-2) in chapter 2 .

3.1.22.2 Correspondences involving P1 /hy/

There are 11 items involving the correspondences of P1 /hy/. these are given in Table 3.35b below.

P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	References.
hy	sy	sy	sh	sh	sh	sh	sh	433
hy	sy	sy	sh	sh	sh	-	-	432a, 434a
hy	sy	sy	sh	sh	-	-	-	574a
hy	-	sy	sh	-	-	-	-	435a
hy	sy	sy	sh	sh	sh	s	-	436a
hy	sy	sy	sh	-	-	s	s	28a
hy	sy	sy	-	-	-	-	-	133a, 577a, 610a
hy	-	-	-	sh	-	-	-	46a

Table 3.35b Correspondences of P1 /hy/ before /a, o, u/

The above correspondences are found in the environments before the vowels /a, o, u/ in all stem positions. A parallel can be drawn between the present correspondence series and those in 3.1.21.2 (Table 3.34b) in as far as P1, Vy and Tk are concerned. Il, Lj and Sl have the correspondence with /sh/ because /s/ cannot be followed by /i/ or /y/ in these lects. As in Table 3.35a /s/ is palatalized in such a sequence. The correspondences in Sß and Tt do not give a clear picture because they are poorly represented in Table 3.35b above.

There are a number of lexical items that show irregularity in Vy, Tk, Il and Lj. These are given in Table 3.35c, below.

	(6a)	(39a)	(437a)	(635a)	(606a)
	'back'	'eye'	'to slip from grip'	'to blossom	'cooking stones'
P1	γúhyule	lihyo	γuhyupuya	γúhyuuya	máhyuwa
Vy	γúsule	liso	γusyupuya	γúsuuya	másuwa
Tk	kúsule	-----	kusupuka	-----	másuwa
Il	-----	-----	kusupuka	kúshuuka	-----
Lj	kwísule	----	kusupuka	-----	-----
Sl	-----	-----	-----	-----	-----
Sβ	-----	-----	-----	-----	-----
Tt	-----	-----	-----	-----	-----

Table 3.35c Examples showing P1 /hy/ corresponding to /s/ or /sy/ in Vy, Tk, Il, and Lj.

There are several difficulties in the above data. One of them lies in the forms of Vy and Tk in which /s/ is not followed by /y/ as would have been expected if we made a comparison with Table 3.35b above. Similarly, we expected on comparing with Table 3.35b that P1 /hy/ would correspond to /sh/ in Il and Lj. Perhaps what we need to focus our attention on are the forms in P1 because they are the ones with palatalisation in all the cognates.

Some of the items above (Lj kwísule 'back' 6a and P1/Vy lihyo 'eye' (39a)) have a stem initial /i/. It is possible that this vowel is responsible for palatalisation in P1 in these two items. The palatalisation here suggests 'reinforcement' associated with class 5

nouns in P1 since (39a) is a class 5 noun. Item (6a) is also likely to be a class 5 noun. This may be seen in the cognate of Lj where stem initial /i/ could be an allomorph of class 5 prefix and the preceding /kw/ is the locative prefix of class 17. Item (606a) is also a class 5 noun in P1; cf. singular hyuwa. If we posit stem initial /i/ for (6a, 39a and 606a) in Table 3.35c we can account for palatalisation in P1. However, the outstanding problem of lack of palatalisation in the other lects still remains unresolved unless we were to draw parallels to non-palatalisation of /n/ following a round vowel which we observed in 3.1.3.

Table 3.35c also shows inconsistencies in Vy, Tk and Il. We would have expected that Vy and Tk would have /y/ following /s/ in all the that above like in item (437a). In Il we expected /sh/ in item (437a) just as in (635a). These problems are taken up in Chapter 6.

### 3.1.22.3: Correspondences involving P1 /h/ before /o/ and /u/

Correspondences involving P1 /h/ before /o/ and /u/ are given in Table 3.36d below. There are twenty lexical items involving the correspondences of P1 /h/ before /o/ and /u/.

Pl	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
h	f	f	h	f	f	f	f	17, 42, 310, 311
h	f	f	h	-	-	f	f	16
h	f	f	h	f	f	-	-	306, 307a, 646a
h	f	f	-	-	-	f	f	509a
h	f	f	-	f	-	-	-	316a
h	f	f	h	f	-	-	-	315a, 312a
h	f	f	h	-	-	-	-	313a, 314a
h	-	-	-	f	f	-	-	170a
h	f	f	-	-	-	-	-	647a
h	f	f	h	f	-	-	-	92a
h	-	-	-	-	-	-	-	165a
h	-	-	-	f	-	-	-	317a
h	h	-	-	-	-	-	-	64a

Table 3.35d Correspondences of Pl /h/ before /, o, u/.

In the environments in question, the correspondences are consistent in Pl, Vy, Tk, Il and Lj. Sß and Tt have fewer cognates in Table 3.35d although those that are available have identical reflexes to those of Vy, Tk, Lj and Sl.

There is however one verb in which Sß has /s/ in comparison with regular reflexes in in Pl, Vy and Tk, e.g. Pl: yúhuyula versus Sß: kusúkúla, 'to doze' (308a). As this is the only case with this kind of correspondence we shall treat the correspondence as skewed.

Furthermore the verb itself is onomatopoeic and such words can take unpredictable forms.

3.1.22.4. Correspondences involving P1 /hw/.

P1	Vy	Tk	Il	Lj	S1	Sß	Tt	References
hw	fw	fw	hw	fw	fw	fw	fw	27
hw	fw	fw	hw	-	-	fw	fw	593a
hw	fw	fw	hw	-	-	-	-	599a

Table 3.35e Correspondences of P1 /hw/ before /a, e, i/.

P1 /hw/ corresponds to /hw/ in Il and to /fw/ in all the other lects. The correspondences are found before the vowels /a, e, i/. They are in complementary distribution to those of Table 3.35d which occur before /o/ and /u/. There are no examples of the above correspondences after {N}.

3.1.22.5 Summary of the correspondences of P1 /h/ before /i, ii/ and /hy/ in all stem positions.

positions

<u>Table</u>	<u>P1</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>S1</u>	<u>Sß</u>	<u>Tt</u>	<u>environment</u>
3.26	s	s	s	sh	sh	sh	s	s	/_i,ii
3.35a-b	h	s	s	sh	sh	sh	s	s	/_i,y

Chart 3.12 Summary of the correspondences of P1 /h,/ before /i, ii/ and /hy/ in all stem positions.

(For comparison we have included the first line of Chart 3.6 which not found before /y/).

The correspondences in 3.1.22.5 parallel those of 3.1.21.6 below except that in the present case Il has /sh/. We cannot reconstruct /h/ because we would not be in a position to account for the presence of the semivowel in /sy/ and /hy/. We cannot reconstruct /hy/ either because it is phonetically not plausible to derive /s/ or /sy/ from /hy/. If however we reconstruct PT \*sy we can easily account for all the correspondences in all the lects except those of P1. Nevertheless the correspondences of P1 can be accounted for by assuming weakening of PT \*s to P1 /h/ before /y/. This development in P1 is parallel to that in Chart 3.10 where we reconstructed PT \*zy.

3.1.22.6 Summary of the correspondences of P1 /h/ before /o, u/ and /hw/ in all stem positions.

Chart 3.13 below shows that all the lects have the reflex of /f/ and /fw/ in the correspondences involving P1 /h/ and /hw, respectively.

It is our task now to try and relate these reflexes, to see whether they are from the same source. To start with we can say that the chart below is parallel to that found in Chart 3.11 above involving the correspondence of P1 /hh/ before back vowel and that involving P1 /hhw/. It was discussed then that labio-dental fricatives /f/ and /v/ cannot be reconstructed because none of these sounds can plausibly be the source of /z/ as the reflexes of Sß and Tt show. For the same reason of phonetic implausibility we did not reconstruct /hh/ or /hhw/. We therefore opted for \*zw, for the reasons given in that section. In the present section we cannot reconstruct /f/, /fw/, /h/ or /hw/ for the reasons spelt out in section 3.1.21. We give Chart 3.13 below.

<u>Table</u>	<u>P1</u>	<u>Vy</u>	<u>Tk</u>	<u>Il</u>	<u>Lj</u>	<u>Sl</u>	<u>Sß</u>	<u>Tt</u>	<u>environment</u>
3.35d	h	f	f	h	f	f	f	f	/_o, u
3.35e	hw	fw	fw	hw	fw	fw	fw	fw	elsewhere

Chart 3.13. Summary of the correspondences of /h/ before /o o/ and /hw/.

The reflexes of Vy, Tk, Lj, Sl, Sß and Tt compare with those in Chart 3.12 which have the reflex /s/ or /sh/ before /y/ or /i/ in respective lects. The presence of /s/-reflexes in Chart 3.12 suggests that we can reconstruct PT \*sw for Chart 3.13 as well, so that a parallelism can be drawn.

There are lexical items in the present-day lects which have /sw/ given below.

(49)	(147a)	(182)	(428a)	(615a)
'fish'	'to spit'	'we'	'to visit'	'to be become ill'

---

P1	nswi	γúswa	sweβo	γuswaya	γuzhiswa
Vy	nswi	γúswa	sweβo	γuswaya	γuciswa
Tk	nswi	kúswida	sweβo	kuswaya	kuciswa
I1	nswi	kúhwila	sweβo	kuswaya	-----
Lj	nswi	-----	sweβo	-----	kuciswa
S1	nswi	-----	afwe	-----	-----
Sβ	inswi	kúswá	iswé	-----	-----
Tt	inswi	kúswa	iswe	-----	-----

---

Table 3.35f. Lexical items with /sw/ in the Tonga lects.

Table 3.35f gives cases in which the reconstruction of PT \*sw would have caused problems in some lects. However, I1 and S1 do not constitute a problem in the reflexes of items (147a) and (182) as /hw/ and /fw/ can be traced back to PT \*sw.

3. 1. 23. Conspicuous of Consonant and semivowel  
Correspondences and Reconstructions

Table	P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	PT	Environment	Reference
3. 1	m	m	m	m	m	m	m	m	*m		3. 1. 1
3. 2	n	n	n	n	n	n	n	n	*n		3. 1. 2
3. 4	ny	ny	ny	n	n	n	ny	ny	*ny	/--[+rd]	3. 1. 3
3. 3	ny	*ny	elsewhere	3. 1. 3							
3. 14a	b	b	b	β	β	β	β	β	*β	/V1__	3. 1. 10. 2
3. 14b	b	b	b	β	β	β	β	β	*β	/[+Class 5]_	3. 1. 10. 3
3. 6	mb	*mb	/(N)__	3. 1. 5. 2							
3. 5	β	β	β	β	β	β	β	β	*β	Elsewhere	3. 1. 5. 1
3. 10	p	p	p	p	p	p	h	h	*p		3. 1. 7. 1
3. 31b	w	w	w	w	w	p	h	h	*p	/[o u]__	3. 1. 19. 1
3. 10a	y	y	y	y	y	p	h	h	*p	/[i e]__	3. 1. 7. 2
3. 31a	w	w	w	w	w	w	w	w	*w		3. 1. 19. 1
3. 11	t	t	t	t	t	t	t	t	*t		3. 1. 8. 1
3. 16	d	d	d	l	l	l	-	l	*l	/[Class 5]_	3. 1. 11. 2
3. 8	nd	*nd	/(N)__	3. 1. 6. 1							
3. 7	l	l	l	l	l	l	l	l	*l	Elsewhere	3. 1. 6
3. 26	s	s	s	sh	sh	sh	s	s	*s	/__ [i]	3. 1. 17. 1
3. 27	s	s	s	s	s	s	s	s	*s	elsewhere	3. 1. 17. 2
3. 32	z	z	z	hh	sh	sh	z	z	*z	/__ [i u]	3. 1. 20. (1-2)
3. 33c											
3. 33d	z	z	z	z	s	s	z	z	*z	Elsewhere	3. 1. 20. 3
3. 19	c	c	c	c	c	c	c	c	*c	/V1__ {N}__	3. 1. 13. 1
3. 20	zh	c	c	c	c	c	c	c	*c	elsewhere except /--[y, w]	3. 1. 14. 1
3. 23	j	j	j	y	c	c	y	y	*j		3. 1. 16
3. 24a	j	j	j	y	c	p	h	h	*p	/V1__	3. 1. 16
3. 24b	j	j	j	-	c	∅	y	y	p		3. 1. 16
3. 24c	j	j	j	c	∅	y	w	-	*j		3. 1. 16
3. 25	nj	nj	nj	nj	nj	ηg	ηg	ηg	*ηg	/__i except /__[y]	3. 1. 16. 4
3. 18	ηg	*ηg	Elsewhere except /__/y/	3. 1. 12. 2							
3. 30	y	y	y	y	y	y	y	y	*y	/[+rd]__ not found /__[w] or /(N)__	3. 1. 18. 2
3. 29	y	y	y	z	y	y	z	z	*y	Elsewhere but not /__[w] or /(N)--	3. 1. 18. 1
3. 12a	k	k	k	k	k	k	k	k	*k	/V1__ (not found /__[y])	3. 1. 9
3. 12b	k	k	k	k	k	k	k	k	*k	/[class 5]_	3. 1. 9
3. 22	ηk	*ηk	/(N)__ (not /__[y])	3. 1. 15. 2							
3. 21		γ	γ	k	k	k	k	k	*k	elsewhere except /[y]/(N)__	3. 1. 15. 1

3. 1. 23. Summary of Consonant and semivowel Correspondences and Reconstructions (cont'd).

Table	P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	PT	Environment	Reference
3. 35a	h	s	s	sh	sh	sh	s	s	*sy	/__ [i] except / (N) __ and /__ [w]	3. 1. 22.
3. 35b	hy	sy	sy	sh	sh	sh	s	s	*sy	/__ [a o u], in all stem positions including / (N) __ (not found /__ [w].	3. 1. 22. 2
3. 35d	h	f	f	h	f	f	f	f	*sw	/__ [o u]	3. 1. 22. 3
3. 35e	hw	fw	fw	hw	fw	fw	fw	fw	*sw	/__ [i e a], except / (N) __	3. 1. 22. 4.
3. 34a	hh	z	z	hh	sh	sh	z	z	*zy	/__ [i]	3. 1. 21. 1
3. 34b	hhy	zy	zy	zh	sh	-	-	-	*zy	Elsewhere	3. 1. 21. 2
3. 34c	hh	v	v	hh	f	f	v	v	*zw	/__ [o u]	3. 1. 22. 3
3. 34d	hhw	vw	vw	hhw	fw	fw	vw	vw	*zw	elsewhere	3. 1. 22. 4

3. 1. 24 Conclusions.

In conclusion to the foregoing discussion we give the consonant inventory of PT as follows in Table 3.36 below.

	bilabial	alveolar	palatal	velar
stop	*p.	*t		*k.
fricative		*s		
	*ß	*z		
affricate			*ç, *j	
lateral		*l		
nasal	*m	*n	*ñ	ŋ
semivowel	*w		*y	

Table 3.36. The consonants of PT

The above table represents the proposed inventory of consonant phonemes of PT reconstructed from the correspondences in 3.1.1 - 3.1.22.4. One of the problems which remains unresolved concerns the

question of whether PT had /g/. We have seen in 3.1.4 that some nouns of class 9 which appear to be vowel initial take the velar nasal  $\eta$ - as prefix. It is possible by internal reconstruction within Pl to establish that some of these nouns have latent /g/ stem-initially and that the reason we have the prefix / $\eta$ / is because of this fact. However, cross-lect data do not give us evidence for positing \*g in PT. It is possible to argue that CB \*g was lost in PT but was preserved after the homorganic nasal.

Another problem that needs further research involves the non-prenasalised reinforced stops. These are mainly found in borrowed and onomatopoeic words which are restricted to Pl, Vy and Tk. It is because of these features that we cannot posit the voiced stops [b] and [d] in PT.

Although we have reconstructed PT \*p, the reconstruction is tentative. One could have reconstructed ~~g~~ <sup>instead</sup> but our choice rests mainly on evidence in wider Bantu and with Tonga Sl has [p].

In some cases we have seen conflicting correspondences in some lects, e.g. Il in the case of /s/ and /z/ before /w/ and /u/. These problems are dealt with in chapter 6 where we view the relationship of the Tonga lects from the point of view of lect contact instead of divergences.

### 3.2 VOWEL CORRESPONDENCES AND RECONSTRUCTION.

#### 3.2.0. Introduction.

In this section vowel correspondences will be presented with the view of reconstructing the vowel inventory of PT. All the eight lects have the short vowels /i e a o u/, (see correspondences in Tables 3.37-41) below which generally correspond in <sup>or</sup>one to one fashion. For this reason we can assume that the five vowels were also present in PT. Because of this general agreement we are going to concentrate on correspondences that are not uniform in all the lects. Among the issues to be addressed is the status of the correspondences in which a single vowel in the core lects corresponds to a double vowel in Sß and Tt. It will transpire that Sß and Tt preserved the distinctive vowel length of CB.

We shall consider differences in the vowels of some of the cognate items in extension position (3.2.4). We shall also see that in final position of noun stems vowels may differ among lects; typically the difference is one of vowel height (see 3.2.5). This may be accounted for as final raising along the lines of Luvalé (K.14) and Lunda (L.52). In a number of correspondences we shall see the correspondence of zero-vowel and /i/ (see 3.2.8). This correspondence is found in lexical items which were reconstructed with \*-yI- in CB. However, other zero-vowel and /i/ correspondences are a result of loss of <sup>original</sup> a consonant in the cognates of some of the lects. Loss of <sup>the</sup> original consonant created the following correspondences: in some cases zero-consonant versus /j/ (3.2.9); zero-consonant versus /y/ or /z/ (3.2.10) and zero-consonant versus /p/ (3.2.11). The reason why the correspondences involving consonant loss are discussed in the present

section is that we would like to account for all the current vowel correspondences among the Tonga lects. It is the aim of this section to examine all these correspondences and to reconstruct the proto-Tonga vowel inventory.

A change to the format utilized in comparison with section 3.1 on the consonants is in the introduction of the term Proto-Tonga-Core (or PT-Core), which refers to the immediate ancestor of the core lects P1, Vy, Tk, Il, Lj and Sl. We have decided to group Sß and Tt separately because these lects can be shown to have preserved vowel length distinctiveness which ultimately is traceable to CB. The core lects show short vowel reflexes with respect to both long and short vowels of CB. We have decided to reserve the term Proto-Tonga to refer to the ancestor of all the eight lects. In this section PT long vowels will be symbolized by writing the symbol ':' after each long vowel namely i:, e:, a:, o:, u:. As original long vowels of CB were reduced to short vowels in the core lects any subsequent presentation of a sequence of identical vowel symbols is to be interpreted as a vowel sequence that has arisen since PT-C.

### 3.2.1. Uniform vowel correspondences among the Tonga lects.

Tables 3.37-3.41 below, give the references in which lexical items in all the eight lects have identical correspondences in the vowels /i e a o u/ in all environments.

P1 Vy Tk Il Lj Sl Sß Tt References.

---

i i i i i i i i 14, 48, 49, 100, 103, 105, 160,  
222, 224, 247, 292, 332, 329,  
346, 383, 384, 449, 497, 600, 652.

i i i i i - i i 21a.

i i i i i i - - 225, 392, 413a, 541, 594a.

i i i i - - - - 268, 429a, 651a.

i i i i - - i - 327a.

i i i i i i - i 345

(see also 23a, 37, 245, 263, 293, 294a, 296a, 302a, 331a, 345a, 373a,  
380a, 407a, 444a, 421a, 415a, 481a, 546a, 607, 633a, 639a, 642a, 653a,  
654, 655a, 660, 662, 663a, 679a, ).

---

**Table 3.37. Correspondences involving P1 /i/ in all stem positions.**

There are 61 items in which all the lects have identical reflex /i/. PT \*i is reconstructed.

Pl Vy Tk Il Lj Sl Sß Tt References.

---

e	e	e	e	e	e	e	e	71, 175, 216220, 235, 246, 266, 285, 381, 382, 5199, 605, 611, 656
e	e	e	-	e	-	-	-	6a
e	-	e	e	e	-	-	-	45a
e	e	e	e	-	-	e	-	59a, 230
e	e	e	-	-	-	-	-	295a, 365a
e	e	e	e	-	-	e	e	427a
e	e	e	e	-	e	-	-	491a
e	e	e	-	-	-	e	e	569a
e	e	e	e	e	e	-	-	657a
e	e	e	e	e	e	-	-	344a, 520a, 677a

(See also 113, 214, 264a, 284a, 291a, 323a, 324a, 328a, 381a, 402a,  
419a, 492a, 609a, 623a, 637a,

---

Table 3.38 Correspondences involving Pl /e/ in all stem  
positions

There are 52 items in which all the lects have an identical reflex  
/e/ of PT \*e.

P1 Vy Tk Il Lj Sl Sp Tt References.

a a a a a a a a 10a, 15, 17, 26a, 30, 42, 64, 100, 115,  
120, 144, 157, 160, 212, 202, 203,  
204, 242, 469, 489, 597.

a a a a a a - - 53a, 243, 254, 375, 398a, 428a,  
566, 586, 675, 676.

a a - a a - a a 93a

a a a - a a a a 96a

a a - a a a a a 97a

a - a a - a - - 153a

a a a a a - a -a 172a

(see also: 20a, 66a, 84a, 119a, 149a, 150a, 205a, 206a, 208a, 209a,  
211a, 213, 238, 245a, 258, 259a, 261a, 262a, 263a, 316a, 321a, 322a, 346,  
356a, 377a, 379a, 392a, 393a, 394, 395a396a, 397a, 399a, 400a, 408a, 411a,  
415a, 432a, 442a, 445a, 447a, 449a, 462a, 464a, 465a, 468a, 490a, 503a,  
507a, 508a, 509a, 512a, 514a, 556, 559, 563a, 564a, 567a, 578a, 584a, 597a,  
598a, 608a, 619a, 648a, 658a, 669a, 670, 679a.

Table 3.39 Correspondences involving P1 /a/ in all stem positions.

There are 108 items in which all the lects have an identical reflex /a/ of PT \*a.

P1 Vy Tk. Il Lj Sl Sß Tt References.

---

o o o o o o o o 15, 22, 48, 103, 123, 144, 173, 216,  
229, 250, 298, 336, 347, 388, 389,  
394, 433, 472, 473, 478, 505, 526,  
o o o o o o o - 34a, 130a.  
o o o o o o - - 191a, 236, 307a, 416a, 617a  
o o o - - - - 125

(see also 59a, 106a, 131a, 153a, 228a, 230a, 401a, 409a, 416a, 418a,  
419a, 420a, 421a, 434a, 451a, 452a, 454a, 456a, 465a, 474a, 475a, 476a,  
477a, 482a, 491a, 496a, 503a, 570a, 578a, 582a, 585a, 604a, 628a, 650a,  
657a, 662a, 676a,

---

Table 3.40 Correspondences involving P1 /o/ in all stem positions.

There are 67 items in which all the lects have an identical reflex /o/ of PT \*o.

P1 Vy Tk Il Lj Sl Sß Tt References.

---

u u u u u u u u 17, 27, 31, 105, 111, 115, 251, 273,  
 277, 310, 311, 336, 341, 361, 390,  
 423, 488, 497, 532, 616, 649.

u u u u - - u u 422a

u u u u u u u - 436

u u u u - - - - 239a

(see also 26a, 34a, 40a, 53a, 65a, 69a, 77a, 131a, 138a, 147a, 237a,  
 238a, 239a, 240a, 277a, 278a, 300a, 308a, 312a, 313a, 314a, 315a, 316a,  
 318a, 321a, 322a, 337a, 348a, 350a, 351a, 352a, 353a, 354a, 355a, 356a,  
 359a, 367a, 397a, 402a, 427a, 437a, 458a, 479a, 512a, 517a, 539a, 553a,  
 554a, 574a, 575, 581a, 605a, 609a, 626a, 643a, 646a, 647a, 655a, 661a,  
 672a, 678a.

Table 3.41 Correspondences involving P1 /u/ in all stem positions.

There are 85 items in which all the lects have an identical reflex /u/ of PT \*u.

3.2.2 Contrast of vowel length.

3.2.2.1 Contrast of vowel length in -CVC- radicals

There are some items in which a short vowel in P1 and the rest of

the core lects corresponds to a long vowel in Sß and Tt. Examples are given in Table 3.42a, below.

P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	References.
-	-	a	-	a	-	a:	a:	89b
-	-	-	-	-	a	a:	a:	462b
e	e	e	e	e	e	e:	e:	381, 382
i	i	i	i	i	i	i:	i:	221, 328a
o	o	o	o	o	o	o:	o:	388, 453, 455, 471, 525.
u	u	u	u	u	u	u:	u:	234 (P1 -ßuy-: -ßuuk- CB *-buuk-

**Table 3.42a. Vowel length in -CVC- radicals.**

Table 3.42a shows that Sß and Tt cognates have long vowels as against short vowels in the core lects. The total number of instances exhibiting this correspondence is not particularly large and some vowels are poorly represented. But these correspondence series contrast in the same environment as the ones with short vowels throughout. Furthermore, if we compare the above data to the reconstructions in GB we find that 9 out of the 12 long vowels in the above data are confirmed by reconstruction by Guthrie. Some linguists have raised questions about whether all the items above were correctly reconstructed with long vowels by Guthrie (Meeussen 1979: 3), but long vowels are found in cognates in Bemba as Table 3.42b, below shows, suggesting that long vowels were characteristic at least of the common

ancestor of these Eastern Bantu languages if not of Proto-Bantu as such.

Sß	Tt	Bemba	CB.	Ref.	gloss
kulá: la	kulá: la	úkula: la	*-dáád-	89b	'to sleep'.
kuká: na	kúkána	úkuka: na	*-káán-	462b	'to refuse'.
kulé: la	kulé: la	ukulela	*-dèd-	381	'to look after child'
kulé: ta	kulé: ta	úkule: ta	*-déét-	382	'to bring'.
kußí: ka	kußí: ka	ukußi: ka	*-bíík-	221	'to put'.
kuzí: ka	kuzí: ka	ukushi: ka	*-díík-	328a	'to bury'.
kuzó: la	kuzó: la	-----	-----	453	'to scoop'
kuló: ta	kúló: ta	ukulo: ta	*-dóót-	471	to dream'.
kútó: la	kutó: la	ukuto: la	*-tóód-	525	'to take'.
kußú: ka	kußú: ka	ukußu: ka	*-búúk-	234	'to wake up'.

**Table 3.42b Comparison of long vowels in Sß and Tt with those of Bemba and CB.**

Sß and Tt generally agree in vowel length but this is not entirely so in the above table. In item (462b), Sß has the cognate which agrees in vowel length with that of Bemba and the reconstructed form

of CB. Tt however, has a short vowel instead of the expected long one. This same phenomenon was observed in Lamba (Meeussen(1979: 6)). As Tt has only one example of a reflex with a short vowel we can say that its reflex in (462b) is skewed.

In (381: Sβ/Tt kulééla) both Sβ and Tt have the long vowel reflex while in Bemba and CB the vowel is short. Lisimba (1982), gave three Luyana lects Mashii, Kwangwa and Simaa as having a double vowel for (381) as well. The three Luyana lects just mentioned are Bantu lects spoken in the continuous area where Sβ and Tt are spoken. (381) and (462b) thus appear to show innovations but in different directions, of reduction and lengthening, respectively.

Long vowels are also found in Sβ and Tt in environments other than -C-C-, but not always in the same cognates in both lects. We give the data in Table 3.42c below. The environments in question here are after semivowels and before prenasalized consonants

Pl Vy Tk Il Lj Sl Sß Tt Reference.

---

i	i	i	-	i	-	i:	i:	76a(Pl -hhwim-; Sß/Tt -vwi:m)
a	a	a	a	a	a	a:	a:	180(-samb- Sß/Tt -saamb-)
i	i	i	i	i	i	i:	i:	158(Pl -zimb-; Sß/Tt -zi:mb-)
i	i	i	i	i	i	i	i:	334(Pl -zinguluk-; Tt -zi:nguluk-)
i	-	[el'i	-	i	i:	-	-	335a(Pl -zimbilw-; Sß -zi:mbilw-)
i	i	i	i	i	i	-	i:	430(Pl -hingulul-; Tt -si:ngul-)
i	i	i	i	i	i	-	i:	621(Pl -sindail-; Tt -si:ndil-)
o	o	o	o	o	o	o:	o:	231(Pl -ßomb-; Sß/Tt -ßo:mb-)
u	u	u	u	u	u	u:	u:	232(Pl -ßumb-; Sß/Tt -ßu:mb-)
u	u	u	u	u	-	u:	u	354a(Pl -hhung-; Sß -vuung-)

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Table 3.42c Contrast of Vowel Length in Radicals other than  
-C-C-.

The data in Table 3.42c above shows that Sß and Tt have a long vowel after a semivowel (item 76a) and/or before a prenasalised consonant. There are 15 other cases in Sß and 11 in Tt supporting the above observations but we have not given them in the table. The 26 items are not included because they are generally local to Sß and Tt, i.e. not found in the core lects .

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1. Item 335a is skewed in Tk.

There is a significant number of lexical items in which vowel length can be seen before prenasalised consonants, 24 items in Sß and 17 in Tt. Nevertheless, the overwhelming number of words have short vowels in these same environments (i.e. after a semivowel and before a prenasalised consonant), 51 cases in Sß and 59 in Tt. This suggests to us that in the environments in question vowel length may not be distinctive in Sß and Tt. These data include only disyllabic verb radicals and noun stems although most of the data predominantly comprises verbs.

Although there are unresolved problems the correspondences in Table 3.42b confirm that the long vowels \*i:, \*e:, \*a:, \*o: and \*u: should be reconstructed for PT. As we have indicated, evidence from wider Bantu and also CB suggests that Sß and Tt inherited vowel length.

### 3.2.3 Correspondences involving identical vowel sequence (or 'double vowels) in the core lects

Table 3.43a, below, gives the correspondences in which some or all of the core lects have double vowels. Most of the lexical items involved have no cognates in Sß and Tt.

P1	Vy	Tk	Il	Lj	Sl	Sß	Tt	References
aa	aa	aa	-	aa	aa	-	-	290a(P1 <u>γúzhetaala</u> )
aa	aa	aa	aa	e	e	aa	aa	285(P1 <u>γuzhempaala</u> )
aa	aa	aa	aa	-	-	-	-	599a, 631a(P1 <u>γúhwambaana</u> and <u>γúyaama</u> )
aa	ia	280(P1 <u>γúzhaala</u> )						
aa	aa	aa	-	-	-	-	-	506a(P1 <u>γútaaluva</u> )
ee	ee	ee	ee	ee	ee	-	-	166a(P1 <u>γuyeeva</u> )
ee	ee	ee	ee	ee	-	-	-	518a(P1 <u>γúteelela</u> )
-	-	-	ee	ee	ee	-	-	509b(II <u>ku-nyeela</u> )
-	-	ii	-	ii	-	ii	ii	46c(Tk <u>-niini</u> 'few')
-	-	-	-	ii	ii	ii	-	101d(Lj <u>-niini</u> 'narrow')
-	-	ii	-	ii	-	-	-	102b(Tk <u>-fwiifwi</u> )
ii	ii	ii	-	ii	-	ii	ii	140a(P1 <u>-niini</u> 'small')
ii	ii	-	-	-	-	-	-	495a(P1 <u>γúywiila</u> )
ii	ii	ii	-	-	-	-	-	542(P1 <u>γúdiimana</u> )
oo	oo	oo	-	-	-	-	-	23a, 44a(P1 <u>γuβoola</u> , <u>γúyoowa</u> )
oo	oo	oo	oo	oo	oo	-	-	306a(P1 <u>γuhooma</u> )
uu	-	uu	uu	-	-	-	-	435a(P1 <u>hyuumbwa:</u> Tk <u>syuumbwa</u> )
uu	uu	-	uu	-	-	-	-	635a( <u>γúhyuuya</u> )

Table 3.43a Correspondences involving double vowels in the core lects

Some of the items involving P1 /aa/ involve putative verbal extensions and are therefore found at what must have been a morpheme juncture. Item (290a) is found in the stem -zhetaal/-cetaal-, 'to

become poor'. There is some evidence that this stem includes an extension in the form of {aal}. This is because there exists a noun stem in Pl -zhete/-cete, 'poor'. Since the verb and noun are lexically related it is likely that one was derived from the other. We would like to suggest a simple stem -zhet-. The 'extension' has no recognisable meaning except perhaps loosely 'to become \_\_\_', where '\_\_\_' can be filled by a noun. In Pl there are other verbs which incorporate -aal- although not all of them can be said to be derived. Apart from (285) above, other lexical items which include -aal- in Pl are yúhuṣaala, 'to become foolish'; yuyangaala, 'to become dull/foolish' (cf. ṣu-yanga 'foolishness') and yúyasaala (470a) 'to become warm'. These words are not all in the wordlist; they are given here for the purpose of illustration. None of the items quoted in the present paragraph have been reconstructed in CB. However, we envisage a form of extension \*-aCal- in which \*C was lost in intervocalic position. We assume that this was CB diminutive suffix \*-pad- in which \*p was lost intervocalically (see 3.1.7.2).

Item (285) shows the correspondence of /aa/ with /e/, i.e. Pl yuzhembraala versus Lj/S1 kucembela. No plausible phonological account can be given for this correspondence which may involve <sup>a</sup> substituted extension element.

Item (631a)Pl yúyaama 'to lean' is also suspicious but there is no known corresponding nominal stem in any of the lects which compares with this item. However, there is an extension in CB \*-am- called 'neuter' by Guthrie (1967-71 Pt 2 Vol. 4 p.215). This

extension may be termed 'positional' because it refers to bodily 'posture' or 'position'. It is found in many verb stems in P1, although it can no longer be extracted from the stems. All the other examples in P1 have a single vowel: yúhugama 'to kneel' (316), yusalama 'to lie on back' (399a) and yúhhuntama, 'to lie supine' (356). The element -am- cannot be extracted from these verbs.

Item (599a) represents the stems -hwambaan-/-fwambaan-, 'to hurry up'. This stem could also be said to have an extension in the form of -an-. It is possible among P1 speakers to say yú-hwamba to mean the same thing as (599a). In Bantu, there is the reconstructed extension \*-an- called 'reciprocal'. But this meaning is not reflected in the present item and in any case this contrasts with -aan-. As with the extension {aal}- it is likely that -aan- is originally from \*-aCan- and that \*C was lost intervocalically.

Item (506a) \*-taaluk- is different from the cases we have looked at so far because /aa/ is found in non-juncture position. It is the only one that can be said to have a double vowel in a position other than at putative morpheme juncture.

The indication that item (280), yúzhaala, 'to remain', has an extension is suggested by the reflex of Tt in which we have a sequence of two unidentical vowels /ia/. The radical would seem to be -zhi-/-ci- and the putative extension is -al-. In all the lects except Tt, there would seem to be assimilation of the /i/ to the following /a/ in the item in question. We do not get the semivowel /y/ because the preceding consonant is also palatal and contains the gesture for [y] in its production as discussed in 2.2.2.2 In any case we do not get /syaal/ in Tt because /y/ does not occur after /s/ in this lect. But, still we cannot say why /i/

did not assimilate to /a/ in Tt. We propose that the PT form was possibly \*-syaal- which became -sial- in Tt.

There are some items in Table 3.43~~2~~ that indicate reduplication with lengthening of first syllable. For ease of reference we extract the relevant data and present it as Table 3.43b.

P1 Vy Tk Il Lj Sl Sß Tt Referencees.

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-	-	ii	-	ii	-	ii	ii	46c(Tk <u>-niini</u> 'few')
-	-	-	-	ii	ii	ii	-	101d(Lj <u>-niini</u> 'narrow')
-	-	ii	-	ii	-	-	-	102b(Tk <u>-fwiifwi</u> 'near')
ii	ii	ii	-	ii	-	ii	ii	140a(P1 <u>-niini</u> 'small')
ee	ee	ee	ee	ee	ee	-	-	166a(P1 <u>yuyeeya</u> 'think')

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Table 3.43b Correspondences in putative reduplicated stems.

It is no longer possible to recover the simple stem in the data given in Table 3.43b. The exception is (102b) which may be traced to PT \*-supi. Loss of intervocalic \*p created \*swi by semivocalisation( see 3.1.7.2). PT \*swi became fwi in Lj and Sl. This stem was reduplicated accompanied by doubling of the vowel /i/. Although it is not given in Table 3.43 above (but see Table 3.43) another item which possibly developed from loss of an intervocalic consonant is 44a (P1 yúyoowa 'to fear'). The stem -yoowa has a Bantu etymology, reconstructed as \*-yògup- by Guthrie. Generally, intervocalic CB \*g was lost in the Tonga lects. As was shown in 3.1.7.2 even CB \*p has the reflex of zero in all the lects except in

Sl, Sß and Tt. This means that in (44a) these changes together brought about the vowel /oo/ in the radical. It cannot be said for certain which of these consonants was lost first. Assuming CB \*g was lost first we can get \*-yooP-. This in fact is similar to the radical found in Nyanja while in Cewa it is -op-. The next stage in the Tonga lects was the loss of CB \*p, which has parallels in 3.1.7.2 (Table 3.10a) and 3.1.19 (Table 3.31) above. We suggest that (44a) be reconstructed as \*-yooP- in PT.

Item (518: Pl yúteelela 'to listen', (23a: Pl yußoola 'to come') and (306a: Pl yuhooma 'to pant') are unanalysable. Of these words only (518a) has a cognate in Shona -teerera. None of these words suggest reduplication of stem as suggested for the data in table 3.43 /ee/ or /oo/ as the case may be cannot be attributed to any morphological source.

Items 509b (Il kunyeela 'to chew') and 495a (Pl yúywila 'to scream') may be exhibiting vowel adjustment discussed 2.1.3 above. It cannot be ascertained at the moment but it is possible that kunyeela incorporates an applicative extension although this is not plausible on semantic grounds; similarly it is possible that yúywila incorporates the applicative extension {-Il-} so that the verb stem would be -yu-. Semivocalization would then apply with expected doubling of the vowel /i/ of the extension. But since (509a) (495a) are highly local they cannot be confidently attributed to PT-C.

If we now turn to item (542a) yúdimana 'to be bent (e.g stick)', we can see a double vowel /ii/. The distribution of this item is restricted, being found only in three lects.

Items 435a (Pl syuumbwa and Tk syuumbwa) 'lion' and 635a: Pl

γuhyuuya 'to blossom', have a double <sup>vowel</sup> as well but these items are highly local to P1, Vy and Tk.

The foregoing discussion has attempted to account for identical vowel sequences in the Tonga lects. Some of the vowel sequences can be attributed to morphophonological sources while others can be said to have arisen from the loss of an intervocalic consonant. It is possible to find vowel contrasts involving a single (i.e. short vowel) versus sequence of identical vowels, but these contrasts are not very frequent and in most cases the contrasting cases are at morpheme juncture.

**3.2.4. Correspondence series involving P1 /ai/ in putative extension position.**

In Table 3.44, below, we can see three types of correspondences. In item (253) P1 /ai/ corresponds to Tt /e/; in (281) P1 /ai/ corresponds to /ae/ while in (624) /ai/ in P1 corresponds to /i/ in Tt. Item (253) is lexically related to item (278a) P1/Vy/Tk zhi-butu versus Il/Tt ciputu 'parcel'. The data are given in Table 3.44, below.

	(253) 'to wrap'	(281) 'to drive' oxen'	(543b) 'to collapse (e.g. building)	(562a) 'to hammer' (as in roof making')
P1	γúbutaila	γuzhaila	-----	γúgagaila
Vy	γubutaila	γucaila	γumwaiya	-----
Tk	kúbutaila	kucaila	kumwaika	kúgagaila
Il	kúputaila	kucaila	kumwaika	-----
Lj	kúputaila	kucaila	-----	-----
S1	kúputaila	kucaila	-----	-----
Sß	-----	kucaela	-----	-----

Table 3.44 Correspondences involving P1 /ai/ in extension position.

Tt	kúpútéla (596a)	kucaela (621)	----- (629a)	----- (640b)
	'to preach'	'to pound earth down'	'to pray'	'to weed'
Pl	γúcumaila	γúsindaila	-----	-----
Vy	γúcumaila	γúsindaila	γupaila	-----
Tk	kúcumaila	kúsindaila	kupaila	kuzaila
Il	kúcumaila	kúshindaila	kupaila	kuzaila
Lj	-----	kúshindaila	-----	-----
Sl	-----	-----	-----	-----
Sß	-----	kúsíndila	-----	-----
Tt	-----	kúsíndila	-----	-----

Table 3.44 Correspondences involving Pl /ai/ in extension position (cont'd)

All the above data have the shape of extended verbs but in none of them is there an attested matrix form without <sup>an</sup> extension element nor is there any discernible semantic content associated with the extension element. The vowel /e/ in (253) kúpútéla (Tt) could result from fusion of /ai/ which would explain otherwise aberrant vowel harmony (see 2.1.2.2), but we do not have more supporting data. Item 281) kucaela (Sß/Tt) is possibly a loan from Lozi which again could explain the sequence /ae/ instead of the expected /ai/ (see 2.1.2.2). Finally, (621) kúsíndila could be a case of morpheme substitution in extension position.

### 3.2.5 Correspondences involving Pl /o/ versus /u/;

#### /o/ versus /a/ and /i/ versus /e/ in final position:

The data below mainly concern stems showing variation in the final vowel. Generally the opposition is between a high vowel and a mid vowel /u/ versus /o/ and /i/ and /e/, which is generally taken to be one of final raising as found in Lunda and Luvale. Item (448a) and (465a) which involve the opposition /o/ : /a/ has also been included for discussion. Although, generalisations in the data

below could have been made, we have frequently found it more convenient to treat items individually.

Item (174a) represents the noun stem -samu / -samo, 'tree'. The stem has no known cognates in wider Bantu. The variation in the vowel itself has a partial similarity with item (332). As the stem has no Bantu etymology it would be difficult for us to know whether we are dealing with final raising in this stem as well.

	(174a) 'tree'	(176) 'two'	(332) 'spirit'	(317a) 'bird's nest'	(448) 'crop'
Pl	músámu	-oβilo	múzimo	zhihuḡo	zhiyangilo
Vy	músámu	-oβilo	múzimu	-----	ciyangilo
Tk	músámu	-oβilo	múzimu	-----	ciyangilo
Il	músámo	-oβile	múhhiḡu	-----	ciyangila
Lj	císámu	-oβili	múshimu	cifuka	-----
Sl	-----	-oβile	múshimu	-----	-----
Sβ	císámo	-oβele	múzimu	-----	-----
Tt	císámo	-oβile	múzimu	-----	-----
	(465a) 'water-hole'	(578a) 'letter'	(656) 'Saturday'	(77a) 'husband'	
Pl	zhiḡala	lúḡwalo	mújiβélo	múlumi	
Vy	muyalo	lúḡwalo	mújiβélo	múlumi	
Tk	mukalo	lúḡwalo	mújiβélo	múlumi	
Il	mukalo	lúḡwálu	cíβélu	múlumi	
Lj	mukalo	-----	páciβélo	-----	
Sl	-----	-----	cíβélu	βálume	
Sβ	-----	iḡólo	múḡiβélo	-----	
Tt	-----	iḡólo	múkíβélo	-----	

Table 3.45 Correspondences involving Pl /o/ versus /u/; /o/ versus /a/ and /i/ versus /e/ in final position:

Item (176) involves variation in the second position and in the final vowel. But for now let us look at the correspondences in the final position. We have not found parallel data in other Bantu lects which have final /o/ in (176). The Tonga lects are also the only Bantu lects in which the cardinal numerals 1-5 begin in the vowel /o/, namely -omwe (1), -oβile/-oβile/-oβili (2), -otatwe (3), -one (4) and -osanwe (5) (see also Table 3.46). Ordinal numbers do not begin in this vowel: -mwi (1st), -βili (2nd), -tatu (3rd),

-ne (4th) and -sanu (5th). It is clear that cardinals have undergone modification both initially and finally and this is restricted to the Tonga lects. The final vowel in ordinal stems are the same as those found in neighbouring languages. Item (176) also shows correspondence /i/ (Pl -oβilo) and /e/ (Sβ -ofele) stem medially. This kind of correspondence is irregular and it is only attested stem finally as final raising in Lunda and Luvale. Numerals raise issues beyond this thesis.

Let us now look at item 332 (Pl múximo) above. Only Pl has the vowel /o/ corresponding to /u/ in the other lects. The Pl form is deviant and reflects \*u which is general in CB in all zones except zones B and H. Guthrie also reports mú-zhimo from Il, contrary to the form that our informants supplied us with. There are two possible explanations for the form of Pl (and Il according to Guthrie): (1) hypercorrection in an area where there is a tendency to final raising; (2) if there is a perceived relationship with the verb stem -zim- 'to extinguish', this may be an alternative deverbative. There are many nouns in Pl which are formed from verbs by adding the vowel -o.

Item 317a (Pl zhihuyo versus Lj cifuka 'birds nest') shows Pl /o/ corresponding to Lj /a/. These two vowels are likely to be derivative morphemes added to verbs to derive noun stems. A verb yuhukila exists in Pl which has the meaning 'preparing a nest'. It is likely that (317a) is derived from this verb and that it is related to the noun of Lj. Lj and Pl have applied different deverbative elements.

Item (578a Pl lúgwalo; Il lúnwálu) may be accounted for in the same way as far as the reflexes of Pl, Vy, and Tk are concerned.

The noun is related to the verb yugwala or yugwalaula which means to make scratch marks either on the ground or on paper. The verb form is usually used by old people to mean *loosely* 'to write' and is perhaps onomatopoeic. The items in Il, Sß and Tt do not have corresponding verb forms that we adduced for Pl. However, the reflex of Sß and Tt are identical to the reflex found in Lozi, from which these lects are likely to have borrowed. In Lozi there exist the verb kunola 'to write', which is lexically related to the noun inolo. The Il form can be seen as a loan. But since Il does not have a non-prenasalized /g/ the source is likely befrom Sß or Tt or ultimately from Lozi. The problem however, is the semivowel in the stem in Il which is not reflected in the Lozi cognate. We can therefore assume that this is an irregular borrowing. It is also possible this Il form partially converged with the Pl form.

Let us now examine item 656 (i.e. Pl mújibelo versus Il/SI cißelu 'Saturday'). The irregularity in this lexical item can be seen in all the elements preceding -ßelo/-ßelu. Nevertheless, our concern here is with the final vowel. Il and SI have stems with final /u/ while the other lects have /o/. The noun 'Saturday' is itself a loan and the differentiation in the reflexes in all the other lects may be due to this phenomenon. We are unable to trace the source of 'Saturday' at the moment.

Item 448a exhibits /a/ in Il corresponding to /o/ zhiyangilo/ciyangila ('crop') in the other lects. The noun stem is lexically related to the verb stem -yang-, 'to scratch ground as fowl', (447a). The noun would seem to be derived from the verb by

the addition of the affix -ilo in the relevant lects. In Il the affix would seem be -ila added to simple unextended verb stems to derive nouns. An example can be seen in the noun stem -gayo; 'grinding mill' (567), which is derived from the verb stem -gay-, 'to grind' (566); cililo 'funeral', (544b) which is derived from kulila, 'to cry', (383). There are many such words with this kind of relationship in Tonga. However /o/ may also be added to verb stems already extended such as those bearing the applicative/instrumental extension -il-. When the applicative extension takes the suffix -o the result is -ilo. We would like to suggest that this is the case in the noun stem (448a).

In item 465a (Pl zhiyala versus mukalo) the vowels /a/ and /o/ may represent suffix elements but these vowels cannot be extracted from their stems.

Item 77a (i.e. Pl múlumi versus Sl βálume 'husband') reflects two sources in CB, namely \*-dúmi and \*-dúmè, respectively. In wider Bantu we find that there are lects which have the stem with final /e/ as well. In the Zambian context these include Bemba and Nsenga. Certain Bantu lects such as Lunda and Luvale show final raising of CB \*e to \*i as in the present case. Item (77) might point to this phenomenon in some of the lects.

### 3.2.6 Correspondences involving Pl /u/ versus /we/ and /wi/

In Table 3.46, below, we present data in which Pl /u/ corresponds to /we/ and /wi/ in the other lects. Let us first look at the numerals: items 50 (i.e. Pl -osanwe versus Sl -sanu 'five') 109a/b/c (Pl -omwe versus Vy/Il -omwi and Sl -mo 'one') and (169a) (Pl -otatwe versus Sl -tatu 'three'). The problem with both the initial vowel and the final vowel have already been discussed under item (176) in 3.2.5 above.

It is only in Tonga that we find such form of numerals and this observation prompted Torrend to nick-name the Tonga lects as *Bantu Botatwe* because '...they alone in the world use the typical expression *Bantu Botatwe* for *three people*' (Torrend 1931: v). We have indicated in the discussion of item (176) in Table 3.45 above that the initial vowel in cardinal numerals alternates with zero-vowel in the ordinal.

The ending in the final of (50) and (169) has no parallels in wider Bantu. As we indicated in 3.2.5 above, since the final forms of cardinals are restricted to the Tonga lects, we are unable to give a satisfactory account of them. In fact we can say for all the data in Table 3.46, that the suffixation of the vowel /e/ may represent a freely available mode of expressivity. The data are also too heterogenous to make any generalisation.

	(50) 'five'	(55a) 'fog'	(109a/b/c) 'one'	(169a) 'three'	(401b) 'chickens nest'
P1	-osanwe	hiyunku	-omwe	-otatwe	-----
Vy	-osanwe	siyunkwe	-omwi	-otatwe	-----
Tk	-osanwe	sikunku	-omwe	-otatwe	-----
I1	-osanwe	-----	-omwi	-otatwe	citaanto
Lj	-osanwe	shikunku	-omwe	-otatwe	citaantwe
S1	-sanu	shikunkwe	-mo	-tatu	-----
Sß	-osanwe	-----	-----	-otatwe	-----
Tt	-osanwe	-----	-----	-otatwe	-----

Table 3.46 Correspondences involving P1 /u/ versus /we/; /wi/ versus /we/; /wi/ versus /o/ and /we/versus /o/.

(544a/b)

'funeral'

P1	dilwe
Vy	dilwe
Tk	dilwe
I1	ililwe
Lj	cililo
S1	cililo
Sß	cililo
Tt	cililo

Table 3.46 Correspondences involving P1 /u/ versus /we/; /wi/ versus /we/; /wi/ versus /o/ and /we/ versus /o/ (cont'd).

The reflex cililo in the above table is also found in Nyanja. The final vowel /o/ here can be analysed as a derivative suffix because there exists the verb kulila/yulila 'to cry' (383) in all the lects which must be lexically related to cililo. In P1, Vy and Tk, the reflex dilwe has a reinforced /d/ because the noun is in class 5, although in this noun there is no alternation of initial

stem in class 6 (i.e. madilwe). Otherwise the final -we may be due to the suffixation of /e/ to the stem dilo in Pl, Vy and Tk.

3.2.7 Final composite vowels in items other than numerals.

There are a number of noun and verb stems that end in the form -CV where V historically represents a composite vowel. By composite vowel here we mean stems in which the stem final \*-V<sub>1</sub>V<sub>2</sub>, is reflected as a single vowel (e.g. (57 and 603) or where CB \*V<sub>1</sub> if high is reflected as a semivowel (as in 68). The data are given in Table 3.47 below.

P1	Vy	Tk	Il	Lj	S1	Sβ	Tt	CB	References
e	e	e	e	e	a	e	e	-	(57) -one/-na
e	e	e	i	i	e	i	i	*-túé	68 (mú-twe)
								*-túí	(mú-twi)
e	e	e	e	e	a	i	e	-	603 (má-te)/ (ma-tí)

Table 3.47. Miscellaneous composite vowels.

The above data fall into two groups; those that have the stem ending in /i/ and those that end in /e/. So far we have observed that some Tonga lects have the tendency of raising CB \*e and \*o to /i/ and /u/ respectively in the final position. For item (68) we can see that CB too has two reconstructions. Since the two CB forms are reflected in the lects we can say that both stems were retained

in PT. But the possibility that only the form ending in GB \*e was retained and that the /e/ was subsequently raised to /i/ in some of the Tonga lects still remains. The lexeme (68) compares with the correspondence in Table 3.45.

Item (603) shows three vowels in the noun which appears as má-te, máta and matí, in respective lects. All three can be traced from a possible source PT \*-tai. To get the reflexes -te, -ta and -ti we need a development specific to each reflex. For those lects with the reflex -te the vowel /e/ developed from the vowel fusion of /ai/ suggested in 2.1.3. In the reflex -ta, the vowel fusion rule did not apply, instead final PT \*i changed to a postvocalic semivowel which was lost. It is more difficult to see the development of -ti from \*-tai, unless we were to suggest loss of \*a before \*i. The developments suggested here took place in post-Proto-Tonga period in the lects concerned. (603) has cognates in other Bantu lects including Ndebele and Bemba amate, and Shona mata and Nyiha amati.

The other numeral which would seem to be from a similar complex source is 'four' which in P1 has the stem -one while in S1 it is -na (see (57) in the above table). It is also possible that the reflexes of (57) can be attributed to a single source in PT. We are encouraged in thinking so by the data in wider Bantu. For example in Nyanja and Maŋanja we have the corresponding form -nai. This more complex form than the ones found in the Tonga lects could represent the form that was present in Pre-Proto-Tonga period, possibly in PB itself. To get the forms that we now have in the Tonga lects a stem as complex as that of Nyanja and Maŋanja should be hypothesized for

PT. We therefore suggest PT \*-ona $\nu$ . In the final position of the stem /a $\nu$ / fused to become /e/. In S1 postvocalic  $\nu$  was lost. Meeussen(1973: 6-7) observes that although Guthrie attributes (57) and (603) to osculant series all the respective reflexes could be reduced to a single source, namely \*-naI for (57) and \*-taI for (603).

The initial vowel /o/ in 57 (e.g. P1 -one 'four') is problematic owing to the fact that parallel data in wider Bantu is not available (see discussion of item (176) in 3.2.5 above). Nevertheless, the final vowel /e/ is widespread in Bantu (e.g. Bemba -ne). As far as S1 is concerned all we can say at the moment is that this vowel was lost independently under circumstances which are not quite clear. Similar developments can be seen in the other numerals discussed under Table 3.46 above.

So far we have looked at two types of anomolous vowel correspondences in the final vowel of nouns; final raising and final composite vowels. From what we have seen we can say that the Tonga lects do not always behave in the same way especially with respect to raising.

**3.2.8 Correspondences involving zero-vowel corresponding to /i/ in other lects**

Let us now examine the data in Table 3.48 below. The data indicate that zero-vowel corresponds to /i/ in some lects.

	(83) 'to know'	(136) 'to sit'	(256) 'steal'	(257) 'to carry on back'	(267) 'thief'
P1	γúhhiβa	γukala	γúba	γubala	múbi
Vy	γuziβa	γukala	γuba	γubala	múbi
Tk	kuziβa	kukala	kuba	kubala	múbi
Il	kuhhiβa	kukala	kwíβa	kwíβala	-----
Lj	kushiβa	kwikala	kwíβa	-----	-----
Sl	kwíshiβa	kwikala	kwíβa	-----	mwíβi
Sβ	kwíziβa	kwikála	kwíβa	-----	-----
Tt	kwíziβa	kwíkála	-----	kwíβala	-----
	(269) 'to sink'	(309a) 'to become detached'	(357b) 'to answer' call'	(360) 'to close door'	(363a) 'to cook'
P1	γubila	γuyukuya	-----	γujala	γujiya
Vy	γubila	γuyukuya	kutyaβa	γujala	γujiya
Tk	γubila	-----	-----	γujala	kujika
Il	kwíβila	-----	kutaβa	kwiyala	kwika
Lj	kupila	-----	-----	kucala	-----
Sl	kupila	-----	-----	kucala	-----
Sβ	-----	kukwíkuka	kwítaβa	kwiyalá	kwíhika
Tt	-----	kukwíkuka	kwítaβa	kwíiyala	kwíhika
	(370) 'nephew'	(522) 'to pour'	(523a) 'to put load head'	(524a) 'to follow'	(590) 'to become pregnant'
P1	mújwa	γutila	γútuka	γucilila	γumita
Vy	mújwa	γutya	γútuka	-----	γumita
Tk	mújwa	kutya	kútuka	-----	kumita
Il	-----	kutila	kútwika	-----	kwímita
Lj	mwícwa	kutila	kútwika	kucilila	kwímita
Sl	mwípwa	kutila	kútwika	kucilila	kwímita
Sβ	-----	kwíitilá	-----	kwífcilila	kwímita
Tt	-----	kwíítala	-----	kwífcilia	kwímita

Table 3.48 Correspondence series involving zero-vowel corresponding to /i/ in other lects).

Except for items (309) and (524a), all the other lexical items in Table 3.48 are reflexes of CB reconstructions. What is more all

the items are also reflexes of verb and noun stems which began in the form \*-yi-(item 83) or \*-yI-. In either case CB \*i/\*I does not have a reflex in Pl, Vy and Tk. Let us first look at (136) and (309a). Before /k/, /i/ is opposed to zero-vowel in some items. (136), is a reflex of CB \*-yĩkad-. This item is discussed in 3.1.9. where we suggest that /k/ in Pl is a regular reflex of CB \*-yIk-. Item 309 (Pl/Vy yúyukuya versus Sß/Tt kukwikuka/kúkwíkáka 'to become detached e.g. axe' ) has a cognate in Bemba ukukwika 'to attach axe head'; an analogical development with (136 yukala versus kwíkala/kwííkala 'to sit') can be postulated. We can also see a parallel with item 523a (Pl yútuka versus Il/Lj/SI kútwika). We propose PT \*-kuik- for (309a) which is likely to have later developed to -yuk- and then to -yuk-. Original PT \*i is no longer reflected in the stem in question in Pl and Vy, except by its reinforcing effect, while Sß and Tt kept it.

Items 256 (Pl yúba versus kwíßa/kwííßa 'to steal'), 257(Pl yúbala versus Il kwíßala 'to carry child on back'), 267(Pl múbi versus SI mwißi 'thief' and 269(Pl yúbila versus Il kwíßila and Lj/SI kúpila) have similar developments and these are discussed in Table 3.14a in section 3.1.10.2 above. All these items are reflexes of stems which begin with \*-yIb- in CB. As in item (136) just discussed above CB \*I 'protected' \*b from developing into a *fricative* reflex /ß/ in Pl, Vy and Tk. In item 269( kúpila) of Lj and SI there is an added problem in that we would normally <sup>have</sup> expected to have the /iß/ or at least /ip/ stem initially instead of /p/. The absence of /i/ suggests that kúpila is possibly a loan from Pl, Vy or Tk.

The cedilla vowel \*I is also present in the CB reconstruction of

which 360 (i.e. Pl yujala, Lj/S/ kucala and Sß/Tt kwiyalá/kwíiyala) and 370 (i.e. Pl mújwa versus Lj mwícwa and Sl mwípwa 'nephew') are reflexes; Lj and Sl do not have initial /i/ in the reflex of \*-yîgad- and \*yîpua, respectively. In both \*-yîgad- and \*yîpua the vowel \*I developed into a semivowel at some stage in PT: \*-yjal- and \*ypwa respectively, giving rise to the verb radical and noun stem -jal- and -jwa, respectively. This development is relevant only for Pl, Vy and Tk. In the other lects \*I in these lexical items developed into /i/.

Similarly 363 (Pl yúiyá versus Il kwika and Sß/Tt kwíihika 'to cook') has a cedilla vowel in the original form CB i.e. \*-yîpik-. In Lj CB \*Ip developed into /j/ as in item (370). As Pl /j/ corresponds to /y/ in Il, (363) is expected to be kuyika in Il. However, since /y/ cannot precede /i/ we find that the stem begins in /i/ in Il. In Sß and Tt, PT \*-yîpik- has the reflex -ihik-, since CB \*p is regularly reflected as /h/ in these two lects and CB \*I has the reflex /i/ as well.

522 (i.e. Pl yútila versus Sß/Tt kwíitilá/kwíítíla), and 590 (i.e. Pl/Vy/Tk yúmita versus kwíimita/kwíímita) are also reflexes of CB \*-yítid- and \*-yímit-, respectively. The difference is that the initial consonants in Pl, Vy, and Tk were not affected. But Lj and Sl lost stem initial /i/.

Item (524a) has no wider Bantu reflexes but we envisage a development along the same lines as the other lexical items in Table 3.48 above. Pl has reinforced /c/ presumably arising from the loss of initial /i/.

Item 523a (Pl yútuka versus Il/Lj/S/ kútwika 'to put load on head') has a CB etymology \*-túik- 'put (a load) on another', and it

has reflexes in Luvale, Bemba and Yao. In all the reflexes given by Guthrie (C.S. 1812) we find forms that are comparable to those of Il, Lj and Sl, i.e. the stems incorporate /w/. CB \*-túík- is semantically associated with two other series, namely, CB \*-túád- 'carry on the head' and \*-túúd-, 'put down a load'. Both of these are widely reflected in present-day Bantu lects. It is possible that the three verb stems share the same radical \*-tu- which must have been present in CB. In the problem at hand, (523), can be seen as a reflex of \*-tú-ík- where CB \*-ík- is a causative morpheme attested sporadically in Bantu languages.

Item 626a (Pl yuhunya versus Vy/Tk kufwinya 'to close eyes') ) suggest that PT had the verb stem \*-swu<sup>ɣ</sup>nɣ-, \*<sup>ɣ</sup> was assimilated to the following nasal to form a palatal nasal, but in addition it triggered<sup>e</sup><sub>N</sub> semivocalization in the reflexes of some of the lects. We have found it necessary to posit a postvocalic <sup>ɣ</sup> here because we are attempting to account for palatalisation of /n/ to /ɲ/ and semivocalisation.

We propose the reconstruction \*-swu<sup>ɣ</sup>n- for (626a).

We can see now how the circumstances in which a zero-vowel in Pl, Vy and Tk corresponds to /i/ in the other lects. Since the verb radicals and noun stems begin in /i/ in some of the reflexes we can see that morphophonemic rules of semivocalization and vowel doubling occur in relevant lects. That is why in some cases above we get the correspondences Ø:i

**3.2.9 Correspondences involving P1 /j/ versus 0-zero.**

There are noun stems in class 5 that are vowel initial and in P1 Vy and Tk these stems take the prefix. Addition of the class 5 prefix in P1, Vy and Tk to (66) -anza, (138) -ulu, (364) -ilo and presumably -iwe (371a) gives the forms we have in the table below in the lects in question. In the nouns that have plural forms such as (66) the stem can be clearly shown to be vowel initial: maanza (class 6 Prefix ma-). We have /aa/ in maanza not because of the following /nz/ but because when the prefix {ma} is added to the stem -anza there is no syllable reduction discussed in 2.1.3. However, if we look at the Sß and Tt form in (66) we find that the stem is /y/ initial. As the plural is mayánza, the semivowel cannot be looked at as a transition between the vowel of the prefix and the initial vowel of the stem, although it is reasonable to think that this is how it arose originally. The Lenje form is vowel initial in both singular and plural: maansa (class 6, ma-).

Item 138 (P1 julu; Lj liculu; S1 lyulu), is vowel initial in S1, while in Sß and Tt it begins in /w/ and /y/ respectively. All these contrast with Lj /c/. As described in Table 3.24b (in 3.1.16) the Lj form is likely to be the rendering of julu found in P1, Vy and Tk since Lj has only voiceless plosives. The S1 form has preserved the probable original vowel in the initial position of the stem. This also applies to 364a(P1/Vy/Tk jilo versus Lj/S1 líilo) which can be reconstructed as \*-ilo. /y/ and /w/ in Sß (iyuulú) and Tt (iwúlu) can be seen as transitional semivowel. The data are given in Table 3.49 below.

	(66a)	(138a)	(364a)	(371a)
	'hand'	'sky'	'yesterday'	'east'
P1	janza	julu	jilo	ɣujwe
Vy	janza	julu	jilo	ɣujwe
Tk	janza	----	jilo	kujwe
I1	-----	-----	-----	kwiwe
Lj	lyansa	liculu	líilo	kucwe
S1	-----	lyulu	líilo	kucwe
Sβ	iyánza	iyuulú	-----	-----
Tt	iyánza	iwúlu	-----	-----

Table 3.49 P1 /i/ corresponding to /ø/

consonant in other lects in other lects.

Finally, let us look at (371a). This item has no CB etymology. But it is possible to suppose a source like \*ɣpue whereby in P1, Vy and Tk the reflex of \*ɣp is /j/ but that in I1 \*Ipue became \*ipue. PT \*p was then lost in the environment after [-lo] vowels as suggested in 3.1.7.2 above, giving rise to -iøue. Semivocalization then applied to /ue/ to give rise to -we. The stem for (371a) then became -iwe in I1. However, it is also possible that (371a) is a class 5 noun which, being a locative noun incorporates locative prefix<sup>1</sup>, in this case, class 17, ku. In I1, the vowel /i/ in kwiwe, can be seen as an allomorph of the class 5 prefix {li} in this lect. Both of these analyses may account for

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1. The locative prefixes are always superimposed on other prefixes, i.e. they do not replace prefixes of other noun classes. The locative prefixes in P1 are: cl. 16 a-; cl. 17 ku-; cl. 18 mu-.

