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How to Disclose the Environment through Linguistic Description:

A Basic Linguistic Analysis of Koshin ["Beboid" Bantu, Cameroon]

A thesis submitted in partial fulfillment of the requirements for the award of

Doctor of Philosophy (PhD) in Linguistics

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To our beloved children

T.M Virina Ousmanou

A. Dabida Moumpou Ousmanou

M. Lissouwa Ousmanou

And our adoptive daughter C. L. Tchuenté

As a sign of encouragement for more determination in life

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ABSTRACT

The present work entitled *How to Disclose the Environment through Linguistic Description: A Basic Analysis of Koshin ["Beboid" Bantu, Cameroon]* aims at showing how the environment of Koshin, a "Beboid" Bantu language spoken in the north-west region of Cameroon, can be disclosed through linguistic description.

The geographical and socio-cultural features of the community, which can be observed implicitly in the data collected through texts, participant observation, and controlled lexical elicitation from fluent native speakers of the language, are analyzed inductively (rules are derived from the observation of the data, and no preconceived rule is applied in order to account for these data).

Then, the Koshin environment is unveiled through an adequate description of the language, on the basis of a cumulative basic theory, namely the Basic Linguistic Theory (mainly interested in basic structures), and an eclectic support of seven formal theories (Structural Phonology, Phonology in Generative theory, Lexical Phonology, Constriction-based model of Feature Geometry theory, Bao's Tone Geometry, Prosodic theory of "Nonconcatenative" morphology, and Sentence Phonology) which aim at accounting for phonological facts observed at the surface structure.

Put aside the introductory chapter and the chapter on the general conclusion, the fourteen chapters of this work are grouped into four main sections. The first section handles the phonological system of the language which is organized around eight phonemic vowels, thirty-eight consonants, three underlying level tones, and three prosodic features of palatalization, labialization and nasalization. The second section discusses lexical categories attested in the language: nouns, adjectives, verbs and adverbs. The third point examines the grammatical systems attested in the language (class system, pronouns, demonstratives, articles, definiteness system, interrogatives, case system markers, tense markers and grammatical secondary concepts). And the fourth and last section deals with the most recurrent grammatical constructions.

At the end of the analysis the following conclusions have been drawn:

-On a par with what occurs in any language, the Koshin *lexicon* and the *basic grammatical categories* both mirror the environment of the community.

- Besides, and this is not emphasized enough in literature, sound symbolism in some parts of the

language also helps to disclose the environment of the community.

-In the same vein, even though it is not widespread amongst linguists, some morpho-phonological processes betray the world vision of the community.

-And finally, given these reasons, an adequate language description is similar to an exploration Process. As such, it can be used as an important key for the understanding of the community in the same way sciences like Sociology and Anthropology are used. Therefore, the description of a language can be useful in any scientific domain involving the community.

RESUME

Le but de ce travail intitulé « *How to Disclose the Environment through Linguistic Description : A Basic Linguistic Analysis of Koshin [ʺBeboidʺ Bantu, Cameroon]* » [Comment dévoiler l'environnement à travers la description linguistique : Une analyse linguistique basique du koshin [ʺbeboidʺ bantu, Cameroun] est de montrer comment l'environnement des locuteurs du koshin, langue ʺbeboidʺ parlée au Nord-ouest du Cameroun, peut être dévoilé à travers l'analyse descriptive.

Les données, qui renferment les traits de cet environnement, sont collectées (à travers des textes, l'observation participative et un glossaire contrôlé) à partir des locuteurs natifs de la langue, et analysées suivant une démarche inductive (aucune théorie préconçue n'est imposée à l'analyse scientifique, et seule l'observation des données nourrit l'établissement des règles).

Les traits environnementaux sont ainsi dévoilés par le biais d'une description appropriée basée sur une théorie basique et cumulative appelée la théorie linguistique basique (qui s'intéresse prioritairement aux structures sous-jacentes), ainsi que sur une approche éclectique de sept théories formalistes (la phonologie structurale, la phonologie générative, la phonologie lexicale, la géométrie des traits basée sur la constriction, la géométrie du ton de Bao, la théorie prosodique de la morphologie non « concatenative », et la phonologie de la phrase) qui apportent un éclairage sur les faits phonologiques observés en structure de surface.

En dehors du chapitre introductif et de la conclusion, les quatorze chapitres qui constituent ce travail sont regroupés en quatre points essentiels. Le premier point traite du système phonologique organisé autour de huit phonèmes vocaliques, trois tons simples sous-jacents, trente-huit consonnes et trois traits prosodiques de palatalisation, de labialisation et de nasalisation. La deuxième articulation analyse les catégories lexicales attestées dans la langue à savoir les noms, les adjectifs, les verbes et les adverbes. La troisième articulation discute des systèmes grammaticaux à savoir : le système des classes nominales, les pronoms, les démonstratifs, l'article, le système des (in)définis, les marqueurs des cas, les temps verbaux et les concepts grammaticaux secondaires. La quatrième et dernière articulation examine les constructions grammaticales les plus importantes. A la fin de l'analyse, les conclusions suivantes ont été dégagées:

- Le lexique et la grammaire koshin sont le reflet de l'environnement de la communauté.
- La valeur symbolique du son, malgré son traitement limité dans la littérature, lève aussi un pan de voile non négligeable sur l'environnement de la communauté des locuteurs du Koshin.
-Dans le même ordre d'idées, les processus morpho-phonologiques de la langue constituent une autre grille de lecture pour la découverte de la vision du monde du peuple koshin, quoique cette approche ne soit pas assez répandue en littérature.
- Et enfin, sur la base de ce qui précède, la description d'une langue devient semblable à un processus d'exploration et, à ce titre, elle devient une véritable clef pour la compréhension d'une communauté, pas moins que les sciences telles que la sociologie et l'anthropologie. Par conséquent, la description d'une langue peut être utile dans n'importe quel domaine d'étude scientifique portant sur la communauté des locuteurs de ladite langue.

CHAPTER 1
GENERAL INTRODUCTION

The objective of this introductory chapter is to provide enough background information which will ease the understanding of the chapters that follow. It is subdivided into four main points. The first point presents the topic, the second one outlines the interests of the topic, the third part highlights the theoretical and methodological assumptions adopted in this work, and the last point presents the scope and organization of the work.

1.1 Presentation of the Topic

The topic of this work is "How to Disclose the Environment through Linguistic Description: A Basic Analysis of Koshin ["Beboid" Bantu]". It aims at showing the way the geographical and socio-cultural milieu of the speakers can be unveiled through the description of the language basic and surface structures. The main theoretical framework guiding this description is the Basic Linguistic theory. One of the fundamental conclusions the analysis leads to is that Koshin description is somewhat similar to the exploration of the community speaking that language. That is why, amongst other recommendations, the analysis suggests that language description must take into account all the parts (phonology, morphology, syntax) of the language under discussion (as exploration unfolds all the sides of the area being explored) because each part feeds into the others and unveils features which are harmoniously attested or better explained in other parts. However, before discussing the main question, some prerequisites are in order: what is known about the Koshin people's history? What about their socio-cultural organization? How is the language classified linguistically? What has been said in literature about the language? But first of all, what are the characteristics of the area where the Koshin people live?

1.1.1 Geographical Location and Description

The Koshin language is spoken by people living in a single area called Koshin ("Kɔ̄" for the community), a Cameroonian village of the North-West region of the country, in the Fungom subdivision (headquarter Zoa). This subdivision is placed under the administrative authority of the Menchum division whose headquarter (Wum) is located at around two day's journey by bus from Yaoundé, the capital city of the country (Cf. Fig1 below).

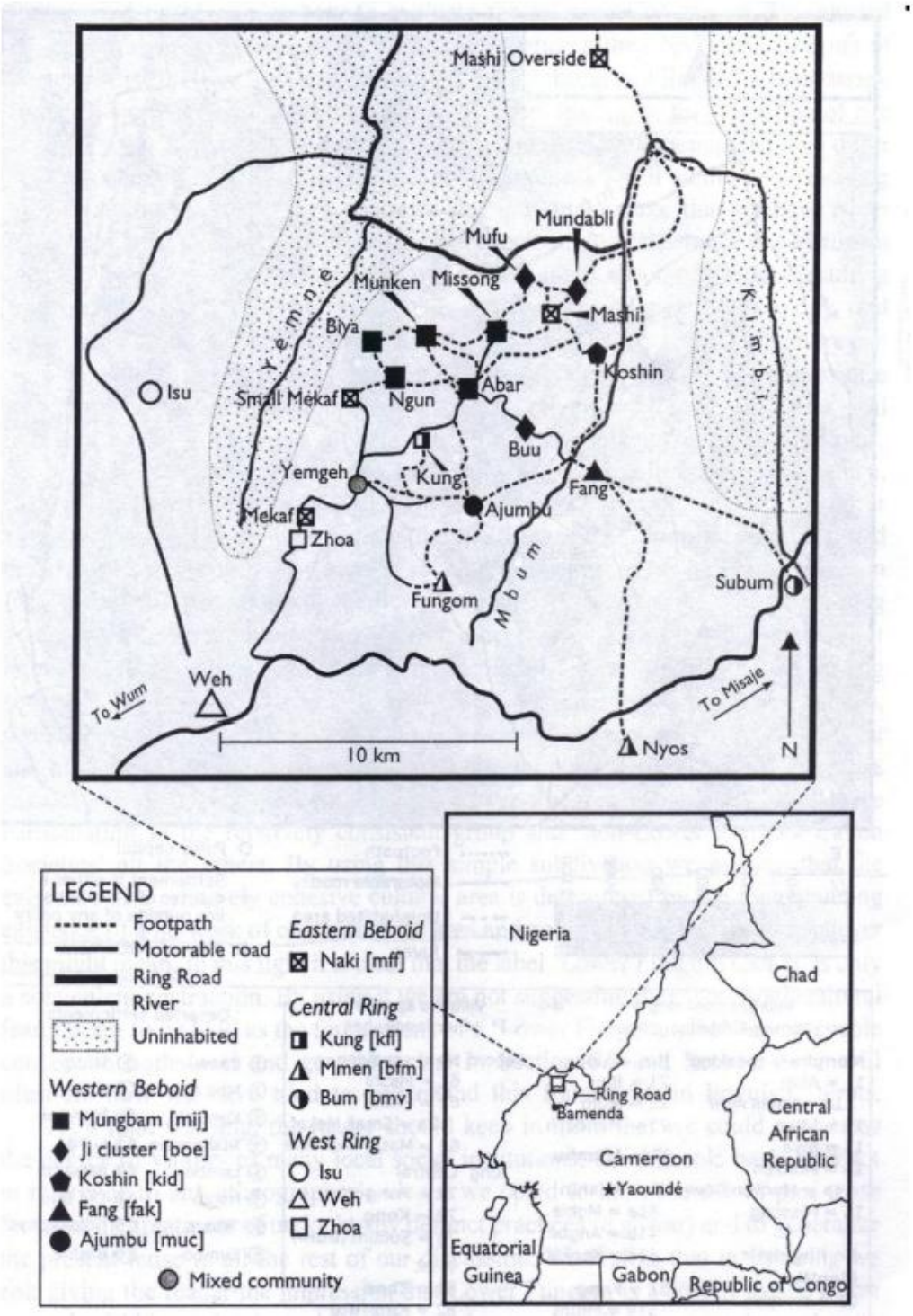


Fig.1: Geographical location of Koshin village (Source: P. Di Carlo 2011: 57)

Koshin village is one of about ten villages which make up the region which had been called "Lower Fungom" since colonial era because the area seems to be lower in altitude than the other part of the region labeled "Upper Fungom".

Undoubtedly, it can be said that Koshin village (on a par with the other villages of Lower Fungom) is not yet quite exposed to urbanization. As a matter of fact, not only the vehicular transportation from Wum (headquarter of Menchum division) to the Lower-Fungom central village of Abar is not very regular, but also Koshin village is remote enough from Abar and is accessible only by footpath (unless one can afford the "exorbitant" cost of the motorbike means). Moreover, located on the northern edge of the Cameroonian highlands, the area is hilly. The ground is quite broken. In short, Koshin village is a somewhat inaccessible area. Interestingly, as discussed in the chapters that follow, such a geographical environment is shown through the language. Besides, the relative inaccessibility of the fieldwork is compensated for by an interesting factor: it is a prototypical place where a community language is actively spoken. Therefore, it is an ideal place to study a language, some recommendations given in literature are considered.

Koshin village unfolds over five quarters: Bədɔŋ 1 (the king's palace is located in this quarter), Bədɔŋ 2, (Jɛ)Bəbɛ̄, Bɔmbù and Bɛ̄bùŋbùŋ. Besides these five quarters which make up the Koshin city, some community members leave the city and settle in farms, far from the city, given that there is not enough space around the houses for everybody to carry out agricultural activities. They come back to the city only on Sundays, to attend meetings. To date, three delocalized small quarters have emerged in the bush: Amgbē, Mbyã̄, and Tùŋkáŋnəŋ. It should be emphasized that the delocalization of some members of the Koshin community has not thus far implied any decisive disconnection from the city. The delocalized community is unquestionably under the authority of the king whose palace is located, as expected, in the city. However, this intermittent delocalization *may* become more significant given that important projects, such as the creation of schools, are planned for the delocalized community (for example, there is already a primary school in Tùŋkáŋnəŋ). The far distance that separates the city from the farms is interestingly reflected in the language, as shown later in this work.

1.1.2 History of the Koshin People

The history of the Koshin people, like the history of the vast majority of African communities, relies exclusively on oral sources. According to Mr. Ngong Lucas Ju, the chief of the Traditional Council of the royal palace, the Koshin people originated from an area called Mawa (Maroua?), somewhere in the Far North region of Cameroon. They left their brothers there because of floods disaster, at an undetermined period. From one area after another, they emigrated to Oku, Sawi and Ndwene. Because of the infertility of the land, they left Ndwene and arrived at Nsom and obtained a piece of land from the Nsom people (the present Koshin locality). Both peoples made a pact with each other and lived in harmony for a while. The Koshin community increased demographically to an extent that the Nsom people felt worried and began to secretly kill Koshin children. The two communities openly declared war on each other. The Nsom people were defeated and driven away to Nigeria. This version of the history of the Koshin people is highly widespread amongst the members of the community. Even young people know something about it, even if they cannot remember all the details.

Current facts corroborate some aspects of this version. For instance, nowadays, traces of the alleged Nsom people are still visible. In fact, there still exists the last vestiges of what were Nsom houses and these houses are very close to Koshin village. Besides, the Koshin people strongly believe that some of their brothers are still settled in the northern part of Cameroon. They refer to them, in the language structure, by the demonstrative denoting invisibility (even if they cannot see their brothers, they know and believe that they are alive!). More details about this are given in the chapter that examines demonstratives.

1.1.3 Political, Economic and Socio-cultural Organization

As is the case with almost all Cameroonian Grassfields communities, the Koshin community is a kingdom. The territorial borders of the kingdom are marked by a specific plant called “ŋkəŋkəŋ” (the lawful plant), planted by a recognized lawful person. This plant is attested at all the Koshin boundaries except the boundary with the Bum kingdom. This exception is justified by the friendship relation between the two kingdoms. In other words, in Koshin tradition where friendship plays an important role, there is no way of putting boundary between good friends. What belongs to one belongs to the other. The sociopolitical organization is, to a certain

extent, influenced by the personality of the king and the royal family. Amongst the important scales of the social hierarchy one can mention:

(1) (a) King/Chief
(b) Sub-Chiefs (heads of the 5 city-quarters and the 3 farm-quarters)
(c) Traditional Council (Chief council, councilors, secretary, treasurer)
(d) The other members of the Community

The chief takes the final decisions (previously appreciated by the Traditional Council) that rule the community. Each sub-chief has to be the eldest man of the quarter and each quarter includes a definite number of families. For instance, there are four (extended) families/compounds within the quarter Bədɔ̄ŋ 1.

Since the settlement of Koshin people in their present place, the following chiefs have ruled the community:

(2) (a) ŋ̄waŋ
(b) Ju Mbuo Ambuba
(c) Yoah Mbɔŋ Chum
(d) Diaŋ Aso
(e) Kə Few
(f) Bum a kə Few
(g) Yoah Bum Salomon
(h) Ju Thomas Bine
(i) Yoah Bum Wilson (current ruler)

Concerning the economic situation of the locality, the Koshin community relies mostly on agricultural activities. Volcanic highlands of the west part of Cameroon are reputed to be fertile. Amongst the most important products cultivated in the village are groundnuts, but most importantly, corn. The end of the harvest of corn (usually in October) gives way to a very great celebration, the annual festival, called "nəmgà" (literally translated as "the work of corn"). Beside corn and groundnuts, there are palm trees. The village is full of palm trees. Not only do these palm trees provide firewood and palm fibers as combustible material, branches for shed and house construction, brooms for cleaning houses, but they also provide a special type of rope used again to climb these very palm trees. Most importantly, palm trees provide palm wine and palm oil that are very much consumed in the region. Every week, young people walk during five to six hours in order to reach Sanyere market on Wednesday (located between Koshin and Bum). In Sanyere, they sell palm oil at a more profitable price to Bororo breeders. It is obvious that palm oil is the most important source of income for young villagers. That is why, according to

Mr Yoah Moses Boah (one of the consultants), "palm tree is the king of the trees." Once more, language takes into consideration the central role of the palm tree in the community. In the lexicon, for instance, there is a diversity of items which refer to products or objects related to palm trees. For example, the language has four different lexical items that are used to refer to the components of that single object used by palm tree climbers. In another language, this may simply refer to as "rope" (one lexical item). These four items are presented in (3) below:

(3) (a) shyə̄ŋ : "the whole rope used for climbing palm tree"
(b) kə̀-lɛ̃ : "part of (3a) which is in contact with the palm tree trunk"
(c) dzə̀ : "part of the (3a) holding the climber waist"
(d) fə̀-ntɔ̀ : "the thin stalk joining part (3b) and part (3c)"

Socio-culturally, the Koshin community is conservative. The important ceremonies are strongly influenced by the ancestral traditions which are parallel to the modern or imported practices. For instance, in spite of the influence of foreign religions (most Koshin people are Christians of the Presbyterian Church), traditional beliefs are still quite perceptible. The funeral celebrations traditionally called "tə̄-lɔ́m" are amongst the greatest expressions of the ancestral practices still effective in present days. In fact, like many African communities, the Koshin people believe that after death, the spirit of a dead person cannot be in peace unless a specific funeral ceremony is organized for it. That is the reason why after the first anniversary of the deceased, a ceremony is organized. And during this ceremony, the eldest man of the family of the late person slaughters a rooster and talks to the putative spirit in order to wish "him" a safe journey to the ancestors' home. Food and corn beer are served to the whole community.

Təlɔ́m ceremony usually takes place on *Tūŋə̄,* the seventh day of the week which, in Koshin tradition, distinguishes eight (8) days ordered as follows:

(4) (a) Bə́mə̀ (it is the first day of the week. People go about their daily activities)
(b) Wānə̄ Bə́mə̀ (it is second day of the week. Nothing special is realized on that day)
(c) Nsānə̄ Bə̄lɛ̃̄ (it is the rest day within a neighboring community called Bə̄lɛ̃̄, it is a normal day in Koshin village)
(d) Nəmə́ (activities are undertaken as usual in Koshin village)
(e) Shɨ̀túŋ (literally "week-five". It is the fifth day of the week. It is a usual day.)
(f) Bɔ̃̄ (it is a usual day, like the preceding ones, and there is nothing special)

(g) Tūŋə̄ (when there is funeral celebration in the community, it takes place on that day which is the seventh of the week)

(h) Nsānə̄ (it is the rest day of the community. Social meetings are organized on that day)

Nsānə̄ is the equivalent of Sunday for Christians. It is the only day (out of the eight days) during which the whole community rests, because it is also dedicated to socio-cultural meetings.

Another important (maybe the most important) cultural ceremony is, as said earlier, the annual festival which celebrates the end of the corn harvest. It is the most important celebration annually organized within the community. On this occasion, the ancestors are consulted during many days. These are supposed to choose the specific day of the celebration which implies, amongst other interesting articulations, the exhibition of secret society dancing groups. After the geographical, political, economic and socio-cultural description of the community, let us now say something about its linguistic characteristics.

1.1.4 Linguistic Situation

As mentioned earlier, the Koshin people are located in an area called "Lower Fungom". This area in particular, and the Cameroonian Grassfields region in general, lies in what has been termed in literature the "Sub-Saharan Fragmentation Belt" because of its marked linguistic diversity (Cf. Dalby (1970), Stallcup (1980)). In spite of this diversity, scholars who worked on the languages of this area state the fact that the Koshin language (coded 879 by Breton and Fohtung 1991's ALCAM) and its relatives derive from Bantu, the southern branch of Bantoid which is a descendant of Benue-Congo. Benue-Congo is itself an offshoot of Niger-Congo. The immediate ascendant of Niger-Congo is the Niger-Kordofanian phylum of African languages. Beyond this, bone of contention arises.

Hombert (1980) proposed the existence of "Beboid" branch (separated from the group of Grassfields languages) including two sub-branches: the Eastern Beboid languages and the Western Beboid languages whose group 4 is made up precisely of the Fang and Koshin languages. If Hombert's denomination and classification is widely adopted in literature, it does not seem to be supported by lexicostatistical evidence or shared features amongst the presumed Beboid languages. His proposal seems to be a geographically-motivated hypothesis. In fact, the Western and Eastern Beboid are exactly located respectively at the western and eastern parts of Lower Fungom area. Furthermore, as outlined by J. Good (2010), if some recent comparative

studies likely plead for cognacy amongst Eastern Beboid languages, it is far from being the case amongst the Western Beboid group. That is why Good and Lovegren (2009) reassessed Western Beboid classification (into "Yemne-Kimbi" group (Good et al 2011)) and, instead of the Hombert's genealogical interpretation of this group of languages, hypothesized a non-genealogical analysis where this group has been considered a set of unclassified Bantoid languages which have found refuge in a "backwater" region.

(5) (a) African languages > (b) Niger-Kordofanian > (c) Niger-Congo (d) Benue-Congo> (e) Bantoid > (f) Southern > (g) Bantu > (h) Beboid > (i) Western > (j) ***Koshin***

(6)

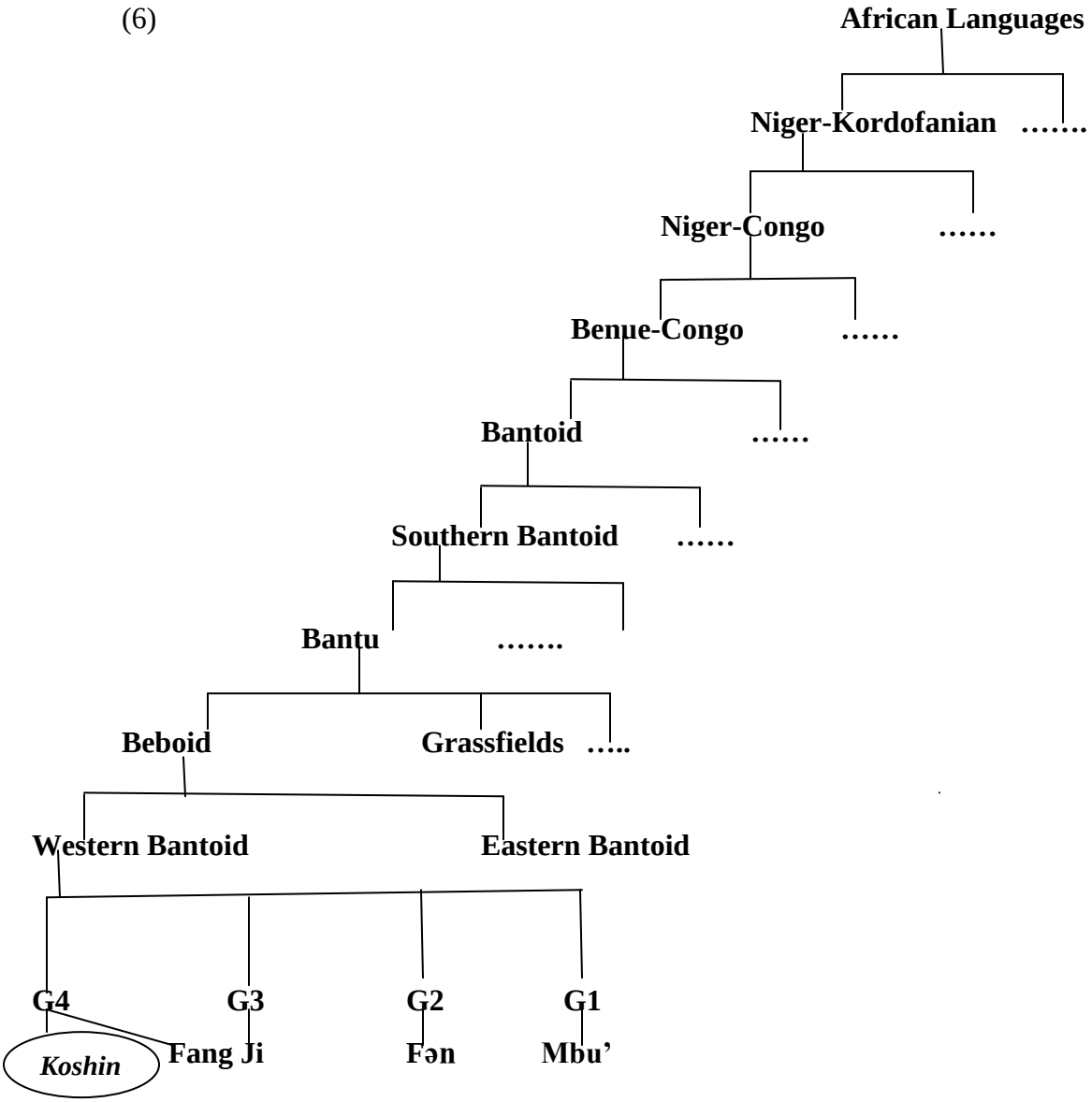


Fig.2: Linguistic classification of Koshin based on the genealogical approach of Western Beboid.

Before further descriptions of Western Beboid languages confirm the assumptions made by either of the forgoing hypotheses, let us keep considering Beboid languages within a genealogical perspective. Therefore, a general classification of Koshin language can be presented as in (5-6) above. Schematically, the genealogical tree of Koshin explained in (5) can be represented as in (6) (G. stands for language group, the other languages of each group are not indicated, except for Koshin group; dots (….) imply that there are other unmentioned members of the branch)

Beside the above classification, it should be emphasized that Koshin is one of the Lower Fungom languages spoken exclusively in one village. There is no other attested dialectal variation inside or outside the region. Parallel to the mother tongue, there is a lingua franca - Cameroonian Pidgin- spoken by most people of the community and widespread in the Anglophone regions of the country. In spite of the influence of Cameroonian Pidgin in the area, no immediate threat of extinction is perceived. In fact, the language is actively spoken by four to five thousand people (personal communication with Pierpaolo). The 1987 census reported by Hamm et al (2002: 6) indicates the figure of 932 inhabitants. This considers the Koshin community one of the most numerous in Lower Fungom. Besides, the language is spoken in almost all the contexts of communication, even amongst young people: in family, in the farms, in meetings, in traditional ceremonies and so on. Even in church, Koshin is spoken.

1.1.5 Literature Review

Koshin is not a fully described language. Nevertheless, some related works (which can guide someone who wants to know about that language) can be reviewed. Firstly, only works related directly to the Koshin language are considered. Afterwards, some works on the Beboid group are reviewed. A word is also said about the works on the language-environment interconnection hypothesis adopted in this thesis.

The first known linguistic work that mentions the Koshin language is a comparative wordlist on Naki, Koshin and Mbu' languages provided by Chilver and Kaberry (1974:37-40). In the same vein, Hombert (1980) undertook a comparative work on the noun classes of eight (8) languages (including Koshin) of the area. It can be said that Hombert's major contribution had been the proposal of the existence of a group of languages called "Beboid", different from the Grassfields languages and related to the Bantu group.

Hamm et al (2002) made a survey on the language varieties of Lower Fungom. However, they mostly emphasized Naki language which was reclassified by the authors within Eastern Beboid, contrary to Hombert's anterior classification that included Naki amongst the Western group.

More important works on Lower Fungom languages have been written by J. Good. The author was first interested in the linguistic diversity of Lower Fungom. He therefore undertook a research (which is not yet published) in order to investigate various conceptions of the "accretion zone" notion in linguistics, comparing a well-known prototypical accretion zone (the Caucasus) to the Lower Fungom area. By examining the linguistic diversity of Lower Fungom, he realized that what Hombert (1980) genealogically called Western Beboid needed to be reassessed as a set of unclassified Bantoid languages. This reassessment was the main objective of J. Good and J. Lovegren (2009). Afterwards, J. Good et al (2011) proposed a grammatical overview of the languages of Lower Fungom. A seven-page reflection on Koshin phonology and morphology was sketched. Some issues of this grammatical overview of Koshin are discussed in the chapters that follow.

Furthermore, a Master dissertation written by P. Mve (2014) on Fang Phonology is worth mentioning. It should be recalled that, following Hombert (1980) classification, Fang and Koshin make up group 4 of the Western Beboid sub-group. In his dissertation, the author describes the phonemic and tone systems of the language with special interest in the processes which account for the surface realization of the underlying units.

In short, all the works done thus far on or around Koshin language can be summed up as follows:

(7) (a) -They are comparative preliminary studies (on the lexicon) whose aim is to classify Koshin and related languages within the genealogical tree of Bantu or Bantoid languages.

(b) -Some are preliminary grammatical sketches whose aim is to provide only grammatical basics on limited parts of the language in order to feed the classificatory goal in (7a).

(c) -Others, like the dissertation on Fang, have a *formalist orientation*: they mostly aim at analyzing the surface processes. Furthermore, they target only some part of the language (for instance phonology) and fail to examine other aspects of the

said language.

None of these works has analyzed Koshin as an integrated independent system for its own sake. In other words, no enquiry has been undertaken on Koshin system where phonology cannot be understood without morphology and where a study of phonology and morphology are very limited unless they lean on syntactic structures. Moreover, even in comparative studies done for the sake of classification, studying the behavior of some selected words is not a good strategy. A more reliable principle, following the cumulative Basic linguistic theory adopted in this work, is to get the *whole* description of the language being studied. This would imply comparing some aspects of one language with those of another language, *taking into consideration the other elements of each system.* Furthermore, and this aspect derives from the foregoing, no work within those reviewed above mentions a link between the *language organization and* its speakers' *environment*. Thus, it is still possible to say something about Lower Fungom languages in general, and Koshin in particular.

Something has to be said about the language-environment interconnection hypothesis. It is not really a new idea in linguistics, even though it does not seem quite widespread in literature. In fact, in one way or the other, authors have shown the undeniable occurrence of environmental factors within language organization. Since Sapir's "Language and environment" published in 1912 and later reprinted by David G. Mandelbaum (1949), it has been clearly told that languages reflect the environment of their speakers. For instance, Sapir observed that "*It is the vocabulary of a language that most* [but not only] *clearly reflects the physical and social environment of its speakers*" (Mandelbaum (ed.) 1949: 90). More interestingly, he added some lines later that "*it is important to note that it is not merely the fauna or topographical features of the country as such that are reflected, but rather* ***the interest of the people in such environmental features*** [the bold marking is ours]" (Mandelbaun (ed.) 1949:91). The main idea of this article has been of interest to contemporary linguists such as Dixon (2012) who keeps explaining the relationship between languages and the world. This author emphasizes that, amongst the factors which explain why languages are the way they are, there is the fundamental principle that "*each language is likely to mirror, to some extent, the habitat of the speech community and the way in which its speakers live and view the word*" (Dixon, 2012: §28.2).

These aforementioned authors tell us *implicitly* where to look for environmental factors within a language: in *basic structures.* That is why, amongst other reasons, some "opposition" of

these authors to “formalist theories” can be noticed. As said below in the paragraph on theoretical and methodological assumptions, practitioners of the *Basic Approach* emphasize that linguistic description must mainly be concerned with the *deep structure* of the language (even if Dixon 2010a-b acknowledges that formal aspects of the language *may* be undertaken as a secondary matter). However, this important emphasis on the underlying structures, as shown in their writings, leaves aside precious strategies (which occur in formal/surface aspects of the language) which can equally contribute to the disclosing of the environment. In fact, as shown throughout this work, some morpho-phonological and syntactic processes also explain the specific environment of the community speaking the language. It is obvious that linguistic description should begin with underlying structures, but it is more profitable if the underlying description is accompanied by the description of some surface aspects of the language. Therefore something can be added to the basic approach of the analysis. Now, it is time to outline the interest of the topic discussed in this thesis.

1.2Topic Interest

The interest of this work partly derives from the weaknesses and the theoretical divergences observed above. In fact, as stated before, in spite of the importance of previous works done on and around Koshin, the full language organization remains unknown. For instance, none of the works mentioned above analyzes the clause construction, the relative construction, the complement clause constructions and many other aspects of all these interesting syntactic characteristics of the language. Grammatical systems such as demonstratives are not mentioned at all.

In addition to this, investigations have not been based on all the components of the language and have been conducted using limited data. Therefore, some described phenomena may, as expected, have different interpretations when more data are involved. Let us take an example: Good et al (2011) assumed as phonemic units nasalized vowels. This may nonetheless have been based on restricted data. When diminutive constructions are considered, it is noticed that nasalized vowels are realized oral in non-final position of the word. Consequently, their phonemic status has become unviable. This motivates the first interest of this work that seeks to undertake a full description of Koshin using more data collected from all the components of the language.

Apart from the lack of a full understanding of the system, the interest of this topic also derives from the lack of language-environment interconnection within the description undertaken by previous works on Koshin, due to a certain extent to the theoretical orientation. Furthermore, with regard to the general language-environment hypothesis, the present work is specific because, beyond the description of the underlying structures, this thesis looks at how the surface aspect of the language is organized at the morpho-phonological component. This helps to reveal strategies which would otherwise remain unknown within the canonical basic linguistic approach.

Last but not least, the topic of this thesis is also of interest because it views language description as a very useful tool for the understanding of human communities. It therefore can be needed in any scientific domain in favor of the community whose language is described. The topic is of interest because it discusses a problem. At this point, it is time to analyze this problem and the questions that derive from it.

1.2.1Research Problem and Questions

The main concern of this work is to identify the way an environment can be disclosed through linguistic description. Based on the assumption that any language mirrors the environment of its speakers, this work aims at determining the effective strategies which allow the disclosing of the Koshin environment through the language description. Then, some questions can arise:

(8) (a) What are the general characteristics of the Koshin environment?

(b) What are the prototypical strategies or ways that can make possible a disclosure of these environmental characteristics within a linguistic system?

(c) What characteristics are really attested within the language?

(d) What are the further implications of this language-environment link?

1.2.2 Hypotheses or Research Assumptions

On the basis of these research questions, some hypotheses have been postulated, corresponding to the questions (8a-d), whose validity can be tested at the end of the work. These hypotheses can be presented as in (9) below.

(9) (a) The Koshin community shows an environment with specific geographical, political and socio-cultural characteristics.

(b) The organization of the basic linguistic categories (the underlying organization of the language) unveils the environment of Koshin speakers.

(c) All the environmental characteristics interesting for the community are attested within the language

(d) The environment-language link theory can be useful in other contexts (other than the linguistic one) for the community needs.

1.2.3 Motivations for the Topic, Objectives and Aim of the Study

Two main interconnected reasons have motivated the choice of the topic discussed in this work. The first reason is related to the challenging but exhilarating interest in working on a characteristically different language, given that thus far we have mostly dealt with Indo-European languages (as student or scholar) or with a Chadic language (as a native speaker). The second reason derives from the observation of some features of the language under description, which gives way to the following questions: is Koshin different from other (familiar) languages only because of its contact with neighboring languages and its genetic characteristics? What other extra-linguistic factors determine *the way the language is organized*?

The items "objective" and "aim" are used in a slightly different way in this thesis. The first item is used to refer to what will be achieved in a short time, whereas the item "aim" refers to what is expected later, in the medium or long term. At the end of this work, it can be shown that, languages reflect the environment of their speakers through the underlying and surface organization of the system. This can only be possible if the language under description is considered a whole system whose parts are necessarily integrated one into the others and also if any consistent description must look at all the components of the language during description.

The work aims at presenting linguistic analysis as an exploration task. On a par with natural sciences such as Biology, Linguistics can disclose hidden realities (which are not sometimes consciously perceived by the speakers). Furthermore, a linguist can be regarded as an explorer who may come from a different place in order to discover how a community is organized and what its behaviors are in a specific geographical location (whether his exploration serves a negative or positive purpose is another matter). To achieve these objectives and aim, the work has to be based on a specific methodological and theoretical framework.

1.3 Theoretical and Methodological Assumptions

This section presents the theoretical and methodological architecture which organizes the whole work. It goes without saying that the importance of any scientific work is also determined by its theoretical orientation. For this work, an eclectic theoretical framework explains the data: a *basic* theory and a set of seven *formalist* theories have guided the research process. Let us begin with the basic theory, that is, The Basic Linguistic theory.

1.3.1 Basic Linguistic Theory

Since the pioneer descriptions of Indo-European systems such as Latin, Greek or Sanskrit which are some best-known languages in literature and whose primer descriptions have made up what has been commonly called "traditional grammar", more than two thousand years ago, the descriptive theory has been continually enhanced through descriptions of new languages. Each new description has given way to a new revision of the theory "*making it able to characterize a little more fully the essential nature of language as a cultural trait of human beings*" (Dixon, 2010a:§1.2). This descriptive theory has only recently come to be called the *Basic Linguistic theory* (BLT), one of whose most representative current practitioners is Dixon (2010a,b, 2012), is followed in this work.

BLT considers *Linguistics as a natural science* such as Biology, Geology, or Geography. As such, it views language as a whole. For the followers of this theory, just as it is required to have a full understanding of the human body before undertaking studies in surgery or neurology, so is it required, in the linguistic domain, to have a complete understanding of the language system before undertaking the analysis of a specific part of this language.

Unlike formalist theories which are interested in accounting for surface phenomena and which tend to disappear (as soon as they cannot explain other phenomena) before being eclipsed by another new rival supposed to be more effective, BLT is a very old theory concerned mostly with *underlying* structures. Mandelbaum (1949: v) made the following comment about the linguistic description according to Sapir, one of the most influential practitioners of today's BLT (and who is referred to in this work): "*Formal linguistic descriptions and analyses were, for Sapir, only the beginning of the linguist's task*". Instead of looking at limited aspects of the language, each considered sometimes outside the context of the holistic system to which they belong, BLT is a *cumulative* theory. It examines a language as an *integrated system* where one part cannot be fully understood without being related to the others.

Furthermore, BLT describes what happens in the language under study and *relates this to cross-linguistic typological generalizations and parameters* on the human languages, and ultimately tries to find why languages are the way they are. As Dixon (2012: §28.0) put it, "*Each language is just a partial means of expression, being able to directly convey only a portion of possible meaning contrasts (that is, only a portion of the sum of meaning contrasts added up over all known languages)*".

The theoretical approach assumed by BLT goes with its *inductive* (not deductive) procedure: rules are derived on the basis of observed specific phenomena (instead of proposing a preconceived theory to which a language is applied in order to test the reliability of the theory) and *every description provides feed-back which readjusts the theory*.

The foregoing principles of BLT allow us to describe the overall underlying organization of the language, that is, the interlocking between lexical classes, between closed grammatical systems, and between grammatical constructions. However, languages also exhibit quite interesting phenomena which happen at the surface structure. The explanation of these processes makes us understand how underlying structures occur at surface representation. This can remain unknown without formal theories. That is why it is useful to go beyond the basic analysis. And this work focuses specifically on surface processes related to the phonological component of the language. Syntactic derivations are not considered. An important question to ask here is how the phonological processes observed in the data can be accounted for taking into account the underlying units of the system into consideration. It is now necessary to review the phonological formal theories which are consulted for this work.

1.3.2 Structural Phonology

Fundamentally, Basic Linguistic Theory and Structuralism (at least as postulated by Saussure, 1916) share a common essential principle: the consideration of the language as a *structure*, that is, a well-organized *system* in which the parts are arranged and connected together. Therefore, as stated by Duchet (1998:8), Structural Phonology focuses *the principles determining the occurrence of sounds* and their *function* within a language where *they make up a system*. More concretely, Structural Phonology principles make allowance for the following:

(10) (a) The systematic identification of Koshin segments and tones which show a phonemic value and those which do not (this is mostly achieved through a system of contrasts within the *paradigmatic (vertical) axis*)

(b) The analysis of the way segments and tones are associated and organized in order to make up syllables and words (this is achieved through *Phonotactics*, within the *horizontal axis*).

Amongst other followers of Structural Phonology, the analysis refers to Trubetzkoy with his well-known and influential *Grundzüge der Phonologie* [*Principles of phonology*] (the French version (*Principes de phonologie*, 1986) is consulted for this work).

1.3.3 Generative Phonology (Phonology in Generative Theory)

From the Generativist (or Generative) theory developed in the 1950s for grammar, linguists have adapted a theory of phonology using the generativism approach and techniques. That is why Kenstowicz (1994), one of the generativists consulted for this work, titled his book "*Phonology in Generative grammar*". In fact, on a par with generative syntax, generative phonology distinguishes different *levels of derivation*, only the *surface level* being empirically accessible. Finally, as noticed Duchet (1998:43), "o*n pourra ainsi, à partir d'une représentation sous-jacente, formuler des règles phonologiques, explicatives du fonctionnement phonologique d'une langue* (…)" [We can then hypothesize, from an *underlying representation, phonological rules* which account for the phonological functioning of a language.]

Generative phonology is fundamentally different from Structural Phonology because, amongst other reasons, it is no longer concerned with building the phonological system of a language -as structural phonology is. Instead, it deals with *giving a* (deep) *structure to language morphemes* and *providing rules* which apply to these morphemes (in order to account for their superficial structure). In other words, generative phonology goes beyond structural phonology and takes into account both phonology and morphology. This consideration of both phonology and morphology, crucial in generative phonology, makes it possible to give a different interpretation or status to segments which, on a purely structural ground, can be considered phonemes.

1.3.4 Lexical Phonology

Even though Generative Phonology derives, from underlying forms, surface structures through phonological rules, it nonetheless supposes (at least in its earliest version) that morphological processes are all applied before phonological rules took place. It does not postulate that word formation can proceed by *stages* (strata or levels), with a possible

interleaving or *interaction between morphological processes and phonological rules* at each stratum. These weaknesses of the Generative Phonology model gave way to the emergence of a new formal theory called Lexical Phonology. This theory schematizes its principles as in (11) below with figure 3, taken from Kiparsky (1982b:4), one of the pioneers of the Lexical Phonology model. This morphology-phonology interaction allows the analysis to account for some otherwise unexplained facts.

(11)

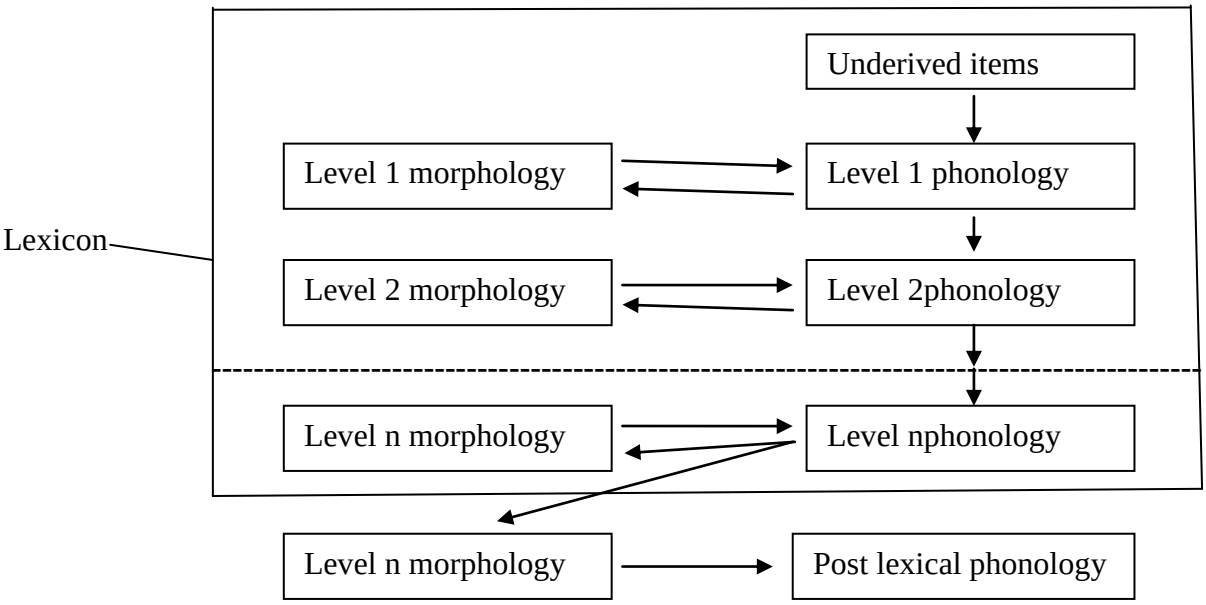


Fig.3: Morphology-phonology interaction in Lexical phonology

For instance, the lexical floating tone association process in Koshin takes place only at the stem and word levels (lexical stratum), but does not operate at the post-lexical level of the derivation. Although Lexical phonology better accounts for the layer-built organization of words, it cannot explain how segments are internally organized, each segment being a bundle of features. For this reason, Feature Geometry model has been consulted in this work.

1.3.5 Constriction-based Model of Feature Geometry Theory

It should be mentioned that Feature Geometry model is an offshoot of the well-known and seminal formal approach called Autosegmental Phonology developed by Goldsmith (1976) from the observation of prosodic phenomena such as tones.

In fact, Autosegmental phonology fundamentally pleads for the *autonomy* of segments and introduces an inherently *nonlinear* character to phonological representation, departing from the generative phonology's earlier linear representation.

(12) (a) Consonants (b) Vocoids

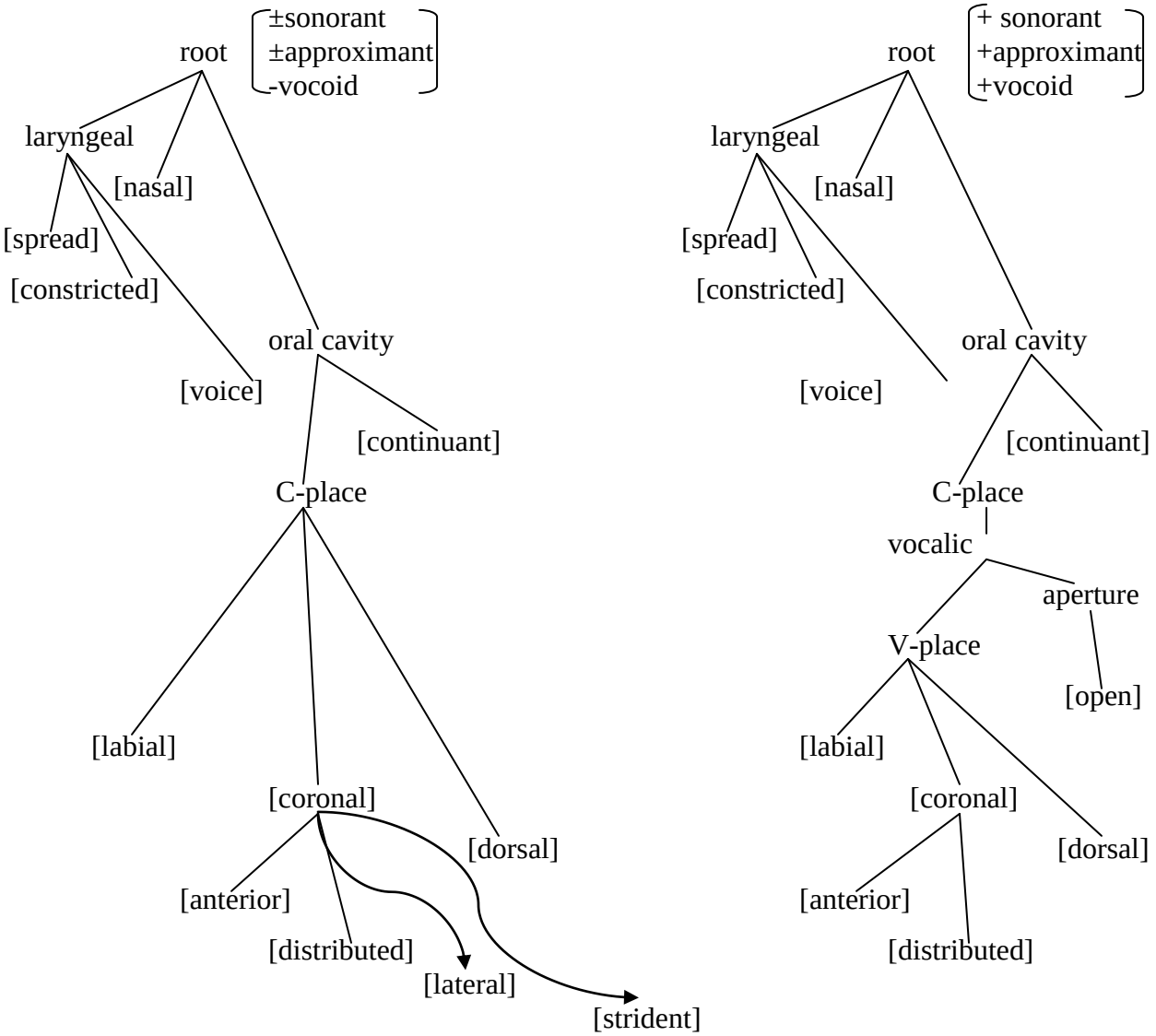


Fig.4 : Hierarchical organization of speech sounds

The autonomy of tones from segments in the underlying representation gave way to a series of approaches which give more and more autonomy, not only to both segments and tones, but also to features making up segments and tones. One of such approaches was labeled Feature Geometry (its main claim is that features are organized hierarchically in a tree graph) which still begot many competing theoretical proposals. Amongst these proposals, there is a refined version

developed by Clements and Hume (1995), followed in this work, and which analyzes the "*internal organization of speech sound*" as in (12) above.

The specificity of this model is that any segment (vowel or consonant) produced within the oral cavity is marked by a *constriction* (hence the Constriction-based Model). This constriction shows two main parameters: the *constriction degree* and the *constriction location*. Amongst its main predictions, this theory assumes for example that a coronal consonant can render a neighboring vowel coronal, that is, consonants and vowels are characterized by the same place features.

Also, it is worth saying that Clements and Hume (1995) did not link to the feature tree two features whose affiliation was unclear, that is, the features [strident] and [lateral]. Some linguists attached them under the coronal node but others attached them under the root node. Interestingly, Koshin data plead for the coronal attachment of both features (they are linked to the coronal node with twisted lines ended by arrows in (12) above). In fact, the feature tree in (12) accounts straightforwardly for the corono-spirantization (palatalization) process by which, for instance, the segment /k/ is realized [s] (Cf. chapter 5). The analysis assumes that it is the succession of two processes: firstly, /k/ is realized coronal (t), and then strident (s). And this is only possible if the [strident] feature is linked under coronal node! Moreover, the process homorganizing the archiphoneme /N/ into [n] before the lateral consonant /l/ supports the view that this archiphoneme has copied the coronal feature from the lateral consonant (Cf. chapter 5).

In short, the Constriction-based model of Feature Geometry allows the description to show why segments are phonetically realized the way they are realized, taking into consideration the hierarchical internal organization of each segment based on two constriction parameters. The autosegmental reasoning has also influenced the conception of tonal structure. One of such reasoning is summed up within an interesting theory developed by Bao (1999) and which better accounts for some data of Koshin.

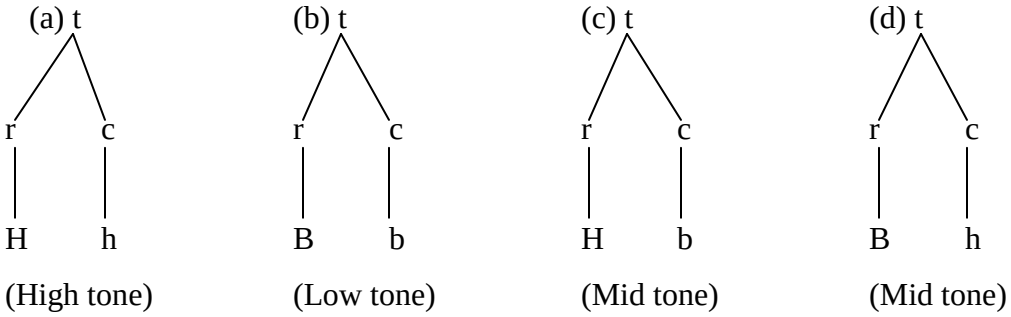
1.3.6 The Feature Geometry of Tone

The Feature Geometry of tone assumed by Bao (1999) is basically determined by the fact that tones show an essential articulatory nature, on a par with segmental sounds, and that the organs responsible for voicing (vocal folds) are also responsible for tone production. Besides, Bao assumes that tones are made up of two feature-nodes: the register (r) and the contour (c).

Both the register and the contour are dominated by the root tone (t). While the register node determines the level of the tone, the contour node specifies the behavior of the tone during the realization of the tone bearing unit. The author gives more details: "*the r node is static in the sense that it provides the overall pitch, which is relatively stable throughout the duration of the tone-bearing unit. Since it specifies the pitch register in which the tone is to be realized, the r node must be either L or H. the c node is dynamic and is interpreted over time*" (Bao 1999:47). And the r and c nodes dominate respectively the features [stiff] and [slack]. Thus far, Bao's proposals are not different from what has been said before him by authors such as Halle and Stevens (1971), giving way to only three level tones: the high tone with the features [+stiff] and [-slack], the low tone showing the features [-stiff] and [+slack] and the mid tone with the features [-stiff], [-slack]. This prediction of only three level tones is subsequent to the previous assumption that vocal folds can only be stiff or slack, but not stiff and slack at the same time and then [+stiff, +slack] combination is not attested. However, Bao departs crucially from the position adopted thus far. This important departure has been noticed and summed up by Yip (2002:58) as follows:

"He [Bao] suggests that since we do not really know what muscles are used to stiffen and slacken the vocal folds, and indeed two different sets may be involved, it is entirely possible that both sets can be activated simultaneously. In that case the combination [+stiff, +slack] becomes possible and the features combine to give four levels. So Bao uses [+stiff] instead of [+upper], and [slack] instead of [+high] and proposes a model with all the properties of Yip's plus the Halle and Steven's connection to obstruent voicing". Therefore, assuming the possibility of a simultaneous action of the stiffness and slackness of vocal folds, Bao (1999: 48) postulates four underlying level tones and four contour tones represented as in (13) below where only level tones are shown because Koshin does not exhibit underlying contour tones (H= [+stiff], B= [+slack], h= [-slack], b= [+slack], t= tone root node, r= register node, c= contour node)

(13)



The possibility of assuming two mid tones with two different characteristics as in (13c-d) is crucial for Koshin tonology.

(14)	Nouns	Diminutive-Noun-Diminutive	Gloss
	(a) nyɔ̀m	fə̀-nyɔ̀m-ə̀	“ meat”
	kə̄-fwá	fə̄-fwá-lə́	“ snail”
	(b) mɪ̂	fə̄-mɪ̌-lə̀	“ oil”
	bɪ̃̄	fə̀-bɪ̀n-ə́	“foot”
	tāŋ	fə̀-tàŋ-ə́	“ leg”

In fact, if examples (14b) are considered, one can realize that the high tone of “oil”(first example in (14b)) followed by the low tone of the suffix in the diminutive structure is realized mid when there is bound affix to root. Interestingly, in the last two examples, the low tone of the root followed by a high tone on the suffix in the diminutive structure is also realized mid, when there is no affixation. In other words, the mid tone has two sources: it results from the lowering of the high tone or from the rising of the low tone. These phenomena are reminiscent of tonological processes called in African languages “downstep” and “upstep”. Curiously enough, if everybody recognizes that the downstepping or upstepping effects observed in tones are caused by neighboring tones, it has not been clearly stated that these two processes are mere instances of tone assimilation. The tone assimilation process in (14b) cannot be explained unless it is assumed that there are two different mid tones, at least at the surface structure. Bao’s theory accounts for this situation by assuming two different mid tones with two different structures.

1.3.7 Prosodic Theory of Nonconcatenative Morphology

Linguistics has been significantly influenced by theoretical frameworks conceived for Indo-European languages (because the pioneers of the discipline were from the Indo-European tradition). And in many well known Indo-European languages (as is the case in Bantu languages), words often consist of a *concatenation of morphemes.* Consequently, the most familiar linguistic theories which have been developed preferably take into account a concatenative morphology.

However, there are languages like Koshin (Beboid), or Grassfields languages, or Semitic languages (such as Arabic) which do not show concatenative structures. Rather, they exhibit a *basically fusional structure* where morphemes cannot be segmented linearly. McCarthy (1981),

McCarthy and Prince (1995) developed a theory of "prosodic morphology" which adequately handles nonconcatenative languages. This theory is used in this work in order to explain fusional processes such as reduplication, coronalization (usually called palitalization), labio-dorsalization, internal change and tone change, amongst others, which are very widespread in the system.