/i/ in Il. But we shall opt for the latter hypothesis because it is simpler and can be demonstrated with comparable data from within Il.

3.2.10. Correspondences involving Pl zero-consonant versus /z:/y/ in Sß and Tt.

	(100)	(127)	(135)	(151)
		'to say'	'to sing'	'to stand'
Pl	hhina	ɣwaamba	ɣwíimba	ɣwíima
Vy	zina	ɣwaamba	ɣwíimba	ɣwíima
Tk	zina	kwaamba	kwíimba	kwíima
Il	hhina	kwaamba	kwíimba	kuhhima
Lj	líina	kwaamba	kwíimba	kwíima
Sl	líina	kwaamba	kwíimba	kwíima
Sß	izína	kuwámba	kuzíimba	kuzíima
Tt	izína	kuwámba	kúzimba	kúziima
*CB	*-gína	*-gàmb-	*-yímb-	*-yím-
	(178)	(338)	(345)	(670)
	'to walk'	'life'	'pigeon'	'hornbill'
Pl	ɣweenda	βúzumi	nzíβa	moomba
Vy	ɣweenda	βúúmi	nzíβa	moomba
Tk	kweenda	βúúmi	nzíβa	-----
Il	kweenda	βúúmi	Nhhíβa	moomba
Lj	kweenda	βúúmi	cííβa	-----
Sl	kwéenda	βúyumi	-----	moomba
Sß	ku-yéenda	-----	ínzíβa	-----
Tt	ku-yéenda	-----	-----	iyóómba
*CB	*-gènd-	-----	-----	-----
	*-yènd-			

Table 3.50. Correspondences involving zero-consonant versus /w/, /y /and /z/ in some lects).

	(672)	(675)
	'visitor/ traveller	'fingernail'
Pl	mwéenzu	lwála
Vy	mwéenzu	lwála
Tk	mwéenzu	lwála
Il	-----	lwála
Lj	-----	lwála
Sl	-----	lúyála
Sß	-----	ízála
Tt	muyénzi	ízála
CB	-----	*-yádá/*-gádá *jádá

Table 3.50. Correspondences involving zero-consonant versus /w/, /y /and /z/ in some lects (cont'd).

The zero consonant in Table 3.50, *above*, is from different sources in CB. 135 (P1 ywíimba versus Sß/Tt kuzíimba/kuzimba 'to sing') and 151 (P1 ywíima versus Sß/Tt kuzíima/kúzíima 'to stand'), have a source in CB radicals that begin in \*y. Before \*i, \*y would not be realized in PT or in subsequent daughter lects. For this reason the reflexes with /z/ in Sß and Tt in (135) and (151) are irregular. The only observation to make is that CB \*y is regularly reflected as /z/ in Sß and Tt although the environment in (135) and (151) does not support the reflex /z/. The reflex in Il in (151) suggests a source in PT \*-zim-, not \*-yim. Whether we choose \*-yim- or \*-zim- as the probable PT source, the reflexes in some of the present-day lects are going to be irregular. Because of the reflex of Il we shall adopt \*-zim- since before \*i PT \*z has the regular reflex of /hh/ in Il.

Let us now look at item 127 (P1 ywaamba versus Sß/Tt kuwámba 'to say'). This was reconstructed as CB \*-gámb-. CB \*g was generally lost in P1 reflexes when not prenasalized. (127) is similar to 178 ( P1 yweenda versus Sß/Tt yuyéenda ) and 675 ( P1 lwála versus izála ), for all of them may be traced back to CB stems which began in \*g. Nevertheless, (675) could be from other sources as well in as far as S1, Sß and Tt are concerned. The semivowel in S1 in (675) is also likely to be a transition between the vowel of the prefix and that of the noun stem, although we should normally expect /w/ since the vowel of the prefix is a back vowel. Although /y/ in S1 regularly corresponds to /z/ in Sß and Tt, the relationship in the present case is accidental.

Item 670 (P1 moomba versus Tt iyóómba), has no known CB source. However, we can reconstruct PT \*-gomba here.

Finally, let us look at 672a (P1 mwéénzu versus Tt muyénzi). The form of Tt is likely to be closer to the original but we cannot easily account for the difference in the final vowel, unless we were to postulate a derivation from the verb radical -end- by suffixing derivation morphemes /u/ and /i/ in respective lects, essentially the radical of (178).

The above description attempts to account for the vowels in the initial position of the stem in some of the lects. Loss of an original stem initial consonant, possibly CB \*g, gave rise to vowel initial stems in some of the lects.

### 3.2.11 Correspondences involving P1 zero-consonants versus /p/

The data in Table 3.51, below, give further examples of items in which some reflexes have a vowel where others have a consonant. In items (102a), (247) and (450a), PT \*p was lost in some lects as suggested in Table 3.10a, section 3.1.7.2 above. In (102a) and (134a), loss of medial \*p in PT \*swupi created \*swui which had the reflex fwi, which was in turn reduplicated in Tk and Lj. Reduplication created the double vowel at juncture in the lects concerned. There are some P1 speakers who would prefer the form of hwiihwi to the one we recorded -hwaahwi. The latter could possibly be derived from /hwi + a+ hwi/ which at one level of derivation should be /hwyaaahwi/ and that /y/ was deleted. The vowel /a/ here may be taken as a derivative morpheme. Both -hwiihwi and hwaahwi

are possibly from PT \*-supi.

In item 247 (Pl mwíni versus Sl múpini and Sß/Tt múhíni/múhini), PT \*p was lost creating a vowel initial stem in some of the lects. The double vowel is morphophonemically derived by the semivocalization rule. Finally in (450a) \*p was also lost in Pl, Vy and Tk.

	(102a)	(134a)	(247)	(450a)
	'near'	'short'	'handle'	'to tear'
Pl	-----	-----	mwíni	γúyaula
Vy	-----	-----	mwíni	γúyaula
Tk	-fwíifwi	-fwíifwi	mwíni	kúyaula
Il	-----	-----	mwíni	kúzapula
Lj	-fwíifwi	-fwíifwi	múpini	-----
Sl	-fupi	-----	múpini	-----
Sß	-fuhi	-fuhi	múhíni	-----
Tt	-fuhi	-fuhi	múhini	-----

Table 3.51 Correspondences involving Pl zero-consonants  
versus /p/

One lexical item that can be included in the above table is Pl γuyandaula (446a) 'to search', which has the reflex of Tk ku-yandaula, but kuyandoola in Lj. We have deliberately left it out of Table 3.51 because none of the reflexes has the consonant between /a/ and /u/. Nevertheless, we can assume that an original

consonant, perhaps PT \*g from CB \*-agud- , was lost between /a/ and /u/. The reflex of Il has /oo/ corresponding to /au/ in other lects in (446a). In this case the vowels /a/ and /u/ fused to produce /oo/ in Lj. Vowel fusion is found in the Tonga lects as discussed in 2.1.3, above. In Pl too there are some words that have /oo/ in fast speech alternating with vowel sequence /au/ in normal speech, e.g. yugonkoola which has a variant yugonkaula 'to chop into pieces'.

There is one further item in Pl which has initial /p/ alternating with zero consonant in Vy and Il, i.e. Pl yupandula versus Vy and Il ywaandula 'to split (e.g. wood)'. This can be accounted for as in 3.1.7.2.

The correspondences described so far exhibit generality of varying degrees. We have attempted to account for some of the correspondences involving vowel and zero-vowel arising from the loss of PT or CB consonants.

There are some irregularities in vowel correspondences which are too inconsistent to be discussed in a general way in the text here.

3.2.12 Miscellaneous correspondences not involving Pl

	(86d)	(207)	(317d/401b)	(378b)
	'leaf'	'to converse'	'bird's nest'	'to cross road'
P1	----	-----	-----	-----
Vy	----	-----	-----	-----
Tk	gáni	kwaambuula	-----	-----
I1	----	-----	citaanto	kuhhuβuka
Lj	----	-----	-----	kusaβuka
S1	----	-----	-----	kusaβuka
Sβ	----	-----	-----	-----
Tt	lyáni	kuwámba	citántwe	-----

Table 3.52 Miscellaneous correspondences not involving Pl.

	(126b)	(128b)	(152b)	(564b)
	'sand'	'to scratch'	'star'	'patch'
P1	-----	-----	-----	-----
Vy	-----	-----	-----	címámo
Tk	musese	-----	-----	----
I1	-----	kukwenya	ntongweehhi	----
Lj	museense	kukwanya	-----	címámi
S1	-----	kukwanya	-----	-----
Sβ	-----	-----	-----	-----
Tt	-----	-----	ntungweezi	-----

Table 3.52 Miscellaneous correspondences not involving Pl

(cont'd).

The data in Table 3.52 cannot be characterized in a general way. One can therefore just talk about peculiarities in the individual items. In item (86d) the Tk form contrasts with that of Tt in /g/ and /ly/ respectively. This is a class 5 noun whose plural in class 6 (prefix ma-) is máni, suggesting that the noun stem is -ani. In Tt the singular form given above takes the usual class 5 prefix li- in this lect, which has the alternative form ly- before vowel initial stems. The problem here is the form of Tk which has g- acting as the prefix. Class 5 prefix is complicated but see 2.2.2.7 (Table 2.13a). Nevertheless, in P1 and Tk there are many nouns of class 5 which have this consonant initially, but which is not reflected in the plural. Notice that (86d) has the CB form \*-gáni. (Other examples include gaBo : class 6 maaBo 'species of fruit').

In (207) we have /w/ contrasting with zero consonant in Tk. This is discussed under item (127) in Table 3.50 above.

Items (317d/401b) and (564b) can reasonably be viewed as forms that are lexically related to the verbs kutanta 'to climb' and kúmama, 'to patch' respectively. In their natural setting chickens make their nests up in granaries and similar structures which need climbing up to. The nest made from the result of climbing was derived from the verb; in Lj the derivative morpheme -o was added to the verb. In Tt the noun was derived from the passive -tantw- by suffixing the nominal derivative morpheme -e. One of the objections that can be raised against this kind of analysis in both lects is that neither Lj nor Tt has the verb radical -tant- or -taant- from which to make the suggested derivation (see (513a-b) above). Nevertheless since this stem is found in (513a) we can

assume borrowing from the other lects.

Item (152b) involves contrast in the first vowel of the stem. A possible account of this contrast might be to suggest vowel assimilation of /u/ to the following /e/ in terms of height. But equally, there is no inherent reason not to think that dissimilation took place if we propose original \*o in the first vowel of the stem. This contrast is similar to that of (335a) Pl yuzimbilwa which contrasts with Tk kúzembelwa. The two forms (152b) and (335a) can be treated as skewed.

The remaining items in Table 3.52 above (namely 378b, 126b and 128b) can be treated as skewed since the correspondences have no parallels and cannot be supported by sound changes.

### 3.3 Tone.

#### 3.3.1 Introduction.

The following observations on tone are concentrated on P1, because our data for other lects are limited to citation forms. In this limited context no variation has been observed within the core lects but the relation with Sß and Tt is complex and the tonal reliability of the data is suspect; for this reason these two lects are considered separately in 3.3.5.

In the following discussion we shall use the following symbols

h = 'high' or '´´' and l = 'low' or '˘˘' tone. As we have already explained above these tonal classifications will be referring to purely surface tone patterns.

Like vowel and consonant tone plays an integral part in the phonology of the Tonga lects. It is used to distinguish words which otherwise have identical segmental forms. Examples from P1 are given in below.

P1.

- βúγòγò 'beer'.
- βùγòγò 'laziness'.
- máámbà 'hoes'.
- máambà 'cracks in foot'.
- γúløßà 'to fish with fish-hook'.
- γùløßà 'to vanish, disappear'.

Tone has also a grammatical function in that it is used to distinguish constructions which have identical sequences of consonants and vowels. Examples from P1 are given below:

Pl.

tùlámùβònà 'They (class 13) shall see you' .

tùlámùβònà 'We shall see you'.

wáβòòlà ' (The one) who came'.

wáβòòlà 'he has come'.

ndàlyá 'I have eaten'.

ndàlyà ' I eat'. '

### 3.3.2 Previous studies of tone in Tonga lects.

Among the Tonga lects only Pl has received tonological study. The best known works are by Carter (1962; 1971-72), Meeussen (1963) and Goldsmith (1983; 1984). Each of these works had the aim of establishing the underlying tones by reference to surface tones. Among her other contributions to Tonga tonology Carter (1962) discovered that there are three tone classes among the nominals' in Pl. These are given below (the numbering is Carter's)<sup>2</sup>.

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1. In Carter's system nominals are sometimes written with an extra prefix i-. This extra prefix together with the ordinary prefix are termed 'double prefix' in her terminology. All nominals except those of classes without an overt prefix marking (namely 1a and the subclass of class 5) and locatives optionally take this extra prefix (see Carter 1962). Carter includes infinitives among nominals. 2. We have made a change in Carter's orthography (and the orthography of other authors to be quoted below) to agree with our own in the rest of the thesis: Carter's b, c, k are symbolised by our β, zh and γ respectively.

*tone*

Type A. The stem has low <sup>^</sup> throughout and the double prefix is high.

A1.	íβúsì	' smoke'	
	íyúpà	' to give'	
	íjwì	' voice'	cl. 5
A2	ímáyǎní	' news'	cl. 6.
	íγúsùmà	' to sew'	cl. 15.

Type B. The double prefix and the first stem syllable have high tone.

B1.	ímáíí	' money'	cl. 6.
	íyúlé	' far away'	cl. 17.
B2.	ímúsúnè	' ox'	cl. 3.
	ímpóngò	' goat'	cl. 9.
	ípóβwè	' feast'	cl. 5.

Type C. Prefix and stem have low tone.

C1.	ìβùsù	' meal, flour'	cl. 14.
	ìda	' stomach, womb'	cl. 5.
C2.	ìmatòngò	' ruins'	cl. 6.
	ìzhòolwè	' luck'	cl. 7.
	ìpèpè	' feather'	cl. 5.
	ìyùsàmbà	' to wash'	cl. 15.

The above tone classes are identical to the tones of the respective citation forms of nouns and infinitive verbs in our data. These three types of tone cover all disyllabic nominals in Pl. Carter's data go beyond our own in that the above tone classes are tested in different constructions. We shall not go into these data because we lack comparable material for the other lects.

A second influential work on Tonga tone is by Meeussen (1963). Meeussen's aim was to present a 'morphophonologic analysis of the tones of Tonga' (p. 72). Meeussen's contribution was at the level of underlying structure. In this model surface tones are predicted by means of diacritic marks which designate certain morphemes as 'determinants' and others as 'neutral'. Surface tones are then assigned to words on the basis of the location of the determinant and neutral vowel. (Meeussen 1963: 73).

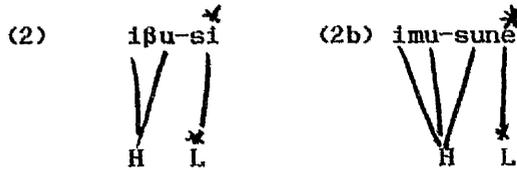
The third major analysis of Tonga tone can be found in Goldsmith (1983; 1984). Goldsmith developed his Autosegmental approach in the study of Tonga tonology. The approach was developed within the theory of Generative Phonology. Generative Phonology as expounded in Chomsky and Halle (1968) perceived the phonological component as a set of rules that modified feature specifications and rules that deleted or inserted segments (Clements and Goldsmith 1984: 8). Another central point of generative phonology was that phonological phenomena were linearly ordered. This approach was not adequate to handle tonal phenomena.

In order to deal with this problem Autosegmental Phonology was revolutionary in that it said that phonological processes do not simply add or delete segments or change feature specifications 'but that also, and perhaps primarily phonological processes could modify the structure or *organisation* of the representation. The autosegmental

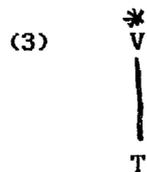
approach relaxed the view that phonological representations were linearly ordered. Instead, the proposal was that phonological representations consisted of multilinear tiers. These tiers were autonomous, and phonological rules could apply to one tier without affecting representations on another tier. The tonal phenomena were organised on a separate tier from the tone bearing elements, e.g. vowels. A single tone could associate with more than one vowel and similarly a single vowel could be associated with two tones. A principle known as the Well-formedness Condition was devised to govern autosegmental representations (Clements and Goldsmith 1984: 10). This is stated as (1) below.

- (1). Well-formedness Condition.
  - i. All Vowels are associated with at least one tone.
  - ii. All tones are associated with at least one vowel.
  - iii. Association lines do not cross.

Goldsmith (1983: 23) suggests that Tonga has undergone change from a tonal language to an accentual one. It is also suggested that Tonga has undergone further change in which the accented tone shifted from High to Low but the basic tone melody remained High-Low. Thus in the modern form it is Low tone which is associated with the accented syllable' (p. 227). In the accentual treatment of Tonga Goldsmith symbolises the accent with an asterisk '\*' over the accented syllable. Accent deletion rules precede the assignment of tone melodies. The words iβusi 'smoke' (Carter's Type A) and imu-sune 'ox' (Carter's type B) have their tones assigned as in (2) below.



(i. e. iβú-si      and      imú-súne).



In (2a) the vowel of the stem has a low tone and reflects Goldsmith's initial accented stem. The L of HL is linked as in (3) above to the accented vowel. The other vowels are associated with their correct tones by the Well-Formedness Condition.

The tones of verbals are derived by a series of accent simplification rules that precede tonal assignment. As we have indicated already the morphotonology of verbs does not concern us in this thesis. What we presented in (2a and b) is sufficient to account for all the data we have, at least those of the core lects.

3.3.3 Comparison of PB tone classes with those of Pl.

Let us now go back to Carter's study of Tonga tone. Her tone classes confirmed Guthrie's finding about the tones of the 'Tonga' nominals namely that 'Tonga' has three tone classes instead of the expected four of a two-tone system. Proto-Bantu had four tone classes \*HH, \*HL, \*LH and \*LL. Goldsmith (1984: 48) proposes the following diachronic developments from the point of view of accentual analysis:

Proto-Bantu <sup>1</sup>	Tonga/tone (= P1)	Tonga/accent (= P1)
(stem)	(prefix + stem)	(stem)
H H	H + L L	C <sup>*</sup> V CV
H L	H + L L	C <sup>*</sup> V CV
L H	H + H L	CV C <sup>*</sup> V
L L	L + L L	CV CV

Table 3.53 Development of Tonga (= P1) tones from PB.

PT \*HL and \*HH merged to give HL, but \*LL stayed as LL. \*LH became HL. Accent appears where the first High tone in PB did.

### 3.3.4 Comparison of P1 tone classes with those of Shona.

The present forms of Tonga tones compare with those of Shona as follows (Carter 1962: 102)<sup>1</sup>:

Tonga Type A:	Tonga	Shona
'to ripen'	kúbizwà	kùibvá
'skin'	cíkàndà	gándá
'fat'	máhùtá	máfútá
'guineafowl'	ínkàngà	hángá
'sun'	ízùḡá	zúbá

There is a regular correspondence between Tonga Type A and those of Shona. We summarise the relationship between Tonga and Shona in Table 3.54 below:

1. Clements and Goldsmith (1984) use the term PB instead of CB.

Tonga	Shona
h-ll	l-hh

Table 3.54 Correspondence of  
Tonga h-ll in Shona.

*Shona* two tone patterns l-hh and l-hl correspond to one tone pattern in Tonga, see also Tonga Type B, below.

Tonga Type B:	<i>Tonga</i>	<i>Shona</i>
'school'	cikólo	cikólò
'train'	citímà	citímà
'summer'	máinzà	màinzà
'three'	-tátwè	-tátú
'herd'	ítàngà	dàngá
'in the middle'	múyátí	mukátí
'court case'	múlándú	mùràndú

---

1. We have made an alteration to Carter's data by leaving out the monosyllabic stems.

We present the relationship of Tonga Type B to those of Shona in Table 3.55 below:

Tonga	Shona
h-hl	l-hl
h-hl	l-lh

Table 3.55 Correspondence of  
Tonga Tone Type to Shona.

As in Table 3.55 we can see here that Tonga collapsed the two tones of Shona into one tone type.

Tonga Type C:

'to dwell'	γukalà	kugarà
'to cook'	γùjiyà	kùbikà
'to cultivate'	γùlimà'	kùrimà
'body'	mùbili	mùvirì
'blood'	bùlowà	ùropà

Tonga Type C tone-class has an identical pattern in Shona.

We now present in Table 3.56 the overall tone correspondences between Tonga and Shona.

Tonga	Shona
h-hl	l-hl
h-hl	l-lh
h-ll	l-hh
l-ll	l-ll

Table 3.56 Summary of tone correspondences between Tonga and Shona.

The comparison of Tonga Shona indicate that there are three tone classes in Tonga compared to four in Shona. In this respect Shona agrees with PB in having four tone-classes. The tone classes l-lh and l-hl of Shona correspond to a single tone type in Tonga, namely h-hl. This is exemplified in Tonga Type B where the Shona muràndú and citíma correspond to Tonga múlándu and zhítíma, respectively.

### 3.3.5 Comparison of P1 tone-classes with those of S $\beta$ and Tt'.

As pointed out in 3.3.1 above the data for S $\beta$  and Tt are not satisfactory with respect to tone because of fieldwork conditions and the impossibility of checking (see also Chapter 1, section 1.3.4). The following limited study is based on consonant-initial disyllabic verb stems.

The tones of P1 are given on the vertical column on the left while those of S $\beta$  are given in the top row. The figures represent the number of items in which P1 tones correspond to the given tone pattern of S $\beta$ .

Sß <sup>1</sup>						
P1	h-hl	h-h̄l	h-ll	l-hl	l-h̄l	l-lh
l-ll	4			6	6	14
h-ll	2	3	4	17	9	1

Table 3.57 Comparison of P1 and Sß tones.

The predominant pattern corresponding to P1 h-ll is Sß l-hl (or l-h̄l)<sup>1</sup> and for P1 l-ll is l-lh, but there are almost as many examples which have Sß l-hl/l-h̄l. Sß also appears to have 4 tone-classes (ignoring distinctions of vowel length), which is suspiciously many.

The comparison of the tones of P1 and Tt are given in Table 3.58 below.

Tt					
P1	h-hl	h-h̄l	h-ll	l-hl	l-h̄l
h-ll	8	2	6	11	10
l-ll	4		1	20	10

Table 3.58 Comparison of P1 and Tt tones.

Tt appears to have three tone-classes, if we ignore distinctions in vowel length, (in comparison with 2 in P1 and 4 in Sß). But in this case l-hl/l-h̄l correspondences predominate for both tone classes

1. We gratefully acknowledge the help from Mr. Michael Mann for the following tables (3.57-3.59) which are extracted from his more comprehensive computer-assisted comparison of P1 tones between each of Sß and Tt respectively, and between Sß and Tt.

2. The symbol <sup>1</sup> over 'h' indicates a long vowel bearing a high tone.

(namely h-ll and l-ll). Without opportunity to check extend the data no conclusions can be drawn.

3.3.5.1 Comparison of Tt and Sß tones.

		<u>Tt</u>			
<u>Sß</u>	<u>h-hl</u>	<u>h-h̄l</u>	<u>h-ll</u>	<u>l-hl</u>	<u>l-h̄l</u>
<u>h-hl</u>	3		1	5	
<u>h-h̄l</u>		2			2
<u>h-ll</u>				2	
<u>l-hl</u>	2		4	22	
<u>l-h̄l</u>	6	3	1		21
<u>l-lh</u>	5			15	1
<u>l-ll</u>	2		2	2	2

Table 3.59 Comparison of Sß and Tt tones.

Two points emerge from Table 3.59. Firstly, yet another tone-class emerges making a total of 5. Secondly, the frequency of correspondences is almost exactly what we would predict given the frequency of tone-classes in Sß and Tt observed in the previous two tables. Therefore we have to conclude that on the basis of the recorded data there is no correlation of tone-classes between Sß and Tt.

The absence of any clear cut tone correspondences show that more investigation is needed to be done especially on Sß and Tt to determine the exact number of tone classes. In particular the predominance of in both Sß and Tt of a l-hl pattern suggests that tone classes have been obscured (or replaced) by some form of penultimate prominence such as reported for Cokwe and Mbunda (Guthrie 1948: 54).

Although we have not been able to reconstruct PT tones we have tentatively<sup>t</sup> marked the tones of the wordlist in the Appendix and the proposed reconstructed vocabulary items based mainly on the citation tones of the data from the *Cere*. lects. The tones should be taken as tentative pending further study.

CHAPTER 4

4. PUTATIVE HISTORICAL DEVELOPMENT OF TONGA LECTS

In chapter 3, a reconstruction of the sound system of Proto-Tonga based on the consonant and vowel correspondences between the Tonga lects was given. In the present chapter we shall be concerned with the following objectives. In 4.1 and 4.2 we shall study the historical development of the consonant and vowel systems of each of the Tonga lects from that of PT. The investigation in this chapter will be based on the principle of the regularity of sound change and it will be our task to account for the changes in terms of the conditions that trigger them. In accordance with this Neogrammarian principle the working assumption is that the conditions that trigger sound change are purely phonetic ones and that it is not affected by morphological, syntactic or lexical factors. Neogrammarians believed that the rules that govern sound change apply without exception to all eligible data and that if some of the eligible data "should violate the rules and not be explainable by reference to some other linguistic principle the rule is invalidated" (Bynon 1977. 25).

We have excluded vowels from 4.1 because there is considerable uniformity across lects.

In 4.2 and 4.3 we shall attempt to study which sound changes are shared by which lects while in 4.4 an attempt will be made to study the subgrouping of the Tonga lects with respect to shared sound changes. In 4.5 we shall study how the sound changes are reflected in the form of isoglosses. Finally, in 4.6 we shall attempt a lexicostatistical

classification of the Tonga lects according to shared basic vocabulary. This will be followed by conclusions in 4.7.

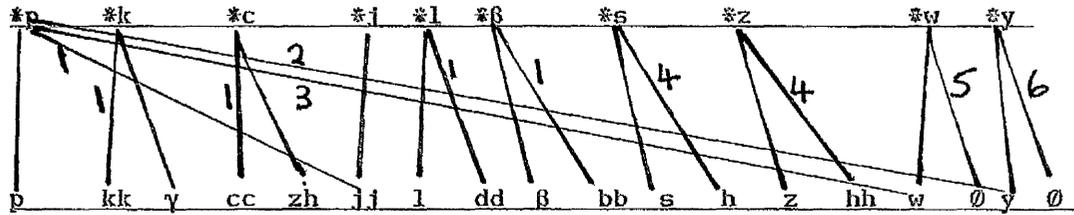
In the following Charts 4.(1-6) we map the consonant PT inventory into individual present-day Tonga lects are given. The environments which triggered these potential sound changes and splits are also be indicated in the tables by placing a numbered reference to a note against the appropriate line. Absence of a number is to be read as 'elsewhere'. 'Elsewhere' is not listed in the 'key'. Developments after PT \*N are not shown in the charts since we assume that respective allophones were already present in PT (e.g. the alternant [d] after \*N and [l] elsewhere.

The conversion of these mappings into sound changes, and the form and order of application of these changes will be taken up when the sound changes affecting all the lects are considered in 4.3 below. The mappings in Charts 4.(1-6) conceal ordering problems which we will discuss in 4.3.

4.1 Reflexes of PT consonants and semivowels in individual Tonga  
lects.

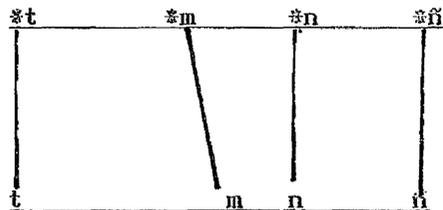
4.1.1 Reflexes of PT consonants and semivowels in Pl.

PT



Pl

Chart 4.1. Reflexes of PT consonants and semivowels in Pl



Pl

Chart 4.1. Reflexes of PT consonants and semivowels in Pl (cont'ed)

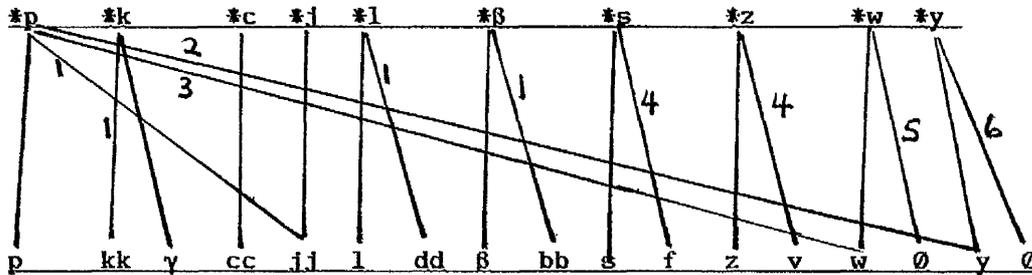
Key to conditioning factors in Pl.:

1. \*p, \*k, \*c, \*l, \*β > {jj, kk, cc, dd, bb} / \*Vi\_\_\_
2. \*p > γ / (\*i, \*e)\_\_\_
3. \*p > w / (\*o, \*u)\_\_\_
4. \*s, \*z > h, hh / \_\_\_ (\*y, \*w)
5. \*w > ∅ / \_\_\_ (\*o, \*u)
6. \*y > ∅ / \_\_\_ \*i

4.1.2 The reflexes of PT consonants and semivowels in Vy and Tk.

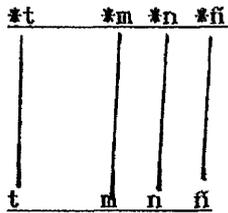
The reflexes of PT consonants in Vy are given in Chart 4.2 below.

PT



Vy, Tk

Chart 4.2. Reflexes of PT consonants and semivowels in Vy and Tk.



Vy, Tk

Chart 4.2. Reflexes of PT consonants and semivowels in Vy and

Tk (cont'd).

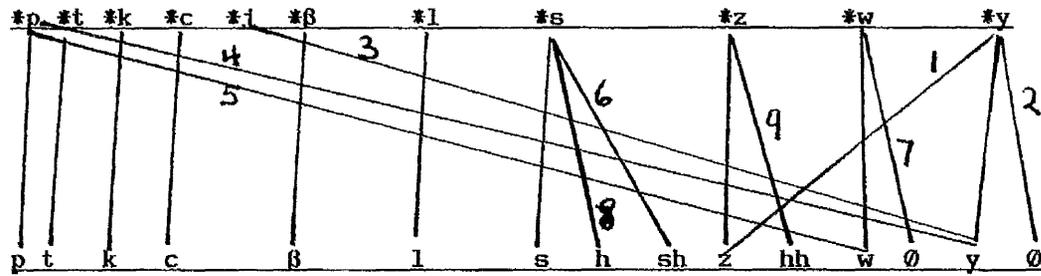
Key to conditioning factors in Vy and Tk.:

1. \*p, \*k, \*l, \*β > {jj, kk, dd, bb} / \*Vi\_\_\_
2. \*p > y / (\*i, \*e)\_\_\_
3. \*p > w / (\*o, \*u)\_\_\_
4. \*s, \*z > f, v / \_\_\_ (\*y, \*w)
5. \*w > ∅ / \_\_\_ (o, \*u)
6. \*y > ∅ / \_\_\_ \*i

4.1.3 Reflexes of PT consonants and semivowels in Il.

The reflexes of PT consonants in Il are given in Chart 4.3 below.

PT



I1

Chart 4.3. Reflexes of PT consonants and semivowels in I1.

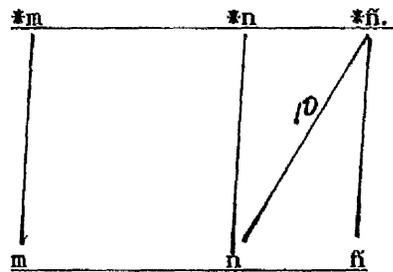


Chart 4.3. Reflexes of PT consonants and semivowels in I1 (cont'ed).

Key to Reflexes in I1.

- |                         |                                 |
|-------------------------|---------------------------------|
| 1. *y > z /{*o, *u}__.  | 7. *w > ∅ /__({o, *u}).         |
| 2. *y > ∅ /__*i.        | 8. *s > h /__(*u, *w).          |
| (3. *j > y)             | 9. *z > hh /__(*i, *y, *u, *w). |
| 4. *p > y /{*i, *e}__.  | 10. *fi > n /__(*o, *u, *w).    |
| 5. *p > w /{*o, *u}__ . |                                 |
| 6. *s > sh /__(*i, *y). |                                 |

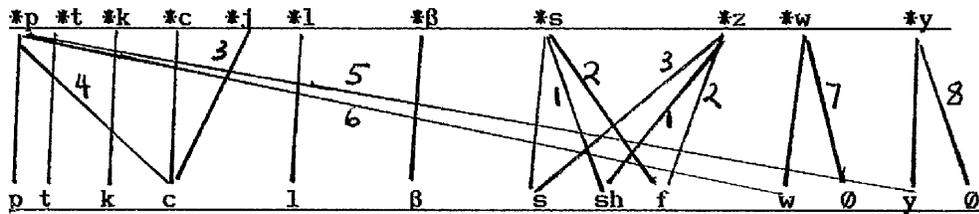
We have included (3) in order to draw attention to an ordering issue; see 4.3.4 and 4.3.5.

4.1.4 The reflexes of PT consonants and semivowels in Lj

Lj and S1 share most of the sound changes together. For this

reason we present the reflexes for the two lects in the same chart below:

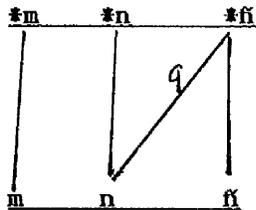
PT



Lj

Chart 4.4. Reflexes of PT consonants and semivowels in Lj.

PT



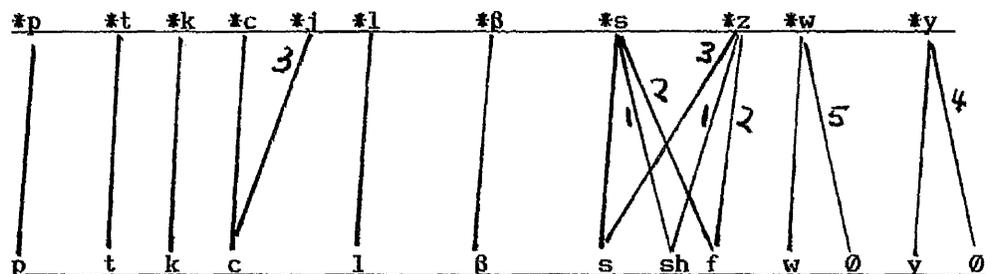
Lj

Chart 4.4. Reflexes of PT consonants and semivowels in Lj (cont'ed).

Key to conditioning factors in Lj:

1. \*z, \*s > sh / \_\_{\*i, \*y}
2. \*z, \*s > f / \_\_\*w.
3. \*z, \*j > s, c
4. \*p > c / \*Vi\_\_.
5. \*p > y / (\*i, \*e) \_\_.
6. \*p > w / (\*o, \*u) \_\_.
7. \*w > ʔ / \_\_(\*o, \*u).
8. \*y > ʔ / \_\_ \*i
9. \*ñ > n / \_\_(\*o, \*u, \*w).

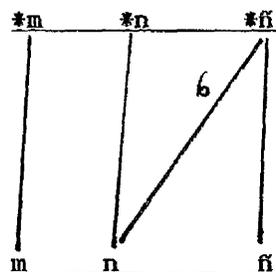
4.1.5 Reflexes of PT consonants and semivowels in Sl.



Sl

Chart 4.5. Reflexes of PT consonants and semivowels in Sl.

PT



Sl

Chart 4.5. Reflexes of PT consonants and semivowels in Sl (cont'ed).

Key to conditioning factors in Sl:

1. \*z, \*s > sh / \_\_{\*i, \*y}
2. \*z, \*s > f / \_\_\*w.
3. \*\*z, j > s, c
4. \*y > ɔ / \_\_\_\_ \*i
5. \*w > ɔ / \_\_{\*o, \*u}.
6. \*fi > n / \_\_{\*o, \*u, \*w}.

4. 1. 6 Reflexes of PT consonants and semivowels in Sß and Tt.

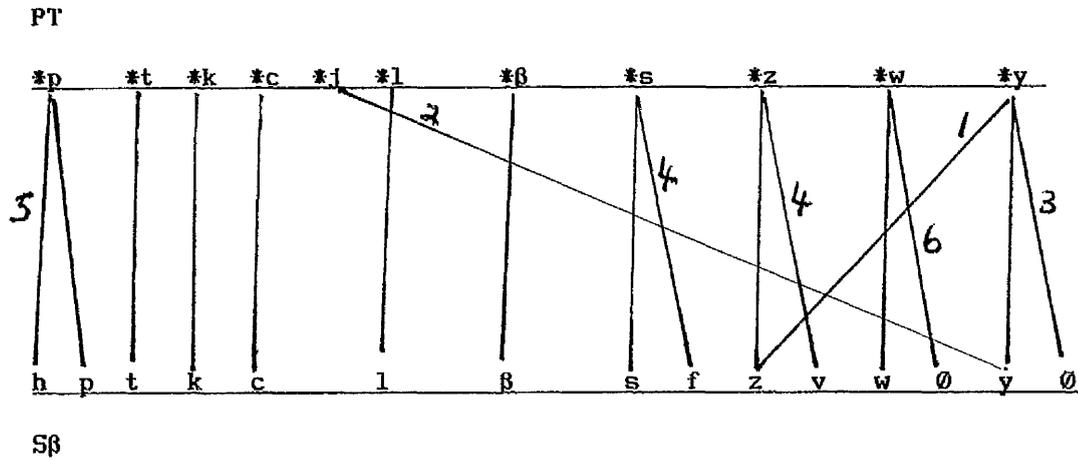


Chart 4.6. Reflexes of PT consonants and semivowels in Sß.

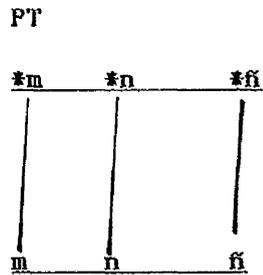


Chart 4.6. Reflexes of PT consonants and semivowels in Sß and Tt

(cont'ed).

Key to conditioning factors in Sß and Tt.

1. \*y > z / (\*o, \*u) \_\_
- (2. \*j > y)
3. \*y > ∅ / \_\_ \*i.
4. \*s, \*z > f, v / \_\_ \*w
5. \*p > h
6. \*w > ∅ / \_\_ (\*o, \*u).

In the actual implementation of the sound changes (1) must have applied before (2); see 4.3.4 and 4.3.5. We can assume that (3) applied before (2). If the ordering was reversed we would find that later /y/'s which developed from (2) would allow the sequence /yi/. Ordering (3) after (2) prevents this violation.

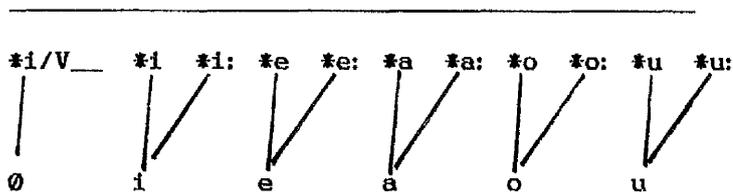
In Sβ and Tt PT \*p was retained after the homorganic nasal. This is not indicated under the keys.

As already indicated the survey in 4.1 above is meant to be a preparation for 4.3 ('Shared Sound Changes' ).

4.2 Shared Vowel changes.

There are two considerations in sound changes affecting vowels. One is the retention of the long vowels. Secondly, certain vowel sequences were reduced to one vowel in some lects with concomitant 'reinforcement' of PT \*β, \*k, \*l, \*c to [b], [kk], [dd], and [cc], respectively. PT \*ip was reinforced, to [gg], in Pl, Vy, and Tk.

PT

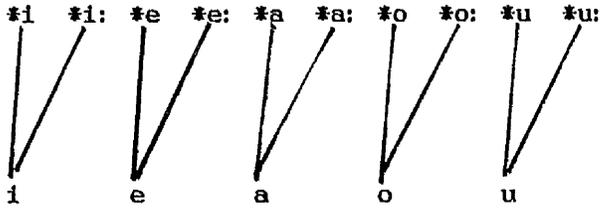


Pl, Vy, Tk

Chart 4.7 Reflexes of PT vowels in Pl, Vy, Tk.

The special allophone of \*i which occurred after vowel was in these lects lost, causing 'reinforcement' of the following consonant.

PT

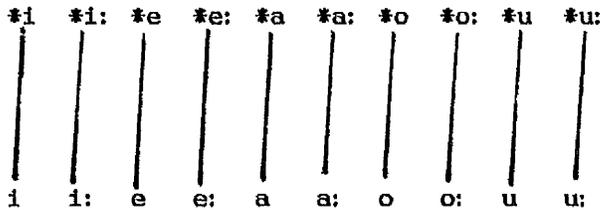


Ii, Lj, Si

Chart 4.8 Reflexes of PT Vowels in Ii, Lj and Si.

In Charts 4.8 (and 4.9 below) we can see that the change \*i>Ø/\*i\_ is not listed in the charts because the vowel was retained in the lects concerned.

PT



Sß, Tt

Chart 4.9 Reflexes of PT Vowels in Sß and Tt.

The above charts show that the Tonga lects fall into two broad divisions in terms of the reflexes of PT vowels. We have on one hand the core lects in which the long vowels merged with the short vowels as the charts show. Sß and Tt on the other hand kept the long vowels.

Beyond these two broad divisions we can see that three divisions emerge as the charts show. There are two considerations in this division. The first one deals with those lects in Chart 4.7 in which the vowel \*i was lost after another vowel, resulting in the reinforcing of the following consonant. As we have indicated above postvocalic \*i was retained in the lects in Charts 4.8 and 4.9. But the two charts still differ in that while long vowels were reduced in the lects of Chart 4.8 we see that these vowels were retained in those of Chart 4.9.

#### 4.3 Shared consonant changes.

##### 4.3.1 Devoicing.

One of the observations coming out of the reflexes in 4.1-4.7 above is a process of devoicing. This sound change is exclusively found in Lj and Sl and involves PT \*j and \*z which became c and s, respectively. Note, however, that before the semivowel \*w, PT \*z has the reflex f in Lj and Sl. This suggests two possible intermediate stages. Either \*z was devoiced to /s/ which was then labialised to /f/ as in 4.2d, or \*z first became v (as in 4.1a) and was then devoiced to f (as in 4.1b). Both options are ordered after 4.1a. A discussion of this issue can be found in 4.3.2.1 below where we conclude that the latter was the course this change took because devoicing is restricted to Lj and Sl only and we assume assimilation covered a much wider area. We represent the changes as 4.1a-b below.

4.1 (a) PT \*z > v/\_\_\_\*w (Vy, Tk, Lj, S1, Sβ, Tt).

(b) PT \*z, \*v, \*j > s, f, c (Lj; S1).

4.3.2 Realisations of PT \*s and \*z before \*w.

PT \*z and \*s are realised in two different forms in the present-day Tonga lects. In some lects they are realised as the *labiodentals* f and v, while in P1 and I1 they are realised as the glottal fricatives h and hh respectively. We shall first study labialisation in 4.3.2.1 followed by glottal realisation in 4.3.2.2 below.

4.3.2.1 Realisations of PT \*s and \*z as dentilabials before \*w in Vy.

Tk Lj, S1, Sβ and Tt.

Let us look at the changes below.

4.2 (a). PT \*s > f/\_\_\_\*w (Lj, S1, Vy, Tk, Sβ, Tt)

(b). PT \*z > v/\_\_\_\*w (Vy, Tk, Sβ, Tt)

(c). PT \*z > f /\_\_\_\*w (Lj, S1)

As the above tabulation shows the of PT \*sw and \*zw merged in Lj and S1 as a result of devoicing. Let us consider the chronology of events as regards the in these two lects. Instead of ordering devoicing before assimilation we would like to suggest that assimilation is likely to have taken place first. The reason for this ordering is that assimilation is the more widespread change which also includes Vy, Tk, Sβ and Tt while devoicing is confined to Lj and S1 only.

Another possibility follows directly from 4.1a above which involves devoicing of PT \*z to s in Lj and Sl. Essentially this suggests a potential pathway like 4.2d below:

4.2d PT \*z > s > f/\_\_\_ \*w (Lj, Sl).

One might want to choose 4.2d instead of 4.2c on the grounds of 4.1 above which devoiced \*z to s. From the phonetic point of view there is nothing to make us choose between the two. But, we shall opt for 4.2c because the development of \*z to v parallels that of \*s to f (4.2a) and the latter development covers Lj and Sl as well. In other words labial assimilation being widespread might have applied first and devoicing came as a later change in Lj and Sl.

There is also the question of whether devoicing started in the Lj or Sl area. The question is raised because these two lects are bordered to the north by other devoicing lects in Guthrie's zone M 40, the representative of which is Bemba. It is possible that we are talking about the diffusion of devoicing which started among the Bemba lects and spread southwards to Lj and Sl.

It should be pointed out that <sup>reflexes</sup> 4.2a-c represent lects which do not form a neat geographical unit or behave alike in other respects. Lj and Sl are spoken in the northern area of Tonga and they are separated from Vy, Tk, Sß and Tt by Pl and Il in between. Vy and Tk in turn are separated from Sß and Tt by Pl and Il. It is conceivable therefore, that, the labiodentals may have existed in PT as allophones of /s/ and /z/ before [w] and that the change to glottal fricatives was the only innovatory change

4.3.2.2 Glottal realisation of PT \*s and \*z before \*w in P1 and I1.

*(i.e. glottal realisation of \*s and \*z before \*w)*

This sound change exclusively applies to P1 and I1. But even then the two lects do not always have identical reflexes as shall be seen in the reflexes of PT \*sy, \*zi and \*zu. Let us look at the changes represented in 4.3(a-d) below

4.3a \*s > sh / \_\_ \*i (I1) (see also 4.4 below).

4.3b \*s, \*z > h, hh / \_\_ (\*y, ) 1-P1.

4.3c \*z > hh / \_\_ { \*i, \*u, \*y, \*w } 1- I1

4.3d \*s > h / \_\_ \*w (P1, I1).

4.3e \*s > h / \_\_ \*u (I1).

As has been indicated already P1 and I1 share the same sound changes with respect to PT \*s and \*z before \*w. However, there are also sound changes that apply to these lects individually as 4.3c shows. P1 retained \*z before \*i and \*u while in I1 \*z became a glottal fricative. In 4.3b, P1 \*s became h before \*y while in I1 \*s became sh just as in Lj and S1 (see 4.4 below).

Clearly I1 shows oddas regards PT \*z and \*s before \*i, \*y, and \*u. PT \*s became sh before \*i and \*y. We would have expected that before \*i and \*y, PT \*z would have changed into a palatal fricative as well, namely zh(ʒ), but the actual change for \*z is hh. Since \*s and \*z share so many features in common, simplicity would have suggested that they undergo similar sound changes in identical environments. However, before \*u and \*w this congruence is satisfied because they both have glottal realisations, namely h and hh respectively. Vocabulary lists compiled by Yukawa (1987) and Smith

(1907) report zh in the words where we have [hh] in our data. The variety of I1 from which we collected the data is closer to P1 and it is possible that the deviant reflexes we see above might reflect influence from P1. A discussion <sup>of</sup> lect contact involving I1 can be found in Chapter 6 (section 6.2 below).

Since I1 and P1 share the same sound changes at least with respect to PT \*sw, \*zy and \*zw one might ask whether the changes happened in both I1 and P1 separately or they started off in one place and spread into the neighbouring lect. An answer to this question might help us to answer the problem we face in <sup>reflexes</sup>  $\lambda$  4.3b-c above. Since the I1 variety under study here is closer to P1 and contrasts with the variety reported by Smith (which we shall call I1<sub>2</sub>) and that by Yukawa (which we shall call I1<sub>3</sub>), the change can be assumed to have started in I1. The reason is that the realisation of PT \*z as a glottal fricative is restricted to the environment before semivowels only in P1 while in I1 it is found before semivowels and both the high vowels \*i and \*u. We can then say that the of glottal realisation of \*z became less general as it spread from I1 to P1.

Another sound change to be commented upon here is that involving the change of PT \*s to h before \*u in I1. Chart 4.4 shows that before \*u, PT \*s has the realisation s in this lect. But again, we observed in 3.1.17.3 that some of the words in I1 have h before \*u and \*w rather than s. Those with h rather than s are more in line with the change given in 4.3b-e. Here again I1<sub>2</sub> has h before w and u as reported in Smith (1907). One lect, Lundwe, spoken roughly between the I1 and P1 localities agrees with I1<sub>2</sub> and I1<sub>3</sub>. It is possible that originally, before <sup>[v]</sup> [thi], PT \*s and \*z became h and hh, respectively, in I1 and Lundwe but that due to the influence from P1

some varieties of Il reassigned original PT \*s and \*z in some words where h and hh would have been the norm.

#### 4.3.3 Palatalisation

##### 4.3.3.1 Palatalisation of PT \*s before \*i and \*y in Il, Lj and Sl

Before \*i and \*y, PT \*s became sh in all the three lects. This is given as 4.4 below.

4.4 PT \*s > sh /\_\_\*i, \*y (Lj, Sl, Il).

However, we have also seen in Charts 4.4 and 4.5 above that before \*i and \*y, PT \*z became /sh/ in Lj and Sl. Since it is not possible that PT \*z became sh directly, we shall now try to see the chronology of events between palatalisation and devoicing. Firstly, we already know from 4.1 that PT \*z became s in Lj and Sl. It might be assumed that chronologically palatalisation came after devoicing: in other words devoicing might have applied before palatalisation since the former is a general change not confined to environments in the lects concerned.

As a second alternative we can say that palatalisation applied first in the development of PT \*z to sh before \*i/\*y in Lj and Sl. Arguments supporting this assumption can be found in Fig. 4.1 below where it is shown that related varieties of Il (namely Il<sub>2</sub> and Il<sub>3</sub>) have zh in the cognate words where we have sh in Lj and Sl, suggesting that sh could have developed from zh by the process of devoicing. If devoicing took place first as suggested in the previous paragraph we would not be able to get zh in Il<sub>2</sub> and Il<sub>3</sub>.

PT \*z / \_\_{\*i, \*y}

zh

Il<sub>2</sub>, Il<sub>3</sub>

(b). \*z / \_\_{\*i, \*y}

zh

sh

(Lj, S1)

Fig. 4.1a and b. Development of

Il<sub>2</sub>/Il<sub>3</sub> zh from PT \*z

before \*i and \*y.

Fig. 2 Development of Lj and S1

sh from PT \*z before \*i and \*y.

4.3.4. Weakening of PT \*j to y in Il, Sß, Tt.

Chart 4.4 above shows that non-prenasalised PT \*j became \*y in Il. This is regular and it is shared by Sß and Tt. We shall represent the change as 4.5 below:

4.5: PT \*j > y (except after {N}) (Il, Sß, Tt).

The question of at what period this sound change took place must be addressed here. We ask this because of 4.3.5 below where it is argued that PT \*y became z in the Sß, Tt and Il. If PT \*j had become y before PT \*y became z we would not have any y left in Il, Sß and Tt. The change \*j to y can therefore be said to be a late development in these lects and that it filled the slot left by the original PT \*y.

Furthermore, as far as Il is concerned PT \*j and the development of \*p as y after postvocalic \*i merged in Il as Figure 4.3 indicates:

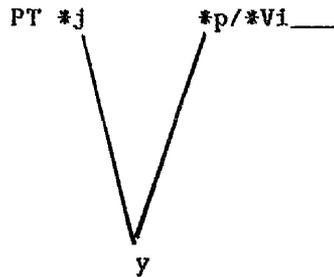


Fig. 4.3 The merger of PT \*j and \*ip in Il.

Il then differs from Sß and Tt with respect to this merger since PT \*p became h in the above stipulated environment in Sß and Tt (see 4.3.6 below).

4.3.5. Development of z from PT \*y in Il, Sß and Tt.

This sound change is clearly problematic and as we suggested in 3.1.18 above it is possible that there was an intermediate sound change which we cannot recover any more. Nevertheless, Chart 4.3 above shows that PT \*y split in Il, Sß and Tt: after [+rd] it has the /z/ while it was retained elsewhere.

4.6 PT \*y > z / [+rd] \_\_\_ (Il, Sß, Tt)

The developments in 4.6 took place before 4.5. This way we can avoid having sound changes that would have changed all instances of y to z.

4.3.6 Development of h from PT \*p in Sß and Tt.

PT \*p developed into /h/ in Sß and Tt in all environments except after {N} where it was retained. The change can be

represented as 4.7 below.

4.7 PT \*p > h (except after {N}) (Sß, Tt).

4.3.7 Realisation of w and y from PT \*p after [-low] vowels in Pl, Vy, Tk, Il and Lj.

PT \*p has multiple developments in Pl as well as in some of the other Tonga lects. The environments in which we get the various changes are to some extent problematic in that there are many cases of indeterminacy.

If there is a conditional development of PT \*p to semivowel in Pl, Vy, Tk and Il after non-low vowels we expect every instance of PT \*p to have also undergone this change. A discussion of this problem can be found in 3.1.7.2 (Table 3.10a). Although we give 4.8 below we do so with reservations because it is also possible to assume that PT became Ø in the environments indicated in 4.8, (see 3.1.7.2) and y and w were subsequently introduced as glides.

4.8: PT \*p >  $\begin{cases} \{y\} \\ \{w\} \end{cases} / \_ \begin{cases} \{i\ e\} \\ \{o\ u\} \end{cases}$  (Pl, Vy, Tk, Il).

Although we have given 4.8 this should be taken as provisional as indicated in 3.1.7.2.

4.3.8 Reinforcement.

4.3.8.1 Realisation of PT \*ß, \*p and \*k as reinforced [bb], [j] and [kk] in Pl, Vy and Tk after postvocalic \*i.

After postvocalic \*i, PT \*ß, \*p and \*k have reinforced realisations as indicated above. Examples are given below. To show

that the realisations are reinforced we give the forms in phonetic brackets '[ ]' as well.

PT	Pl	References	
-iβ-	γúb- [γúbbal]	(256a)	'to steal'
*-iβal-	γúbal- [γúbbala]	(257)	'to carry on back'
*-iβi	-bi [bbil]	(267a)	'thief'
*-ipay-	γu-jay- [γujjay]	(82)	'to kill'
*-ipik-	γu-jiγ- [γujjiγ]	363a	'to cook'
*-ipwa	mú-jwa [mújjwa]	370a	'nephew'
*-ikal-	-kal- [kkal]	(90/136)	'to sit'; 'to live'.
*-βi:k	-βik- [βikk]	(221)	'to put'.
*-zi:k-	-zik- [zikk]	(328a)	'to bury'.
*-siik-	-sik- [sikk]	(405a)	'to put wood on fire'
*-kwik-	-γwik- [γwikk]	(494a)	'to put axe into handle'.
*-ikut-	-kut- [kkut]	(500)	'to become satiated'.
*-twik-	-tuk- [tukk]	(523a)	'to put load head'.
*-icilil-	-ccilil-[ccilil]		

Table 4.1 Lexical stems in which the <sup>reflexes</sup> of PT \*k, \*β, \*p, and \*c were reinforced after \*Vi in Pl.

In environments other than after postvocalic \*i and the homorganic nasal, \*β was retained in all the Tonga lects. \*k has the normal reflex γ in Pl and Tk. Finally, \*p was retained also except after [-low] vowels as discussed above where we indicate the change to semivowels (see 4.3.7). We characterise the changes as in 4.9a and 4.9b below:

4.9a: PT \*k > [kk] / \*Vi\_\_\_\_\_ (Pl, Vy).

Elsewhere PT \*k has the reflex γ in Pl and Vy except after (N), where \*k was retained as a light plosive [k] in Pl and Vy. It is possible to look at the above change from a different point of view. One could say that the sound that should be reconstructed for PT is \*γ rather than \*k. If this were done we could then say that \*γ became [kk] in the environments in question. This view is credible since \*γ would be put in the same natural class as \*β and \*l, i.e. they are all continuants. One objection to this is that γ is too restricted, being found only in Pl and Vy. Secondly if we go outside Tonga into the other Bantu lects like Bemba, k rather than γ is found in cognate words. It can then be said that PT had \*k <sup>and that this consonant to</sup> may be traced back <sub>to</sub> Proto-Bantu. We shall therefore maintain the other view which says that PT had \*k which developed into γ except after postvocalic \*i. and after the homorganic nasal (see also 4.3.9 below).

The other sound changes to consider are \*p, \*β, and \*l which became reinforced as 4.98b below shows.

4.9b:

PT \*β, \*p, \*l > {bb, jj, dd} / \*Vi\_\_\_\_\_ (Pl, Vy, Tk).

PT \*β, \*p, \*l have reinforced as indicated in 4.9b. As was indicated in Chapter 3 (section 3.2) postvocalic PT \*l developed into some kind of palatal glide symbolised as \*v̥ as an intermediate stage and this \*v̥ was subsequently lost resulting in the reinforcing of PT \*β and \*p to [bb] and [jj] respectively. This loss parallels the phenomenon found in the morphology of the nouns of classes 5 and 6, in which we also find that in Pl, Vy and Tk some noun have initial [dd], [bb], [kk] which represent the fusion of prefix on stem-initial consonant. Reinforced consonants in class 5 alternate with 'weak' consonants in class 6. This is why we have included the environment of class 5 in 4.9a-b above.

It was indicated in 3.1.16 (see Table 3.24b) that the development from \*yp to [jj] was not a direct one since a direct development in the present case is phonetically implausible. It was suggested that since \*Vig became \*vg and finally [jj] it is plausible that reflexes of \*yp and \*yg merged to give the present Pl [jj]. We shall maintain the same argument here. The issue of voicing in the case of Pl in the present case is still problematic but it is plausible that this was due to the influence of the preceding postvocalic \*l.

#### 4.3.9 Fricativisation and voicing of PT \*c and \*k to zh and γ respectively.

PT \*c developed into zh in Pl while \*k became γ in both Pl and Vy in 'weak' environments as 4.10 below shows. These involved complex developments which suggest intermediate stages which are now irrecoverable. We are suggesting intermediate stages because it is not likely that fricativisation and voicing occurred in a single step. It is likely that PT \*c and \*k became a voiced palatal and velar stop,

respectively at some point during their developments. But PT \*c could not have become j or even jj since such a development would have created mergers which would have consequently produced wholesale fricativisation of j and [jj]. That there is no evidence of fricativisation of these consonants argues against the suggestion just given. This problem is specific to P1 only. The same problem however can be seen in the development of PT \*k and it extends to Vy as well. This development of PT \*k contrasts with that discussed in 4.3.8.1 above and in the environment where \*k was not preceded by a homorganic nasal.

4.10 PT \*c, \*k > P1 zh, ʔ (in 'weak' environments).

4.3.10 Depalatisation of PT \*fi before {\*o, \*u, \*w} in I1, S8, Tt, Lj and S1.

4.11 PT \*fi > n / \_\_{\*o, \*u, \*w} (I1, Lj, S1).

This development was tentatively posited for I1, Lj and S1 in 3.1.3 above.

#### 4.4 Subgrouping.

It can be seen in the foregoing discussion that the Tonga lects share many sound changes between them. It is however quite difficult to find clear breaks in terms of subgroups. Nevertheless it is also true that some lects share some innovations together. For example Vy and Tk are separated only by the sound change that involves PT \*k which was retained in Tk but split into \*k and \*ʔ in Vy. We might

therefore assume Proto-Vy-Tk at a certain period in the development from PT. On the other hand P1 also shares sound changes with Vy and Tk not found in the other lects; this is in respect of reinforcing sound changes and the loss of postvocalic \*i. But it would be difficult to talk of Proto-P1-Vy-Tk simply on the basis of the reinforcing sound changes since Vy and Tk share certain sound changes with Sβ and Tt (i.e. PT \*z > v/\_\_\_\*w) and with Lj, Sl, Sβ and Tt (i.e. PT \*s > /\_\_\_\*w > fw). In all the other cases Vy, Tk, Sβ and Tt share retentions (i.e. of PT \*s and \*z in all the other environments).

Although Sβ and Tt share some of the sound changes with other lects, one sound change, PT \*p > h, is exclusive to Sβ and Tt.

Similarly devoicing of PT \*z, \*j and possibly \*vw is a phenomenon unique to Lj and Sl. So although Sl and Lj on one hand and Sβ and Tt on the other share sound changes with Vy and Tk, there are some sound changes that exclude Vy and Tk from the other pairs of lects.

Il shares some sound changes with P1 in certain cases (i.e. realisation of glottal fricatives) and with Lj and Sl in one case (palatalisation). But there is one sound change that is exclusive to Il, namely PT \*z > hh/\_\_\_ \*i and \*u.

Lastly P1 not only shares sound changes with Vy and Tk (i.e. reinforcing and vowel loss) but also with Il. In addition it shares with Vy the splitting of PT \*k into [kk], [k] and [ɣ]. But development of PT \*c > zh is unique to P1.

Although there are some sound changes that are specific to certain individual lects, on the whole most consonant sound changes are shared between lects. But it is the sound changes involving vowels that give us a much clearer subclassification. i.e. two distinct subgroups of the lects. Sβ and Tt would seem to form one subgroup

because they are the ones that retained the long vowels of PT (see 4.3a above).

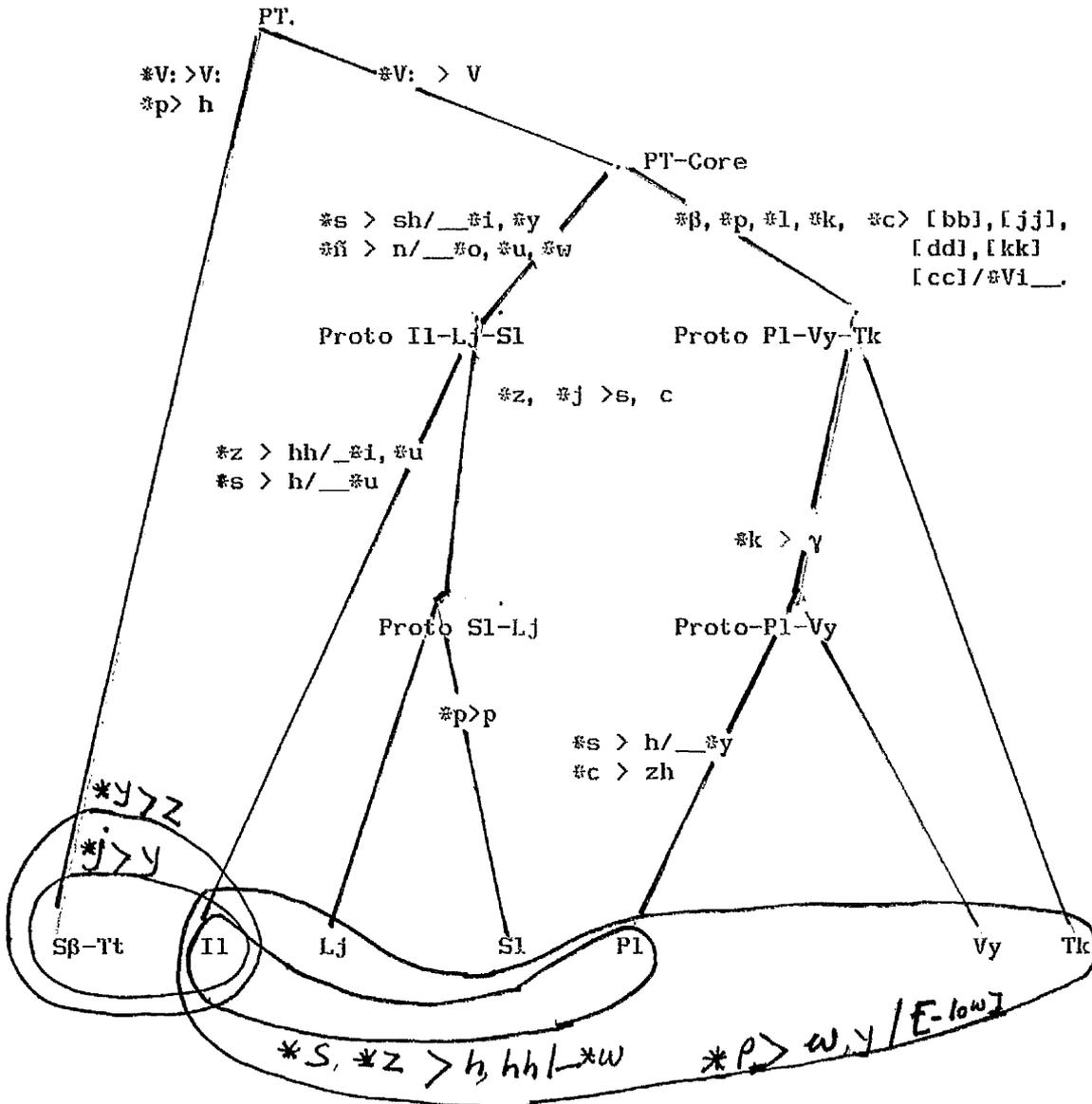


Fig. 4.4 Possible Family tree showing the developments of the Tonga lects from PT.