1.3.8 Sentence Phonology

Some processes of the language are related to concatenative structures. They are explained by Lexical phonology presented above. Others, which are fusional, can be understood when McCarthy's approach for nonconcatenative languages is consulted. This prosodic approach is interconnected with another formal theory called "Sentence Phonology", developed or followed, amongst others, by Selkirk (1986), (2003), Kaisse (1985), Patin and Rialland (2006), because of one important point: the consideration of the prosodic units in phonological processes. For instance, reduplication has been conceived in McCarthy's prosodic morphology as based on prosodic templates (syllables), whereas labio-dorsalization and coronalization are viewed as processes applying exclusively at (the first syllable of) the prosodic word. Sentence phonology also takes into account prosodic structures. Moreover, it goes beyond the syllable and the prosodic word in order to handle processes applying at the phrase, clause and sentence levels. More specifically, Sentence phonology assumes the existence of prosodic units (syllable, foot, prosodic word, phonological phrase, intonational phrase, phonological utterance) as the interface (interconnection) between syntax and phonology. This principle is coded through the *Prosodic Structure Hypothesis* with two competing versions (14a and 14b):

(14) Prosodic Structure Hypothesis

(a) Strong version: the effects of morpho-syntactic structure on sentence phonology are never direct but through prosodic structures (Selkirk 1986; Nespor and Vogel 1986)

(b) Weak version: Some constraints on phonological phenomena also have direct access to morpho-syntactic representation (Kaisse 1985).

As far as Koshin is concerned, the weak version of the prosodic structure (14b) seems to be most appropriate because of some reasons explained in detail in the chapter on lexical and sentence phonology. It should be noted that only the influence of syntactic structure on phonology is

analyzed in this work. No evidence of the influence of phonological processes on syntactic structure has been attested.

Each of the preceding formal theories may require data which are not useful for the other. For instance, data required for lexical phonology are not necessarily relevant for sentence phonology. However, BLT -as a cumulative theory- needs data from all the components of the language and then, each formal theory can make use of some part of data required for BLT. Consequently, the methodology of collecting and analyzing data observed below is purposely adapted firstly to BLT.

1.3.9 Methods of Collecting, Analyzing, and Presenting the Data

Any theoretical framework always requires a specific methodological approach. For this work, even if formal theories have been used to handle some surface structures, it should be strongly emphasized that this is by far a secondary matter. The very first and fundamental theory underlying the whole work is the Basic Linguistic theory, the theory of Linguistics as a natural science. Then specific methods have been followed in order to achieve the objectives of this work. Three main steps can be distinguished: the collection of the data, the analysis of these data, and the writing of the thesis.

It should be noted that the three stages mentioned above did not take place strictly following the preceding order. They were generally carried out at the same time, even though the writing of the thesis was achieved mostly at the end of the research. The first thing done, after the choice of the language under description was made (and after the review of literature around and on the language), was to go to where this language is spoken: Koshin village. For the first trip, due to the inaccessibility of the village during the rainy season, we were obliged to work with consultants in Wum (headquarter of the division in which Koshin is found), but all the other fieldworks took place at Koshin village. Some native speakers were also consulted in Yaoundé, in order to check postulated hypotheses. During this immersion fieldwork, firstly, there have been many opportunities to listen to native speakers, in any context of communication. The second stage was to get accustomed to the language sounds, then to gradually learn and speak the language. Integration to the community's life followed this phase. In fact, the possibility to live in the royal palace, to participate in the community's activities and to stroll around the village in the company of consultants (holding a small notebook and writing down everything which can

enable to learn the language) eased this integration. Such integration was useful for data collection.

Texts were initially collected. Since there is no electricity in the area, it was impossible to use electronic equipment. Hence, notebooks, pencils, erasers, and a pair of constantly keen ears made data collection possible in this phase. The place where the data were collected, the date, the topic of the text to be collected and the name of the consultant(s) who told the story to be collected were always mentioned. The texts to be transcribed were selected on diverse topics, according to the observed daily activities: the daily activities of a Koshin woman, the importance of palm trees, fishing and agricultural activities, twins within the community, the role of the king, prayers and so on. Other texts were also collected on activities or events which were not directly observed but which, according to the consultants, are very important in the community: funeral celebrations, the harvest annual festival, the history of the Koshin people, and so on. Some of these texts can be found at the end of this work as appendix elements.

After texts were transcribed, the more difficult and demanding task of translation (interlinear glosses and full translation) was effected. The lingua franca used was English except in cases when it was difficult to find the English equivalent of the term mentioned. In such cases, French or the mother tongue was resorted to. But the English equivalent of the item was later checked in the dictionary. At the beginning of the fieldwork, the translation task was carried out with one consultant (whether the one who told the transcribed story or not). But it was later noticed that it is by far better to translate texts with a group of consultants because, anyone reacted to the proposals of other consultants if the translation is not fully correct and the others agreed or disagreed according to what is proposed or rejected.

As soon as a collected text has been translated, its analysis immediately followed, even before the collection and translation of a new text. All the parts of the language were analyzed at the same time without any order: phonology, morphology and syntax. This analysis gradually unveiled the phonological and morpho-syntactic rules of the language as well as its major characteristics which progressively emerged. These rules and characteristics were written in a notebook and the texts in which they were observed were equally mentioned.

The stage that followed was that of checking the grammaticality of the postulated rules and the filling in of the putative grammatical gaps. In fact, on the basis of the hypotheses already gathered from texts, new structures were used within an adequate context and proposed to the

consultants in order to test their validity. The valid hypotheses gave material to write paragraphs on any part of the language concerned by the rules.

Collecting texts from fluent consultants was not enough. For instance, within a text on body parts, many items related to this semantic type were found out. But some items such as "penis" did not emerge. Consequently, a *controlled lexical elicitation* was undertaken. The body part to be checked was touched and its equivalent in Koshin asked for. By this restricted elicitation, more items within the semantic type of body parts were given and consequently the language lexicon was completed.

As expected, information from both text collecting and lexical elicitation were completed by participant observation. Some information that could not be found out from the first two sources emerged from the observation of the daily interaction between the speakers. For example, it was realized for the first time that there is a different item for thanking a single person or thanking various persons only when observing a group of young people during a collective work (clearing the road going from Koshin village to Abar village). These young men motivated each other by saying "thank you" to the other members of the group. This made it noticed that a single person and several people are tanked using different items in Koshin.

After three fieldwork trips, the collection of data (through texts, restricted lexical elicitation and participant observation), the analysis of these data, the postulating of the hypotheses and the checking of the validity of these hypotheses gave enough material to be put into a more organized plan and form. The writing task has started by the presentation of the lexical categories, then the grammatical systems and markers of syntactic function before the completion of the part on grammatical constructions. The part on phonology was written at the end of the work, just before the introduction and the conclusion.

1.4 Scope and Organization of the Work

As noted before, this work analyzes the underlying organization of Koshin language in all its components: lexicon, phonology and morpho-syntax. However, surface processes restricted to phonology are also discussed. Then, the derivation of surface syntactic processes goes beyond the scope of this work. The work is restricted to a synchronic analysis, even if, from time to time, there are references to the postulated Proto-Bantu forms or the postulated Proto-Beboid in order to account for some Koshin forms.

The work is organized into four main sections. The first section deals with phonology. It is divided into four chapters: the first chapter on the phonology of vowels and prosodic units, the second on the consonant system (these two chapters analyze the value of segmental and prosodic units within the language); the third chapter of this section dwells on phonotactics and prosodic morphology and phonology (which shows how the phonemic units are organized and transformed within the syllable and the prosodic word); and finally the chapter on lexical and sentence phonology which examines the rules related to the concatenative structures of the language and those which mirror the syntactic organization of the language.

The second part is on lexical categories and it comprises two chapters: one chapter on nouns and another one on verbs, each lexical category analyzed with its lexical modifiers. These lexical categories are defined in terms of morpho-syntactic features and their main morphological processes are presented.

The third section of the work discusses all the closed grammatical systems and markers of syntactic functions attested in the language. As expected, it is the longest part of the work: it consists of seven chapters that examine the noun class system, pronouns, demonstratives, definiteness and indefiniteness systems, interrogatives, case system markers, and tense markers and grammatical secondary concepts. In each of these seven chapters, all the members of the system are analyzed in relation to the others and the value of each member depends on the value of the other members of the closed system.

The fourth and last part which is made up of only two chapters analyzes the main and most recurrent grammatical constructions attested in the language. These constructions are of two types and correspond to the two chapters: phrasal constructions, and the clause and sentence constructions. In each attested construction of the two types, the structure is analyzed into smaller constituents, and most importantly, it is compared to other more or less similar constructions within the language or it is compared to well-known linguistic generalizations.

In summary, this introductory chapter aims at providing a background for the better understanding of the chapters that follow. In order to achieve this aim, the topic has been presented, its interest given, the theoretical and methodological assumptions analyzed, and finally, the scope and organization of the overall thesis has been highlighted. It is now time to examine the specificity of the Koshin linguistic network.

SECTION I

PHONOLOGY

The main discussion of this section deals with phonology. Before presenting the organization of this section, it is important to clarify the position assumed in this work concerning two issues related to phonology and which are recurrently discussed in linguistics.

In literature, many scholars construe phonology in its relation to grammar. And this relationship between phonology and grammar is quite often viewed in different ways. For some linguists, the phonology of a language is looked on as an integral part of the grammar of that language, such that the grammar includes, amongst other levels, phonology, morphology, syntax. On the other hand, there are linguists who consider phonology as being outside the grammar. As far as Koshin is concerned, both theoretical orientations are viable. Whether regarded as part of the grammar or separated from it, phonology remains the same, since the Structuralism of Saussure and most importantly since the publication of Trubetzkoy's 1939 seminal book (*Grundzüge der Phonologie*): the study of *the language sounds*. To put it in simpler and in more practical terms, Dixon (2010a: 338) glosses the item phonology as the "*description of the phonetic contrasts which are used to distinguish between distinct words in a given language*".

Another discussion observed in literature concerns the sounds as basic linguistic units. It is known that for some linguists, the basic linguistic unit is the segment but for other linguists the basic linguistic unit is the segmental feature. In this work, the analysis gives autonomy to segment features, as postulated by theories derived from Autosegmental Phonology. It is worth considering the fact that any natural language includes units such as sentences, clauses, phrases and words in its system, and words are built up by what was called, more than four decades ago, units of "deuxième articulation" [second articulation units] (the phonemes) (Martinet 1970:15), still analyzable (following later theories) into autonomous features. It is also worth noting that these features, alone or as a whole, play an important role in distinguishing one word from another within the system. This section is organized as follows: After the first two chapters about the identification of the contrastive units (vowels and prosodic units, and consonants), the third chapter discusses the functional phonotactic possibilities of the contrastive units. And the phonological processes undergone by these contrastive units at the lexical and sentence levels are studied in the fourth chapter.

CHAPTER 2
PHONOLOGY OF VOWELS AND PROSODIC UNITS

This chapter deals with some elements of the phonological system, namely the vowels and the prosodic units. It is organized in two points. The vowels are first of all analyzed, then the prosodic units. The chapter also examines which elements show a contrastive value in the system and which ones do not. More concretely, it answers the following question: what vowels and prosodic units are attested in the underlying representation of the system? Leaning essentially on the structuralist approach, the analysis proceeds as follows: for any of the two sub-systems (vowels and prosodic units), an inventory of all the (surface) phonetic realizations is made. Suspicious pairs of sounds/tones are built up in order to determine which pair can be a set of two allophones of a single phoneme. Furtheremore, minimal pairs are checked to determine the phonemic value of the pair involved. For sounds which cannot make up minimal pairs, arguments should be given to determine their phonemic or non-phonemic status, arguments which are exclusively internal to the language. However, Generative and Autosegmental approaches are also consulted where the Structuralism model does not account for the data adequately. Sound transcription basically relies on the symbols of the International Phonetic Alphabet (IPA), except for specific cases where other symbols are used for practicability as follows:

(1) (a) The symbol [c] is used for the coronal (palatal) voiceless affricate consonant.

(b) The symbol [j] is used for the coronal (palatal) voiced affricate consonant.

(c) The symbol [y] is used for the coronal glide.

(d) The symbols [zh] are used in place of the coronal voiced fricative consonant.

(e) The symbols [sh] are used for the coronal voiceless fricative consonant.

(f) The sequence [ny] is used to refer to the palatal nasal.

(g) The sequence [gh] is used for the voiceless dorsal fricative

2.1 Vowel System

The vowel system of Koshin does not seem to be complex. The attested vocalic sounds are more or less similar to those attested in neighbouring languages.

2.1.1 Inventory and Articulatory Characteristics of Sounds

The inventory of all the vocalic sounds attested in the language is given below. These sounds are defined in terms of their characteristic features and the labels used are taken from the Feature Geometry terminology (Cf. the Constriction-based Model of Clements and Hume 1995).

(2) (a)	[i]	[nɗi]	"water"
		[kə-fi]	"pig"
		[píyā]	"pear"
		[kpɨ̄n]	"tree"

The sound [i] shows a high frequency in the data. It is realized as [+vocoid] (root node), [coronal] (v-place node), [-open] (on the two tiers of the aperture node (cf. Clements and Hume 1995: 283), [-nasal].

(b)	[ĩ]	[bə̄-zhĩ]	"food"
		[bĩ]	"foot"
		[kə̀-cĩ]	"heel"

The vowel [ĩ] is realized exactly as [i], except that [i] is [-nasal] but [ĩ] is [+nasal]. It is not too frequent as its oral counterpart.

(c)	[u]	[mū]	"farm"
		[dzù]	"penis"
		[kū]	"village"
		[kə̄-núŋ]	"rooster"

Whereas the vowel [i] is [coronal], [u] is a [dorso-labial] sound. It also shows the feature [-open] on the two tiers of the aperture node. This sound also occurs regularly in the language.

(d)	[ũ]	[kə̄-tű]	"ear"
		[fű]	"there"
		[bű]	"ash"
		[wű]	"nose"

The sounds [u] and [ũ] are identical except that the latter is nasal and the former is oral. It is less frequent than [u].

(e)	[ɨ]	[bɨ̀]	"dog"
		[mbɨ́]	"wine"
		[mɨ̄]	"farms"

The sound [ɨ] is sometimes confused with the vowels [i], [u] or the schwa vowel [ə], so that it is not always clearly identifiable, at least, as far as auditory impression is concerned. Nevertheless

in some words, it is distinguishable. In the Constriction-based Model, it is defined phonetically as a placeless sound, with two [-open] tiers.

(f) [ĩ] [nsĩ] "friend"

As its oral congener, the vowel [ĩ] is not easily distinguishable. It may occur in many words, but it has been identified only in the word "friend". It is a placeless sound, [+ nasal], and [-open] on the two tiers.

(g) [e] [kə̄-dé] "cook"
[kə̄-lé] "calabash"
[kə̄-mē] "neck"
[nè] "where"

The sound [e] is realized coronal as [i] but shows one feature [+open] and another [-open], both features located under the aperture node. It is frequently attested in the data.

(h) [ẽ] [mbẽ] "breast"
[fẽ] "king"
[wẽ̄] "leaf"
[nzẽ] "porcupine"

Phonetically, [ẽ] shows all the features of [e] plus the feature [+nasal].

(i) [ə] [kə̄-gá] "to fly"
[kə̄-wá] "to crush"
[nyùmə́] "dry season"
[mwən] "person"
[mə̄] "1person singular pronoun"

The vowel [ə] is amongst the most recurrent vocal sounds attested in the language. It is a placeless sound which shows the features [+open] and [-open] on the two tiers under the aperture node.

(j) [ə̃] [tūwə̃] "buttock"

The nasalized schwa has been clearly identified in the word "buttock". Maybe it is attested in other words, but it is obvious that it is far from being as frequent as its oral congener.

(k) [ɛ] [mbɛ̀] "king"
[gɛ̂] "corns"
[nzɔ̀ŋə́-lɛ̄] "be good"

[bɛ̀]	“bag”
[kə̀-kwɛ̄]	“forest”

The vowel [ɛ] is realized as coronal and shows [+open] on the first tier and [-open] on the second, unlike the vowel [e] (which exhibits [-open] on the first tier and [+open] on the second). Instances of its nasal equivalent, which may probably exist, have not been identified.

(l) [ɔ]	[fɔ̄ŋ]	“here”
	[fə̀-mɔ́]	“cat”
	[kə̄-gɔ́]	“fight”
	[mbɔ̀ŋ]	“cow”

The vowel [ɔ] is regularly attested in the language. It freely alternates with the vowel [o] even if, quite often, [o] is less frequently heard than [ɔ]. It is commonly regarded as mid-low. Therefore, it exhibits the [+open] feature on the first tier and [-open] on the second one.

(m) [ɔ̃]	[tsɔ̃]	“white monkey”
	[mfwɔ̃]	“blood”
	[fə̄-ŋkɔ̃]	“doe”

Phonetically, [ɔ̃] is identical to [ɔ] except on one point: the first sound is nasalized and the second one is oral. It is clearly distinguishable although it is not frequently attested as its oral counterpart.

(n) [a]	[tàŋ]	“leg”
	[shàŋ]	“finger”
	[zhùwà]	“river”
	[kə̄-kwā]	“catch”

The vowel [a] occurs regularly in the data. It is also devoid of place feature like the vowel [ə]. Nevertheless, unlike the schwa, it is an open vowel with a [+open] feature on each of the two tiers.

(o) [ã]	[ŋkã̀]	“corn beer”
	[mbã̄]	“nail”
	[mbã]	“fence”
	[wã̄]	“child”
	[jwã̀]	“sickness”

The vowel [ã] is the nasalized counterpart of the vowel [a]. Therefore, it is a placeless and open vowel.

In summary, the phonetic inventory of vowels in Koshin can be characterized according to the following three properties, if their [+vocoid] root node is put aside:

(3) (a)According to the place of articulation node, vowels are [labio-dorsal] or [coronal] on the one hand, and placeless on the other hand.

(b) According to aperture node, there are sounds which show two tiers with the feature [-open] (traditionally called high vowels), others with the feature [-open] on the first tier and the feature [+open] on the second tier (the usually called mid-high vowels). Other sounds, the mid-low vowels, exhibit [-open] on the first tier and [+open] on the second tier. There is also one vowel which is marked [+open] on the two aperture tiers (it is traditionally considered low vowel)

(c) And thirdly, following the nasal versus oral property, there are oral vowels and nasal vowels.

It should be observed that all the attested vocalic sounds fill a single slot in the skeleton tier. They are all short vowels. However, some limited set of long vowels have been attested in some specific morpho-syntactic environments, as follows:

(4) Long vowels

(a) [i:] sə shĭ:-sə skūl
1PERS.PL go down.IMPERF-ACT school
"We go/ are going down to school"

(b) [u:] jū:fə̄ "ten"

(c) [e:] wù gè:-sə́ shɨ̂=mə̄
3PERS.SG go.IMPERF-ACT market=ADPOS
"He/she goes/ is going to the market"

(d) [ɔ:] gbɨ̂yà w-ə̄ŋ gbɔ̀:-sə́=shí
NC.house CONC-1PERS.SG collapse.IMPERF-ACT=ADPOS
"My house falls/ is falling"

(e) [ə:] mə̄ fə̀:-sə́ bə̀-lùŋ
1PERS.SG do.IMPERF-ACT NC-problem
"I face/am facing problems"

(f) [a:] mə̄ lĭyà:-sə́ mū
1PERS.SG go far.IMPERF-ACT farm
"I go/am going to the farm"

As shown in (4), long vowels are also attested in the language. But they have been identified mostly in verb phrase constructions where the vowel of the verb root is followed by the activeness (ACT) morpheme (-sə́). As for the long vowel [u:] (4b), it has been identified within the numeral system (the numeral "ten"). The long vowels [ɨ:] and [ɛ:] have not been attested.

From the preceding, it can be concluded that, in a phonetic viewpoint, another property (the vocalic quantity) can be added to the three properties in (3), in order to define vowel sounds.

2.1.1 Phonetic Chart of Vowels

All the vocalic sounds attested above can be included in a phonetic chart as follows.

(5)

[Nasal]	Aperture		V-place		
	Tier 1	Tier 2	Coronal	-	Dorso-Labial
[+nasal]			[ĩ]	[ɨ̃]	[ũ]
[-nasal]	[-open]	[-open]	[i] [i:]	[ɨ]	[u] [u:]
[+nasal]	[-open]	[+open]	[ẽ]	[ə̃]	
[-nasal]			[e] [e:]	[ə]	[o]
[+nasal]	[+open]	[-open]	[ɛ]		[ɔ̃]
[-nasal]					[ɔ] [ɔ:]
[+nasal]	[+open]	[+open]		[ã]	
[-nasal]				[a] [a:]	

Table 1: Phonetic Chart of Vowels

Observations from the phonetic chart in (5) show that three series of vocalic sounds can be distinguished, if the v-place node is considered: coronal, labio-dorsal and placeless vowels. As far as aperture node is concerned, four types of vowels can be observed: the high, mid high, mid low and low vowels. Nasalized and long vowels are also observed in almost all the mentioned series, but vocalic sounds which are nasalized and long at the same time are not attested. Long and nasalized equivalents of the vowels [ɨ] and [ɛ] do not occur in the phonetic chart. It seems

probable that such members occur even though they have not been attested. Besides, the phonetic chart is globally symmetrical and balanced enough. Nevertheless, it should be observed that the dorsal mid-low vowel [o] is not clearly attested. In contexts where it occurs, it is not really different from its mid-low counterpart [ɔ], as observed earlier. Therefore, for both [ɔ] and [o], only the first sound will be considered in the rest of the work.

2.1.2 Suspicious Pairs

When two sounds are phonetically similar, they can be suspected to be two allophones (phonetic realizations) of a single phoneme. Therefore, they can form a suspicious pair. In Koshin, the following pairs of vocalic sounds can be regarded as potential suspicious pairs:
[i, iː], [i, ĩ], [i, ɨ], [i, u], [u, uː], [u, ũ], [u, ɨ], [i, e], [iː, eː], [ĩ, ẽ], [ɨ, ə], [ɨ, ɛ], [e,ə], [ẽ, ə̃], [eː, əː], [ə, ɛ], [ə, a], [əː, aː], [ə̃, ã], [ə, ɔ], [əː, ɔː], [ə̃, ɔ̃], [ɛ, ɔ], [ɛ, a], [a, ɔ], [ã, ɔ̃], [ɔː, aː]

Twenty seven (27) suspicious pairs are identified above. In order to know whether the two members of each of these suspected pairs are allophones of a single phoneme or not, it is important to find out which vocalic sounds are phonemes.

2.1.3 Identification of Vocalic Phonemes

This part aims at identifying, amongst the sounds attested in the language and classified in the phonetic chart in (5), those which show a phonemic status. Trubetzkoy (1939) [translated into French by Cantineau (1986: 47-53)] identifies four basic rules which enable one to regard two sounds as two different phonemes or two phonetic realizations of a single phoneme. In this chapter, three of these rules are being considered, as discussion proceeds, one after another, when any of the three rules is needed to support or clarify the analysis. For cases of uncertainty, supports internal to language are provided in order to make a final decision.

Trubetzkoy's second rule translated by Cantineau is formulated as follows:

"*Si deux sons apparaissent exactement dans la même position phonique et ne peuvent être substitués l'un à l'autre sans modifier la signification des mots ou sans que le mot devienne méconnaissable, alors ces deux sons sont des réalisations de deux phonèmes différents"*.[if two sounds occur exactly in the same phonic position and cannot be substituted by one another without modifying the meaning of words or without making the word look unrecognizable, these sounds are then two distinct phonemes]. Two sounds which respect the preceding rule make up

what is usually labeled *minimal pair*. Therefore, our first step is to identify the attested minimal pairs.

2.1.3.1 Minimal Pairs

Some of the identified minimal pairs are given below. Ideally, the two sounds of the minimal pair have to come from words belonging to the same morpho-syntactic class. However, in some cases, minimal pairs which do not respect this constraint are given.

(6)	(a) (i/u)	[dzǐ]	"elephant"	[kə̄-mɨ̌]	"to lick"
		[dzù]	"penis"	[kə̄-mū]	"to drink"
	(b) (i/ɨ)	[bɨ́]	"dogs"	[mɨ̌]	"farms"
		[bí]	"kola nut"	[mǐ]	"oil"
	(c) (i/e)	[kə̄-ní]	"to walk"	[mē]	"goat"
		[kə̄-né]	"to go"	[mǐ]	"oil"
	(d) (ɨ/u)	[bɨ́]	"dogs"		
		[bú]	"sky"		
	(e) (ɨ/ə)	[mɨ̌]	"farms"	[bɨ̌]	"dog"
		[mə̄]	"1PERS.SG"	[bə̀]	"3PERS.PL"
	(f) (e/ə)	[kə̄-fwə̄]	"to blow one's nose"		
		[kə̄-fwē]	"to roast"		
	(g) (i/ə)	[wə̄]	"name"	[dzə̀]	"animal's skin"
		[wǐ]	"eye"	[dzǐ]	"elephant"
	(h) (ə/u)	[dzə̀]	"skin"	[kə̄]	"head"
		[dzù]	"penis"	[kū]	"village/compound"
	(i) (ɔ/ɛ)	[bɛ̀]	"bag"		
		[bɔ̀]	"3PERS.PL"		
	(j) (e/ɛ)	[kə̄-kɛ̄]	"pan"	[kə̄-né]	"to go"
		[kə̄-kē]	"(finger-)nail"	[kə̄-nɛ́]	"to play"
	(k) (ə/a)	[kə̄-kpə̄]	"to die"	[shə̀ŋ]	"knife"
		[kə̄-kpā]	"to burn"	[shàŋ]	"finger"
	(l) (a/ɔ)	[kə̄-jɔ́m]	"to jump"	[shàŋ]	"finger"
		[kə̄-jám]	"to collide"	[shɔ̀ŋ]	"ewe"
	(m) (a/ɛ)	[kə̄-kwā]	"to catch"		
		[kə̄-kwɛ̄]	"forest"		

The minimal pairs identified in (6) imply the recognition of eight oral (not nasal) and short (not long) phonemic vowels: /i, u, ɨ, e, ɛ, ɔ, ə, and a /. It should be observed that, the consideration of these minimal pairs has involved more than the simple strictly phonological

context, even though this requirement cannot be seen through the examples in (6). As a matter of fact, it is not enough to regard as distinct phonemes two sounds which contrast in isolated words without considering morpho-syntactic aspects before the final decision. Some of the vocalic sounds attested in the phonetic chart in (5) have shown a (surface) contrast in isolated words. But, because of some morpho-syntactic contexts, these sounds have not been interpreted as phonemes. Some illustrative examples about the vocalic sounds [i], [u] and [ɨ] are given below.

(7) (a)	[mū]	"farm"	(c)	[kpɨ̂n]	"tree"
	[mɨ̂]	"farms"		[tsɨ̂n]	"trees"
(b)	[gbɨ̂yà]	"house"	(d)	[gbî]	"hundred"
	[zîyà]	"houses"		[dzî]	"hundreds"

All the data in (7) are nouns from the class gender 3/4. If strictly phonetic context is considered without paying attention to the underlying forms (which are unveiled by the morphological alternations), the vowels [u] and [ɨ] in (7a), and (to a lesser extent) the vowels [i] and [ɨ] in (7b) can be regarded as minimal pairs and therefore distinct phonemes. However, such an analysis predicts that in the underlying form, there are two different forms for the same word –for the item "farm" for instance, this analysis can postulate one form for the singular which includes the vowel [u], and another form for the plural including the central vowel [ɨ]. Interestingly, when the forms (7c-d) are taken into account, it appears that there is not only vocalic change when the noun number changes. It is instead the first consonant of the word which changes. From this observation, it can be understood that the phenomenon responsible for the alternation of the initial consonant of the words *may* also be responsible for the alternation of the vowels in (7a-b). In consequence, it is better to postulate that the pairs of words in (7) show the same underlying forms and both the consonant and vowel alternations observed are surface phenomena. And such phenomena are better accounted for by a Generative approach. Instead of postulating [i] and [ɨ] as two phonemic vowels in (7a), it is then more convincing to regard them as two allophones of the same vowel. Details about this topic are given when discussing the consonant system. Besides, [u] and [ɨ] in (7b) should be considered allophones of a single phoneme, for the same reason. This allophonic overlapping of the central vowel [ɨ] (it is an allophone of both /u/ and /i/) does not prevent this vowel from being, in other contexts as in (6), a phoneme on its own.

Thus far, the phonemic status of the long and nasal vowels attested in the phonetic chart in (5) has not been clarified. The minimal-pair identification strategy did not help to testify their phonemic status. Another strategy should be considered for nasal vowels and long vowels.

2.1.3.2 Combinatory Variants: the Nasal Vowels

Two or more sounds are combinatory variants of a single phoneme when these sounds show some phonetic similarity and cannot occur in the same phonic environment. They are therefore allophones and in literature, it is usually said that such sounds are in complementary distribution. The concept of combinatory variants sums up Trubetzkoy's third rule translated by Cantineau (1986:50) as follows: "*Si deux sons d'une langue, parents entre eux au point de vue acoustique ou articulatoire, ne se présentent jamais dans le même entourage phonique, ils sont à considérer comme des variantes combinatoires du même phonème.*"[When two acoustically or articulatorily related sounds in a language never occur in the same phonic environment, they are considered combinatory variants of the same phoneme]. Now, let us see how this rule characterizes the nasal vowels in Koshin. First of all, the phonic environment of the occurrence of nasal vowels has to be specified.

(8)	Nouns	Gloss		Diminutive form	Gloss
(a)	[wɨ̀]	"eye"	(a')	[fə̄-wɨ̀-lə́]	"small eye"
	[kʲìyà]	"basket"		[fə̀-kʲìyà-lə̀]	"small basket"
(b)	[bə̄-zhɪ̃̀]	"food"	(b')	[ɲ̄-zhɪ̀n-ə́]	"small food"
	[bɪ̃̀]	"foot"		[fə̀-bɪ̈n-ə́]	"small foot"
	[kə̄-tʊ̃́]	"ear"		[fə̄-tún-ə́]	"small ear"
	[wʊ̃̄]	"nose"		[fə̄-wún-ə̄]	"small nose"
	[nsɪ̃̀]	"friend"		[ø-nsɪ̀n-ə́]	"small friends"
	[tūwə̃̀]	"buttock"		[fə̀-tūwən-ə̀]	"small buttock"
	[mfwɔ̃̄]	"blood"		[fə̄-mfwɔ̄n-ə́]	"small blood"
	[ŋkə̃̀]	"corn beer"		[fə̀-ŋkàn-ə̀]	"small corn beer"

As shown earlier and repeated in (8b), nasalized vowels in Koshin occur exclusively at *word final position*. In a different phonic environment (word middle position), the nasalized vowels are realized oral. One of the contexts which provide this appropriate phonic environment is diminutive construction. As a matter of fact, diminutive construction (details are given in the chapter on grammatical constructions) involves a circumfixation process (both a prefix and a suffix (circumfix) are bound to the root) by which the final vowel of the noun must occur in

word middle position. As shown in (8), diminutive construction is made up by the prefixation of the class morpheme (fə- (for the singular) and usually N- (for the plural) and the suffixation of the morpheme –lə (details about the phonological processes triggered by diminutive construction are discussed in the next chapter). Interestingly, it appears that after the suffixation process, the erstwhile nasal vowel becomes oral and its nasality is transferred to the following consonant (8b'). Whereas the nasal vowels are attested in word final position, only their oral congeners occur in word middle position. Consequently, oral and nasal vowels are combinatory variants of the same underlying vocalic segments. Furthermore, it can be considered the oral (instead of the nasal) vowels are basic variants because they show greater distributional value (they can occur in middle and final positions, and they can make up a morpheme on their own.

It is worth noting that the preceding analysis on nasal vowels is appropriate if and only if morpho-syntactic structures are involved. If these vowels are taken in isolated word without paying attention to morphological alternations, nasal vowels can be wrongly regarded as phonemes. This *may* be the reason why J. Good et al. (2011:128) have concluded that "*Koshin also employs contrastive nasalization in its vowel system*" (nevertheless, they made the restriction that they have not established a full inventory of nasalized vowels).

2.1.3.3 Other Combinatory Variants: the Long Vowels

In the part on phonetic inventory and in (9a, b, c, d) below, it is observed that long vowels are attested in the language but they are mostly restricted in specific contexts. In fact, they are mostly found in structures involving the morpheme of activeness and when the verb root carrying such a morpheme is in imperfect aspect, the last vowel of the root is, therefore, realized long. When the verb root is followed by another suffix (9a', 9b', 9c' 9d'), the final vowel of the root is not realized long. In some examples like (9d-d'), the verb exhibits different roots when the aspect or the modifying suffix changes.

(9) (a) sə̀ shǐ:-sə́ skūl
1PERS.PLgo down.IMPERF-ACT school
"We go/are going down to school"

(a') sə̀ shǐ-lə̀ skūl
1PERS.PL go down.IMPERF-DURATIVE school
"We are going down to school"

(b) mə̄ lǐyà:-sə́ mū
1PERS.SG go far.IMPERF-ACT farm
"I go/am going to the farm"

(b') mə̄ lĭyà-lə̀ mū
1PERS.SG go far.IMPERF-DURATIVE farm
"I am going to the farm"

(c) mə̄ fə̀:-sə́ bə̀-lùŋ
1PERS.SG do.IMPERF-ACT NC-problem
"I face/am facing problems"

(c') mə̄ fə̀-lə̀ bə̀-lùŋ
1PERS.SG do.IMPERF-DURATIVE NC-problem
"I am facing problems"

(d) wù gè:-sə́ shĭ̀ = mə̄
3PERS.SG go.IMPERF-ACT market=ADPOS
"He/she is going to the market"

(d') wù gēn nè
3PERS.SG go.IMPERF.DURATIVE WHERE
"Where is he/she going?"

It is likely that the activeness morpheme (-sə́) carry a vocalic segment before the consonant [s]. Unfortunately, amongst the reduced number of verbs which use activeness morpheme, verb roots ending by a consonant have not been found so as to gauge the effect of this morpheme in different phonic environment.

As for the long vowel [u:] in the numeral *jū:fə̄* "ten", other instances of long [u] have not been attested within the numeral system so as to draw an accurate conclusion. Nevertheless, other examples including a long [u] have been found. Amongst other examples, there are items such as *kə̄-dú:mə̄* "to jump", *lù:-lə́* "be bitter". These examples can be interpreted as instances of /-uw/ sequences (the short vowel [u] followed by a dorso-velar glide). Therefore, [*jū:fə̄]*, [*kə̄-dú:mə̄]* , and [*lù:-lə́]*can be interpreted as/jūwfə̄/, */kə̄-dúwmə̄/*, and */lùw-lə́/*respectively. In brief, following the preceding discussion, it can be said that long vowels attested in the phonetic inventory of the language are mere realizations of short vowels in specific phonic environments.

In summary, following two of the four rules postulated by Trubetzkoy for the identification of phonemes, and taking into account morpho-syntactic structures internal to the language, eight (8) phonemic vowels have been identified: /i, u, ɨ, e, ɛ, ɔ, ə, and a /. Now, it is time to outline the phonological defining criteria of these phonemes.

2.1.4 Definition of Vocalic Phonemes

In this part, the question is to identify the distinctive features which distinguish, one from another, the eight attested phonemic vowels of the system. As highlighted in the paragraph on

phonetic inventory, the vocalic segments will be characterized in terms of Constriction-based Model (Clements and Hume 1995), one of the offshoots of Feature Geometry Theory.

(10) (a) /i/ : [+vocoid] (i/consonant); [coronal] (i/u/ə); [-open] (ontiers 1 and 2) (i/e/ɛ)
(b) /e/: [+ vocoid] (e/consonant); [coronal] (e/ɔ); [-open] (on tier 1) (e/i/ɛ)
(c) /ɛ/: [+ vocoid] (ɛ/consonant); [coronal] (ɛ/ɔ); [-open] (on tier 2) (ɔ/u)
(d) /u/: [+ vocoid] (u/consonant); [dorsal] (u/i/ə); [-open] (on tiers 1 and 2) (u/ɔ)
(e) /ɔ/: [+ vocoid) (ɔ /consonant); [dorsal] (ɔ/ɛ/e); [-open] (on tier 2) (ɔ/u)
(f) /ɨ/: [+ vocoid] (ɨ /consonant); placeless (ɨ/i/u); [-open] (on tiers 1 and 2) (ɨ/ə/a)
(g) /ə/: [+ vocoid) (ə /consonant); placeless (ə/i/u); [-open] (on tier 1) (ə/ɨ/a)
(h) /a/: [+vocoid) (a/consonant); placeless (a/ɛ/ɔ); [+open] (on tiers 1 and 2) (a/ə/ɨ)

In order to define the eight vocalic phonemes, two main distinctive feature nodes are used: the v-place node and aperture node.

- The v-place node shows the contrast between coronal, dorsal, and placeless vowels
- The aperture node which is divided into two tiers shows the contrast between [-open] and [-open] vowels (the traditionally high vowels), the [+open] and [+open] vowel (traditionally called low vowel, the [-open] and [+open] vowels (the mid-high vowels), the [+open] and [-open] vowels (mid low). Koshin is therefore a four-height vocalic system.

2.1.5 Classification of Vocalic Phonemes

The main two phonological criteria used in defining the vocalic phonemes can be used in their classification. Then, vowels of the language can be classified according to their place of articulation and according to their aperture, each of both groups being divided into further sub-groups.

2.1.5.1 Place of Articulation

According to this criterion, the following groups of vowels can be distinguished in Koshin:

(11) (a) Coronal vowels: /i, e, ɛ/
(b) Dorso-labial vowels /u, ɔ/
(c) Placeless vowels -/ɨ, ə, a/.

2.1.5.2Vowel Aperture

As far as aperture is concerned, vowels can be divided into the following sets:

(12) (a) Vowels whose aperture shows two [–open] features: /i, ɨ, u/

(b) A Vowels whose aperture shows [-open] on the first tier and [+open] on the second one: /e, ə/

(c) Vowels with [+open] on the first aperture tier and [-open] on the second tier: /ɛ,ɔ/

(d) A vowel whose aperture shows two [+open] features: /a/

2.1.6 Phonemic Chart of Vowels

The classified vocalic phonemes can be presented in a phonemic chart as follows:

(13)

Aperture		V-place		
Tier 1	Tier 2	Coronal	-	Dorso-labial
[-open]	[-open]	/i/	/ɨ/	/u/
[-open]	[+open]	/e/	/ə/	
[+open]	[-open]	/ɛ/		/ɔ/
[+open]	[+open]		/a/	

Table 2: Phonemic Chart of Vowels

The phonemic chart in (13) is more or less similar to the phonetic chart presented in (5) above: it is globally symmetrical and harmonized with the most noticeable asymmetrical aspect being, however, the occurrence of two dorsal vowels compared to the three coronal vowels. In fact, whereas coronal vowels make a distinction between a phonological mid-low and a mid-high vowel, only one vowel is attested for both mid-low and mid-high dorsal vowels. Typologically, this asymmetry is well attested and has a physiological explanation. As Dixon (2010a: §1.3) points out, *"*[t]*he tongue needs to move further and to do more work to pronounce a dorso-velar consonant or a back vowel. Although there is a tendency for phonological systems to be symmetrical, there are asymmetrical systems and in such cases there are likely to be more choices available in an area of articulatory ease and fewer in a region of relative articulatory effort."* This search for articulatory ease is not a casual one. It is a direct consequence of a widespread concept of economy, technically known as *Occam's razor*. And, as interestingly summed up by Roca and Johnson (1999:634), *"*[t]*he phonological level is rooted in Saussure's*

conception of language as a system of oppositions, and is kept in check by a principle of economy that we related to Occam's razor."

In sum, after the inventory of the vocalic sounds and the discussion on phonemes, it has been attested that Koshin vowel system is made up by eight vocalic phonemes. The system is globally symmetrical although it can be noticed that only two dorsal vowels contrast with three coronal vowels. Let us move to the analysis of tones.

2.2 Prosodic Units

The vocalic sounds discussed thus far do not occur alone within the syllable structure. They appear with prosodic units called tones. In fact, like the vast majority of African languages, Koshin shows a prosodic contrast of tones. Beside tones, other prosodic units are attested: the prosodies of labialization and coronalization (palatalization). Nasalization prosody is also attested. However, unlike the other prosodic features which occur lexically, nasalization is attested only on the phrasal level. Tones are first discussed followed by labialization and palatalization prosodies.

2.2.1 Tones

The procedure observed in the analysis of vowels is followed. The inventory of phonetic tones is made first and the identification of contrastive tones follows.

2.2.1.1 Inventory and Description of Tones

It should be mentioned that tones are described in terms of the tone geometry model proposed by Bao (1999) which assumes that the stiffness and the slackness of the vocal folds are responsible for the production of any tone. Koshin language shows three level tones, which are usually carried by vowels but sometimes by nasal consonants. Some falling and rising tones are attested. But they are regarded as mere association of level tones.

- **The high (H) tone: [´]**

(14) (a) [lə́m] "tongue"
[shúm] "big needle"
[mbúnjá] "throwing fishing net "

Compared to the other tones, the high tone shows the highest elevation of the voice. Geometrically, it is characterized by two features: the register [+ stiff] and the contour [-slack].

- **The low (L) tone: [`]**

(b) [nd̆i] “water”
[ŋgànə̀] “hill”
[ntùmə̀] “fish”

The low tone is heard with the lowest elevation of the voice. Its characteristic features are the opposite of the H tone features: the register [-stiff] and the contour [+slack].

- **The mid (M) tone: [¯]**

(c) [fūfū] “he-goat”
[wūnə̄] “feather”
[kə̄-mū] “to drink”
[ḿ-mə̀ twā] “in my stomach”

The elevation of the voice is lower than the one for the H tone and higher than the L tone elevation. Mid tones can exhibit two structures: the register [+stiff] and the contour [+slack] or the register [-stiff] and the contour [-slack]. The specificity of the two types of mid tone is discussed later.

2.2.1.2 Phonic Chart of Tones

The phonic chart of tones can be presented as follows:

(15)

Features		Tones
Register node	Contour node	
[+stiff]	[-slack]	[´] (H)
[-stiff]	[+slack]	[`] (L)
[-stiff]	[-slack]	[¯] (M)
[+stiff]	[+slack]	[¯] (M)

Table 3 : Phonetic Chart of Tones

2.2.1.3 Suspicious Pairs of Tones

From the three level tones, the three following suspicious pairs can be made up: [H, L], [H, M], [M, L]. And with these three pairs, it can be asked whether or not the members of each pair are variants of a single underlying tone.

2.2.1.4 Identification of Contrastive Tones

The three suspicious pairs identified above have given way to three minimal pairs as follows:

(16) (a) (H/L)	[kíyá]	"charcoal"
	[kǐyà]	"basket for carrying corn from the bush"
	[wə́]	"sun"
	[wə̀]	"bitter leaf"
(b) (H/M)	[bí]	"kola nut"
	[bɨ̄]	"cutlass"
	[mú]	"corn flower"
	[mū]	"farm"
(c) (M/L)	[kə̄-fɨ]	"viper"
	[kə̀-fɨ]	"pig"
	[mbə̃]	"nail"
	[mbə̃]	"fence"

It should be observed from examples (16) that tones have a lexical value in Koshin. In other words, the two members of the minimal pairs of tone identified thus far contrast in terms of their meaning, not in terms of their grammatical characteristics. However, tones can also have a grammatical value in the language as attested in (17) below:

(17) (a) Singular	(b) Plural	Gloss
[shàŋ]	[shāŋ]	"finger"
[tsə̀m]	[tsə̄m]	"monkey"
[bɨ̀]	[bɨ́]	"dog"
[zhù]	[zhú]	"hoe"

As a matter of fact, examples (17) show a grammatical contrast (singular versus plural) between two noun classes (class 9 in 17a and class 10 in 17b) only on the basis of a low tone (for the singular) and the non-low tone -mid or high- (for the plural). More details about the tonological processes are found in the chapter on phonological processes.

2.2.1.5 Definition of Tones

The three level tones which have been recognized as phonemes can defined as follows:

(18) (a) /´/: it shows a register [+stiff] and a contour [-slack]

(b) /ˋ/ : it shows a register [-stiff] and a contour [+ slack]

(c) /¯/: it is defined as [-stiff] and [-slack]

2.2.1.6 Classification of Tones

Tones are classified in terms of their features, as follows:

(19)

Features		Tones
Register node	Contour node	
[+stiff]	[-stiff]	/ ˊ / (H)
[-stiff	[+slack]	/ˋ / (L)
[-stiff]	[-slack]	/¯ / (M)

Table 4 : Phonemic Chart of Tones

2.2.2 Labialization (/ʷ/) and Palatalization (/ʸ/)

Three prosodic features are attested in the language: labialization (conveys the [labio-dorsal] constriction to the consonant), palatalization or coronalization (gives the [coronal] constriction to the consonant), and nasalization (conveys the feature [+nasal] to the non-nasal segment). Whereas labialization and coronalization can occur at the lexical level of the derivation (some instances of labialization and coronalization are also attested post-lexically), nasalization is attested exclusively in the post-lexical level. Non-tonal prosodies are analyzed partly in the next chapter (on consonant system) because they target the consonant segments. What is important here is just to let know that beside tones there are other prosodic units which exhibit contrastive value as follows:

(20)	(a) Singular	(b) Plural	Gloss
	[kpɨ̂n]	[tsɨ̂n]	“tree”
	[gbɨ̂]	[dzɨ̂]	“hundred”
	[gbɨ̂yà]	[zɨ̂yà]	“house”
	[mū]	[mɨ̂]	“farm”
	[wūnə̄]	[jūnə̄]	“feather”

As shown in (20), it can be observed that, unlike tones which carried mostly by vowels and exceptionally by nasal consonants, the labialization (20a) and coronalization (20b) processes apply only on consonants. Nasalization prosody also applies on consonants but is not illustrated

in this paragraph because it does not apply lexically. Details about the three prosodic features are given in the chapter on phonological processes. It appears from examples (20) that labialization and coronalization show a contrastive value: whereas labialization refers to the singular (20a), coronalization refers to the plural (20b). The contrast is therefore determined by the grammatical parameter of noun class: whereas labialized nouns belong to class 3, coronalized items belong to class 4.

In summary, in this chapter, two types of contrastive units attested in the language are examined: vowels, and prosodic units. For each type of units, the inventory of sounds is made and the suspicious pairs of sounds are identified. Furthermore, the underlying segments are discussed, identified and classified in terms of their feature geometry. Throughout the chapter, the structuralist approach is adopted but not exclusively. Generative and Autosegmental approaches are also referred to, either in order to account for some specific points of the analysis or to characterize phonetic or phonological segments. Once the vowels and tones are discussed, it is now time to analyze the consonant system. This is the objective of the next chapter.

CHAPTER 3

PHONOLOGY OF CONSONANT SYSTEM

After the analysis of the vocalic and prosodic systems in the preceding chapter, consonants are discussed in this chapter. The same steps are followed: first of all, the phonetic inventory of consonants is made. Secondly, discussion about what sounds are phonemes and what sounds are allophones follows, through the identification of suspicious pairs and the analysis of minimal pairs. The status of consonants which cannot make up minimal pairs is discussed. Lastly, the attested consonant phonemes are defined and classified.

3.1 Inventory and Articulatory Characteristics of Consonant sounds

The phonetic inventory of consonants in Koshin is made up with the following sounds presented into sub-sets. As for vocalic sounds, consonant sounds are characterized in terms of Constriction-based model, which, amongst other principles, construes both vowels and consonants in terms of constriction degree and constriction location.

(1)	(a-i) -[p]	[píyā]	“pear”
		[pàlàká]	“pawpaw”
		[kə̄-lēpə̄]	“potato”

Although this sound shows a very low occurrence in the language, it is attested nevertheless, as shown in the preceding examples. Phonetically, it exhibits the following features: [-vocoid] (it is a consonant), [-sonorant] (it is neither a nasal, a glide nor a liquid), [-approximant] (it is neither a liquid nor a glide], [-nasal] (it is exclusively oral), [labial], [-continuant] (a stop or plosive), [-voice] (voiceless).

(a-ii) -[b]	[bə̀-gɔ̀]	“chest”
	[bə̄-nǐ]	“corn food”
	[kúbə̀]	“rib”

The sound [b] is, unlike [p] frequently attested. It is realized phonetically like [p] except that [b] shows the [+voice] feature.

(a-iii)-[f]	[fwə̄lə̀]	“white”
	[fūlā]	“lion”
	[kə̀-fǐ]	“pig”

Whereas the realization of [p] involves the complete contact of the lower lip (the active articulator) with the upper lip (the passive articulator), the articulation of [f] implies the

approximation of the lower lip with the upper teeth, creating audible friction. It is called then labio-dental. Therefore, [p] is [-vocoid], [-nasal], [labio-dental], [+continuant], [-voice].

(b-i)-[m]	[mū]	"farm"
	[kə̄-mū]	"to drink"
	[nyə̀m]	"leopard"

Phonetically, [m] is realized as [-vocoid], [+ sonorant], [-approximant], [+nasal], [labial].

(b-ii) -[mb]	[mbɔ̀ŋ]	"cow"
	[mbɨ́]	"wine"
	[mbɛ̀]	"king"

The sound [mb] combines into a consonant cluster the sound [m] followed by [b].

(b-iii) -[mf]	[mfwɔ̃]	"blood"
	[mfɔ̀]	"slave"
	[mfùm]	"bee"

[mf] combines the nasal [m] and the labio-dental [f] into a cluster, exactly as observed for [mb].

(c-i) -[t]	[tə́m]	"axe"
	[tàŋ]	"leg"
	[tə̄-fūfū]	"he-goats"

In its articulation, [t] includes the following features: [-vocoid], [-nasal], [coronal], [-continuant], [+anterior], [-distributed], and [-voice]. It should be observed that, in the Constriction-based Model, the features [anterior] and [distributed] depend exclusively on the node [coronal]. In other words, only coronal sounds can be characterized by these two features. On the one hand, the traditionally apico-dental, apico-alveolar and post-alveolar consonants are usually [+anterior] and [- or +distributed], and on the other hand, the traditional palatal consonants are [-anterior]. Some of the latter are also [+distributed] and others are [-distributed] according to the respectively large versus reduced surface occupied by the contact between the back part of the blade of the tongue and the palate.

(c-ii) -[d]	[də̄]	"bean"
	[dyàbə́-lɛ̄	"be well"
	[kə̀-dè]	"vagina"

The sound [d] is realized in the same way as [t] except that it shows [+voice] instead of [-voice]

(c-iii) -[s]	[sɔ́ŋ]	"flute"
	[sā]	"ant"
	[kə̄-sè]	"clothes"

Like [t] and [d], the sound [s] is also coronal. However, unlike [t], it is [+continuant], and it is different from [z] because it is [-voice].

(c-iv) -[z]	[zɨ̀yà]	“houses”
	[zùmə]	“antelope”
	[kə-zɔ]	“mouth”

[z] is articulated as [-vocoid], [-sonorant], [-approximant], [-nasal], [coronal], [+anterior], [-distributed], [+continuant] and [+voice].

(c-v) -[l]	[lə́m]	“tongue”
	[lɔ̄kɔ]	“cassava”
	[kə̄-lé]	“calabash”

The specificity of [l] is that it is the only liquid sound attested in the language. it is defined as [-vocoid], [+approximant], [+sonorant], [-nasal], [coronal], [+anterior] [-distributed] and [lateral].

(d-i) -[ts]	[tsə́m]	“monkey”
	[kə̀-tsɔ]	“youth”
	[mātsā]	“chimpanzee”

This sound combines the articulation of [t] and [s] into a single cluster. Besides, it is [+anterior] and [+distributed].

(d-ii) -[dz]	[dzàŋ]	“rain”
	[dzù]	“penis”
	[dzɨ̀]	“hundreds”

It shows the same features as [ts], but it is [+voice] unlike [ts] which is [-voice] .

(e-i) -[n]	[nē]	“my mother”
	[kə̄-né]	“to go”
	[mwə̀n]	“person”

The sound [n] is realized as [-vocoid], [+sonorant], [-approximant], [+nasal], [coronal], [+anterior] and [-distributed].

(e-ii) -[nd]	[nɗì]	“water”
	[nɗìnyà]	“bad (food)”
	[ndɔ̀ŋkɔ̄lɔ̀]	“throat”
	[ndyə̃̄]	“tears”

The sound [nd] includes the features used for both [n] and [d] within a phonic cluster.

(e-iii) -[nt]	[ntùmə]	“fish”
	[ntɔ̄]	“pepper”
	[fə̄-ntɔ́mə]	“seed”
	[bə-ntɨ̄lə́]	“soot”

Whereas [nd] includes the sounds [n] and [d], the sound [n] and [t] are clustered in [nt]

(e-iv) [ns]	[nsɨ̃]	“friend”
	[fə̀-nsɨ̂]	“calabash for cutting food from the pot”
	[fə̀-nsɔ̂]	“weapon”

[ns] is a cluster made up by [n] and [s].

(e-v) [nz]	[nzɛ̃]	“porcupine”
	[nzɔ̀ŋɔ́-lɛ̄]	“be good”
	[kə̀-nzàŋnzàŋ]	“sugar cane”

The sound [nz], like [ns] associates the coronal nasal [n] and a [+continuant] which in this case, is [+voice].

(e-vi) [nts]	[kə̄-ntsã̄]	“basket for food”

This sound does not show a high occurrence, but it does occur. It is a prenasal cluster made up by [n] and [ts].

(e-vii) [ndz]	[ndzēŋfɔ́-lɛ̄]	“be happy”
	[kə̄-ndzɛ̃̄]	“he-goat”

The sound [ndz] combines sounds, as the preceding three examples. Here, we distinguish the coronal nasal [n], the coronal voiceless plosive [d], and the coronal voiced fricative [z].

(f-i)	[sh]	[shàŋ]	“finger”
		[shɨ̀]	“fowl”
		[bə̀-shə̄]	“face”

The sound [sh] (in the IPA convention, it is realized by one symbol) is adopted in this work to refer to the traditionally fricative voiceless palatal sound which, in terms of Constriction-based Model, is defined by the following features: [-vocoid], [-sonorant], [-approximant], [+continuant], [coronal], [-anterior], [-distributed], and [-voice].

(f-ii)	[zh]	[zwā]	“sauce”
		[zhùwã̄]	“snake”
		[kə̄-zhyã́]	“ram”

The sound [zh] is the [+voice] counterpart of [sh].

(f-iii)	[c]	[cē]	“all”
		[kə̄-cē]	“to sneeze”
		[kə̀-cɨ̃]	“heel”

For practical necessities, we use the symbol [c] here to refer to the traditional affricate voiceless consonant which is defined by the following features: [-vocoid], [-sonorant], [-approximant], [-nasal], [-continuant] (for the first segment of the cluster) and [+continuant] (for the second segment), [coronal], [-anterior] and [+distributed].

(f-iv)	[j]	[jə̀m]	“back”
		[jwà]	“honey”
		[kə̄-jūwə̀]	“yam”

The sound [j] is the [+voice] equivalent of [c].

(f-v)	[y]	[kə̄-yúŋ]	“foolishness”
		[kíyá]	“charcoal”
		[shyə́mə̀]	“armpit”

The sound [y], usually considered a glide, is articulatorily similar to the vowel [i]. The only difference is the slot each sound fills within the syllable structure. It is defined as follows: [+vocoid], [+sonorant], [+ approximant], [-nasal], [coronal], [+anterior] and [+distributed].

(g-i)	[ny]	[nyə̀m]	“animal”
		[nyú]	“knee”
		[nyə̀m]	“leopard”

The symbol [ny] refers to the palatal nasal viewed as follows: [-vocoid], [+sonorant], [-approximant], [+nasal], [coronal], [-anterior] and [+distributed].

(g-ii)	[nsh]	[nshwànə̀]	“sand”
		[fə̀-nshə̀]	“hare”
		[nshə̄-fə́]	“midday”

The sound [nsh] combines the coronal nasal [n] and the coronal fricative [sh].

(g-iii)	[nc]	[ncə̀́]	“praying mantis”
		[kə̀-ncàŋ]	“trunk of banana tree”
		[kə̀-ncɔ̄ŋbə̄]	“groundnut”

As for the preceding sound, [nc] is a combination of segments: it associates into a phonic cluster the coronal nasal and the affricate [c] which, in terms of the approach adopted here, is another association of a plosive consonant followed by fricative consonant.

(h-i)	[nj]	[nj̀ɔ̀ŋə̀]	“community”
		[nj̀ɔ̄ŋbə́-lɛ́]	“be sweet”
		[nj̀ɔ̄ŋ]	“saliva”

[nj] is a cluster which includes the coronal nasal [n] and the palatal voiceless affricate [j].

(h-ii)	[k]	[kū]	“compound”
		[kə̄-kǐyā]	“to fry”
		[kə̄-bə́kə́]	“shoulder”

Phonetically, [k] is realized as [-vocoid], [-sonorant], [-approximant], [-nasal], [dorsal], [-continuant] and [-voice].