Fig. 4.4 indicates Sβ and Tt retained the long vowels while the rest of the lects which we have called the core lects shortened them. Secondly it is only in Sβ and Tt that we find the reflex h of PT \*p

(reflex 8). These two facts suggest that there was an early division of PT into PT-Core and S $\beta$  and Tt. S $\beta$  and Tt do not have other reflexes which unite them, but most changes can be seen in PT-Core. One clear division can be seen in the development of reinforced consonants (P1, Vy and Tk reflex 8) and palatalisation of \*s to sh (Lj, S1 and I1: reflex 1). We can therefore suggest Proto-P1-Vy-Tk and Proto-Lj-S1-I1. Devoicing (\*z, \*j > s, c : reflex 3)) is specific to Lj and S1, therefore we reconstruct Proto-Lj-S1. At this stage I1 branched to form its own cluster while Lj and S1 also formed a cluster of their own. But Lj had a further development in the form of the change of PT \*p to w and y (reflex 9).

A division Proto-P1-Vy was formed by the development of \*k to  $\gamma$  (reflex 7a) while Tk branched off alone since it retained PT \*k in all environments. P1 subsequently branched off as can be seen in the change \*c to zh (reflex 7b).

The innovations mentioned above are the ones that represent one possible set of unproblematic developments of the Tonga lects from PT. We shall now discuss innovations that make the construction of the family tree in Fig. 4.4 above problematic.

It can be seen that certain sound changes put together lects which otherwise belong to conflicting lect clusters. Let us look at I1 for instance. This lect shares the sound changes \*y > z (reflex 5) and \*j > y (reflex 6) with S $\beta$  and Tt. If we look at Map 4.1 below we can see that this in fact is not surprising since I1 is closer to S $\beta$  and Tt. However, I1 also shares with P1 the sound changes PT \*sw and \*zw to h and hh respectively. This again is not surprising since I1's closest neighbour to the east is P1. The question then arises as to which cluster I1 belongs. That we should probably include I1 in the

palatalisation, with Lj and Sl <sup>is suggested by</sup> isogloss 1, Map 4.1. But in the final analysis a satisfactory subclassification for Il is difficult to arrive at.

The other sound change that is problematic is the reflex of PT \*p after non-low vowels (isogloss 9, Map 4.1). As the family tree shows this change includes Lj but leaves Sl out. Apart from Lj, all the other lects in which \*p became w or y are spoken in a continuous lect area. Although Sl is close to the lects in question we find that this lect was not affected; instead Lj which is geographically further away was affected. This makes it difficult to use this sound to construct a family tree. Problems of this nature cannot be adequately handled by the family tree model.

An attempt to account for the conflicting facts we have observed so far may be found in the wave theory. The wave theory suggests that sound change diffuses across geographic space. Sound change starting in one lect will spread to the neighbouring lects. This goes some way to explaining why the change \*zw and \*sw > hhw and hw; \*y > z and \*j > y are not easy to place on the tree. These sound changes are likely to have started in one or the other present-day Tonga lect and spread to the neighbouring lects. However the wave theory also runs into problems if we look at the change of PT \*p to w and y since diffusion of features should ideally not skip neighbouring lects only to be manifested in lects geographically further away. We return to these problems in 4.5.1 below. We have sketched in some of the changes that cut across hierachical brances at the bottom of the tree

4.5 Isoglosses Showing Shared Consonant Change (non-hierarchical clustering).

In this section we shall represent the sound changes observed in Chapter 4 by means of isoglosses in Map 4.1 below. As we have seen in the foregoing very tentative tree diagram the sound changes do not give a neat picture of subdivisions. We see this clearly in the Map 4.1 below. Let us first look at possible lect clusters as evidenced in the map. The isoglosses show that Lj and Sl share common sound changes together (lines 1 and 3). The change that is outstanding in these lects is the devoicing of the fricative [z] and the affricate [j]. This sound change is not shared by any other lect in the group.

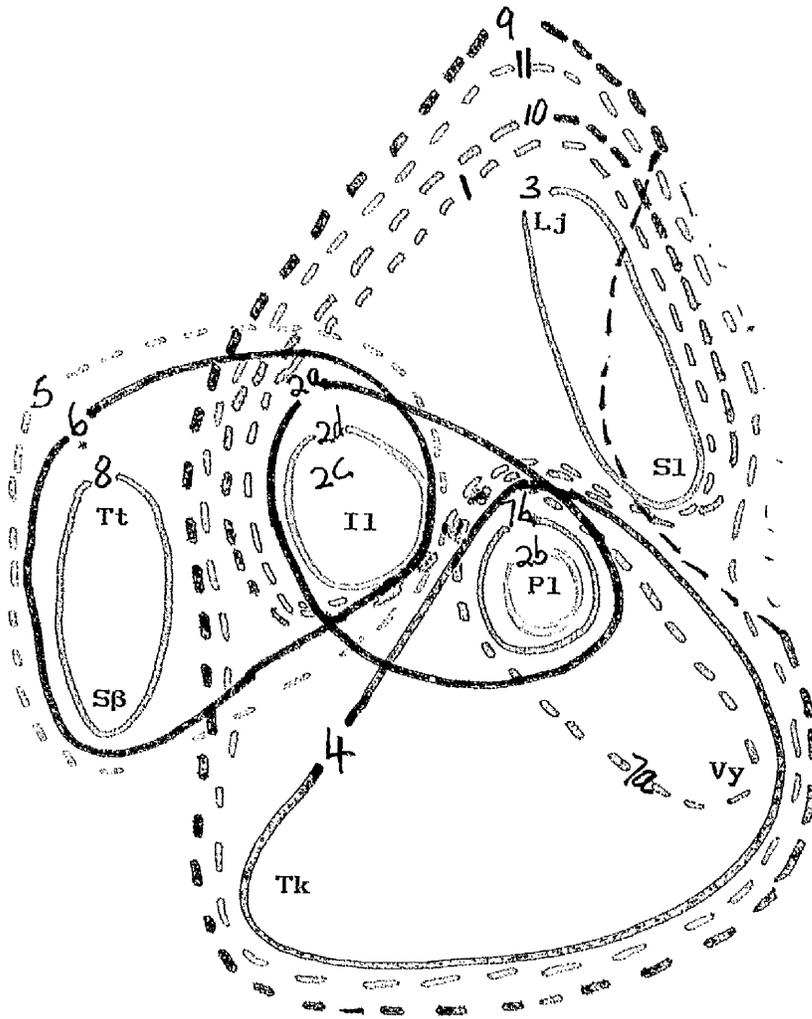
Other than the feature of devoicing, Lj and Sl share sound changes with other lects. For example we can see that they share the development of PT \*sw to [fw] with all the lects except Pl and Il in which PT \*sw became [hw]. Lj and Sl share the palatalization of the alveolar fricative with Il. In this way we can see that apart from the phenomenon of devoicing nothing else sets Lj and Sl apart as a distinct cluster (see Map 4.1).

Another possible division that comes out on the map is Sß-Tt cluster. These lects share one exclusive sound change as far as the consonants are concerned. This is the development PT \*p to [h]. Otherwise the other sound changes from PT to Sß and Tt are shared by some other lects as well, e.g. the development of PT \*sw to [fw] is shared by Lj, Sl, Vy and Tk while the development of PT \*zw to [hhw] is shared by Vy and Tk only. Sß and Tt also share with Il the development of PT \*j to [y] and of \*y to [z].

Il and Pl share two sound changes uniquely between them. These are the developments of PT \*zw and \*zy to [hhw] and [hhy],



Map 4.1: Isoglosses



#### 4.5.1 Interpretation of the isoglosses.

Map 4.1 shows that although there are not many isoglosses that bunch together to make good cases for subclassifications, nevertheless we can see that there are pockets of innovations, frequently pairing lects. This can be seen if we take isoglosses 2a (\*z > hh/\_\_\_\*w, \*y in P1 and I1); 3 (\*z, \*j > s, c in Lj and S1), 7a (\*k > γ in P1 and Vy) and 8 (\*p > h in Sβ and Tt). These pairs reflect the geographical proximity to one another of the lects concerned. Innovations in individual lects can also be seen in the Map namely, 2c (\*z > hh /\_\_\_\*i, \*u in I1) and 7b (\*c > zh in P1). Isoglosses that group three or more lects include wider geographical distances.

Another observation is that there are no sound changes that apply solely to the individual lects Tk or Vy or to both of these lects together to the exclusion of the other lects. In other words every sound change that is reflected in these two lects is reflected in one or more other lects.

If we look at Map 4.1 again we find that I1's geographical central location has repercussions for sound changes. Significantly we can see that some isoglosses pull this lect towards Lj and S1 (isogloss 1, palatalisation of PT \*s) while the reflexes of PT \*j and \*y (isoglosses 5 and 6) pull it towards Sβ and Tt. Isogloss 2a makes I1 form a cluster with P1. It is possible to say that the changes we have just mentioned started in I1 and spread to the neighbouring lects. The reason for saying so is that most changes that cover more than two lects include I1 as well. An objection to saying I1 is a possible center of innovation might be isogloss 1 (palatalisation of \*s). Palatalisation is found in some lects to the north of Lj in Zone M 40

the representative of which is Bemba. It may be argued that palatalisation did not start in I1, but that it spread from Bemba related lects into Lj, S1 and I1. At present nothing for certain can be said about the sound change in question.

As we have indicated above I1 shares certain sound changes with P1 namely PT \*z to hh before \*w and \*y and \*s to h before \*w. Taken together P1 and I1 are both centrally located in geographical terms. The I1-P1 area would seem to have initiated a number of sound changes.

Let us now look at isogloss 4 (i.e. reinforcing of \*β, \*l, \*k, \*c and \*p to [bb], [dd], [kk], [jj] and [cc] respectively). Since the Plateau area is the locus of some exclusive sound changes (Isogloss 2a and 7b) one might suggest that reinforcement also started in P1 and spread to Vy and Tk. As we indicated in 1.6.2 a high degree of contact exists between the speakers of the three lects such that spreading of sound changes along the lines suggested by the wave theory can be imagined.

One surprising fact is seen in the form of isogloss 9 which we discussed in 4.4 above. It does not seem correct to see isogloss 9 as representing a true picture of Lj. Hockett (1958: 478) observed that it is not always safe to make historical references from the geographical distribution of linguistic traits. The reason is that linguistic traits diffuse. In the case of Lj informants had a good grasp of P1 and the lexical items they gave us that produced isogloss 9 may be attributed to lexical borrowing from P1. In this way we can account for the oddity of isogloss 9.

The core area of Tonga as defined in Chapter 1 seems to be subdivided into small clusters. Only isogloss 11 applies to the whole of the core area. The core area covers a wide geographical area.

Because of this it can be seen in Map 4.1 that the core lects form subclusters which are dependent on the geographical closeness the lects are to one another. In some cases the wave theory offers us the means to account for why lects neighbouring lects share certain sounds which may not necessarily be due to common ancestry. Because Lj and Sl are further apart from the rest of the core lects, certain sound changes e.g. devoicing (isogloss 3) is localised to the Lj-Sl area. However, wave theory cannot account for the fact that palatalisation of PT \*s (isogloss 1) covers the Il area as well. Furthermore, reinforcement has excluded Il although Il is very close to Pl, unless we were to suggest that this particular change started either in Vy or Tk and only spread as far as Pl.

The wave theory might account for the fact that the change \*p > h (isogloss 8) is restricted to Sβ and Tt because these two lects are isolated from the other Tonga lects. Nevertheless two sound changes (PT \*y > \*z and \*j > y) found in Sβ and Tt is also found in Il. It is true that Sβ and Tt are closer to Il than they are to the other lects but this cannot account for the fact that the change \*p > h does not include Il. The other problem with the wave theory is that we cannot say why some changes are restricted to individual lects instead of spreading at least to the nearest neighbour (2b and 2c).

Although some lects are paired according to certain sound changes it can be seen that one cannot arrive at an adequate family tree because some lects like Il make such construction impossible. Sound changes spread across geographical space. This way some sound changes which arise after the break up of the original lect may interfere with the tree.

#### 4.6. Lexicostatistical classification of Tonga lects.

In the foregoing investigation we have attempted to classify the Tonga lects according to shared phonological changes. As the lects form a network of shared changes constructing a family tree has proved difficult. In the present section we are going to attempt a classification based on the percentage of shared basic vocabulary, or a lexicostatistic classification.

The replacement of the *basic* vocabulary, e.g. words including those for body parts, pronouns and universal activities like eating and sleeping was claimed to take place at a regular rate and that the rate of replacement is the same in all languages. The claim is based on the two lists devised by Swadesh (1951; 1955). The first list consists of 100 words and the second of 200. These have come to be known as Swadesh's 100- and 200-word list of basic vocabulary.

This method has not gone without criticism. Firstly, there is some disagreement as to what constitutes *basic vocabulary items*. In our own research we found that some of the words from the 200-word list we used had no equivalents in the Tonga lects. For example concepts like *yellow, green, sea, snow, and ice* are foreign. Others could not be easily elicited because in the Tonga lects they required long phrases as equivalents. Others include words like *dull, wide*. We can see then that the concept of a universal basic vocabulary cannot work for every language.

The second problem concerns the idea that the rate of replacement of basic vocabulary is constant and that it is the same in all the languages of the world. This has come under attack because such a claim has not been demonstrated. The third criticism is that it is not always clear how cognates can be recognised between the lects. In the

present case item (116) raises the problem as to whether the Vy root -*suβila* is to be considered cognate with the Sβ -*fuβela* 'red'. The two roots only differ in the initial consonant and the second vowel. These correspondences cannot be supported by known regular sound correspondences between the lects concerned. In such cases the researcher may just admit or not admit the two roots as cognates subjectively. Finally, a question can be raised about reliability of informants, especially in the case where the researcher is not familiar with the lect he is researching. The informants could easily give forms of a lect that he is more comfortable with in the event when his own lect plays a subordinate role in the community. The likelihood that this kind of situation arose in the present case with regard to Tt and Sβ is high. Informants for these lects could have easily given us forms for Lozi, since they were all conversant in this lect and they use Lozi more often than their own lects for wider communication in the community.

These problems have led some researchers to dismiss the use of lexicostatistics as a valid tool of historical linguistics. However in the present study we are using it in conjunction with the phonological reconstructions to see whether it will give us comparable results. We have also decided to use the 200-word list rather than the 100 because with the larger list we hope that the margin of error will be reduced.

As we have indicated above not all the meanings from the original 200-word list were applicable to the lects. The ones that we could not use from Swadesh's list are : (33) 'dull': this adjective as the opposite of *clever* or *intelligent* has no lexical equivalent among the Tonga lects. All we got for it were phrases meaning *foolish* or *idiot*. We therefore decided to leave it out of our final list used for the

calculations of lexicostatistical information; (63) *green*: this colour term has no lexical item in most of the lects. Only one Vy informant gave us an equivalent for it - *nyánzaβili*. The word exists in P1 as well but as the name of a green water-weed. Since only one informant gave us a lexical equivalent for this colour we decided to leave it out of our final list. In P1 in particular *green* is expressed by the adjective which roughly translates as *blackish* (i. e. *zhisiyasiya*). Items (67) *he*, (78) *I*, (110) *other*, (163) 'they', (168) *thou*, and 198 *ye* were not easy to elicit because the informants kept giving us the bound morphemes which usually had complex morphophonemic forms. The decision was to leave these items out. Items (79) *ice* and (145) *snow* have no equivalents since the items to which they refer are not found in that part of the world. The lexical item (129) *sea* was also left out because the Tonga lects are spoken in a landlocked country without direct access to the sea or ocean. Although the equivalent for (162) *there* exists it was not easy to elicit because it came out in various forms depending on the distance being referred to: it was not easy to get a uniform answer from all the informants. We were unable to get equivalents for (189) *wide* except in P1 where the terms *zhámba* or *βuywazeme* are used. It may be of interest to mention that all the lects had a form for *length*. The term for (197) *worm* has no single equivalent in any of the lects. This lexical item is used to refer to many species of animals which in turn have their own specific names which could not have been obtained from the form implied by (197). Finally, the colour term *yellow* (200) does not have a lexical equivalent. It is expressed by the term *whitish*. This means that our calculations were made from 187 lexical items instead of the

traditional 200. The results of the calculations are given in Table Chart 4.10 below.

Vy	86
Tk	84 82
Il	79 73 65
Lj	63 65 69 63
Sl	54 53 54 55 60
Sß	56 53 54 54 46 43
Tt	56 54 56 56 51 44 73
Pl Vy Tk Il Lj Sl Sß	

Chart 4.10 Percentage of shared cognates (200-word list).

Lects are said to be closely related if they preserve about 81 % of the original 200-item-core vocabulary (Anttila 1972: 396). If this is the criterion for determining close relationships between such lects then Chart 4.10 shows Pl, Vy and Tk form what can be called a typical dialect cluster in that the agreement is over 81 %. Il is a close third in this group: (the percentages were rounded to the nearest whole number). According to the information in the Table Lj, Sl, Sß and Tt are much more distant from Pl, Vy and Tk. There are a number of issues unsettling about the results of our calculations. The first one is that, contrary to the layman's view of Lj and Sl, these lects are shown here to have only 60 % basic vocabulary agreement. Similary Sß and Totela also have less than 80 % contrary to our informants' view of that the mutual intelligibility between them is very high.

Perhaps one positive outcome of the lexicostatistical study as applied here is that it has enabled us to subgroup Pl, Vy and Tk to-

gether. Some linguists such as Collins (1962) do not distinguish between the three lects. Torrend (1931) recognized the close relationship existing between some of the lects studied here, namely Plateau Tonga, Valley Tonga, Toka (which he called Reya), Lenje (which he called Mukuni) and Ila since he termed all these lects *Bantu Botatwe*.

Chart 4.10 indicates that Il and especially Lj cannot be included in the sub-group that includes Pl, Vy and Tk if the percentage of vocabulary agreement is considered. However, Torrend's cover term *Bantu Botatwe* covers every variety we are studying here, that is including all those in Chart 4.10 which fall under 70 % of vocabulary agreement.

#### 4.7 Conclusion.

The main objective of the present thesis is to investigate whether the eight lects studied here belong to the same subfamily of Bantu languages. The study in the present chapter has brought out a number of observations which make answering the question difficult.

We have, however, seen that a close relationship existing among the lects core lects (namely Pl, Vy, Tk, Il, Lj and Sl) may be established. The one factor that would seem to unite all the six lects together is the merger of short and long vowels of PT into short vowels (see 4.2). Sß and Tt on the other hand retained distinction of vowel length. This observation was noted by Guthrie (1967-71, Part 1, Vol. 2 : 54). But on closer examinations of of the entire innovations from PT to the eight lects studied here one notices that there it is only the vowel developments that relate the core lects together to the complete exclusion of Sß and Tt. We shall now discuss the implication

of this fact for classification.

In the present chapter we have seen for example that Sß and Tt share some consonant changes with Il (with respect to PT \*y > z and \*j > y) and with Vy, Tk, Sl, Lj and S1 (with respect to the realisation of PT \*s and \*z as f and v respectively before \*w). It may be the case that some sound changes started in one lect and then diffused into the neighbouring lects. A possibility of this having happened might be suggested for the reflexes of PT \*j and \*y for Il, Sß and Tt since these three lects are spoken in a geographical continuum (see 6.2).

It is true that only Sß and Tt realised nonprenasalised PT \*p as h. This innovation together with the retention of long vowels of PT (which are ultimately inherited from CB) might suggest a sharp division between the core lects on one hand and Sß and Tt. It cannot be decided on the basis of the present study whether one can actually make such a sharp division. In order to say categorically how Sß and Tt might be ultimately classified, i.e. whether they form a distinct subfamily of Tonga together with the core lects further studies incorporating other neighbouring lects of Sß and Tt need to be investigated. This way we can know whether there are changes ultimately from PB which are exclusive to this hypothetical PT and are not found in any other subfamily of Bantu. The present can be seen as having contributed to this debate. Studies similar to the present one could utilize our findings while concentrating on the lects of the western province of Zambia where Sß and Tt are located. There are some lects which Kashoki (1978: 21) included under 'Tonga' which to our knowledge have not been carefully <sup>studied</sup> but which, when investigated, might shed light on Sß and Tt.

Another classification on which linguists are not agreed upon is

S1. On the basis of the grammatical system of conjugation of verbs Van Eeden (1936: 244) says 'Soli shows more affinity to the languages of the west, Herero, Mbunda, Kuanyama and Luvala'. The main reason for aligning S1 with 'the languages of the west' is based on assimilation of the perfective suffix vowel to the preceding vowel syllable of the stem, e.g. kuṣona 'to see' and kuluma 'to bite' have the perfective verb forms ṣalaṣono 'they have seen' and ṣalalumu 'they have beaten' respectively. The perfective marker is the vowel e in Pl for example but in S1 the marker assimilates to the preceding vowel. This characteristic was subsequently observed by Doke and put down as one of the criteria for classifying Soli in the West-central zone of Bantu. Our study does not delve into grammatical material but it is open to question whether an isolated peculiarity such as this warrants the exclusion of S1 from the other Tonga lects. Soli is surrounded by lects of Zones M 40 and N 30 which do not have the vowel assimilation in question and one might assume that this phenomenon final vowel assimilation developed independently in this lect and not due to common heritage with the other lects in Doke's West-central zone which show the same phenomenon. As in the case of Sḅ and Tt there has not been a comparative study of the languages surrounding S1 to show whether S1 could be related to these neighbouring languages and those in zones L 50 and K10 to which this lect is has been associated. An investigation in this direction would shed light on the issue of the classification of S1.

We can conclude by saying that although we have seen some interrelationships between the lects studied here, more lects still need to be studied to determine their correct position in Bantu.

CHAPTER 5

DEVELOPMENTS OF PT CONSONANTS AND VOWELS FROM CB.

5.1. Development of PT consonants.

The aim of the present section is to try and study the development of CB consonants in PT. Our source of CB data is Guthrie (1967-71). Before we embark on this task we should first say that the phonetic reality of Guthrie's symbols are not certain (Guthrie 1967-71, Pt 1, Vol 1. p.12). For example, the symbol \*b could be interpreted as voiced bilabial fricative or plosive. Guthrie's system is also at variance with that of Meinhof (1932). Where Guthrie used the character \*b in the voiced labial series for example, Meinhof used the symbol 'v'. But as Guthrie was not concerned with the phonetic nature of his consonants we shall not reinterpret his symbols but give them as he presented them. Nevertheless we should point out that the symbols \*b and \*d have the reflexes  $\beta$  and l in modern Bantu lects although after homorganic nasals \*b and \*d are reflected as plosives.

According to Guthrie PB had an opposition between long vowels and short vowels. This opposition was maintained in PT.

In the following discussion we have adopted Guthrie's reconstructions because they are more widely used than Meinhof's in spite of the cautions about them.

5.1.1. Reflex of CB \*b in PT.

The reflexes of CB \*b before \*I and \*U are given in Table 5.14a below. As the data below show only three examples of CB \*b before \*U and one before \*I could be found in our data. This change is parallel

to the change of CB \*d to PT \*z/\*zw which we observed in Tables 5.2a and 5.3a above. And in general way the change really means fricativization of non-fricatives which include the data in Table 5.7a, 5.3a, 5.4a, 5.6b, and 5.7a. In all the relevant cases rounding accompanied fricativization if any of these obstruents were immediately followed by CB \*U. Let us now look at Table 5.1a below.

<u>CB</u>	<u>PT</u>	<u>Reference</u>
*b	*zw	
*-bímb-	*-zimb- (158)	'to swell'
*-búdá	*-zwúlá (115)	'rain'
*-búmb	*-zwúmo (10c)	'belly'
*-bú-d-	*-zwul- (350)	'to become' full'

Table 5.1a Reflexes of CB \*b before \*I and \*U.

Rule 5.1a CB \*b > PT \*z/\_\_\_\*I.

Rule 5.1b CB \*b > PT \*zw\_\_\_\*U.

After the homorganic nasal CB \*b was retained in PT as Table 5.1b below shows.

<u>CB</u>	<u>PT</u>	<u>References</u>
*-gàmb-	*-amb- 127	'to say'
*-yímb-	*'-imb- 135	'to sing'
*-bímb-	*'-zimb-158	'to swell'
*-càmb-	*-samb- 180	'to wash'
*-bòmb-	*-βomb- 231	'to be soft/wet'
*-búmb-	*'-βumb-232	'to mould in clay'

See also 351a, 352a, 443a, 511, 512, 670a, ).

Table 5.1b Reflex of CB \*b after {N}.

There are thirteen lexical items in which \*b was preserved after /N/.

Elsewhere CB \*b has the reflex \*β in PT as the data in Table 5.1c indicates.

<u>CB</u>	<u>PT</u>	<u>Reference</u>
*b	*β	
*-bād-	*-βál-	(24a) 'to count'
*-búā	*-βwá	(30a) 'dog'
*-bá-	*-βá-	(201) 'to become'

(See also 7, 26a, 29, 51, 53a, 83a, 84a, 123, 130a, 154, 157, 175, 176, 192, 202, 203, 204, 206, 216, 219, 220, 221, 222, 224, 229, 230, 231, 232, 233, 234, 236a, 240, 256, 258, 266, 268, 269, 288b, 289, 303, 318a, 345, 357a, 390, 457a, 541, 583, 643a, 649, 650, ).

Table 5.1c Reflexes of CB \*b elsewhere except after (N).

Rule 5.2: \*b > PT \*β (except after (N)).

This change is widespread in the present Bantu languages.

#### 5.1.2 Reflexes of CB \*d in PT.

Before \*I and \*U CB \*d has identical reflexes as \*g in Table 5.2a *below*. We can add here that this development is the same as for CB \*b in the same environments, see Table 5.3a above. The developments concerning CB \*dI and \*dU are given in Table 5.8a below.

<u>CB</u>	<u>PT</u>	<u>Reference</u>	
*d	*z	/__(*I, *U).	
(a) *-yényédí	*-yényezi	(152a)	'star'
(b) *-kádí	*-kázi	(190)	'woman'
(c) *-díngà	*-zing-	(320c)	'to wind'
(d) *-díik-	*-ziik-	(328a)	'to bury'
(e) *-dù-	*-zw-	(341)	'to come out'
(f) *-dù-	*-zum-	(339)	'to thunder'

(see also 84, 122c, 195, 332)

Table 5.2a Reflexes of CB \*d before \*I and \*U.

Rule 5.3a: CB \*d > PT \*z / \_\_\_\_ \*I.

Rule 5.3b: CB \*d > PT \*zw/ \_\_\_\_ \*U.

CB \*d was retained after /N/ as the data in table 5.2b below show.

<u>CB</u>	<u>PT</u>	<u>Reference</u>	
*-téndè	*-`tende	56	'foot'
*-dúndù	*-lúndu	98	'mountain'
*-pèndùd-	*-pandul-	148a	'to split wood'
*-gènd-/*-yènd-	*-yend-	178	'to walk'
*-bánd-	*-`band-	206a	'to clear bush; 'to flatten'

(See also 353a, 385, 413a, 414, 439c, 444b, 467, 546a, 584a, 608a, 660a 669).

Table 5.2b Reflex of CB \*d after {N}.

There are sixteen items in which CB \*d was retained after /N/ in PT.

Elsewhere CB \*d has the reflex \*l as the data in Table 5.2c

indicate.

<u>CB</u>	<u>PT</u>	<u>Reference</u>
*d	*l elsewhere (except after nasal).	
*-dà	*-la	(10a) 'intestine'
*-dùm-	*-lum-	(13a) 'to bite'
*-dòpà	*-lopa	(15a) 'blood'

Table 5.2c Reflexes of CB \*d elsewhere (except after (N)).

(See also 24a, 37, 47, 48, 53, 64, 71, 77a, 89b, 90, 98, 115, 119, 155, 160, 172, 176, 177, 203, 204, 216, 222, 224, 242, 258, 310, 346, 350 377, 381, 382, 383, 384, 385, 386, 389, 392a, 394, 471a, 474b, 483a, 512a, 525, 528a, 541a, 546a, 650, 583, 595, 661, 675).

There are fifty-three items in which CB \*d became PT \*l elsewhere.

Rule 5.4 CB \*d > PT \*l elsewhere.

As we can see CB \*d became PT \*l in all the other environments except as in Table 5.2a above and when it was preceded by a homorganic nasal in which case it was retained (Table 5.2b). The change of CB \*d to PT \*l is widespread in Bantu languages. The development in Table 5.2c is similar to that found in Table 5.1c above.

5.1.3. Reflexes of CB \*g in PT.

There is only one example of the reflex of CB \*g before \*l. This development is the same as that of the development of CB \*g before \*l given in Table 5.3b.

CB	PT	Reference
*g	*z	
(a) *-gidò	*jilo	(365a) 'yesterday'

Table 5.3a Reflex of CB \*g before \*i.

(b) *-gî	*-zi	(54)	'fly'
(c) *-gîná	*-zina	(100)	'name'
(d) *-gŭím-	*-zwím-	(76a)	'to hunt'
(e) *-jògŭ	*-zozwu	(336)	'elephant'
(f) *-gŭn-	*-zwun-	(352)	'to stop fight' / 'to help'
(g) *-gŭnd-	*-zwùndik-	(353)	'to put aside to 'to ripen/ripen artificially'

Table 5.3b Reflexes of CB \*g before \*I and \*U.

Rule 5.5a CB \*g > PT \*z / \_\_\_\*I, \*i.

Rule 5.5b CB \*g > PT zw/ \_\_\_\*U.

After the homorganic nasal /ŋ/, CB \*g was retained in PT as indicated in Table 5.3c below.

CB	PT	Reference	
*-gàng-	*-ang	(58)/171	'to freeze' / 'to 'tie up'
*-yíngi	*-ngi	(95)	'many'
*-kíngò	*'-singo	(103)	'neck'
*-dòngà	*'-lóngà	(119a)	'river'
*-cèngà	*'-séngà	(126a)	'sand'
*-yíngid-	*-ingil-	(595)	'to enter'
*-gàngà	*-anga	(601)	'doctor'
(See also	132b, 223a, 233a, 394, 415, 468a, 530, 613b,		
653a).			

Table 5.3c Reflex of CB \*g after (N).

Elsewhere CB \*g was lost in PT as the examples in Table 5.3d below indicate.

	CB	PT	Reference	
(a)	*-gàng-	*-ang	(58)/	'to freeze'/'to
			(171)	tie up
(b)	*-gàmb-	*-àmb-	(127)	'to say/'to
				'to speak'
(c)	*-gàndà	*-ándà	(586)	'house'
(d)	*-gàngà	*-anga	(601)	'doctor'
(e)	*-gòn-	*-òn-	(13)	'to sleep'
(f)	*-gódî	*-ozi	(122c)	'rope; bark
				fibre'
(g)	*-gùdù	*-ùlù	(88)	'leg'
(h)	*-gènd-	*-end-	(178)	'to walk'

Table 5.3d Reflexes of CB \*g elsewhere.

Rule 5.5c CB \*g > PT Ø elsewhere

CB \*gùdùbè was retained as PT \*guluþe (585) 'pig' ( classes 9/10, prefix {N}). One might want to argue that the presence of the homorganic nasal η, whether as a prefix or otherwise prevented the deletion of CB \*g. This only works in some of the reflexes as exceptions like (c) exist as well where CB \*g was lost stem initially. In the present-day Tonga lects the noun stem of (j) goes with class 9 prefix {N} in the singular and class 6 ma-, ( thus maanda in plural versus ñanda 'house' (586)). What is likely to have happened in the case of this noun is that the original consonant CB \*g assimilated to the nasal prefix.

In many Bantu languages there exists what has come to be called Ganda Law or Meinhof's Law (cf. 2.2.2.3 above). As we showed in Chapter 2 this law <sup>dis</sup>milates the first of two nasal clusters such that NCVNC <sup>dis</sup>milates to MNVNC. This 'law' still applies in I1 and we suggest that remnants of it can be found in the other lects as well like P1 which have the nouns like ñanda which would suggest the structure /ñgánda/. But as the consonant /g/ does not appear in the plural we would like to suggest along the same lines we did for class 5 nouns (cf. 2.2.2.7.) that the stem has a zero consonant which surfaces in the form of the stem-initially in the singular.

Another observation about CB \*g is that it does not have a single reflex. However, it would seem that the reflexes \*z and \*zw before the extra high vowels are the ones represented in the most number of lexical items. All the other reflexes of CB \*g are less frequent.

5.1.4 Reflexes of CB \*p.

CB \*p developed into \*s before \*I and into \*sʷ before \*U. Examples are given in Table 5.4a below. Elsewhere CB \*p was retained in PT.

CB	PT	Reference.
*p	*s Before *I, *U.	
*-píí-	*-siy-	(14) 'to be black.'
*-pík-	*-sik-	(405) 'to arrive'.
*-pìn-	*-sin-	(412) 'to throttle'.
*-pínà	*-sinà	(413) 'pus'.
*-púd-	*-swul-	(16) 'to blow'.
*-pù	*-swu	(10b) 'belly/stomach'.

Table 5.4a Reflexes of CB \*p before \*I, \*U.

5.6 (a): CB \*p > PT \*s / \_\_\_\_ \*I.

(b) : CB \*p > PT \*sw/ \_\_\_\_ \*U.

Elsewhere CB \*p was retained in PT; see Table 5.3b below.

CB	PT.
*-pá-	*-pá- (60) 'to give'
*-púm-	*-púm- (73) 'to hit'
*-pón-	*-pón- (250) 'to get well'
*-pèt-	*-pèt- (354) 'to fold'
*-píndi	*-píndi (664) 'shin'

(see also 47, 192b, 242, 243, 244, 251, 252, 253, 273, 274)

Table 5.4b Reflexes of CB \*p elsewhere.

Rule 5.6c CB \*p > PT \*p elsewhere

5.1.5 Reflexes of CB \*t.

Before the cedilla vowels \*I and \*U, CB \*t has the reflexes PT \*s and \*sw, respectively. This change represents fricativization of CB \*t. It would seem as if CB non-continuants became continuants before the cedilla vowels as can be seen in Tables (5.5a). These environments are, however, not the exclusive sources of fricatives, see Table 5.3a above for example where before \*i CB \*g became PT \*z.

Nevertheless, examples illustrating the *developments* of \*tI and \*tU are given in Table 5.5a below.

CB	PT	Reference.
*t	*s Before *i, *I, *U	
*-tíkù	*-síku	(105) 'night'
*-tíndí	*-sindi	(415) 'heel'
*-tínd-	*-sindikil-	(416) 'to accompany'
*-tíngà	*-sing-	(417a) 'vein'
*-túm-	*-sum-	(132) 'to sew'
*-tú-	*-sɸ-	(147) 'to spit'

Table 5.5a Reflex of CB \*t before \*I, \*U in PT.

Rule 5.7a. CB \*t > PT \*s / \_\_\_\_ \*I.

Rule 5.7b CB \*t > PT sw / \_\_\_\_ \*U

Before the other vowels CB \*t was retained in PT as Table 5.5b below, shows.

<u>CB</u>	<u>PT</u>	<u>Reference.</u>	
*t	*t		
*-túé	*-twé	(4a)	'ashes'
*-túí	*-twí	(35)	'ear'
*-tém-	*-tém-	(25b)	'to cut'
*-tamb-	*-tamb-	(513)	'to invite/invite'
*-tóód-	*-tóól-	(527)	'to take/pick up'
(see: 43, 44b, 56d, 68, 81, 107, 111, 245a, 294a, 389, 457, 502, 511, 516, 518, 522, 531-2, 534, 350).			

Table 5.5b Reflexes of CB \*t elsewhere.

Rule 5.7c. CB \*t > PT \*t elsewhere.

5.1.6 Reflex of CB \*k in PT.

Table 5.6a indicates that CB \*k has the reflex PT \*s before \*U and \*I. This development is parallel to that observed in Tables 5.4a and 5.5a above. Since the consonants involved in these three tables are of the same kind, (they are all voiceless non-continuants), we can generalise Rule 5.8a below.

<u>CB</u>	<u>PT</u>	<u>Reference.</u>	
*k	*s Before *I, *U		
*-kíngò	*-singo	(103)	'neck'
*-kíamá	*-sima	(498)	'mush'
*-kú-	*-swu-	(27)	'die'
*-kútà	*-swuta	(42)	'fat'
*-kú-	*-swu-	(311)	'death'

Table 5.6a Reflexes of CB \*k before  
\*I and \*U.

Rule 5.8a. CB (\*p, \*t, \*k) > PT \*s /\_\_\_ \*I

Rule 5.8b CB (\*p, \*t, \*k) > PT sw /\_\_\_ \*U.

Before the vowels \*i and \*e CB \*k has the reflex PT \*c. The data are given in Table 5.6b below.

5.1.6.1 Reflexes of \*k before \*i, \*e.

Before the front vowels \*i and \*e, CB \*k became a voiceless affricate \*c as can be seen in Table 5.6b below.

<u>CB</u>	<u>PT</u>	<u>Reference.</u>
*-kída	*-cila	(160) 'tail'
*-kí-	*-cí-	(279) 'to dawn'
*-ké-	*-ce-	(282) 'younger sibling (in Meeussen 1980.40)
*-kéb-	*-ceβ-	(289) 'to look behind'
*-kéép-	*-cep	(291) 'to become few'
*-kít-	*-cit-	(294) 'to do'

Table 5.6b Reflexes of PT \*k before

\*i/\*e/\*ee.

The above development is one of softening of \*k before <sup>the</sup> front vowels \*i and \*e. A relationship with the developments in Table 5.7a below can be envisaged whereby it is possible that the development \*k to \*s before cedilla vowels *went* through the intermediate stage of Table 5.6b.

Rule 5.8c CB \*k > PT \*c /\_\_\_ CB (\*i, \*e)

Elsewhere CB \*k was retained in PT as Table 5.6c below indicates.

<u>CB</u>	<u>PT</u>	<u>Reference</u>	
*-káti	*-kati	(80)	'inside'.
*-cèk-	*-sek-	(85)	'to laugh'
*-bókò	*-βoko	(229a)	'arm'.
*-yíkàd-	*-ikal-	(136)	'to sit'
*-kómbò	*-kombo	(498)	'navel'
*-kù-	*-kuw-	(8a)	'to bark'
*-kùnk-	*-kunk	(52a)	'to flow'

(See also 85, 90, 105, 172, 177, 221, 229, 328, 355, 364,

405, 495, 458, 473, 490, 502, , 507, 549)

Table 5.6c Reflexes of CB elsewhere.

There are twenty-five lexical items in which CB was retained in PT.

Rule 5.8c CB \*k > PT \*k elsewhere.

Table 5.6a-c indicate that CB \*k developed into three different consonants in PT, namely: PT \*s, \*c, \*k.

5.1.7 Development of CB \*c in PT.

Table 5.7a below shows that before the cedi/a vowels \*I and \*U, CB \*c developed into PT \*sy and \*sw, respectively. It will be seen in Table 5.7a below that before \*U, CB \*c became PT \*sw just as did PT \*p and \*t in the same environment. Similarly, before \*I, CB \*c became \*s. Examples can be seen Table 5.7a below.

<u>CB</u>	<u>PT</u>	<u>Reference.</u>
*c	*s before *I and *U	
*-cìú	*-syu	(438) 'face'.
*-cìn-	*-syin-	(149b) 'to squeeze'.
*-cúé	*-swe	(182) 'we/us'.

Table 5.7a Reflex of CB \*c before \*I and \*U

The examples below show that CB \*c became PT \*s before all the vowels. This direction of change is quite widespread in other Bantu languages as evidenced by the data in Comparative Bantu and Hedinger (1987, p. 109).

<u>CB</u>	<u>PT</u>	<u>Reference.</u>
*-yóncè	*-yónse (1)	'all'.
*-cánà	*-sana (6c)	'back'.
*-yíncò	*-ínso (40)	'eye'.
*-cùkí	*-súki (65b)	'hair'.

(see also 49, 85, 180, 192a, 399).

Table 5.7b Reflexes of CB \*c elsewhere.

- Hence: Rule 5.9a CB \*c > {\*sy}/\_\_(\*I)  
 Rule 5.9b CB \*c > {\*sʷ}/\_\_\*U.  
 Rule 5.9c: CB \*c > PT \*s elsewhere.

5.1.8 Reflexes CB \*j in PT.

There are no examples of CB \*jI, \*je, \*jU and \*nj with which we can illustrate the developments in PT. But we notice that even in Guthrie (1967-71, Pt. 1, Vol. 2) there are few entries of reconstructions of CB \*jI, \*je and \*jU. On the evidence of the data that we have we can see that CB \*j is reflected as \*z in PT; see Table 5.8 below.

CB	PT	Reference	
*j	*z		
(a) *-yij-	*-iz-	(23)	'to come'
(b) *-júbà	*-zuβa	(26a)	'day'
(c) *-gànjà	*-janza	(66a)	'hand'
(d) *-jògù	*-zozwu	(336)	'elephant'
(e) *-jidà	*-zila	(346)	'path'

(See also 83, 157, 343, 219, 220)

Table 5.8 Reflexes of CB \*j in PT.

Hence Rule 5.10 CB \*j > PT \*z.

Table 5.8 shows the same development as described <sup>before</sup> voiceless plosives, that is turning non-continuants into continuants, although there is a major difference in the present case in that that it would seem that all instances of CB \*j became PT \*z. To a limited degree CB

\*g had a similar developments before \*i.

5.1.9 Reflex of CB \*y in PT.

CB \*y has two reflexes in PT. It is was lost before \*I and \*i, while it was retained in all the othe environments. The data can be seen Tables 5.9(a) and (b) below.

CB	PT	References.
*-yíkàd-	*-ikal-	(136) 'to sit'
*-yíngi	*-ngi	(95) 'many'
*-yíkàd-	*-ikal-	(136) 'to sit'
*-yíngid-	*-ingil-	(595) 'to enter'
*-yij-	*-iz-	(23) 'to come'
*-yimb-	*'-imb-	135 'to sing'
*-yij-	*-iz-	(23) 'to come'

Table 5.9a Reflex of CB \*y before \*I, \*i in Pl.

Hence Rule 5.11a CB \*y > PT \*0/\*{I, \*i} \_\_\_\_\_

CB	PT	Reference.
*-yényédí	*-yényezi	(152a) 'star'
*-yàmbukid-	*-yambukil-	(443a) 'to roast'
*-yót-	*'-yot-	(455) 'to warm oneself at fire)
*-yòk-	*-yok-	(456a) 'to roast'
*-yúm-	*'-yum-	(458) 'to dry'
*-yùni	*-yuni	(12a) 'bird'
*-yúc-	*'-yusa	(460a) 'to take shelter

Table 5.9b Reflex of CB \*y elsewhere.

Hence Rule 5.11b CB \*y > PT \*y elsewhere.

One peculiarity of \*y in CB is that it was only reconstructed in C<sub>1</sub> position.

5.1.10 Summary of the developments of CB consonants in PT

CB.	PT	CB	PT	After /N/	After *yI	Else- where
*p/-*I	*s	*p/_U	*sw	mp	p	*p
*t/-*I	*s	*t/_U	*sw	nt	t	*t
*k/-*I	*s	*k/_U	*sw	nk	k	*c
*c/-*I	*s	*c/_U	*sw	---	-	*s
*b/_*I	*z	*b/_U	*zw	*mb	*β	*β
*d/_*I	*z	*d/_U	*zw	*nd	-	*l
*g/_*I	*z	*g/_U	*zw	*ng	-	*θ/*j.
*j/_*I	*z	----	----	----	*z	*z
*y/- $\begin{cases} *I \\ *i \end{cases}$	∅	----	----	*y	---	y

Chart 5.1 Summary of the reflexes of CB consonants in PT.

The following CB sounds were retained in all environments in PT \*t, \*w, \*y, \*m, \*n, \*ny.

The above chart puts to-gether all the discussions given above in the previous tables. The chart includes crucial environments which triggered the sound changes. Nevertheless we can see that there were many mergers and splits. Most of the changes are limited to environments before the extra high vowels \*I and \*U.

5.2 Reflexes of CB Vowels in PT.

The object of this section is to study the development of PT vowels from CB. It will not be necessary to refer to reflexes of vowels in particular positions of the stems nor of correspondences found in specific lexical categories since no variations have been found. The significant changes among vowels are: (a): the merger of CB \*U and \*u to PT \*u and CB \*I and \*i to PT \*i; (b) the realisations of high vowels \*I/\*i and \*U/\*u as PT semivowels \*w and \*y, when they occurred as the first member of the sequences of unidentical vowels.

5.2.1. Reflexes of CB \*i and \*I in PT.

<u>CB</u>	<u>PT</u>	<u>References.</u>
*i	*i	
*-bí	*-βi	(7) 'bad'
*-cí	*-si	(36) 'earth/ground'
*-ngí	*-ngi	(95) 'many'
*-gí	*-i	(37) 'egg'
*-didò	*-lilò	(48) 'fire'
*-kídà	*-cilà	(160) 'tail'
*-gím-/*-yím-	*-zim-	(151) 'stand'
*-bidi	*-βili	(224) 'body'

(see also 35, 37, 49, 62, 101, 109, 246, 222, 268, 294, 338, 345, 367, 384, 385546).

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Table 5.10a Reflexes of CB \*i in PT in all stem positions and environments.

CB \*i became \*i in PT in all positions and environments except in prevocalic environments for which see Table 5.10b below.

CB	PT	References
*-dí-	ly-	(37) 'eat'
*-diàt-	*-lyàt-	(394a) 'to tread'
*-diàngò	*-lyàngò	(395a) 'entrance; doorway'

Table 5.10b Reflex of CB \*i in prevocalic environments.

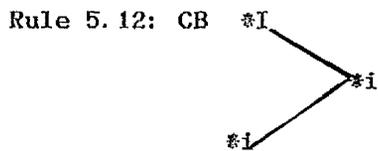
As the above examples show CB \*i became PT \*y before an unlike vowel. This is similar to the development of CB \*I when it was followed by unlike vowel although we only have one example of this, namely CB \*-cîú which became PT \*'-syu. As we are interpreting CB \*II and \*ii not as sequences of identical vowels we can say that nothing happened to these long vowels except that CB \*II (or \*I:) became PT \*i: . Examples include CB \*-dîik versus PT \*-zi:k- 'bury' (328a) and CB \*ii in \*-bíik- has the realisation PT \*-bi:k-).

CB	PT	References	
*-yùní	*-yùni	(12)	'bird'
*-díbà	*-ziβà	(84)	'lake'
*-gínà	*-zinà	(100)	'name'
*-bífmb-	*-zimb-	(158)	'to swell'
*-kádì	*-kázi	(195)	'woman'
*-dímù	*-zinà	(332)	'spirit'
*-dím-	*-zim-	(329)	'to extinguish fire'
*-pík-	*-sik-	(404)	'to arrive'
*-pín-	*-sin-	(410)	'to throttle'

(see also 103, 105, 410, 413, 414, 415).

Table 5.11 Reflexes of CB \*I in PT in all stem positions.

CB \*I was reflected as PT \*i in all the stem positions and environments (except as stipulated in the preceding paragraph).



5.2.2. Common Bantu \*e.

CB	PT	References
*-túé	*-twé	(4a) 'ashes'
*-téndé	*-téndè	(56) 'leg'
*-túè	*-twé	(68) 'head'
*-bèdò	*-βèlò	(216) 'thigh'
*-cúé	*-swé	(182a) 'we'
*-ké	*-cè	(282) 'younger sibling'
*-bèbà	*-βèβà	(303) 'rat'
*-búé	*-βwé	(154) 'stone'

Table 5.12 Reflexes of CB \*e in PT in all environments and stem positions.

5.2.3. Reflexes of Common Bantu \*a

CB	PT	References	
*-yàmà	*-yàmà	(3)	'meat'
*-dà	*-la	(10a)	'belly'; 'stomach'
*-yánà	*-yánà	(20)	'child'
*-júbà	*-zùbà	(26a)	'day'
*-búà	*-βwà	(30a)	'dog'
*-dùbà	*-lùbà	(53a)	'flower'
*-kátí	*-kátí	(81)	'inside'

(see also 24a, 58, 89, 126, 115, 127, 144, 157, 159, 160, 171, 172, 180, 192, 195, 202, 203, 243, 258, 303a, 343, 345, 346, 450, 468, 469, 509, 511, 586, 601).

Table 5.13. Reflexes of CB \*a in PT.

CB \*a was retained in PT as \*a.

5.2.4. Reflexes of Common Bantu \*o in Proto-Tonga

CB	PT	References	
*-bŭmò	*-zwùmò	(10b)	'belly'
*-dòpà	*-lòpà	(15)	'blood'
*-yíncò	*-ínso	(39b)	'eye'
*-dìdò	*-dìdò	(48)	'fire'
*-jókà	*-zòkà	(144)	'snake'
*-bókò	*-βòkò	(229)	'arm'
*-dòbò	*-lòbò	(650)	'fishing hook'

(see also 70a, 103, 123a, 130a, 131a, 139a, 156, 173, 216, 229, 231, 250, 364, 388, 395, 455, 456, 472, 478).

Table 5.14 Reflexes of CB \*o in PT.

CB \*o was retained in PT as \*o.

CB \*u in -C-C stems was retained as \*u in PT.

CB	PT		
*-búâ	*-βwâ	(30)	'dog'
*-túf	*-twí	(35)	'ear'
*-gù	*-w-	(40)	'to fall'
*-dù-	*-lw-	(47)	'to fight'
*-túfk-	*-twik-	(523a)	'to carry on head'
*-tú-	*-twa	(532)	'to pound in mortar'

Table 5.15a. Reflexes of CB \*u in PT

before a vowel.

As has been pointed out already CB \*u became PT \*w in prevocalic environments and in those verb stems in which \*u is the final vowel. We are assuming here that the suffix vowel /a/ in indicative verb was the environment that triggered semivocalisation in verbs. There is however, a problem with saying that semivocalisation goes back to PT rather than being an innovation of the present day Tonga lects. This concerns CB \*-túfk- (523a) above. It was observed in Chapter 3, section 3.1.9 (Table 3.12c) that reinforced [kk] in Pl is found in postvocalic PT \*i in general. If we postulate PT \*-twik- we remove the environment in which to get the reflex -tuk- in Pl. It is unlikely that vowel sequences where the first vowel was \*i or \*u were still present in PT. We can say then that in order to get the development Pl -tuk- from PT \*-twik- we need to say that PT \*k was retained not only in postvocalic environments but after the semivowel \*w as well. This

clearly complicates the formulation but we can tentatively hold on to it as a possibility in order to try and account for item PT \*-twik versus P1 -tuk-.

5.2.5 Reflexes of Common Bantu \*u in Proto-Tonga.

CB	PT	References	
*-kùg-	*-kùw-	(8a)	'to bark'
*-dúm-	*-lúm-	(13)	'to bite'
*-yùmù	*-yùmù	(32)	'dry' (adjective)
*-dùbà	*-lùβà	(53a)	'flower'
*-gùdù	*-ùlù	(88a)	'leg'
*-dúndù	*-lúndù	(98)	'mountain'
*-ntù	*-ntù	(111)	'person'

(see also, 26, 65, 68, 72b, 73a, 77, 88, 98, 109, 131, 138, 141, 154, 182, 230, 236, 240, 273, 332, 338, 391, 436, 475, 488, 529, 530).

Table 5.15b. Reflexes of CB \*u in PT in in -C-C stems.

CB \*u was retained in all stem positions and environments except in prevocalic positions, for which see Table 5.15a above.

5.2.6 Reflexes of CB long vowels in PT.

In Guthrie's system long vowels were characterised by writing the same vowel twice. We shall maintain this system here except that in PT reflexes of long vowels are characterised by a vowel followed by a colon ':' to indicate length.

5.2.6.1 reflexes of CB \*ii and \*II in PT.

CB	PT	References.
*-biiik	*'-βi:k-	221 'put'
*-diiik-	*-zi:k-	328 'to bury'

Table 5.16 Reflex of CB \*ii and \*II in PT.

CB \*ii was retained as PT \*i: while \*II became \*i:.

5.2.6.2 Reflexes of CB \*ee in PT.

CB	PT.	References
*-béép-	*-βèèp- (214)	'to tell a lie'
*-déét-	*-léét- (382)	'to bring'
*-dèèd-	*-lèèl- (381)	'to bring up child'

Table 5.17. Reflexes of CB \*ee in PT.

CB \*ee was retained as PT \*e: in PT.

5.2.6.3 Reflexes of CB \*aa in PT.

CB	PT	References
*-dààd-	*-lààl- (89c)	'to lie down'
*-kààn-	*-kààn- (462)	'to refuse'

Table 5.18. Reflexes of CB \*aa in PT in -C-C- radicals

CB \*aa was retained in PT as \*aa.

5.2.6.4 Reflexes of CB \*oo in PT.

CB	PT	References.
dóót-	*-lóót-	(389) 'to dream'

Table 5.19 Reflexes of CB \*oo in PT.

Only one item was found with CB \*oo and this was retained in PT.

5.2.6.5 reflexes of CB \*uu in PT.

*-búmb-/*-búúmb-	*-βúúmb-	(232)	'to mould'
*-búúk-	*-βúúk-	(234)	'to wake up'

Table 5.20. Reflexes of CB \*uu in PT from CB \*-C-C- radicals.

There is only one clear case of retention of CB \*uu in PT, namely (234) in the table above. Item (232) is ambiguous from the point of view of CB.

CB	PT	References	
*-bŭmò	*-zwùmò	(10c)	'belly'
*-kŭpà	*-swúpà	(17a)	'bone'
*-pŭd-	*-swúl-	(16)	'to blow with mouth'
*-kŭtâ	*-swútâ	(42)	'fat; 'oil'
*-bŭdâ	*-zwúlâ	(115)	'rain'
*-tŭ-	*-sw-	(147a)	'to spit'
*-pŭd-	*-swúl-	(310)	'to blow bellows'
*-kŭ	*-swu	(311)	(death)
*-dŭmín-	*-zwùmín-	(337)	'to agree'
(See also 27, 341, 350, 352-5,			

Table 5.2 Reflexes of CB \*U in PT

The above Table shows that Common Bantu \*U has the reflex of \*u but it also triggered rounding of the preceding consonant.

### 5.3. Conclusion.

In this section we have attempted to show the development of PT vowels from CB. All in all the changes we have observed concern the high vowel. The extra high or cedilla vowels \*I and \*U of CB merged with \*i and \*u respectively to form the five vowel inventory of PT, namely \*i, \*e, \*a, \*o, \*u. We have also seen that the high vowels, \*I and \*U were responsible for the development of fricatives from stops. But the information on this is limited to just a few examples, such that it still needs further investigation. We summarise the reflexes of CB vowels in PT in Chart 5.2, below.

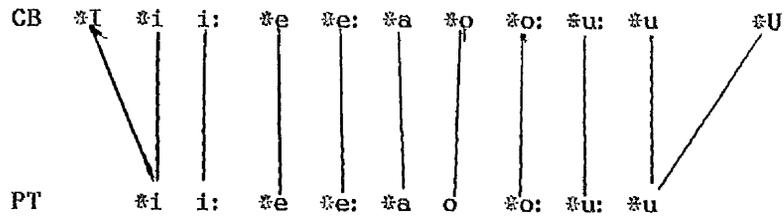


Chart 5.2. Reflexes of Cb vowels in PT.

CHAPTER 6

SOCIOLINGUISTIC PERSPECTIVES.

6.1 Introduction.

In the foregoing chapters we have examined the relationship between the Tonga lects from the point of view of the diachronic perspective. The shared consonantal sound changes in particular have made it difficult for us to arrive at a satisfactory chronology because there is such a network of shared sound changes (see Fig 4.4 and Map 4.4). We have also seen that there are certain sound correspondences that are not consistent in some of the lects. In the present chapter we suggest how sociolinguistic methods, if applied systematically would help and what they might achieve. Furthermore the sociolinguistic consideration should be seen as complementary to the comparative method we have applied in the previous chapters.

As the problem cases to be studied below have not been investigated systematically what the present chapter offers are personal observations.

6.1.1 Review of the sociolinguistic methods of Labov.

The reason for the lack of discrete bundles of isoglosses is that lects in a geographical continuum will be in contact with one another with the likelihood of innovations diffusing across geographical space from different centres and to varying degrees. The diffusion of sound changes in a dialect continuum was accounted for by traditional dialectologists within the wave theory (see 1.4.1 above). More

recently sociolinguistic methods developed initially for urban speech communities have been successfully applied to dialects in contact. We observed in 1.4.3 above that the speakers of Tonga lects are bilectal and even trilectal according to our own observations.

As is well known by now one of the short-comings of the generative research program is the insistence that the valid object of linguistic research is to study the linguistic competence of a speaker in an ideal homogeneous speech community, thereby ignoring variation as belonging to performance. We know however, that an ideal speaker in a homogeneous speech community does not exist. Linguistic variation will always be there and it is a valid object of linguistic research. But if we look at sociolinguistic research programs as practised for example by Labov (1963, 1966, 1972<sup>(a-b)</sup>) we find they have established the fact that language change is triggered by many factors, linguistic and non-linguistic alike. One of the important contributions this approach brought was the concept of the *variable* rule, that is 'a rule that is sensitive to extralinguistic factors (class, age, sex, religion) and within these parameters, statistical controls which are correlated with them in a complex way.. ' (Lass 1984: 304). The presence of the age dimension in a variable rule indicates that the variation pattern in question is likely to represent a change in progress Bynon (1977: 213). Because change is influenced by specific social factors for it to apply it may take a long time to be completed without losing impetus and direction.

It cannot easily be predicted how closely the variation observed by Labov within a dense urban environment might be paralleled in the widely extended and largely rural communities in Zambia. Labov (1972) did research on the island of Martha's Vineyard which may be likened to

our own area. Nevertheless, Labov's research deals with speech communities not surveys of large geographical areas. In any case we have only been able to observe the speech of at most two individuals from within each community, the relevance of whose whose age, education and class was not investigated. Although we cannot make use of Labov's methodology in our comparative study, nevertheless there remains the possibility that unresolved irregularity and variation remaining in our data might be attributable to social factors of the kind Labov identifies.

#### 6.1.2 Accommodation Theory.

Accommodation theory championed by researchers such as Trudgill (1983;1986) and others have shifted their attention from investigating language divergencies to the examination of the ways in which varieties of the same language can influence one another when they come in contact and have stressed the role of the individual speaker in an interdialect contact situation. One would expect that when speakers of mutually intelligible varieties of the same language meet in a speech situation each of the speakers will converse in his or her own variety without either of them having to adopt the speech form of the other. Trudgill has come up with empirical data to show that what happens in actual practice is that speakers will transfer linguistic features from one dialect to another. One of the questions asked is how and why transference of linguistic features across dialects takes place.

According to behavioural psychologists such as Giles (1973), a speaker will modify his speech in the direction of his interlocutor for many reasons including the need to gain approval from his interlocutor and to reduce communication difficulties and linguistic

dissimilarities. Giles calls the latter strategy accent convergence. Although accommodation theory was developed to answer questions of individual behaviour it has been adopted by dialectologists because they feel it can explain and clarify in more detail a number of problems arising in dialect contact situations. For example the accommodation theory enables dialectologists to explain why some features are modified while others are not. Labov (1972<sup>a</sup>) advanced the explanation that 'markers' (that is, those linguistic features that are indicative of social class) are relatively high in the speaker's consciousness. These features are frowned and commented upon by those who speak the more prestigious speech form. A speaker will make a conscious effort to choose a form that is more prestigious. As for those features that are not highly stigmatised (which he calls indicators) they will not be modified. Trudgill integrated these ideas in the development of accommodation theory to enable dialectologists account for the processes of accommodation.

Accommodation begins with those features that are salient. In this regard it starts at the lexical level followed by either phonological or morphological accommodation. The lexical level seems to be favoured first because it is less complex and it is not highly structured. It is not the case that linguistic accommodation can go unabated. There are a number of factors that may hinder this process. The most obvious one is age. It is generally true that children of certain age ranges are able to totally accommodate to new speech forms. Secondly, the attitudes that a speaker has to a given dialect may hinder or accelerate accommodation. In the present thesis there are some cases which appear to fit in the kind of accommodation that Trudgill is describing. In particular, the Lenje informant who

constantly accommodated to the present writer's speech form, only to be corrected by other people in the audience who sensed the deviations from Lj. We discuss these issues below.

We must also allow for the possibility that when features are transferred from one dialect to another it is not always the case that they enter the receiving dialect in a form identical to that of the original dialect. Since accommodation essentially means reducing linguistic dissimilarities between dialects we expect that there will be many discrepancies between the forms in the original dialect and those in the recipient dialect.

Accommodation theory is more immediately relevant to us here because unlike the Labovian approach outlined earlier it accounts for convergent language change across dialect boundaries. Some of the Tonga lects, namely P1, Vy, Tk and I1 share geographical-administrative borders. It is therefore correct to say that speakers of these lects have passive knowledge of at least one other lect in addition to the native command of their own because they frequently come into contact. According to our experience in the field P1 seems to be one of lects speakers of I1, Lj, Vy and Tk all have knowledge of because it (i.e. P1) is the standard lect (see 1.6.3).

The sound correspondences we have established in Chapter 3 form the basis of the observations we make in the sections below and as we have already indicated more systematic sociolinguistic work still remains to be done.

## 6.2 Inconsistent correspondences in I1.

There are some cognates in I1 with voiced stops -- e.g. [b] and [g] in cigaba 'a tin container' (559a) and [g] in cigayo 'grinding mill'

(567) where we would have expected [β] and [k] respectively. Non-prenasalised voiced plosives are generally associated with P1, Vy and Tk. The occurrence of these voiced stops in I1 might be ascribed to lect contact. Our I1 informants spoke P1 well and they in fact come from that part of the I1 region which is closest to P1. We can assume that the pronunciation of those cognate words with non-prenasalized [g] could only be due to the informants' knowledge of P1 pronunciation (because [g] only occurs as a prenasalised consonant in I1). One of the I1 informants, a seventeen year old schoolgirl told us that she often spent her holidays in Monze, which is the heart of the P1 speaking area. At the time that we collected data from her she was also studying Plateau Tonga in school. We assume that knowledge of P1 caused interference in her native speech.

Another observation involves /hh/ in I1. Our main informant consistently gave us the consonant [h̥] before [i] while older informants sometimes produced zh([ʒ]). Some of the older informants coming from the same area (i.e. Mukobela's chiefdom) alternated between /hh/ and /zh/ in the pronunciation of the same words (e.g. kú-hhiβa 'to know' (83), hhina 'name' (100) and kú-hhimba 'to swell' (158)) which have the variant forms kú-zhiβa, zhina and kú-zhimba, respectively). In addition one boy aged 18 who was from a different area, namely Shezongo chiefdom but who was not able to continue as our informant spoke a lect in which he consistently gave the pronunciation with zh([ʒ]) in the words in question. The consonant /zh/, and not /hh/, is the one that is recorded in published literature on I1 (cf. Smith 1908 and Yukawa 1987). It can be assumed that our informant who gave us forms with /hh/ would have been influenced by P1. This influence manifested itself also in the speech of some of

the informants who alternated between /hh/ and /zh/. It is likely that this influence is only seen in the form of I1 which is closest to P1 but that it is incomplete; otherwise we should have had only forms with /hh/. The lect that is furthest from P1, (i.e. in Shezongo chiefdom) does not appear to have such variation.

The present writer can also report that during the seven months he lived as a teacher in Namwala, in the I1a area, he could conduct a conversation in P1 and his I1 interlocutors readily understood him, but responded in I1. Even in class he spoke P1 when teaching *Tonga* and the I1 pupils could follow lessons quite easily. Pupils as early as in the first year of secondary school were found to have quite a good command of written and spoken P1. However when one examined their written work closely one noticed that pupils replaced P1 consonants with I1 ones. These included *hy* which was substituted by /sh/ [ʃ]. P1 [hy] corresponds to I1 sh (see 3.1.22.1, Table 3.35a).

Some of the I1 pupils in the same class had problems with fricative consonants such as the glottal fricatives and the voiced velar fricative [ɣ]. For the glottal fricatives of P1, namely [hy] and [hhy], these I1 pupils replaced these with [sh] and [zh] respectively. At the school in question there were however also Vy, Tk and Lj speaking pupils. These substituted [hy] and [hhy] with the nearest equivalents in their native lects in their written work and speech. For example in the case of P1 [hy], [hhy], [hw] and [hhw] the Vy and Tk pupils substituted [sy], [zy], [fw] and [vw] respectively while the Lj pupils substituted [hy] and [hhy] for sh[ʃ] and both [hw] and [hhw] for [fw]. The other consonant that pupils had a problem pronouncing is the voiced velar fricative [ɣ]. This was replaced by [k] by all the pupils except the Vy pupils who had [ɣ] in their

phonological system.

The difficulties extended to vocabulary. Pupils would use words which were not in P1 thereby creating difficulties between themselves and the teacher. In marking their work this presented the teacher with a dilemma: whether to mark the pupil wrong or to accept the local word. For example should an I1 speaking pupil be marked down because he or she has used the word *mwánángu* 'uncle' instead of the P1 one *mújwa*?