(h-iii)	[g]	[gānə̄]	“corn”
		[gǐyā]	“broom”

		[bə̀-gɔ̀]	“chest”

The sound [g] is the [+voice] congener of [k].

(h-iv)	[gh]	[kə̄-ghə́]	“calabash for keeping liquid”
		[ghə̄]	“moth”

This sound shows a very low frequency in the data. It is the [+continuant] equivalent of the sound [g].

(h-v)	[w]	[wã̄]	“child”
		[wūnə̄]	“feather”
		[jwə́]	“pubic hair”

The sound [w] is the other glide (apart from [y]) attested in the language. It is realized as [+vocoid], [+sonorant], [+approximant], [-nasal], [labio-dorsal] (two active articulators are involved).

(i-i)	[kp]	[kpɨ̂n]	“tree”
		[kpɨ̂]	“female”
		[kə̄-kpá]	“to burn”

The sound system of the language includes labio-dorsal consonants, that is, sounds involving simultaneously the labial and dorsal active articulators, as in [w]. the consonant [kp] is one of these labio-dorsals. It is defined as [-vocoid], [-sonorant], [-approximant], [-nasal], [labio-dorsal] and [-voice].

(i-ii)	[gb]	[gbɨ̀yà]	“house”
		[gbə̀n]	“father-in-law”
		[kə̄-gbá]	“to cut”

The consonant sound [gb] is the is the [+voice] counterpart of [kp].

(j-i)	[ŋ]	[kə̄-wə́ŋə̀]	“to memorize”
		[mbɔ̀ŋ]	“cow”
		[kə̄-núŋ]	“rooster”

The sound [ŋ] is the dorsal equivalent of the sounds [m], [n], and [ny]. It is articulated as [-vocoid], [+sonorant], [-approximant], [+nasal], [dorsal].

(j-ii)	[ŋk]	[ŋkùwnə̀]	“guest”
		[kə̀-ŋkwə́]	“mouse”
		[fə̀-ŋkūmə́]	“chameleon”

[ŋk] is a cluster consonant made up by the combination of [ŋ] and [k].

(j-iii)	[ŋg]	[ŋgànə̀]	“hill”
		[ŋgə́nə̄]	“egg”
		[kə̀-ŋgɔ̄]	“maize cob with stalk”

[ŋk] associates into a clusters the consonants [ŋ] and [g].

(j-iv)	[ŋw]	[kə̀-ŋwè]	“plantain”
		[ŋwə̀lé-fə̄]	“yesterday”

The two dorsal consonants [ŋ] and [w] can make up the cluster [ŋw].

(j-v)	[ŋkp]	[fə̀-ŋkpɔ́ŋ]	“swallow”
		[ŋkpù-fə́]	“tomorrow”

The labio-dorsal [kp] can be preceded by a nasal in order to yield the single segment [ŋkp]

(j-vi)	[ŋgb]	[fə̀-ŋgbɨ̀]	“bat”
		[fə̀-ŋgbà]	“castratedhe-goat”
		[kə̄-ŋgbɔ́ŋə́]	“canoe”

[ŋgb] is articulated as the clustering of two segments: the dorsal nasal [ŋ] and the labio-dorsal [gb], whereas [ŋkp] is the association of the dorsal nasal [ŋ] followed by the labio-dorsal [kp].

The preceding sounds are taken from all the lexical classes attested in the language and mostly from nouns and verbs. However, some sounds restricted to apparently grammatical criteria have been attested. As a matter of fact, in grammatical constructions involving a noun phrase (NP) head followed by a (personal) pronoun, the concord marker which precedes this pronoun can be palatalized, labialized or both nasalized and palatalized as follows.

(2)	(a) [kə̀-mbàŋ]	“cheek”	[kə̀-mbàŋ	shy-á]	“your (sg) cheek”
	(b) [tə̀-tàŋ]	“legs”	[tə̀-tàŋ	tw-á]	“our legs”
	(c) [bə̀-mbɔ̀ŋ]	“cows”	[bə̀-mbɔ̀ŋ	bw-ɨ̂]	“our cows”
	(d) [nɗɨ]	“water”	[nɗɨ	mw-ā]	“your (sg) water”
	(e) [fə̄-ŋkɔ̄]	“doe”	[fə̄-ŋkɔ̄	fy-á]	“your (sg) doe”
	(f) [bə̄-zhɪ̃̄]	“food”	[bə̄-zhɪ̂	mby-ə́nə́]	“your (pl) food”

As shown in (2), the concord marker conditioned by the NP head is marked by one or two of the segments [m], [y], and [w]. Therefore, these labialized, palatalized or nasalized segments should occur in the following phonetic matrix as any other consonant sound.

3.2 Phonetic Chart of Consonants

It should be borne in mind that, within the approach of Feature Geometry adopted in this work, sounds are basically defined in terms of their constriction, and any constriction implies almost always the action of an active articulator and a passive articulator. These two articulators play a role of paramount importance in the following matrix. Besides, some observations are in order for a better understanding of the following matrix:

-The palatalized, labialized and nasalized segments conditioned by grammatical criteria are put in parentheses, because these sounds have not been attested outside the alluded grammatical contexts (They are analyzed throughout this work).

-Unlike common phonetic matrices where the column of labials is separated from the column of dorsals by coronals, in the matrix in (3) below, the column of labials is located next to the column of dorsals. The advantage of such a location is that it allows to locate straightforwardly the labio-dorsal sounds, even though this matrix cannot locate adequately the labialized sounds [tw], [bw] and [mw], or the palatalized sounds. Besides, labials and dorsals can make up a natural class of "peripherals" because they are articulated at the periphery of the language.

-The oblique bar (/) separates two segments making up a phonic cluster. For example we read [+son][+nasal]/[-cont][-voice] as : nasal followed by a plosive (a prenasalized voiceless plosive). In prenasalized sounds, the articulation place of the nasal segment is not given

(3)

ACTIVEARTICULATOR	Tip of tongue (apical) Blade of tongue (laminal) (coronal)		Back of tongue (dorsal)	Lower lip (labial)	
PASSIVEARTICULATOR	Upper teeth-Alveolus	Post alveolus-Palate	Velum	Upper lip	Upper teeth
[-son] [-cont][-voice](/[+vocoid]) [-son] [-cont][+voice](/[+vocoid])	[t] ([t^{w}]) [d]		[k] [kp] [p] [g] [gb] [b] ([b^{w}])		
[-son] [+cont] [-voice](/[+vocoid]) [-son][+cont] [+voice]	[s] [z]	[sh] ([sh^{y}]) [zh]			[f] ([f^{y}])
[-son] [-/+cont][-voice] [-son] [-/+cont][+voice]	[ts] [dz]	[c] [j]			
[+son][-vocoid][+nasal] (/[+vocoid])	[n]	[ny]	[ŋ]	[m] ([m^{w}])	
[+son][-vocoid][+approx.]	[l]				
[+son][+vocoid][+approx.]		[y]	[w]		
[+son][-vocoid][+nasal]/[+approx] [+son][-vocoid][+nasal]/[+vocoid]			[ŋw]		
[+son][+nasal]/[-cont][-voice] [+son][+nasal]/[-cont][+voice]	[nt] [nd]		[ŋk] [ŋkp] [mb]([mb^{y}]) [ŋg] [ŋgb]		
[+son][+nasal]/[-cont][-voice] [+son][+nasal]/[-cont][+voice]	[ns] [nz]	[nsh]			[mf]
[+son][+nasal]/[-/+cont][-voice] [+son][+nasal]/[-/+cont][+voice]	[nts] [ndz]	[nc] [nj]			

Table 1: Phonetic Chart of Consonants

From the sounds inventoried and classified in the preceding chart, it can be observed that the consonant system includes orals, nasals, affricates, prenasalized, approximants and also palatalized and labialized consonants. From these consonants, suspicious pairs can be made up.

3.3 Suspicious Pairs

The following suspicious pairs can be identified:

[p, b], [p, t], [p, f], [p, t], [p, k], [p, kp], [p,m], [b, m], [b, d], [b, n], [b, g], [b. gb], [b, ŋ], [b, mb], [mb^y, b^w], [m, m^w], [mb, mb^y], [mb, nd], [mb, ŋg], [mb, ŋgb], [ŋgb, ŋkp], [w, ŋ], [ŋ, gb], [k, kp], [kp, gb], [ŋg ŋk], [ŋb, ŋw],[ŋgb, ŋb], [f, m], [f, s], [f, sh], [f, f^y], [s, z], sh, zh], [s, ts], [z, dz], [sh, c], [sh, sh^y][z, j], [ts, dz], ts, c], [t, t^w], [dz,j],[nd, nt], [nt, ns], [nts, nc], [nt, nts], [ns, nz], [nd, nl], [z, l], [n, l], [n, m], [n, ny], [n, ŋ], [ny, ŋ], [l, y], [ny, y], [y, w].

Fifty eight (58) suspicious pairs have been identified. Theoretically, as suggested for the vowels, two sounds are suspected because they show some similarity and then can be potential realizations of the same phoneme. That is why only very similar sounds (those which are distinguishable by only one feature (example [p, b])) have been suspected. However, in some cases, sounds which are differentiated by more than one feature ([p, m] for instance) have been suspected.

3.4 Identification of Consonant Phonemes

Firstly, minimal pairs are identified. Secondly, sounds which, by virtue of their phonological behavior can be considered allophones, are analyzed. And finally, the status of those consonants which can neither make up any minimal pair nor can be regarded as allophones, is discussed relying on arguments internal to the language.

3.4.1 Minimal Pairs

Labial segments are examined first. Afterwards, coronal and dorsal consonants are discussed.

(4)(a)The Phoneme /b/

The phonemic status of this sound comes from the following contrasts:

(b/m)	[kə̄-bē]	“wing ”	(b/w)	[bî]	“cutlass”
	[kə̄-mē]	“neck”		[wî]	“fire”
(b/gb)	[bî]	“cutlass”	(b/mb)	[bí]	“dogs”

	[gbɨ̄]	“cold”		[mbɨ́]	“wine”
(b/t)	[kə̄-tāŋ]	“to buy”	(b/p) we could not identify this pair		
	[kə̄-bāŋ]	“to cover”			

(b) The phoneme /f/

Its identity as phoneme comes from the following contrasts:

(f/b)	[kə̄-fǐ]	“viper”	(f/kp)	[kə̄-fá]	“to give”
	[kə̄-bí]	“big rock”		[kə̄-kpá]	“to burn”
(f/w)	[kə̄-fá]	“to give”	(f/k)	[fiyà]	“ankle”
	[kə̄-wá]	“to crush”		[kǐyà]	“basket”
(f/mf)	[fùm]	“roof”			
	[mfùm]	“bee”			

(c) The phoneme /m/

This sound is a phoneme because it contrasts with other consonants as follows:

(m/b)	analyzed in (4a)				
(m/n)	[kə̄-mé]	“to swallow”	(m/gb)	[gbɨ̄]	“string”
	[kə̄-né]	“to go”		[mɨ̄]	“oil”
(m/ny)	[nyū]	“male”			
	[mū]	“farm”			

(d) The phoneme /t/

The phonemic status of this sound comes from the following contrasts:

(t/d)	[kə̄-tíyə̀]	“to give wine”	(t/c)	[kə̄-tē]	“to lie”
	[kə̄-díyə̀]	“to cry”		[kə̄-cē]	“to sneeze”
(t/sh)	[tàŋ]	“leg”	(t/ts)	[tə́m]	“axe”
	[shàŋ]	“finger”		[tsə̄m]	“monkeys”
(t/s)	[sɔ́ŋ]	“flute”	(t/l)	[tə́m]	“axe”
	[tɔ̄ŋ]	“place of fire”		[lə́m]	“tongue”
(t/k)	[tə̄]	“stone”			
	[kə̄]	“head”			

(e) The phoneme /d/

This sound can be considered phoneme because it shows the following contrasts:

(d/t)	analyzed in (4d)				
(d/z)	[də̀]	“chin”	(d/n)	[kə̄-dé]	“ to cook”
	[zə̀]	“skin”		[kə̄-né]	“ to go”

(d/dz)	[də̀]	"chin"	(d/l)	[kə̄-dé]	"to cook"
	[dzə̀]	"skin"		[kə̄-lé]	"calabash"
(d/j)	[kə̄-dám]	"to reject"			
	[kə̄-jám]	"to collide"			

(f) The phoneme /s/

The consonant [s] shows a phonemic value, because of the following contrasts:

(s/t)	examined in (4d)		(s/sh)	[sɔ́ŋ]	"flute"
(s/z)	[kə̀-sɔ̀]	"stick"		[shɔ̀ŋ]	"ewe"
	[kə̀-zɔ̀]	"mouth"			
(s/k)	[kə̄-sè]	"clothes"			
	[kə̄-kē]	"nail"			

(g) The phoneme /z/

Its phonemic status is identified through the following contrasts:

(z/s)	identified in (4f)				
(z/d)	identified in (4e)				
(z/zh)	[zù]	"penis"	(z/ts)	[kə̀-zɔ̀]	"mouth"
	[zhù]	"hoe"		[kə̀-tsɔ̀]	"youth"

(h) The phoneme /n/

The consonant sound [n] has a phonemic value because it shows contrasts with the following sounds:

(n/m)	analyzed in (4c)				
(n/l)	[kə̄-né]	"to go"	(n/j)	[nə̀m]	"work"
	[kə̄-lé]	"calabash"		[jə̀m]	"back"
(n/ny)	[kə̄-ní]	"to walk"	(n/ŋ)	[kə̄-wə́nə̀]	"to sleep"
	[kə̄-nyí]	"to defecate"		[kə̄-wə́ŋə̀]	"to memorize"
(n/y)	[kə̄-yúŋ]	"foolishness"			
	[kə̄-núŋ]	"rooster"			

(i) The phoneme /l/

[l] shows a phonemic identity because it contrasts with the following sounds:

(l/t) analyzed in (4d)

(l/n) analyzed in (4h)

(l/y)	[lə́m]	"tongue"	(l/d)	[kə̄-lé]	"calabash"
	[yə́m]	"flat"		[kə̄-dé]	"to cook"

(j) The phoneme /sh/

The sound [sh] is regarded as a phoneme because it can contrast with the following sounds:

(sh/t) analyzed in (4d)

(sh/ts)	[shə̄m]	"stomach"	(sh/zh)	[shwā]	"branch for shed"
	[tsə̄m]	"monkeys"		[zhwā]	"sauce"
(sh/z)	[shǐ]	"fowl"	(sh/f)	[shūm]	"big needle"
	[zǐ]	"elephant"		[fūm]	"roofs"
(sh/kp)	[shǐ]	"fowl"	(sh/c)	[shǐ]	"fowl"
	[kpǐ]	"pot"		[cǐ]	"dirt"

(k) The phoneme /zh/

The phonemic value of the consonant sound [zh] results from the following contrasts:

(zh/z)	analyzed in (4f)		(zh/ts)	[kə̄-zhǐ]	"to eat"
(zh/sh)	analyzed in (4j)			[kə̄-tsǐ]	"to understand"
(zh/m)	[kə̄-zhū]	"to grow thin"			
	[kə̄-mū]	"to drink"			

(l) The phoneme /c/

[c] shows a phonemic value because it contrasts with the following sounds:

(c/t) examined in (4d)

(c/sh) examined in (4j)

(c/j)	[cǐ]	"dirt"
	[jǐ]	"eyes"

(m) The phoneme /ny/

The palatal nasal consonant is a phoneme in the language because it contrasts with the following sounds:

(ny/m) examined in (4c)

(ny/n)	[nyə̀m]	"leopard"	(ny/j)	[nyə̀m]	"leopard"
	[nə̀m]	"work"		[jə̀m]	"back"
(ny/y)	[kə̄-nyá]	"to rain"	(ny/l)	[kə̄-nyē]	"lung"
	[kə̄-yá]	"to climb"		[kə̄-lé]	"calabash"

(ny/ŋ) [mānyə̀] “mother of twins”
[māŋə́] “ingredient used for cooking”

(n) The phoneme /y/

The glide [y] can be considered a phoneme because of the following minimal pairs:

(y/ny) analyzed in (4m)

(y/l) analyzed in (4i)

(y/n) analyzed in (4g)

(y/d) [kə̄-yá] “to climb”
[kə̄-dá] “to see”

(y/w) [kə̄-wē] “to harvest corn”
[kə̄-yē] “to cut the food from the pot”

(o) The phoneme /k/

[k] has a phonemic value. This can be attested through the following phonological contrasts:

(k/g) [kɨ̀yā] “baskets for groundnuts from the bush”
[gɨ̀yā] “broom”

(k/f) [kɨ̀yà] “basket for groundnut from the bush”
[fɨ̀yà] “ankle”

(k/kp) [kə̄] “head”
[kpə̄] “death”

(k/sh) [kūm] “boa”
[shūm] “big needle”

(k/w) [kə̄] “head”
[wə̄] “name”

(p) The phoneme /g/

The sound [g] is regarded in the system as phoneme because it contrasts with the following sounds:

(g/k) as in (4o)

(g/gb) [kə̄-gá] “to fly”
[kə̄-gbá] “to cut”

(g/gh) [kə̄-gə́] “to go”
[kə̄-ghə́] “calabash for keeping liquids”

(g/d) [kə̄-gá] “to fly”
[kə̄-dá] “to see”

(g/w) [kə̄-gá] “to fly”
[kə̄-wá] “to crush”

(q) The phoneme /gh/

This sound shows a low occurrence. But it shows a phonemic identity as in:

(gh/g) examined in (4p)

(gh/k) [kə̄-ghə́] “calabash for keeping liquids”

	[kə̄-ká]	“traditional stool”
(gh/w)	[ghə̄]	“moth”
	[wə̄]	“ant”
(gh/t)	[ghə̄]	“white ant”
	[tə̄]	“stone”

(r) The phoneme /ŋ/

The dorsal nasal is regarded as a phoneme because of the following:

(ŋ/n) as in (4g)

(ŋ/m)	[jə̄ŋ]	“thigh”	[shə̀ŋ]	“knife”
	[jə̄m]	“backs”	[shə̄m]	“stomach”

(ŋ/ny) examined in (4m)

(s) The phoneme /kp/

This labio-dorsal consonant shows a phonemic identity as in:

(kp/k) examined in (4o)

(kp/gb)	[kpɨ̄]	“female”	(kp/w)	[kpɨ̄]	“female”
	[gbɨ̄]	“cold”		[wɨ̄]	“eye”

(t) The phoneme /gb/

[gb] in Koshin exhibits a phonemic value because of the following:

(gb/kp) examined in (4s)
(gb/b) examined in (4a)
(gb/g) examined in (4p)

(gb/w)	[gbɨ̄]	“cold”	(gb/d)	[kə̄-dá]	“to see”
	[wɨ̄]	“eye”		[kə̄-gbá]	“to burn”

(u) The phoneme /w/

The sound [w] has a phonemic value because of the following phonological contrasts:

(w/b)	examined in (4a)	(mb/w)	[mbã]	“nail”
(w/y)	examined in (4n)		[wã]	“child”
(w/k)	examined in (4o)			
(w/g)	examined in (4p)			
(w/gh)	examined in (4q)			
(w/kp)	examined in (4s)			
(w/gb)	examined in (4t)			

Thus far, some twenty consonant phonemes have been attested as phonemes. This number is very far from the number of the consonant sounds inventoried in the language as shown in table 3 in (4). Before examining consonants with allophonic value, it is important to analyze some sounds which have not been attested in minimal pairs but which, on the basis of arguments internal to the language, can be regarded as phonemes.

3.4.1 Phonemes with no minimal pairs

Two types of consonants are discussed under this paragraph. On the one hand, we have the consonant /p/, and on the other hand the nasal-obstruents/glide clusters.

3.4.1.1 The Phoneme /p/

The sound [p] has been attested in the phonetic inventory, but no minimal pair has been identified with this sound as a member of the pair. It should be recalled that this sound shows a very low occurrence. In fact, the sound [p] has been attested in three words (1ai), all belonging to the semantic type of plants: “pear”, “pawpaw” and “potato”. Maybe other items can be attested. The consonant [p] in the three preceding items may be regarded as remnant occurrence of a more frequently attested sound. This sound has probably evolved into the [f] in other items. This hypothesis is mostly supported by the fact that the Proto-Bantu class prefixes including the sound [p] –the class 19 prefix /*pǐ,/ for instance- are realized in Koshin with the sound [f]. As stated in the chapter on phonotactics, the sound [p] is attested in initial and middle position as any other obstruent. Following the preceding, in spite of its low occurrence, there is no reason to exclude [p] from the set of phonemic consonants.

3.4.1.2 The Pre-nasal Consonants

Two types of pre-nasal consonants can be distinguished: the nasal-obstruent clusters and the nasal-glide cluster. The common point in the two types of pre-nasals is that the nasal consonant must be homorganic with the following segment, whether obstruent or glide, as follows: [m + labial consonant], [n + coronal consonant] and [ŋ + dorsal/dorso-labial consonant]. Many –but by no means all- of the nouns including the pre-nasal segments are from the class of diminutives with their plural in the class of liquids (6a noun class). As discussed in the chapter on noun classes, previous researchers have regarded the pre-nasal sequences as structures involving two phonemic units: the nasal consonant (carrying a morphemic value) followed by the obstruent or the glide. However, in spite of the fact that many pre-nasal consonants cannot

make up minimal pairs (some do), it is claimed that in lexical items, these pre-nasals are interpreted as single phonemic segments instead of sequences of two consonants because of some important reasons which are referred to throughout this work:

The first reason comes from possessive construction as in (5) below.

(5) (a) ADPOS-PRON.	Stomach	Gloss
ə́ = sə	shēm	"in our stomach"
ə́ = mbɛ̃	shēm	"in your (plural) stomach"
ə́ = bɔ̀	shēm	"in their stomach"
(b) ḿ-mə	shēm	"in my stomach"
ú-wə	shēm	"in your stomach"
ú-wù	shēm	"in his/her stomach"

In the preceding examples, the syntactic function of the noun phrase (NP) whose head is "stomach" is marked by an adposition (ADPOS). This adposition can optionally lean on the first word of the NP as a clitic (5a) or can be bound to the pronoun. In this case, the adposition fully assimilates with the first segment of the pronoun *if this segment is a sonorant* (5b). Interestingly, the assimilation does not take place with the 2 pers. Pl (5a), even if this pronoun includes as first segment the sound [m]. This implies that the language does not consider [m] and [b] as two separate segments. Rather, this sequence is regarded as a single non-sonorant phoneme which cannot trigger the assimilation rule.

The second reason comes from the diminutive construction (already referred to in the paragraph on vowels and analyzed in detail later in this work).

(6) (NC)-noun	Diminutive form	Gloss
(a) kĭyà	fə-kĭyà-lə	"small basket"
kə̄-fwá	fə̄-fwá-lə́	"small snail"
bə̀-gɔ̀	fə-gɔ̀-lə	"small chest"
(b) nɗi	fə-nɗi-lə	"small water"
fə-ŋgbĭ	fə-ŋgbĭ-lə	"small bat"
mbɔ̀ŋ	fə-mbɔ̀ŋ-ə	"small cow"
ntùmə	fə-ntùmə	"small fish"

From the examples (6), we realize that diminutive construction consists of a circumfix: the prefix "fə-", and the suffix "-lə" which are both *bound to the noun root*. If the noun previously carried a class prefix, this class prefix is simply *deleted* and replaced by the diminutive prefix (the last two examples in (6a)). Curiously, it can be observed that for nouns whose roots involve pre-nasal consonants (6b), the nasal consonant remains unexpectedly undeleted in diminutive construction

because the nasal cannot be separated from the following segment. As said in other parts of this work, this behavior of pre-nasal consonants is far from being restricted to Koshin. In fact, J. Voorhoeve (1980: 59) observed that, in noun classes 6, 9, 10, 19 in Adere [Grassfiels language], "[t]*he morphemic status of this homorganic nasal is a problem*" because, "[i]*n most cases the homorganic nasal is not syllabic and bears no tone. All the other segmental noun prefixes have low tone.*" It should be recalled that the same situation is depicted in Koshin: whereas homorganic nasal with morphemic status carries a tone (Cf. example (5b), non-morphemic homorganic nasals bear no tone (have a look at (6b) examples).

Moreover, the author mentioned above continues: "[t]*he homorganic nasal seems also in other respects not to function as a prefix. Prefixes are deleted under specific conditions […]. The homorganic nasal is not deleted in the same conditions* [exactly as in examples (6)]*".* Consequently, Voorhoeve assumed *"therefore, that the homorganic is no longer consider to be a prefix, but is interpreted to be part of the stem*".

Another argument can be given from the syllable typology. The canonical syllable structure in Koshin (Cf. Chapter on phonotactics and prosodic morphology and phonology) is CV(C). The only C1C2V(C) attested in the language involves absolutely a glide in C2 position. Even the lateral consonant attested in the language cannot fill the C2 slot, (as is the case in some languages where the structure C1C2(C) is accepted).

For all the foregoing reasons, it can be assumed that all the pre-nasal sequences of the language are regarded as phonemes, that is, /mb/, /mf/, /nt/, /nd/, /ns/, /nts/, /nc/, /ŋk/, /ŋg/, /ŋw/, /ŋkp/, and /ŋgb/. For the moment, the pre-nasal affricate consonants [nz], [ndz] on the one hand and [nzh], [nj] on the other hand, are not considered.

3.4.1 Discussion of Allophones

Not all the consonant sounds attested in the language show a phonemic value like those discussed so far. Many sets of sounds are free alternations of a unique underlying segment. Others are combinatory variants conditioned by the phonic environment.

3.4.1.1 Combinatory Variants

In the paragraph on vowels, it is outlined that two or more sounds are combinatory variants of a single phoneme when these sounds show some phonetic similarity and can never

occur in the same phonic environment. It is usually said that such sounds are in complementary distribution. The most noticeable consonant sounds in complementary distribution in the system are the ***labio-dorsals*** versus the ***coronals***, according to the following patterns:

(7)	Singular		Plural		Example	Gloss
	(a) [kp]	~	[ts]	:	[kpì/tsì] [kpín/tsín]	"pot/pots" "tree/trees"
	(b) [gb]	~	[z/dz]	:	[gbíyà/zíyà] [gbí/dzí]	"house/houses" "hundred/hundreds"
	(c) [w]	~	[j]	:	[wí/jí] [wūnə̄/jūwì]	"eye/eyes" "feather/feathers"

It can be suggested that on the basis of the examples (7), the pairs [kp/ts], [gb/z], and [w/j] are in complementary distribution. The first members of the phonic pairs occur only in the singular form whereas the second members are restricted to the plural environment. Hence, the phonic environment is determined by a grammatical factor. A question is then in order: from what underlying segments the pairs in (6) are derived? Three hypotheses can be postulated:

(8) (a) Both the labio-dorsal and the coronal consonants in (7) are derived from labio-dorsals. This implies that, for instance, [kp] and [ts] are allophones of the phoneme /kp/.

(b) The two members of each phonic pair are derived from the coronal consonants: [kp] and [ts] are allophones of the phoneme /ts/.

(c) The two sounds of the phonic pair are derived from an underlying segment (X) which is articulatorily different from the two phonetic forms. Consequently, [kp] and [ts] are allophones of the phonemic segment /X/.

A simple observation of the data (7) reveals that, *systematically*, each singular member of the pair of nouns *must* show an initial labio-dorsal consonant, whereas the plural member *always* exhibits an initial coronal consonant. Hence, the singular form is associated to the labialization process versus the plural which is linked to coronalization. Therefore, the first two hypotheses cannot account for this principle because they assume that the labialization (for hypothesis (8a)) or coronalization (for hypothesis 8b) is not dissociated from the underlying form. Then, the most effective hypothesis is the third one (8c). A question to ask now is: which consonants are realized [kp], [gb], [w] under the influence of labialization and respectively [ts], [z], [j] when they are coronalized?

(9)(a) /k/ → [kp] / labialization
→ [ts] / coronalization

(b) /g/ → [gb]/ labialization
→ [z] / coronalization

(c) /(d)z/ → [w] / labialization
→ [j] / coronalization

It can be postulated that the better answers to this question are the proposals in (9). Unlike common labialization process which simply adds the labio-velar glide [w] to the non-labialized consonant, it is observed that the labialization in (9) turns the segments into labio-dorsal units. Besides, the process of coronalization does not simply transform segments into coronals. A process of spirantization is added to the coronalization. Still more intriguing is the labialization process in (9c): why does the segment /z/ become [w] (*instead of [gb]*) under the influence of labialization? The answer comes from the phonological system of the language. In fact, it can be noticed that in (9b), the postulated phoneme /g/ results in [gb] when there is labialization. If the labialized /z/ had been resulted in [gb], we could have found a situation where the labio-dorsal [gb] is the product of two different sources: /g/and /z/. This would have been too much. Consequently, whereas the phoneme /g/ has resulted in [gb], as the best candidate in this place, the fricative /z/ has given way to [w]. Obviously, it is another consequence of the economy principle (Occam's razor): processes using the minimal strategies are privileged, but accumulation is avoided. It simply means that economy should be balanced, and when there is accumulation of processes on one segment when other potential candidates are unoccupied, the economy principle is disturbed. In short, some labio-dorsal and coronal consonants are combinatory variants of hidden segments attested in the system. However, this conclusion cannot prevent us from considering labio-dorsal and coronal consonants as phonemes in other contexts.

Other types of *coronalized, labialized* and *nasalized* allophones are also attested in the system.

(10) (a) [kə-mbàŋ] "cheek" [lūmbā] "big" ([kə-mbàŋ **kə**-lūmbā])
[tə-tàŋ] "legs" [lūmbā] "big" ([tə-tàŋ **tə**-lūmbā])

(b) [kə-mbàŋ] "cheek" [kə-mbàŋ **s**-ə́ŋ] "my cheek"
[kə-mbàŋ] "cheek" [kə-mbàŋ **shy**-á] "your (sg) cheek"
[tə-tàŋ] "legs" [tə-tàŋ **tw**-á] "our legs"
[bə-mbɔ̀ŋ] "cows" [bə-mbɔ̀ŋ **bw**-ɨ́] "our cows"
[nɗi] "water" [nɗi **mw**-ā] "your (sg) water"

[fə̄-ŋkɔ̄]	“doe”	[fə̄-ŋkɔ̄	**fy**-á]	“your (sg) doe”
[bə̄-zhɪ̃̄]	“food”	[bə̄-zhɪ̄	**mby**-ə́nə́]	“your (pl) food”

Examples (10b) repeat some data given in (2). These examples show phonological alternations within an environment which is different from those observed since the beginning of this chapter. In fact, whereas the alternations shown in (7-9) occur within the word domain, the variations in (10b) are attested within an NP domain. Nevertheless, all of them show some similarities. If the concord morpheme preceding the adjective in (10a, bold form) is considered, it appears that it is similar to class prefix bound to the NP head. However, when the noun is followed by a pronoun in a possessive construction (10b), the concord marker (in bold) is no longer identical to the concord marker of the adjective. The attested alternations are as follows (tones and vowels are not indicated):

(11)

	Adjective concord		Pronoun concord
(a) /k/ →	[k-]	~	[s-] and[shy-]
(b) /f/ →	[f-]	~	[f-] and [fy]
(c) /t/ →	[t-]	~	[t-] and [tw-]
(d) /b/ →	[b-]	~	[b-] and [bw-]
(e) /m/ →	[m-]	~	[m-] and [mw-]
(f) /b/ →	[b]	~	[mb-] and [mby-]

The alternation in (11a) is more interesting in that it confirms in some aspect the hypothesis (8a): /k/ is realized coronal in palatalization context. However, whereas the hypothesis (9a) assumes the [+/- continuant] (affricate) consonant [ts-] as the product of the transformation of /k/ under the influence of palatalization, the process in (11a) shows quite clearly the fricative [s] as output of the palatalization. Nevertheless, there is no need to change the previous hypothesis because the morpho-phonological and syntactic environment is not the same in the two contexts: the environment is lexical in (9a) and phrasal in (11a). More concretely, it can be observed that the coronalized (11a-b), labialized (11c-e), and corono-nasalized (11f) segments are determined by the grammatical environment of possession construction.

The alternations of coronals versus labio-dorsals in (7) and the alternations conditioned by the possessive construction examined above are both determined by grammatical factors. Other combinatory variants are determined by a purely phonological context, such as those attested in (12).

(12)

[**j**]			[**zh**]	
(ai) [jɨ̌]	"eyes"	(bi)	[kə̄-zhɨ̌]	"to eat"
[jwà]	"honey"		[kə̄-zhyã̄]	"ram"
[jùŋ]	"blessing"		[kə̄-zhū]	"to grow thin"
[kə̄-jūwə̄]	"yam"		[zhwā]	"sauce"
(aii) [jɔ̀jə̀ŋ]	"shade"	(bii)	[mə̄ j-ə̄] (Cf. [kə̄-zhɨ̌]) "I am eating"	
[tə̄-jā]	"intestines"			
[fə̄-jɔ̄]	"ground"			

(c) /j/ → [zh]/ ——— high vowels
/j/ → [j] / ——— any vowel

In fact, it is observed that whereas the coronal fricative consonant [zh] (12bi) occurs only before the high vocoids (-i,-y, -u, -w), its affricate counterpart [j] (12ai-aii) occurs before any vowel including high vocoids. Interestingly, when the sound [zh-] appears before a non-high vocoid because of a morphological process, this sound turns to [j-] as in (12bii). Given the stronger functional possibility of [j] and given its simpler realization in the realization, it is preferred to [zh] in order to be the basic sound. Therefore, this can be illustrated by the simplified transformation rule in (12c).

3.4.1.2 Free Alternations

The allophones examined thus far are in complementary distribution. There are also allophones which alternate freely, whatever the environment is.

(13) (a) [dzù]	~	[zù]	"penis"
[dzɨ̌]	~	[zɨ̌]	"elephant"
[kə̀-zɔ̀]	~	[kə̀-dzɔ̀]	"mouth"
[zàŋ]	~	[dzàŋ]	"rain"
(b)[nzɔ̀ŋə́-lɛ̄]	~	[ndzɔ̀ŋə́-lɛ̄]	"be good"
[nzɛ̃̀]	~	[ndzɛ̃̀]	"porcupine"

(c) /dz/ ---->optionally [z] or [dz]

/nz/--->optionally [nz] or [ndz]

Examples (13) show that there is a free alternation between [dz] and [z] on the one hand (13a), and [nz] and [ndz] on the other hand (13b). For instance, the substitution of [dz] to [z] does not change the meaning of the word. As outlined in the first rule of Trubetzkoy (1939) translated by Cantineau (1986:47), "[s]*i deux sons de la même langue apparaissent exactement dans le même*

entourage phonique, et s'ils peuvent être substitués l'un à l'autre sans qu'il se produise par là une différence dans la signification intellectuelle du mot, alors ces deux sons ne sont que des variantes facultatives d'un phonème unique. " [If two sounds in the same language occur exactly in the same phonic environment, and if they can be substituted to each other without giving way to a difference in the meaning of the word, then, these sounds are mere optional variants of a single phoneme]. For practicability, the sounds [z] and [nz] could have been selected as basic allophones. However, for reasons of symmetry with the phoneme /j/ adopted above, it is better to select the affricates [dz] and [ndz] as basic allophones.

3.5 Definition of Phonemes

Now, all the phonemes resulting from the discussion carried on thus far can be defined. This implies knowing the distinctive features which condition the contrastiveness of the phonemes. In accordance with the Constriction-based Model underlying this work, two main types of features are used: ***the major class features*** which define the major sonority classes ([*+/-sonorant*], *[+/-approximant*] and [*+/-vocoid*]), and ***three dependent nodes/feature***: the *laryngeal node* carrying the feature [+/-voice], the *oral cavity* node characterized by the *constriction degree* ([+/-continuant]) and the *constriction location* ([labial], [coronal], [dorsal]), and the [+/-nasal] feature. The pre-nasal consonants are defined as the association of the two segments making up the segment.

(14) (ai) /p/: [-vocoid] (p/u), [labial] (p/t), [-continuant] (p/f), [-voice] (p/b).

(aii) /b/:[-vocoid] (b/u), [labial] (b/d), [-continuant] (b/f), [+voice] (p/b).

(aiii) /f/ :[-vocoid] (f/u), [labial] (f/t), [+continuant] (f/p), [-voice] (f/b).

(aiv) /m/: [-vocoid] (m/u), [+sonorant] (m/b), [+nasal] (m/b), [labial] (m/n).

(av) /mf/: association of the features of /m/ and /f/.

(avi) /mb/: association of the features of /m/ and /b/.

(bi) /t/: [-vocoid] (t/i), [coronal] (t/k), [+ anterior] (t/c) [- distributed] (t/c), [-continuant] (t/s), [-voice] (t/d).

(bii) /d/: [-vocoid] (d/i), [coronal] (d/g), [+ anterior] (d/j) [- distributed] (d/j), [-continuant] (d/dz), [+voice] (d/t).

(biii) /s/:[-vocoid] (s/i), [coronal] (s/f), [+ anterior] (s/sh) [- distributed] (s/sh), [+continuant] (s/t), [-voice] (s/dz).

(biv) /ts/ : [-vocoid] (ts/i), [coronal] (ts/f), [+ anterior] (ts/sh) [+ distributed] (ts/s),
[-/+ continuant] (ts/t), [-voice] (ts/dz).

(bv) /dz/ :[-vocoid] (dz/i), [coronal] (dz/b), [+ anterior] (dz/j) [+ distributed] (dz/d),
[-/+ continuant] (dz/d), [+voice] (dz/ts).

(bvi) /l/ : [-vocoid] (m/u), [+sonorant] (m/b), [+approximant] (l/m), [lateral] (l/y).

(bvii) /n/:[-vocoid] (n/e), [+sonorant] (n/d), [+nasal] (n/d), [coronal] (n/m), [+anterior] (n/ny), [-distributed] (n/ny).

(bviii) /nt/: association of the features of /n/ and /t/.

(bix) /nd/: association of the features of /n/ and /d/.

(bx) /ns/: association of the features of /n/ and /s/.

(bxi) /ndz/: association of the features of /n/ and /dz/

(bxii) /sh/: [-vocoid] (sh/i), [coronal] (sh/f), [- anterior] (sh/s) [+ distributed] (sh/s), [+continuant] (sh/d), [-voice] (sh/j).

(bxiii) /c/ : [-vocoid] (c/i), [coronal] (c/k), [- anterior] (c/s) [+ distributed] (c/s), [-/+ continuant] (c/t), [-voice] (c/j).

(bxiv) /nsh/: association of the features of /n/ and /sh/.

(bxv) /nc/: association of the features of /n/ and /c/.

(bxvi) /nj/: association of the fatures of /n/ and /j/.

(bxvii) /ny/: [-vocoid] (ny/e), [+sonorant] (ny/d), [+nasal] (ny/d), [coronal] (ny/m), [-anterior] (ny/n), [+distributed] (ny/n).

(bxviii) /y/: [+ vocoid] (y/l), [+sonorant] (y/j), [+approximant] (y/ny), [coronal] (y/w).

(ci) /k/: [-vocoid] (k/u), [dorsal] (k/t), [-continuant] (k/gh), [-voice] (k/g).

(cii) /g/: [-vocoid] (g/u), [dorsal] (g/d), [-continuant] (g/gh), [+voice] (g/k).

(ciii) /gh/: [-vocoid] (gh/u), [dorsal] (gh/j), [+continuant] (gh/g), [+ voice] (gh/g).

(civ) /ŋ/: [-vocoid] (ŋ /u), [+sonorant] (ŋ/g), [nasal] (ŋ/y), [dorsal] (ŋ /ny),

(cv) /ŋk/: assciation of the features of /ŋ/ and /k/.

(cvi) /ŋg/: association of the features of /ŋ/ and /g/.

(di) /kp/: [-vocoid] (kp /u), [labio-dorsal] (kp/k), [-continuant] (kp/w), [-voice] (kp/gb).

(dii) /gb/ : [-vocoid] (gb /u), [labio-dorsal] (gb/g), [-continuant] (gb/w), [+voice] (gb/kp).

(diii) /w/: [+ vocoid] (w/l), [+sonorant] (w/g), [+approximant] (w/ ŋ),

[labio-dorsal] (w/y)

(div) /ŋkp/: association of the features of /ŋ/ and /kp/.

(dv) /ŋgb/: association of the features of /ŋ/ and /gb/.

(dvi) /ŋw/: association of the features of /ŋ/ and /w/.

3.6 Classification of Phonemes

The classification of the attested phonemes takes into account the main two types of features which define them.

3.6.1 Major Class Features

(15)	**[+sonorant]:**	a) [+nasal]:	/m, n, ny, ŋ/
		b) liquid:	/l/
		c) [+vocoid];	/y, w/
(16)	**[+approximant]:**	a) [+ vocoid]:	/y, w/
		b) liquid:	/l/
(17)	**[+vocoid]:**	[+vocoid]:	/y, w/
(18)	**[+sonorant, +vocoid]**	[+nasal, +vocoid]: /ŋw/	

3.6.2 Dependent Nodes/Feature (minor features)

(19)	**Laryngeal node:**	a) [+voice]:	/b, d, dz, j, g, gh, gb/
		b) [-voice]:	/p, f, t, s, ts, c, k, kp/
(20)	**Oral cavity node 1:**	a) [+ continuant]:	/f, s, sh, gh/
	(**constriction degree**)	b) [-continuant]:	/b, p, t, d, k, kp, gb/
		c) [-/+continuant]:	/ts, dz, c, j/
(21)	**Oral cavity 2 :**	a) [labial] :	/p, b, f/
(**constriction location**)		b) [coronal]:	/t, d, s, ts, dz, l, sh, c, j, y/
		c) [dorsal]:	/k, g, gh/
		d) [labio-dorsal];	/kp, gb, w/

3.6.3Major Feature Followed by Minor Feature

(22)	**[+/-sonorant]:**	a) [+nasal, dorsal]:	/mb, mf/
		b) [+nasal, coronal]:	/nd, nt, ns, nts, ndz, nsh, nc, nj/
		c) [+nasal, dorsal]:	/ŋk, ŋg/
		d) [+nasal, labio-dorsal]:	/ŋkp, ŋgb,ŋw/

All the attested consonant phonemes examined and classified can be summed up in the following phoneme matrix.

(23)

ACTIVE ARTICULATOR	Tip of tongue (apical)	Blade of tongue (laminal) (coronal)	Back of tongue (dorsal)	Lower lip (labial)	
PASSIVE ARTICULATOR	Upper teeth-Alveolus	Post alveolus-Palate	Velum	Upper lip	Upper teeth
[-son] [-cont][-voice] [-son] [-cont][+voice]	/t/ /d/		/k/ /kp/ /p/ /g/ /gb/ /b/		
[-son] [+cont] [-voice] [-son] [+cont] [+voice]	/s/	/sh/	 /gh/		/f/
[-son] [-/+cont][-voice] [-son] [-/+cont][+voice]	/ts/ /dz/	/c/ /j/			
[+son][-vocoid][+nasal]	/n/	/ny/	/ŋ/	/m/	
[+son][-vocoid][+approx.]	/l/				
[+son][+vocoid][+approx.]		/y/	/w/		
[+son][-vocoid][+nasal]/[+vocoid]			/ŋw/		
[+son][+nasal]/[-cont][-voice] [+son][+nasal]/[-cont][+voice]	/nt/ /nd/		/ŋk/ /ŋkp/ /ŋg/ /ŋgb/		 /mb/
[+son][+nasal]/[-cont][-voice]	/ns/	/nsh/			/mf/
[+son][+nasal]/[-/+cont][-voice] [+son][+nasal]/[-/+cont][+voice]	/nts/ /ndz/	/nc/ /ɲj/			

Table 2: Phonemic Chart of Consonants

In conclusion, thirty-eight phonemic consonants have been identified. The frequency of pre-nasal consonants is one of the most noticeable characteristics of the system. More discussion about this phonemicity of pre-nasals is found in the chapter on noun classes. Besides, the coronal and labio-dorsal allophony of segments which are also phonemes in the system deserves to be highlighted as another important characteristic of the Koshin consonant system. After identifying the distinctive units of the system, the next stage is to analyze their phonotactic possibilities.

CHAPTER 4

PHONTACTICS AND PROSODIC MORPHOLOGY AND PHONOLOGY

In the preceding two chapters, the phonemic identity of the distinctive units attested in the language is analyzed. Without following the order of the description, two types of units have been discussed: segmental units (vowels and consonants) and prosodic units (tones, labialization prosody and coronalization prosody). The phonemicity of each segmental or prosodic unit has been attested mostly on the basis of the contrast between two (or more) units, in the *vertical axis* where the contrastive units occurring in the same environment yield different meanings. In this chapter, two key points are addressed: the first point deals with the functional possibilities of the contrastive units in the linear or *horizontal axis* within the syllable and word structure. This statement of which linguistic unit may correspond to each structural slot in the syllable or word structure is usually called phonotactics in literature. The second point analyzes the prosodic phonology of the language in terms of the Prosodic Theory of "Nonconcatenative" (sic) Morphology.

4.1 Syllable/Word Structure and Phonotactics

Amongst the various conceptions of the label "syllable", one of the most commonly accepted by many scholars is that, as stated by Blevins (1995:207), the syllable is "*the phonological unit which organizes segmental melodies in terms of sonority; syllabic segments are equivalent to sonority peaks within these organizational units*". Concerning the phonotactics, it aims at supporting the phonemic identity of the linguistic units identified in the vertical axis and it also helps to resolve queries concerning phonological analysis. This objective is achieved through the identification of the sub-systems of linguistic units (consonants, vowels, prosodic units) attested in the language according to the slot they fill within the syllable structure. And talking of syllable structure implies recognizing the syllable as a constituent. Why the syllable in Koshin is then considered a constituent?

4.1.1 Koshin Syllable as a Constituent

Cross-linguistically, it is nowadays almost established through a myriad of reasons, from different languages, that a syllable makes up a prosodic constituent. In Koshin, the structure called syllable which is larger than a segment and smaller than a word is regarded as a constituent because of the following reasons.

4.1.1.1 Syllable as Domain

One of the phenomena which consider the syllable as a domain is tone assignment, as in the examples below where the dot (.) within words in (1b) represents the syllable boundary:

(1)	Singular	Plural	Gloss
(a)	[shàŋ]	[shāŋ]	"finger"
	[zhù]	[zhú]	"hoe"
(b)	[zù.mə]	[zū.mə]	"antelope"
	[zhù.nə]	[zhū.nə]	"shade"
	[fì.yà]	[fī.yà]	"ankle"
(c)	[ə́ =mə twā]		"in my stomach"
	[mə́-mə twā]		"in my stomach"

Data in (1) testify that tone assignment is sensitive to the syllable domain (given that each syllable implies one peak of sonority). In fact, whereas in (1a) it is not clear whether the tone is determined by the (monosyllabic) word or the syllable, in (1b), it can be noticed that in dissyllabic roots only one syllable of each noun shows the tonal alternation for the singular versus plural forms. Furthermore, as (1c) shows, tone is not restricted to vowels, implying that what matters is the peak of sonority and that the tone domain goes beyond the segment (vowel or nasal consonant) and does not reach the word domain.

4.1.1.2 Syllable Edge as Locus

Whereas in (1) above tones take the syllable as domain of application, other processes of the language target the syllable edge as locus, that is the syllable initial (onset) or the syllable final slots (coda).

(2)	Singular	Plural	Gloss
(a)	[kpɨ̄n]	[tsɨ̄n]	"tree"
	[gbɨ̄]	[dzɨ̄]	"hundred"
(b)	[gbɨ̄.yà]	[zɨ̄.yà]	"house"
	[wū.nə̄]	[jū.nə̄]	"feather"

In the preceding examples (2a-b) for instance, it can be easily stated that the processes of labialization and coronalization are concerned neither with the whole syllable (consonant(s) and vowel(s) nor with all the consonants of the word. Instead, through examples (2b), we realize that only the initial syllable consonant of the first syllable is concerned.

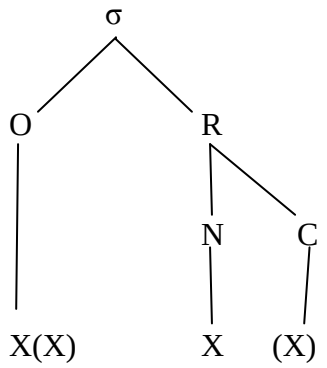
4.1.1.3 Syllable as Target

Another argument for considering the syllable in Koshin a constituent is that the syllable can be the target of morphological processes such as reduplication. In fact, within the theory of Prosodic Morphology and Phonology followed in this chapter, reduplication process is construed as an affixation of a bare syllabic template to the base, where the segmental properties of the bare template are identical to those of the base, giving a kind of one-to-many association between segments and prosodic templates. Details about reduplication are given within the paragraph on prosodic phonological processes. If the syllable structure is the domain of application of a phonological phenomenon, its edge the locus of phonological processes and if its structure is the target of reduplication, it goes without saying that in Koshin the syllable is a constituent. And any constituent shows an internal structure.

4.1.2 Syllable-internal structure

The arguments given above in favour of the recognition of the syllable as constituent unveil two immediate sub-constituents to the syllable: the processes (such as labialization and coronalization) which target exclusively the first consonant of the syllable plead for the recognition of what is usually referred to as *onset slot*. Besides, the fact that tones are specifically carried by peaks of sonority which are different from the segments within the onset slot, advocates for a different sub-constituent. In literature, such a constituent is termed *rhyme* and this rhyme is made up by a *nucleus* which preferably consists of a vowel but in some contexts it is a nasal consonant. The nucleus may be followed by a syllable final consonant which, in native phonology –but not in loan phonology- is usually a nasal consonant. In literature, this syllable final consonant is called *coda*. Furthermore, the "prosodization" of the nasal /ny/ discussed in the paragraph on prosodic phonology shows that the nucleus and the coda are more closely related than the nucleus and the onset

(3)



The description of the syllable structure in Koshin can be schematized as in (3) above (the symbol **σ** stands for syllable, **O** refers to the syllable onset, **R** stands for rhyme, **N** for nucleus, and **C** for coda. The onset and the rhyme (with its immediate sub-constituents (N, C)) belong all to the *syllabic plan*. The letter **X** refers to the skeletal position to which are rooted the different segments (vowels and consonants). The skeletal positions and the segments belong to the *segmental plan*.

4.1.3 Syllable Structure and the Sub-systems of Distinctive Units

In this paragraph, we make the inventory of the various sub-systems of consonants corresponding to the different slots of the syllable structure. In other words, we identify which consonants can fill the syllable onset slot and which ones can fill the nucleus and the coda positions. Vowels and tones are not considered here because any one of the attested vowels can fill the nucleus slot and any one of the attested three tones can occur on the segments which fill the nucleus slot. Only native phonology is considered. ("+" refers to the occurrence of the segment and "-" stands for the non-occurrence of the segment)

(4)

Consonants	Onset	Rhyme	
		Nucleus	Coda
(a) nasals /m, n, ŋ/	+	-	+
(b) nasal /ny/	+	-	-
(c) homorganic nasal /N/	-	+	-
(d) glides /y, w/	+	-	+
(e) the remaining consonants	+	-	-

Table 1: Sub-systems of Consonants According to the Syllable Structure

The most noticeable conclusions that can be drawn from table 5 are the following:

- All the consonants of the system can fill the onset slot
- Only nasal consonants (*except /ny/*) and the glide /w/ can fill the coda slot
- Only the homorganic nasal consonant can fill the nucleus slot

It should be mentioned that, loan phonology presents (unexpectedly?) different phonotactic possibilities within the syllable structure. For instance, in loan words, obstruents consonants can occur in coda position. This point is discussed in the following lines. Now, let us examine the syllable typology attested in the language.

4.1.4 Syllable Typology

If loan words are put aside, the types of syllable phonologically attested in Koshin are the following: CV, CVC, CCV, CCVC.

(1)	(a) CV	[*kū*]	"village"	[*bǐ*]	"dog"
	(b) CVC	[*kūm*]	"boa"	[*nyəm*]	"leopard"
	(c) CCV	[*jwà*]	"honey"	[bə̄-*bwá*]	"dew"
	(d) CCVC	[*fyàŋ*]	"spider"	[*fwɔ̄ŋ*]	"stick for cooking food"

Beside the four types of syllable identified above, there is another syllabic shape which is unknown in native *lexicon* but attested in loan words. It is the structure V as in (6) below:

(2)	V	[á.kɔ̀.lɔ̀]	"okra"
		[á.nyàŋ]	"iron"

As shown in (6), loan words add a syllabic type which is unknown in native phonology. Now, the phonotactic possibilities of all the distinctive units within the structure of the phonological word can be examined.

4.1.5 Word Structure and Distributional Possibilities of Units

Within the structure of the phonological word, we can distinguish the following most relevant positions: word initial position, word middle position and word final position. Let us examine first the consonants, the vowels later, and then the distribution of tones.

4.1.5.1 Consonants

The distributional possibilities of consonants within the phonological word can be presented as follows:

(7)

Consonants	Word initial position	Word middle position	Word final position
(a) Nasals: /m, n/	+	+	+
(b) Nasal: /ŋ /	-	+	+
(c) Nasal: /ny/	+	+	-
(d) Glides and the remaining consonants	+	+	-

Table 2: Sub-systems of consonants according to the word structure

From the table 6 above, the following two general interpretations can be drawn:

- All the consonants attested in the language can occur at word middle and (except the dorsal nasal) at word initial position.
- However, *only nasal consonants* are attested in *word final position*.

Besides, the comparison between the distribution of consonants within the syllable structure (4) and within the word structure (7) gives way to the fact that, as expected, there are some distributional similarities between the two domais: for instance, non-nasal consonants can occur in syllable initial position (4e) and they can also occur in word initial position (7d). However, there are also differences. Whereas the dorsal nasal /ŋ/ (4a) can occur in syllable initial position, this consonant is not attested (as a phoneme) at word initial position (7b). Besides, the glide /w/ (4d) is assumed to occur at syllable final position (in spite of its low occurrence), but this segment cannot be attested at word final position (7d).

Another point is in order, concerning the distribution of nasal consonants: we realize that the dorsal nasal /ŋ/ and the coronal nasal /ny/ can both occur at word middle position. However, only the dorsal /ŋ/ can occur at word final position and only the coronal nasal /ny/ is attested in word initial position. The occurrence of /ny/ in word final position is quite problematic and is discussed later. Given that both nasals can also occur and contrast in the same environment (at least within the syllable onset slot (4a-b) and in word middle position (7b-c)), there is no way of arguing a complementary distribution context and pretending that they are allophones of the same consonant.

Coming back to the distribution of non-nasal consonants, it is intriguing to realize that, as observed earlier, the loan words show a different phonotactic profile: non-nasal consonants which, in native phonology, are banished from occurring in word final position are (curiously?) tolerated in this environment, in loan words. Usually (but not always), it is well-known that when a language borrows items from a different language, these items are adopted following the phonological constraints internal to the borrower language. Therefore, it can be wondered why word final position (and syllable coda position in general) is restricted mostly to nasal segments in native words but unrestricted in loan words.

If the *sonority profile* assumed by Clements (1990) can explain the restriction of coda position to nasals, it does not help us to account for the occurrence of the non-nasal consonants, from loan words, in coda position. In fact, Clements (1990: 301) suggested that, usually, coda constraint instantiated the cross-linguistic preference for the sonority profile principle which, according to the author, "*rises maximally towards the peak and falls minimally towards the end*". More concretely, the sonority profile predicts that the great sonority difference between the syllable onset and the syllable nucleus of the syllable does not matter; but between the syllable nucleus and the syllable coda the sonority difference has to be as minimal as possible. Sonority profile principle interestingly accounts for Koshin native phonology on a par with many other languages which allow only a small class of segments, usually sonorant consonants, to fill the syllable coda slot. However, as examples (8a) show, the language accepts external words which do not obey the coda constraint prevailing in the system: not only sonorant consonants like /l/or the glide /y/ but also obstruents such as /s, t/ can occur at word final position (then in syllable coda position).

(8)	Loan word		Gloss
(a)	ká***s***	(from *kas/ Cameroonian* Pidgin)	"container"
	skū***l***	(from *school/* English)	"school"
	gó***v***mèn***t***	(from *government/* English)	"government/ administration"
	còntə***r*** sɔ́ndè***y***	(from Pidgin English)	"traditional Sunday"
(b)	wíndòwə	(from *window/* English)	"window"
	há	(from *how/* English)	"how"

Furthermore, it can be observed that even sounds which are not attested in the phonemic chart of consonants are accepted without any phonetic readjustment in syllable coda position (Cf. the consonant [***v***] in "gó***v***mèn***t***" and [***r***] in "còntə***r*** sɔ́ndè***y*** "). Consequently, coda possibilities are more extensive than evidenced by the native vocabulary. It must be recognized that, nevertheless, concerning loan words originally ended with the glide /w/, the language phonology tends to use strategies where, at the end, we get items which obey the coda constraint prevailing in the system. For instance, as shown in (8b), a schwa vowel is added to the item "window" and the glide /w/ of the English word "how" is simply deleted. Unfortunately, not many similar items have been found in order to draw a more consistent generalization. However, from examples (8) above, it seems that Koshin does not exhibit a strict general *synchronic constraint* against non-

nasal consonants in coda position. If this observation is acceptable, therefore, the absence of non-nasal consonant in coda position *may* be, as hypothesized by some analyses, the consequence of a diachronic process where non-nasal consonants in coda position underwent an word final deletion process. In fact, Hombert (1980:94) thought about Koshin and seven Koshin-related languages ("Beboid languages") and hypothesized that, historically, non-nasal coda consonants were attested in this group of languages, and that "*stem-final consonants were lost except when they were nasals*". An argument supporting such a hypothesis is that amongst the set of examined languages, one (Mekaf language) still keeps non-nasal consonants in word final position.