### 6.3 Observations on Lj responses.

One Lj informant gave us the impression that every P1 word had an equivalent in Lj and for him the only difference between P1 and Lj seemed to be the pronunciation. At one of the interview sessions the informants kept correcting each other because the person who was supplying us with the data kept replacing the 'normal' Lj consonants with the P1 ones. This in fact extended to the supplying of P1 vocabulary instead of the cognate Lj words we sought. At this point the listeners interjected and gave us the 'correct form'. There are several reasons why the informant might have been led to giving us the forms which he probably knew were not Lj. The informant was perhaps trying to accommodate to the researcher's speech. It should also be remembered that since P1 is the *standard* lect the informant could have been attempting to impress the researcher. Some of the data corrected by other Lenje speakers include Bulowa 'blood' (15) and cifuwa 'bone' (17). Other informants insisted that the Lj forms should be milopa and cifupa respectively. Our informant replaced p by w in these words. The result of this is that with respect to this consonant the sound change affecting PT \*p puts Lj in the same group as P1, Vy, Tk and I1.

This can be seen in 4. (1-5) where Lj and S1 are separated by only one isogloss which also happens to be the reflex of PT \*p. We are making these observations based on the speech of one informant. We are not in a position to say how consistent this overt accommodation to P1 is among the other Lj speakers. This still remains to be discovered in a separate study. Another form that can be explained in a similar way is -fwifwi 'short' (134). This form given by the informant was corrected to -fupi by other speakers. What this suggests to us is that other Lj speakers too have knowledge of P1, as they were able to distinguish P1 forms from Lj ones. If we were to incorporate these *corrections* then Lj is virtually indistinguishable from S1 from the phonological point of view. We should finally mention that the Lj speaker who was our main informant might have been exhibiting his individual idiolect rather than showing us how much P1 has penetrated into the speech of the Lj as a whole.

Lj and S1 are generally thought to be mutually intelligible by their speakers. This is not surprising given their many shared sound changes as illustrated in Map 4.1 above. All the informants we interviewed among the Lj and S1 speakers claimed to be conversant in each other's lect. We have no data to show how widespread this claimed mutual intelligibility is in the general population except what is presented in Chart 4.10 above. In particular one has to ask whether intelligibility is unidirectional or not. We would like to suggest that there are more S1 people who have some competence in Lj whereas the number of Lj speakers who are competent in S1 are fewer. This is because Lj is used as the medium of instruction in some schools in the S1 areas. This implies that the S1 are more exposed to Lj from an early age.

As Chart 4.10 indicates, the basic vocabulary agreement between each of S1 and Lj on the one hand and each of P1, Vy, Tk and I1 on the other is quite low. Although we cannot support it with statistics we observed during fieldwork that the speakers of S1 had some passive competence in P1. When doing research among the S1 speakers the present writer conducted a certain amount of the interviewing in P1. The interviewees would understand some of the questions without translation but their responses were in S1. But on the whole communication was quite hard between us. The present writer had more problems understanding S1 than the interviewees were able to understand him because he had not been previously exposed to S1 speech. Accommodation strategies of the type discussed by Trudgill (1986) seemed generally non-existent. Unlike the strategies observed in the case of the Lj informants, there was no attempt on the part of S1 speakers to try and imitate P1 speech. We cannot say how far this applied to tone since we lack extensive tonal data. However, the tone patterns of P1 and S1 were quite similar as judged by the tones of citation forms. Whether this was genuine or due to imitation we cannot tell at the moment. In more extensive tonal data we expect the similarity between P1 and S1 to diminish.

We can suggest that one of the reasons why S1 informants seemed unwilling to accommodate to P1 was simply that they did not have much knowledge of P1 to be able to do so, just as the writer had little knowledge of S1 himself. The other reason might have had to do with the overt desire for the S1 speakers to maintain their identity. Although the interviewees readily acknowledged an affinity with P1 they also insisted that they were a different people. It was not made clear to us in what sense they were different, but it is important that

they felt that they were. Nevertheless, the SI speakers interviewed had a definite opinion about the PI people. In particular they claimed that PI speakers were rather arrogant because PI speech was the one that was always aired on the radio. This feeling was quite strong. When it became difficult to understand one another we resorted to a neutral lect, Nyanja, another Bantu language, but which is not immediately related to the Tonga group (see 1.1.3).

The desire for a distinct linguistic identity such as what we experienced among the SI informants was also quite evident with the speakers of other lects as well. For instance we indicated above that our Lj informant was *corrected* by other Lj speakers because it was felt that he was giving us *incorrect* Lj. Since these informants did not want their lects to sound like PI at any point, we can interpret this action as assertion of group identity in the way described by Milroy (1987:114-115 ).

Milroy suggests that independent non-linguistic variables like age, socio-economic class and sex might be viewed as various categories of identity. But the one thing that cuts across all these categories is ethnic identity, which can be expressed linguistically by insisting on using forms that make them feel they are different from other linguistic communities. One of our Vy informants went to great lengths to try and show how different Vy was from PI although Chart 4.10 in Chapter 4 in fact reveals how close these lects are from the point of view of shared basic vocabulary agreement. Vy and PI share geographical boundaries and speakers of both lects have been in contact for a long time. The movement of people in search of employment and education is from the Vy to the PI speaking areas because that is where there are more opportunities for employment. There are also more

schools especially secondary schools and large government hospitals in the P1 speaking area than found in the Vy area. People from the Vy have been coming to share in these facilities. Because of this seeming constant contact it can be assumed that innovation in one of these lects can readily diffuse into the other lect. In the area of basic vocabulary this is borne out by a very high percentage of agreement, which is over 80 %. In the area of phonology it is only P1 and Vy that have the voiced velar fricative [ɣ], corresponding to [k] in the other lects. This consonant is generally associated with P1 but the Vy informants had this in their speech rather than the expected plosive. An account of this might be that the pronunciation [ɣ] has spread from P1 to Vy since these lects are actively in contact.

In discussing linguistic change in a community, Labov (1972: 314ff) classified the various elements involved in the change according to the kind of social evaluation as follows: (1) *indicators*: these show differentiation by age or social group but they are not the subject of evaluation; (2) *Markers*: these show stylistic stratification and are relatively high in a speaker's consciousness compared to *indicators*. Linguistic features that are markers are also usually stigmatized and as such speakers modify them in speech situations. Labov was speaking about a stratified speech community as found in an urban setting. However these principles may be applied to some extent to studies of regional lects as well if such lects are present in the same community and in the command of a single speaker. The pronunciation involving [ɣ] by the Vy speakers can be viewed as a result of adopting a form of pronunciation which is not stigmatised, for P1 speakers make fun of people who produce the plosive /k/ where /ɣ/ is the normal pronunciation in their speech. It may be a reaction

to this kind of behaviour that might have brought about the change from [k] to [ɣ] in Vy. The other variety of Vy not included in the present study has the plosive [k] rather than [ɣ]. This information was supplied to the writer by a Vy informant. The people interviewed might have chosen to select the P1 pronunciation [ɣ] rather than their own [k] because P1 is the standard lect and the more prestigious. We would like to suggest that the reason for this is that P1 and Vy interact much more than do P1 and the other lects, and that P1 is the prestige lect.

If we go back to the phonological outlines in Chapter 2 (Chart 2.1) we shall find that Vy has other distinctive sounds which are not found in P1, namely /sy/, /zy/, /fw/ and /vw/. Generally these sounds do not seem to have come under the influence of P1 and yet they are even more salient or noticeable than the plosive /k/ in that P1 speakers at least stereotype Vy speech with these four sounds much more than they do with /k/.

But why did our informant select only /k/ as a target for modification? One explanation for this may be found in Milroy (1987: 114ff). According to Milroy, stereotyped speech may be maintained if it is one way of expressing regional or ethnic identity. This point aptly characterises Vy speech as far as the sequences /sy/, /zy/, /fw/ and /vw/ are concerned since these are the forms that are frowned upon by speakers of other lects, e.g. P1 speakers. But we have also seen that there are inconsistencies in the manifestation of the palatalised sibilant /sy/; /y/ is absent after /s/ in the words in which we would have expected it in Vy e.g. yúsule 'back', liso (39a) 'eye', yúsuuya 'to blossom' (635a) and másuwa 'cooking stones' (606a). A similar unexpected form is the Tk word kusupuka (437a) 'to slip from grip'

(see Table 3.35c in 3.1.22.2 above). It is true that the depalatalisation of /sy/ here can be accounted for in terms of the following phonetic environment, namely before [+rd] as was suggested for PT \*ñ in 3.1.3. The problem in the present case is that there are also words in which /sy/ is found before /o/ and /u/ in Vy, e.g. yucilisyo 'righthand' (118a), músyofo 'colour' (433), yúsyoma 'to believe', and βúsyu, 'face' (436a). yusyupuya 'to slip from grip' (437a) (see 3.1.22.2 Table 3.35b). Clearly phonetic environment alone cannot adequately account for loss of /y/ before /o/ and /u/.

The reason for giving these data again is to try and explain the social consequence of the loss of /y/ after /s/ in restricted environments. Generally palatalised /sy/ and /zy/ are stigmatized. Although a phonetic account can be given as advanced in the previous paragraph there is a social dimension to this problem. Even among some Pl speakers some palatalised consonants are frowned upon. Where alternative pronunciations are available the forms with /hy/ are replaced by those with /s/. This goes for items like yúhyule 'back' (6a) and líhyo, 'eye' (39) and máhyuwa 'cooking stones' (606a) which have the preferred forms sule, líso, and másuwa, respectively. Other words that tend to have alternative pronunciations in Pl are yutya (preferred form: yutila 'to pour') and hyumo (preferred form: sumo 'spear' ). It is however curious that these alternative pronunciations have /s/ rather than /h/ in Pl.

As far as Vy is concerned it can be said that a rule of loss of /y/ before /o/ and /u/ in the palatalised sibilants /sy/ and /zy/ seems not complete.

#### 6.4 Conclusion and outlook.

The discussion in this chapter has illuminated certain sociolinguistic factors that need to be investigated much more carefully with more data. The observations we have raised are not systematic since we did not set out to make a sociolinguistic study of the Tonga lects. A future study specifically designed to expand the enquiry by interviewing more informants in each lect may establish the extent to which there is diffusion of features from one lect to another in geographical space.

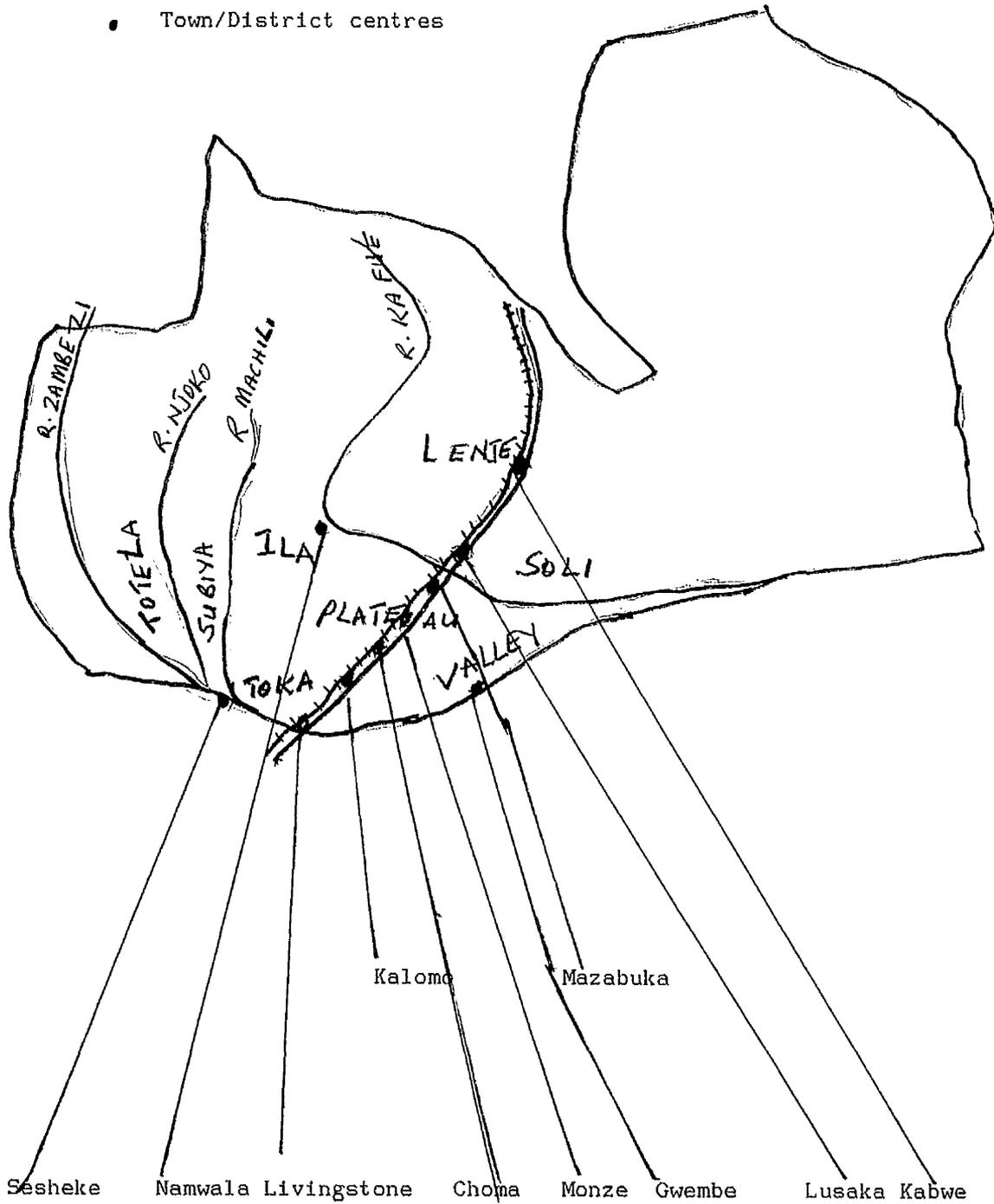
Another way of expanding future research is to include many more lects than we had the time for in the present study. For example we have seen conflicting data from I1 informants. It was suggested that our I1 informants might have been showing influence from Lundwe and P1 but since Lundwe is not included in the present study firm conclusions cannot be made at the moment.

One of the problems we have raised above concerns how P1 is received by the speakers of other core lects. Reactions from S1 and some of the Lj speakers suggests that P1 is resented by them. This point is worth making because P1 is taught in some Lj speaking areas and it is imposed by the *government* because it is assumed that Lj people have some competence in P1. We have reported in 6.3 above that some Lj speakers were conscious of the differences between their lect and P1 and were keen on maintaining the differences. The present policy of the Zambian government to impose P1 (and in some cases Bemba) on the Lj people is unfortunate and needs to be reviewed.

Map 6.1. Map showing relative location of the Tonga lects.

Key:

- ++++ Railway line
- Great North Road
- ~ River
- Town/District centres



Errata:

1. Page 362: between Antilla, R. and Borowsky, T. 1983, insert:  
Arlotto, A. 1972. Introduction to Historical Linguistics. Boston.  
Houghton-Mifflin.
2. Page 362: between Arlotto, A. and Borowsky, T. 1983, insert:  
Armstrong, L. E. 1940. The Phonetic and Tonal Structure of Kikuyu.  
London. Published for the International Institute of African  
Languages and Cultures by the Oxford University Press.
3. Page 362 between Bailey, C-N. J. 1973 and Bloomfield L. 1933,  
insert:  
Bleek, W. 1862. A Comparative Grammar of South African languages.  
Part 1. Phonology. London. Trübner and Company.
4. Page 363: between Chambers J.K. and Trudgill P. 1980 and Chomsky N-  
and M. Halle 1968, insert:  
Chomsky, N. 1972. Introduction to Historical Linguistics. Cambridge,  
Mass. M.I.T.
5. Page 366: between Harris, J. 1989 and Herbert R.K. 1986, insert:  
Hedinger, R. 1987. The Manenguba Languages (Bantu A.15 Mbo Cluster) of  
Cameroon. London. School of Oriental and African Studies.
6. Page 368: between Labov W. 1972 and Lass R. 1978, insert:  
Ladefoged, P. 1971. Preliminaries to Linguistic Phonetics. Chicago.  
University of Chicago Press.
7. Page 368: between Ladefoged P. 1971 and Lass R. 1978, insert:  
Lanham, L. W. 1955. A Study of Gitonga of Inhambane. Bantu Linguistic  
Studies 1. Johannesburg. Witwatersrand University Press.
8. Page 370-1: between Mytton, G. 1978 and Ohanesian S. and Kashoki,  
M.E. 1978, insert:  
Newton, B. 1972. The Generative Interpretation of Dialect. London.  
Cambridge University Press.
9. Page 371: between Torrend, J. 1931 and Trudgill P. 1983, insert:  
Trudgill, P. 1974. Sociolinguistics: an introduction. Harmondsworth.  
Penguin Books.
10. Page 372; between Weinreich U. 1970 and Yukawa Y. 1987, insert:  
Wenker, G. 1881. Sprachatlas von North und Mitteldeutschland (Murburg an  
Lahn, etc.).

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A HISTORICO-COMPARATIVE STUDY OF ZAMBIAN PLATEAU TONGA  
AND SEVEN RELATED LECTS

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VOLTTI

Submitted in partial fulfilment of the requirements for the degree of  
Doctor of Philosophy

SCHOOL OF ORIENTAL AND AFRICAN STUDIES

UNIVERSITY OF LONDON

1991



1. **all** CB \*'-yónce : PT \*'-yónse (see 4.3.9)  
P1 ónse Cognates can be found in Cewa onse; Bemba  
Vy ónse onse; Kaonde onse and Luvale ose  
Tk ónse  
I1 ónse  
Lj ónse  
S1 ónse  
Sß onsé  
Tt ónse
2. **and**
- (a) (a): Guthrie quoted forms consistent with \*ya from  
P1 a A74 Bulu, B75 Bali, H16 Kongo, M61 Lenje (contrary  
Vy a to our data), suggesting that these forms are  
Tk a probably unconnected 'mutations'. We can only  
observe common innovations by P1, Vy, Tk (possibly  
other varieties of Lj) with related innovation  
in I1.  
CB \*-na PT \*-na
- (b) (b): This form may be historically related to (a)  
I1 o and that /o/ is a result of vowel fusion found  
when original \*a was followed by an initial  
vowel of following stem. This morphonemic change  
has now become obscured.
- (c) (c): Except for Sß and Tt, identical data is  
Lj na recorded for 194, below, q. v. The widespread  
S1 na Bantu form found in (2a) reflects  
Sß na CB \*-na. Cognates also found in Bemba, Nyanja, and  
Tt na Kaonde.
3. **animal**
- (a) (a): (3a) is widespread in Bantu. Cognates are  
P1 munyama found in Cewa, Kaonde and Luvale: all have  
Vy munyama nyama.  
Tk munyama CB \*-nyàmà ;, 'animal'; 'meat'  
I1 munyama PT \*'-nyama  
Lj munyama  
S1 munyama
- (b) (b) and (c) have no known cognates.  
Sß cinyólozi
- (c)  
Tt cípau
4. **ashes**
- (a) CB \*-túé : PT \*'-twe  
P1 twe Neither (a) nor (b) is predominant in Bantu.

- Vy twe            However, Guthrie reconstructed (4a) as  
Sß itwé           \*túé. Cognates can be found in Nsenga itwe  
Il ftwe  
Tt itwé
- (b)  
Lj mulota        Cognates of 4(b) include Shona dota and Lozi  
Tt mulota        lola. The Tk form is in class 5 and /d/  
Tk dota           in class 5 alternates with /l/ in class 6 prefix  
                 ma. The present noun has no plural.
5. at  
(a)                (a)/(b): This is a locative prefix of class 16  
                     alternating with class 17 ku and class 18 mu.  
P1 a                This word compares with pa in many  
Vy a                Zambian lects, e.g. Kaonde, Bemba, Cewa pa  
Il a                and Cewa. The form in 5b agrees with these  
Tk a                lects in this regard. 5a can be said to have  
                     lost the initial consonant PT \*p. The loss of  
                     PT \*p has parallels in 244a and 247 below.
- (b)                CB: \*-pá: PT: \*'-pa  
Lj pa               Cognates include: Bemba, Nsenga and Yao p.  
S1 pa  
Sß ha  
Tt ha
6. back            All forms except Totela are cited with a locative  
                     prefix of cl. 17, ku.  
(a)                (a): No known cognates.  
P1 yúhyule        The form of Lj has a stem which is vowel initial.  
Vy yúsule        There are many stems differing in a similar  
Tk kusule        manner e.g. (90). We can assume that the ones  
Lj kwísule       without the vowel in the initial position  
                     innovated. However, the element /i/ in Lj could  
                     be seen as an allomorph of class 5 prefix since  
                     kwísule is a locative noun of class 17.  
                     PT \*'-syule
- (b)                (b): (b) can be analysed as a locative noun. It  
Sß kúmúsana       is the same word cited at (396), q. v. In Sß and  
Tt músana        Il there are two prefixes, ku (class 17) and mu  
Il kúmúsána       (class 3). Tt has class 3 prefix only.  
                     CB \*-cánà : PT \*'-sana
- (c)                (c): (c) is also a locative noun. It has cognates  
S1 kúnyúma        in a few Bantu lects, e.g. Bemba, inuma. cf. CB  
                     root \*numa, \*yîmà, \*\*nîmà, \*(n)yÛmá, \*nÛmá.  
                     The variant nyÛmá, reflected in S1 is also  
                     reflected in Swahili and Yao, nyuma. The form  
                     reflected by Bemba innuma is also cited by  
                     Guthrie from Il (cf. Smith and Dale : inuma). Cf.  
                     3a P1 munyama vs Bemba in<sub>u</sub>nama.

7. **bad** This root is widespread in Bantu. Cognates can  
(a) be found in Kaonde, Bemba and Nsenga: βi  
P1 βi CB \*-bɪ : PT \*'-βi  
Vy βi  
Tk βi  
I1 βi  
Lj βi  
Sβ βi  
Tt βi
- (b) (b): The Soli root was given in the verb form. It  
S1 ipa has cognates in other Bantu lects such as Bemba:  
biipa and Shona ipa. As the Bemba root shows,  
S1 has actually lost the initial consonant.  
Compare (29) below.
8. **to bark** (a): A cognate is found in Bemba, ukukuwa; Lunda  
(a) kuwa 'cheer' and Nyanja ku 'to cry out'.  
P1 γúyuwa The forms have odd distribution and there is a  
Vy γúyuwa suspicion that (8a) is an onomatopoeia.  
Tk kúkuwa CB: \*-kug-.  
I1 kúkuwa PT: \*'-kuwa  
Lj kúkuwa  
S1 kúkuwa  
Tt kúkuwa
- (b) (b): similarly onomatopoeic. No known cognates.  
Sβ kúhúhúla
9. **because** (9): nkaambo is the predicative form of : class 12  
kaambo 'reason'. ka is a prefix.  
(a)  
P1 nkaambo CB: \*-gàmbò, \*-yàmbò, 'reason.'  
Vy nkaambo PT: \*nkaambo  
Tk nkaambo  
I1 nkaambo  
Lj nkaambo
- (b) No cognates have been found for (b) and (c) nor  
S1 múcandu have their morphological composition been  
(c) investigated.  
Sβ kákúli  
Tt kákúli
10. **belly** CB: \*-dà. 'abdomen and 'intestine' cf. (64)  
(a) below. P1 displays the strong consonant d  
P1 da expected in class 5, see chapter 2, §2.4.  
Vy da It does not display the expected alternation in  
Tk da the plural (class 6) where we would have expected  
/l/.  
PT: \*'-la
- (b) (b): Cognates are found in Bemba icifu Mbunda  
I1 ihu

- (b)  
Il fihu (b): Cognates are found in Bemba icifu Mbunda  
lif and Gewa cipfu.  
CB: pŭ
- (c)  
Lj lifumo Cognates are found in Luyana ilipumo, Kaonde  
Sß ivumó jiyumo, and Bemba ifumo.  
Tt ivúmo CB: \*bŭmò  
PT: \*'-zwumo.
- (d)  
Sl lißunda There are no known cognates of (d) in other  
Zambian lects.
- 11. big**
- (a)  
Pl páti (a): No known cognates of (a) in other Zambian  
Vy páti lects.  
Tk páti PT \*'-páti
- (b)  
Il kando (b): No known cognates  
Sß kando
- (c)  
Lj nene (c): Cognates can be found in Luvale nene  
Tt nene and Lunda neni.  
CB: \*'-néne.
- (d)  
Sl kulene (d): Obscure relationship with CB \*kúdu 'big.'
- 12. bird**
- (a)  
Pl muyuni (a): This root is widespread in Bantu.  
Vy muyuni  
Tk muyuni  
Il muzuni CB: \*'-yuni/\*'-juni.  
Sß cizuni PT \*'-yuni  
Lj muyuni  
Tt cizúni
- (b)  
Sl cikééni (b): No known cognates.
- 13. to bite**
- (a)  
Pl yúluma (a): Widely found in other Bantu lects.  
Vy yúluma These include Kaonde, Lozi and Lunda all of which  
Tk kúluma have the radical lum. It does not seem as if  
Il kúluma (a) is related in any way to (b), below, because  
Lj kúluma the difference in the initial consonant cannot be  
Sl kúluma supported by known sound changes in these lects.  
CB: \*dúm : PT \*'lùm

(b) (b): has a cognate in Bemba and Luvale : sum.  
 Sß kusúma CB: \*-cúm-  
 Tt kúsuma

14. black

Pl yúsiya (14) shows variation in C<sub>2</sub> position. This is  
 Vy yúsiya discussed under 3.1.18.2 above. In a number of  
 Tk kusiya lexical items PT \*p was lost in C<sub>2</sub> position after  
 Il kushiya \*i, \*o, \*u and before \*i and \*a in Pl, Vy, Tk, Il,  
 Lj kushiya and Lj. However PT \*p became /h/ in Sß and Tt.  
 Sl kushiya PT \* -sipa  
 Sß kusiha CB: \*-piip-  
 Tt kusíha See 3.1.7 for discussion

15. blood

Pl ßulowa (15) is found in other Bantu lects e.g.  
 Vy ßulowa Bemba umulopa and Manyika ropa. This again  
 Tk ßulowa suggests an analysis as in (14) above where  
 Il ßulowa original \*p was lost in Pl, Vy, Tk, Il and Lj.  
 Lj ßulowa /w/ is just a transition. Sl retained PT  
 Sl milopa \*p while it has the reflex of /h/ in Sß and Tt.  
 Sß malohá PT \*p has the reflex h in Tt and Sß (see 3.1.7.2).  
 Tt malóha PT \*-lopa.  
 CB \*-dòpà.

16. to blow with mouth

(a) (a): no known cognates.  
 Pl yúhulida Sß and Tt have the simple root in (a) while the  
 Vy yúfulida reflex in the other lects the root is extended  
 Tk kúfulida The correspondence d and l seen in the extension  
 Il kúhulila il/id is regular. In Pl the extension id  
 Sß kufúla is associated with vowel final verb roots. But  
 Tt kufúla in the present case this extension is found after  
 a consonant final radical. This is irregular in Pl  
 Vy and Tk.  
 CB: \*-púd- PT \*-swula/\*' -swulila

(b) (b). Cognates can be found in Bemba puup Kongo  
 Lj kupuupa ßuuß and Rundi huuh all of which are  
 reflexes of CB: \*pùùp 'blow (as wind).

(c) (c): No known cognates.  
 Sl kúfußaila

17. **bone**

	(a)	(a): Cognates include Bemba <u>ifupa</u> and Maŋanja <u>pfupa</u> , Kaonde <u>kikupa</u> and Cewa <u>pfupa</u> .
P1	zhíhuwa	
Vy	cifuwa	CB: *-kúpa
Tk	cifuwa	PT *'-swùpà
Il	cíhuwa	See discussion in 3.1.7
Lj	cifuwa	
Sl	cifúpa	
Sß	cifuhá	
Tt	cifúha	

18 **to breathe**

	(a)	(a): No known cognates.
P1	γuyoya	PT *'-yoya.
Vy	γuyoya	
Il	kuzoza	
Sl	kuyoya	
	(b)	
Tk	kuyeeaka	(b): no known cognates.
	(c)	
Lj	kupeema	(c): cognates: Kaonde <u>kupeema</u> ; Bemba <u>ukupeema</u> and Nsenga <u>pem</u> . CB: *-pèèm-
	(d)	
Sß	kúhúúza	(d): No known cognate, but cf. Nsenga <u>kusuza</u> .
Tt	kúhúúza	

19 **to burn up**

	(a)	(a): No known cognates.
P1	γuumpa	
Vy	γuumpa	
	(b)	Outside the Tonga lects (b) is cognate with Cewa <u>tenta</u> but it is not reported in CB. Notice vowel length in Tt before prenasalized consonant.
Tk	kutenta	PT *'-tenta
Il	kutenta	
Lj	kutenta	
Sl	kutenta	
Tt	kuté:nta	
	(c)	(c): (c) seems to be the causative form of the root <u>hya</u> (255). It can then be analysed as <u>-hiisa</u> where <u>is</u> acts as the 'causative' extension. The only problem is voiced /hh/ in (19c)
Sß	kuhhiisa	

20 child

- (a) (a): This is widespread in Bantu.  
Pl mwána Cognates include Luvale and Kongo mwana; and  
Vy mwána Bemba umwana.  
Tk mwána CB \*-yánà;  
Il mwána PT \*'-ána  
Lj mwána
- (b) (b)/(c): -ike and -nuke seem to be suffixes of  
Sl mwánike (20a) although these suffixes are not found in any  
other nouns. Comparable roots are found in Mwenyi,  
mwanuke and Nkoya kanuke respectively.  
CB: \*-yánìkè  
Cognates of (b) can be found in Holoholo (Zaire)  
mwa:nIke and Nyamwesi mwa:nIkhe.
- (c)  
Tt káánuke
- (d) (d): No known cognates.  
Sß muhwíile

21 cloud

- (a) (a): Cognates are found in other Bantu lects such  
Pl kumbi as Kaonde, Lunda and Bemba. The noun in all these  
(mayumbi) lects is in class 5. In Pl and Vy this means  
Vy kumbi that C1 is /ɣ/ rather than /k/. The consonant /k/  
(mayumbi) realized after affixing the class 5 prefix.  
Il ikumbi PT \*'-kumbi  
Lj likumbi  
Sl likumbi
- (b)  
Sß makopé (likopé) (b): No known cognates.
- (c)  
Tk joβa/mayoβa (c): no known cognates. Although the root of Tk  
Tt izóβa has /j/ in the initial position this can be  
(mazóβa) explained as arising from the prefixation of the  
class prefix 5 as we explained in (a) above. In  
the plural /j/ alternates with /y/ (mayoβa).

22 to be cold

- Pl yútontola (22) is uniformly found in all the lects.  
Vy yútontola Cognates are found in many Zambian lects:  
Tk kútontola Luchazi and Ambo (tontola; Nsenga  
Il kútontola (tonthola) and Mbunda (tonoola). Notice  
Lj kútontola the absence of /t/ after /n/ in Mbunda. Note  
Sl kútontola vowel length in Tt before the prenasalized  
Sß kútontóla consonant /nt/.  
Tt kútó:ntola PT \*'-tontola

23. come

(a) (23a): No known cognates.  
P1 yuβoola PT \*'-βoola  
Tk kuβoola  
Vy yuβoola

(b)

I1 kwiza (b): widespread; cf. Bemba, ukwiisa  
Lj kwiza kwizya- in\*CEU, etc.  
S1 kwisa PT \*'-iza  
Sβ kwizá  
Tt kwíiza

24. count

(a) Both (a) and (b) are general in Bantu lects.  
P1 yuβala CB: \*-bád-.  
Vy yuβala PT: \*'-βala  
Tk kuβala  
I1 yuβala  
Sβ yuβalá  
Tt yuβála

(b) CB: \*-bèding-.  
Lj kúβelenga  
S1 kúβelenga

25. to cut tree  
e.g. with  
axe

(a) (a): No known cognates.  
P1 yugonka

(b) (b): Cognates include Luvale, and Yao  
Vy yútema tem.  
Tk kútema CB as \*-tém-.  
I1 kútema PT \*'-tema  
Lj kútema  
Tt kútema

(c) (c) and (d) are restricted to Sβ and Tt.  
S1 kútimbula

(d)  
Sβ kúkosolá

26. **day**

(a) (a): (a) is homonymous with (157), 'sun', which has many cognates. However there are no cognates of (26a) with the present meaning.  
P1 βúzuβa CB \*-júbà.  
Vy βúzuβa PT \*'-zuβa (see 157 below)  
Tk βúzuβa  
S1 βúsuβa  
Sβ izúβa  
Tt izúβa

(b) (b): (26) is synonymous with (105) 'night'.  
I1 βúshiku CB tíkù.  
Lj βúshiku PT \*'-siku (cf. 105 below).

27. **die** (27) is widespread in Bantu.

P1 yúhwa  
Vy yúfwa CB: \*-kú.  
Tk kúfwa PT \*'-swa  
I1 kúhwa  
Lj kúfwa  
S1 kúfwa  
Sβ kufwá  
Tt kúfwa

28. **dig**

(a) (a): No known cognates. Sβ and Tt do not allow /y/ after alveolar fricatives.  
P1 yúhya PT \*'-sya  
Vy yúsya  
Tk kúsya  
I1 kúsha  
Sβ kusá  
Tt kúsa

(b) (b): No known cognates  
Lj kúkaβa

(c) (c): Cognates of this can be found in Bemba and Kaonde, ukwiimba.  
S1 kwimba CB: \*'-yimb. The distribution is limited in Bantu.

29. **dirty**

(29) is the derived verb form of (7) above βi 'bad'. (29) can be broken down as βiβa; βiya; βica and ipa (see 3.1.16). The S1 form is skewed at C, Cognates can be found in Shona ipa and Bemba βiipa both of which resemble more closely the S1 form. All three in reflect CB \*βiipa. Guthrie suggested that p is a word building element.  
P1 yúβija  
Vy yúβija  
I1 kúβiya  
Tk kúβija  
Lj kúβica  
S1 kwiipa  
Sβ kuβiya  
Tt kuβiya PT \*'-βiipa

30. **dog**
- (a) (30a) is widespread in Bantu. Cognates include Bemba, Nsenga and Kongo bwa; Lunda and Kaonde kawa  
P1 múβwa  
Tk múβwa  
I1 múβwa  
Lj ímbwa  
S1 káβwa  
Sβ ímbwá  
Tt ímbwa
- (b) (b): no known cognates.  
Vy múnkála
31. **drink** (31) is also general. The correspondence ny and n has parallels in (125, 136 and 173). But it is not regular. See 3.1.3 for a discussion. Cognates can be found in Luvale, Bemba and Kongo: nw  
P1 yúnywa  
Vy yúnywa  
Tk kúnywa  
I1 kúnwa  
Lj kúnwa  
S1 kúnwa  
Sβ kunywá  
Tt kúnywa
- (31) is also general. The correspondence ny and n has parallels in (125, 136 and 173). But it is not regular. See 3.1.3 for a discussion. Cognates can be found in Luvale, Bemba and Kongo: nw  
PT \*'-nywa  
CB \*-nÚ-/\*-nyÚ-
32. **dry** (32) is the adjectival form of the verb of (616) yúyuma. They are both widespread in Bantu.  
P1 yumu  
Vy yumu  
Tk yumu  
I1 zumu  
Lj yumu  
S1 yumu  
Sβ zumu  
Tt zumu
- PT \*'-yumu  
CB \*-yúm-
33. **dull** (33) was not easy to elicit.
34. **dust**
- (a) (a): No known cognate.  
P1 yasuyo  
Vy yasuyo  
Tk kasuko  
I1 luhuko  
Lj lusuko  
S1 lusuko
- PT \*'-swuko
- (b) (b): (b) is cognate with Lozi masila.  
Sβ masila  
Tt masila
35. **ear** (35) is a general in Bantu. cf. Bemba ukutwi, Luyana ukutwi and Luvale litwitwi.  
P1 yútwi  
Vy yútwi  
Tk kútwi
- CB: \*-túí.  
PT \*'-twi

Il kútwi  
Lj litwi  
S1 litwi  
Sβ kutwí  
Tt yútwi

**36. earth**

(a) (36) was not easy to elicit because of the ambiguity of the gloss. For example (a) also means 'country' or even 'world' in P1 and Vy. The root of (c) exists in P1 and Vy with the meaning 'ground.' There are no known cognates of (36a).

P1 nyiya  
Vy nyiya

(b) (b): No known cognates. However compare (126b) to which may be related the reduplicated form of (36b).

Tk muse

(c) CB: \*-cí 'country'  
Cognates include Luganda ensi and Kongo nsi. Guthrie quotes Il as having the reflex fi for CB 'country'.  
PT \*'-s-i  
Reflexes of this include Bemba mūfi and Luvale muḽi.

Il nshi  
Lj nshi  
S1 nshi

(d) (d): no known cognates.

Sβ nkaanda

(e) (e): CB: \*-bÚ  
Cognates include Luyana mupu; Luvale maḽu and Manyika ivu. Guthrie quotes Tt as having iiβu

Tt ivu  
(iβu)

**37. eat.** (37): This is widespread in Bantu.  
Cognates include Kongo dya; Luvale and Bemba lya  
PT \*'-lya  
CB: \*-dí

P1 yúlya  
Vy yúlya  
Tk kúlya  
Il kúlya  
Lj kúlya  
S1 kúlya  
Sβ kulyá  
Tt kúlya

**38. egg.**

(a) We have given the plural forms as well to show the alternation in the initial position of the stem. Nouns showing similar alternations in class 5/6 are discussed in §2.4.

P1 ji/mai  
Vy ji/mai  
Tk ji/mai  
Il íii/mai  
S1 lii/mai  
Sβ iyí/mayí  
Tt iyí/mayí

CB: \*-gí.  
PT \*'-yi

(b)  
Lj lindaanda/  
mandaanda (b): no known cognates.

39. eye

(a)  
Pl líhyo (a): This is of wide distribution in Bantu.  
Vy líso Cognates include Luvale liso; Cewa diso  
and Yao liso. Generally Pl /hy/ corresponds with  
/sy/ in Vy. This is not the case here. We can  
assume that s was depalatalized before /o/ in this  
case. On the other hand the Pl form may have had  
a different source, namely CB: \*-ció 'face'  
CB has a confusing abundance of osculant forms:  
\*-yíçò/\*-yíncò/\*-cìcò each of which is present in  
at least one of the Tonga reflexes. The operation  
between CB and PT is obscure.  
CB: \*-yíçò  
PT: \*'-isyo/\*'-inso

(b)  
Tk líínso (b): Cognates include Bemba iliinso  
Il línso CB: \*-yíncò  
Lj líínso PT \*'-ínsò  
S1 líínso  
Sß líínso  
Tt líínso

40. fall

(a)  
Pl yuwa (a): This is widespread in Bantu.  
Vy yuwa Cognates include Luvale and Bemba w  
Tk kuwa Cewa gw.  
Il kuwa CB \*-gù  
S1 kuwa PT \*'-wa  
Sß kuwá  
Tt kuwá

(b)  
Lj kúloka (b): No known cognates.

41. far

(a)  
Pl yúle (a): The Il and Lj roots would seem to be  
Vy yúle reduplications of the forms of Pl, Vy and Tk.  
Tk kúle We are unable to account for the actual mechanism  
Il kúláálé of the reduplication. Compare (102a/b) for  
Lj kúláálé a similar phenomenon. The stem le has CB  
Sß kulé etymology and Guthrie suggested for it a partial  
Tt kulé series \*-daIp with CB: \*-dè. If CB \*-daIp- is  
reconstructed all of (41a) can be derived from it

if fusion of \*aI is also suggested. CB \*p was lost as discussed in 3.2.7

- (b) (b): (b) has cognates in Bemba, Cewa and Kaonde  
S1 tali tali.
- 42. fat** (42) is widespread in Bantu.  
P1 máhuta  
Vy máfuta CB \*-kÚtà  
Tk máfuta PT \*'-swuta  
I1 máhuta  
Lj máfuta  
S1 máfuta  
Sß máfuta  
Tt máfuta
- 43. father**
- (a) (a): CB: \*-tàátá. PT: \*'-tááta  
P1 βátááta Cognates include Kongo, Lunda and Bemba taata.  
Tk βátááta Guthrie quotes I1 as having the form tata.  
I1 βááta In all the lects βa is the honorific prefix.  
Lj βátá Secondly we can see that P1, Tt and Vy have the  
S1 βátá stems that resemble that of CB while in Lj and S1  
Sß mbátááyo the stems are shorter. But they are ultimately  
Tt βátááta from the same CB source. In Sß the noun ends in  
yo. This can be viewed as an inalienable noun  
suffix due to the nature of the noun; compare  
(97).
- (b) (b) has no known cognates.  
Vy ndééndé
- 44. to fear.**
- (a) (a): Cognates can be found in Mañanja op; Fipa  
P1 γúyoowa ozoh; Sukuma ogoh.  
Vy γúyoowa CB: \*-yògup  
Tk kúyoowa PT \*'-yòðw-
- (b) (b): (b) and (c) would seem to be from the same  
I1 kútiya source the same way that items in (2) are related.  
Sß kutiyá We assume that /n/ was deleted in I1, Sß and Tt  
Tt kútiya although this development has no parallel  
PT \*'-tin-  
CB \*-tíín-/\*-tíy-
- (c) (c): see (b).  
S1 kútina
- (d) (d): No known cognates.  
Lj kúloonda

45. feather

- (a)  
Pl pepe (a): No known cognates in Bantu.  
Tk pepe PT: \*'-pepe.  
Il ipepe Cf. CB \*-pèèpè 'wind'  
Lj lipepe
- (b)  
Sl lingala (b): Cognates can be found in Bemba lingala;  
and Nsenga ngala.  
Guthrie gives Il kala and ingala, 'feather  
headdress'.  
CB: \*-gàdà 'featherheaddress'
- (c)  
Vy munimba (c): No known cognates.
- (d)  
Sß mutiḽelo (d): No known cognates.
- (e)  
Tt lóóza (e): (e) may be related to the Pl noun ḽóya.  
which is a reflex of CB: \*-yòyá 'feather';  
\*-yòyá 'fur'.

46. few

- (a)  
Pl hyoonto (a): No known cognates.  
Il shoonto
- (b)  
Vy ce (b): this is the adjectival form of the verb in  
(291) below: ceya which has cognates in other  
lects including Cewa and Bemba: cepa. See also  
(291) below.
- (c)  
Tk niini (c):  
Tt niini There are no known cognates of (c) and (d)  
Lj niini outside the Tonga group.  
Sß niini PT \*'-nifini
- (d)  
Sl ḽana (d): The Sl noun is one of the few cases in which  
the velar nasal occurs prevocally:  
cf. (5867), below. (46c) suggests reduplication  
of ni which was accompanied by doubling of /i/.  
No known cognates.
47. to fight  
Pl yulwana (47): Cognates include Bemba, Nsenga and Luvale  
Vy yulwana lwa. In all the lects except in Il, Sß and Tt  
Tk kulwana the stems have an inseparable reciprocal extension  
Il kulwa an.  
CB: \*-dù-; \*-dùàn-.

Lj	kulwana	PT: *`-lwa; *`-lwana
Sl	kulwana	
Sß	kulwá	
Tt	kulwá	
<b>48.</b>	<b>fire</b>	
Pl	mulilo	(48) is widespread in Bantu. Cognates include
Vy	mulilo	Bemba <u>umulilo</u> ; Nsenga <u>muliro</u> and Luganda
Tk	mulilo	<u>omuliro</u> .
Il	mulilo	CB: *-didò
Lj	mulilo	PT: *`-lilo
Sl	mulilo	
Sß	mulíló	
Tt	múlílo	
<b>49.</b>	<b>fish</b>	Widespread but belongs to osculant roots
Pl	nswi	in CB: *-cÚi and *-cÚí.
Vy	nswi	PT *`-swi.
Tk	nswi	Cognates include Nyakyusa <u>eswe</u> ; Bali <u>ntswi</u> .
Il	nswi	
Lj	nswi	
Sl	nswi	
Sß	inswí	
Tt	ínswi	
<b>50.</b>	<b>five</b>	
	(a)	(a): The numerals 1, 3 and 5 all have final <u>we</u> .
Pl	osanwe	It is only <sup>in</sup> <del>the</del> Tonga that these numerals end in this
Vy	osanwe	way. Secondly, all the cardinal 1 to 5 begin in
Tk	osanwe	the vowel element <u>o</u> of which there is also no
Il	osanwe	parallel in Bantu. See 3.2.6.
Lj	osanwe	PT *`-osanwe.
Sß	osanwe	
Tt	osanwe	
	(b)	(b): (b) is widespread in Bantu
Sl	sanu	CB: *-cáánù.
<b>51.</b>	<b>to float</b>	
	(a)	(a): Cognates can be found in Bemba <u>ißuk</u> ;
Pl	ɣwiißuka	Maŋanja <u>buk</u> .
Vy	ɣwiißuɣa	CB: *-yíbuk.
Tk	kwiißuka	PT *`-ißuka.
		The significant thing about (51a) is that Pl, Vy
		and Tk the reflex of CB *yIbuk is <u>ißuk</u> rather
		than <u>buk</u> , see 3.1.10.2.
	(b)	(b): No known cognates.
Il	kweempa	

(c) (c): No known cognates.  
Lj kuseela  
Sl kuseela

(d) (d): No known cognates.  
Sß kucímboká

(e) (e): No known cognates.  
Tt kúkúúka

**52. to flow**

(a) (a): No known cognates.  
Pl yuyunka PT \*'-kunka  
Tk kukunka  
Il kukunka  
Lj kukunka

(b) (b): see (178) for a different meaning 'to walk'  
Vy yweenda and for comments.

(c) (c)/(d): No known cognates.  
Sl kupupa

(d)  
Sß kuβuβá  
Tt kuβúβa

**53. flower** In Pl, Vy, and Tk (a) exhibits alternation in d and l (see discussion in 2.4.). Cognates include

(a)  
Pl duβa/maluβa Bemba iluβa, Luyana uuluwa and Nsenga luβwa.  
Vy duβa/maluβa Guthrie also quotes Il as having as having  
Tk duβa/maluβa luluβa, contrary the form we have here.  
Il ílúβálúβa CB: \*-dùbà  
Lj liluβa PT: \*'-luβa  
Sl liluβa

(b) (b): A cognate can be found in Lozi mpalisa  
Sß mpáalisa  
Tt mpalisa

**54. fly.**

(a) (a): In the Zambian lects a cognate was only found  
Pl nzinini in Taabwa(Rungu) M 41: uluunzi.  
Vy nzinini CB: \*-gĩ  
Tk nzinini PT: \*'-zinini/\*-nzi;  
Il íNhhí  
Sß inzí  
Tt inzí

(b) (b): No known cognates.  
Lj loonshi

- (c)  
S1 shikánshi (c): No known cognates
- 55. fog**
- (a)  
P1 hiyunku (a): There is a problem relating to Vy and S1:  
Vy siyunkwe their stems end in 'we' as opposed to 'u'  
Tk sikunku in the other lects. It is doubtful whether the  
Lj shikunku nouns in this group come from the same source.  
S1 shikunkwe We have reconstructed two osculant roots here  
PT: \*'-kunku / \*'kunkwe. hy and shi are  
formatives of class 1a.  
CB: \*-kùngú
- (b)  
I1 nguβi (b): No known cognates
- (c)  
Sβ mbúndu (c) has cognates in Lozi, mbundu. We cannot  
Tt mbundu say at the moment whether this is a case of  
borrowing and which way the borrowing went.
- 56. foot**
- (a)  
P1 zhituta (a), (b) and (c) are restricted to their  
Vy cituta respective lects.
- (b)  
I1 cihumba
- (c)  
Lj cimpata (c): No known cognates.  
S1 cimpata
- (d)  
Tk ténde (d): On the other hand is found with a different  
Sβ iténde meaning in Nsenga citende and Bemba akatende  
Tt ítende CB \*-ténde 'heel', '(foot)'.  
PT \*'-tende
- 57. four**
- (a)  
P1 óné (a): CB \*-ne  
Vy óné PT \*-oné  
Tk óné For comments on initial /o/ see (50) above.  
I1 óné Putative cognates include Bemba ne and Luyana  
Lj óné nee. Further discussion can be found in 3.2 5.  
Sβ óné  
Tt óné
- (b)  
S1 na (b): cognate also exists in Kaonde, na.  
CB: \*-na

58. freeze

(a) (a): No known cognates with the present meaning.  
 P1 ywaanga However, it has an obscure relationship with  
 Tk kwaanga CB \*-gáng- 'tie up'. In P1, Vy and Tk the verb  
 I1 kwaanga also means 'to tie up'; see (171a) below.  
 Lj kwaanga CB \*'-gàng-  
 S1 kwaanga PT \*'-anga

(b)

Vy yúgágámina (b): No known cognates.

(c)

Sß kutontóla (c): In all the Tonga lects (c) also exists as in  
 Tt kutóntóla (22) above.

59. fruit No known cognates of 59a, b, c.

(a) (a): is a derived noun from (284a) below: 'to  
 P1 muzhelo pick fruit'.  
 Vy mucelo PT \*'-cèlò  
 Tk mucelo  
 I1 mucelo  
 Sß cicélo

(b)

(b): No known cognates.  
 Lj cisepo  
 S1 cisepo

(c)

(c): No known cognates but cf. (227b) 'to ripen'  
 Tt muhisi burn up' which in turn is related to (255) kú  
hya/kuhyá, 'to become burnt'.

60. to give

This is widespread in Bantu. CB: \*pá.  
 P1 yúpa Cognates include Bemba, Nsenga and Yao p  
 Vy yúpa The correspondence p (P1, Vy, Tk, I1 Lj and S1)  
 Tk kúpa and h (Sß/Tt) before the vowels a and i and  
 I1 kúpa before y seems to be the norm but there is not  
 Lj kúpa enough data to make a generalization. See also  
 S1 kúpa 3.1.7.  
 Sß kuhá PT: \*'-pa  
 Tt kúha CB: \*-pá

61. good

(a) (a): (a) has no known cognates. the partial  
 P1 ßotu resemblance of (a) and (c) has no known parallel.  
 Vy ßotu PT: \*'-ßotu  
 Tk ßotu  
 I1 ßotu  
 Lj ßotu

(b)

S1 ina

- (c)  
Sß lotu  
Tt lotu
- 62. grass**
- (a)  
P1 máni      CB: \*-jánî / \*-yánî : 'grass'/'leaf'  
Cognates are found in ßiisa izani, 'grass':  
Cewa, dzani/mani 'leaf' and Bemba icaani 'grass'.  
Compare (86d) of Tk and Tt.
- (b)  
Vy ßwízu      (b): no known cognates. It has an irregular  
Tk ßwízu      reflex before /u/ where we would have expected  
Il ßwízu      /hh/ instead. See discussion in  
Lj ßwísu      3.1.20.13.1.20.2.  
Tt ßwízu      PT \*'-ízu.
- (c)  
S1 mwila      (c): No known cognates
- 63. green**      (63): No responses for this gloss.
- 64. guts**      General Bantu noun: cf (10a).  
P1 mala      PT \*'-la  
Vy mala      CB: \*-dà 'intestine': 'abdomen'  
Tk mala      Cognates include Ganda munda; Bemba nda which  
Il mala      incorporate class 9 prefix /N/.  
Lj mala  
S1 mala  
Sß mala  
Tt mala
- 65. hair**
- (a)  
P1 masusu      (a): no known cognates.  
Vy masusu      PT \*'-susu  
Tk masusu  
Lj misusu
- (b)  
Il insúki      Cognates found in Kaonde and Lunda: nsuki.  
Sß insúki      CB: \*-cúkí  
Tt insúki      PT \*'-súki
- (c)  
S1 mishishi      (c): cognates found in Tambo, Nyiha, Cewa sisi.  
It is widespread in Bantu
- 66. hand**
- (a)  
P1 janza      All these nouns are in class 5 in the singular  
(maanza)      and class 6 in the plural. As can be seen the

Vy	janza (maanaza)	/j/ alternates with 'zero' consonant in the plural in Pl, Vy and Tk ; see 2.2.2.7 and 3.1.16
Tk	janza (maanaza)	PT * `-janza
Sß	iyánza (mayanaza)	CB * -gànjà
Tt	iyánza (mayanaza)	
Lj	lyánza	
	(b)	(b): No cognates found outside the Tonga group.
Il	ítánshi	
	(c)	
S1	likasa	(c): Cognates for this noun can be found in Kaonde, Lunda as well <u>likasa</u> . CB: *-kac-.
67.	he	Difficult to elicit this pronoun as it is a bound morpheme.
68.	head	This is a general Bantu noun. The difference in final vowel cannot be easily explained; cf. CB
Pl	mútwe	*-túè and *-túi. A number of Zambian lects
Vy	mútwe	such as Lunda, Cewa, Tumbuka, and Nsenga have the
Tk	mútwe	variant <u>tu</u> . It could be that the Tonga lects
Il	mútwi	that have the vowel /i/ in the stem raised the
Lj	mútwi	/e/. See 3.2.6
S1	mútwe	CB: *-túè/*-túi
Sß	mutwí	PT: *'-twe/*'-twi
Tt	mútwi	
69.	hear	
	(a)	(a): cognates can be found in Kaonde, Nsenga
Pl	γúNhhwa	and Mambwe, <u>mwwa</u> .
Vy	γúmwa	CB *-yUngU/*-yIngU/*-yigU
Tk	kúmwa	PT *'-nzwa
	(b)	(b): In Pl this verb means 'to listen' not
Il	kútèèlèla	'to hear' as the case in Il here. A cognate can be found in Shona <u>teerera</u> . See also (518a).
	(c)	PT *' -zúwa
Sß	kúzúwa	(c): the correspondence z and s is regular.
Tt	kúsuwa	(c) has not been reported in the neighbouring
Lj	kúsuwa	lects. CB *-jUß- 'know.' Tt has an irregular reflex in the form of /s/. We would have expected /z/.
	(d)	(d): no known cognates. However, (d) is
S1	kúnyumfwa	possibly related to Bemba <u>ukuumfwa</u> CB: *-yUngU

70. **heart**
- (a) (a): Cognates include Sukuma nwooyo,  
and Kongo mooyo  
P1 moyo PT \*'-yoyo  
Vy moyo CB \*-yòyò.  
Tk moyo  
I1 mozo  
Lj moyo  
S1 moyo  
Tt mózo
- (b) (b): a cognate can be found in Maṅanja khulo.  
Sβ nkulo CB: \*-kólò
71. **to be heavy**
- (71) is widespread in Bantu. Cognates include  
Bemba, Nsenga and Lunda -lem-.  
P1 yulema CB: \*-dèm-.  
Vy yulema PT \*'-lema.  
Tk kulema  
I1 kulema  
Lj kulema  
S1 kulema  
Sβ kulemá  
Tt kuléma
72. **here**
- (72): this is also widespread in Bantu. CB: \*nó.  
P1 no The contrast in the final vowel parallels that of  
Vy no (174a) below.  
Tk no PT \*-no  
I1 no Cf. CB: \*-nó 'this' ; 'these'  
Lj no Contrast in final vowel is found in a number of  
S1 no cognates. Generally contrasts involving a high  
Sβ nu vowel and a mid vowel can be seen as one of  
Tt nu raising of the mid vowel, a phenomenon attested  
Bantu lects of Guthrie's Zone K 10. See  
discussion in 3.2.5.
73. **to hit**
- (a) (a): Cognate: include Kaonde, and Lunda root  
P1 yúuma puma and huma respectively,  
Vy yúuma CB: \*-púm-/-yùm-.  
Tk kúuma We can assume loss of \*p in (a) in PT.  
I1 kúuma PT \*'-uma  
Lj kúuma
- (b) (b), (c) and (d) do not have known cognates.  
S1 kupumpuṭa
- (c)  
Sβ kukáβa
- (d)  
Tt kudáma

74. to hold

	(a)	(a): No known cognates.
P1	γújata	PT *'-jata
Vy	γújata	
Tk	kújata	
Lj	kúcata	
	(b)	(b): No known cognates with the present meaning.
Tt	kúkwááta	*-kúát-/*-kúát-.
Il	kúkwata	
	(c)	
S1	kwikata	(c) has cognates in Bemba <u>ukwikata</u>
	(d)	
Sß	kuhhíísa	

75. how

	(a)	(a): no known cognates.
P1	βúti	PT *-βúti
Vy	βúti	Il does not have prefix <u>u</u> in its prefix system
Tk	βúti	but in the present case we can see this prefix.
Il	úβúti	Parallel can be found in (182a) below.
Sß	βúti	
Tt	βúti	
	(b)	(b): No known cognates. We cannot tell at the
Lj	βúyáni	whether <u>βu</u> is a prefix although it
		appear to be so if we compare (75b) with (184b).
	(c)	(c): no known cognates. The morphology of this
S1	acóóni	item is not clear.

76 to hunt

	(a)	(a): no known cognates in Zambian lects. But
P1	γúhhwima	(76a) could be the reflex of CB *-gÚím-.
Vy	γúvwima	This is because CB *g corresponds to PT z before
Tk	kúvwima	cedilla vowels in PT.
Sß	kúvwííma	PT: *'-zwima
Tt	kúvwííma	CB: *-gÚím-.
Lj	kúfwima	
	(b)	(b)/(c): no known cognates.
Il	kuweza	
	(c)	
S1	kuyala	

77. husband

(a) (a): this is widespread in Bantu. Cognates include Bemba umulume; Nsenga mrume; Manyika murume Kongo nlumi. We can see that S1 agrees with Bemba, Nsenga and Manyika in final vowel. This phenomenon is similar to (68) above, see also (176), below. See discussion in 3.2.4.  
 CB: \*--dúmè  
 PT: \*'-lumi ; \*'-lume

(b) Lj βáye (b): restricted to Lj. It would seem that βa is the honorific prefix of class 1a. But in this particular case it is not possible to extract it from ye which could be analysed as the stem.

(c) Sβ mukwááme (c): Cognates include Iwa evakwane.  
 Tt mukwáme (c) is probably a skewed reflex of CB: \*kúá 'inhabitant'; 'person of'. The morpheme me in Lj is the possessive, construction 'of mine' and it is ineliable; the medial morpheme aa/a is the associative indicating relationship. Guthrie also reconstructed CB \*kúé 'him'/'her'; 'relative by marriage.'

78. I (78): It was not easy to elicit this item because it is a bound morpheme which varies according to context.

79. ice (79): ice is not known in the region for obvious climatic reasons.

80. if

(a) (a): No known cognates.  
 PT: \*--kuti  
 Pl γuti  
 Vy γuti  
 Tk kuti  
 Il kuti  
 Lj kuti  
 Sβ kuti

(b) S1 na (b): No known cognates with this meaning. (80b) is however homophonous with (2c; 194c).

(c) Tt haiva (c): No known cognates.

81. in (81): This is general in Bantu.  
 Pl múyáti CB: \*--kátí.  
 Vy múyáti PT: \*'-kátí  
 Tk múkátí Cognates: Kongo and Manyika mukati;  
 Il múkátí Cewa mkati.  
 Lj múkátí

S1 múkáti  
Sß mùkáti  
Tt múkáti

**82. to kill**

(a) (a): putative cognates can be found in Cewa.  
P1 yujaya kupha, Nsenga kupaya and Bemba ukwiipaya,  
Vy yujaya CB \*-yìp-/\*-gìpag-  
Tk kujaya PT: \*'-ipaya  
I1 kuyaya  
Lj kucaya  
Sß kwiháya  
Tt kwífháya

(b) (b): no known cognate. This verb may be  
S1 kushina related to (410) below.

**83. to know**

P1 yúhhiḡa In P1, Vy, Tk, I1 and Lj the stems do not  
Vy yúziḡa begin in a vowel. Cognates with vowel  
Tk kúziḡa initial stems include Bemba ishiḡ;  
I1 kúhhiḡa the two roots could be ambiguous reflexes of  
Lj kúshiḡa either \*-jfiḡ- or \*-yifjiḡ- of CB.  
S1 kwishiḡa PT: \*'-zyiḡa  
Sß kwíziḡá  
Tt kwíziḡa

**84. lake**

(a) (a): a cognate is found in Kaonde zhiḡa.  
P1 hhiḡa CB: \*-dḡbà.  
I1 cishiḡa PT: \*'-zyiḡa  
Lj lishiḡa  
S1 lishiḡa  
Sß iziḡá  
Tt iziḡa

(b) (b): No known cognates.  
Vy dambwa

(c) (c): Compare CB: \*-yifji 'water'  
Tk lwízi

**85. to laugh** (85): This is widespread in Bantu.

P1 yuseya Cognates include Bemba, Nyanja and Kaonde  
Vy yuseya sek  
Tk kuseya CB: \*-cèk-  
I1 kuseka PT: \*'-seka  
Lj kuseka  
S1 kuseka

Sɓ	kuséka	
Tt	kuséka	
<b>86.</b>	<b>leaf</b>	
	<b>(a)</b>	(a): No known cognates.
P1	tuhhu	
Vy	tuvu	
I1	ituhhu	
	<b>(b)</b>	(b) and (c): No known cognates.
Lj	líteu	
S1	líteu	
	<b>(c)</b>	(c): No known cognates.
Sɓ	ikoɓo	
	<b>(d)</b>	(d): This is similar to (62) above, q. v.
Tk	gáni	There are no clear cognates of (86d) outside the
Tt	lyáàni	Tonga. Guthrie reconstructed *jání of which
		there are no reflexes in the lects neighbouring
		Tonga. In both Tk and Tt there (86d) is in class
		5/6. The plural in both lects <u>máni</u> and máni,
		respectively. While the prefix <u>ly</u> in Tt is in
		order <u>g</u> as a prefix in Tt is irregular, but it
		likely to be the result of morphophonemic change
		involving the class 5 prefix , paralleling that
		of item (66) above.
<b>87.</b>	<b>leftside</b>	
	<b>(a)</b>	(a) and (b): No known cognates. This noun is
P1	ɣúlúmwéNhi	in the locative construction: ɣu/ku (class 17);
Vy	ɣúlúmwénsi	<u>lu</u> (class 11)/( <u>ci</u> class 7).
	<b>(b)</b>	
Tk	kúcígóyo	
	<b>(c)</b>	(c): Cognates include Luyana <u>shimosho</u> ; Luyana
I1	kúcímónsho	<u>ulumoo</u> ; Kwanyama <u>olumosho</u> .
		The noun of I1 has a locative prefix <u>ku</u> class 17
		followed by the class 7 prefix <u>ci</u>
		Cf. CB *-móncó. This forms an osculant pair with
		CB *-có. Both *-móncó and *-có have skewed
		reflexes in presentday Bantu.
	<b>(d)</b>	(d): Cognates include Kaonde <u>piko</u> .
Lj	kúcípíko	
S1	kúcípíko	
	<b>(e)</b>	(e): Cognates include Lozi <u>nzohoto</u> .
Sɓ	ínzóhóto	
Tt	ínzóhóto	

88. leg

(a) (a). Cognates include Bemba ukuulu Luganda  
P1 yuulu okugulu.  
Vy yuulu CB: \*-gũdũ  
Tk kuulu PT: \*`-ulu

(b) (b): this is homophonous with (56d)  
I1 itende CB: \*-téndé 'heel'; '(foot'  
Sß iténde Cognates include Maŋanja citende; Mbundu  
(Angola) etende.

(c) (c): CB: \*-yëndò  
Lj mweendo Cognates include Maŋanja mwendò; Bemba  
S1 mweendo umweendo.

(d) (d): no known cognates.  
Tt mooko

89. to lie down

(a) (a): Compare cognates of (139).  
P1 yoona Cognates include Yao and Cewa gon;  
Vy yoona CB \*-gòna  
I1 koona PT: \*`-ona.

(b) (b): Cognates include Bemba and LubaKatanga  
Tk kúlala Sena lal. Notice the difference in radical  
Lj kúlala vowel in Sß and Tt which contrasts with that of  
Sß kuláála Tk and Lj.  
Tt kuláála CB: \*-dáád-  
PT: \*`-láála

(c) (c): No known cognates.  
S1 kúlambalala

90. to live.

(a) (a): All the lects here have a voiceless velar  
P1 yukala plosive invariant in the initial position. We  
Vy yukala would normally expect this consonant to  
Tk kukala correspond with /ɣ/ in P1 and Vy.  
Lj kukala Non prenasalised /k/ in P1 and Vy is generally  
S1 kwikala associated with stems that would seem to be  
reflexes of CB \*-yík- as in the present case:  
\*-yíkad-.  
Cognates include Bemba ikal; Maŋanja  
khal; Manyika gar.  
The form of S1 agrees with that of Bemba  
which also ultimately reflects the CB stem.  
CB: \*-yíkad  
PT: \*`-ikala  
See discussion in 3.1.9.1

Sß kúhala (b): the correspondence h and k has no parallel  
Tt kuhála the Tonga lects.

91. liver

(a) (a): No known cognates.  
P1 muni PT: \*'-ni  
Vy cini  
I1 muni  
Lj lini

(b) (b): No known cognates.  
Tk mpáfwa  
S1 mpáfwa

(c) (c): No known cognates.  
Sß cißiti  
Tt cißiti

92. long

(a) (a): No known cognates.  
P1 laNhu PT \*'-lampa  
Vy lamfu PT: \*'-lánswu  
Tk lamfu (92a) is likely to be lexically related to  
I1 laNhu (377a). Ultimately both may be related (41a).  
Lj lamfu Guthrie (196771) suggests that (41a) \*de  
belongs to osculant radicals \*-dâp-, \*-dâI and  
the partial series \*-dâip-

(b) (b) and (c): Refer to (41b) above  
S1 tali

(c) (c): See (41a).  
Sß le  
Tt le

93. louse

(a) (a): No known cognates.  
P1 njina PT: \*'-ngina  
Vy njina  
Sß inginá  
Tt ingína  
I1 njina  
Lj njina

(b) (b): No known cognates. The morphology of this  
Tk ndanjili noun is not clear.

(c) (c): GB \*-dá  
S1 nda Cognates include Bemba and Manyika inda.

94. man

(a)  
P1 musankwa (a): (94) was not easy to elicit because it  
Lj musankwa freely translated as 'boy' in the lects in (a)  
and (b).

(b)  
Vy mwáálumi (b): This noun suggests some kind of compounding  
Tk mwáálumi in which lumi carries the meaning  
'male'. The preceding vowel aa might be an  
independent morpheme although we are not able to  
say what it is at the moment. Compare (77a)  
above.

(c)  
Il múlómbwana (c): No known cognates.

(d)  
S1 mútuloBa (d): No known cognates.

(e)  
Sß mukwááme (e): Refer to (77c) above.  
Tt mukwááme

95. many (95): Cognates are widespread in Bantu.

P1 nji PT: \*`-ngi  
Vy nji CB \*-ngí and \*-yíngi. 'many'; 'much'  
Tk nji  
Il nji  
Lj nji  
S1 ngi  
Sß ngi  
Tt ngi

96. meat

(a)  
P1 nyama (a) is widespread in Bantu. Cf. CB \*\_yàmà. Refer  
Vy nyama to (3) above.  
Tk nyama PT: \*`-nyama  
Lj nyama The segmentation of (96a) is not clear, since the  
S1 nyama prefix cannot be separated from the noun stem.  
Sß inyamá One can segment it as nyama, nyama,  
Tt inyáma or nyama done here. We opted for the nyama.  
P1 /n/ + /y/ gives /nj/ as discussed in 2.2.2.4  
and 2.2.2.7.  
CB \*-yàmà; \*-nyàmà.

(b)  
Il búzani (b): No known cognates

97. mother

(a)  
P1 ßaama (a): Cognates include Zulu and Xhosa uma;  
Lozi ßoma. In P1 and Vy the stems begin in a

Vy	βaama	vowel <u>a</u> , unless we were to assume that the prefix is <u>βaa</u> . <u>βaa</u> as a prefix would only be
Il	βáma	posited to (97a). In Sβ and Tt we can see that
j	βámá	there is the ending <u>yo</u> . This is an inalienable
S1	βámá	possessive suffix. Compare (43) above.
Sβ	βamayo	CB: *-mààyó and *-màámá.
Tt	βamayo	PT: *'-ama
	(b)	
Tk	βánákúliswe	(b): Restricted to Tk. <u>βa</u> is honorifix prefix of class 2a just as (97a); <u>na</u> is a formative with the meaning 'of'/'belonging to'; <u>ku</u> is a locative prefix (class 17); <u>li</u> is the 'verb to be' and <u>swe</u> is the pronoun 'us'. The whole word translates as 'the one belonging to us'.
98.	mountain	(98): General in Bantu languages.
P1	múlúndu	Cognates include Bemba <u>umulundu</u> and Luvale
Vy	múlúndu	and Chokwe <u>mulundu</u> .
Tk	múlúndu	PT: *'-lúndu
Il	flúndu	CB: *-dúndu
Lj	múlúndu	
S1	múlúndu	
Sβ	ilundú	
Tt	ilúndu	
99.	mouth	
	(a)	(a): cognates found in other Bantu lects e.g. Kaonde and Lunda <u>kanwa</u> , and Lozi <u>hanu</u>
P1	muyanwa	These cognates contrast with those of the
Vy	muyanwa	Tonga lects whose stem <u>nwa</u> are preceded by <u>ka/</u>
Tk	mukanwa	<u>ya</u> . It is possible that <u>ka/ya</u> is prefix of class
Il	mukanwa	12 <u>ka/ya</u> which has now become part of the stem.
Lj	mukanwa	<u>Mu</u> is locative prefix of class 18. In Tt <u>i</u> is
S1	mukanwa	class 5 prefix. Guthrie quotes Il as having the
Tt	ikánwá	stem <u>kanwa</u> but stem does not exist without <u>mu</u> . It is curious that (99a) does not have a plural. PT: *'-kanwa
	(b)	(b): this exists in all the Tonga lects but with the specific meaning 'lip'. CB: *dòmò.
Sβ	mulomó	Cognates include Bemba <u>umulomo</u> and Manyika <u>muromo</u> .
100.	name	(100) is widespread in Bantu. The correspondence
P1	hhina	Cognates include Bemba <u>ishina</u> ; Manyika <u>zina</u>
Vy	zina	Luyana <u>ilitina</u> . Guthrie quotes Il as having the
Tk	zina	stem <u>izina</u> .
Il	ihhina	PT: *'-zyina
Lj	líina	CB: *-gínà

S1	lfina	The reflexes here show variation in the initial position of the stem. See 3.1.20.1 and 3.2.11.
Sß	izina	
Tt	izina	
<b>101.</b>	<b>narrow</b>	
	(a)	(a): No known cognates. The adjective stem here is the perfective verb form of <u>huundana</u> . The perfective suffix is <u>e</u> but it triggers change in radical. Reflexes (101b/d) are also in the perfective form.
P1	huundenye	
	(b)	(b): No known cognates.
Vy	maniyide	
	(c)	(c): (c) is homophonous with (46a).
Tk	shoonto	
	(d)	(d): No known cognates
Il	huunkene	
	(e)	(e): (e) is homophonous with (46c) 'few' and (140a) 'small'. In wider Bantu cognates are restricted but they include Nyakyusa <u>niini</u> and Kongo <u>niini</u> 'meagreness'
Lj	niini	PT *'-niini
S1	niini	
Sß	niini	
	(f)	(f): A cognate can be found in Lozi <u>kasisani</u>
Tt	sisani	
<b>102.</b>	<b>near</b>	
	(a)	(a): No known cognates. It is possible that (a) is duplicated but owing to the difference in the vowels we cannot say how the reduplication was carried out. A similar problem can be seen in (41) above.
P1	hwaahwi	PT: *-swaaswi
Vy	fwaafwi	
Il	hwaahwi	
	(b)	(b): No known cognates. (b) and (c) are possibly from the same source but we cannot know at present how the development took place. (102b) and (102d) are from the same source, q.v.
Lj	fwiifwi	
Tk	fwiifwi	
	(c)	(c): this has a cognate in Bemba. This root could be analysed as consisting of the locative prefix pa of class 16 and stem <u>epi</u> or <u>ipi</u> . This means that the vowel /a/ assimilated to the following vowel /e/.
S1	peepi	
	(d)	(d): This root has cognates in Cewa and its related lects; <u>fupi</u> . As was pointed out in (60) above PT *p has the reflex /h/ in Sß and Tt. As already indicated (102b) is likely to be related to (102d). This relationship can be seen if we assume PT *-swupi in which PT *p was lost in (102b) and that the resulting stem was reduplicated.
Sß	fuhi	PT *-swupi.
Tt	fuhi	CB *-kúpi.

103. neck Cognates of (103) can be found in Kaonde singo and Lunda shingu.
- Pl nsingo PT: \*'-singo  
Vy nsingo CB: \*-kíngò  
Tk nsingo  
Il nshingo  
Lj nshingo  
Sl nshingo  
Sß ínsingo  
Tt ínsingo
104. new
- (a) (a): this has cognates in a number of Zambian languages including Kaonde pya and Lunda ha. Compare (255) below.  
Pl pya  
Vy pya CB \*-pià.  
Tk pya PT: \*'-pya  
Il piya  
Sl pya  
Sß hya  
Tt hya
- (b) Lj nyowani (b): this is probably the rendering of the English form, 'new one.'
105. night The noun is a general Bantu word. Cognates include Mbowe usiku and Bemba uʃushiku
- Pl másiyu PT: \*'-siku  
Vy másiyu CB: \*-tíku. Cf. \*tíku 'day of 24 hours.'  
Tk ßúsiku  
Il máshiku  
Lj máshiku  
Sl máshiku  
Sß masíku  
Tt másíku
106. nose
- (a) (a): No known cognates. However, it not entirely unlikely that (106a) is lexically related to (18c) kupeema 'to breathe' which has the CB source \*-pèem-.
- Pl mpemo  
Vy mpemo  
Tk mpemo
- (b) Sl múpembo (b): No known cognates but this noun is probably related to the CB root \*pémb, 'to blow nose'. The final vowel o in Sl may be seen as derivative morpheme, which gives rise to instrumental or agentive nouns.
- (c) Il nango (c): No known cognates.

- (d) (d): No known cognates.  
Lj nshono
- (e) Cognates include Luvale muzulu; Luyana iliyulu  
Sß izúlu Lunda muzulu,  
Tt izúlu (e): CB: \*-júdù.
107. not (107): Widespread in Bantu.
- P1 ta PT: \*-ta-  
Vy ta CB: \*-ta-  
Tk ta  
I1 ta  
Lj ta  
S1 ta  
Sß ta  
Tt ta
108. old
- (a) (a): A cognate can be found in Lozi.  
P1 zhembele Cf. (285) 'to become old.'  
Vy cembele PT: \*`-cembele  
Tk cembele  
I1 cembele  
Lj cembele  
Sß cembele  
Tt cembele
- (b) (b): This is widespread in Bantu. Cognates  
S1 nene include Luvale; Kongo and Luganda nene.  
CB: \*-néné 'big': 'bigness'
109. one
- (a) (a): Cognates include Luvale mwe LubaKasai mwe  
P1 omwe CB \*-múé.  
Tk omwe PT: \*-omwe  
Lj omwe
- (b) (b): CB: \*-múí  
Vy omwi This form is restricted. Cognates include Caga  
I1 omwi and Bena (Tanzania) mwi. The difference between  
(a) and (b) lies in the final vowel. The form of  
(b) probably shows raising of \*e suggested  
already for (68) (77a). See also 3.2.7.
- (c) (c): CB: \*-mò  
S1 mo Cognates include Bemba, Sukuma, Kaonde and  
Luchazi: mo. See 3.2.7.

	(d)	(d): No known cognates.
Sβ	onke	
Tt	onke	
<b>110.</b>	<b>other</b>	Gloss not easy to elicit in these lects.
<b>111.</b>	<b>person</b>	(111): Widespread in Bantu Cognates include Bemba <u>umuntu</u> ; Lozi <u>mutu</u>
P1	muntu	PT: *'-ntu
Vy	muntu	CB: *-ntù
Tk	muntu	
I1	muntu	
Lj	muntu	
S1	muntu	
Sβ	muntu	
Tt	muntu	
<b>112.</b>	<b>to play</b>	
	(a)	None of the verbs here have known cognates.
P1	γúsoβana	
Vy	γúsoβana	See 3.1.20.1 3.1.20.2 for correspondences z: s
I1	kúsoβana	PT: *'-soβon-
	(b)	(b): No known cognates. This verb is probably an extended form of <u>sek</u> 'to laugh' and that it has the reciprocal extension <u>an</u> . Cf. CB: *-cakan- and *-ken-.
Lj	kusekana	
	(c)	
S1	kufukana	
	(d)	(d): No known cognates.
Tk	kúsana	PT: *'-sana / *'zaana
Sβ	kuzáána	s(Tk) does not normally correspond to z(Sβ/Tt).
Tt	kuzána	
<b>113.</b>	<b>to pull</b>	
	(a)	(a): No known cognates.
P1	γuywela	PT: *'-kwela
Vy	γuywela	
Tk	kukwela	
I1	kukwela	
S1	kukwela	
	(b)	(b): Cognates can be found in Bemba <u>ukutinta</u> .
Lj	kutinta	
	(c)	(c): No known cognates.
Sβ	kukwíita	

Tt	(d) kukóka	(d): is widespread in other languages including Kaonde, Lunda, and Cewa: <u>kok</u> CB: *-kók-.
<b>114.</b>	<b>to push</b>	
Pl Vy Tk	(a) γútonta γútonta kútonta	(a) and (b) are suspiciously similar as they only differ in final consonant. But this is only instance of the correspondence of nt and nk. PT: *'-tonta
Il	(b) kútonka	(b): No known cognates. (b) only differs from (a) in the consonant after the nasal, namely <u>nk</u> : <u>nt</u> . This correspondence has no parallel.
Lj	(c) kushindika	(c): No known cognates. This verb is probably related to (414), 'to accompany'.
Sl	(d) kunyaka	(d): No known cognates.
Sß	(e) kunáhhika	(e): No known cognates.
Tt	(f) kukásha	(f): Cognates include Lozi <u>kukasha</u> .
<b>115.</b>	<b>rain (115):</b> This is general in Bantu. Cognates include Bemba <u>imfula</u> ; Luvale <u>vula</u> ; Mañanja <u>mvula</u>	
Pl Vy Tk Il Lj Sl Sß Tt	Nhhula mvula mvula iNhhula mfula mfula imvula imvúla	PT: *'-zwula CB: *-búda.
<b>116.</b>	<b>red</b>	
Pl Tk	(a) salala salala	(a): No known cognates. (a) is homophonous (400a) below, for PT *'-salala was reconstructed
Vy Il Sl Sß Tt	(b) sußila sußila sußila sußila sußila	(b): PT: *'-sußila No known cognates.

Lj	(c) fuβela	(c): No known cognates.
<b>117.</b>	<b>right/ correct</b>	
Pl	(a) luzi	No known cognates of (117).
Il Vy	(b) luleme luleme	(b): No known cognates, but cf. (155b).
Tk Lj	(c) kaβotu kaβotu	(c): No known cognates, but cf. (61a). It is not apparent what role <u>ka</u> is playing.
Sl	(d) caina	(d). No known cognates, but cf. (61b) above. The morphology of this word may be broken down as <u>ci</u> (class 7) and <u>ina</u> 'good'.
Sβ Tt	(e) lotu lotu	(e): No known cognates, but cf. (61a).
<b>118.</b>	<b>righthand</b>	All the forms given here are clearly related and cognates can be found in Kaonde <u>kilulyo</u> and Lozi <u>silyo</u> . (118) is derived from the verb root 'to eat' (37) by adding the derivative morpheme o. In all these cases the noun has two prefixes, the first of which is the locative prefix of class 17, ku. The second differs considerably, but classes 11 (lu) and 7 predominate; cf. (87) above. PT: *'-lyo
Pl Vy Tk Il Lj Sl Sβ Tt	γúlúlyo γúci lísyo kúlúlyo kúcilyo kúlúlyo kúcilyo kúcilyo kúcilyo kúβúlyo	
<b>119.</b>	<b>river</b>	
Pl Vy Tk Il Lj Sl	(a) múlóngá múlóngá múlóngá múlóngá múlóngá múlóngá	(a): Cognates include Bemba <u>umulonga</u> ; Lunda <u>kaloona</u> . CB: *-dòngà PT: *'-lóngà (a) is widespread in Bantu.
Sβ Tt	(b) lwífi lwífi	(b): (b) is restricted in wider Bantu. However, cognates include Luvale <u>lwizhi</u> and Manyika <u>rwizi</u> . CB *-yíji 'river'; 'water'
<b>120.</b>	<b>road</b>	This noun is not reported by Guthrie or Meeussen. But it is found in many languages including Southern African languages like Ndebele and
Pl Vy	múgwagwa múgwagwa	

Tk	múgwagwa	Shona. Culturally, it is a recent loan in Africa,
I1	múkwakwa	although we cannot be sure about the source.
Lj	múkwakwa	Nevertheless the correspondence of g and k is
S1	múkwakwa	limited to a few words, see 3.1.12.1
Sß	múkwákwa	Most words exhibiting this correspondence seem to
Tt	múkwakwa	be loans.

PT: \*'-gwagwa

121. root

	(a)	(a): No known cognates.
P1	muyanda	PT: *'-yanda
Vy	muyanda	
Tk	muyanda	
I1	muzanda	
Lj	muyanda	
	(b)	(b): No known cognates. The root of S1 is
S1	múpíshíshí	reduplicated.
Sß	muhísi	PT: *'-pisi
Tt	múhísi	

122. rope

	(a)	(a): No known cognates.
P1	looye	
S1	looye	
	(b)	(b): No known cognates.
Vy	luyole	
	(c)	(c): No known cognates.
Tk	lóózi	CB: *-gòyè/ *-gòdî
I1	lóóhhi	
	(d)	(d): Cognates can be found in Bemba <u>umwaando</u> .
Lj	mwaando	
	(e)	(e): No known cognates.
Sß	muhhála	
Tt	muhhala	

123. to rot (123) is widespread in Bantu.

P1	γuβola	PT: *'-βola
Vy	γuβola	CB *-bòd-
Tk	kuβola	
I1	kuβola	
Lj	kuβola	
S1	kuβola	
Sß	kuβóla	
Tt	kuβóla	

**124. to rub**

- (a) (a): No known cognates:  
 P1 yuzhumba PT: \*`-cumba  
 Vy yucumba  
 Tk kucumba
- (b) (b): No known cognates.  
 Il kukuza
- (c) (c): No known cognates.  
 Lj kukwesa
- (d) (d): Compare (591) below.  
 S1 kumwaya
- (e) (e): No known cognates. This is the only example  
 Sß kupíkita in our data where 'p' precedes 'i'.
- (f) (f): Compare (430) below.  
 Tt kusíngula

**125. salt**

- (a) (a): (125a) shows variation in the initial  
 P1 múnyo position of the stem and in the consonant,  
 Vy múnyo whether, alveolar or palatal. A parallel  
 Tk múnyo can be seen in item (173) below. These nouns  
 Il mwíno need special discussion and the reader is  
 Lj mwíno to 3.1.3.  
 Sß mwínyo Cognates include Venda munjo; Luganda, omunnyo;  
 Nsenga munyu, Manyika munyu.  
 PT: \*'-inyò  
 CB: \*-nyù; \*-yínyù; \*-yínò
- (b) (b): Cognates can be found in Bemba and Cewa,  
 S1 múcéle umucele and mcele, respectively; Luvale  
mukele.  
 CB : \*-kédè.
- (d) (d): cf. with Lozi lizwai.  
 Tt izwái

**126. sand**

- (a) (a): Cognates can be found in Bemba umusénga;  
 P1 músénga Chokwe nsénga.  
 Vy músénga CB: \*-cenga  
 Il musénga PT: \*'-senga
- (b) (b): No known cognates. The form of Lj has a  
 Tk musese vowel here which may be considered intrusive.  
 Lj museense

- (c) (c): No known cognates.  
 S1 músééya
- (d) (d): A cognate can be found in Lozi mushaβati  
 Sβ lisháβáti  
 Tt isháβáti
- 127. to say** (127) is widespread in Bantu.  
 P1 ywaamba Cognates: Cewagamba.; Luvale amb; LubaKasai  
 Vy ywaamba The verb root of Sβ and Tt begin in 'w'. This can  
 Tk kwaamba be seen as a transition semivowel.  
 I1 kwaamba CB: \*-gamb- 'speak'; 'slander'  
 Lj kwaamba CB: \*-yamb- 'speak'; '(answer)'  
 S1 kwaamba PT: \*'-wamba  
 Sβ kuwámba  
 Tt kuwámba
- 128. to scratch**
- (a) (a): No known cognates  
 P1 yuywehhya PT: (a): \*'-kwezya  
 Vy yuywezya  
 Tk kukwezya
- (b) (b): No known cognates  
 I1 kukwenya The correspondence /e/ : /a/ has no parallel.  
 Lj kukwanya PT \*'-kwenya / \*'-kwanya.  
 S1 kukwanya
- (c) (c): No known cognates.  
 Sβ kuŋwayá
- (d) (d): No known cognates.  
 Tt yúŋáya
- 129. sea** Only Totela has a word for 'sea', namely, iwáte
- 130. to see**
- (a): Cognates can be found in Lozi kuβona.  
 Nsenga and Manyika: on; Yao βon  
 P1 yúβona PT: \*'-βona  
 Vy yúβona CB: \*-bón  
 Tk kúβona  
 I1 kúβona  
 Lj kúβona  
 S1 kúβona  
 Sβ kuβóna
- (b) (b): No known cognates  
 Tt kutóna

131. seed  
for sowing

	(a)	(a): (131a) is widespread in Bantu.
P1	mbúto	Cognates include Luvale, Lunda, Nsenga: <u>mbuto</u> ;
Tk	mbúto	Bemba <u>uluβuto</u> and Kwanyama <u>ombuto</u> .
S1	mbúto	PT: *'-βuto
Tt	imbúto	CB: *'-búto. 'seed'
	(b)	(b): This is derived from the verb 'to sow' cf
Vy	nsyangwa	(432a) below.
	(c)	(c): No known cognates.
I1	manungo	
	(d)	(d): No known cognates.
Lj	nsángu	
	(e)	(e): No known cognates.
Sβ	intáánga	

132. to sew

	(a)	(a): No known cognates.
P1	γúsuma	PT: *'-suma
Vy	γúsuma	
Tk	kúsuma	
	(b)	(b): cognates can be found in Bemba <u>ukutunga</u> ;
I1	kútunga	Mbunda <u>tung</u> ; Kongo <u>tūng</u> .
Lj	kútunga	CB: *'-túng- 'sew'; 'thread on string'
S1	kútunga	PT: *'-tunga
	(c)	(c): CB: *'-dúk- 'plait'
Sβ	kuluká	Cognates can be found in Bemba <u>luk</u>
Tt	kulúka	

133. to be sharp

	(a)	(a): No known cognates.
P1	βohya	PT: *'-βosya
Vy	βosya	
Tk	βosya	
	(b)	(b): No known cognates.
I1	lampa	
	(c)	(c): No known cognates.
Lj	kola	
	(d)	(d): No known cognates.
S1	lumata	

- (e) (e): No known cognates  
 Sß shengeta
- (f) (f): No known cognates.  
 Tt ceka
- 134. short**
- (a) (a): No known cognates. Compare (102) above.  
 PT: \*'-swááswi  
 Pl hwááhwi  
 Il hwááhwi  
 Vy fwááfwi
- (b) (b): No known cognates.  
 Tk fwíifwi  
 Lj fwíifwi
- (c) (c): Cognates can be found in Cewa fupi;  
 Sotho and Xhosa fuphi.  
 CB: \*-kÚpi  
 PT: \*'-swúpi  
 Sl fúpi  
 Sß fúhi  
 Tt fúhi
- 135. sing** This is general in Bantu. Cognates include  
 Luvale, Bemba and Manyika: imb.
- PT: \*'yímba  
 CB: \*-yímb-. 'sing'; 'dance'  
 PT \*y is reconstructed as the initial sound of  
 the stem because among the Tonga lects /y/  
 corresponds to /z/ in Sß and Tt. We do not  
 find /y/ in the current stem because of the  
 constraint which prohibits /y/ before /i/.  
 Pl ywíimba  
 Vy ywíimba  
 Tk kwíimba  
 Il kwíimba  
 Lj kwíimba  
 Sl kwíimba  
 Sß kuzíimba  
 Tt kúzimba
- 136. to sit** (136) is homophonous with (90), q. v.
- PT: \*' ikala  
 CB: \*-yíkád-.  
 Pl yukala  
 Vy yukala  
 Tk kukala  
 Il kukala  
 Lj kwikala  
 Sl kwikala  
 Sß kwikála  
 Tt kwíikála
- 137. skin/hide.**
- (a) (a): Guthrie reconstructed CB \*kútò 'garment';  
 (skin). This has reflexes for example in Luvale  
tjikuto and Kongo kinkutu.  
 Pl kutu  
 Vy kutu
- (b) (b): Cognates include Bemba inkanda  
 and Manyika ganda.  
 CB: \*-kándà  
 Tk lúkanda

- I1 (c) (c): No known cognates.  
císálu
- Lj (d) (d): Cognates include Bemba impapa and  
cípaya Lunda cipapa.  
SI cípaya CB \*-pápà.
- Sß (e) (e): No known cognates.  
idálo  
Tt italo
- 138. sky**
- P1 (a) (a): Cognates include Kongo zulu and  
julu Mañanja dzulu.  
Vy julu CB: \*-jùdù 'top'; 'sky'.  
Lj liculu PT: \*'-julu  
SI lyulu This is one of two nouns in which CB \*j was  
Sß iyuulú unchanged in PT. The other is (372).  
Tt iwúlu
- Tk (b) (c): No known cognates, but cf. (21a), above.
- I1 (c) (d): No known cognates.  
izeulu
- 139. to sleep**
- P1 (a) (a): Cognates include Cewa, Yao and Luganda:  
yoona gon  
Vy yoona CB: \*-gòn-  
Tk koona PT: \*'-ona cf. (89a) above  
I1 koona  
Lj koona  
SI koona
- Sß (b) (b): cf. (89b) above  
kuláála  
Tt kuláála
- 140. small**
- P1 (a) (a): This homophonous with (46c), q. v.  
nííni CB: \*-nííni.  
Vy nííni PT: \*'-nííni  
Tk nííni  
Lj nííni  
Sß nííni  
Tt nííni
- I1 (b) (b): This is homophonous with (46a), q. v.  
shoonto

- (c) (d): This is homophonous with (46d).  
Sl        ηana
- 141. to smell**        This is general in Bantu. Cognates can be found in Bemba ukununka, Nyanja kununkha, and Lozi kununka.
- Pl        γununka        PT: \*`-nunka; \*`-nuunka  
Vy        γununka        CB: \*-nũnk-  
Tk        kununka  
Il        kununka  
Lj        kununka  
Sl        kununka  
Sβ        kunuunká  
Tt        kunúúnka
- 142. smoke**        Cognates include Zulu umusi; Lunda and Luvale wishi, Manyika utsi and Zulu umusi  
Pl        βúsi        CB: \*-yúkĩ/ \*-yíkĩ  
Vy        βúsi        PT: \*'-isi  
Tk        βúsi  
Il        βúshi  
Tt        βúsi  
Sβ        βúsi  
Sl        βwíshi  
Lj        βwíshi
- 143. to become smooth**        (143) has no known cognates.
- (a)  
Pl        γύγwihhingana  
Lj        kukwishinga
- (b)  
Vy        γúsumbuya  
Tk        kúsumbuka
- (c)  
Il        kúβumbunkana
- (d)  
Sl        kulungila
- 144. snake**        (144) is general in Bantu. Cognates include Mañanja njoka; Bemba isoka
- Pl        nzoya        PT: \*'-zoka  
Vy        nzoya        CB \*-jóká  
Tk        nzoka

Il múzoka  
Lj soka  
S1 njoka  
Sß inzóka  
Tt ínzóka

145. snow There is no word for 'snow' in these lects.

146. some

(a) (a): no known cognates. But see (109b) above.  
PT: \*'-mwi  
P1 mwi  
Vy mwi  
Tk mwi  
Sb mwi  
Tt mwi

(b) (b): See (95)  
Il nji

(c) (c): A cognate of this can be found in Bemba  
Lj mbi mbi, but with the meaning 'other'  
S1 mbi

147. to spit

(a) (a): Cognates include Namwaanga swil  
LubaKasai twil and Sotho tswi.  
P1 yúswa The forms of Tk and Il are in the applied form  
Vy yúswa and the correspondence /d/ : /l/ has a parallel  
Sß kuswá (16a) above. The correspondence /s/ : /h/ is  
Tt kúswa discussed at 3.1.17.3.  
Tk kúswida PT: \*'-swa  
Il kuhwíla CB: \*-tÚ-

(b) (b): A cognate of this can be found in Kaonde  
Lj kushipa kushipa

(c) (c): No known cognates.  
S1 kusanka

148. to split  
e.g. wood

(a) (a) Cognates include Bemba and Yao pandul and  
P1 yupandula Manyika pandur. The correspondence /p/ : Ø  
Vy ywaandula in stem initial position has a parallel in (247)  
Il kwaandula below. It is not a regular feature and the

correspondences do not involve the same consonant in both cases.

CB: \*-pànd-; \*-pàndud-, 'split'

PT: \*'-pandula

	(b)	(b): No known cognates.
Tk	kukwamuna	
Lj	kukwamuna	
	(c)	(c): No known cognates
Sl	kupasanya	
	(d)	(d): No known cognates
Sß	kuṅáátula	
	(e)	(e): No known cognates.
Tt	kúkóntáuna	
<b>149.</b>	<b>to squeeze</b> <b>e. g. orange</b>	
	(a)	(a): No known cognates. We can see that the verbs in Pl and Tk differ from those of Lj and Sl as the stems contrast in C <sub>2</sub> position: /nk/ : /n/ This kind of correspondence has no parallel.
Pl	yutyanka	
Tk	kutyanka	
Lj	kutyana	
Sl	kutyana	PT : *'-tyànk- ; *'-tyàn-
	(b)	(b) and (c) also differ in just one consonant in stem initially. This again has no parallel.
Vy	yudina	
	(c)	(c): Cognates include Luvale <u>shin</u> ; Bemba and Nsenga <u>fin</u> . The Il form is homophonous (410a) below.
Il	kushina	CB: *-cìn-
	(d)	(d): No known cognates.
Sß	kuhhamúla	
	(e)	(e): no known cognates.
Tt	kukámuna	
<b>150.</b>	<b>to stab</b>	
	(a)	(a): No known cognates. Generally, /y/ in Pl in stem initial position corresponds to /z/ in Il. This generality is broken here; see 3.1.18.1 and 3.1.18.2.
Pl	yúyasa	
Vy	yúyasa	
Tk	kúyasa	
Il	kúyasa	
	(b)	(b): No known cognates.
Lj	kúswaya	
Sl	kúswaya	

- (c) (c): No known cognates.
- Sß kuhwéeza  
Tt kúhwéeza
- 151. to stand** Generally found in Bantu. For the correspondence zero consonant and z refer to (135) above. Cognates are found in Bemba im and Luba Katanga and LubaKasai iman. In Lj the stem is extended by ikan. It is not clear what this morpheme stands for. The forms of Sl and Tt also have extended verbs which reflect CB \*-yímad-, CB: \*-gím-/\*-yím-; \*-yímad- PT: \*`-ziim/\*'-ziimana
- P1 ywííma  
Vy ywííma  
Tk kwííma  
Il kúhhima  
Lj kwíímíkana  
Sl kwíímana  
Sß kuzíma  
Tt kóziimana
- 152. star**
- (a) (a): Cognates can be found in Cewa and Manyika nyenyezi.  
P1 nyényézi  
Vy nyényézi CB \*-yényèdî  
Tk lúényényézi PT \*nyenyezi  
Lj nyényéshi  
Sl nyényéshi
- (b) (b): The difference in the first vowel cannot be easily accounted for.  
Il ntongwehhi  
Tt ntúngweezi
- (c) (c): This is cognate with Lozi naleli  
Sß inaléli
- 153. stick**
- (a) (a): (153a) has no known cognates.  
P1 yasayo (a): PT: \*`-sako  
Tk kasako  
Il kasako  
Sl kasako
- (b) (b): No known cognates; however, see (174a).  
Sß kasámo
- (c) (c): No known cognates.  
Tt ínkoli  
Lj nkoli
- (d) (d): No known cognates.  
Vy yafunko
- 154. stone**
- P1 bwe (154) is generally found in Bantu. In P1, Vy and Tk there is alternation between the stop b and ß class 5 and class 6 as is indicated here. For  
Vy (maßwe) bwe

	(maβwe)	discussion of this alternation refer to §2.4.
Tk	bwe	Cognates include Bemba <u>iliβwe</u> ; Hemba (Zaire)
	(maβwe)	<u>libwe</u> ; LubaKasai <u>dibwe</u> .
Il	iβwe	CB: *-bùè
Lj	liβwe	PT: *'-βwe
Sl	liβwe	
Sβ	iβwé	
Tt	iβwé	
<b>155.</b>	<b>straight</b>	All the items here are in the perfective.
	(a)	(a): No known cognates.
Pl	tandaβede	
	(b)	(b): CB *dúdàm 'become straight'
Vy	luleme	The reflexes of this CB form include LubaKatanga
Tk	luleme	and LubaKasai; <u>lulam</u> and Manyika
Il	luleme	<u>ruram</u> .
Lj	luleme	PT: *'-luleme.
Sl	luleme	
	(c)	(c): No known cognates.
Sβ	ololokete	
Tt	ololokete	
<b>156.</b>	<b>to suck as in breast feeding.</b>	
	(a)	(a): Cognates include Bemba and Rundi <u>-onk-</u> .
Pl	γúnyonka	In Il the stem begins with n as opposed to ny in
Tk	kúnyonka	the other lects. A similar kind of
Il	kúnonka	correspondence is found in items 31, 125, and
Sβ	kunyoonká	173.
Tt	kunyóonka	PT *' -nyonka.
		CB *-yónk-
	(b)	(b): No known cognates in neighbouring lects.
Vy	γusipa	CB *-píp-
	(c)	(c): Cognates include Kaonde and Lunda <u>kwqamwa</u>
Lj	kúyamwa	Cewa <u>kuyamwa</u> .
	(d)	(d): No known cognates.
Sl	kushoshota	
<b>157</b>	<b>sun</b>	(157) is widespread in Bantu. Cognates include
Pl	zuβa	Kaonde <u>juβa</u> , Cewa <u>dzuwa</u> and Bemba <u>akasuba</u> .
Vy	zuβa	
Tk	zuβa	
I	ízuβa	CB: *-júbà.
Lj	lísuβa	
Sl	lísuβa	

Sb izúḡa  
Tt izuḡa

**158. to swell** Cognates of (158) can be found in Kaonde, Cewa and Nsenga kuvimba; Bemba fimb.

P1 yúzimba PT: \* '-zimba  
Vy yúzimba CB: \*-bímb-  
Tk kúzimba  
I1 kúhhimba  
Lj kúshimba  
S1 kúshimba  
Sḡ kuzíimba  
Tt kúziimba

**159. swim**

(a) (a): No known cognates.  
P1 yuyamba

(b) (b): No known cognates  
Vy yudwaya  
Tk kudwaya

(c) (c). No known cognates with this meaning  
I1 kusamba However, see (180) below.  
Lj yusamba PT: \* '-saamba  
S1 yusamba  
Sḡ yusáamba  
Tt yusáamba

**160. tail** (160) is general in Bantu. Among other lects cognates can be found in Kaonde and Lunda and Luvale mukila; Luyana umusila; and Bemba umucila.  
P1 muzhila CB: \*-kídà.  
Vy múcila PT: \* '-cila  
Tk múcila  
I1 múcila  
Lj múcila  
S1 múcila  
Sḡ mucila  
Tt múcila

**161. that**

(a) (a): No known cognates.  
P1 zhiya  
Vy ciya  
Tk ciya  
Lj ciya

(b) (b): CB: \*-dia.  
I1 cilya

(c) (c): No known cognates.  
S1 cisa

	(d)	(d): No known cognates.
Sß	ciná	
Tt	ciná	
<b>162.</b>	<b>there</b>	This was difficult to elicit.
<b>163.</b>	<b>they</b>	This was not easy to elicit.
<b>164.</b>	<b>thick</b>	
	(a)	(a): This the same item discussed under (71),
P1	lemu	above. In the present case the final vowel u is
Vy	lemu	a derivative morpheme. Note tone between (164a)
Tk	lemu	and (71). The S1 form is reduplicated in (164a).
I1	lemu	PT: *'-lému
Lj	lemu	
S1	lemulemu	
	(b)	(b): no known cognates. The stem is in perfective
Sß	kambite	form, cf. (155; 165).
Tt	kambite	
<b>165.</b>	<b>thin</b>	
	(a)	(a): No known cognates.
P1	huluyide	
	(b)	(b): No known cognates.
Vy	ɔyede	PT: *`kókéle
I1	kokele	
S1	kokete	
	(c)	(c): No known cognates.
Lj	nyangite	
	(d)	(d): See (46c) and (140a)
Sß	niini	
	(e)	(e): No known cognates.
Tt	kata	
		All the forms (ac) are in the perfective form
		cf. (164). The three-way correspondence /d/, /l/
		and /t/ generally applies to perfective suffix
		CB *-ide
	(f)	(f): No known cognates.
Tk	kotede	
<b>166.</b>	<b>to think</b>	
	(a)	(a): No known cognates.
P1	ɔyeeya	PT: *'-yeeya
Vy	ɔyeeya	
Tk	kuyeeya	

I1 kuzeeza  
Lj kuyeeya  
S1 kuyeeya

(b) (b): No known cognates.

Sß kuhhúpúla  
Tt kuhhúpúla

167. **this** No known cognates.

P1 ezhi PT: \*'-ci  
Vy eci  
Tk eci  
I1 ceci  
Lj eci  
S1 eci  
Sß ici  
Tt ici  
Tt ici

168. **thou** This was difficult to elicit.

169. **three**

(a) (a): The roots here comparable to those in  
discussed under (50). There are no comparable  
forms in other Bantu lects. However, in ordinal  
counting the form is tatu in all these  
lects. The cardinal numbers do not have o in  
initial position and they also do not have ending  
in we.  
PT \*'-ótátwe

P1 ótátwe  
Vy ótátwe  
Tk ótátwe  
I1 ótátwe  
Lj ótátwe  
Sß ótátwe  
Tt ótátwe

(b) (b): This is general in Bantu. Cognates include  
Luvale, Bemba and Nsenga tatu.  
CB: \*-tátù.

S1 tatu

170. **to throw**

(a) (a): No known cognates.  
PT: \*'-swusa

P1 yuhusa  
Lj kufusa  
S1 kufusa

(b) (b): No known cognates.  
PT: \*'-waala

Vy yúwaala



Tk	kúwaala	
Il	kúwaala	
Sß	(c) kusóónza	(c): No known cognates
Tt	(d) kuzífínda	(d): No known cognates
<b>171.</b>	<b>to tie</b>	
P1	(a) ɣwaanga	(a): Cognates include Kongo <u>kang</u> ; Unguja (Tanzania) <u>gang</u> ; Tsonga (Mozambique) <u>ang</u> .
Vy	ɣwaanga	CB: *-gàng-.
Tk	kwaanga	PT: * `~gànga
Il	kwaanga	CB form belongs to osculant series with *kàng.
Lj	kwaanga	
Sb	kwaanga	
Tt	kwaanga	
S1	(b) kúpombela	(b): No known cognates.
<b>172.</b>	<b>tongue</b>	
P1	(a) múlaya	(a): Cognates include Luvale <u>ndaka</u> ; Lunda <u>mulaka</u> .
Vy	múlaya	CB: *-dákà.
Tk	múlaka	PT: * `~laka
Il	múlaka	
Lj	múlaka	
Tt	múlaka	
S1	(b) lúlími	(b): this is general in Bantu. Cognates can be found in Lozi <u>lulimi</u> , Kaonde <u>lujimi</u> , Lunda <u>idimi</u> and Cewa <u>lilime</u> .
Sb	lúlími	CB: *-dími/*-dími.
<b>173.</b>	<b>tooth</b>	
P1	línyo	This is general in Bantu. The correspondence /ny/ and /n/ has been noted in other items such as (39, 125 and 156) above. The lects that have ny or n are not consistently the same always.
Vy	línyo	Cognates include Kaonde and Lunda; <u>jino</u> and <u>lino</u>
Tk	lífino	bemba <u>iliino</u> ; Yao <u>iliino</u> .
Il	líno	See 3.1.3 for discussion.
Lj	lífino	PT: *'-inyo / *'-ino
S1	lífino	CB: -yíno
Sß	lífino	
Tt	lífino	
<b>174.</b>	<b>tree</b>	
P1	(a) músámu	(a): This has no known cognates. There is disagreement in the final vowel of stem. This kind of correspondence is not regular.
Vy	músámu	Cf. (109), (152b), (176).
Tk	císámu	

Il músámo PT: \*'samo. See 3.2.5.  
 Lj císámu  
 Sß cisámo  
 Tt cisámo

(b)  
 Sl citoondo Cognates can be seen in Lunda, Lußale and Chokwe  
 viz, -citondo.  
 CB \*-tónndò

175. to turn

(a)  
 Pl yúzheßa (a): The form in Pl differs from the rest in that  
 Vy yúceßuyá it is shorter. In the other lects there is what  
 Tk kúceßuka may be called a false extension uk. It can be  
 Il kúceßuka viewed as a 'stative' or 'reversive' extension  
 Lj kúceßuka which has now become part of the verb stem.  
 Sl kúceßuka CB: \*-kéb-  
 Sß kucéßuka PT: \*'-ceßuka/ \*'-ceßa

(b)  
 Tt kúfútúka (b): No known cognates.

176. two

(a)  
 Pl oßilo All the stems in (176) are related but it is not  
 Vy oßilo clear how the variations in the final or even the  
 Tk oßilo medial vowel may be accounted for. The initial  
 vowel o has been discussed in items (50) and  
 (109). We have seen in item (68) and (77a) that  
 some Tonga lects have /i/ and others /e/ in the  
 vowel of the stem. We have suggested that this  
 may be attributed to raising of the mid vowel.  
 In the present case (c) on the one hand contrasts  
 with (b) and (d) in the final vowel. One might  
 want to suggest that (c) innovated in this  
 position. but in the medial position it would  
 all the lects that innovated except Sß. If we  
 (176a) to the other forms here we can again see a  
 significant change. It Pl, Vy and Tk we can only  
 account for /o/ in the final position by assuming  
 assimilation of the final vowel to the initial,  
 /o/ of the stem. It is not possible to come up  
 with a final conclusion to the forms of (176ad)

(b)  
 Tt oßile PT: \*-oßilo; \*-ßele; \*-oßile  
 Il oßile CB \*-bidi; \*-bidi  
 Sl oßile

(c)  
 Lj oßili

(d)  
 Sß oßele

177. to vomit This is general in Bantu. Cognates include Nsenga, Bemba and Kongo luk
- P1 yúluya PT: \*'-luka  
 Vy yúluya CB: \*-dúk.  
 Tk kúluka  
 Il kúluka  
 Lj kúluka  
 S1 kúluka  
 Sß kulúka  
 Tt kulúka
178. to walk (178) has cognates in Cewa, Nsenga and Kunda, viz, kuyenda. It can be seen that in Sß and Tt the stem begins in y which contrasts with zero consonant in the other lects. We would like to suggest that the yforms probably come from a different CB source reconstructed by Guthrie with initial \*y whereas the zero consonant forms may be from the form reconstructed with initial \*g. CB \*g has the reflex zero consonant in PT.  
 CB: \*-gènd- 'go, 'go away', 'walk'.  
 CB: \*-yènd- 'travel'  
 PT: \*'-yenda
- P1 yweenda  
 Vy yweenda  
 Tk kweenda  
 Il kweenda  
 Lj kweenda  
 S1 kweenda  
 Sß kuyéenda  
 Tt kuyéenda
179. warm
- (a) (a): No knwn cognates.  
 PT: \*'-kásaala
- P1 yasaala  
 Vy yasaala  
 Tk kasaala  
 Il kasaala  
 Lj kasaala  
 S1 kasaala
- (b) (b): is may be the causative form of (19c) kuhhiisa, 'to burn up', and to (255) kuhyá/ kúhya. In (19) and (19c) and (179b) the extension would be is. However, note that in (19c) the stem has the consonant /hh/ as opposed to /h/ in the present case.
- Sß hisa
- (c) (c): No known cognates.
- Tt genyisa
180. wash (180): This is general in Bantu. See (159c).
- P1 yusamba PT: \*'-samba  
 Vy yusamba CB: \*-camb  
 Tk kusamba  
 Il kusamba  
 Lj kusamba

S1 kusamba  
Sß kusáámba  
Tt kusáámba

**181. water**

(a)  
Pl méénda (a): No known cognates. The morphology of this noun is possibly mainda and that in this structure /a/ and /i/ together produced /ee/.

(b)  
Vy máánzi (b): Cognates include Cewa madzi.  
Tk maanzi (b) is a noun in class 6 (prefix ma). Assuming  
Lj máánshi the stem is inzi we can envisage a rule whereby the vowel /i/ of the stem assimilates to the vowel /a/ of the prefix to produce the double vowel /aa/. Vowel assimilation is a common rule at morpheme boundary in the Tonga lects. Cognates include Cewa madzi; Unguja maji.

(c)  
Il mééNhhí (c): Cognates include e.g.: ; Luyana meei.  
S1 méénshi Yao meesi.  
Sß méénzi The vowel of the prefix ma fused with /i/ of  
Tt méénzi the stem to give /ee/ as in (a).  
CB: \*-yíji; \*-yínji.  
PT: \*'-inzi

**182. we**

Pl sweßo Cognates include Benga (Gabon); Ngoni ise; Bemba  
Vy sweßo ifwe; Sukuma iswe. In all the lects the pronoun  
Tk sweßo can be preceded by the /i/ as in nouns. But in  
Lj sweßo Il we find a different vowel u as the prefix.  
Il uswe This does not exist as a class prefix in this Il.  
Sß iswé In S1 too we can see the prefix a which is not  
Tt íswe an ordinary prefix.  
S1 áfwé CB: \*-cúé; \*-cÚé; \*-yítÚé.  
PT \* sweßo

**183. wet**

(a)  
Pl teta (a): No known cognates.  
Vy teta PT: \*'-teta  
Tk teta

(b)  
Il tontola (b) is homophonous with (22) above.  
Lj tontola

(c)  
S1 teka (c): No known cognates; but compare CB: \*ték  
'become soft'.

(d) (d) has cognates in Bemba, ukuḥomba and in Lungu  
Sb ḥoomba and Mambwe ukuḥomba.  
Tt ḥoomba CB \*-bòmb-. Also see (231a) below.

184. what

(a) (a): Cognates can be found in Bemba nshí.  
Pl nzí  
Vy nzí  
Tk nzí 'what' in the Tonga lects is a bound morpheme.  
Il Nhhí PT: \*-nzi  
Lj nshí  
Sb nzí  
Tt nzí

(b) (b): Cognates found in Cewa, yani. Cf. CB \*yani  
Sl cíyáni Notice here that (b) has the same ending as  
  
(75c), suggests that ni is possibly a  
separate morpheme.

185. when These forms have no known cognates. The Il form  
Pl lílí differs from the rest because it is vowel initial  
Vy lílí and it has ending ye. These cannot be separated  
Tk lílí from the stem. See (182) above with regard to  
Il úlílíye the initial vowel.  
Lj lílí PT: \*lílí  
Sl lílí  
Sḥ lílí  
Tt lílí

186. where

(a) (a): Cognates are found in Lunda and Luchazi,  
Pl ḡúlí kulí.  
Vy ḡúlí PT: \* -kúlí.  
Tk kúlí  
Lj kúlí

(b) (b): Cognates are found in Mbunda kwíi and in  
Il úkwí Mambwe kwiko. See (182 and 185) for similar  
prefixation.

(c) (c): We can relate the forms of Sl and Sḥ if we  
Sl kúpéyo analyse the form of the Sl as having the suffix  
Sḥ kúhí eyo and the stem was kupi. We cannot say at  
the moment what the function of the suffix is but  
it is comparable to that of Mambwe discussed  
under (b). /p/ in Sl regularly corresponds to  
/h/ in Sḥ and Tt. One can go so far as to take  
ku in all the cogntes as a prefix, perhaps of  
class 17, ku 'to'  
CB: \*-pí.

- (d) (d): No known cognates.  
Tt kwííβo (d) is comparable to the form of Mambwe kwiko
- 187. white** No known cognates of (187).  
Pl γutuβa PT: \*'-tuβa  
Vy γutuβa  
Tk kutuβa  
Il kutuβa  
Lj kutuβa  
S1 kutuβa  
Sβ kutuβá  
Tt kutúβa
- 188 who**  
(a) (a): Cognates include Bemba, nani, Cewa ndani.  
Pl ní PT: \*-ní  
Vy ní CB: \*-ní 'which', (what)  
Tk ní  
Il ní  
Lj ní  
Sβ ní  
Tt ní
- (b) (b): Cognates can be found in Sena, and Zigula  
S1 yáni ani, 'what?'. Cf. Bemba and Shona ani 'who?'. Compare also (75c) and (184b) above in which the ending is ni
- 189 wide** There is no word for this gloss in the Tonga lects.
- 190. wife** The noun 'wife' is related to 'woman' given in (195) below. Pl, Lj, and S1, Sβ and Tt have the same word for both glosses. In all these lects except Il it would seem that the stem is the element ya/ka. In (b) and (c) for example the final part ngu is a first person possessive pronoun or marker which has the meaning 'mine' or 'my'. Also in Il the element na is an associative morpheme meaning 'of mine'.  
Pl múyaintu  
Vy múyángu  
Tk múkángu  
Il mwínángu  
(d) In (d) we are dealing with a compound noun where the first part 'mwana' also means child in ordinary usage. The next element ka is as described already. It is not clear what the next element shi stands for. One thing certain for sure is that it cannot be separated from the stem.  
Lj mwánákáshí stem.  
S1 mwánákáshí The form in (e) is similar; the difference is that it is not a compound noun. If we look at (a) we again we can find the element ya. We cannot say at the moment whether intu is a separate element or whether is part of the  
(e) We cannot say at the moment whether intu is a separate element or whether is part of the  
Tt múkazi

(f)  
 Sß muhetú

In Guthrie's reconstruction there is even an intervening glide y between ka and ntu. The whole is given as one stem, vis, Cf. CB \*-káyíntu. Finally, let us look at (f). If we make an analysis similar to the one made above we can isolate tu which is identical to the second person pronoun 'ours'. This leaves he as the stem. In conclusion we can say the nouns in (190) and (195) below all show compounding. Cognates of (e) can be found in Cewa, lambya, and and Tambo kazi, Cf. CB \*-kádî 'woman'.  
 PT: \* '-kází

191. wind

(a)  
 P1 múwo  
 Vy múwo  
 Tk múwo  
 I1 múwo  
 Lj múwo  
 S1 múwo

(a): No known cognates.

(b)  
 Sß luhuhó

(b): may be related to (a) if the latter is seen as the truncated form of the former. It is possible that /w/ the original PT stem was \*-pupo. In (15) and (17) above we observed that PT \*p became /h/ in Sß and Tt, perhaps accounting for the form in (191b). Cognates of (b) can be found in Luvale, phuho. Guthrie quotes Tt as having the cognate oluo, contrary to the one we obtained. Other cognates include Kongo, lußuußu.  
 CB: \*-pùùpò  
 PT: \* '-pupo

(c)  
 Tt móya

(c): No known cognates, but compare (438a).

192. wing

(b)  
 P1 báßa  
 (máßáßa)  
 Vy báßa  
 (máßáßa)  
 I1 íßáßa

(a): refer to comments at (154). Cognates are found in Luvale, lißaßa and in many nonZambian lects. (192a) has limited distribution in Bantu.  
 CB: \*-bàbá.  
 PT: \* '-báßa

(b)  
 Tk lípápámíno  
 Lj lípápámíno  
 S1 lípápámíno

(b): no known cognates in Zambian lects. (b) can be said to have an extension ino which in has the meaning 'instrumental.' Cf. CB \*pápá. Cognates without the present extension can be in lects outside Zambia e.g. Mpongwe, Hanga and Venda;

- PT: \*'-pápámínò  
Both (a) and (b) could be onomatopoeic
- (c) (c) has no known cognates.  
Sß ißaando
- (d) (d): This is widely distributed in Bantu with  
Tt lóóza the meaning 'feather' and 'fur'.
- 193. to wipe** (193): No known cognates.
- (a)  
P1 γúsansamuna  
Vy γúsansamuna PT \* '-sànsàmùnà  
Tk kúsansamuna
- (b) (b): No known cognates.  
I1 kúkunkumuna  
S1 kúkunkumuna
- (c) (c): No known cognates  
Lj kupampa
- (d) (d): No known cognates.  
Sß kupukúta
- (e)  
Tt kútútúla
- 194. with**
- (a) (a) and (b) have no known cognates. Cognates of  
P1 a (c) can be found in many Zambian lects including  
Vy a Cewa and Bemba. (194) has also the meaning  
Tk a 'and'. Refer to (2) above for comments.  
Sß a PT: \* -na  
Tt a
- (b)  
I1 o
- (c)  
Lj na  
S1 na
- 195. woman** For comments on (195) see (190) above.
- (a)  
P1 múyaintu  
I1 múkaintu
- (b) (c): CB: \*-kádĩ  
Vy mwanayazi PT: \* '-kází; \*'-anakazi  
Tk mwanakazi

Lj mwánákashi  
S1 mútukashi  
Sß mwáánákázi  
Tt mwáánákázi

196. woods

(a) (a): Cognates include Kaonde jisaka and Nsenga  
P1 cisaya lusaka, both with the meaning 'thicket' (bush  
Vy sayá country);  
Tk cisaka CB: \*-càkà  
S1 cisaka PT: \*`-sàkà

(b) (b): No known cognates  
I1 isokwe

(c) (c): Cognate in Lozi mushitu. Cf. CB \*títu  
Lj múshítu

(d) (d): No known cognates.  
Sß muzúka

(e)  
Tt múlólé

197. worm There is no general word for 'worm' in these  
lects

198. ye (198) is a bound morpheme in the Tonga lects. It  
it could not be elicited separately.

199. year

(a) (a): (199a) is widespread in Bantu.  
P1 mwáya CB: \*-yákà  
Vy mwáya PT: \*`-ákà  
Tk mwáka Cognates can be found in Lunda mwāka; Bemba  
I1 mwáka umwāka; Nsenga caka.  
Lj cáka  
S1 mwáka

(b) (b): cognates can be found in Lozi. The root is  
Sß cilimo probably related to (384) 'cultivate.'  
Tt cilimo

200. yellow There is no word for 'yellow.'

201. to be This is general in Bantu. Cognates include Bemba  
and Yao βi Manyika w.

P1 γúβa PT: \*`-βa  
Vy γúβa CB \*-bá  
Tk kúβa  
I1 kúβa

Lj kúβa  
S1 kúβa  
Sβ kuβá  
Tt kuβá

202. to itch

P1 γύβαβα  
Vy γύβαβα  
Tk kúβαβα  
I1 kúβαβα  
Lj kúβαβα  
S1 kúβαβα  
Sβ kuβάβα  
Tt kúβαβα

Cognate are found in wider Bantu but with various meanings, e. g. Venda and Yao βaβ 'to become bitter'; Bemba and Kaonde βaβ 'to sting', 'smart' or 'to singe'.  
CB: \*-báb- 'to become bitter, sting, itch, singe'  
PT: \*'-βάβα

203. to shine  
(e. g. sun)

(a)  
P1 γύβala  
Vy γύβala  
Tk kúβala  
Lj kúβala  
S1 kúβala  
Sβ kuβάla  
Tt kúβάla

No clear cognates in other Zambian lects except in Bemba, βalik.  
CB: \*-bád-.  
PT: \*'-βala

(b)  
I1 kumweka

(b): no known cognates outside the Tonga group. In Pl (b) has the meaning 'to illuminate' as in the case of a torchlight or light bulb. (a) and (b) cannot be interchanged in Pl.

204. to read

(a)  
P1 γυβala  
Vy γυβala  
Tk kuβala  
I1 kuβala  
Sβ kuβalá  
Tt kuβάla

(a): Cognates include Kaonde and Lozi kuβala.  
CB: \*-bád-.  
PT: \*'-βala . See also (24a) above.

(b)  
Lj kúβelenga  
S1 kúβelenga

(b): Cognates can be found in Cewa and Nyanja kuwélenga.  
CB: \*-beding-. 'to read'; 'to count'

205. to make

(a)  
P1 γυβamba  
Vy γυβamba  
Tk kuβamba  
I1 kuβamba

(a): No known cognates in other Zambian lects.  
PT: \*'-βamba

Lj kuβamba  
S1 kuβamba

206 'to flatten'

(a) (a): Cognates include Maŋanja, wand and Herero  
βand.  
P1 γúβanda CB: \*-bánd- 'to flatten'  
Vy γúβanda PT: \* '-βanda  
Tk kúβanda  
I1 kúβanda  
Lj kúβanda  
S1 kúβanda

207. to converse

(a) (a): No known cognates.  
P1 γuβandika PT: \* '-βandika  
Vy γuβandika  
I1 kuβandika  
Lj kuβandika  
S1 kuβandika

(b) (b): The form of Tk suggests an extended root  
Sβ kuwámba with the extension ul. The may be seen as  
Tk kwambuula carrying the repetitive meaning.

(c) (c): no known cognates.  
Tt kuténda

208. to knock out  
teeth

(a) (a): No known cognates.  
P1 γuβanga PT: \* '-βanga  
Vy γuβanga  
Tk kuβanga  
I1 kuβanga  
Lj kuβanga  
S1 kuβanga

209. dagga

(a) (a): The root is reported in Portuguese, Persian  
P1 lúβánje and Urdu as bague, bang, and bhang, respectively.  
Vy lúβánje This word came into the Tonga lects, probably  
Tk lúβánje through Portuguese traders.  
I1 lúβánje PT: \* '-βänge  
Lj lúβánje  
S1 mbange

(c) (c): A cognate of this can be found in Lozi,  
Sβ matokwani matokwani  
Tt matokwani

210. fence

- (a) (a): No known cognates of (210).  
P1 lúβaya  
Vy lúβaya
- (b)  
I1 lwiingo
- (c)  
Lj lúβanga

211. to be  
blind

- (a) (a): No known cognates of (a).  
PT (a): \*'-βaya  
P1 γuβaya  
Lj kuβaya  
S1 kuβaya
- (b) (b): No clear cognates of (b), but cf. Bemba  
ukupofula, 'to make blind'.  
CB: \*-pokU 'blind.'  
PT : \*'-oswaala  
Vy γoofwaala  
Tk koofwala  
I1 koohwaala

212. scar

No known cognates.

- PT: \*'-βata  
P1 lúβata  
Vy lúβata  
Tk lúβata  
I1 lúβata  
Lj lúβata  
S1 lúβata  
Sβ luβáta  
Tt luβáta

213. a type of  
basket

- (a) (a): No known cognates.  
PT: \*'-βango  
P1 lúβango  
Vy cíβango  
Tk lúβango

214. to lie

- (a) (a): Cognates of (214) can be Bemba ukuβeepa  
and Nsenga βwepa  
CB: \*-béép.  
P1 γúβeja  
Vy γúβeja

- Tk kúβeja PT: \*'-βeja.  
Il kúβeya  
Lj kúβeca  
Sl kúβeca
- (b) (b): (214b) is homophonous with (287a), below.  
Sβ kucénga
- (c) (c): (214c) homophonous with (287b), below.  
Tt kuhoma
- 215. to work**
- (a) (a): No known cognates with the present meaning  
Pl γυβeλeγa but compare CB: \*bèdik 'carry (child) on back'  
Vy γυβeλeγa which has a reflex in Luvale, βelek. This CB  
Il kuβeleka has a homophone \*bèdik 'bear child' which has  
Sβ kuβéléka reflexes in Luyana, Bemba Yao: βelek.  
PT: \*'-βeleka.
- (b) (b): A cognate can be found in Lozi: kuseβeza.  
Tk kúseβenza PT: \*'-seβenza  
Lj kúseβensa  
Sl kúseβensa
- (c) (c): No known cognates.  
Tt kuténda CB \*'-ténd- 'cut'.
- 216. thigh**
- (a) (a): Cognates are widespread in Bantu; cf. Luyana  
Pl zhiβelo isielo and LuβaKasai cibelo.  
Vy ciβelo CB: \*'-bèdo  
Tk ciβelo PT: \*'-βelo  
Il ciβelo  
Lj ciβelo  
Sl ciβelo  
Sβ ciβeló  
Tt cíβélo
- 217. piece**
- (a) (a): No known cognates of (217).  
Pl zhiβeela PT: \*'-βeela  
Vy ciβeela  
Tk ciβeela  
Il ciβeela  
Lj ciβeela  
Sl ciβeela
- 218. case**
- (a) (a): No known cognates of (218a).

P1	lúβeta	PT: *'-βeta
Vy	lúβeta	
Tk	lúβeta	
I1	lúβeta	
Lj	máβeta	
	(b)	(b): No known cognates. (b) is present in P1 but it precisely means 'subject matter', that is 'things to be talked about', not necessarily a court case.
S1	makani	
Sβ	ínkani	
Tt	inkáni	
<b>219.</b>	<b>to be bad</b>	This is a general Bantu verb. Cognates can be found for example in Bemba, <u>ukuβipa</u> . The verb is derived from the adjective 'bad' given in (7) above. C <sub>2</sub> in all the present cognates represents a derivative morpheme.
P1	γúβija	CB: *-bífip. 'become bad'.
Vy	γúβija	PT: *'-βiipa.
Tk	kúβija	See 3.1.16
I1	kúβiya	
Lj	kúβica	
S1	kwípa	
Sβ	kuβiya	
Tt	kuβiya	
<b>220.</b>	<b>to carve</b>	(220): There are known cognates in other Zambian lects. Cognates in wider Bantu are restricted. Outside Tonga cognates are only reported by Guthrie in three zones and the geographically nearest to Tonga is Manyika <u>wez</u> (S. 13a).
P1	γυβeza	CB: *-bèj- 'work wood'
Vy	γυβeza	PT: *'-βeeza
Tk	kuβeza	
I1	γυβeza	
Lj	γυβesa	
S1	kuβesa	
Sβ	kuβezá	
Tt	kuβééza	
<b>221.</b>	<b>to put</b>	Cognates for (221) can be found in other lects: in Kaonde, <u>kuβika</u> and Cewa <u>kwika</u> . A discussion of /k/ can be found in 3.1.9.
P1	γúβika	CB *-bífik-
Vy	γúβika	PT: *'-βiika
Tk	kúβika	
I1	kúβika	
Lj	kúβika	
S1	kúβika	
Sβ	kuβííka	
Tt	kuβííka	
<b>222.</b>	<b>to boil</b>	(223). This widespread in Bantu. Cognates include Lozi, <u>kuβilisa</u> and Luyana <u>il</u> .
P1	γυβila	CB: *-bid
Vy	γυβila	PT: *'-βila
Tk	kuβila	
I1	kuβila	
Lj	kuβila	
S1	kuβila	
Sβ	kuβíla	
Tt	kuβíla	

223. to drive  
cattle

	(a)	Cognates include Kaonde <u>βing</u> and Mananja <u>ing</u>
P1	γuβinga	
Vy	γuβinga	CB: *-bĩng-: 'chase'; chase away
Tk	kuβinga	PT `-βinga.
Il	kuβinga	
Lj	kuβinga	

224. body

P1	muβili	This is a general Bantu noun. Cognates can be found in many Zambian lects, including Bemba <u>umuβili</u> ; Lozi and Kaonde <u>muβili</u> .
Vy	muβili	
Tk	muβili	CB: *-bidi
Il	muβili	PT: *'-βili
Lj	muβili	
Sl	muβili	
Sβ	muβili	
Tt	muβili	

225. sour milk

	(a)	(a): This is widespread in Bantu but with a different meaning, namely 'fresh milk': Lozi , Bemba and Yao <u>βisi</u> : 'fresh milk.'
P1	máβisi	
Vy	máβisi	CB: *-bici ; *-bicị 'unripe'; fresh milk.
Tk	máβisi	PT: *'-βisi
Il	máβisi	
Lj	máβisi	
Sl	máβisi	
Tt	maβisi	

	(b)	(b): No known cognates.
Sβ	masánza	

226. only

	(a)	(a): No known cognates.
P1	βiyó	PT: * -βiyó
Vy	βiyó	
Tk	βiyó	

Il	βúlyó	(b): (b) may be related to (a) but it is not clear how the relationship can be characterized since there is the contrast /βu/ : /βi/ and the presence of /l/ in Il cannot be accounted for at present.
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227. to ripen

	(a)	(227a): No known cognates.
P1	γúβizwa	
Vy	γúβizwa	

- (b) (227b): This is a homophone with (255) below.  
Tk kúpya Cognates are found in Luvale, hy and Bemba py  
Il kúpya CB: \*-pí 'become ripe'; 'become red'  
Lj kúpya PT: \*'-pya  
Sl kúpya  
Sß kuhyá  
Tt kúhya
- 228. to roar  
(as a  
animal)**
- (a) (a): No known cognates of (228a).  
P1 γυβοβα PT: \*'-βοβα  
Vy γυβοβα  
Tk kuβοβα  
Il kuβοβα  
Lj kuβοβα
- 229 arm** Cognates are widespread in Bantu: Luvale livoko  
P1 γύβογο Bemba ukuβoko.  
Vy γύβογο  
Tk kúβoko CB: \*-bókò.  
Il kúβoko PT: \*'-βoko  
Lj kúβoko  
Sl kúβoko  
Sß kúβóko  
Tt kuβóko
- 230. bee sting**
- (a) (a): No known cognates.  
P1 λύβóλε PT: \*'-βole  
Vy λύβóλε Cf. CB: \*-bòdá 'bee sting'  
Tk λύβóλε  
Il λύβóλε
- 231. to be soft** No known cognates with present meaning. However  
P1 γυβomba (231) exists in Bemba as 'ukuβomba', and in  
Vy γυβomba Mambwe and Lungu as ukuomba. In all these lects  
Tk kuβomba the word means 'wet' rather than soft as is the  
Il kuβomba case here.  
Lj kuβomba CB: \*-bòmb-, 'become wet'  
Sl kuβomba PT: \*'-βoomba  
Sß kuβóomba  
Tt kuβóomba
- 232. to mould  
in clay** This is general in Bantu. Cognates can be found  
in Kaonde kušumba and in Cewa kuumba.
- P1 γύβumba PT: \*'-βumba; \*'-βuumba.  
Vy γύβumba CB: \*-búmb- ; \*-búúmb-  
Tk kúβumba

Il kúβumba  
Lj kúβumba  
S1 kúβumba  
Sβ kuβúúmba  
Tt kuβúúmba

**233. to gather**

(a)  
P1 γύβungana Cognates can be found in Luvale ung 'to gather  
up' and in Maŋanja ung 'become gathered up'  
Vy γύβungana Guthrie also quotes Il as having βung, contrary  
Tk kúβungana to our data.  
Il kúβungana CB: \*-búng-. 'gather up'  
Lj kúβungana PT: \*'-βunga  
S1 kúβungana

**234. to wake up**

P1 γύβuɣa Cognates are found in Kaonde, kuβuka , Cewa  
Vy γύβuɣa kuwuka and Bemba ukuβuuka.  
Tk kúβuka CB: \*-búúk-. 'rise up'; wake up; (go way)  
Il kúβuka PT: \*'-βuuka  
Lj kúβuka  
S1 kúβuka  
Sβ kuβúúka  
Tt kuβúúka

**235. to take**

P1 γύβweza No known cognates outside the Tonga lects.  
Vy γύβweza PT: \*'-βweza.  
Tk kúβweza  
Il kúβweza  
Lj kúβwesa  
S1 kúβwesa  
Sβ kúβwéza  
Tt kúβwéza

**236. waistline**

(a)  
P1 zhíβuno (a): No known cognates in other Zambian lects.  
Vy cíβuno CB: \*-búnò; \*-búnù 'waist'  
Tk cíβuno PT: \*'-βuno  
Il cíβuno  
Lj cíβuno

(b)  
S1 músana (b): (b) is widespread in Bantu. Cognates are  
Sβ músana found in Bemba and Cewa as umusana and musana,  
Tt músana respectively.  
CB: \*-cána 'back'. cf. (6) above.  
PT: \*'-sana

237. iron  
(metal)

(a) (a): No known cognates of (237a).  
P1 luβulo PT: \* '-βulo  
Vy luβulo  
Tk luβulo

(b) (b): (b) has an obscure relationship with Bemba  
I1 citeela uβutale  
Lj citeela CB \*-tádé  
S1 citeela PT: \* '-teela

238. species  
of tree

(a) (a): No known cognates.  
P1 múβula PT: \* '-βula  
Vy múβula  
Tk múβula

I1 múβula  
Lj múβula  
S1 múβula

239. dry reed.