4.5.1 Vowels

Concerning vowels, any of the eight phonemic vowels can occur in monosyllabic words. In dissyllabic words, no restriction in the distribution of vowels has been attested even though it should be attested that some vowels show a low occurrence (it is the case of the central vowel /ɨ/) whereas others are recurrently attested (amongst others there is the schwa vowel). Moreover, it can be noted that in native vocabulary, vowels are not attested in word initial position, but in loan words, as exemplified in (6) above, vowels do occur in that position.

4.1.5.2 Tones

All the three level tones of the system are attested in monosyllabic words. Words with three syllables are quite rare. In disyllabic words, we can find all the distributional possibilities, at least at the surface structure, as follows:

(8) (a) High-High:	[kíyá]	"charcoal",	[mbúnjá]	"throwing net"
(b) High-Low:	[mékwə̀]	"big lizard",	[kúbə̀]	"rib"
(c) High-Mid:	[ŋgə́nə̄]	"egg"	[píyā]	"pear"
(d) Mid-High:	[tsə̄bə́]	"eyelash"	[kə̄-núŋ]	"rooster"
(e) Mid-Mid:	[lūmbā]	"big"	[wūnə̄]	"feather"
(f) Mid-Low:	[lɔ̄kɔ̀]	"cassava"	[ŋkə̄bə̀]	"ankle"
(g) Low-High:	[tùmə́]	"navel"	[kə̀-fǐ]	"pig"
(i) Low-Mid"	[kə̀-ncū]	"mortar"	[gbàgbā]	"duck"
(j) Low-Low	[də̀wà]	"buffalo"	[zhùnə̀]	"shade"

It should be mentioned that some of these possibilities can be interpreted differently in the underlying structure. For instance, as analyzed later in this chapter, the surface succession of two

identical high tones can be interpreted in some contexts as the realization of a single high tone in the underlying form of the word.

In conclusion, the phonotactic analysis of the distinctive units allow us in this first articulation of the chapter to identify the various subsystems of segments (mostly consonants), according to the functional slots of the syllable and according to word structure. This presupposes the recognition of the syllable as a constituent which, in Koshin, is made up as in many languages by an onset slot and a rhyme (nucleus and coda) slot. This syllabic structure is based on positive evidence internal to the language. It is time to discuss the prosodic morphology and phonology of the language.

4.2 Prosodic Morphology and Phonology

In agglutinative (or agglutinating) languages such as Bantu languages or some well-known Indo-European languages, words often consist of a *concatenation of morphemes* which are discrete elements linearly bound at the right or the left end of the root or the base and which are fully segmentable. The morpho-phonological analysis of this type of languages may seem relatively simple, or at least regular. As a matter of fact, given the phonological representation of a word, bound morphemes can be recovered by a left-to-right or right-to-left parsing of the word. Invariant recurrent partial strings with possibly constant meaning or function are checked. Possible phonological alternations are identified and accounted for, taking into account the phonic environment, grammatical requirements, and so on.

However, not all the languages behave in the same way. For example, it can be noticed in literature that many Grassfields languages basically show what linguists such as McCarthy (1981:373) coined "*nonconcatenative morphology*". In this type of languages also regarded by linguists as "fusional" languages, a word can include a number of grammatical elements, but these elements cannot be easily parsed and analyzed linearly as in the preceding type of morphology. Instead, morphemes are *fused* together in an *unsegmentable* way. In order to account for such phenomena which are very familiar to Semitic languages (Arabic is one of them), McCarthy (1981), McCarthy and Prince (1995) developed a non-linear model called the theory of Prosodic Morphology and Phonology which is an offshoot of Goldsmith's influential Autosegmental model (1976). As outlined by McCarthy himself "[i]*t is a prosodic theory in the sense that it uses the devices of autosegmental phonology, which are most familiar through*

studies of tone and other prosody." (McCarthy 1981:373). In the rest of this chapter, we analyze the morpho-phonological processes of Koshin language which require the prosodic morphology and phonology analysis are examied. But first of all, these processes which make Koshin be regarded as a *nonconcatenative* language have to be identified.

4.2.1 Koshin: a Nonconcatenative Language

Koshin language exhibits many processes which make the language be regarded as a basically nonconcatenative language. It should be clearly mentioned that it is a question of tendency: even languages which are classified as agglutinative can show some fusional characteristics and, reversely, some basically fusional languages can exhibit some concatenative processes. Concerning the language studied in this work, it can be considered a nonconcatenative language because of the following morphological operations which cannot be accounted for by the classical method of parsing described in the preceding paragraph: reduplication, tone change, internal change, subtraction, prosodization of the nasal segment, and most importantly, the morphological processes of labio-dorsalization (labialization) and coronalization (palatalization). Let us specify that the symbolic value of these processes is analyzed in the chapter on nouns and, to a lesser extent, in the chapter on verbs. In this paragraph and in the preceding one, the morpho-phonological characteristics which distinguish them from common processes of suffixation and prefixation are emphasized.

When all or part of the root is repeated and joined before or after that root, it is usually referred to as reduplication. This process is attested in Koshin. It is shown through lexical items (9a), but in the same time it can convey a grammatical meaning, as attested in (9b) below (REDUP stands for reduplicated particle and the sign "?" shows that the status of the item it refers to is not clear).

(9) (a) kə̀-ŋwāŋ.ŋwāŋ "small type of ant"
kə̀-ntū.ntū "morning"
fū.fū "he-goat"

(b) wù zàmə́ bə́ zàmə̀-mə̀
3PERS.SG talk CONJ REDUP-REDUP
He is just talking.

Reduplication is a well known process in literature, even though its formalization may vary according to theoretical frameworks. For instance, whereas McCarthy (1981), McCarthy and

Prince (1995) and other formalists consider reduplication as a copy of a bare *prosodic template* to a base, Marantz (1982: 437) outlines that "[r]*eduplication is not* [a] *constituent copying*" process. Nevertheless, all of them agree that reduplication is an affixation-like process. However, does it mean that reduplication is identical to a simple process of affixation -like the prefixation process- as attested in agglutinative languages? Not at all. Evidence in some languages has shown that the reduplicated part of the word affixed to the base or root does not behave in the same way as a natural (not reduplicated) morpheme which is bound to the root or base. The difference is clarified in the following section where the reduplication process based on the Prosodic Morphology and Phonology model is accounted for.

Tone change is another process attested in the language and which makes Koshin be considered a "nonconcatenative language". It conveys grammatical meanings. Amongst other examples, it can distinguish one noun class from another. In agglutinative languages -and even in other Koshin noun classes, such a grammatical characteristic can be shown by a canonical binding of a segmental morpheme to the root or base, instead of using a prosodic process.

Another process usually regarded as characteristic of nonconcatenative languages is the internal change process which changes some segment –consonant or vowel or both of them- of the root. As with tone change process, some nouns change some of their segments to mark the number (singular versus plural) grammatical category. Within the approach adopted in this chapter, internal change receives a prosodic treatment: the segments which trigger the changing of the root are supposed to occur on a separate segmental tier.

Subtraction process is also regarded as one of the processes shown by non-agglutinative languages. As seen in other parts of this work, this process deletes some part of the root. It is attested in nouns (where it marks the number category) and in verbs (its meaning is not clearly identified).

Another somewhat uncommon but interesting process attested in the language consists in what can be called "prosodization" of the nasal consonant /ny/. As stated above in (7c), the nasal consonant /ny/ is the only nasal consonant which is not clearly attested in word final position. Instead of the nasal /ny/, what is really perceived is a nasalized vowel and it has been hypothesized in the chapter on vowels that nasalized vowels do not have a phonemic identity. Interestingly, there is a good reason to believe that this nasalized vowel and the coronal /ny/ are interconnected in one way or another: when there is suffixation, the nasalized vowel is

denasalized. That is why it should be maintained that, even if the nasal /ny/ is not phonetically attested in word final position, it can be reconstructed in the underlying representation. It is "prosodized" or "desegmentalized" and later "segmentalized" into the vowel. Specific details about this process are given in the following section.

And lastly, perhaps the most noticeable processes attested in Koshin and which characterize fusional languages are coronalization and Labialization. These processes which usually convey a grammatical meaning (plural versus singular respectively) cannot be analyzed by the parsing approach, recurrently used in agglutinative languages. Instead, they modify the consonant which fills the syllable onset slot making the prosodic approach more appropriate for the analysis. As a matter of fact, coronalization and labio-dorsalization features are assumed to operate on a tier separated from the segmental tier. Beside these two prosodic features, there is also the nasalization prosody. However, unlike labio-dorsalization and coronalization which occur both at the lexical and phrasal levels (with different meanings), nasalization prosody operates exclusively in the phrasal level. These details are analyzed in the next chapter.

After the identification of the processes which make Koshin be considered a nonconcatenative language, it can be examined how these processes can be derived following the prosodic approach.

4.2.1 Prosodic Phonological Processes

The prosodic phonological processes are derived one after another, beginning with the most common of them (reduplication and coronalization/labio-dorsalization prosodies), and then the others.

4.2.1.1 Reduplication

In (9) above, we two forms of reduplication are identified: nominal reduplication (9a) with a lexical value and verbal reduplication which conveys a grammatical meaning. Essentially, the two types of reduplication are derived in the same way, as follows:

(10) (a) Given an underlying representation, an identical number of syllabic templates is suffixed to the root.

(b) The segmental melody (and also the tonal melody for the nominal reduplication) of the root is copied to the syllabic templates, on a *separate tier*.

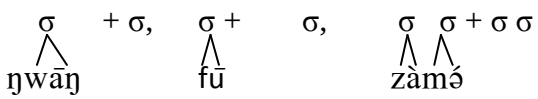
(c) Segments are associated to the syllabic templates according to the syllable

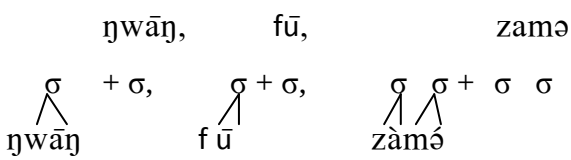
structure requirements

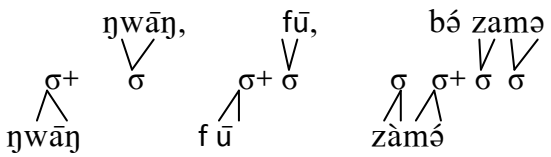
(d) And finally, specifically for verbal reduplication, tones are associated to tone bearing units (TBU)

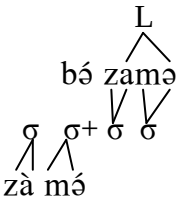
The four preceding stages (10a-d) can be applied as in (11a-d) through the derivation of two nominal reduplications and one verbal reduplication taken from (9).

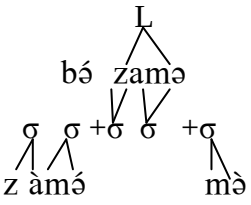
(11) Derivation of [kəŋwāŋŋwāŋ, fūfū, zàmə́ bə́ zàməmə̀]

(a) 

(b) 

(c) 

(d) ---- ----- 

(e) ----- ---- 

For the verbal reduplication, there is a further stage of reduplication where the last syllable is suffixed to the reduplicated morpheme (11e). Then, instead of a simple reduplication, this process looks like what someone can call “triplication”.

After this cycle (root cycle), the prefix is joined to the root in order to derive the first item in (11f) below.

(f) kə ŋwāŋ ---- ----

σ+ [σ + σ]

ŋwāŋ

Furthermore, it should be emphasized that, as shown in the derivation in (11), the prosodic model assumes a somewhat richer notion of autosegmental tier. As a matter of fact, instead of a single tier on which all and only segments of the same nature are represented, the model developed by McCarthy allows that "*each language has the option of restricting every tier to autosegments which are members of a particular morpheme or morpheme class*". That is why, in the derivation, it is observed that the copied segments are not represented on the same tier as the segments of the root because they do not belong to the same morpheme class. This flexibility of the model is needed in order to account for the verbal reduplication because, without this possibility, the insertion of a different morpheme between the verb root and the copied form could have been left unexplained.

4.2.1.2 Labio-dorsalization and Coronalization

In the preceding chapter, the complementary distribution between labio-dorsal consonants (which occur exclusively in singular nouns (noun class 3)) and coronal consonants (which are attested in plural nouns (noun class 4) are discussed. This can be observed once more through examples in (12).

(12)

	Singular	Plural	Gloss
(a)	kpi̍	tsi̍	"pot"
	kpi̍n	tsi̍n	"tree"
(b)	gbi̍yà	zi̍yà	"house"
	gbi̍	dzi̍	"hundred"
(c)	wi̍	ji̍	"eye"
	wūnə̄	jūwi̍	"feather"

Still in that chapter, it is assumed that in each pair of singular versus plural nouns as in (12), the labio-dorsal consonant and the coronal consonant which fill the onset slot are allophones of an underlying segment which is phonetically different from its two allophones: /k/ is the underlying segment for the allophones [kp] and [ts] (12a), /g/ for the allophones [gb] and [z] (12b), and /z/ for [w] and [j]. For details about the discussion, it is better to consult the alluded chapter. What is

more important here is to explain how the derivation can be formalized in terms of the prosodic morphology and phonology model. In this respect, it is assumed the following:

(13) (a) In the underlying representation, the prosodic features (/ʷ/ and /ʸ/) are represented on a separated tier.

(b) The prosodic feature is associated to the prosody-bearing unit (PBU) -the consonant which fills the leftmost syllable onset (the word initial consonant).

(c) Whereas the PBU is labio-dorsalized under the influence of labialization, segments are coronalized with the coronalization prosody.

(d) Within coronalization process, the feature [+continuant] is linked after the feature [-continuant] under the oral cavity node, in order to produce affricate onset consonants.

(e) Post-lexically, for voiced coronals, there is a free alternation between the affricate [dz] and the fricative [z]. In the same way, the central high (ɨ) vowel is coronalized into [i] after the coronal consonant.

The preceding stages in (13) derived [kpi̯], [tsi̯], [gbɨ̯yà], and [zɨ̯yà] as in (14) below (details about the derivation of tones are not indicated).

(14) (a)/ki ki gɨya gɨya/
/ʷ/ /ʸ/ /ʷ/ /ʸ/

(b) / ki̯ ki̯ gɨ̯yà gɨ̯yà/
/ʷ/ /ʸ/ /ʷ/ /ʸ/

(c) ***kp***i̯ ***t***i̯ ***gbɨ̯***yà ***dɨ̯***yà
/ʷ/ /ʸ/ /ʷ/ /ʸ/

(d) ----- ***ts***i̯ ----- ***dzɨ̯***yà
/ʸ/ /ʸ/

(e) ----- ---- ---- ***(d)***zɨ̯yà
/ʸ/

(f) ----- ---- ---- (d)z***ɨ̯***yà
/ʸ/

It should be noticed that, outside class 3 nouns, there is another phenomenon which seems similar to labialization prosody but which is different from it because, as analyzed in other parts of this work, they are from noun class 1. Besides, their plural forms (in class 2) do not exhibit coronalization as in (12) above.

(15)	Singular	Plural	Gloss
(a)	kpɔ̄	bà-kɔ̄	"Koshin man"
	kpɪ̂	bà-kɪ̂	"female"
	kpɔ̃	bà-kɔ̃	"day"
(b)	gbàn	bà-gwànà	"father-in-law"
	mwàn	bā-nɪ̂	"person"

It can be noticed that –mostly from examples (15a)-, taking into account hypotheses (13a-c), the basic noun roots are those of the plural form. The "labialized" consonants in the singular forms unveil the trace of the class 1 prefix /wə-/ (discussed in the chapter on noun classes) which can be reconstructed through the concord marker. The same assumption is sustainable in (15b) even if the single process of labialization cannot account for the data. It can be hypothesized that the apparent labio-dorsalization process, specifically in (15) results from the interaction between the noun class prefix /wə-/ and the root initial consonant. This point is analyzed in detail when discussing lexical phonology in the next chapter. We can conclude from example (12) and (15) that the labialization process is quite productive in Koshin language and that its favorite domain of application is the leftmost onset syllable slot (or the initial word slot).

4.2.1.3 Prosodization and Segmentalization

As outlined in the preceding section, prosodization (of the nasal consonant) process is not very common in literature. What is usually attested is the reverse counterpart process, that is, nasalization -segmentalization of the prosodic feature of nasalization- or denasalization -which removes the prosodic nasal feature from a segment. In other words, what is commonly attested is that nasalization begins as a prosodic feature. However, Koshin data gives the challenging possibility to plead for a different approach based on the following data, also examined in various parts of this work even if it is for different purposes.

(16)	(NC)-noun	Diminutive form	Gloss
(a)	nɗi	fə̀-nɗɪ̀-lə̀	"small water"
	mɪ̂	fə̄-mɪ́-lə̀	"small oil"
	wɪ̂	fə̄-wɪ̂-lɔ́	"small eye"

	kɨ̀yà	fə̀-kɨ̀yà-lə̀	“small basket”
	kə̄-fwá	fə̄-fwá-ló	“small snail”
	fə̀-ŋgbɨ̀	fə̀-ŋgbɨ̀-lə̀	“small bat”
(b)	nyɔ̀m	fə̀-nyɔ̀m-ə̀	“small meat”
	tɔ́m	fə̄-tɔ́m-ɔ́	“small axe”
	mwə̀n	fə̀-mwə̀n-ə̀	“small person”
	mbɔ̀ŋ	fə̀-mbɔ̀ŋ-ə̀	“small cow”
	tāŋ	fə̀-tàŋ-ɔ́	“small leg”
	kə̄-núŋ	fə̄-núŋ-ɔ́	“small rooster”
(c)	mfwɔ̃̄	fə̄-mfwɔ̄n-ɔ́	“small blood”
	fɛ̃	fə̀-fɛ̀n-ə̀	“small king”
	wɛ̃	fə̄-wēn-ɔ́	“small leaf”
	bɨ̃	fə̀-bɨ̀n-ɔ́	“small foot”
	tūwə̃	fə̀-tūwə̀n-ə̀	“small buttock”
	kə̄-tṹ	fə̄-tún-ɔ́	“small ear”

As said in other sections of this work, diminutive constructions in (16) unveil some aspects of the identity of nasalized vowels. It should be recalled that, in native vocabulary, Koshin roots end in three ways: by an oral vowel as in (16a), by a nasal consonant as in (16b) or by a nasalized vowel (16c). When a suffix is added to the root as in diminutive construction, the nasalized vowel of the root is denasalized and a coronal nasal consonant occurs, before the following lateral consonant. In fact, it should be noticed that the diminutive marker is a discontinuous morpheme made up by a prefixal part and a suffixal part whose first segment is the lateral consonant [-l], as observed in (16a). Curiously enough, after the denasalization of the vowel and the appearance of the coronal nasal, the lateral consonant of the suffixal part of the diminutive is deleted (16c), exactly in the same way the lateral deletion is attested after any other root ended by a nasal consonant (16b). Therefore, this question can be asked: why does the denasalization of the final vowel triggers indirectly the deletion of the following lateral consonant? it is assumed the following derivational stages in order to derive examples (16c):

(17) (a) In the underlying structure, there is no nasal vowel. Rather, there are sequences of vowels followed by the coronal nasal /ny/ (V+ny)

(b) At root final position, the nasal /ny/ is “prosodized” and is sent to the syllabic plane where it links to the nasalization-bearing unit (which is, in Koshin, the syllable rhyme). The nasalization feature is then segmentalized into the vowel

which fills the syllable nucleus (N) slot dominated by the rhyme (R) node.

(c) When the nasalized vowel is no longer in root final position because of the diminutive suffixation, the segmentalized prosodic feature undergoes a process of "denucleization" and is realized as the archiphonemic form /N/.

(d) Then, the floating segment /N/ is associated to the skeletal slot left empty after the prosodization of the coronal nasal /ny/. By assimilation, the archiphoneme copies the [coronal] feature place of the following [-l] and this [l] is deleted afterwards.

Schematically, the preceding stages can be shown with the derivation of some words of (16): "fə̄wɨ̄lə́, fə̄núŋə́, kə̄tṹ, and fə̄túnə́" as follows (tone features are not considered).

(18)

(a) UR /fə-wi-lə,	fə-nuŋ-lə,		kə-tuny,	fə-tuny-lə /
(b)**Root**:	wi	nuŋ	tuny	tuny
(c) -Pros.	---	----	tu /N/	tu /N/
(d) -Seg.	---	----	tũ | /N/	tũ | /N/
(e) **Stem** :	wi-lə,	nuŋ-lə	---	tũ-lə
(f) -Denuc.	----	----	----	tu-lə /N/
(g) - Skel. ASS	----	-----	---	tuN-lə
(h) -Hom. Nas	----	----	----	tun-lə
(i) -[l] deletion	-----	nuŋ-øə	----	tun-øə
(j) -Word :	fə-wilə	fə-nuŋə	kə-tũ	fə-tunə
(k) PR	[fəwilə	fənuŋə	kətũ	fətunə]

It should be mentioned that, when the consonant /ny/ undergoes the process of prosodization, it is subsequently segmentalized into the immediate vowel which fills the nucleus slot, even when the root has more than one vowel (then more than one syllable). Besides, after denucleization, the archiphoneme is linked to the former coda slot left blank. This means that the language recognizes that the vowel and the coda somewhat share some interconnection.

4.2.1.4 Tone Change

One of the well-established contexts of application of tone change process is in nouns where, on a par with labio-dorsalization versus coronalization examined above, it distinguishes nouns from two classes: singular nouns (class 9) and their plural counterparts (class 10).

(19)	Singular	Plural	Gloss
(a)	shàŋ	shāŋ	"finger"
	tsəm	tsəm	"monkey"
	kìyà	kǐyā	"basket for carrying things from the bush"
	zhùwɑ̃	zhūwɑ̃	"snake"
(b)	zhù	zhú	"hoe"
	fyàŋ	fyáŋ	"spider"
	bɨ̀	bɨ́	"dog"
(c)	zhùnə	zhūnə	"shadow"
	fiyà	fǐyà	"ankle"
	zùmə	zūmə	"antelope"

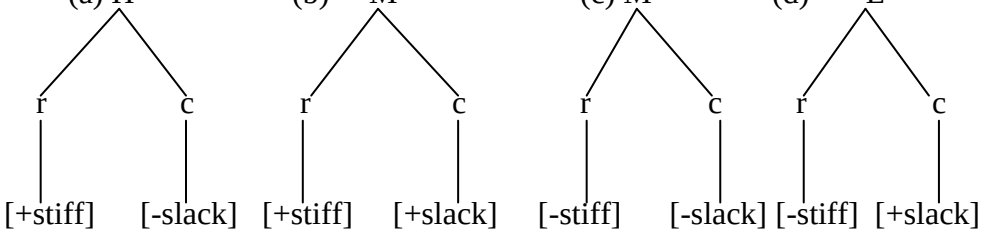
As said in other parts of this work, class 9 nouns (19a) are distinguished from their plural forms (19b) only on the basis of tone difference: the low (L) tone for the singular forms opposed to the non-low tone for the plural. A question to ask in such circumstance is about the underlying tone in each pair of nouns above: is it the low tone of the singular form or the non-low tone (mid or high) of the plural? Or, rather, is the underlying tone different from both the tone for the singular and the tone for the plural form? It is assumed a hypothesis with the following stages:

(20) (a) In the underlying representation, there is a single form for both the singular and the plural forms in (19).

(b) More crucially, unlike the common situation prevailing in literature where the entire tone is active as a grammatical morpheme, it is claimed instead that, given the structure of tone in (21) below assumed by Bao's model (1999) followed in this work, *tone features* mark the grammatical number: *the register (r) tone* [-stiff] marks the singular number whereas the register [+stiff] shows the plural marker.

(c) This feature [+/-stiff] is linked under the register node of the leftmost tone of the word and the erstwhile [stiff] feature is subsequently delinked.

(21) (a) H (b) M (c) M (d) L



Taking into account the hypothesis in (20), the following four items selected from examples (19) can be derived as in (22): shàŋ, kǐyā, zhú, zhūnə̀ (in 21-22), **UR** stands for underlying representation, **c** for the contour node, **r** for register node; **UAC**: Universal association convention, **PR**: Phonetic representation, **L**: low tone, **M**: mid tone, **H**: high tone)

(22) (a) UR: /shaŋ kiya zhu zhunə/

[-stiff]-L [+stiff]- L [+stiff]-M [+stiff]-L L

(b) Root:shaŋ kiya zhu zhunə

L L M L L

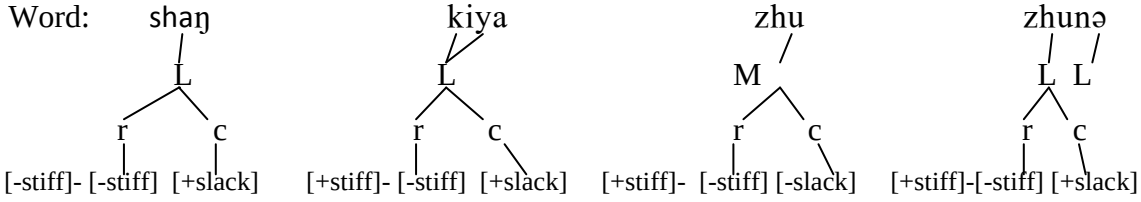
-UAC: shaŋ kiya zhu zhunə

L L M L L

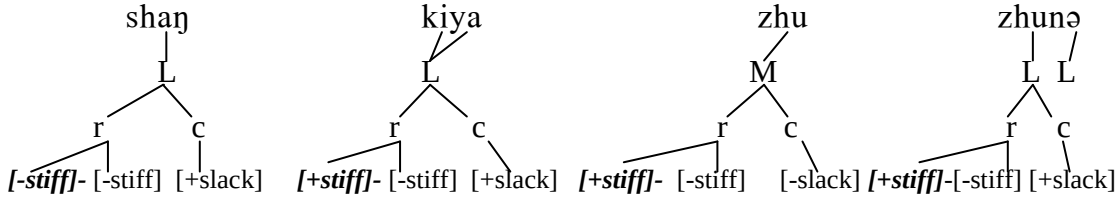
- Spreading: --- kiya ---- ---

L

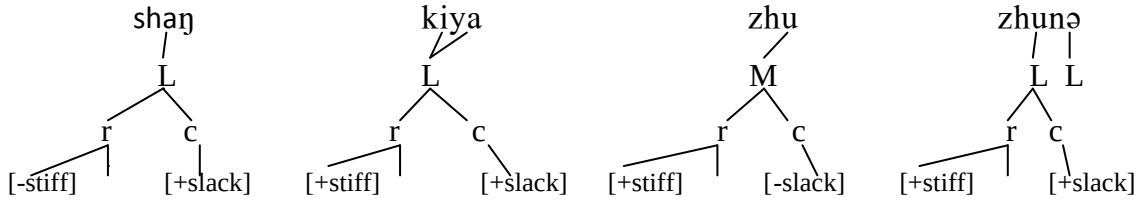
(c) Word: shaŋ kiya zhu zhunə



-[stiff] feature linking:



- [stiff] feature delinking:



(d) PR: [shàŋ kǐyā, zhú, zhūnə̀]

It is worth observing that the fourth item -*"zhūnə̀"-,*unlike the second one -*"kīyā"* - carries two underlying low tones, contrasting a bit with some versions of the general well-known principle of obligatory contour principle (OCP) (this principle is also referred to in the next chapter). That is why only the first L has changed into a mid tone in the surface representation. The hypothesis assumed here predicts that, unless another rule is applied, class 9 (singular) nouns in (19) cannot surface with a high (H) tone on the leftmost tone bearing unit of the word. Besides, no word from class 9 carrying a phonetic mid (M) tone on the first tone-bearing unit has been found, even if, potentially, nothing prevents it from occurring at that position.

4.2.1.4 Internal Change

The internal change process includes heterogeneous phenomena whose only common point is to imply segmental or syllabic changing within the word undergoing the process, as in (23) below.