(a) (a): No known cognates.  
P1 lúβu PT (a): \* '-βu  
Vy lúβu  
Tk lúβu  
I1 lúβu

(b) (b): (b) is widespread in Bantu. Cognates are  
Lj mátete found in Bemba itete and Lunda iteti. In P1  
S1 mátete (239b) refers to 'fresh reed', not dry one.  
Sβ matete PT: \* '-tete  
Tt mátete CB: \*-tétè

240. courtyard

(a) (a): No known cognates in other Zambian lects.  
P1 lúβuwa CB: \*bùgà. 'open space'  
Vy lúβuwa PT: \* '-βuwa  
Tk lúβuwa

(b)  
Il lúβanza  
Lj cíβansa  
(b): Cognates are found in Bemba uluβansa and Nsenga luβwanza. In Pl lúbanza specifically refers to open space e.g. 'plain' and it is also the word for 'airport'  
CB: \*-bánjà 'courtyard'  
PT: \*'-βanza

241. floor

(a)  
Pl zhiβuye  
Vy cíβuye  
Tk cíβuye  
Il cíβuye  
(a): No known cognates of (241).  
PT \*'-βuye

242. to scrape

Pl γupala  
Vy γupala  
Tk kupala  
Il kupala  
Lj kupala  
Sl kupala  
Sβ kuhála  
Tt kuhála  
This is general in Bantu. Cognates can be found in Kaonde kupala and Lozi kufala.  
PT: \*'-pala  
CB: \*-pád-

243. to clear  
woods for  
farming

(a)  
Pl γúpanda  
Vy γúpanda  
Tk kúpanda  
Il kúpanda  
Lj kúpanda  
Sl kúpanda  
(a): No known cognates in other Zambian lects. The form of PT and CB (below) can be treated as possibly related and that the meaning changed in PT.  
PT \*'-panda  
Cf. CB: \*-pànd- 'to plant'

244. to split

(a)  
Pl γupandula  
Vy γwaandula  
Il kwaandula  
(a) : Cognates are found in Bemba pandul and Yao pandul. The opposition between p and Ø has parallels in (148; 247). However this kind correspondence is sporadic in C<sub>1</sub> position.  
CB: \*-pàndud-,  
PT \*'-pandula

(b)  
Tk kukwamuna

(c) (c) is homophonous with (322c). There are

Lj kutwamuna no known cognates cognates of (244c).  
Sl kutwamuna

(d)  
Sß kuṇátula (d): (d) is homophonous with (322d). There are  
Tt kuṇátula no known cognates of (244d).

**245. to be jammed**

(a)  
Pl yúpatila (a): Cognates found in Nsenga: patir; also  
Vy yúpatila Bemba and Maṇanja have the pat with the same  
Tk kúpatila meaning. The form in the (245a) and in Nsenga  
Il kúpatila incorporate the applied extension.  
Lj kúpatila CB: \*-pátid; \*-pát- 'become jammed'  
PT: \*'-patila.

(b)  
Sß kunjómba (b): A cognate can be found in Lozi, kunjomba.  
Tt kunjómba

**246. to suffer** No known cognates of (246).  
PT: \*'-penga

Pl yúpenga  
Vy yúpenga  
Tk kúpenga  
Il kúpenga  
Lj kúpenga  
Sl kúpenga  
Sß kupénga  
Tt kupénga

**247. hoe handle**

Pl mwíini In Pl, Vy, Tk and Il a zeroconsonant alternates  
Vy mwíini with p and h in the other lects. For comments  
Tk mwíini refer to (244a) above. Cognates include Luvale  
Il mwíini muhinyi, Luyana umuḅinyi and Bemba umupini  
Lj múpini PT: \*'-pini  
Sl múpini CB: \*-pínĩ  
Sß muhíni  
Tt múhíni

**248. to turn  
inside out**

(a)  
Pl yupindula (a): Cognates include Lozi, kupindula and  
Vy yupindula Bemba pindula.  
Tk kupindula CB: \*-pindud- 'turn over'  
Lj kupindula PT \*'-pindula  
Sl kupindula

249. **to change residence** None of these verbs have known cognates in other  
Zambian lects.
- (a) PT (a): \*`-pola
- P1 yupola  
Vy yupola  
Tk kupola
- (b) PT (b): \*`-longa
- I1 kulonga  
Lj kulonga  
S1 kulonga
- (c) (c): (c) is homophonous with (341) below; q.v.  
CB: \*-dŪ- 'come (or go) out'
- Sß kuzwá  
Tt kuzwá
250. **to get well** No known cognates in other Zambian lects.  
Equivalents found in Bantu include Mbunda ol  
Yao and Bemba pol. As we can see the  
opposition between the forms in the Tonga lects  
and those in Bemba, Yao and Mbunda is more  
significant in C<sub>2</sub> position where there is /n/ in  
the Tonga lects. The forms of Bemba, Yao and  
Mbunda resemble more closely the form in CB.  
CB: \*-pód-  
PT: \*'-pona
- P1 yúpona  
Vy yúpona  
Tk kúpona  
I1 kúpona  
Lj kúpona  
S1 kúpona  
Sß kupóna  
Tt kupóna
251. **to wipe out dirt** (251): Cognates of this can be found in Lozi,  
pukuta and in Maŋanja pukuta.  
CB: \*-púkut. 'rub off'  
PT: \*'-pukuta
- P1 yupuɣuta  
Vy yupuɣuta  
Tk kupukuta  
I1 kupukuta  
Lj kupukuta  
S1 kupukuta  
Sß kupúkuta  
Tt kupúkuta
252. **to rest** This is widespread in Bantu. Cognates can be  
found in Lozi and Nyanja; pumula.  
(250) and (252) show a similar contrast in C<sub>2</sub>  
position in comparison with the other lects.  
CB: \*-pumuda.  
PT: \*'-pumuna
- (a)
- P1 yúpumuna  
Vy yúpumuna  
Tk kúpumuna  
I1 kúpumuna  
Lj kúpumuna  
S1 kúpumuna
253. **to wrap** (a): No known cognates in other Zambian lects.  
However, (a) has an obscure relationship with
- (a)
- P1 yúbutaila

Vy γúbutaila CB: \*-pÚt-/\*-pÚtik- 'fold'.  
Tk kúbutaila PT: \*'-putaila.  
Il kúputaila  
Lj kúputaila  
Sl kúputaila  
Tt kúpútéla

(b) (b): Cognates can be found in Bemba and Maŋanja:  
Sβ kúpeta pet.  
CB: \*-pèta

254. to crash

(a) (a): A cognate can be found in Cewa, kupwanya  
Pl γupwaya PT: \*'-pwaya  
Vy γupwaya  
Tk kupwaya  
Lj kupwaya  
Sl kupwaya

255. to be burnt For comments refer to (227b).

Pl γúpya CB: \*-pí  
Vy γúpya PT: \*'-pya  
Tk kúpya  
Il kúpya  
Lj kúpya  
Sl kúpya  
Sβ kuhyá  
Tt kúhya

256. to steal

(a) (a): Cognates are found in Cewa kuba and Bemba  
Pl γúba ukwiβa. In Pl, Vy and Tk the verb root begins  
Vy γúba begins in a plosive consonant as opposed to the  
Tk kúba roots in the other lects which begin in the vowel  
Il kwíβa /i/ followed by continuant /β/. Parallel  
Lj kwíβa correspondences can be seen in (257a) and (269)  
Sl kwíβa below. Discussion of these stems can be found  
Sβ kwííβa in 3.1.10.2  
CB \*-yíβ/\*yib-  
PT: \*'-íβa

(b) (b): No known cognates.  
Tt kúhiβa

257. carry on back

(a) (a): No known cognates. For comments refer to  
Pl γúbala 3.1.10.2  
Vy γúbala PT: \*'-iβàla  
Tk kúbala

- Il kwíβala  
Tt kwííβala
- (b) This is widespread in Bantu; see comments at  
(215a) above.  
Lj kuβeleka CB: \*-bèdik-. 'carry (child' on back'; bear child'  
S1 kuβeleka
258. spot A cognate of this is found in Kaonde kiβala.  
P1 bala No other cognates are known in other Zambian  
(maβala) lects. For comments on the correspondence  
Vy bala of b and β, refer to §2.4.  
Tk bala PT \*'-βala  
Il íβala  
Lj líβala  
S1 líβala  
Sβ íβála  
Tt íβála
259. to pay fine
- (a) (a): No known cognates of (259a)  
P1 γubadela We can also see that b in some lects corresponds  
Vy γubadela to p in Il, cf. (253) above. The correspondence d  
Tk kubadela and t is sporadic is found in a few words only,  
Il kupatela see (260, 2778) below. See 3.1.11.1  
PT \*'-badela (provisional reconstruction)
- (b) (b): The forms of Lj and S1 incorporate an  
Lj kulipila applied extension. Cognates in the applied  
S1 kulipila form can be found in Nyanja and Bemba: lipil  
Sβ kulihá PT: (b) \*'-lipila  
Tt kulíha
260. hospital (260) is widespread in Zambian lects and it is  
also found in Shona and Ndebele.
- P1 zhibádéla  
Vy cibádéla  
Tk cibadela PT: \*'-pátéla.  
Il cipátéla  
Lj cipatala  
S1 cipatala  
Sβ cipátela  
Tt cipátela
261. to unwrap
- No known cognates.
- P1 γubabanuna  
Vy γubabanuna  
Tk kubabanuna  
Il kupapanuna  
Lj kupapanuna  
S1 kupapanuna

262. to pull out  
scab

(a) (a): No known cognates.  
P1 yubabula  
Vy yubabula  
Tk kubabula  
I1 kupapula  
Lj kupapula  
S1 kupapula

263. to stick

(a) (a): No known cognates in other lects.  
PT: \*'-batika  
P1 yubatika  
Vy yubatika  
Tk kubatika  
I1 kupatika

264. to be  
ablaze

(a) PT (a) : \*'-beba  
P1 yubeba  
Vy yubeba  
Tk kubeba  
  
(b) (b): Cognates are found in Maŋanja ak and  
I1 kuzaka Bemba ak.  
  
(c) (c) may be related to (b). The relationship  
Lj kunyaka may be established if compare the correspondence  
series in 3.1.8.1, Table 3.29 where it is shown  
that I1 /z/ corresponds to /y/ in Lj in C<sub>1</sub>  
position. In the present case the Lj may be  
as viewed skewed.  
  
(d) (d): No known cognates.  
S1 kuβangilisha  
  
(e) (e): No known cognates.  
Sβ kúβukúla  
  
(f) (f): No known cognates.  
Tt kútúumbula

265. to open  
mouth  
carelessly  
(as in

crying)

- No known cognates.
- P1 yúbebula The form of S1 shows a zero consonant in the  
Vy yúbebula initial position of the stem. It can be  
Tk kúbebula suggested that PT \*p was lost in this case.  
I1 kúpepula There are no other case of correspondences  
S1 kwépula involving /b/: /p/ : /Ø/.
- 266. udder** Cognates are found in Luvale: t/iβele and Zulu  
P1 bele iβele.  
Vy bele CB: \*-béédè  
Tk bele PT: \*'-βele  
I1 iβele The alternation between /b/ in P1, Vy and Tk /β/  
S1 líβele in the other lects involving class 5 nouns is  
Lj líβele discussed in 2.2.2.7.  
Sβ liβéle  
Tt iβéle
- 267. thief**
- (a)  
P1 múbi This is a general noun in Bantu found in many  
Vy múbi languages including Bemba umwifi ; Kongo mwivi.  
Tk múbi Luganda omubbi. P1, Vy and Tk have a strong  
S1 mwíβi consonant in the stem opposed to iβ in S1.  
This is characteristic of stem in which the  
stem in question preceded by \*yI in CB.  
PT: \*'-iβi  
CB: \*-yIbI
- (b)  
I1 múteu (b): No known cognates.
- (c)  
Sβ musá (c): No known cognates.  
Tt músa
- (d)  
Lj kaβwalala (d): a cognate can be found in Nyanja cf.  
kaβwalala. It is likely that Lj borrowed  
from Nyanja as this word is mostly used in the  
urban areas where Nyanja is the dominant medium.  
Lj and also S1 use mwipi for 'thief', although  
less frequently.
- 268. bonfire**
- (a)  
P1 biβi (a): This noun has no known cognates in other  
Vy biβi Zambian lects. However other Bantu lects have  
Tk biβi this noun, e.g. Zulu ibibi and Venda viβi  
I1 iβiβi CB: \*-bibi 'heap'  
PT: \*'-βiβi

269. to sink

(a) (a): Cognates can be found in Luganda bbir  
LubaKatanga ibil and Bemba iβil.  
P1 γúbila  
Vy γúbila The threeterm correspondence /b/ : /β/ : /p/  
Tk kúbila as shown here is irregular. The form of Lj and  
I1 kwíβila S1 may be a loan from P1, Vy, or Tk rather than  
Lj kúpila reflecting a source from PT or CB. Generally,  
S1 kúpila Lj and S1 are expected to have the form similar  
or identical to that of I1. We shall treat the  
Lj and S1 form as irregular.  
CB: \*-yíbid-  
PT: \*-iβila

(b) (b): No known cognates.  
Sβ kuceemina

(c) (c): No known cognates.  
Tt kútíβa

270. to burst

(a) (a): No known cognates  
P1 γúboloka PT: \*-boloka (provisional).  
Vy γúboloka  
Tk kúboloka

(b) (b): No known cognates  
I1 kútuluka PT: \*-tuluka  
Lj kútuluka  
S1 kútuluka

(c) (c): No known cognates.  
Sβ kuṅáátuka  
Tt kuṅáátuka

271. to hit  
repeatedly  
hard

(a) (a): No known cognates.  
P1 γúbonta  
Vy γúbonta

(b) (b): Cognates are found in Bemba pum, Mbundu  
Tk kúúma pum.  
Lj kúúma CB: \*-púm-  
S1 kúúma PT: \*-uma

(c) (c): No known cognates.  
Sβ kukáβa

(d) (d): No known cognates.  
Tt kudáma

- (e) (e): No known cognates.  
 Il kúhhupula
272. **goitre**
- (a) (a): No known cognates. The three term  
 correspondence /z/ : /hh/ : /f/ is irregular.  
 The real, problem is with the form of Lj and S1  
 which has /f/ rather than the expected /s/ as is  
 the case in 3.1.20.2 where P1 /z/ corresponds to  
 /s/ in Lj and S1 before /u, w/. However S1 shows  
 other cognates in which P1 /z/ corresponds to /s/  
 in S1 in C<sub>2</sub> position; see 3.1.20, Table 3.33c.  
 These S1 forms can be viewed as skewed.  
 PT: \*'-βozu.
- P1 bozu  
 Vy bozu  
 Tk bozu  
 Il cíβohhu  
 Lj cíβofu  
 S1 cíβofu
- (b) (b): No known cognates.  
 Sβ ikoolu
- (c) (c): No known cognates.  
 Tt ipómbo
273. **to flap wings** A cognate of this can be found in Lozi,  
kupupulika, Kongo pup and Bemba puup.  
 The forms of Tt and Sβ are similar to Lozi  
kupupa. The extension ulik in Sβ and Tt has no  
 clear semantic content.  
 CB: \*-pùp.
- P1 yububa  
 Vy yububa  
 Tk kububa  
 Il kupupa  
 Lj kupupa  
 S1 kupupa  
 Sβ kupúpúlíka  
 Tt kúpúpúlíka
274. **to blow strongly (of wind)**
- (a) (a): This is general in Bantu. Cognates include  
 Kongo βuuβ and Bemba puup with the meaning to  
 blow (as wind).  
 CB: \*-pùùp-  
 PT: \*'-bùbula (provisional)
- P1 yúbubula  
 Vy yúbubula  
 Tk kúbubula  
 Il kúpupula  
 S1 kúpupula
- (b) (b): No known cognates.  
 Tt kúhúnga
275. **to run aimlessly**
- (a) (a): No known cognates.  
 PT: \*'-pulumuka
- P1 yubulumuka  
 Vy yubulumuka  
 Tk kubulumuka  
 Il kupulumuka

276. to look  
insolently

(a) No known cognates.

Pl yúbubulala  
Vy yúbubulala  
Il kúpupula

277. pair of  
shorts

Pl zhibudula  
Vy cibudula  
Tk kabudula  
Il kaputula  
Lj kaputula  
Sl kaputula  
Sß kaputula  
Tt kaputula

This noun is found in most Zambian languages. As the word refers to a cultural item of recent acquisition in the Zambian culture it is likely that it is a loan. We cannot say which language introduced the the word in Zambia. However, it is also found outside Zambia in languages like, Swahili, Shona and Ndebele. The suggestion of borrowing is perhaps nullified when we find that in Bemba and related lects there is a verb ukuputula, 'to cut.' This may also suggest that the noun akaputula in Bemba and other languages is not foreign to Bantu but the item is.  
PT: \*'-putula. See 3. 1. 10. 1 and 3. 1. 11. 1

278. parcel

(278: No known cognates.

(a)

Pl zhíbutu  
Vy cíbutu  
Tk cíbutu  
Il cíputu  
Tt cíputu

(b)

Lj cífúnta  
Sl cífunta

279. to dawn

(a)

Pl yúzha  
Vy yúca  
Tk kúca  
Il kúca  
Lj kúca  
Sl kúca  
Tt kúca

(a): Cognate can be found in Lozi, kusa and Bemba ukuca. It is widespread in Bantu.  
PT: \*'-ca  
CB: \*-kí

(b)

Sß kilyáázwa

(b): (b) may be viewed as sentential rather than a word: kí (cl. 7 prefix; lí pronoun, aa tense/aspect and zwa verb 'to come out'. The whole construction translates as 'it has come out' and 'it' or lí refers to 'sun' or izuša (cl. 5). Fore the verb kuzwa see item (341).

280. **remain** (280): Cognates can be found in Kaonde and Lunda  
P1 yúzhaala kushala, Bemba ukushaala and in Cewa kutsala.  
Vy yúcaala CB: \*tíad ; \*cíád  
Tk kúshaala PT: ?\*'-caala/'syaala  
Il kúshaala  
Lj kúshaala  
S1 kúshaala  
Sß kushaala  
Tt kusfala

281. **to drive oxen**  
P1 yuzhaila No known cognates of (281). The Sß and Tt form  
Vy yucaila is difference in the penultimate vowel. This has  
Tk kucaila no parallel in other data.  
Il kucaila PT: \*'-caila  
Lj kucaila  
S1 kucaila  
Sß kucáela  
Tt kucáela

282. **younger sibling**  
(a) (a): the forms of P1 and Vy seem to be the  
P1 múzhe shorter form of Il. This is cognate with the  
Vy múce Kaonde, mukeke and Lunda mukeki.  
Il mucece CB: \*-ké 'small; smallness' cf. Meeussen \*ké  
'younger sibling'  
PT: \*'-ce

(b) (b): No known cognates.  
Lj múshoonto PT: \* '-syoonto  
S1 múshoonto  
Tk múshoonto

(c) (c): No known cognates.  
Sß mwánce  
Tt mwánce

283. **to graze**  
(a) (a): No known cognates.  
P1 yuzhela CB: \*kèd 'to cut ' with which (283a) may  
Vy yucela be related.  
Tk kucela PT: \* '-cela  
Il kucela

(b) (b): No known cognates with present meaning, but  
Lj kulya see (37) above.  
S1 kúlya

- (c) (c): A cognate can be found in Lozi, kufula
- Sß kufulá  
Tt kufúla
- 284. to pick fruit**
- (a) (a): No known cognates. This is possibly related to the CB \*kèd reported at (283a) above. It may also be related to (59a) above.  
PT: \* ` -cela
- P1 yuzhela  
Vy yucela  
Tk kucela  
I1 kucela  
Sß kucelá  
Tt kucéla
- (b) (b): No known cognates.
- Lj kuyapa
- (c) (c): Compare I1 kuweza 'to hunt'
- S1 kuwesa
- 285. to become old**
- The form of Lj and S1 are not only short but the penultimate vowel is different. But we can assume that this is the result of the penultimate vowel assimilating to the first vowel of the stem. A cognate of (285) can be found in Lozi, kucembala
- P1 yuzhembraala  
Vy yucembraala  
Tk kucembraala  
I1 kucembraala  
Lj kucembela  
S1 kucembela  
Sß kucembraala  
Tt kucémbáála
- PT: \* ` -cembaala
- 286. bull**
- (a) (a): No known cognates.  
PT: \* ` -cende
- P1 muzhende  
Vy mucende  
Tk mucende  
I1 mucende  
Lj mucende  
S1 mucende
- (b) (b): cognates can be found in Lozi, lipulu 'bullock.'
- Sß ímpúlu
- (c) (c): No known cognates.
- Tt impoho
- 287. to deceive**
- (a) (a): The forms of Lj and S1 differ from those in the other lects in that the root is extended. The extension is ek, called 'neuter' in Bantu linguistics. It cannot be extracted from
- P1 yúzhenga  
Vy yúcenga  
Tk kúcenga

I1 kúcenga the stem in the present case.  
Lj kúcenjeka The correspondence /ng/ and /nj/ has a parallel in  
S1 kúcenjeka (95) above. The correspondence is found before  
Sß kucénga vowel i. See 3.1.12.2 for discussion.  
PT: \*'-cenga/\*'-cengeka

(b) (b): no known cognates.  
Tt kuhoma

**288. to turn round**

(a) (a): No known cognates.  
P1 yúzhenguluḡa PT: \*'-cèngùlùk  
Vy yúcenguluḡa  
Tk kúcenguluka

(b) (b): Cognates include Bemba ceḡuk; Luvale keuk  
I1 kúceḡuka and Yao ceuk. (b) is homophonous with (289)  
Lj kúceḡuka below.  
S1 kúceḡuka PT: \*'-ceḡuka  
Tt kúceḡuka CB: \*-kéb- ; \*-kébuk- 'look round'; 'look behind';  
'look'.

(c) (c): no known cognates.  
Sß kúfutatila

**289. to look behind** (see 288b) above.  
CB: \*-kéb; \*-kébuk-

P1 yúzhēḡa  
Vy yúceḡuḡa  
Tk kúceḡuka  
I1 kúceḡuka  
Lj kúceḡuka  
S1 kúceḡuka  
Sß kúceḡuka  
Tt kúceḡuka

**290. to become poor** (290) has no known cognates in other Zambian  
lects.

(a) PT: \*'-cetaala.  
P1 yúzhetaala  
Vy yúcetaala  
Tk ḡúcetaala  
Lj kúcetaala  
S1 kúcetaala

(b) (b): No known cognates. It is possible that /h/  
Sß kunjeḡáhála in these cognates represents a glottal stop. But  
Tt kunjeḡáhála this cannot be ascertained at the moment.

291. to become  
less

(a) (a): Cognates include Bemba and Cewa ukucepta and  
P1 yúzhēya kucepta, respectively.  
Vy yúceya In the second consonant position /p/ in S1  
Tk kúceya corresponds to /y/ in the other lects. Similar  
I1 kúceya correspondence can be found at item (14) above.  
Lj kúceya Refer to discussion at 3.1.19.1.2  
S1 kúcepta CB: \*-kéép-.  
PT: \*'-cepta

292. honey

P1 βúzhí This is general in Bantu. Cognates can be found  
Vy βúci in Kaonde, βuki, Lunda wuci and Cewa uci. The S1  
Tk βúci root with the initial vowel has a direct  
I1 βúci parallel in other Zambian lects.  
Lj βúci CB: \*yiki  
S1 βwíci PT: \*'-ici  
Sβ βúci  
Tt βúci

293 to dislike (293): No known cognates.

(a) PT: \*'-cima  
P1 yuzhima  
Vy yucima  
Tk kucima  
I1 kucima  
Lj kucima

(b)  
S1 kufutukila

294 to do

(a) (a): Cognates can be found in Nyanja, kucita  
P1 yúzhita and Bemba, ukucita.  
Vy yúcita CB: \*-kít-.  
Tk kúcita PT: \*'-cita  
I1 kúcita  
S1 kúcita  
Sβ kucíta

(b) (b): No known cognates.  
Tt kuténda

295. python (295): No known cognates.

(a) PT: \*'-ceka  
P1 múzhēya  
Vy múceya  
I1 múceka

(b) (b): The cognate of Lj has a 'zero' prefix but in  
Lj insaato plural the prefix is in (class 10). This  
S1 saato compares with (144): soka and (336):  
sofu. It is not the case that class 9  
is always a 'zero' prefix, see for example (93a):  
njina 'louse' and mfula 'rain' (115a), nshila  
'path'.  
CB \*-cátò

(c) (c): Cognates include Lunda mboma, Luvale mboma  
Sß mbooma and Kongo, all of which have mboma.  
Tt imbóma CB: \*-bòmà.  
Tk imbooma PT: \*'-boma

296. to hurt

(a) No known cognates.  
P1 yuzhisa PT: \*'-cisa  
Vy yucisa  
Tk kucisa  
I1 kucisa  
Lj kucisa  
S1 kucisa  
Tt kucisa

(b) (c): No known cognates.  
Sß kußazá

297. malice (297): No known cognates.

(a) (a): (a) is possibly related to (296))  
P1 luzhiso PT: \*'-ciso  
Vy luciso  
Tk luciso  
I1 luciso

(b) (b): No known cognates. This form also exists  
Lj múnyono in P1 side by side with (a).  
S1 múnyono

298. to pedal (298): No known cognates.

P1 yuzhohhwa PT: \*'cozwa  
Vy yucovwa  
Tk kucovwa  
I1 kucohhwa  
Lj kucofwa  
S1 kucofwa  
Sß kucová  
Tt kúcóva

299. to foam (299): No known cognates.

(a)  
P1 yúzhohhola PT: \*'-cózwola  
Vy yúcovola  
Tk kúcovola

300. to rub (300): No known cognates.

(a) PT: \*'-cumba  
P1 yuzhumba  
Vy yucumba  
Tk kucumba  
I1 kucumba  
Lj kucumba

301. frog

(a) (a): Cognates include Lunda, chuula and Cewa  
P1 zhúla cule. We are unable to account for /w/ in the  
Vy cúlwa stem of Vy. This is not a regular correspondence,  
Tk cúla but compare (50), (55a) and (169a).  
PT: \*'cúla  
CB \*yùdá

(b) (b): A cognate can be found in Kaonde, βombwe.  
I1 βombwe PT: \*'-βombwe  
Lj βombwe  
S1 βombwe

(c) (c): No known cognates.  
Sβ cimbotwe  
Tt cimbotwe

302. to iron

(a) (a): Cognates widespread in Zambian languages;  
P1 yucisa Cewa kuchisa, and Bemba ukucisa.  
Vy yucisa PT: \*'-cisa  
Tk kucisa  
I1 kucisa  
Lj kucisa  
S1 kucisa

(b) (b): A cognate can be found in Lozi kuháina.  
Sβ kuháina  
Tt kuháina

303. house rat

(a) (a): No known cognates.  
P1 zhuzhu

(b) (b): This is widespread in the Zambian lects.  
Vy mbeβa Cognates include Zulu imbeβa and Nsenga mbeβwa.  
Tk mbeβa CB: \*bèbà  
I1 mbeβa PT: \*'-βeβa

Lj mbeβa  
S1 mbeβa  
Sβ mbéβa  
Tt mbéβa

**304. wedding**

(a) (a): No known cognates in other Zambian lects.  
P1 mucato Cognates can be found in Shona and Ndeβele.  
Tk mucato

(b) (b): No known cognates. The form of I1 has an  
Lj cíngaínga unusual prefix, but the same as (182a), (185a) and  
S1 βwiinga (186b).  
Vy βwiinga PT: \*'-inga  
I1 uβwiinga

**305 to follow.**

(a) (a): No known cognates.  
P1 yucilila PT: (a): \*'-icilila  
Sβ kwíficílila  
Tt kwíficílila

(b) (b): No known cognates. (305b) exists in P1  
Vy yutoβela as well.  
Tk kutoβela  
I1 kutoβela  
Lj kutoβela

(c) (c): Cognates can be found in Bemba, ukukonka and  
S1 kukonka in Cewa kukonka.

**306. to pant**

(a) (a): No known cognates.  
P1 yuhooma PT: \*'-swooma  
Vy yufooma  
Tk kufooma  
I1 kuhooma  
Lj kufooma  
S1 kufooma

(b) (b): No known cognates.  
Sβ kuhúúza  
Tt kuhúúza

**307. furrow**

(a) (a): as we can see from the English this is a  
P1 múhólo borrowing into the Tonga lects. (see 570b)  
Vy múfólo PT: \*'-swolo  
Tk múfólo  
I1 múhólo

Lj múfólo  
S1 kámúfólo

(b) (b): No known cognate, but cf. (570a) below.  
Sß múngélo  
Tt múngélo

**308. to doze**

(a) (a): No known cognates. The correspondence  
P1 yúhuyula  
Vy yúfuyula  
Tk kúfukula PT: \*'-swukula  
Sß kusúkúla

(b) (b): No known cognates.  
S1 kushinshila

(c) (c): No known cognates.  
Tt kushúkula

**309. to become detached  
(e.g. axe)**

(a) (a): No known cognates.  
P1 yúyukuya PT: \*'-<sup>h</sup>kuka  
Vy yúyukuya  
Sß kukwíkuka  
Tt kúkwíkúka

(b) (b): No known cognates with the present meaning;  
Tk kuzwa see (341) however for a different gloss.

(c) (c): No known cognates.  
I1 kukuka

(d) (d): No known cognates.  
Lj kushonkoka  
S1 kushonkoka

**310. to blacksmith** Putative cognate are found in Luvale and Bemba  
and Kongo ful.

P1 yúhula PT: \*'-swula  
Vy yúfula CB: \*-tÚd- 'forge'  
Tk kúfula  
I1 kúhula  
Lj kúfula  
S1 kúfula  
Sß kúfula  
Tt kufúla

311. **death** (311): This is widespread in Bantu. Cf. (27).  
Cognates are found in Manyika rufu; Luvale ufu

P1	lúhu	PT: *'-swu
Vy	lúfu	CB: *-kÚ
Tk	lúfu	
Il	lúhu	
Lj	lúfu	
Sl	lúfu	
Sß	lufú	
Tt	ifu	

312. **cattle manure** (312): No known cognates.

	(a)	(a): PT: *'-swumba
P1	βúhumba	
Vy	βúfumba	
Tk	βúfumba	
Il	βúhumba	
Lj	βúfumba	

	(b)	
Sl	nkandashi	

	(c)	
Sß	cilóko	

	(d)	
Tt	musítelo	

313. **to burrow**

	(a)	(a): no known cognates.
P1	γuhumba	PT: *'-swumba
Vy	γufumba	
Tk	kufumba	
Il	kuhumba	

	(b)	(b): No known cognates. Cf. (28b) above.
Lj	kukaβa	

	(c)	(c): No known cognates.
Sl	kufukula	

	(d)	(d): No known cognates. Cf. (28a).
Sß	kusá	
Tt	kúsa	

314. **to pull out**  
(e. g. **axe**  
from handle)

	(a)	(a): No known cognates. (a) has a dubious relationship with CB: *-còmud-
P1	γuhumuna	

Vy    γufumuna    PT: \*'-swumuna  
Tk    kufumuna  
Il    kufumuna

(b)                    (b) and (c): see (309) above.  
Lj    kushonkola  
Sl    kushonkola

(c)                    (c): No known cognates. Cf. (309a) above.  
Sβ    kukwíkula  
Tt    kúkwickúla

**315. to skin**

(a)                    (a): Cognates include Bemba, ukufunda, Luvale,  
P1    γuhunda                    fund and Lunda fundul meaning 'to disinter'  
Vy    γufunda                    CB: \*-kũndul 'disinter'  
Tk    kufunda                    PT: \*'-swunda  
Il    kuhunda  
Lj    kufunda

(b)                    (b): No known cognates.  
Sl    kupampa

(c)                    (c): no known cognates.  
Sβ    kuβúwá  
Tt    kuβúwa

**316. to kneel down**                    There are no known cognates of (316).

(a)                    (a): Cognates include Bemba ukufukama  
P1    γúhugama                    PT: \*'-swugama  
Vy    γúfugama                    CB \*-kŪkam-  
Tk    kúfugama  
Lj    kúfukama

(b)                    (b)  
Il    kúhulama

(c)                    (c)  
Sl    kúsuntama

(d)                    (d)  
Sβ    kukuβáma  
Tt    kukuβáma

**317. bird's nest**                    There are no known cognates of (317).

(a)                    (a): P1 and Lj forms differ in the final vowel.  
P1    zihuyo                    This type is not regular although it has a  
Lj    cifuka                    parallel in (448a) below. See discussion at  
3.2.15.

Sl	(b) cinsangala	
Sß	(c) ciyaléto	
Il Tt	(d) citaanto citántwe	(d): The correspondence in the final endings of these nouns has no parallel. See discussion at 3.2.15.
318.	to cross river	
P1 Vy Tk Sl	(a) yuzabuya yuzabuya kuzabuka kuzabuka	(a): (a) is widespread in Bantu. Cognates include Lunda <u>zawuk</u> CB: *-jabuk- PT: *'-zabuka
Il Lj	(b) kuhhußuka kusußuka	(b): (b) has a dubious resemblance with (a). The difference in the first vowel of stem in (b) cannot be easily related to that of (a). Before /a/ there is no parallel correspondence relating /z/, /hh/ and /s/.
Sß Tt	(c) kulúúta kúlúta	(c): no known cognates. The two noun stems here differ in the vowel, which we are unable to account for.
319.	to be untidy	(319): No known cognates
P1	(a) yuzayala	
Tk	(b) kusafa	
Lj	(c) kusápula	
Sl	(d) kushilila	
320.	to wind	
P1 Vy Tk Il	(a) yúzamba yúzamba kúzamba kúzambaila	(a): No known cognates. The verb of Il incorporates the extension <u>il</u> . This has no discernable meaning. PT: *'-zamba

(b)  
Lj yúpombela (b): No known cognates. The verb of Lj has an  
Sl yúpomba extension el which would seem to be an applied  
extension.

(c)  
Sß yúziinga (c): This is widespread in Bantu. Cognates  
Tt yúzinga include Luvale zhing, Cewa zing. Guthrie  
quoted Il as zhing contrary to the one  
we were given. Note also vowel length in Sß  
before the prenasalised consonant.  
CB: \*-díng-

**321. to separate**

(a)  
Pl yúzandula (a): No known cognates.  
Vy yúzandula It would seem that in 321ab ul was originally  
Tk kúzandula an extension since it resembles the reversive  
extension {U1U1}. 321b below may be analysed  
the same way.  
PT: \*'-zandula

(b)  
Il kúpatula (b): a cognate can be found in Bemba patulul  
Lj kúpatula Lunda hatul and Kongo batul. Cf. 321a.  
Sl kúpatula CB: \*-pátud  
PT: \*'-patula

(c)  
Sß kuzóβa (c): No known cognates.

(d)  
Tt kukahauna (d): No known cognates.

**322. to tear**  
**(e.g. meat)** (322): There are no known cognates 322, but  
compare (450a). For ul, see discussion of  
321a above. The reversive extension {U1}  
has an alternant un after verb radicals ending  
in a nasal consonant.

(a)  
Pl yúzapula (a): PT \*'-zapula  
Vy yúzapula  
Tk kúzapula

(b)  
Il kukwamuna (b)/(c): There is an obscure relationship  
between (322b) and (322c). The difference  
between them lies in kw vs tw. Since they have  
a connecting meaning, we would like to say  
that they form an osculant correspondence  
series.  
(c)  
Lj kutwamuna  
Sl kutwamuna

(d)  
Sß kucúpula

(e)  
Tt kuṇátula

323. to try case      There are no known cognates of (323).

(a)      PT: \*'-zeka  
Pl      γuzeya  
Vy      γuzeya  
Sß      kúzéka  
Tt      kuzéka

(b)  
Tk      kúβeteka  
Il      kúβeteka  
Sl      kúβeteka

(c)  
Lj      kóómbolosha

324. to fish      There are no known cognates for (324ac, ef).

(a)      PT: \*'-zela  
Pl      γúzela  
Tk      kúzela  
Il      kúzela

(b)  
Lj      γúteya

(c)  
Sl      γutwila

(d)      (d): (d) is homophonous with (82) above.  
Sß      γwííháya

(e)  
Tt      γushúta

(f)  
Vy      γuzuβa

325. to stagger      There are no known cognates of (325). All the items in (325) can be said to be onomatopoeia.

(a)  
Pl      γuzeeleya

(b)  
Vy      γudadaliya

(c)      PT: \*'-tantalika  
Tk      γutantalika  
Il      γutantalika  
Sl      γutantalika  
Sß      γutantalíka  
Tt      γutántálíka

(d)  
Lj kutalatanta

**326. to castrate**

(a) (a): No known cognates.  
Pl yuziβa PT: \*'-ziβa  
Vy yuziβa  
Tk kuziβa  
Sl kushiβa

(b)  
Il kuponda

(c)  
Lj kútungula

(d) (d): A cognate can be found in Lozi, kufalula  
Sβ yufálúla  
Tt yufálula

**327. slavery**

(a) (a): No known cognates.  
Pl βuziye PT: \*'-zike  
Vy βuziye  
Tk βuzike  
Il βuhhike  
Sβ βúzike

(b) (b): Cognates can be found in Bemba, uβusha.  
Lj βusha Also cf. Kaonde, βuzha.  
Sl βusha CB \*-gIa.

**328. to bury**

(a) (a): cognates can be found in Lunda, kujika and  
Pl yuzika Kaonde, kuzhika, Bemba shiik, Kongo ziik  
Vy yuzika and Luganda, ziik. Guthrie also gives Il as  
Tk kuzika zhik.  
Il kuhhika CB: \*-dîk-  
Sβ kuzííka PT: \*'-zika  
Tt kuzííka

(b) (b): no known cognates.  
Lj kuloβesha

(c) (c): cf. (220) above.  
Sl kuβíka

**329. to extinguish fire** Cognates can be found in Cewa, kuzima, Lunda,  
kujima, and Kaonde, kuzhima Bemba ukushima  
Pl yúzima and Luyana tim.  
Vy yúzima CB: \*-dîm- PT: \*'-zima

Tk kúzima           The Lj form has the extension known as the  
Il kúh'hima        'potential' in Bantu.  
Lj kúshimika  
S1 kúshima  
Sß kuzíma  
Tt kúzima

**330. to erase**

(a)                   (a): No known cognates  
P1 yúzimaahhya  
  
(b)                   (b): No known cognates with the present meaning  
Vy yúmwaya           but this is a possible reflex of CB \*-mùàg-  
Tk kumwaya           'scatter'; 'sprinkle' of which there cognates  
Il kumwaya           in Biisa (M 51).  
  
(c)                   (c): No known cognates.  
Lj kúshimanganya  
S1 kushimanganya  
  
(d)  
Sß kutakúla

**331. to get lost**

(a)                   (a): No known cognates in other Zambian lects.  
P1 yúzimina         Guthrie reported the root zhimin in Il  
Vy yúzimina         contrary to the form we have here.  
Il kúhhimina        CB: \*-dímid-  
                    PT: \*'-zimina  
  
(b)                   (b): No known cognates.  
Tk kusweeka  
  
(c)                   (c): No cognates, but cf. Bemba and Luvale luða.  
Lj kuluða            reflecting CB: \*dub 'make a mistake.' The  
                    relationship of the CB form to that of Bemba and  
                    Luvale is not certain.  
  
(d)                   (d): No known cognates.  
S1 kutáika  
  
(e)                   (e): No known cognates. The stem of Sß has an  
Sß kúzooßana         extension an. It is not clear what the  
Tt kuzóßa            function of this extension is.

**332. spirit**

P1 múzimo            A cognate of (332) can be found in Cewa, muzimu.  
Vy múzimu            It can be seen that only P1 here has a different  
Tk múzimu            final vowel. As all the other lects have a high  
Il múh'himu         vowel we can say that P1 lowered final /u/ to  
Lj múshimu            /o/. A parallel development can be seen in  
S1 múshimu            (176) above.  
                    CB: \*-dímu.

- Sʒ múzímu PT: \*'-zimu.  
Tt múzímu
333. rooster (333): No known cognates.
- (a) (a): The correspondence /n/: /l/ is irregular  
and it is discussed in section 3.1.2.
- P1 muzingini  
Vy muzingili
- (b) (b): No known cognates.
- Tk mukombwe PT: \*'-kombwe  
Il mukombwe  
Lj mukombwe  
S1 mukombwe  
Sʒ múkómbwe  
Tt mukoombwe
334. to go round (334): No known cognates
- P1 yúzinguluya Cf. CB: \*-dĩng- 'surround; wind round' whose  
Vy yúzinguluya reflexes can be found in Luyana tinguluk and  
Tk kúzinguluka Luganda ziing  
Il kúhhinguluka PT: \*'-zingülük  
Lj kúshinguluka Note double vowel in Tt before a prenasalised  
S1 kúshinguluka consonant. See discussion 2.1.1.1  
Sʒ kuzinguluká  
Tt kúziíngúláka
335. to be  
constipated
- (a) (a): No known cognates. The form of Tk is  
different in the stem vowel e. It could  
have arisen as some kind of assimilation. This  
development is specific to Tk. We can also see  
that in all the lects the stem is in the passive  
form as can be seen in suffix w. Furthermore  
in S1 the stem is in the perfective form of the  
passive. This is marked by ending in final vowel  
e generally in itwe as in the present case.  
PT: \*'-zimbilwa
- P1 yúzimbilwa  
Tk kúzembelwa  
Il kúhhimbilwa  
S1 kúshibilitwe  
Sʒ kuziímbilwa
- (b) (b): No known cognates.
- Lj kooná mfundi
- (c) (b): No known cognates.
- Vy yúfutilwa
336. elephant (336) is general in Bantu. Cognates can be found  
in Kaonde and Lunda, nzovu and Cewa, njobvu.
- P1 muzohhu PT: \*'-zozwu  
Vy muzovu CB: \*-jògŭ-  
Tk muzovu Note that in Lj the noun has a zero prefix.

- I1 muzohhu This compares with the prefix marking of (144)  
Lj sofú and (295b).  
S1 njofu  
Sß inzovu  
Tt inzóvu
- 337. to agree** (337): No known cognates.  
P1 yuzumina CB: \*-dŪm- 'assent'  
Vy yuzumina PT: \*'-zumina  
Tk kuzumina If we compare the form of PT with that of CB we  
I1 kuhhumina can see that the verb stem incorporates an  
Lj kusumina extension in the form in. It is yet to be  
S1 kusumina established whether (337) could related to its  
Sß kuzumina homophone (339), below.  
Tt kuzúmina
- 338 life**
- (a) (a): Cognates can be found in Bemba ußuumi  
P1 ßúzumí and Yao uumi. The correspondence y:Ø:z is not  
Vy ßúúumi regular. It is not easy to establish the form  
Tk ßúúumi of PT here because the correspondence between P1  
I1 ßúúumi /z/ and S1 /y/ has no parallel. We shall  
Lj ßúúumi tentatively suggest that the stem began in \*y.  
S1 ßúyumi CB: \*-yúmi  
Tt ßúúumi PT: \*'-yumi  
See 3. 1. 12.
- 339. to thunder**
- (a) (a): No known cognates of (339) among Zambian  
P1 yuzuma lects.  
Vy yuzuma CB: \*-dŪm  
Tk kuzuma PT: \*'-zuma  
I1 kuzuma
- 340. to pick (e.g. meat from plate)** There are no known cognates of (340)
- P1 yuzußula PT : \*'-zußula  
Vy yuzußula  
Tk kuzußula  
I1 kuhhußula  
Lj kusußula  
S1 kusußula  
Sß kuzußúla
- 341. to come out/from** A cognate can be found in Lozi, kuzwa.  
P1 yuzwa CB: \*-dŪ-  
Vy yuzwa PT: \*'-zwa  
Tk kuzwa  
I1 kuhhwa

Lj kuswa  
S1 kuswa  
Sß kuzwá  
Tt kuzwá

342. quarrel

(a) (a): No known cognates.  
P1 yúzwangana PT: \*'-zwangana  
Vy yúzwangana  
Tk kúzwangana

(b) (b): No known cognates.  
Lj kúkumana

(c) (c): No known cognates  
S1 kulondola

(d) (d): No known cognates. (342d) is homophonous  
I1 kulwa with (47). Cognates are widely distributed in  
Sß kulwá in Bantu including Bemba and Luvale lw.  
Tt kulwá CB: \*-dù-; \*-dùan-  
PT: \*'-lwà; \*'-lwana. (see (47)).

343. hunger

Vy nzala (343): is general in Bantu. Cognates can be  
Tk nzala in Cewa njala, Kaonde and Lunda nzala.  
I1 nzala CB: \*-jada.  
Lj nsala PT: \*'-zala  
S1 nsala The reflex of Lj has a prefix n before s. This  
Sß inzála contrasts with zero prefix in (144) and (295b)  
Tt inzála and (336).

344. tick

(a) (a): No known cognates. The correspondence  
P1 nzenyéne /n/ : /l/ is irregular; see 3.1.2.  
Vy nséngéle PT: \*'-séngéle  
Tk nséngéle  
I1 máséngéle  
S1 nséngéle

(b) (b): Cognates include Bemba ulukupa, Cewa  
Sß inkúha nkupa. See 3.1.7.

(c) (c): No known cognates; cf. (93a) above.  
Tt ingína

(d) (d): No known cognates.  
Lj shiβanse

345 pigeon

(a) Cognates of this include Cewa, njiwa, and Zulu  
P1 nziβa liiβa. The correspondence P1 /z/ versus zero  
Vy nziβa consonant has parallels with (151) and (338)  
Tk nziβa above although the lects with /z/ or zero  
I1 Nhhíβa consonant are not always the same.  
Lj cííβa CB: \*jibà  
S1 cííβa PT: \*'-ziβa  
Tt ínziβa

**346. path** (346) is general in Bantu. Cognates included:  
P1 nzila Lozi, nzila, and Lunda and Cewa, nila.  
Vy nzila CB: \*jidà  
Tk nzila PT: \*'-zila  
I1 Nhhila  
Lj nshila  
S1 nshila  
Sβ inzila  
Tt inzila

**347. receive (e. g. wages)** Cognates of (347) can be found in Lozi, kuhola,  
and Nyanja kufola.  
P1 yúhhola PT: \*'-zwola  
Vy yúvola  
Tk kúvola  
I1 kúhhola  
Lj kúfola  
S1 kúfola  
Sβ kuhhóla  
Tt kuhhóla

**348. to become rich**

(a) (a): No known cognates.  
P1 yuhhuva PT (a): \*'-zvuβa  
Vy yuvuβa  
Tk kuvuβa  
I1 kuhhuβa

(b) (b): No known cognates.  
Lj kuwina

(c) (c): No known cognates.  
S1 kuβila

(d) (d): No known cognates.  
Sβ kufumite The stem in Sβ is in the perfective verb form,  
Tt kúfúma as can be seen by the addition of ite.

**349. to shake off (e. g. dust)** The range of correspondences here in C, is irregular, namely, hh: v: s: t. Only the correspondence P1 /hh/: Vy/Tk /v/ is regular. The verb may be onomatopoeic.

P1	γuhhukumuna	PT: *`-zwukumuna
Vy	γuvukumuna	
Tk	kuvukumuna	
Il	kuhhukumuna	
Lj	kusukumuna	
S1	kutukumuna	
Sβ	kúkunkumúna	
Tt	kushúkúmúna	

350. to be many

	(a)	(a): Cognates include Bemba <u>fula</u> , Luvale and LubaKatanga, <u>vul</u> . Lj and S1 stems are in the extended form. The extension ish is the 'intensive'.
P1	γuhhula	
Vy	γuvula	
Tk	kuvula	
Il	kuhhula	CB: *-bŭd-
Lj	kufulisha	PT: *`-zwula
S1	kufulisha	

	(b)	(b): this is cognate with (95) above. The root here is ingi. The prefix zi is class 8. (350b) translates as 'they are many'. It is a predicative construction.
Sβ	ziíngi	
Tt	ziíngi	

351. to cover  
( e. g. with  
blanket)

There are no known cognates of (351).

	(a)	(a): PT: *`-zwumba
P1	γuhhumba	
Vy	γuvumba	
Tk	kuvumba	
Il	kuhhumba	

	(b)	
Lj	kufweka	
S1	kufweka	
	(c)	
Sβ	kufupíka	
Tt	kufúpíka	

352. to stop  
fight

	(a)	(a): No known cognates.
P1	γuhhuna	PT *`-zwuna.
Vy	γuvuna	However, compare CB *bŭn 'break', 'stop' and
Tk	kuvuna	*gŭn 'help'.
Il	kuhhuna	
Lj	kufuna	
S1	kufuna	

- (b) (b): This is cognate with kulamulela in Lozi.  
Sß kulamuléla CF. CB \*dàmud 'settle dispute'.  
Tt kulámúléla
- 353. to put aside  
to ripen**
- (a) (a): There are no known cognates of (a).  
P1 yúhundiya Cognates include Sukuma -gÜnd- and Bemba fund  
Vy yuvundiya PT: \*'-zwundika  
Tk kuvundika CB: \*-gÜnd-, 'ripen artificially'; 'become  
I1 kuhundika rotten'.  
Lj kufundika The extra element ik seems to be an extension  
S1 kufundika probably, the CB neuter \*ik.
- (b) (b): this is cognate with Lozi, kufuteka. The  
Sß kufutíka items in (b) differ from those in (a) in the  
C<sub>2</sub> position /nd/: /t/. We have no known  
parallel correspondence in the data collected.  
(b) can still be related especially if (b) is a  
loan from Lozi where PB \*nd became t in Lozi.
- 354. to fold**
- (a) (a): A cognate can be found in Luvale vung.  
P1 yúhhunga CB: \*-bÚŋg- 'wrap up'  
Vy yúvunga PT: \*'-zwunga  
Tk kúvunga  
I1 kúhhunga  
Lj kufunga  
Sß kuvúúnga  
Tt kúvúnga
- (b) (b): this is cognate with Cewa, kupeteka. Cf.  
S1 kupeta (253) above.  
CB: \*-pèt-.
- 355 to cover  
(with lid)**
- (a) (a): A cognates can be found in Bisa vunik.  
P1 yúhhuniya CB: \*-gÚnik.  
Vy yúvuniya PT: \*'-zwunika  
Tk kúvunika  
I1 kúhhunika
- (b) (b): No known cognates.  
Lj kufweka  
S1 kufweka
- (c) (c): No known cognates.  
Sß kufúpika  
Tt kufúpíka

356 to lie  
supine

(a) (a): There are no known cognates of (356).  
P1 yúhhuntama The element am in (a), (b) and (c) may  
Vy yúvuntama represent an extension.  
Tk kúvuntama  
I1 kúhhuntama

(b) (b): No known cognate.  
Lj kúfulama  
S1 kúfulama

(c) (c): No known cognates.  
Sβ kupatama  
Tt kupátáma

357. to answer

(a) (a): There are no known cognates of (a).  
P1 yúhhuwa  
Tk kúvuwa

(b) (b): Cognates are widespread in Bantu.  
Vy yútyaβa Although the item of Vy may be related to the  
I1 kútaβa items of I1, it is not clear how the  
Sβ kwíítaβa palatalisation may be accounted for. However,  
Tt kwíítáβa if we relate the Vy item to that of Sβ/Tt we can  
say that the initial vowel in the latter two  
lects was present in PT and that it was possibly  
originally more like a palatal semivowel which  
in Vy metathesised with /t/. In this regard  
the I1 form lost this vowel or semivowel.  
Although this might have been so I1, along with  
Sβ, Tt and in some lexemes Lj and S1 are the  
lects have kept the original vowels in the  
initial positions of stem. Cognates of (b) can  
be found in Nsenga itaβwa and Luvale itaβ.  
CB: \*-yít-; \*-yítaβ-  
PT: \*'-taβa; \*-itaβa

(c) (c): No known cognates.  
Lj kúkúmbula

(d) (d): No known cognates.

S1 kuβweshá

358. to mix No known cognates.

P1 yúhhwela PT: \*'-zwela  
Tk kúvwela  
I1 kúhhwela

	(b)		(b): the difference in the first vowel is inexplicable. No known cognates.
Lj	kusenkanya		
Sl	kusankanya		
	(c)		(c): (c) is cognate with Lozi, <u>kukopanya</u> , which also exists in Pl but with the meaning 'to confuse.'
Tt	kúkópányá		
	(d)		(d): No known cognates of (d).
Vy	γudeba		
<b>359.</b>	<b>to blow bellows</b>		
	(a)		(a): Cognates are found in Maṅanja <u>bvukut</u> , Yao <u>ukut</u> and Bemba <u>fukut</u> .
Pl	γuhhuyuta		
Vy	γuvuyuta		PT: *'-zwukuta
Tk	kuvukuta		CB: *-dŭkut-
Il	kuvukuta		
Lj	kufukuta		
Sl	kufukuta		
	(b)		(b): No known cognates. As can be seen (b) is set apart from (a) because of the initial consonant /p/. There are no examples of /p/ corresponding to Pl /hh/; Vy and Tk /v/ or Lj and Sl /f/.
Sβ	kupúkúta		
Tt	kupúkúta		
<b>360</b>	<b>to close e.g. door</b>		This is general in Bantu. Cognates are found in Kaonde and Lunda, <u>kushala</u> .
Pl	γujala		PT: *'-ijala
Vy	γujala		CB: *-yĭgad-
Tk	kujala		
Il	kuyala		
Lj	kucala		
Sl	kucala		
Sβ	kwiiyalá		
Tt	kwíiyála		
<b>361</b>	<b>to remove pot from fire</b>		
	(361):		Cognates include Lunda; Luvale <u>ihul</u> .
Pl	γujula		
Vy	γujula		PT: *'-jula
Tk	kujula		CB: *-yĭpud
Il	kuyula		
Lj	kucula		
Sl	kucula		
Sβ	kuyulá		
Tt	kuyúla		

362. find

(a) (a): It is not clear that (a) is related to (b)  
because the the correspondence /j/: /y/ : /w/  
is restricted to the present item and (138). See  
3.1.16.1  
PT: \*'-jana

P1 yújana  
Vy yújana  
Tk kújana  
I1 kúyana  
Lj kúcana  
S1 kúcana

(b)  
Sß kuwáána  
Tt kuwáána

363. to cook

(a) (a): A cognate can be found in Bemba ukwipika.  
PT: \*'-ipika  
CB: \*-yIpiik.

P1 yujiya  
Vy yujiya  
Tk kujika  
I1 kwika  
Tt kwíihika  
Sß kwíihika

(b) (b): a cognate of this verb can be found in  
Kaonde, kuteeka.

Lj kúteleka  
S1 kúteleka

364. yesterday

(a) (a): Lj and S1 have zero consonant corresponding  
to /j/ in P1, Vy and Tk. A parallel  
correspondence can be seen in (138) above. In  
both cases we say that j was lost in S1 and Lj.  
Similar cognates can be found in Bemba and Nyanja  
mailo. In Nyanja mailo means 'tomorrow' as well.  
This also applies Lj and S1. (364a) is a class 5  
noun which suggests that j in P1, Vy and Tk is  
morphophonemically derived after adding the noun  
prefix.  
PT: \*'-ilo.  
See 3.1.16.1.

P1 jilo  
Vy jilo  
Tk jilo  
Lj líilo  
S1 líilo

(b) (b): (b) has a cognate in P1, Vy and Tk but with  
the meaning 'yesterday'. There are no known  
cognates outside the Tonga group.

Tt ízóna  
I1 ízona

365. hegoat

(a) (a): No known cognates of (365).  
PT: \*²jembwe

P1 mujembwe  
Vy mujembwe  
Tk mujembwe

366. cliff

(a) (a): No known cognates of (366).  
P1 jeleele PT: \*`-jeleele  
Vy jeleele  
Tk jeleele

367. to come back

(a) (a): No known cognates.  
P1 yujoka  
Vy yujoka

(b) (b): cognates are restricted in Bantu; they  
Tk kupiluka include Bemba, piluk and Luvale hiluk.  
I1 kupiluka CB: \*-piduk-.  
Lj kupiluka PT: \*`-piluka  
S1 kupiluka

368. underneath

(a) (a): No known cognates.  
P1 mújunguhi  
Vy mújungusi

(b) (b): No known cognates.  
Tk múnsi

369. to pick  
out (e. g.  
tooth)

(a) (a): No known cognates.  
P1 kujwa PT: \*`-jwa  
Vy kujwa  
Tk kujwa

(b) (b): No known cognates  
I1 kuhhyula

(c) (c): No known cognates  
S1 kushonkola

(d) (d): No known cognates  
Sß kunyukúla

(e) (e): a cognate of (e) can be found in Luyana,  
Tt kúkoka and Luvale: kok.

370. nephew

(a) (a): Putative cognates can be found in: Bemba,  
P1 mújwa umwipwa and Lunda mwiha. Guthrie also gives  
Vy mújwa I1 as mwiwa contrary to our data. Guthrie's I1

Tk	mújwa	form here compares with with the Il form in 363a and 371 in that the stem begins in a 'zero' consonant compares with j in Pl, Vy and Tk. CB: *-yîpúá PT: *'-ipwa See 3. 1. 16
Lj	mwícwa	
Sl	mwípwa	
Il	(b) mwanángu	(b): No known cognates. In Il (370b) is a compound noun consisting of <u>mwana</u> , 'child' and the possessive first person pronoun, <u>ngu</u> . The meaning of (b) is therefore 'my child'
Sß	(c) mwáánce	(c): (c) is homophonous with (282c). We may consider (c) as a compound noun <u>mwana</u> 'child' and <u>ce</u> 'younger sibling' (282a).
Tt	mwáánce	
371.	east	
Pl	(a) yujwe	(a): There are no known cognates of (a). The form of Il raises problems of analysis raised in 370a above. 371 is a locative noun with prefix yu/ku of class 17. This leaves us with <u>jwe</u> / <u>cwe</u> as an allomorph of class 5 prefix. In Pl, Vy and Tk /j/ is derived morphophonemically as after adding class 5 prefix. The forms of Lj and Sl would seem to have adopted from the form of Pl, Tk and Vy but devoiced /j/ to /c/. PT: *'-jwe
Vy	yujwe	
Tk	kujwe	
Il	kwiwe	
Lj	kucwe	
Sl	kucwe	
Sß	(b) kúmázwilo	(b): No known cognates. This noun literally means 'the place where the sun comes from and should be seen as a compound noun, comprising of <u>muzwa</u> and <u>ezuða</u> .
Tt	ézuða múzwáezuða	
372.	voice	
Pl	(a) jwi	It is doubtful whether the nouns in (a), (b) and (c) are related. There are no parallel correspondences of /j/, /z/, /s/ and /nz/. A cognate of (a) can be found in Kaonde, <u>jiwi</u> . PT: *'-jwi CB: *'-júi
Vy	jwi	
Tk	jwi	
Il	(b) ízwi	(b): Cognates can be found in other Zambian lects including Lozi <u>linzwi</u> ; and Lunda <u>izu</u> . PT: * -izwi
Lj	líswi	
Sl	líswi	
Tt	izwi	
Sß	(c) línzwí	(c): No known cognates.
373.	to run away	

- (a) (a): There are no known cognates of (373a).  
(a) PT: '-tija
- P1 γútija  
Vy γútija  
Tk kútiya  
Lj kútica  
S1 kútica  
Sß kutiyá  
Tt kútiya
- (b) (b): No known cognates. This lexical item is  
made of two prefixes, namely, ku infinitive  
prefix (class 15) and lu (class 11). Lu  
is here functioning as an object agreement marker  
of the noun lußilo, 'speed'; 'running'
- 374. horn**
- (a) (a): No known cognates (374)  
(a) PT: \* '-íja
- P1 lwíja  
Vy lwíja  
Tk lwíja  
I1 lwíya  
Lj lwíca  
S1 lííca
- (b) (b): No known cognates.
- Sß ináka  
Tt ináka
- 375. to blink**
- (a) (a): No known cognates  
PT: \* '-laßa
- P1 γúlaßa  
Vy γúlaßa  
Tk kúlaßa  
I1 kúlaßa  
Lj kúlaßa  
S1 kúlaßa
- 376. to stick  
(as glue)**
- (a) (a): Cognates are found in Luvale lamat, Sukuma  
-lamath- and Luba-Katanga, lamat. The verb  
suggests incorporation of an extension il  
although the extension cannot be extracted.  
CB: \*dàmat.  
PT: \* '-lamatila
- P1 yulamati1a  
Vy yulamati1a  
Tk kulamati1a  
I1 kulamati1a  
Lj kulamati1a  
S1 kulamati1a
- 377. to be tall**
- (a) (a): No known cognates.  
PT: \* '-lampa
- P1 yulampa

Vy      γulampa  
Tk      kulampa  
Il      kulampa  
Lj      kulampa

          (c)                   (c): Cognates can be found in Cewa and  
Sl      βútáli               Bemba, -tádi.

**378.      to cross  
          (e.g. road)**

          (a)                   (a): No known cognates.  
Pl      γulanduka           PT: \* `-lândùk-  
Vy      γulanduka  
Tk      kulanduka

          (b)                   (b)/(c): refer to (318a/c) above. In the present  
Il      kuhhuβuka         item there is a further problem with /u/: /a/  
Lj      kusaβuka         which an irregular correspondences.  
Sl      kusaβuka

          (c)                   (c): No clear cognates of (c) but cf. Kongo lut  
Sβ      kulúúta           'to pass; surpass' quoted in Guthrie under  
Tt      kúlúta           CB: \*-düt-

**379.      to look**

          (a)                   (a): A cognate can be found in Kongo lang  
Pl      γulanga           CB: \* -dàng-  
Vy      γulanga           PT: \*`-langa  
Tk      kulanga  
Il      kulanga  
Lj      kulanga  
Sl      kulanga

          (b)                   (b)/(c): see also (130) above.  
Sβ      kuβóna

          (c)                     
Tt      kutóna

**380.      to lay**

          (a)                   (a): This verb is probably derived from (89b) by  
Pl      γúlazika         a CB neuter extension ik. There are no known  
Vy      γúlazika         cognates of (a).  
Tk      kúlazika  
Il      kúlahhika

**381.      to look  
          after  
          child**

(a) (a): Cognates are widespread in Bantu including  
in Luvale, Bemba lel.  
P1 yulela CB: \*-ded-  
Vy yulela PT: \*'-leela; \*'-leela  
Tk kulela Note that the double vowel in the Sß and Tt  
Il kulela reflex is not from the CB source.  
Lj kulela  
Sl kulela  
Sß kulééla  
Tt kulééla

382. to bring This is general in Bantu: Bemba; Lunda: leet.

P1 yúleta PT: \*'-leta; \*'-leeta  
Vy yúleta CB: \*-déét-  
Tk kúleta  
Il kúleta  
Lj kúleta  
Sl kúleta  
Sß kulééta  
Tt kulééta

383. to cry Cognates can be found in : Luvale, Bemba: lil

P1 yulila PT: \*'-lila  
Vy yulila CB: \*-did-  
Tk kulila  
Il kulila  
Lj kulila  
Sl kulila  
Sß kulilá  
Tt kúlila

384. to cultivate Cognates can be found in Bemba, Mañanja and Yao:  
-lim-

P1 yulima PT: \*'-lima  
Vy yulima CB: \*-dim  
Tk kulima  
Il kulima  
Lj kulima  
Sl kulima  
Sß kúlíma  
Tt kúlíma

- 385. to wait** Cognates include Yao and Mañanja lind
- P1    γulindila    PT : \* ` -lindila; \* ` -linda  
Vy    γulindila    CB: \* -dind- .  
Tk    kulindila    The forms of PT and the lects are incorporate  
Il    kulindila    the applied extension il and this is  
Lj    kulindila    reflected in all the lects except Sβ and Tt.  
Sl    kulindila  
Sβ    kulindá  
Tt    kúlíínda
- 386. to be honest**
- (a)                    (a): No known cognates.  
P1    γúloma              PT: \* ' -loma  
Vy    γúloma  
Tk    kúloma  
Il    kúloma
- 387. to ask for**
- (a)                    (a): No known cognates.  
P1    γúlomba             PT: \* ' -lomba  
Vy    γúlomba             CB: \* -dómb-  
Tk    kúlomba  
(b)                    (b): No known cognates.  
Il    kúkumbila
- 388. to dream** Cognates can be found in Kaonde, Lunda, Cewa  
kulota and Lozi kulola.
- P1    γúlota              PT: \* ' -lota \* ' -loota  
Vy    γúlota              CB: \* -dóót-  
Tk    kúlota  
Il    kúlota  
Lj    kúlota  
Sl    kúlota  
Sβ    kulóóta  
Tt    kulóóta
- 389. to bewitch** This is general in Bantu. Cognates can be found  
in Kaonde and Lunda kulowa.
- P1    γulowa              PT: \* ` -lowa  
Vy    γulowa              CB: \* -dòg-  
Tk    kulowa  
Il    kulowa  
Lj    kulowa  
Sl    kulowa  
Sβ    kulowá  
Tt    kulówa
- 390. to forget** General: cognates can be found in Kaonde and  
Bemba, kuluβa and ukuluβa respectively.
- P1    γuluβa              PT: \* ` -luβa

Vy      yuluβa      CB: \*-dùb- 'to make a mistake'.  
Tk      kuluβa  
Il      kuluβa  
Lj      kuluβa  
Sl      kuluβa  
Sβ      kuluβá  
Tt      kulúβa

391.    to run

(a)                      (a): No known cognates.  
Pl      yúlunduya      PT: \* '-lunduka  
Vy      yúlunduya  
Tk      kúlunduka

(b)                      (b): refer to (373b) above.  
Il      kúlukanka

(c)                      (c): refer to (373a) above.  
Lj      kúticaana      In Lj the verb incorporates the extension an  
Sl      kútica              but this extension does not seem to have an  
Sβ      kutiyá              independent meaning.  
Tt      kútiya

392.    illness

(a)                      (a): The cognates of (392a) have restricted  
Pl      βúlwazi              distribution in Bantu. Apart from Il  
Vy      βúlwazi              Guthrie reports three other lects with this  
Tk      βúlwazi              other item, namely Gwere (Uganda) ujwazi and  
Il      βúlwahhi              Venda, ulwati. In Kongo this moun means 'wound'.  
Lj      βúlwashi              The cited forms are probably independent  
Sl      βúlwashi              derivatives of more widespread CB \*dúád  
PT: \*'-lwazi.  
CB: \*-dúádĩ.

393.    to step on  
(to tread)

(a)                      (a): Cognates include Luvale, lyat. All the  
Pl      yulyata              other cognates lie outside Zambia. Guthrie  
Vy      yulyata              lists Il as having the form dyat contrary to  
Tk      kulyata              the form we collected. Guthrie's Il form is  
Il      kulyata              dubious in that it has nonprenasalized /d/  
Sβ      kulyáta              contrary our findings.  
Tt      kulyáta              PT: \*'-lyata  
CB: \*-diát-

(b)                      (b): Cognates include Bemba ukunyaanta and Lega  
Lj      kunyanta              (Kenya) -nyant-.  
Sl      kunyanta              CB: \*-nĩánt-  
(a) and (b) may be related historically but we  
are unable to characterize the actual  
development in the correspondence /ly/: /ny/.

394. **entrance** Cognate of (394) can be found in Nyanja mulyango;  
(door way) Bemba, Mambwe, umulyango.

P1 mulyango PT: \*`-lyango  
Vy mulyango CB: \*-diàngò.  
Tk mulyango  
Il mulyango  
Lj mulyango  
S1 mulyango  
Sß mulyangó  
Tt múlyángo

395. **to dress**

(a) (a): There are no known cognates of (395).  
P1 yusama (a): PT: \*`-sama  
Vy yusama  
Tk kusama  
Il kusama  
Lj kusama

(b) (b): Cognates can be found in Bemba ukufwala  
S1 kufwala and in Nyanja kubvala.

(c) (c): Cognates are only found outside Zambia and  
Sß kuzwáta they include Mbundu (Angola), zwat, Lulua  
Tt kuzwáta (Congo) lwaat and Mpoto (Tanzania), hwat among  
the others.  
CB: \*-dÚàt- 'wear'  
Compare also CB: \*dÚàd 'wear'  
This is of general distribution in Bantu and the  
cognates include Bemba fwaal, Yao wal, Luvale  
vwal and Namwanga zwal.

396. **spine** General in Bantu. (396) is related to (6b)  
and (236b) above.

P1 músana PT: \*`-sana  
Vy músana CB: \*-cánà 'back'; 'backbone'  
Tk músana  
Il músana  
Lj músana  
S1 músana  
Sß musána  
Tt músana

397 **medicine**

(a) (a): No known cognates. This noun is homophonous  
P1 músámu with (174a) 'tree' above. The only difference in  
Vy músámu the present case is that the noun ends in the  
Tk músámu same vowel u in all the lects. This agreement  
Il músámu raises a suspicion and one can assume lect  
Lj músámu levelling of the disparities found in (174a).

- S1 músámu  
PT: \*'-sámu
- (b)  
Sß mucélo (b): This is discussed under (59a). But in the  
Tt musélo present case we note the difference of the Tt  
form with that of (59a) where the stem begins in  
the consonant c
- 398. choose**
- (a) (a): Cognates are found in Bemba and Kongo  
P1 yúsala sal.  
Vy yúsala PT: \*'-sala  
Tk kusala CB: \*-cad-  
Il kusala  
Lj kusala  
S1 kusala
- (b) (b): A cognate of this can be found in Lozi,  
Sß kukéta kuketa and Guthrie quotes Il as having.  
Tt kukéta the form cet contrary to the form  
we have.
- 399 to lie on back**  
No known cognates. Cf. however with CB: \*gàdam  
which is widely distributed outside Zambia. But  
CB \*g is not reflected by PT \*s in all the data  
we have. Thus \*gàdam is not likely to be the  
ultimate source item of the cognates of the PT  
form \*'-salama  
P1 yusalama  
Vy yusalama  
Tk kusalama  
Il kusalama  
Lj kusalama  
S1 kusalama  
Sß kusalama  
Tt kusalama
- 400. to be clean**
- (a) (a): No known cognates.  
P1 yúsalala PT: \*'-salala  
Vy yúsalala  
Tk kúsalala  
Il kúsalala  
Lj kúsalala
- 401. chicken's nest**
- (a) (a): No known cognates.  
P1 zhiseyo PT: \*'-seko  
Vy ciseyo  
Tk ciseko
- (b) (b)/(c)/(d): cf. (317c/d) . However there is  
Il citaanto some discrepancy in S1 and Lj if we compare the  
Lj citaantwe forms obtained for (317) with the ones given here  
Tt citántwe (401b). (401b) is likely to be derived from

(513a) below at least in the case of Il and Lj.  
PT: \*`tààntwè; \*`-tààntò.

Two forms are given here because we cannot account for the irregularity in the ending of the two types of stem.

(c)  
S1 cifuka (c): cf. CB: \*-pÚkò 'bag' which is widely distributed in Bantu including Bemba, umufuko. The final vowel in both the CB item and that of S1 possibly represents derivative affixes.

(d)  
Sß ciyaléto

402. to descend

(a) (a): No known cognates of (402).  
PT\* `'-seluka  
P1 yuseluya  
Vy yuseluya  
Tk kuseluka  
Il kuseluka  
Lj kuseluka

403. to whistle No known cognates of (403).

(a) (a): PT: \*`-siβa  
P1 yúsiβa The form of Il has an irregular correspondence in that whereas we would have expected /sh/ to correspond to /s/ before /i/ we have /hw/ here. One possible explanation here is to assume an intrusion of Lundwe pronunciation, yuhiβa but that it was not properly learned in Il.  
Vy yúsiβa  
Tk kúsiβa  
S1 kúshiβa  
Sß kusíβa  
Tt kusíβa

(b)  
Il kúhwiβa

404. to arrive This is general in Bantu. Cognates can be found in Lunda kushika and Bemba ukufika

P1 yusiya PT: \*`-sika  
Vy yusiya CB: \*-pík-  
Tk kusika  
Il kushika  
Lj kushika  
S1 kushika  
Sß kusiká  
Tt kusika

405 to put wood on fire

(a) (a): No known cognates. But cf. CB: \*tíkí 'stump of tree'.  
P1 yúsika PT: \* `'-sika  
Vy yúsika

Tk kúsika  
Il kúshika  
Lj kúshika

(b) (b): No known cognates.  
Sl kusosela

(c)  
Sß kutíimba

406. to erect  
(e. g. pole  
in the  
ground)

(a) (a): There are no known cognates of (406).  
The form of Lj and Sl have the neuter extension  
ik.  
Pl yusimpa  
Vy yusimpa  
Tk kusimpa  
Il kushimpa  
Lj kushimpika  
Sl kushimpika  
PT: \*`-simpa

(b) (b): cf. (432a) below; 'to sow'  
This is widespread in Bantu. Cognates include  
Bemba ukuByaala and Kaonde Byaal.  
Sß kuByáála  
Tt kuByáála  
CB \*-bíád-

407. gunpowder

(a) (a): No known cognates.  
Pl músíli  
Vy músíli  
Tk músíli  
Il múshíli  
Sß musíli  
Tt musíli  
PT: \*'-sili

(b) (b): cf. (422b) below. Cognates can be found  
in Nyanja wunga, and Bemba uBuunga 'maize flour'  
Lj ßuunga  
Sl ßuunga

408. nsima (mash  
of maize  
flour)

(a) (a): widespread: Cognates can be found in Cewa  
nsima and Luvale shima.  
Pl nsima  
Vy nsima  
Tk nsima  
Il nshima  
Lj nshima  
Sl nshima  
Tt insíma  
PT: \*'-sima  
CB: \*-kíma.

Sß (b) nkóko (b): No known cognates; however compare CB: \*-kòkò 'crust'. According to Guthrie 'crust' in the lects in which the word was found 'referred to the crust that forms on cooking food, particularly mush made of millet and sticks to the pot' (Guthrie 196771, Pt 2, Vol. 3 p.294, CS 1125)

409. mark on body  
(tattoo)

(a) (a): No known cognates.  
Pl nsimbo PT: \*'-simbo  
Vy nsimbo  
Tk nsimbo  
Il nshimbo

(b) (b): (b) is derived from the verb 'to write' kulemba. (b) is cognate with Bemba ululembo.  
Ll ßulembo CB: \*-dém- 'write'  
Sl ßulembo

410. throttle

(a) (a): this is widespread in Bantu. Cognates can be found in Bemba and Nsenga fin; and Luvale, shin  
Pl yusina CB: \*-pIn- 'squeeze (especially with fingers)'  
Il kushina PT: \*<sup>2</sup>sina  
Lj kushina  
Sl kushina  
Sß kusina  
Tt kúsina

(b) (b): No known cognates.  
Vy yudina  
Tk kudina

411. pus

(a) (a): Cognates include Bemba: amafina and Luvale: mashina, Kongo: tufina.  
Pl ßúsina PT: \*'-sina  
Vy ßúsina CB: \*-pína 'pus; (nasal mucus)'  
Tk ßusina Guthrie quotes the Il form in the plural as:  
Il ßúshina mashina  
Lj ßúshina  
Sl ßúshina

(b) (b): No known cognates.  
Sß búlálu

412. to winter  
plough (= 642)

(a) (a): No known cognates.  
Pl yúsinda PT: \*'-sinda  
Vy yúsinda

Tk kúsinda  
Il kúshinda  
Lj kushinda

(b) (b): No known cognates, but see (384) 'to cultivate'. In the present case the Sß/Tt verb has a 'reversive'/'repetitive' extension unun while in Sl it is in the simple unextended form agreeing with (384) above.  
PT: \*'-lima; \*limununa

413. heel

(a) (a): No known cognates in other Zambian lects. Cognates are found in Bali (Congo, Zaire) itsiini; Bobangi (Zaire) litIndI.  
Pl yásindi  
Vy yásindi  
Tk káshindi  
Il káshindi  
Lj káshindi  
Sl káshindi  
PT: \*'-sindi  
CB: \*-tíndí

(b) (b): A cognate can be found in Lozi, lisito.  
Sß isitó

(c) (c): No known cognates. This noun is probably cognate with the Lozi verb kuhata 'to tread.'  
Tt ihato

414. to accompany

(a) (a). In Sß and Tt the final consonant is /z/ as opposed to /l/ in the other lects. This is the only case where /z/ in Sß and Tt corresponds to /l/ in the other lects.  
Pl yúsindiyila  
Vy yúsindiyila  
Tk kúsindikila  
Il kúshindikila  
Lj kúshindikila  
Sl kúshindikila  
Sß kusindikiza  
PT: \*'-sindikila  
CB: \*-tínd- 'send (accompany)'.  
It is doubtful how the PT form can be related the form of CB unless we were to regard il and iz as verbal extension.

415. vein

(a) (a): Cognates can be found in Makua (Mozambique) nthika; Nyaneka (Angola) olusinga and Manyika (Zimbabwe) rutsinga.  
Pl nsinga  
Vy nsinga  
Tk nsinga  
Il nshinga  
Lj nshinga  
Sl nshinga  
Tt músinga  
PT: \*'-singa  
CB: \*-tíngà.

(b) (b): Cognates can be found in Luimbi (Angola) mutsipá, Bemba umushipa and Kwanyama (Namibia, Angola): omufipa  
Sß musifa

CB: \*-kIpa

**416. monkey**

	(a)	(a): No known cognates of (416a).
P1	sókwe	The tone pattern in Vy and Tk differs from that
Vy	sokwe	of the other cognates. This is one of the few
Tk	sokwe	cases where the tone patterns differ, cf. 526
I1	sókwe	below.
Lj	sókwe	PT: *'-sókwe
S1	sókwe	

	(b)	
Sß	ipombo	
Tt	ipombo	

**417. hipbone**

	(a)	(a): No known cognates of (417).
P1	γasolo	PT: *'-solo -
Vy	γasolo	
Tk	kasolo	
I1	kasolo	
Lj	kasolo	
S1	kasolo	

**418. share**

	(a)	(a): No known cognates.
P1	γúsomba	PT: *'-somba
Vy	γúsomba	
Tk	kúsomba	
I1	kúsomba	

	(b)	(b): cf. (60) above.
Lj	kúpa	
S1	kúpa	
Sß	kuhá	
Tt	kúha	

**419. to peep**

	(a)	(a): No known cognates.
P1	kusondela	PT: *'-sondela
Vy	kusondela	
Tk	kusondela	
I1	kusondela	
Lj	kusondela	
S1	kusondela	

	(b)	(b): Cf. (130a).
Sb	kuβóna	

- (c) (c): Cf. (130b).  
Tt kutónða
- 420. to jump**
- (a) (a): No known cognates of (420a).  
PT: \*'-sotoka
- Pl yúsotoya  
Vy yúsotoya  
Tk kúsotoka  
Il kúsotoka  
Lj kúsotoka  
Sl kúsotoka
- 421. shyness  
(shame)**
- (a) (a): Cognates include Cewa, cisoni 'sorrow';  
Luvale sonyi and Bemba insoni 'shame'  
CB: \*-cónl 'shame.'  
PT: \*'-soni
- Pl nsoni  
Vy nsoni  
Tk nsoni  
Lj nsoni  
Sl nsoni
- (b) (b): (b) also exists in Pl side by side with (a)  
but (a) is more frequently used to mean  
'shyness.' while (b) is commonly used to mean  
'sorrow'.
- Il kuusa
- 422. maize flour**
- (a) (a): Cognates are found in Kikuyu mchu, Makonde  
(Tanzania) uhu, Manyika upfu.  
CB: \*-tũ  
PT: \*'-su
- Pl βusu  
Vy βusu  
Tk βusu  
Il βuhu  
Sβ βusu  
Tt βusu
- (b) (b): cognates can be found in Cewa, wunga and  
Bemba βunga, cf. (407b) above.  
CB \*-yúnga.
- Sl βúúnga  
Lj βúúnga
- 423. species  
of fruit**
- This is widespread in most Zambian languages.
- PT: \*'-suku
- Pl masuyu  
Vy masuyu  
Tk masuku  
Il mahuku  
Lj masuku  
Sl masuku

Sß masuku  
Tt masuku

**424. ox**

(a) (a): No known cognates.  
PT: \*'-sune  
Pl músúne  
Vy músúne  
Tk músúne  
Il músúne  
Sß músúne  
Tt músúne

(b) (b): cf. (595) below.  
Lj ñombe CB: \*-gòmbè 'cattle' PT: \*'ᵑombe  
Sl ñombe This is general in Bantu. Cognates include Kongo  
ngombe, Luvale ngombe and Bemba inombe.

**425. to limp**

(a) (a): There are no known cognates of (424a). The  
Pl yusunkuta correspondence /c/ in Sß with /s/ in the  
Vy yusunkuta other lects has no parallel.  
Tk kusunkuta PT: \*'-sunkuta  
Il kusunkuta  
Lj kusunkuta  
Sl kusunkuta

(b) (b): No known cognates.  
Sß kucúúnkutá

**426. today**

(a) (a): No known cognates.  
Pl sunu PT: \* sunu  
Vy sunu Il has the 'prefix' u in this cognate. This is  
Tk sunu not a regular prefix. Cf. the form of Il at (182)  
Il úsunu and (186b ).  
Sß sunu  
Tt sunu

(b) (b): Cognates can be found in Kaonde, Bemba  
Lj leelo and Cewa: leelo.  
Sl leelo CB: \*-dèèdó

**427. hyena**

(a) (a): No known cognates  
Pl súntwe PT: \*'-súntwe  
Vy suntwe The tone pattern of Vy and Tk differ here, cf.  
Tk suntwe (416a) above.  
Il súntwe

Sß súntwe  
Tt súntwe

(b) (b): A cognate can be found in Cewa, cimbwi.  
Lj cimbwi There are very few noun stems in the Tonga lects  
S1 cimbwi that begin in a prenasalized consonant as in  
in the present case. We can only speculate  
how such noun stems should be analysed  
morphologically, i. e. whether the nasal component  
should be analysed as a class 9/10 prefix which  
cannot be separated from the stem. There are a  
number cases like this e. g (111) above.  
CB \*-yimbúí.

**428. visit**

(a) (a): No known cognates of (428a).  
P1 yuswaya PT: \*`-swaya  
Vy yuswaya  
Tk kuswaya  
I1 kuswaya  
Lj kuswaya  
S1 kuswaya

**429. circlet**

(a) (a): no known cognates.  
P1 muhini PT: \*`-syini  
Vy musini  
Tk musini  
I1 mushini

(b) (b): this is a loan from English, 'towel.'  
Lj ntáulu PT: \*`-táùlù  
S1 ntáulu  
Sß ntáulu

(c) (c): No known cognates.  
Tt mpéndéka

**430. plaster**

(a) (a): There are no known cognates of (430a).  
P1 yúhingulula PT: \*`-syingulula  
Vy yúsingulula Notice double vowel in Tt before a prenasalised  
I1 kushingulula consonant.  
Lj kushingulula  
S1 kushingulua  
Tt kusíngula

**431. daytime**

	(a)	(a): No known cognates of (431a)
P1	híyáti	PT *'-syikati
Vy	siyáti	
	(b)	(b): No known cognates. This noun incorporates two prefixes. In the case of Tk prefix <u>mu</u> is locative class 18, while <u>lu</u> is class 11; In case of Sß <u>ku</u> is also a locative class 17 while <u>ka</u> is the diminutive class 12 prefix.
Tk	múlúmwi	
Sß	kukámwi	
Tt	kamwi	
<u>ka</u>		
	(c)	(c): No known cognates.
Il	múúnza	
<b>432</b>	<b>to sow</b>	
	(a)	(a): No known cognates of (432)
P1	yúhyanga	PT: *'-syanga
Vy	yúsyanga	
Tk	kúsyanga	
Il	kúshanga	
Lj	kúshanga	
S1	kushanga	
	(b)	(b): Cognates with a slightly different meaning are found in Bemba and Kaonde <u>Byaal</u> . 'to plant'. (432b) is cognate with (406b). CB *-bíád- 'plant'.
Sß	kußyáála	
Tt	kußyáála	
<b>433.</b>	<b>colour</b>	No known cognates of (433). In Tk we find /sh/ in the initial position while we would normally expect /sy/ to correspond to /hy/ as in (432a) (434a).
P1	múhyoßo	PT: *'-syoßo
Vy	músyoßo	
Tk	múshoßo	
Lj	múshoßo	
S1	múshoßo	
Sß	mushoßo	
Tt	múshóßo	
<b>434.</b>	<b>to believe</b>	
	(a)	No known cognates of (434).
P1	yúhyoma	PT: *'-syòma
Vy	yúsyoma	
Tk	kúsyoma	
Il	kúshoma	
Lj	kúshoma	
S1	kúshoma	
	(b)	
Sß	kusépáhála	

435. lion

(a) (a): No known cognates of (435).  
Pl hyuumbwa PT: \*'-syuumbwa  
Tk syuumbwa  
Il shuumbwa

(b) (b): Cognates include Bemba inkalamo.  
Lj nkálamu  
Sl nkálamu

(c) (c): The stem is lavu. /l/ alternates with /d/  
after the alveolar nasal.  
Sß indávu  
(or indáßu)  
Tt indávu  
(or indáßu)  
Vy múlávu

436. face

(a) (a): No known cognates of (436) in Zambian  
lects.  
Pl ßúhyu PT: \*'-syu  
Vy ßúsyu CB: \*-cîú  
Tk ßúsyu  
Il ßúshu  
Lj ßúshu  
Sl ßushu  
Sß ßúsu

(b) (b). (b) refers to 'forehead' in Pl.  
Tt nkumo

437. to slip from  
grip

(a) (a): No known cognates of (437) outside the  
Tonga group. In the forms of Tk, Il and Lj  
we can see that the pattern of correspondence  
is broken. We would have expected Tk /sy/ to  
correspond Pl /hy/. In Lj and Il we would  
have expected /sh/. In both cases the actual  
correspondences are irregular. See 3.1.22.2  
PT: \*'-syupuka

(b)  
Sl kushipuka

(c)  
Sß kucomoká

(d)  
Tt kúßólómóka

438. breath/air

(a) (a): There are no known cognates of (438). (a) and (b) would seem to be cognates except that in I1 and Sß the stem begins in a vowel; otherwise /y/ and /z/ are regular correspondences. We could still relate the two stems if we suggested that the prefix in Sß and Tt was mo and not the usual mu in class 3. But this would be the only noun with such a prefix. Two stems have been reconstructed because of this uncertainty.  
PT: \*'-ya

(b) (b): Refer to (438a).  
I1 móza  
Sß móza

439. to go

(a) (a): Cognates of this can be found in Kaonde and Lozi, kuya.  
P1 γuya  
Vy γuya  
Tk kuya  
Lj kuya  
S1 kuya  
PT: \*'-ya

(b) (b): This form is also found in P1. Both can be used quite freely. However, (a) is also used exclusively as a future aspectual marker in P1. (b) cannot be used in this form.

(c) (c): this is normally used with the meaning 'to walk'; cf. (178).  
Sß kuyéénda  
Tt kuyéénda  
PT: \*'-yéénda  
CB: \*-gènd-; \*-yènd-

440. to spread bed

(a) (a): Cognates: Luvale and Lunda, kwala; Cewa yal.  
P1 γuyala  
Vy γuyala  
Tk kuyala  
I1 kuzala  
Lj kuyala  
Sß kúzála  
Tt kuzála  
PT: \*'-yala  
CB: \*-yad-

(b) (b): cognates: Bemba ans, Namwanga, anz  
S1 kúyanshika  
CB: \*-yanj-.  
The root of S1 has a neuter extension ik.

441. to build

(a) (a): cognates: Mbowe, zak.  
P1 γúyaka  
Vy γúyaya  
Tk kúyaka  
I1 kúzaka  
Lj kúyaka  
PT: \*'-yaka  
CB: \*-yák-

Sβ kuzáka  
Tt kuzááka

(b) (b): cognates: LubaKasai, iβak; Nsenga βwak  
S1 kwíβaka CB: \*-bak-.

**442. to be  
abreast**

(a) (a): No known cognates of (442). This is likely  
P1 γuyalana to be derived from (440a) above by addition of a  
Vy γuyalana reciprocal extension {an}.  
Tk kuyalana PT: \*`-yalana  
I1 kuzalana

**443. to infect**

(a) (a): Cognates include Nsenga and Bemba  
P1 γuyambuγila yambukil. (443a) seems to be  
Vy γuyambuγila complex morphologically, probably incorporating  
Tk kuyambukila two extensions, the reversive uy and  
I1 kuzambukila the applied il. Nevertheless the  
Lj kuyambukila apparent extensions cannot be separated from the  
S1 kuyambukila stem.  
Tt kuyámbukila PT: \*`-yambukila  
CB: \* -yàmbuk-: 'spread (as disease or  
fire.').

(b) (b): No known cognates. (b) seems unrelated to  
Sβ kulyambúkila (a) only in that we cannot account for the  
initial /ly/ in (b). (b) can be viewed as skewed  
in the initial position.

**444. to guard  
crops**

(a) (a): Cognates include Nsenga yamir; Bemba  
P1 γúyamina yamin and Yao jamil.  
Vy γúyamina PT \*'-yamina.  
Tk kúyamina (i). CB: \*-yám- 'shout'; (ii) \*yámid 'shout  
I1 kúzamina to drive away birds'.  
Lj kúyamina  
S1 kúyamina

(b) (b): This is likely to be related to CB:  
Sβ kulíinda \*dind, 'watch over; or \*dindid.  
Tt kulíinda Cognates: Yao liindil and Cewa lindil.

**445. to want**

(a) (a): There are no known cognates of (445a, b).  
P1 γuyanda PT: \*'-yanda  
Vy γuyanda  
Tk kuyanda  
I1 kuzanda

(b) (b): No known cognates. In Il there exists the  
Lj kusuna verb kúhuna 'to love' which probably related to  
S1 kusuna (b).

(c) CB: \*-càk- 'search for'  
Sß kusáka Cognates are found in Kaonde sak; Luvale  
Tt kusáka sakasak

**446. to search**

(a) (a): no known cognates of (446). There are also  
P1 yuyandaula differences in the V<sub>2</sub> position. The radical itself  
Vy yuyanduula is yand. All the reflexes are extended by {aul}  
Tk kuyandaula (including Lj and Vy where there has been vowel  
Lj kuyandoola assimilation; see 2.1.3). This extension has the  
'repetitive/reversive meaning' of CB.  
PT \*`-yandaula

(b) (b): No known cognates.  
Sß kulolalola The stem of Sß is reduplicated to bring out the  
Tt kúlóla notion of 'repetition.'

(c) (c): No known cognates.  
Il kukapula

**447. to scratch  
ground  
(as of fowl)**

(a) (a): No known cognates.  
P1 yúyanga PT: \* '-yanga  
Vy yúyanga  
Tk kúyanga  
Lj kúyanga

(b) (b): this verb has similar morphology as (446) above  
S1 kupalaula in that the stem has the extension {aul} which  
Il kúpalaula also has the idea 'repetitive/reversive'. (b)  
may share the same stem pal.

(c) (c): No known cognates.  
Sß kugáná

(d) (d): No known cognates.  
Tt kukáála

**448. crop (of  
bird)**

(a) (a): There are no known cognates of (450) in  
P1 zhiyangilo other lects. The ending in ilo suggests an  
Vy ciyangilo 'instrumental' extension found in P1. This  
Tk ciyangilo suggests in turn that (447a) and (448a) are  
Il ciyangila semantically related and that they share the  
Lj ciyangilo same stem \* -yàng-. Il utilizes a different  
ending here but the item is likely to be cognate

- with the others in (a).  
PT: \*'-yangilo
- (b) (b): No known cognates.  
Sl cífuntwa
- (c) (c): No known cognates.  
Sß cíßúyélo
- (d) (d): No known cognates.  
Tt cífúnyúngu
- 449. to dry** (449) is widespread in Bantu.  
(e.g. clothes) Cognates include: Luvale anyik, Maṅanja anik  
and Bemba anik.
- Pl γúyaniya PT: \*'-yanika  
Vy γúyaniya CB: \*'-yánik-  
Tk kúyanika  
Il kúzanika  
Lj kúyanika  
Sl kúyanika  
Sß kuzaniká  
Tt kúzánika
- 450. to tear**  
(e.g. cloth).
- (a) (a): There are no known cognates of (450). As  
Pl γúyaula /y/ in Pl, Vy and Tk generally corresponds to  
Vy γúyaula /z/ in Il it is possible that (a) is related to  
Tk kúyaula (b) and that the only difference is that /p/ was  
lost intervocally in Pl, Vy and Tk. Loss PT \*p  
is not unusual, see discussion in 3.1.19.1.12.  
PT: \*'-yaula
- (b)  
Il kúzapula
- (c) (b): No known cognates.  
Tt kúhazula
- 451. to shout** There are no known cognates of (451).
- (a) (a): The Lj and Sl form suggests the stem has  
Pl γuyoβa the extension ek which resembles the  
Vy γuyoβa 'neuter'/potential' extension \*ik of CB. It is  
Tk kuyoβa realised as ek here because vowel harmony; see  
Lj kuyoβeka 2.1.2 above.  
Sl kuyoβeka PT: \*'-yoβa
- (b) (b): a similar form is also found in Pl i.e.  
Il kusaβa -saβil- although it has the applied extension  
il.

**452. continuous  
rain**

- (a) (a): no known cognates.  
PT: \*'-yoβa
- P1 muyoβa  
Tk muyoβa  
I1 mazoβa  
Lj muyoβa  
S1 muyoβa  
Tt mazóβa
- (b) (b): no known cognates in other Zambian lects.  
Vy musinki

**453. to scoop** This is restricted in Bantu.

- (a) CB: \*-yòd- 'gather up'  
PT: \*'-yola  
It is doubtful whether the form of S1 can be related to (a) in any clear way.
- P1 yuyola  
Vy yuyola  
Tk kuyola  
I1 kuzola  
Lj kuyola  
Sβ kuzóola  
Tt kuzóola
- (b)  
S1 kuyowela

**454. to store**

- (a) (a): No known cognates.  
PT: \*'-yoβola
- P1 yuyobola  
Vy yuyobola  
Tk kuyobola  
I1 kuzobola  
Lj kuyobola  
S1 kuyobola
- (b) (b): cf. (221) above 'to put'.  
CB: \*-bíik-
- Sβ kuβíika  
Tt kuβíika

**455. to warm  
oneself  
at fire**

- (a) (a): (a): a cognate of (455) can be found in Kaonde, koota, Nsenga yot and Luvale ot.  
CB: \*-yót-.  
PT: \* '-yota.  
Note the double vowel in Sβ and Tt which contrasts the vowel of the CB from. All the reflexes reported by Guthrie for CS 2136 \*-yót- a short vowel. The same is true with its osculant pair \*yónt. The reflex of Sβ and Tt is similar to (381) above.
- P1 yúyota  
Vy yúyota  
Tk kúyota  
I1 kúzota  
Lj kúyota  
S1 kúyota  
Sβ kuzóota  
Tt kuzoota

456. to roast

- (a) (a): Cognates include Luvale and Mbundu yok  
P1 yuyoya CB: \*-yòk-, 'roast'; 'burn'; \*yòki; \*yòkI  
Vy yuyoya 'roast'.  
Tk kuyoka PT: \*'-yoka  
Lj kuyoka  
S1 kuyoka
- (b) (b): (b) is related to Bemba ukooca and Luganda  
I1 kuzoca ky. These verbs including that of I1 can be  
viewed as incorporating a causative extension i.  
In I1 for example the verb stem may be seen as  
having been originally zoki where final /i/ was the  
extension. However, /k/ became palatalized to /c/  
and the palatalizing vowel was itself incorporated  
into /c/. Hence the stem was reanalysed as zoc.
- (c) (c): No known cognates.  
Sß kwíicha
- (d) (d): No known cognates.  
Tt kuhálika

457. to hide

- (a) (a): Cognates include Bemba uß and Yao juß.  
P1 yúyußa PT: \*'-yußa  
Vy yúyußa CB: \*-yúb- 'shelter (from rain or sun)  
Tk kúyußa  
I1 kúzußa  
Lj kúyußa
- (b) (b): No known cognates.  
S1 kusolama
- (c) (c): The verb incorporates a reflexive pronoun  
Sß kúlipáta li. We can judge from Tt that this is a separate  
morpheme from the verb stem, ßik; see (221).
- (d) (d): No known cognates. Cf. (221) and the contrast  
in the vowel.  
Tt kúlißika

458. to carry

- (a) (a): There are no known cognates of (458a).  
P1 yúyumuna PT: \*'-yumuna  
Vy yúyumuna  
Tk yúyumuna  
Lj kuyumuna
- (b) (b): There are no known cognates of (b). However,  
S1 kunyamuna one can see a resemblance between (b) and (a) in  
the element mun. The  
difference between the two is in the initial  
position.

	(c)	(c): No known cognates.
Sß	kuhiinda	
	(d)	(d): No known cognates.
Tt	kutééngéna	
	(e)	(e): a cognate can be found in Kaonde, <u>kuzemuna</u> .
Il	kúzemuna	

**459. to peel**

	(a)	(a): Cognates: Luvale and Bemba <u>uß</u> ; and Mbundu <u>yuß</u> . CB *b has the reflex ß in the Tonga lects except when *b is prenasalised or by *yí in the case of Pl, Vy and Tk.
Pl	γuyupa	
Vy	γuyupa	
Tk	kuyupa	
Il	kuzupa	PT: *'-yupa
Lj	kuyußa	CB: *-yùb- 'to skin (fruit or animal)'
Sß	kuzußá	
Tt	kuzúßa	

	(b)	(b): No known cognates.
Sl	kutóóngola	

**460. shelter**

	(a)	(a): No known cognates of (460). The Lj form is problematic here because the root is vowel initial and s is prenasalized. This is likely to be a skewed reflex of the PT item.
Pl	γúyusa	
Vy	γúyusa	
Tk	kuyusa	
Lj	kwíyunsa	PT: *'-yusa

	(b)	(b): cf. (457b) above.
Sl	kusolama	

	(c)	(c): No known cognates.
Sß	kúzááminá	
Tt	kúzwáámína	

**461. waves**

	(a)	(a): No known cognates.
Pl	mayuwe	(a): PT: *'-yuwe
Vy	mayuwe	
Tk	mayuwe	

	(b)	(b): No known cognates.
Il	mankutisha	

	(c)	(c): No known cognates.
Lj	maßa	

	(d)	(d): No known cognates.
Sl	mankape	

	(e)	(e): No known cognates.
Sß	mandindá	
Tt	mandinda	

462. to refuse

(a) (a): no known cognates.  
P1 γύγαγα PT: \*'-kaka  
Vy γύγαγα  
Tk kúkaka  
Il kúkaka  
Lj kukaka

(b) (b): Cognates: Luvale kan, Bemba and Kaonde kaan  
and Lozi han.  
S1 kukana PT \*'-kana; \*' káána  
Sß kukáána CB: \*-káán- 'refuse'; 'deny'  
Tt kúkána

463. to insist

(a) (a): No known cognates.  
P1 γύγάγátila PT \*'-kakatila  
Vy γύγάγátíla  
Lj kúkákátíla  
S1 kúkákátíla  
Sß kukákátíla  
Tt kúkákátíla

(b) (b): No known cognates.  
Tk kúzymanana  
Il kúzumamana

464. to crawl

(a) (a): No known cognates.  
P1 γυγαλαβα PT: \*'-kalaβα  
Vy γυγαλαβα  
Tk kukalaβα  
Il kukalaβα  
Lj kukalaβα  
S1 kukalaβα

(b) (b): No known cognates.  
Sß kúkokoβα  
Tt kúkókóβα

465. waterhole

(a) (a): No known cognates.  
P1 zhiyala All the forms here are clearly related except  
Vy muyalo the stem ends in a in P1 as opposed to o in  
Tk mukalo the other lects. This can be viewed as assimilation  
Il mukalo of 'o' to preceding 'a' in P1. (465a) compares with  
Lj mukalo (448a) above.  
PT: \* '-kalo

466. to clap  
hand There are no known cognates of (466).  
Zambian lects.

P1 γύγamba PT: \*'-kamba  
Vy γύγamba The form of S1 has the applicative extension il

Tk kúkamba      Notice that Sß has the reflex of a double  
I1 kúkamba      vowel here before the prenasalised consonant.  
Lj kúkamba  
S1 kúkambila  
Sß kukamba  
Tt kukáamba

**467. to knead**      (467) is widespread in Bantu.  
P1 yuyanda      Cognates include: Luyana kand, Kaonde kānd  
Vy yuyanda      and Bemba kaand.  
Tk kukanda      PT: \*'-kanda; \*káanda  
I1 kukanda      CB: \*-känd-  
Lj kukanda  
S1 kukanda  
Sß kukáanda  
Tt kukáanda

**468. to fry**      (468a) is widespread in Bantu.  
(a)  
P1 yúyanga      Cognates: Luvale kang Mbunda (Angola) kang  
Vy yúyanga      Taabwa kaang.  
Tk kúkanga      CB: \*-káng- 'fry'; 'roast'  
I1 kúkanga      PT: \*'-kanga  
Lj kúkanga  
S1 kúkanga  
  
(b)      (b): no known cognates. Cf. (456d).  
Sß kuhálika  
Tt kuhálika

**469. to milk**      (469) is widespread in Bantu.  
P1 yúyama      PT: \*'-kama  
Vy yúyama      CB: \*-kám- 'milk'; 'squeeze'; 'wring'  
Tk kúkama      Cognates include: Bemba and Luvale kam  
I1 kúkama  
Lj kúkama  
S1 kúkama  
Sß kúkama  
Tt kúkama

**470. to become warm**  
(a)      (a): There are no known cognates of (470).  
P1 yuyasaala      PT: \*'-kasaala  
Vy yuyasaala  
Tk kukasaala  
I1 kukasaala  
Lj kukasaala  
S1 kukasaala

Tt (b) (b): no known cognates.  
kútúkúta

471. to cough

(a) (a): Cognates include: Bemba ukukoola.  
Pl γύγολα PT: \* '-kola; \*-kóóla.  
Vy γύγολα CB \*-kóód-  
Tk kúkola  
Il kúkola  
Sß kúkóóla  
Tt kukóóla

(b) (a): No known cognates in Zambian lects.  
Lj kúkosoka (471b) has a cognate in Shona -kosor-  
Sl kúkosola \*-kócud-.

472. to get drunk Cognates of (472) is found in Lunda, kukolwa;  
Pl γύγολω Nyanja, kukolewa. The verb stem in (472) is in  
Vy γύγολω the passive with the extensions {w} and {ew} as  
Tk kúkolwa the case may be. This form is derived from kol  
Il kúkolwa 'to intoxicate' or 'to poison.'  
Lj kúkolwa PT: \* '-kolwa  
Sl kukolewa CB: \*-kódu 'become intoxicated'.  
Sß kukolwa  
Tt kúkólwa

473. to defeat There are no known cognates of (473) in other  
Zambian lects.

Pl γύγωμα  
Vy γύγωμα PT: \* '-koma  
Tk kúkoma  
Il kúkoma  
Lj kúkoma  
Sl kúkoma  
Sß kúkoma  
Tt kúkoma

474. to grow

(a) (a): There are no known cognates of (a).  
Pl γύγόμενα PT: \* '-komena  
Vy γύγόμενα  
Tk kúkomena

(b) (b): cognates include Lozi kuhula; Lunda and  
Il kúkula Cewa kukula. (b) exists in Pl as well  
Lj kúkula but with the specific meaning 'to reach puberty'  
Sl kúkula and it is only applied to girls. Further relics  
Sß kukula of this kulu include tatayulu and mamayulu,  
Tt kúkúla and hhyuyulu 'grandfather', 'grandmother' and  
'grandchild', respectively.  
PT: \* '-kula  
CB: \*-kúd

475. to inherit

(a) (a): No known cognates.  
Pl γυγona PT: \*- kòna  
Vy γυγona  
Tk kukona  
Il kukona

(b) (b): a cognate can be found in Bemba, ukupyana.  
Lj kupyana  
Sl kupyana

(c) (c): No known cognates.  
Tt kujóβóla

476. to be happy

(a) (a): No known cognates.  
Pl γυγondwa The form of Sl has a pseudoapplicative  
Vy γυγondwa extension el in addition to the causative  
Tk kukondwa extension w. However, the whole stem is now  
Lj kukondwa inseparable from the extension.  
Sl kukondwela PT: \*`-konda; \*`kondwela

(b) (b): this can also be found in Pl and can be  
Il kúkomana interchanged with (a).

(c) (c): no known cognates, but cf. (24) 'to want.'  
Sβ kusákiwa The present verb stem has the passive extension  
Tt kusákiwa as can be seen in (441).  
CB \*-càk 'desire'

477. to hatch

(a): (a): No known cognates. The various forms  
Pl γύγονkona would seem to be onomatopoeic.  
Vy γύγονkona PT: \*'-konkola. See discussion at 3.1.2.1  
Tk kúkonkona  
Lj kúkonkola

(b) (b) would seem to be related to (a) and that we  
Il kúkonkwela analyse it as being in the applied form as  
follows konko<e>l

(c) (c): No known cognates.  
Sl kukónkómóna  
Tt kukónkómóka

(d) (d): No known cognates.  
Sβ kundondola

478. to become  
bent Cognates are found in Kongo, LubaKatanga and  
Yao kotam

P1	γuyotama	PT: * ` -kotama
Vy	γuyotama	CB: * -kòtam
Tk	kukotama	
Il	kukotama	
Lj	kukotama	
Sl	kukotama	
Sß	kúkótáma	
Tt	kukótáma	

479. to roll  
on wheels

	(a)	(a): No known cognates.
P1	γuyυβa	PT: * ` -kuβa
Vy	γuyυβa	
Tk	kukuβa	
Il	kukuβa	

	(b)	(b): No known cognates.
Lj	kukunguka	

	(c)	(c): No known cognates.
Sl	kukunkulisha	

	(d)	(d): No known cognates.
Sß	kúnaka	

	(e)	(e): No known cognates.
Tt	kukásha	

480. to knock  
down  
fruit

	(a)	(a): There are no known cognates of (480).
P1	γúyula	PT: * ` -kula
Vy	γúyula	
Tk	kúkula	

	(b)	(b). This item exists in P1 as well with an identical vowel.
Il	kóónza	

	(c)	(c). No known cognates.
Lj	kusokola	

	(d)	(d): No known cognates.
Sl	kukonsa	

	(e)	(e): No known cgnates
Sß	kuzífinda	

	(f)	(f): No known cognates. (f) may be related to
Tt	kúsónza	(b) and (d) but it is not clear how the initial position of these stems can be accounted for. There is no parallel correspondence involving a zero consonant in Il and /k/ in Tt.
<b>481.</b>	<b>load</b>	
	(a)	(a): No known cognates of (481).
P1	muɣuli	PT: * '-kuli
Vy	muɣuli	
Il	mukuli	
Lj	mukuli	
	(b)	(b): No known cognates of b/c.
S1	mutolo	
	(c)	(c): the nouns here seem related although they differ in C <sub>2</sub> position. The semivowels /w/ and /o/ may be seen transits between the vowels /i/ and /o/.
Sβ	muziwo	
Tt	múziyo	
<b>482.</b>	<b>to knock off from work</b>	
	(a)	(a): There are no known cognates of (482).
P1	ɣuɣotoɣa	PT: * '-kotoka
Vy	ɣuɣotoɣa	CB: *-kòtuk-
Tk	kukotoka	The PT form shows vowel harmony, that is the vowel *u of CB assimilated to the first vowel *o.
Il	kukotoka	
	(b)	(b): No known cognates.
Lj	kutomboka	
S1	kutomboka	
<b>483.</b>	<b>ochre</b>	
	(a)	(a): A cognate can be found in Bemba <u>nkula</u> .
P1	múɣula	PT: * '-kula.
Vy	múɣula	There is an uncertain relation between (a) and the CB form *-gúdà and *-kúdà 'red colour'.
Il	múkula	
Lj	múkula	
	(b)	(b): No known cognates
S1	nkundwe	
	(c)	(c): No known cognates.
Sβ	izúku	
<b>484.</b>	<b>to make fire</b>	
	(a)	(a): Cognate can be found in Bemba <u>ukukunka</u> 'to feed a fire.'
P1	ɣuɣunka	

Vy γυγunka PT: \* '-kunka  
Tk kukunka  
Il kukunka  
Sl kukunka

(b) (b): No known cognates.  
Lj kukutula

(c) (c): No known cognates.  
Sβ kutíimba

**485. to dust**

(a) (a): No known cognates of (485).  
Pl γύγunkumuna PT: \* '-kunkumuna  
Vy γύγunkumuna  
Tk kúkunkumuna  
Il kúkunkumuna

(b) (b): No known cognates.  
Tt kútútúla

(c) (c): No known cognates.  
Lj kupampamuna  
Sl kúpampamuna

**486. to capsize**

(a) There are no known cognates of (486).  
Pl γύγunuγa PT: \* '-kunuka.  
Vy γύγunuγa  
Lj kúkunuka

(b) (b): This form exists in Pl as well but with the  
Il kutika meaning 'to be spilt'.

(c) (c): No known cognates.  
Lj kupindimuka

(d) (d): No known cognates.  
Sl kufulumuka

(e) (e): No known cognates.  
Sβ kumíná

(f) (f): No known cognates.  
Tt kufétuha  
It is perhaps significant that many of the reflexes above have the element uka. This element is possibly an extension with the meaning 'reversive'.

487. milk (fresh)

- (a) (a): No known cognates.  
 PT: \* ` -kupa
- Pl muyupa  
 Vy muyupa  
 Tk mukupa  
 Il mukupa
- Lj mukupa
- (b) (b): No known cognates in other languages.  
 Sß muzilili
- (c) (c): This noun exists in Pl, Vy and Tk as 'sour milk.' A cognate also exists in Lozi with the meaning as in (488).  
 Tt maßisi

488. fig tree

- (488): This is widespread in Bantu.  
 Cognates include Kaonde and Luvale mukuyu.  
 Yao nkuyu.  
 PT: \* ' -kuyu  
 CB: \*-kúyú
- We can see that the high tone of CB appears on the prefix in PT.
- Pl múyuyu  
 Vy múyuyu  
 Tk múkuyu  
 Il múkuzu  
 Lj múkuyu  
 Sl múkuzu  
 Sß mukuzú  
 Tt ikúzu

489. purse

- (489): There are no known cognates of (489).  
 PT: \* ' -kwama
- Pl zhíywáma  
 Vy cíywáma  
 Tk cíkwáma  
 Il cíkwáma  
 Sl cíkwáma  
 Sß cikwamá  
 Tt cikwáma

490. to marry

- (a) (a): A cognate can be found in Cewa, kukwatila although the latter has an applied verb extension il. The extension cannot be extracted from the stem.  
 PT: \* ' -kwata  
 Cf. CB \*-kúát- 'sieze'
- (b) (b): cognates include Luvale twal and Sotho thwal.  
 CB \*-túád- (i): 'carry on head'; (ii): 'carry away', 'marry'.
- (c) (c): No known cognates.
- Pl yúywata  
 Vy yúywata  
 Tk kúkwata  
 Lj kúkwata
- Il kútwała
- Sl kweeßa

(d) (d): No known cognates.  
Sß kusésa  
Tt kúsésa

**491. merchandise**

(a) (a): No known cognates.  
P1 mayweβo PT: \*`-kweβo  
Vy mayweβo  
Tk makweβa  
Il makweβo  
Sl makweβo

(b) (b): No known cognates.  
Tt nyuluza

**492. to scratch  
(e. g. body)**

(a) (a): No known cognates.  
P1 γuywehhya PT: \*`-kwezya  
Vy γuywezya  
Tk kukwezya  
Il kukwehhya

(b) (b): No known cognates.  
Sl kunyaya

**493. to borrow  
money.**

(a) (a): no known cognates.  
P1 γuyweleta PT: \*`-kweleta  
Vy γuyweleta  
Il kukweleta

(b) (b): a cognate can be found in Bemba and Cewa,  
Tk kukongola ukukongola and kukongola respectively.  
Lj kukongola PT: \*`-kongola  
Sl kukongola

(c) (c): a cognate can be found in Lozi, kukolota.  
Sß kukólota  
Tt kukólota

**494. to put axe  
in handle**

(a) (a): There are no known cognate of (494).  
P1 γúywika PT: \*`-kwika  
Vy γúywika  
Il kúkwika



Tt	ikúmi	
498.	to hit nail with hammer (as in roof making)	
	(a)	(a): Cognates can be in Bemba and Luvale <u>kukoma</u> 'to hit with a hammer.'
Pl	ɣukoma	PT: *`-koma
Vy	ɣukoma	CB: *-kòm-
Tk	kukoma	
Il	kukoma	
Lj	kukoma	
Sl	kukoma	
	(b)	(b): No known cognates.
Sɓ	kutaɓa	
	(c)	(c): No known cognates
Tt	kúkókótéla	
499.	throat	(a): No known cognates in the other Zambian lects.
	(a)	(a): (a) would seem to incorporate an extension <u>ino</u> , which is in turn related to the 'instrumental' extension, <u>ilo</u> observed at (448a) above. The forms of Pl and Vy could be viewed as derived from the verb <u>ɣúluma</u> , 'to bite', cf, (13) above. However, the second part of the stems of (a) also resemble CB *mèdò 'throat'; 'gullet'. It is possible that (a) is a compound noun involving, CB * <u>-dúm-</u> 'bite' and *-médò 'throat', 'gullet'. Cf. also the CB form *-mǐdò. (499a) is class 5 noun.
	(b)	
Sl	kakolomeno	
	(c)	(c): Compare this form with CB: *mèdò 'throat'; 'gullet' of which the Sɓ form can be viewed as as a an irregular reflex.
Sɓ	muminó	
	(d)	(d): Possibly related to CB: * mèdò
Il	kukumino	
	(e)	(e): No known cognates.
Lj	cifuntwa	

- 500. to become satiated** This is widespread in Bantu. Cognates are found in many Zambian lects. Cognates include in Lozi kukula, Cewa kukuta and Bemba ukwikuta.  
P1 yúkuta PT: \*'-<sup>1</sup>kuta  
Vy yúkuta CB: \*-yíkut-  
Tk kúkuta  
I1 kúkuta (500) is similar to (90) above in terms of some  
Lj kúkuta lects having stems with /i/ before /k/ while the  
S1 kwíkuta others do not have this initial vowel. In both  
Sß kwííkuta cases it is P1, Vy and Tk that do not have this  
Tt kwííkúta vowel. The vowel in question is inherited from  
CB as can be seen in the reconstruction above.
- 501. bark of tree**
- (a) (a): a cognate can be found in Bemba, ulukwa.  
P1 kwa (501a) is a class 5 noun which shows alternation  
(mâywa) of initial consonant in class 6.  
Vy kwa PT: \*'-kwa  
(mâywa)  
Tk kwa  
Sß cikwá  
Tt cikwá
- (b) (b): No known cognates.  
I1 cipapu  
Lj cipapu
- (c) (c): No known cognates.  
S1 ciyula
- 502. whip**
- (a) (a): No known cognates.  
P1 múkwilo  
Vy múkwilo
- (b) (b): No known cognates  
Lj císwepu PT: \*'-swépu  
S1 císwepu Notice that the Tt reflex has /p/ instead of  
Tt ciwépu the expected /h/; see discussion in 3.1.7.
- (c) (c): No known cognates  
Sß cimé
- 503. cucumber**
- (a) (a): No known cognates.  
P1 kowa PT \*'-kowa  
(mayowa)  
Vy kowa  
(mayowa)  
Tk kowa  
I1 kowa

Lj kowa  
S1 kowa

**504. verandah**

(a) (a): No known cognates.  
P1 kozhe Although this is class 5 noun the initial  
(makozhe) consonant /k/ does not alternate with /γ/ in the  
Vy koce plural.  
(makoce) PT \* ` -koce  
Tk koce

(b)  
Sβ makozwana (b0: No known cognates.

**505. fireplace** No known cognates in other Zambian lects.  
P1 zhiko Note again the appearance of /k/ in the stem  
Vy ciko which has no alternation in the singular and  
Tk ciko plural (class 7/8) as in (504) above. It is,  
I1 ciko however, not surprising that we have /k/ in P1,  
Lj ciko Vy and Tk since in CB the reconstructed form is  
S1 ciko \*yíkò.  
Sβ cikó PT: \*'-iko  
Tt ciko CB: \*-yíkò

**506. to step  
over**

(a) (a): There are no known cognates of (506)  
P1 γútaaluγa  
Vy yutaaluγa  
Tk kutaaluka

(b) (b): This is homophonous with yusotoγa 'to jump'  
I1 kúsotoka (420a) above.  
Lj kúsotoka

**507. to prop**

(a) (a): No known cognates of (507).  
P1 γútaβa PT: \* ` -taβa  
Vy yútaβa  
Tk yútaβa  
I1 yútaβa

**508. reject**

(a) (a): No known cognates.  
P1 yutayata PT: \* ` -takata  
Vy yutayata  
I1 kutakata  
Tk kutakata

- (b) (b): cf. (462b) ' to refuse' above.
- Lj yukana  
S1 kukána  
Sß kukáána  
Tt kúkána
- 509. to chew**
- (a) (a): This is widespread in Bantu.  
Cognates include Mambwe ukutafuna, Lunda  
P1 yútahuna kutafunya and Maŋanja tafun  
Vy yútafuna  
Tk yútafuna PT: \* '-táswuna  
Sß kútáfuna CB: \* -tákUn  
Tt kutáfuna
- (b) (b): No known cognates.  
I1 kunyeela PT: \* '-nyeela  
Lj kunyeela  
S1 kunyeela
- 510. to start**
- (a) (a): a cognate can be found in Bemba, ukutalika.  
This is a dubious cognate of CB: \*taatik 'to  
P1 yútaliya begin'.  
Vy yútaliya  
Tk kútalika PT: \* '-talika
- (b) (b): No known cognates.  
I1 kukanka
- (c) (c): No known cognates  
Lj kútangila
- (d) (d): No known cognates  
S1 kúsanguna
- 511. to invite**
- (a) CB: \*támb ; \* támbik 'to call.'  
Cognates can be found in Luvale tambik.  
P1 yútamba PT: \* '-tamba; \*-táamba  
Vy yútamba  
Tk kútamba  
I1 kútamba  
Lj kútamba  
S1 kútamba  
Sß kutáámba
- 512. to receive**
- (a) (a): Cognates can be found in Kongo tambul,  
Luvale tambul and LubaKatanga tambul.  
P1 yútambula PT: \* '-tambula  
Vy yútambula  
Tk kútambula CB: \*-támbud-  
I1 kútambula

Lj kútambula  
S1 kútambula

513. to climb

(a) (a): No known cognates.  
P1 yútanta However compare CB: \*tánt 'cross (bridge)' but  
Vy yútanta it is doubtful that this is related to PT;  
Tk kutanta cf. Bemba umutanto, and Shona  
I1 kutanta danho, from CB \*-tántò 'bridge'

(b) (b): (b) has a cognate in Cewa, kukwela  
Lj kukwela PT: \*'-kwela  
S1 kukwela CB: \*-kùèd- 'go up'  
Sß kukwela Cognates can be found in Namwanga kwel  
Tt kukwela and Yao kwel.

514. to chase

(a) (a): No known cognates in other Zambian lects.  
P1 yútanda The form of Lj is clearly extended by the  
Vy yútanda addition of -anya. This is peculiar to this verb.  
Tk kútanda It is nevertheless similar to the 'reciprocal'  
I1 kútanda extension -an- although there is no reciprocal  
Lj kútandaanya meaning in (514a).  
CB: \*-tánd- 'to drive away.'  
PT \*'-tanda; \*'-tandaanya

515. to scatter;  
disarrange

(a) (a): There are no known cognates of (515).  
P1 yútapaula The stems here seem to have an extension {aul}  
Vy yútapuula In Vy, Tk and Lj we can see that there is vowel  
Tk yútapuula assimilation along the line of (446a) 'to  
I1 kútapaula search'. (515a) can be seen as a complex  
Lj kútapaula stem incorporating the 'repetitive'/'reversive'  
extension, ul, cf. (447a).  
PT: \*'-tapaula

(b) (b): No known cognates, but cf. a possible  
S1 kumwaya CB source \*-mùàg-

516. to collect  
firewood

(a) (a): No known cognates.  
P1 yúteba PT: \*'-teeβa.  
Vy yúteba CB: \*-tééb- 'gather (firewood)'.  
Tk kúteba (516a) has an odd reflex in P1, Vy, Tk in that  
we find /b/ instead of /β/.

(c)  
Lj kútyola  
Sl kutyola

517. to harvest  
(= 609)

(a) (a): There are no known cognates in Zambian  
lects.  
Pl yuteβula  
Vy yuteβula PT: \*` teeβula  
Tk kuteβula CB: \*-tèèb- 'gather (firewood)'.  
Il kuteβula If the PT form is related to the one of CB  
the following changes suggest themselves:  
reduction of /ee/ to /e/ and the addition of  
the extension ul.

(b) (b): Cf. Shona kusinza.  
Sβ kusiinza

(c) (c): No known cognates.  
Tt kuzifimbula

518. to listen

(a) (a): A cognate can be found in Shona teerera.  
Pl yúteelela PT: \*`-teelela  
Vy yúteelela  
Tk kúteelela  
Il kúteelela  
Lj kúteelela

(b) (b)/(c): cf. (69) above.  
Sl kúnyufwa

(c)  
Sβ kúzáwa  
Tt kusúwa

519. to pay tax A cognate of (519) can be found in Lozi kutela.

Pl yutela PT: \*`-tela  
Vy yutela  
Tk kutela  
Il kutela  
Lj kutela  
Sl kutela  
Sβ kutelá  
Tt kútéla

520. to cut (e.g. with  
a knife).

(a) (a): Cognates include Kaonde tend and Nsenga  
Pl yutenda tend.  
Vy yutenda CB: \*-tènd-.

Tk	kutenda	PT: *'-tenda
Il	kutenda	
Lj	kutenda	
S1	kutenda	
	(b)	(b) is homophonous with (25b) above.
Sß	kukosolá	
	(c)	(c) is homophonous with (25b) above.
Tt	kútema	
<b>521.</b>	<b>to become wet</b>	
	(a)	(a): No known cognates.
P1	γuteta	PT: *'-teta
Vy	γuteta	
Tk	γuteta	
	(b)	(b): cf. (22) above.
Il	kútontola	No known cognates.
Lj	kútontola	PT: *'-tontola
S1	kutontola	
Sß	kutontóla	
Tt	kutontóóla	
<b>522.</b>	<b>to pour</b>	The verb form of Vy and Tk can be taken as the simple unextended form. In the other lects the verb stem has the 'applied' extension il. However the extension does not contribute 'applied' meaning nor can it the extension be extracted from the stem. Cognates include Luchazi (K.13) and Kaonde (L.41) <u>tila</u>
P1	γutila	PT: *'-itila
Il	kutila	
Lj	kutila	
S1	kutila	
Vy	kutya	
Tk	kutya	
Sß	kwitilá	
Tt	kwitila	
<b>523.</b>	<b>to put load on head</b>	
	(a)	Cognates (523) are widespread and they include Luvale, Bemba and Yao all of which have the verb radical <u>twik</u> . See discussion at 3.2.6
P1	γútuka	PT: *'-twika
Vy	γútuka	CB: *-túík-
Tk	kútuka	
Il	kútwika	
Lj	kútwika	
S1	kútwika	
	(b)	(b): A putative cognate can be found in Luvale <u>tengem</u> . Compare also (458d) above, q.v.
Sß	kutengena	
Tt	kutengena	
<b>524.</b>	<b>to follow</b>	(see 305).

525. **to take** This is widespread in Bantu.  
**e. g. one** Cognates can be found in Kaonde tool, Bemba  
**rather** tool and Maŋanja tol.  
**than** CB: \*-tóód- 'pick up'  
**another** PT: \*'-toola
- P1 γútola  
Vy γútola  
Tk kútola  
I1 kútola  
Lj kútola  
S1 kútola  
Sβ kútóóla  
Tt kutóóla
526. **tobacco** No known cognates.  
PT: \*'-tómbwe
- P1 tómbwe  
Vy tombwe  
Tk tombwe  
I1 tómbwe  
Lj tómbwe  
S1 tómbwe  
Sβ tómbwe  
Tt tómbwe
527. **to insult**
- (a) (a): No known cognates. (a) would seem to  
P1 γútúyila incorporate the 'applicative' extension {I1} .  
Vy γútúyila One could then say that (a) is a reflex of CB  
\*-túk-. We could then related (a) and (b) if  
we extracted {I1} and {an}.
- (b) (b): (b) is cognate include Cewa, Lozi and  
Tk kútukana Lunda kutukana.  
I1 kútukana (b) has a 'reciprocal' extension {an}.  
Lj kútukana PT: \*'-tukana.  
S1 kútukana CB: \*-túk-.  
Sβ kútúkana  
Tt kutúkana
528. **to put down**  
**load**
- (a) (a): Cognates are found in Luvale tul, Bemba  
P1 γútula tuul and Yao tuul.  
Vy γútula PT: \*'-tula  
Tk kútula CB: \*-túúd-.  
I1 kútula  
Lj kútula  
S1 kútula
- (b) (b): cf. (221) above.  
Sβ kuβííka  
Tt kuβííka

529. **to send** (529) is widespread in Bantu.  
P1 γútuma Cognates include Bemba, Luvale and Yao tum  
Vy γútuma PT: \*'-tuma  
Tk kútuma CB: \*-túm-  
I1 kútuma  
Lj kútuma  
S1 kútuma  
Sβ kutúma  
Tt kutúma
530. **to thread** (532) is homophonous with (132b) above.  
**needle** CB: \*-túng- 'to thread a string.'  
P1 γútunga PT: \*'-tunga  
Vy γútunga Cognates include Bemba, Yao and Luganda tung.  
Tk kútunga  
I1 kútunga  
Lj kútunga  
S1 kútunga  
Sβ kútunga  
Tt kútunga
531. **to break** Cognates can be found in Cewa , kutyola.  
**(e. g. stick)** Here /t/ correspond to /c/. This is the only  
P1 γútyola item with this kind of correspondence where /t/  
Vy γútyola corresponds to /c/ in Sβ and Tt. Nevertheless  
Tk kútyola we can reasonably say that it is /t/  
I1 kútyola that palatalized to /c/ before /y/.  
Lj kutyola PT: \*'-tyola  
S1 kutyola  
Sβ kucoola  
Tt kucóóla
532. **to pound** Cognates can be found in Kaonde and Lunda  
**(in mortar)** kutwa; Yao and Bemba tw  
P1 γútwá PT: \*'twá  
Vy γútwá CB \*tú.  
Tk kútwá  
I1 kútwá  
Lj kútwá  
S1 kútwá  
Sβ kutwá  
Tt kútwá
533. **to undo** (533): No known cognates.  
**(e. g. sewing)**  
  
(a) The correspondence /n/ and /l/ is parallel to  
P1 γúdaβununa (333a) and (344a) above. This is not a regular  
Vy γúdaβulula present case the cognates incorporate the  
extended form by the reversive extension  
{ulul}. It has an alternant unun if the final  
consonant of the stem is a nasal consonant.  
Since this alternation is general the form of P1  
in (a) cannot be accounted for at the moment.  
  
(b)

Tk	kúzambununa	See discussion in 3.1.2 where discuss similar
Il	kúzambulula	cases.
	(c)	
Lj	kúpombolola	
Sl	kúpombolola	
<b>534.</b>	<b>to take a short cut</b>	There are no known cognates of (536).
	(a)	
P1	γúdaβula	
Vy	γúdaβula	
	(b)	(b): (b) is homophonous with (25d; 520b) above.
Tk	kúkosola	PT * '-kosola
Il	kúkosola	
Lj	kúkosola	
<b>535.</b>	<b>to stretch out (e.g. wire)</b>	There are no known cognates of (535) outside the Tonga lects. However, for (b) see (534) above. All the items except (e) would seem to incorporate the reversive extension {U1U1}.
	(a)	(a): No known cognates.
P1	γúdadamuna	
	(b)	(b): (535b) is homophonous with (534a) above.
Vy	γúdaβulula	
Tk	kúdaβulula	
	(c)	(c): (535c) has the reversive extension. The unextended stem is <u>hhung</u> which is homophonous (354a).
Il	kúhhungulula	
	(d)	(d): No known cognates.
Lj	kutandaβula	
	(e)	(e): No known cognates.
Sl	koolola	
<b>536.</b>	<b>duck</b>	
	(a)	(a): no known cognates outside the Tonga lects. This is class 5 noun but /d/ does not alternate with l in the plural (class 6 <u>ma</u> ).
P1	dada	
	(mádada)	
Vy	dada	
	(mádada)	
Tk	dada	
	(mádada)	
	(b)	(b): A cognate can be found in Bemba <u>iβata</u> .
Il	iβata	PT: *'-βata
Lj	liβata	

S1 lɪβata  
Sβ ɪβata  
Tt ɪβata

537. to talk in a quivering voice  
No known cognates of (539).

P1 γudedema  
Vy γudedema

538. drought

(a) (a): No known cognates. The forms of P1 and Vy incorporate the prefix of class 5, and there is no alternation in the plural.  
P1 danga  
Vy danga  
I1 lulanga  
PT: \*'-langa

(b) (b); No known cognates. In P1, (b) has the the equivalent nyóta 'thirst.'  
Lj nyotwa

539. to tickle

(a) (a): No known cognates.  
P1 γudeyeenya

(b) (b): A cognate is found in Bemba ukutekunya.  
Vy γuteyunya  
Tk kutekunya  
I1 kutekunya  
Lj kutekunya  
S1 kutekunya  
PT: \*'-tekunya  
(a) and (b) could still be related although there is a difference in the second vowel of the stem.

540. to fall from seat

(a) (a): No known cognates.  
P1 γúdenuya  
Vy γúdeluya  
For the correspondence /n/ and /l/, see parallels at (333a; 344a; 535) above.  
See 3.1.2.1.

(b) (b): (b) is homophonous with (40) above.  
Tk kuwa  
I1 kuwa  
Lj kuwa  
S1 kuwa  
Sβ kuwá  
Tt kuwá  
CB: \*'-gû  
PT: \*'-wa

541. type of trap

(a) (a): Cognates can be found in Bemba ɪliβa,  
P1 diβa  
Kaonde ciliβa and Yao lililiβa. In the Tonga

	(mádiβa)	lects except Lj and S1 the noun is in class 5 in
Vy	diβa	the singular but /d/ does not alternate with
	(mádiβa)	/l/ in plural, class 6.
Tk	diβa	CB: *dibà 'falling trap'
	(mádiβa)	PT: *'-liβa
Il	iliβa	
	(máliβa)	
Lj	múliβa	
S1	múliβa	
<b>542.</b>	<b>to be bent</b>	
	(e.g. a stick)	
	(a)	(a): No are known cognates.
Pl	γúdiimana	PT: *'-diimana.
Vy	γúdiimana	
Tk	kúdiimana	
	(b)	CB: *-cèndam- 'become leaning'
Il	kusendama	Cognates include: Nsenga <u>sendam</u> , Luvale <u>sendam</u> , and Bemba <u>sēndam</u> .
	(c)	(c): Cognates include: Mañanja and Bemba, <u>pet</u>
Lj	kupetama	The form of PT and its reflexes appears to have
S1	kupetama	an extension in the form of the stative <u>am</u> ;
Sβ	kupetama	However this extension is no longer separable
Tt	kupetama	from the stem.
		PT * '-petama
		CB: *-pèt- 'bend'
<b>543.</b>	<b>to collapse</b>	
	(e.g. a building)	
	(a)	(a): No known cognates.
Pl	γudiliya	
	(b)	(b): A cognate can be found in Luyana <u>mw</u> .
Vy	γumwaiya	The ending in <u>iy/ik</u> in all the
Tk	kumwaika	lects calls to mind the ' <u>neuter/potential</u> '
Il	kumwaika	extension. The simpler verb form <u>mway</u> exists,
		(b) is is synonymous with (330b; 591a).
		PT: * '-mwaika
		CB: * -mùäg-
	(c)	(c): cf. (40) above.
Lj	kuwa	
S1	kuwa	
Sβ	kuwá	
Tt	kuwá	
<b>544.</b>	<b>funeral</b>	(544) is derived from the verb <u>lil</u> .

(a) (a): The forms of Pl, Vy and Tk all begin with  
Pl dilwe /d/ as opposed to /l/ in Il. This is a regular  
(madilwe) correspondence. (a) is a classes 5/6 noun but  
Vy dilwe in Pl, Vy and Tk there is no alternation in the  
(madilwe) initial consonant of the stem. (544a) like  
Tk dilwe (544b) below is related to the verb kulila,  
(madilwe) 'to cry'. The present noun has passive  
Il ililwe incorporates the passive extension w followed  
(malilwe) final vowel e, which may be the perfective  
suffix. There are no known cognates of (544a).  
PT \*'-lilwe.  
See 3.1.11.2 for the discussion of /d/ : /l/.

(b) (b): Cognates are found in Bemba amalilo;  
Lj cililo Maŋanja, malilo and Yao, maliro.  
Sl cililo PT: \*'-lolo  
Sß cililo CB: \*'-dilò 'mourning'  
Tt cililo

545. to stamp There are no known cognates of (545).

(a)  
Pl yudinta

(b) (b): The form of Il incorporates a 'neuter  
Vy yusimba extension ik.  
Tk yusimba PT: \*'-simba  
Il kushimbika

546. a pit

(a) (a): Cognates are found in Bemba itjilindi.  
Pl dindi PT: \*'-lindi  
(hhilindi) CB: \*'-dindi.  
Vy mülindi The item of Pl involves class 5 prefix.  
Tk mülindi  
Il ilindi  
Lj cílindi  
Sl cílindi

(b) (b): cf. (465b) 'waterhole', above  
Sß mukalo  
Tt mukalo

547. to light  
(e. g.  
cigarette)

(a) (a): No known cognates  
Pl yudoneya PT: \*'-doneka.  
Vy yudomeya  
Tk kudomeka

- (b) (b): cf. (263) above.  
I1 kuzakisha The verb here is in the causative form with  
Sß kuzákísha the extension ish. In (c) the extension is the  
Tt kúzákísha vowel i. For both (b) and (c) the simple verb  
form of (547) is zak and yak, respectively.  
(c) PT: \*'-yaka: cf. (441a) above.  
Lj kuyasha CB: \*-yak- 'to be lit.'  
S1 kuyasha
- 548. to pierce**
- (a) (a): No known cognates.  
P1 yúdonkola  
Vy yúdonkola
- (b) (b): a cognate can be found in Bemba ukutula 'to  
Tk kútulula bore' and Nsenga tul.  
I1 kútulula PT: \*'-tulula  
Lj kútulula CB: \*-tud-.  
S1 kútulula In PT and the Tonga lects the stem has a  
repetitive extension ul which has now become  
part of the stem.
- 549. to poke**
- (a) (a): No known cognates.  
P1 yúdonga
- (b) CB: \*-cok-; \*-còkud- 'incite'; 'poke in'.  
I1 kucoka Cognates are found in Luvale sok; Kaonde and  
Lj kucokola Bemba sokol.
- 550. to doubt** (550): There are no known cognates.
- (a)  
P1 yudooneya
- (b) (b): This incorporates the negative marker ta  
Vy yutasyoma The verb stem itself is the same as (430) 'to  
Tk kutashoma believe.', q. v.  
I1 kutashoma  
Lj kutashoma  
S1 kutashoma  
Sß kutashoma  
Tt kutashoma
- 551. perhaps**
- (a) (a): No known cognates.  
P1 doono
- (b) (b): No known cognates.  
Vy ántéla PT: \*ántéla

Tk	ántéla	In Pl (b) exists freely.
Il	ántéla	
	(c)	(c): No known cognates.
Lj	sómbi	
Sl	sombi	
<b>552.</b>	<b>a drop of water</b>	(552): There are no known cognates.
	(a)	(a): No known cognates.
Pl	dosi	PT * '-losi
	(mádosi)	This is a class 5 noun. Unlike other class 5
Vy	dosi	nouns (552a) /d/ does not have the expected
	(mádosi)	alternant /l/ in class 6.
Tk	dosi	
	(mádosi)	
	(b)	(b): No known cognates. The stem of Lj begins
Il	ilondo	in nd. This stem is related to that of Il
Lj	mundondo	although we are unable to account for
		nasalisation in Lj at the moment.
<b>553.</b>	<b>to be expensive</b>	
		(a): No known cognates outside the Tonga lects.
Pl	γúdula	
Vy	γúdula	
Tk	kúdula	
<b>554.</b>	<b>moisture</b>	
	(a)	(a): No known cognates.
Pl	múdúma	
Vy	múdúmu	
Tk	múdúmu	
	(b)	(b): No known cognates.
Lj	mushu	
<b>555.</b>	<b>to visit repeatedly</b>	
	(a)	(a): No known cognates.
Pl	γudwaβa	
Vy	γudwaβa	
	(b)	(b): (b) is homophonous with (428) above.
Tk	kuswaya	No known cognates.
Il	kuswaya	PT: * '-swaya
Lj	kuswaya	
Sl	kuswaya	

556. **whistle( an instrument** (556): No known cognates.
- (a)
- P1 lúdwéβa  
Vy lúdwéβa  
Tk lúdwéβa
557. **to press down** (557): No known cognates.
- (a) (a): No known cognates.
- P1 yudyaamina  
Vy yudyaamina
- (b) (b): No known cognates.  
The two verbs here differ in the endings.  
Although ail and il seem to be verbal extensions we cannot extract them from the stem. Consequently we cannot arrive what these extensions mean.
- Il kúshindaila  
Lj kúshindila
558. **knot**
- (a) (a): No known cognates.
- P1 zhiga
- (b) (b): No known cognates.  
PT: \*'-koto
- Vy cíyoto  
S1 kákoto  
Sβ ikóto  
Tk cíkoto
- (c) (c): No known cognates.
- Lj cínkutu
559. **a tin (container)**
- (a) (a): Cognates include Shona and Ndebele gaba  
PT: ʾgaba.  
(559) is likely to be a loanword.
- P1 zhígaba  
Vy cígaba  
Tk cígaba  
Il cígaba  
Sβ kágába  
S1 cíkapa
- (b) (b): Cognates can be found in Nyanja and Bemba, cikopo.
- Lj cikopo
- (c) (c): No known cognates.
- Tt cikála

560. to be stuck

No known cognates.

P1 γύγαβα  
Vy γύγαβα

561. a species  
of fruit

No known cognates.

P1 gaβo  
Vy gaβo

562. to hammer  
(to nail  
down)

(a)  
P1 γύγαγαιλα  
Tk κύγαγαιλα

(a): No known cognates. Although the verb stems here suggest an extension in the form of {ail} it is clear what the extension is. It has a superficial resemblance to the applied extension.

(b)  
Vy γύγανκαμινά  
Il κύκάνκαμινά

(b): No known cognates. The two verbs in (b) are related although they differ in that the form of has an intrusive /w/. A parallel here can be found in item (523a) above.

(c)  
Lj kupopa  
Sl kupopa

(c): No known cognates.

(d)  
Sβ kukáβa

(d): refer to (28b) above.

563. to go  
towards

(a)  
P1 γύγάμα  
Vy γύγάμα  
Tk κύγάμα

(a): No known cognates.  
PT: \*'-gama.

(b)  
Il kuya  
Lj kuya  
Sl kuya

(b): see (439a;c) above.  
PT: \*'-ya

(c)  
Sβ kuyéénda

(c): Refer to (178)

(d)  
Tt kwíngila

(d): cf. (595) below.

564 a patch

(a) (a): Cognates can be found in Nyanja, Ndebele  
Pl zhigamba and Shona gamba. The correspondence /g/ (Pl/Tk)  
Sl cikamba and /k/ (Lj and Sl) is regular. Generally, Il  
Sß cikámba does not have nonprenasalized /g/. Nevertheless  
Tt cikámba in the present case we can see a cognate of  
Tk cigamba nonprenasalized /g/. This is not an isolated  
Il cigamba case as nonprenasalized /g/ is found in cognates  
which are possible loans or refer to cultural  
items of recent acquisition in the Il culture;  
see discussion at 3.1.12.1

(b) (b): The two nouns here are related although  
Vy címámo they differ in the final vowel. This noun is  
Lj címámi derived from the verb kumama. The final vowel  
in the nouns are derivative morphemes.

565 to hobble  
with a stick

(a) (a): No known cognates.  
Pl yugankila

(b) (b): No known cognates.  
Vy yusunkuta PT: \*'-sunkuta  
Il kusunkuta  
Sl kusunkuta  
Tk kusunkuta  
Lj kusunkuta

(c) (c): No known cognates. Although (c) has a  
Sß kucúúnkutá resemblance with (b) the correspondence the  
difference in the initial position of the radical  
cannot be accounted for at the moment since it  
has no parallel.

566. to grind  
(with  
a mill)

(566): Cognates include Nyanja, Shona and  
Ndebele. In Il and Tt the cognates have the non  
prenasalized /g/ instead of the expected /k/.  
Pl yugaya (566) refers to a cultural item foreign to these  
Vy yugaya lects and may account for the the consonant /g/.  
Tk kugaya A discussion of this can be found in 3.1.12.1.  
Il kugaya Cognates with nonprenasalized /g/ in Il can also  
Lj kukaya be found in 564 and 567.  
Sl kukaya  
Sß kúgáya  
Tt kugáya

567. grinding  
mill

The comments advanced for (566) apply to the  
Pl zhigayo present case as well. In addition however we  
Vy cigayo can see that Il and Sl have /g/ instead of /k/.  
This is parallel to (564) and (566) given above

Tk cigayo  
I1 cigayo  
Lj cikayo  
S1 cigayo  
Sß cigáya  
Tt cikayo

**568. to cut  
hair**

(a) (a): A cognate can be found in Nyanja kugela  
P1 yúgela  
Vy yúgela  
Tk kúgela  
Tt kúkéla

(b) (b): No known cognates. It is possible that (b)  
I1 kushiza is the I1 rendering of the English scissors.

(c) (c): No known cognates.  
Lj kúcesa  
S1 kúcesa

(d) (d): No known cognates.  
Sß kugúnka

**569. scissors**

(a) (a): This shares the same stem as (568a).  
P1 yágéle  
Vy yágéle  
Tk cigéle  
Sß cikéle  
Tt cikéle

(b) (b): It is possible also that (b) derived from  
I1 ishíza English 'scissors' as (568b) above.

(c) (c): This is also likely to be derived from  
Lj lishísala the English 'scissors'.  
S1 císála

**570. trench**

(a) (a): no known cognates. The cognates of Sß and  
P1 mugelo Tt have /ng/ corresponding to /g/ in P1 and Vy.  
Vy mugelo The cognates of Sß and Tt incorporate two  
Sß múngélo prefixes, mu (class 3) and {N} (class 9).  
Tt múngélo Cf. 307a.

(b) (b): This is the same as (307a) above. In the  
Tk múfólo present case S1 has a double prefix, ka which is  
Lj múfólo diminitive prefix of class 12 and mu the class 3  
prefix. This kind of affixation is usually

S1	kámúfólo	associated with locative nouns.
I1	múfólo	PT: *'-swólò
571.	<b>knee</b>	
	(a)	(a): There are no known cognates of (571).
P1	gondo	
	(b)	(b): No known cognates.
Vy	zwi	PT: *'-zwi
Tk	zwi	
Tt	izwi	
	(c)	(c): A verb exists in P1 <u>yununga</u> 'to join'. This is likely to be the source of (c) here. The vowel o was added to the verb stem <u>nung</u> to derive the noun. This is a regular process using this vowel.
I1	inungo	
Lj	linungo	
S1	linungo	
	(d)	(d): No known cognates.
Sß	inwéle	
572.	<b>a well</b>	
	(a)	(a); a cognate exists in Nyanja, <u>mugodi</u> which generally refers to a big hole in the ground. The correspondence /t/ in P1 and /d/ in Tk is skewed.
P1	múgoti	
Tk	múgodi	
	(b)	(b): This is the same as 'waterhole'. See (465a) above, q. v.
Vy	mukalo	
I1	mukalo	
Lj	mukalo	
S1	mukalo	
	(c)	(c): This is restricted. Cognates include Matengo <u>liliba</u> and Rundi <u>iriba</u> . However the CB form which has a wider distribution is *díbà. But this cannot be the source for (572c) because of tone and because *dI has the reflex /z/ in Sß and Tt. CB: *-dibà 'pool.'
Sß	ciliba	
Tt	ciliba	
573.	<b>to peck (as 'woodpecker')</b>	(573). All items here can be viewed as onomatopoeic
	(a)	(a): No known cognates.
P1	γugomagoma	
	(b)	(b): No known cognates.
Vy	γugogomona	
Tk	kugogomona	

- (c) (c): No known cognates. Cf. (25b) above.  
I1 kútematema
- (d) (d): No known cognates. (d) might incorporate  
Lj kupopoola the extension {aul} as discussed at item (446a).  
S1 kupopola
- (e) (e): No known cognates.  
Sß kutótóóla
- 574. to remove**
- (a) a): No known cognates. All the verbs  
P1 yúghya incorporate a causative extension. This can be  
Vy yúghya seen in P1 in which there exists the verb yúghya  
Tk kúghya 'to move out'. Before the extension causative  
I1 kúghya {y}, /y/ alternates with /hy/. In the other  
Lj kúghya lects the final consonant is expected to be /k/  
and it is this which has the alternant /sy/ (in  
Vy, Tk) and /sh/ (in I1, Lj).
- (b) (b): a cognate of (b) can be found in Bemba,  
S1 kufumya ukufumya. The verb form is in the causative.  
The extension is i which becomes y when the  
verbal ending a is added.
- (c) (c): this is the causative of the verb kuzwa 'to  
Sß kuzwísa go away', cf. (341). The causative extension  
Tt kuzwísa is is.
- 575. to touch**
- (a) (a): Cognates include: Kwanyama kum and Bemba  
P1 yúguma kumy. The verb forms in S1 and Lj are in the  
Vy yúguma causative with i as the causative extension. y  
Tk kúguma arises as described at (574b).  
S1 kúkúmya  
Lj kúkúmya
- (b) (b): (b) is homophonous with (74b) 'to hold',  
I1 kúkwata q. v.  
Sß kúkwáta PT: \* '-kwata  
Tt kúkwata CB: \* -kúát 'seize'.
- 576. distant noise** There are no known cognates of (576).  
All these nouns are likely to be onomatopoeic.
- (a)  
P1 múgutú
- (b) (b): This is lexically related to 339a above.  
Vy muzumo



(b) (b): This exists in Pl also as 'shoulder  
Vy kuyo blade'.  
Tk kuko

(c) (c): Cognates can be found in Luyana ilfuti  
Il cíhuNhi and Maṇanja phuzi.

Lj cífúnshi CB: \*-tÚÚdĩ

Sl cífúnshi PT: #'-swúnsyl

(d) (d): No known cognates.

Sß ihheta

Tt ihheta

580. **ululations** (580): No known cognates. These nouns are all  
onomatopoeic.

(a) (a): No known cognates.

Pl nguluulu

Vy nguluulu

Tk nguluulu

581. **strength**

(a) (a): Cognates include: Ngazija (Kenya), nguvu;  
Pl nguzu Hehe (Comoro Islands): ngufu; Lubakasi, nulu.  
Vy nguzu In Sl we have /f/ corresponding to /z/ in some  
Tk nguzu lects and to /s/ in the others. This is not  
Tt ingúzu regular. We would have expected /s/ in in Sl as  
Lj nkusu is the case in Lj. The prefix cannot be separate  
Sl ngufu from the stem.

PT \*-guzu

CB: \*-gùdÛ

(b) (b): No known cognates.

Il insana

(c) (c): This is a verb form which literally  
Sß kukola means 'to have strength' in this lect.

582. **blanket**

(a) (a): This is probably related to the CB form  
Pl nguṣo \*gùbò 'cloth', which is wide spread in Bantu.  
Vy nguṣo This CB meaning was quoted by Guthrie for Il. In  
Tk nguṣo Pl CB \*gùbò refers to 'cloth for carrying  
Il nguṣo child on the back'. The prefix cannot be  
Sß inguṣó separated from the stem.  
Tt ingúṣo PT \*guṣo.

(b) (b): No known cognates. This noun may have two  
Lj líndúúmba PT prefixes: class 5 li and Classes  
9 and 10 N.

(c) (c): No known cognates.  
Sl likumbeesa

583. pig

(a) (a): Cognates: Bemba inguluβe; Yao liguluβe; and Makua ikuluwe. We can see here that the cognate of Tt has /k/ stem initially although the noun is in classes 9 and 10. this contrasts with (581a, and (582a). In Pl, Vy, Tk and Il the prefix cannot be separated from the stem. PT \*guluβe.

Pl nguluβe  
Vy nguluβe  
Tk nguluβe  
Il nguluβe  
Sβ cigúlúβe  
Tt inkuluβe

(b) (b): No known cognates.

Lj múnyémbwa

(c) (c): a cognate can be found in Cewa, nkumba. (c) is a class 9/10 noun and the prefix cannot be separed from the stem.

Sl nkúmba

584. house

(a) (584) is cognate with Bemba , inanda; Rundi inanda and Bemba inanda. The noun is in class 9(prefix {N} ) in singular and in class 6 in the plural, (prefix ma). As we can see in some of the lects the prefix in the singular is the velar nasal {ŋ}.  
PT: \*wánda  
CB: \*gàndá

Pl ηánda  
(maanda)  
Tk ηánda  
(máánda)  
Il ηánda  
(máánda)  
Lj ηánda  
(maanda)  
Sl ηánda  
(maánda)

(b) (b): (b) may be related to (a) above. Perhaps the initial vowel of the stem was lost in Vy. The singular of this noun is class 9 and the prefix cannot be separated from the stem.

Vy nda  
(manda)

(c) (c): A cognate can be found in Kaonde, namely, inzubo

Sβ izúβo  
Tt izuβo

585. scotchcart No known cognates.

(a) (a): The noun is classes 9/10. Although (585) is in classes 9 and 10, the prefix, in this case /ŋ/, cannot be separated from the stem ola. PT \*wola.

Pl ηóla  
Vy ηóla  
Tk ηóla  
Il ηóla  
Lj ηóla  
Sl ηóla

586. to finish

Cognates include Luvale and Kongo man

Pl γumana  
Vy γumana  
Tk kumana  
Il kumana

PT: \*'-mana  
CB: \*-màn-

Lj kumana  
S1 kumana  
Sβ kumaná  
Tt kumāna

587. to daub

(a) (a): Cognates include Mbunda, Yao and Makua  
Pl γumata -mat-  
CB.: \*-mât-

(b) (b): No known cognates: cf. (430) above. The  
Vy γúsingulula cognates of Sβ and Tt have the unextended verb  
Tk kúsingulula radical.  
I1 kúshingulula PT: \*'-singulula  
Lj kúshingulula  
S1 kúshingulula  
Sβ kusíngula  
Tt kusingúla

588. dew This is widespread in Bantu.  
Pl múme Cognates include Luvale mume and Bemba umume.  
Vy múme PT: \*'-mé  
Tk múme CB: \*-mé  
I1 lúmé  
Lj múmé  
S1 múmé  
Sβ múmé  
Tt múmé

589. to swallow

(a) (a): Cognates include Lega (Congo): men.  
Pl γumena PT: \*'mèn  
Vy γumena CB: \*-mèd-  
Tk kumena

(b) Although (a) and (b) have a different vowel the  
I1 kumina two forms can be said to be related and that (b)  
Lj kumina represents a mutated reflex of PT \*men.  
Sβ kumina Cognates include Bemba ukumina, Luvale  
Tt kumina kumina.  
CB: \*-mín.

590. to become  
pregnant

Pl γúmita Cognates include Bemba and Luvale mit.  
Vy γúmita The cognates of Pl, Vy and Tk lost the initial  
Tk kúmita vowel /i/ of the stem. This is a general  
I1 kwímita in these lects. see 3.1.9.1 and 3.1.10.2  
Lj kúimita PT \*'-imita  
S1 kúimita CB \*-yímit-  
Sβ kwíimita  
Tt kúilimita

591. to scatter

	(a)	(a): (a) is homophonous with (330b), q. v.
P1	ɣumwaya	PT: *'-mwaya
Vy	ɣumwaya	CB: * -mùàg-
Tk	kumwaya	
Lj	kumwaya	
S1	kumwaya	

592 to discard (592): No known cognates.

	(a)	PT: *'-sowa
P1	ɣusowa	
Vy	ɣusowa	
Tk	kusowa	
Il	kusowa	
Lj	kusowa	
S1	kusowa	

	(b)	(b): (b) is homophonous with (170d), q. v
Sβ	kuzíínda	

	(c)	(c): No known cognates.
Tt	kusónza	

593 to smoke

	(a)	(a): No known cognates.
P1	ɣuhweβa	PT: *'-sweβa
Vy	ɣufweβa	
Tk	kufweβa	
Il	kuhweβa	
Sβ	kufweβa	
Tt	kufwééβa	

	(b)	(b): Cognates can be found in Cewa and Bemba <u>kupepa</u> and <u>ukupeepa</u> .
Lj	kupepa	CB: *'-pèèp-
S1	kupepa	

594 cart (594): No known cognates.

		PT: *'-kóci
P1	zhíkóci	
Vy	cíkóci	
Tk	cíkóci	
Il	cíkóci	
Lj	cíkóci	
S1	cíkóci	

595 to enter

	(a)	(a): (a) is widespread in Bantu. Cognates include Kaonde and Bemba <u>ingil</u> .
P1	ɣunjila	CB: *'-yíngid-
Vy	ɣunjila	PT: *'-ingila
Tk	kúnjila	

Il kwingila The cognates of Pl, Vy and Tk lost the initial  
Lj kwingila just as in (590) above.  
Sl kwingila  
Sß kwíingila  
Tt kwíingila

596 to preach

(596): Cognates include Shona and Ndebele

Pl yucumaila cumail  
Vy yucumaila PT: \*'-cumaila.  
Tk kucumaila (596a) is culturally a loan word. See 3.1.13.1  
Il kucumaila

597 doctor Cognates include Nsenga ɲanga and Bemba inānga.

Pl muɲanga PT: \*'ɲanga  
Vy muɲanga CB: \*'-gàngà  
Tk muɲanga In Il, Lj, Sl, Sß and Tt the prefix /ɲ/ cannot be  
Il muɲanga separated from the stem.  
Lj ɲanga  
Sl ɲanga  
Sß ɲangá  
Tt íɲánga

598 hoe

(a) (a): No known cognates.  
Pl jamba PT: \*'-yamba  
(máamba) The stem in Pl, Vy and Tk incorporate class 5  
Vy jamba prefix. This can be seen from the form the stem  
(máamba) takes in the plural.  
Tk jamba  
(máamba)  
Il iyamba  
(máamba)

(b) (b): A cognate can be found in Bemba, ulukasu.  
Lj lukasu  
Sl lukasu

599 to hurry  
up

(a) (a): No known cognates.  
Pl yúhwambaana PT: \*'-swambaana  
Vy yúfwambaana  
Tk kúfwambaana  
Il kúfwambaana  
(b) (b): cf. (178) above. The verb in the present  
Lj kweendesha case has the intensive extension {ish}.  
Sl kweendesha

- 600 to leave** (600): Cognates include Lozi and Cewa which both have kusiya.  
Pl yúsiya PT: \*'-siya  
Vy yúsiya CB: \*-tíŋ-; \*-cíŋ-  
Tk kúsiya  
Il kúshiya  
Lj kúshiya  
Sl kúshiya  
Sß kusiya  
Tt kúsiya
- 601 to cut up meat in strips**
- (a) (a): No known cognates.  
Pl yúsama PT \*'-sama  
Vy yúsama  
Il kúsama
- (b) (b): No known cognates  
Sl kútimbula
- (c) (c): A cognate is found in Lozi kußeka.  
Sß kúßéka  
Tt kúßéka
- 602 to sharpen**
- (a)  
Pl yúywenga  
Tk yúkwenga
- (b) (b): (602b) is homophonous with (310) above: 'to blacksmith', q. v.  
Tt kúfula PT \*'-swula  
Il kúhula CB \*-túd-  
Lj kúfula  
Sl kúfula  
Sß kúfula
- 603 saliva**
- (a) (a): (a) is widespread in Bantu languages.  
Pl máte Cognates can be found in Lozi mati; Ndebele and  
Vy máte Bemba amate  
Tk máte PT: \*'-tai  
Il máte CB: \*-té  
Lj máte  
Tt máte
- (b) (b): A cognate of (b) can be found in Nyika amati  
Sß mati 'spittle'. (b) is restricted in Bantu.  
CB: \*-tí

(c)  
SI máta (c): There are no known cognates of the form of (c) in other Zambian lects but cognates can be found in Shona and Mambwe.  
CB: \*-tá  
(603ac) may all be from the same source since they only differ in the vowel. (a) and (b) may be easier to account for since we can say that the vowel /i/ in (b) is the result of raising of original \*i. It is more difficult to relate (c) to either (a) or (b).

604 tears

(a)  
Pl míhyohhi Cognates include Mbunda mifodi, Maŋanja ŋsozi and Nkoya míhothí.  
Vy mísozi PT: \*'-syozyi.  
Tk mísozi CB \*-códĩ; \*-yícodĩ.  
Il mísohhi  
Lj mísoshi  
Sl mísoshi  
Tt zísóózi

(b)  
Sß myooko (b): A cognate of (b) is found in Lozi myooko.

605 beard

Pl cilezu This is quite widespread in Bantu. Cognates can be found in Nkoya, mulevu; Mwenyi, omúlébu; Lozi, Vy cilezu mulelu; Shona, ndebyu; Ndebele, isilevu  
Tk cilezu Bemba umwefu. The four way correspondence z:hh:f:l is not regular. See 3.1.20.2.  
Il mulehhu PT: \*'-lezu.  
Lj mulefu CB: \*-dèdÛ; \*-yèdÛ.  
Sl mulefu  
Sß mulelu  
Tt mulézu

606 cooking stones

(a)  
Pl máhyuwa (a): There are no known cognates of 606a. The correspondence hy:s:f is also not regular. In Vy and Tk we expected to find /sy/ corresponding to /hy/ in Pl. The present correspondence is therefore irregular.  
Vy másuwa  
Tk másuwa  
Il máhuwa  
Lj máfuwa  
Sl máfuwa  
This is also true about Il where we have /h/ instead of /sh/. All the items here are not easy to relate to one another.  
PT: \*-syuwa.

(b)  
Sß masehó (b): A cognate of 606b can be found in Lozi, maseho.  
Tt máseho

607 soup

	(a)	(a): No known cognates.
P1	músinza	PT: *'-sinza
Vy	músinza	
Tk	músinza	
Il	múshinza	
Sß	musiinza	
Tt	músinza	
	(b)	
Lj	músúshi	
Sl	músúshi	
<b>608</b>	<b>morning star</b>	
	(a)	(a): No known cognates of 608a. However in compare
P1	ntánda	CB: *-tándà 'star' which is restricted in Bantu. A
Vy	ntánda	reflex can be found in Bemba <u>ulutanda</u> .
Tt	ntánda	PT: *'-tanda
Il	ntánda	CB: *-tándá 'star'
Lj	ntánda	
Sl	ntánda	
	(b)	(b): A cognate of 608b can be found in Lozi, <u>lilungwe</u>
Sß	lilungwe	
Tt	ilungwe	
<b>609</b>	<b>to harvest see (517).</b>	
<b>610</b>	<b>help</b>	(610): Cf. (577e) above.
	(a)	(a): No known cognates
P1	lúgwahyo	Cf. (577a) above.
Vy	lúgwasyo	
Tk	lúgwasyo	
	(b)	(b): No known cognates.
Lj	lúcafwilisho	
	(c)	(c): No known cognates. (c) and (b) may be related
Sl	lúnyafwilisho	but we cannot account for the difference in the
		initial consonant of the respective stems.
	(c)	(c): Cognates include Lozi <u>tuso</u> 'help'; cf. (577)
Sß	túsa	
Tt	túsa	
<b>611</b>	<b>to bet</b>	
	(a)	(a): No known cognates. The form of Tt has /z/ in
P1	yubeja	C <sub>2</sub> position. This creates an irregular
Tk	yubeja	correspondence with /j/ and /c/. (611a) is likely to
Il	kubeja	be a loan.
Sl	kußeca	

Sß	kubéca	
Tt	kubéza	
	(b)	(b): (b) incorporates the reflexive pronoun <u>li</u>
Vy	γúlidundiizya	(b) literally means 'to praise oneself'.
	(c)	(c): No known cognates.
Lj	kutika	
612	<b>to snore</b>	
	(a)	(a): Attention is drawn to the resemblance with
Pl	γuhhuluma	(d) below in the initial position.
Il	kuhhuluma	
	(b)	(b): This is homophonous with (139a), q. v.
Tk	koona	A cognate of (b) are found in Mwenyi, <u>kúóna</u> and
Tt	kuóna	lozi <u>kohona</u> . A comparison here can be made with
		(139) above 'sleep' which is rendered in the form
		of Tk.
	(c)	(c): (c) has a dubious relationship with (b) but no
Sß	kuhhóóna	clear relationship can be established unless we were
		to assume /hh/ was a glottal stop.
	(d)	(d): This together with (a) can be viewed as
Lj	kukuluma	onomatopoeia.
Sl	kukuluma	
613	<b>to collect</b>	
	(a)	Cognates can be found in Luvale <u>kung</u>
Pl	γúyunga	and Lunda <u>kuun</u> . It is tempting to think that (a)
Vy	γúyunga	and (b) are related since they only significantly
Tt	kúkunganya	differ in the initial consonant. But since /β/; /k/
		are not known correspondences in the Tonga lects it
	(b)	is not easy to establish the relationship. Except
Tk	kúßungika	for the forms of Pl and Vy all the other reflexes
Il	kúßunjika	incorporate an element that may be considered
Lj	kúßunganya	extension, i. e. ika and anya.
Sl	kúßunganya	Cognate of (b) include Lozi <u>kubunganya</u> .
		PT: *'-kunga; *'kunganya
		*'-ßungika; *'-ßunganga
		CB: *-kúng-.
	(c)	(c): No known cognates.
Sß	kuhhiinda	
614	<b>broom</b>	
	(a)	(a): No known cognates.
Pl	zhíyuyuhhyo	

- Il (b) (b): No known cognates.  
cípeehhyo
- Lj (c) (c): A cognates can be found in Nyanja, pyang.  
cípyaangisho The nouns here are related to the stem of Nyanja.  
Sl cípyaango The extension isho in Lj and o in  
Sl are derivative morphemes.
- Sß (d) (d): 614d has a cognate in Lozi, mufielo. Note  
Tt mufielo that the sequence /ie/ is allowed in Sß and Tt in  
the present reflex where we would have otherwise  
expected /fyelo/ or /fyeelo/. However, we have no  
evidence of /fy/ in our data.
- 615 to become ill
- Pl (a) (a): No known cognates.  
γuzhiswa PT: \*'-ciswa  
Vy kuciswa  
Tk kuciswa  
Lj kuciswa
- Il (b) (b): No known cognates.  
kúsata
- Sl (c) (a): A possible cognate of 615c is found in Nkoya  
kúkolwa kukola. The verb stem in (c) incorporates  
the passive extension w.
- Sß (d) (d): Cognates include Bemba, kulwala and  
Tt kúlwáála Nyanja kudwala.  
CB: \*-dúál-
- 616 to dry up/  
to be hard Cognates include Luvale, Mañanja and Bemba um  
PT: \*'-yuma  
CB: \*-yúm-
- Pl γúyuma  
Vy γúyuma  
Tk kúyuma  
Il kúzuma  
Lj kúyuma  
Sl kúyuma  
Sß kuzúma  
Tt kuzúma
- 617 to snatch There are no known cognates of (617).
- Pl (a) γúywempa
- Vy (b) γunyanga  
Sß kúnyáánga

(c)  
Lj kusompola  
Sl kusompola

(d)  
Tt kuḥáángila

**618 to slash grass**

(a) (a): No known cognates.  
Pl yúzhesa (a): PT: \*' -cesa  
Vy yúcesa  
Il kúcesa  
Lj kúcesa

(b) (b): No known cognates.  
Sl kuseḥa

(c) (c): A cognate is found in Lozi, kungwaniula.  
Tk kúngwenjula PT: '-ngwenjula  
Sḥ kungwénjula  
Tt kungwénjula

**619 to become tired**

(a) (a): No known cognates.  
Pl yúyatala PT: \*' -katala  
Vy yúyatala  
Tk kúkatala  
Il kúkatala  
Sḥ kukátala  
Tt kúkátála

(b) (a): Cognates include Bemba ukulema and Nyanja  
Lj kulema kulema, respectively.  
Sl kulema CB. \*-dèm-

**620 to smear**

(a) (a): No known cognates.  
Pl yúzila

(b) (b): No known cognates.  
Vy yulamba PT: \*' -lamba  
Tk kulamba  
Il kulamba

(c) (c): No known cognates.  
Lj kunanika  
Sl kunanika

(d) (d): This is related to (587a: kumata) above.  
Sḥ kumátika  
Tt kumatika



Sß Tt	(b) kunyámuna kunyámuna	(b): This exists in P1 as well but it is used when referring to lifting a heavy object.
624	<b>to start</b> (e.g. on a journey)	No known cognates of (624).
P1	(a) yuyumuka	(a): This resembles (c): I1 <u>kúhhimuka</u> in the putative suffixal element {uk} but we cannot establish the respective unextended verb stems. Both (a) and (c) in turn form osculant series with (b).
Vy Lj Sß Tt	(b) yunyampuka kunyamuka kunyámuka kunyámuka	(a): No known cognates. The cognate of Vy differs from the form of Lj, Sß and Tt in that there is the opposition /mp/ versus /m/. It is possible that the /p/ in Vy is an intrusive consonant. PT: *`-nyamuka
I1	(c) kúhhimuka	
Tk	(d) kútalika	(d): (d) resembles (e) below but there is no known correspondence involving Tk /l/ and Tt /t/.
S1	(e) kútatika	
625	<b>to frown</b>	(625): No known cognates.
P1 Vy Tk	(a) yuhimbula yusimbula kusimbula	(a): No known cognates. The element ul resembles the reversive extension {Ul}. This may also be said about (b) below but in neither case can we establish a simple unextended stem. PT: *`-syimbula.
I1	(b) kúkúmbula	(b): No known cognates.
Lj S1	(c) kúkalala kúkalala	(c): No known cognates. In P1 this verb means 'to become angry'
Sß Tt	(d) kutemoona kutemoona	(d): No known cognates. It is possible that /oo/ is the result vowel adjustment /au/ discussed in 2.1.3.
626	<b>to shut eyes</b>	No known cognates.
P1 Vy Tk	(a) yuhunya yufwinya kufwinya	(a): It is not easy to account for the difference in the stem of P1 versus that of Vy and Tk. A parallel can be seen at item (523a) above. The two forms (523a) and (626a) are discussed in 3.2.8 (Table 3.57).

I1	(b) kúhhululata	
627	<b>deaf person</b>	
P1	(a) zhúúlútwi	(a): No known cognates.
I1	(b) címpama	(b): No known cognates.
Lj	(c) ciβuulu	(c): No known cognates.
Sβ Tt	(d) shuushu súúsu	(d): A cognate is found in Lozi <u>shuushu</u> . The Tt form is skewed.
628	<b>to button up</b>	
P1 Vy Tk Lj	(a) γúγopela γúγopela kúkopela kúkopela	(a): No known cognates. Although el might suggest the applicative extension {I1} the stem <u>kop</u> with the present has not been found. PT: *'-kopela
I1	(b) kupasa	(b): No known cognates.
S1	(c) kusunga	(c): No known cognates.
Sβ	(d) kuηomela	(d): A cognate of 628d has been found in Lozi. <u>kuηomela</u> .
629	<b>to pray</b>	
P1	(a) γúγomba	(a): No known cognates.
Vy Tk I1 Lj	(b) γupaila kupaila kupaila kupaila	(b): No known cognates. See discussion in 3.2.4 PT: *` -paila
S1	(c) kúsenga	(c): No known cognates.
Sβ Tt	(d) kulápela kulápela	(d): A cognates can be found in Lozi, <u>kulapela</u> . The element el might suggest the applicative extension {I1}.
630	<b>to resemble</b>	

	(a)	(a): No known cognates.
P1	γúγohhyana	
Vy	γúγozyana	
	(b)	(b): A cognate is found in Lozi, <u>kuswana</u> .
Sß	kuswana	
Tt	kuswána	
	(b)	(b): No known cognates.
Lj	kúshima	
	(c)	(c): No known cognates.
Tt	kupúmpútfila	
<b>631</b>	<b>to lean</b>	
	(a)	(a): No known cognates. For a discussion of sequences of identical vowels see 3.2.3.
P1	γúyaama	
Vy	γúyaama	PT: *'-yaama
Tk	kúyaama	
Il	kúzaama	
	(b)	(b): No known cognates.
Sß	kúzeendámína	
	(c)	(c): No known cognates. It is possible that the element <u>li</u> resembles the reflexive pronoun found in P1 and the core lects.
Tt	kulituta	
<b>632</b>	<b>to stir water</b>	(632ae) are possibly onomatopoeic.
	(a)	(a): The cognate of 632a is found in Shona, <u>vhundula</u> . (a) and (b) possibly incorporate the reversive extension {U1} but that in (632b) there is vowel harmony discussed in 2.1.2.1 (Table 2.3 above).
P1	yuhhundula	
	(b)	(b): No known cognates. See discussion in (632a).
Tk	kukondola	
Il	kukondola	
	(c)	(c): No known cognates.
Lj	kufundaanya	
	(d)	(d): A cognates can be found in Bemba <u>kukumba</u> . The S1 form resembles (514a: <u>kútandaanya</u> ) in final element <u>aanya</u> . We cannot assign a meaning to this element at the moment.
S1	kukumbaanya	
	(e)	(e): A cognate can be found in Lozi <u>kukundunga</u> .
Sß	kukúndúnga	

- (f) (f): No known cognates.  
Tt kukóna
- 633 to give treatment There are no known cognates of (633).
- (a) (a): PT: \*'-silika  
Pl yúsiliya  
Vy yúsiliya  
Tk kúsilika  
Il kúshilika  
Lj kúshilika  
Sß kusilika  
Tt kusilika
- (b) (b): No known cognates.  
Sl kusengula
- 634 to block
- (a) (a): No known cognates of (634a). This is lexically related to Pl yusinka 'to stop up'.  
Pl yusinkila  
Vy yusinkila  
Tk kúsinkila  
Sl kushinkila
- (b) (b): No known cognates.  
Sß kuβéyála
- 635 to blossom
- (a) (a): No known cognates.  
Pl yúhyuuya The form of Vy has 's' corresponding to 'hy' and  
Vy yúsuuka 'sh' in Pl and Il respectively. This is a skewed  
Il kúshuuka correspondence because the general correspondence  
is Pl /hy/: Vy /sy/: Il /sh/. See 3.1.22.2.  
PT \*'-syuuka
- (b) (b): No known cognates.  
Lj kusonsa  
Sl kusonsa
- (c) (c): No known cognates.  
Sß kushóshóména
- (d) (d): CB: \*-mèd-.  
Tt kuména Cognates can be found in Kongo and Bemba men.  
There is a dubious resemblance (635d) to (589a:  
kumena 'to swallow'.
- 636 to leak

(a) (a): (a) is the causative form of (341) in Pl, Sß and Tt. In Lj the verb incorporates the applicative extension it. In the present case the causative extensions are Pl ihhy; Sß and Tt is. the cognate of Il does not incorporate an extension.  
PT: \*'-zwizya.

Pl yuzwihhya  
Sß kuzwiisa  
Tt kuzwíisa  
Il kuhhwa  
Lj kuswita

(b) (b). No known cognates  
The form of Vy is in the causative form. The extension in this case is i. /k/ alternates /sy/ when the causative extension /y/ is added.

Vy kúloya  
Tk kúlosya

(c) (c): No known cognates. The verbal ending o only occurs in Sl among the Tonga lects as a perfective. But it is occurs as a perfective marker in Luvale (Horton 19XX.).

Sl kupulungo

637 to be late

(a) (a): A cognate of 637a is found in Nyanja, kucedwa.  
PT: \*'-celwa

Pl yúcelwa  
Tk kúcelwa  
Il kúcelwa  
Sl kúcelwa

(b) (b): No known cognates. But some speakers of Pl use this form as well.

Vy yúmuya  
Lj kúmuka

(c) (c). No known cognates. (c) may be seen as as the extended verb form of (37) 'to eat' although it is clear what the element eeha stands for in the present case.

Sß kulyééha  
Tt kulyeeha

638 to be pleasing

(a) (a): The form of Sl is cognate with the Nyanja cognate kukhondwesa. The verb incorporates two extensions, the passive w and the causative es in both Sl and Nyanja.  
PT: \*'-konda

Pl yuyonda  
Vy yuyonda  
Sl kukondwesa

(b) (b): (b) also incorporates the causative extension ish. The extension itself is skewed in Tk because we have expected isy instead of ish.

Tk kukomanísha

(c) (c): No known cognates. The verb incorporates two extensions, the applied allomorph in and the passive w. There exists in Il the verb kwiina 'to be sweet'.

Il kwiininwa

- (d)  
Sß kutáßisa (d): A cognate of 638d is found in Lozi,  
kutabisa.
- 639 to meet**
- (a)  
Pl yúzhinga (a): Cognates include: Copi (Mozambique) cing  
Vy yúcinga and Cewa cingamil.  
Tk kúcinga PT: \*-cinga  
Il kúcinga  
Lj kúcinga
- (b)  
Sl kúkumana (b): No known cognates.
- (c)  
Sß kukatanya (c): No known cognates. The Sß form has the  
final element anya which resembles that  
discussed under (632e above i. e. kukumbaanya).
- (d)  
Tt kusáángana (d): No known cognates. The element ana might  
resemble the reciprocal extension {an}, but there  
no simple unextended stem of (639d).
- 640 to weed**
- (a)  
Pl yuhuyila (a): No known cognates.  
Vy kufuyila
- (b)  
Tk kuzaila (b): No known cognates.  
Il kúzaila
- (c)  
Lj kusakwita (c): No known cognates. The correspondence Lj  
Sl kusakwila /t/ and Sl /t/ has no parallels elsewhere in our  
data.
- (d)  
Sß kusiinza (d): No known cognates.
- (e)  
Tt kútáhúléla (e): A cognate of (e) can be found Lozi kutahula.  
The form of Tt incorporates the applicative  
extension which is invariably {el} in Lozi.
- 641 to fall  
from tree  
(of fruit)**
- (a)  
Pl yúyulumbuya (a): No known cognates.  
Vy yúyulumbuya PT: \*'-kulumuka

Tk	kúkulumbuka	
Il	kúkulumbuka	
Lj	(b) kúloka	(b): No known cognates. (b) is homophonous with (636b) above.
Sl	(c) kulaka	(c): No known cognates.
Sß	(d) kußulumuka	(d): No known cognates.
Tt	(e) kúkúlúmúka	(e): A cognate can be found in Lozi: <u>kukulumula</u> although there is a difference in the final consonant. (e) and (d) may also be related. The contrast in the initial consonant position may be due to the fact that these verbs are onomatopoeic.
642	to winter (see (412)) plough	
643	to skim	
P1	(a) ɣwiɪβula	(a): Cognates include: Bemba <u>iβul</u> . PT: *`-iβula.
Vy	ɣwiɪβula	CB: *-yíbud- 'take out of water'
Tk	kwiiβula	
Il	kwiiβula	
Lj	(b) kweengula	(b): No known cognates.
Sl	(c) kusaβula	(c): No known cognates.
Tt	(d) kuhukula	(d): No known cognates.
644	to pick groundnuts	
P1	(a) ɣúɣoɣola	(a): No known cognates. It is possible that (a) incorporates a reversive extension {U1}.
Vy	ɣúɣoɣola	Assimilation gave rise to /ol/ (see 2.1.2.1, T
Tt	kúkokola	Table 2.3).
Lj	(b) kupangoola	(b): No known cognates. It is possible that /oo/ is the result of vowel adjustment of the putative extension {aul}.
Sl	(c) kufuka	(c): No known cognates.

- (d) (d): No known cognates. However, compare (284a).  
Sß kucelá
- 645 to cackle (545): All the items in (545) may be viewed  
**onomatopoeia**, hence the different realizations in  
the consonants in the various lects.
- (a) (a): No known cognates.  
P1 γύγονkomoya (a): \*'-konkomoka  
Vy γύγονkomoya  
Tk kúkonkomoka  
Lj kúkonkomoka  
S1 kúkonkomoka
- (b) (b): No known cognates.  
I1 kúkokoloka
- (c) (c): No known cognates.  
Sß kukwetéililá
- (d) (d): No known cognates.  
Tt kukékéla
- 646 to be out  
of breath
- (a) (a): No known cognates  
PT: \*'-swundilila.  
P1 γúhundilila  
Vy γúfundilila  
Tk kúfundilila  
I1 kúhundilila  
Lj kúfundilila  
S1 kúfundilila
- (b) (b): Cognates include Lozi: kufipelwa.  
Sß kwaafipelwa
- 647 to become  
blunt  
(e.g. axe) No known cognates of (647).
- (a) (a): No known cognates  
PT: \*'-swumpa.  
P1 γúhumpa  
Vy γúfumpa  
Tt γúfumpa
- (b) (b): No known cognates.  
Lj kúshima
- (c) (c): No known cognates. (c) probably  
incorporates  
Tt kupúmpútila the applicative extension (I1).
- 648 chest There are no known cognates of 648.

648 chest            There are no known cognates of 648.  
(a)                (a): PT: \*'-amba

P1 zhám̃ba  
Vy cámba  
Tk cámba  
I1 cámba  
Lj cáãmba  
S1 cáãmba

(b)                (b): A cognate can be found in Nyanja cifuḥa.  
Sḥ cizuḥá

649 baobab tree    This noun has a cognate in Shona, muwuyu

P1 múḥúyu           Manyika muuyu and Venda muḥuyu.

Vy búyu             PT: \*'-ḥúyu.  
(míḥúyu)           CB: \*-bùyu

Tk búyu  
(míḥuyu)

I1 íḥúzu  
(míḥúzu)

Tt íḥúzu

Lj múḥúyu

S1 múḥúyu

Sḥ muḥuyú

650 fishing hook

(a)                (a): a cognate in Bemba, ilobo.

P1 yáloḥo            PT: \*'-loḥo

Vy yáloḥo           The PT form is a reflex of CB verb stem \*dòb

Tk káloḥo           'to fish with line'.

S1 káloḥo

(b)                (b): A cognate can be found in Lozi kashuto. As  
Sḥ kashuta           can be seen the cognate of Sḥ has final /a/  
Tt kashuto           as opposed to /o/ in Tt and Lozi. It is not  
clear how this correspondence can be accounted  
for.

651 bee

(a)                (a): Cognates include Cewa njuci and Caga.

P1 nzuyi             PT: \*'-zuki

Vy nzuyi             CB: \*-júki

Tk nzuki

I1 nzuki

(b)                (b): cognates include Chokwe puka ; Lunda  
Lj impúka           mpuka and Bemba limuka.

S1 impúka           CB: \*púká 'insect'; 'bee'; 'ant'; 'catapillar'

Tt impúka           In Sḥ the consonant /p/ was lost in the stem.

Sḥ limuka           This can be seen as independent development  
similar to that of Bemba.

PT: \*'-puka

652 farmer 652 has a cognate in Shona, murimi. The  
P1 mulimi noun of 652 is derived from (384),  
Vy mulimi 'to cultivate'.  
Tk mulimi PT: \*`-limi.  
Il mulimi  
Lj mulimi  
S1 mulimi  
Sβ mulimi  
Tt mulimi

653 vein (see 415 )

654 pleurisy There are no known cognates of 654.

(a) (a): No known cognates.  
P1 γásinga (a): PT: \*'-singa  
Vy γásinga  
Tk kásinga  
Il káshinga  
S1 lúshinga  
Tt musinga

(b) (b): No known cognates.  
Lj kalwani

(c) (c): No known cognates.  
Sβ kaβaci

655 roof

(a) (a): The are no known cognates of 655a.  
P1 zhiluli PT: \*`-luli  
Vy ciluli  
Tt ciluli  
Il káluli  
S1 ciluli

(b) (b): No known cognates.  
Lj cipwani

(c) (c): No known cognates.  
Sβ citúúngu

(d) (d): 655d has a cognate in Lozi, situwa.  
Tt citúwa

656 Saturday Cognates include Nyanja pacibelu. The composition of  
P1 mújíβélo (656) is complex. In Lj, the reflex seems to have  
Vy mújíβélo two prefixes, pa, (class 16) and ci(class 7). One  
Tk mújíβélo can see that ci is a prefix on comparison with the  
Il cíβélu Il and S1 cognates. It is not clear that ji in P1,  
Lj pácíβélu Vy and Tk; gi in Sβ and ki in Tt should be viewed  
S1 cíβélu should be viewed as prefixes since they are not  
Sβ mugíβelo prefixes in any other noun apart from the present  
Tt mukíβélu We can also see that there is a contrast in the  
final vowel which perhaps may be attributed to raising

in Il, Lj and Sl. See 3.2.5 (Table 3.54).  
PT: \*'-βelò ; \*'-βelu.

657 luck

(a) (a): No known cognates.  
Pl zhoowwe PT: \*'-olwe  
Vy coolwe  
Tt coolwe  
Il coolwe  
Lj coolwe  
Sl coolwe

(b) (b): A cognate can be found in Lozi ntohonolo.  
Sβ ntóhonolo

658 species of  
spear

(a) (a): No known cognate.  
Pl múúmba PT: \*'-umba  
Vy múúmba  
Tk múúmba  
Il múúmba

(b) (b): No known cognates.  
Sl moondo

(c) (c): No known cognates.  
Sβ musó

(d) (d): A cognate can be found in Lozi, muwayo.  
Tt muwayo

659 embers/  
charcoal

(a) (a): A cognate of 659a can be found in Luyana,  
Pl mayala kara, Luvale likala; Bemba ikala; Kongo kala.  
Sβ makála PT: \*'-kala  
Tt mákála CB: \*'-kádà 'ember/embers'; charcoal/piece of  
charcoal.

(b) (a): cognates can be found in Shona marasha and  
Il malasha Nyanja malasha.  
Lj malasha PT: \*'-lasha  
Sl malasha

660 shin

(a) Cognates include Luvale lihinzi; Kongo  
Pl mwííndi m̄βíndi.  
Vy mwííndi PT: \*'-pindi  
Tk mwííndi CB: \*'-píndi; \*pííndi 'shin; (bone): 'leg'  
Il mwííndi  
Lj mwííndi  
Tt múhíndi

(b) (b): No known cognates.  
Sl mukonso

(c) (c): Cognates include Lozi mooko.  
Sß mooko

661 salt pan There are no known cognates of 661.

(a) PT: \*'-kula  
Pl zhiyula  
Vy cikula  
Tk cikula  
Il cikula  
Lj cikula  
Sl cikula

(b)  
Sß cikeela

662 stump

(a) (a): Compare CB \*tîki 'stump of a tree' which  
Pl zhihiyo has reflexes in Bemba itjifiki; Yao cisici.  
Vy cisioyo All these have dubious relationship with the  
Tk cisiko present forms of (a).  
Il cishiko PT: \*'-siko  
Lj cishiko  
Tt cisiko

(b) (b): Refer to discussion in (a).  
Sl cishiki

(b)  
Sß citoompo

663 girl

(a) (a): There are no known cognates of (663a).  
Pl mûsimbi PT\*'-simbi.  
Vy mûsimbi  
Tt mûsimbi  
Tk mûsimbi  
Il mûshimbi

(b) (b): refer to (190d) and (195b) above.  
Lj mwánákáshi

(c) (c): No known cognates. (663bc) share the  
Sl mûtukashi element kashi which may be seen as  
noun stem as discussed at (190d) and (195b)  
above. While in (b) we can say that the noun is  
a compound noun whose first element is mwana  
homophonous with (20a), 'child', we are unable to  
assign the first element tu in (663c) to any  
morpheme except that it resembles the diminutive  
prefix of class 13, ka. (663c) has a parallel  
construction as (94d) and (664c) below.

- (d) (d): It can be seen that (d) and (e) below share the  
Sß mukázána element zan. The difference is in the endings a  
and e. We cannot assign a status  
to zan at the moment. Cognates include Luyi  
umukatana; Bemba umukashana and Xhosa inkazana.  
CB: \*-kádiána.
- (e) (e): Cognates include Lozi, musizani.  
Tt musizani
- 664 boy** There are no known cognates of 664. For  
(a) the comments on 664c, see 94d above.  
P1 musankwa PT: \*'-sankwà.  
Vy musankwa  
Tk musankwa  
Lj musankwa
- (b)  
I1 múlómbwana
- (c)  
S1 mýtuloþa
- (d) (d): refer to (94e) above.  
Sß mukwááme  
Tt mukwáme
- 665 faith** There are no known cognates of (665). This noun  
P1 muzumino is related to the verb ku-zumina,  
Vy muzumino 'to agree' given in (337), above.  
Tk muzumino PT: \*'-zumino  
I1 muhumino cf, CB: \*-dÛm- 'assent'  
Lj musumino  
S1 cisumino  
Sß muzumino  
Tt muzumino
- 666 ankle**
- (a) (a): No known cognates but compare (b).  
P1 yángó  
Vy kángó
- (b) (b): A cognate can be found in Lozi ingonngo  
Tt íngóngó (b) would seem to a reduplication of the stem of  
(a).  
PT: \*'-ngó ; \*'-ngóngó
- (c) (c): No known cognates. This item may be related to  
I1 kapokoto (d) but the correspondence t and s have no parallels.
- (d) (d): No known cognates.  
Lj kapokoso
- (e) (e): No known cognates.  
S1 kámpóndó  
pánshi

667 hammer

- (a) (a): The cognate of 667a can be found in Lozi  
P1 nsando sando.  
Tt insaando
- (b) (b): Cognates can be found in Shona, nyundo.  
Vy nyundo
- (c) (c): No known cognates. (c) is homophonous with  
I1 cikoma (498a):  
S1 mukoma

668 market

- (a) (a): The cognate of 668a can be found in Lozi,  
P1 muhiya musika.  
Vy musiya PT: \*'-syikà.  
Tk musika  
I1 mushika  
Sß musika  
Tt musika
- (b) (b): 668b is a loan from English 'market'.  
S1 máliketi

669 hundred

- (a) (a): The cognate of (669a) can be found in Bemba,  
P1 mwaanda umwaanda.  
Vy mwaanda PT: \*'-anda  
Tk mwaanda  
I1 mwaanda  
Lj mwaanda  
S1 mwaanda  
Tt mwaanda

670 hornbill

- (a) (a): In Bemba we find the noun umungomba with  
P1 moomba the same meaning as 670, which is a possible  
Vy moomba cognate.  
I1 moomba PT\* '-omba  
S1 moomba  
Tt iyóómba

671 malice See (297).

672 visitor/  
traveller

- (a) (a): No known cognates.  
P1 mwéénzu This form can be traced back to the verb stem  
Vy mwéénzu -end- (178 above). The present noun is derived

Tk mwéénzu by suffixing the nominalizer -u.  
PT: \*'-énzu.

(b)  
Tt muyéénzi (b): This is derivative of the stem -yeend-  
(178) by addition of the nominalizer -i.

(c)  
I1 shilweendo (c): is also derived from the stem of (178) -end-  
S1 shikweenda by suffixing the nominalizers -o and -a. There  
Lj shikweenda are two prefixes in the nouns of (c): shi-  
(associated) with nouns of class 1a) and lu-  
class 11 (in I1) and ku- class 15 (in Lj and  
S1).  
PT- \*'-yendo

673 grain

(a)  
P1 nseye (a): No known cognates among the Zambian lects.  
Vy nseye This noun has an unusual reflex in PT in C<sub>2</sub>  
Tk nseke position since it would seem that CB \*g has the  
S1 inseke reflex \*k in PT. There is no parallel of such a  
Tt inséke reflex.  
PT: \*'-seke  
CB: \*-cégé 'grains

674 hen

(a)  
P1 nseye (a): No known cognates.  
Vy nseye PT: \*'-seke.  
Tk nseke

(b)  
I1 múhhihi (b): No known cognates. Guthrie listed I1 as  
having inkuku contrary to the form we have.

(c)  
S1 káku (c): (c) may be related to (d) if we consider  
both (c) and (d) comprising of onomatopoeic  
words.

(d)  
Sß násikuku (d): See (c). In P1 the cognate is nkuku but it is  
Tt násikuku used as a generic name for both hens and  
roosters.  
CB: \*-kúkù ; \*-kúkú.  
PT: \*'-kuku.

675 fingernail A cognate of 675 is found in Bemba, ulwala.

(a)  
P1 lwála (a): Cognates include Bemba ulwala; Taaßwa and  
Vy lwála Lunda i-zala.  
Tk lwála CB: \*-jádá.  
I1 lwála PT: \*'-yala  
S1 lúyála The stems of P1, Vy, Tk and I1 begin in a zero-  
Sß ízála consonant as opposed to /y/ in S1 and /z/ in Sß  
Tt ízála and Tt. This makes it difficult to decide the PT  
sound in the initial position of the stem. If it  
was \*y then we can get the expected reflexes in  
S1, Sß and Tt. We cannot get the S1 form if we  
reconstruct \*z. See 3.1.18.1 for a discussion of the

reflexes of PT \*y and 3.1.20.1-3.1.20.2 for the reflexes of PT \*z. The discussion in 3.1.18.1 leads us to suggest that the first sound of the stem was PT \*y.

PT\*'-yála.

676 boat

P1 βwáto  
Vy βwáto  
Tk βwáto  
I1 βwáato  
Lj βwáato  
S1 βwáato  
Sβ βwáato  
Tt βwáato

A cognate of 676 is found in Bemba, uβwato;  
Luba-Katanga bwato; Manjanja bwato.

PT: \*'-ato.

CB: \*-yátò.

677 leopard

(a)

(a): No known cognates.

P1 hiluwe  
Vy siluwe  
Tt siluwe  
I1 shiluwe  
Lj shiluβwe  
S1 shiluwe

The form of Lj is difficult to relate with the others in this group in that it has an extraneous /β/ before /w/. Nevertheless, all the nouns here are in class 1a with plural in class 2a βa-. The elements hi-/shi- are not noun class prefixes but formatives. The Lj form has an /βwe/ which contrasts with /we/ in the other lects. /β/ may be seen as an intrusive element which has a parallel in Nsenga.

PT: \*'-syiluwe

(b)

(b): Cognates include Mbunda ingwe and Manyika ingwe.

Sβ kángwé  
Tt íngwé

PT: \*'-ngwé

CB: \*-gùè

678 lower abdomen

(a)

P1 búmbu  
Vy búmbu  
Tk búmbu  
I1 íβúmbu  
Lj líβúmbu

(a): The nouns here are in class 5 which means that in P1, Vy and Tk the stems incorporate the class 5 prefix. However, there is no alternation of /b/ with /β/ in the plural.

PT: \*'-βúmbu.

(b)

(b): (678b) is homophonous with (496a), above

S1 múkómbo

(c)

(c): There are no known cognates of 678c.

Sβ cínená

(d)

(d): A cognate of 678d can be found in Lozi

Tt cinyá

ci-nya.

679. railway line

(a)

(a): Cognates can be found in Ndebele.

P1 njánji  
Vy njánji

injanji.

PT: \*'-janji

Tk njánji  
Il njánji  
Lj njánji  
Sl njánji

(b)  
Sß cipoló  
Tt cipolo

(b): No known cognates.

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