(23)	Singular	Plural	Gloss
(a)	***w***āny	***b***āny	"child"
(b)	***mwə̀n***	bə̀-***nǐ***	"person"
	nyū	bə̀-***nɔ̄***	"male"
	gbə̀n	bə̀-**gwə̀nə̀**	"father-in-law"
(c)	wūnə̄	jū***wǐ***	"feather"
	fūbə̄	fū***w***ə̀	"bamboo"

Given that internal change process involves strategies from different sources, it is better to explain it taking into account this diversity.

In (23a) for instance, it can be argued that the alternation between [w] (for the singular form) and [b] (for the plural form) derives from the respective class prefixes (class 1 versus class 2). The basic root for "child", which begins with a vowel, had probably fused with the class

prefix in order to avoid a surface structure with an initial vocalic segment. In the first two examples of (23b), the structure is different because the whole noun roots have changed.

Concerning the item "father-in-law" in (23b), the singular and plural forms involve also two morphological processes. It can be hypothesized that the plural root form is the basic one and the singular form is derived through two morpho-phonological processes: the labio-dorsal initial consonant derives from the historical fusion of the previously attested class 1 prefix (/wə-/) of the root with the root initial consonant /g/, as postulated in (15b) above, whereas the final schwa vowel results deleted by a reduction process discussed later in this chapter. The deletion of the labio-dorsal glide /w/ *may* have been deleted subsequently to the labio-dorsalization of onset consonant.

As for (23c), internal change implies the *insertion of an external segment* -[w]- in the basic form which is supposed to be the singular root. It should be admitted that in the first example of (23c), this internal change is combined with the prosodic influence of coronalization (opposed to labio-dorsalization) process, in order to account for the alternation in the first syllable of the word. There is no logical way of arguing that the segment [w] of the plural form results from the gliding of the singular segment [b].

Moreover, the two items in (23c) share somewhat a semantic connection -(long) thin things-, even if it is known that they do not belong to the same noun class (whereas "feather" belongs to the gender 3/4), "bamboo" is classified within the gender 1/10). If the segment-insertion hypothesis is viable, it implies that the basic root can accept such an internal insertion. In consequence, for the derivation of examples (23c), it is claimed the following assumption inspired by McCarthy's Prosodic theory which owes great deal to Z. Harris (1951)'s notion of the *long component*. In fact, in order to handle discontinuous phenomena observed mostly in Semitic words, Harris designed the notion of long component which regards morphemes (lexical or grammatical) as *uninterrupted* or *unlimited* strings of segments, even if the morphological analysis is given by another level of representation. The long component hypothesis is opposed to a *delimited* conception of the morpheme which is not able to account for internal insertion processes.

A derivation based on the long component hypothesis allows the insertion of the (morphemic) segment /w/ within the roots for "feather" and "bamboo", and the immediately

leftward consonant is subsequently deleted. Another internal change inserts the vowel /i/ in place of the schwa vowel in “feather”.

In sum, the internal change process can have many sources. However, it should be observed that, whatever the adopted strategy is, internal change process targets a prosodic unit: the syllable onset, the rhyme or the whole syllable.

4.2.1.5 Subtraction

This process subtracts from the root a syllable or a syllabic sub-constituent, in the same way as internal change targets the syllable or a syllable sub-constituent. This can be observed in (24) below.

(24) (a) Nouns

Singular	Plural	Gloss
tsāŋə́	tsāŋ	“palm nut”
gānə̄	gā̀	“corn”
ŋgə́ nə̄	ŋgə̄	“egg”
nshwànə̀	nshwá	“small piece of dust”

(b) Verbs

Complete form	Subtracted form	Gloss
kə̄-tāŋə́	kə̄-tāŋ	“sell/buy”
kə̄-bāŋə́	kə̄-bāŋ	“meet/cover”

In (24b) and in the first example of (24a), the subtraction process deletes the rhyme and its dominated constituent filled by a vowel. However, in the last three examples of (24a), the whole syllable is subtracted. Tone alternations triggered by subtraction process are not clear and predictable. A better understanding of tone alternation in this specific context can be the object of a different analysis.

In conclusion, in this chapter two main points are analyzed: the phonotactic organization of the phonemic units attested in the language, and the prosodic morphology and phonology. In the first point, after the discussion on the constituency and typology of the syllable within the system, the types of phonemic units are identified, according to the syllabic slots they fill. Mostly for consonants, it has been also analyzed which units can occur at word initial, middle and final positions, in order to get the different sub-sets prevailing in the system. The prosodic analysis of the system allows to show that Koshin is a basically nonconcatenative or fusional language,

because of some attested processes, and as such, deserve to be examined by a prosodic approach, one of the most appropriate being McCarthy's Prosodic morphology and phonology. Prosodic morpho-phonological processes have been accounted for one after another.

As observed earlier in this chapter, there is no language which is purely agglutinative or purely fusional. It is just a question of tendency. In spite of being basically nonconcatenative, Koshin shows many concatenative characteristics in word constructions, and these characteristics trigger processes which cannot be accounted for only through the prosodic approach. Furthermore, the language exhibits phenomena which apply at a level higher to word domain. That is why it becomes necessary to carry out, in the next chapter, the lexical and sentence phonology.

CHAPTER 5
LEXICAL AND SENTENCE PHONOLOGY

The second main section of the preceding chapter examines the morpho-phonological processes determined by the prosodic organization of the language and most specifically related to the prosodic word domain. Phenomena such as reduplication, tone change, labio-dorsalization amongst others, are interpreted as sensitive to prosodic constituents (such as the syllable or the prosodic word), and are accounted for according to the auto-segmental paradigm. In this chapter, the analysis considers higher levels of the prosodic hierarchy in order to examine the phonological processes which refer to the phonological phrase, usually regarded as central in the syntax-phonology interface. To a lesser extent, processes which are sensitive to the intonational phrase are also examined.

However, before discussing processes occurring at the phrasal level, processes related to the concatenative aspect of the language should be addressed first. In fact, as stated in the preceding chapter, even if Koshin is a basically fusional language, it nevertheless shows phonological processes (deriving from agglutinative structures) which cannot be accounted for by the prosodic model. In order to handle such phenomena, the most appropriate known theory is Lexical Phonology.

5.1 Lexical Phonology

Lexical phonology is interested in processes resulting from concatenative structures, where words are built in *layers*, *stages* (one morpheme after another, *linearly*). More concretely, as rightly outlined by Roca and Johnson (1999:451), "*if we build the word in stages, the morphology and the phonology can apply in tandem, and each step in the construction of the word be immediately followed by the application of the relevant phonological rules* ". Then, the most recurrent processes triggered by the layer-built structures have to be presented. Stem-level processes (root-level processes are mostly prosodic and are analyzed in the preceding chapter) are discussed first, and later, word-level processes are dealt with.

5.1.1 Stem-level Processes

Amongst the most noticeable processes attested in this stage, the following can be enumerated: vowel coalescence, vowel elision, lateral insertion, gliding, nasal denucleization,

segment-skeleton association, homorganic nasal, lateral deletion, lexical floating tone association, and tone spreading.

5.1.1.1 Vowel Coalescence and Vowel Elision

When two vowels from two different morphemes come to be in contact because of the favorable morphological structure, one of the two vowels is deleted (elision) or the two vowels give way to another phonetically different vowel (coalescence). The choice between vowel elision and coalescence depends on the nature of the vowels involved. This can be shown in the following examples expressing possessive construction.

(1) (a) tyə̀ "Father"
tyə̀ Nelson "Nelson's father"
nyə̄ Nelson "Nelson's mother"

(b) ty-ɔ̄ "your father" (2 pers.sg: -a)
ny-ɔ̄ "your mother"

(c) ty-ù "his/her father" (3 pers.sg: -u)
ny-ū "his/her mother"

In (1a), it is clear that the items "father" and "mother" end by the schwa. When pronouns are bound to these roots in possessive constructions, this schwa and the second person singular marker –the vowel "-a"- coalesce: they give way to the dorsal vowel [-ɔ] (1b). This process can be schematized as follows: ə + a > ɔ. In (1c) however, the schwa vowel of the root undergoes an elision process before the dorsal vowel [-u] (the broken lines refers to the empty slot left by the schwa vowel): ə > ø /---u.

5.1.1.2 Lateral Insertion

This process inserts the lateral consonant between two adjacent vowels, instead of allowing coalescence or elision as presented above. This is attested when the durative marker is suffixed to the verb roots as in (2) below (DUR. Stands for durative, IMPERF. refers to imperfective):

(2) (a) mə̄ būm-ə̄-lə́ (kə̄-būm "to hunt")
1PERS.SG hunt-DUR-IMPERF.
"I always hunt"

(b) mə̄ j-ə̄-lə́ (kə̄-zhɨ̀ "to eat")
1PERS.SG eat-DUR-IMPERF
"I always eat"

(c) -mə̄ dé-lə̀-lə̄ (kə̄-dé “to cook”)
1PERS.SG cook-DUR-IMPERF
“I always cook”

- wù dá-lə̀-lə̄ (kə̄-dé “to cook”)
3PERS.SG cook-DUR-IMPERF
“He/she is seeing” (kə̄-dá “to see”)

As examples (2) show, two morphemes are suffixed to the verb roots: the durative marker and the imperfective marker. When the verb root ends by a consonant as in (2a), there is no alternation. However, when the verb root ends by a vowel, there is elision (2b) or lateral insertion (2c) depending on the nature of the root vowel. That is why, unlike examples (2a-b), the durative marker in (2c-d) include the lateral consonant. The lateral insertion rule can be schematized as follows: ø > l/ e---ə ([l] is inserted between [e] and [ə])

5.1.1.3 Gliding

When a (usually high) vowel ceases to fill its syllable nucleus slot and becomes syllable margin (onset or coda), this process is often referred to as gliding. In Koshin, the most recurrent gliding process is attested in predicate constructions, after the suffixation of the durative marker to a verb root ending by the vowel [-u], as in (3) below:

(3) (a) mə̄ wú mw-ə̄-lə́ (kə̄-mū “to drink”)
1PERS.SG PROG drink-DUR-IMPERF.
“I am drinking”

(b) wù wú zhw-ə̄-lə́ (kə̄-zhū “to become thin”)
3PERS.SG PROG become thin-DUR-IMPERF
“I am becoming thin”

When the dorsal vowel of the verb root -/u/-comes to be in contact with the schwa, it is syllabified as onset segment whereas the schwa becomes syllable nucleus. The initial C_1V structure of the verb root (with /u/ as nucleus) becomes C_1C_2V (/w/ being in C_2 position). Schematically, gliding process can be shown as follows: /u/ > [w] /---- vowel (the vowel /u/ becomes a glide before another vowel).

5.1.1.4 Nasal Denucleization, Segment-Skeleton Association, Homorganic Nasal, Lateral Deletion

In the preceding chapter and in the chapter on the phonology of vowels, it is assumed that nasalized vowels do not have a phonemic value in the system. Instead, they result from the prosodization and segmentalization of the underlying nasal consonant /ny/, in word final

position. When a morpheme is suffixed to a root including a nasalized vowel (diminutive construction for example), nasalized vowels are realized oral, and a coronal nasal consonant emerges, with a mutual influence between this coronal nasal and the following lateral referring to a different morpheme. For details about the analysis, the preceding chapter should be consulted. However, what should be emphasized here is that the four mentioned rules (denucleization, segment-skeleton association, homorganic nasal and lateral deletion) must obey a strict *ordering*. Without this ordering, the derivation cannot get the correct form. For instance, the deletion of the lateral consonant cannot occur before the homorganic nasal rule, otherwise the coronal nasal could not be attested in the surface structure. Thus far, only segmental processes have been examined. Now, tonological phenomena can be addressed.

5.1.1.5 Association of the Floating Lexical Tone, Tone Spreading, Downstep, Upstep

In literature, what is recurrently (but not always) heard is that floating tones usually refer to grammatical morphemes. However, as mentioned in other parts of this work, it is assumed that in Koshin (as in other related languages), lexical items exhibit floating lexical tones. These floating lexical tones are unveiled when other morphemes are suffixed or prefixed to the roots. Once more, diminutive construction gives an opportunity to unveil hidden tonal phenomena as in (4) below.

(4)	Noun	Diminutive form	Gloss
(a)	nɗi	fə-nɗi-lə	“small water”
	kǐyà	fə-kǐyà-lə	“small basket”
	nyɔ̀m	fə-nyɔ̀m-ə	“small meat”
	kə-fwá	fə-fwá-lə́	“small snail”
(b)	mɨ̀	fə-mɨ́-lə	“small oil”
	tāŋ	fə-tàŋ-ə́	“small leg”
	bɨ̃̀	fə-bɨ̀n-ə́	“small foot”
(c)	mfwɔ̃̄	fə-mfwɔ̄n-ə́	“small blood”
	wɛ̃̄	fə-wēn-ə́	“small leaf”
	wɨ̀	fə-wɨ́-lə́	“small eye”

In fact, it appears that in (4a), tones carried by the suffixes are exactly identical to the (last) tone of the root. This phenomenon can be accounted for by the rightward spreading of the (last) root tone, whether this tone is low (as in the first three items) or high (as in the last example of (4a). In (4c) however, the tone on the suffix (High) is not identical to the tone of the root (Mid). The same observation is viable in (4b): unexpected tones occur on the vowels of the suffixes. One of

the most logical explanations to this phenomenon is to assume that there are floating lexical tones in the language which are not visible in isolation but which emerge in concatenative structures. Amongst other scholars who also assumed this hypothesis are Hyman and Tadadjeu. They scrutinized floating tones in some Grassfields languages and discovered that, "[a]*nother kind of floating tone has received somewhat less attention in the literature, but is at least as prevalent in Mbam-Nkam as grammatical floating tones. This is what we term a* <u>*lexical*</u> *floating tone* (…)" (1976:61). Therefore, it can be sustainable to say that, in items like those in (4b-c), tones which occur in the suffixes are former floating tones. Because of the suffixation process, these tones are now visible.

But a question is in order: what happens if there is no suffixation process and consequently, the lexical floating tones remain floating? Examples (4b) and (4c) give an instructive answer: when there is no affixation, lexical floating tones remain active, depending on the nature of the floating tone and according to the nature of the tone occurring openly on the root item. In fact, as shown in (4b), it is observed that a floating low tone lowers the preceding high tone occurring on the root vowel to a mid tone (first example of 4b) whereas a floating high tone raises the preceding low tone of the root to a mid tone. These processes are reminiscent of the processes of "downstep" and "upstep" respectively, schematized by (5a) and (5b) (H stands for high tone, L for low tone, M for mid tone; floating tones are represented into brackets)

(5) (a) Downstep : H [L] >M [L] (b) Upstep: L [H] > M [H]

It should be said that downstep and upstep are well-known processes in literature, at least as far as Bantu and Bantu-like languages are concerned. It is quite often established that these processes result from the action of floating tones. However, what does not seem explained enough is how floating tones provoke the raising or lowering of neighboring tones. Tone geometry model -and most specifically Bao's model (1999) adopted in this work- regards downstep and upstep as mere processes of feature spreading followed by a delinking process. In fact, as mentioned in other parts of this work, tones are, on a par with non-tonal segments-bundles of autonomous features. As such, a single feature can spread in order to assimilate with a neighboring tone feature. In (5a), the [-stiff] register of the floating low tone is linked under the register node of the preceding high tone, and the former [+stiff] feature of the H tone is delinked. Finally, a new tone with two features (the register [-stiff] and the contour [-slack]) appears,

making up a mid tone as predicted by Bao's theory. The same process is observed in (5b): the [-stiff] register of the floating low tone is linked to the register node of the preceding H. After the delinking of the former [+stiff] register, a tone with [-stiff] register and [-slack] contour is derived, yielding a mid tone. The processes examined thus far are applied at the *stem layer*. It is time to move to the following layer, that is, the word level.

5.1.2 Word-level Processes

In this section, the discussion focuses on processes which apply at the word level, that is, after the stem stage. Some of them are already known: the association of floating lexical tones and tone spreading rule. Besides, there are other rules such as the blockage of the left-spreading of the H tone, the default mid tone, the homorganic nasal rule, and the labialization of the segment /k/.

5.1.2.1 Association of Floating Lexical Tones, Tone Spreading

When a morpheme is prefixed to the root, that morpheme usually carries the same tone as the root tone. This can be observed in examples (5a) where the tone of the noun class prefix is predictable from the tone of the root: the noun class prefix carries a mid (M) tone if the root tone is mid (as in the first two examples), and it is low when the root tone is low (last two examples). As postulated for the suffixal part of the diminutive morpheme, it should be maintained that noun class prefixes are toneless in the underlying structure. Their surface tones derive from the leftward spreading of the root tone.

	Prefix-root	Gloss
(5)(a)	bə̄-zhɨ̃	"food"
	tə̄-kū	"villages"
	bə̀-tyə̀	"parents"
	bə̀-ntùmə̀	"fish (pl)"
(b)	kə̀-twā- lə́	"bush"
	fə̀-tūwə̀n-ə̀	"small buttock"
	kə̀-fí	"pig"
	fə̀-mɔ́	"cat"

However, the preceding hypothesis cannot account for examples (5b). In fact, unexpectedly, whether the root tone is mid (first two examples) or high (the last example), the tone of the prefix is invariably low. In order to account for the tonal difference between the prefixes in

(5a) and those in (5b), it is assumed a floating low tone in (5b) which simply links to the preceding vowel.

It must be stated that, given the evidence for floating lexical tones in the language, it is postulated a lexical pre-linkage of non-floating lexical tones to the tone bearing-units, in order to get the correct derivation. It is time to examine processes which are exclusively restricted to the stem level.

5.1.2.2 Left-spreading Blockage of the H Tone, Default Mid Tone

Examples (5) show only prefixes with mid or low tone because the root tone is mid or low. Or else, the prefix carries a low tone whereas the root tone is not low, because of the association of the lexical floating tone. In short, there is no prefix with a high tone preceding a high tone on the root. A question is in order: what would happen if the root tone is high? To answer this question, it is worth examining the examples (6) below.

(6)	Prefix-root	Gloss
(a)	kə̄-tṹ	"ear"
	kə̄-núŋ	"rooster"
	fə̄-tə́m-ə́	"small axe"
(b)	kə̄-nǐ	"to walk"
	kə̄-yán	"to vomit"
	kə̄-wə́nə̀	"to sleep"
	kə̄-wə́ŋə̀	"to memorize"
	kə̄-músə̀	"to think"

The common point in examples (6) is that they all show a high tone on the (first vowel of the) roots, and all the prefixes exhibit a surface mid tone -whether in nouns (6a) or in verbs (6b)- instead of the expected high tone. No item in the language has been attested with a high tone on both the root and the prefix, even though neighboring high tones have been identified in the root-suffix sequence, as examined in the preceding section. In order to account for this phenomenon, it can be assumed that, unlike the low and mid tones which spread on the prefix, the high tone spreading on the prefix vowel is blocked. This blockage results from the dispreference for two adjacent high tones on the root and on the prefix. Later, a default mid tone is inserted post-lexically. Another possible explanation is to assume that the high tone of the root spreads like the other tones but there is a later delinking of the left branch of the high tone, and then the default mid tone. The two hypotheses yield the same result.

It should be mentioned that in Koshin, the blockage of the left-spreading of the high tone may be regarded as the only noticeable effect of the well-known controversial tendency called Obligatory Contour Principle (OCP) assumed in Leben (1973, 1978), and whose initial version was formulated in Goldsmith (1976a) as the prohibition of two adjacent identical tones. In fact, no other prohibition for adjacent similar tones has been attested in the language. Even the rightward spreading of the high tone is not prohibited. Furthermore, as examined earlier, instances of two adjacent similar tones (low-low) within the same morpheme are attested. Nevertheless, there is no clear evidence of two underlying high tones within the same morpheme. Therefore, from observations on Koshin, the analysis agrees with Odden (1995: 464) who claims that "*The strongest version of the OCP at this point is that there may be dispreference for adjacent identical tones; languages are free to express this dispreference by constraining lexical representations, by adding rules of tone fusion or tone deletion, or by putting conditions on tone spreading rules. Ultimately, languages retain the option of doing nothing about OCP violations*."

5.1.2.3 Homorganic Nasal, [-anterior] and [+distributed] Deletion

The homorganic nasal is a familiar rule in the language, attested in many structures and at different derivational levels. At the word level, this process -by which the nasal consonant copies the place feature of the following consonant-, is identified in the verb nominalization process.

(7)	Infinitive form	Nominalized form	Gloss
(a)	kə-mū (to drink)	m-mū	"the drinking"
	kə-bɔ́nə̀ (to greet)	m-bɔ́nə̀	"the greeting"
	kə-byá (to harvest groundnut)	m-byá	"the harvesting"
(b)	kə-tūwə̄ (to beat)	n-tūwə̄	"the beating"
	kə-dé (to cook)	n-dé	"the cooking"
	kə-zhɨ̀ (to eat)	n-zhɨ̀	"the eating"
	kə-júwā (to plant)	n-júwā	"the planting"
(c)	kə-wá(to crush)	ŋ-wá	"the crushing"
	kə-gbá (to cut)	ŋ-gbá	"the cutting"
	kə-kɨ̀yā (to fry)	ŋ-kɨ̀yā	"the frying"

In examples (7), the verb-nominalizer morpheme is realized bilabial -when it is followed by a bilabial consonant (7a)-, coronal -when the following consonant is coronal (7b)- and dorsal -when this morpheme precedes a dorsal or labio-dorsal consonant as in (7c). Underlyingly, it can be hypothesized the nasal archiphoneme /N/ as the nominalizer morpheme. This archiphoneme,

underspecified for place feature, copies the place feature of the first consonant of the root. In terms of feature geometry theory (and most specifically according to Constriction-based model), this process is accounted for as a mere instance of feature spreading: the place feature of the following consonant spreads and is linked under the c-place node of the (preceding) nasal consonant which is unspecified for place feature. This type of assimilation where a segment assimilates a feature from a *following segment* is sometimes known as "*regressive assimilation*".

It is intriguing to realize that the homorganic nasal rule does not apparently make a difference between the feature place of [d], [t] on the one hand and the feature place of [zh], [j] on the other hand (7b). In fact, Feature Geometry assumes the placement of the features [anterior] and [distributed] directly under the coronal node, and "*predicts that if one segment assimilates to another in coronality, it necessarily assimilates [anterior] and [distributed] at the same time*"(Cf Clements and Hume, 1995:252-253). Consequently, we would have expected [n] in front of [d, t] (because, like [t] and [d], the nasal [n] is [-anterior] and [-distributed]), and [ny] in front of the consonant [j] ([-anterior], [+distributed]). Unexpectedly, examples (7b) show invariably the nasal [n] in front of [d] and [j]. Then, two competing hypotheses emerge. The first one can be that the features [anterior] and [distributed] are not directly placed under the [coronal] node as assumed by Clements and Hume, at least as far as Koshin is concerned; the second one maintains [anterior] and [distributed] features under coronal node, but accepts another rule deleting the features [-anterior] and [+distributed].

There is no convincing evidence to reject the placement of [anterior] and [distributed] under the coronal node. Besides, Clements and Hume (1995: 253) mention many languages supporting their prediction. More specifically, they report that "*This prediction is supported by rule of coronal assimilation in languages as diverse as English (Clements 1985), Sanskrit (Schein and Steriade 1986), Basque (Hualde 1988b), and Tahlan (Shaw 1991)*". Then, it is better to envisage the other hypothesis, given that the feature organization assumed by Feature Geometry theory is supposed to be universal. The deletion of [-anterior] and [+distributed] can then be hypothesized but why are the two coronal-dependent features deleted?

There *may* be other reasons accounting for the deletion of the mentioned two features, but it is believed in this work that economy principle causes such a deletion. In fact, as discussed in the chapter on vowel phonology, it is established that phonetically, languages usually prefer

sounds pronounced in an area of more articulatory ease. And it seems that the tongue needs to move further and to do more work to pronounce the [-anterior] and [+distributed] nasal [ny] than the [+anterior] and [-distributed] consonant [n]. Besides, it is still more difficult to articulate [ny] before the sounds [zh] and [j]. Therefore, if this explanation is tenable, it can be schematized as follows: (the symbol ">"refers to the transformation process; "ø" refers to deletion): {[-anterior] and [+distributed]} > ø / ----- {[-anterior] and [+distributed]}. This schema reads that the features [-anterior] and [+distributed] are deleted before segments carrying the features [-anterior] and [+distributed].

5.1.2.4 Schwa deletion, Consonant Coalescence

Amongst the prosodic processes analyzed in the preceding chapter, there is labio-dorsalization (attested in singular nouns) which contrasts with coronalization (in plural nouns). In the present section, it is analyzed a slightly different process (which may be confused with the labio-dorsalization prosody) restricted to a few words presented in (8) below.

(8)	Singular	Plural	Gloss
(a)	kpɔ̄	bə̀-kɔ̄	"Koshin man"
	kpɨ̄	bə̀-kɨ̄	"female"
	kpɔ̃̄	bə̀-kɔ̃̄	"day"
(b)	gbə̀n	bə̀-gwə̀nə̀	"father-in-law"

The process presented in (8) is different from the prosodic process analyzed in the preceding chapter because:

- It concerns an alternation between labio-dorsal segments (singular) and the dorsal ones (plural), instead of labio-dorsals and coronals as in the prosodic process.
- It does not involve different type of consonants but only labio-dorsals ([kp], [gb]) and dorsals ([k], [g]) whereas the prosodic process influences various labio-dorsal and coronal segments.

For these two reasons, it is believed that there are two different phenomena: there is a general process of labio-dorsalization (opposed to the coronalization process) with grammatical value (singular versus plural) and which goes beyond the single dorsal and labio-dorsal plosives, and the restricted process exemplified in (8) which refers exclusively to the (labio-) dorsal plosives. After this precision, a further question is in order: what is the basic (underlying) consonant in (8): the labio-dorsal plosive (in the singular form) or the dorsal plosive (in the plural form)?

The first hypothesis can be stated as follows: the underlying segments are the labio-dorsal plosives /kp/ and /gb/, and [k], [b] are their respective allophones. But what can be the conditioning environment of such a process? Is it the intervocalic position as in (8a)? Is it the position between a vowel and a glide as in (8b)? The intervocalic position cannot account for the transformation of /kp/, /gb/ into [k] and [g] because the segments [gb] and [kp] are also attested in this environment (Cf (7c) for example). If the postulated hypothesis is the position between a vowel and the glide, how can examples (8a) be accounted for? Therefore, this hypothesis is untenable.

The other hypothesis can be put as follows: /k/ and /g/ are the basic segments and [kp] and [gb] are allophones. First of all, it should be recalled that, the class prefix in (8) is *bə-*. Class 2 prefix refers to plural nouns. For the vast majority of class 1 nouns, the morpheme class is null (Cf. the chapter on noun class system), but it can be reconstructed as *wu- or wə-* through concord marker. Now, let us suppose that, exceptionally in some examples as in (8) (the phenomenon does not concern all the class 1 nouns), the class prefix has not been deleted as such. Rather, its labio-dorsal glide /w-/ has *coalesced* with the segments /k/ or /g/ in order to yield the labio-dorsals [kp] and [gb]. And in order to coalesce, the segments have to be in contact. Consequently, the process can be postulated as follows (details about tones are not considered):

(9) (a) wə + k, g > wø k, g (schwa deletion): wə-kɔ̄ > wø-kɔ̄

(b) w + k, g > kp, gb (consonant coalescence) : w-kɔ̄ > pkɔ̄

The coalescence process gives way to labio-dorsal consonants and as such, yields the same result as the labio-dorsalization prosody which transforms the segments /k, g/ into [kp, gb]. Another possibility at stage (9a) is to postulate a metathesis process (by which the glide /w-/ comes closer to the segments /k, g/) and after metathesis the schwa deletes and the coalescence takes place.

In sum, in spite of being a basically fusional language, Koshin exhibits also layer-built structures which are adequately captured by the Lexical Phonology model. The processes triggered by these concatenative structures are identified at the stem level and at the word level. After the analysis of phenomena related to the word structure level, let us move to larger morpho-syntactic levels: the phrasal and clausal levels.

5.2 Sentence Phonology

The analysis of the phonological processes related to the syllable and the prosodic word discussed in the preceding chapter is merely a small part of the much larger interaction between syntax and phonology, rightly termed by linguists such as Selkirk (2003) as "sentence phonology". The syllable and the prosodic word domains (on a par with the "foot" in languages where it is relevant) are considered minor prosodic constituents within the well established *prosodic hierarchy*. There are also major prosodic constituents: the phonological phrase, the intonational phrase and the phonological utterance. All the prosodic constituents are claimed to be the interface between syntax and phonology and then, they are construed as *organizers*, in one way or another, of the "*sentence phonology*" (this assumption is summed up by the *Prosodic Structure hypothesis*). Amongst all these prosodic constituents (minor and major), the phonological phrase is regarded as the most central to syntax-phonology interface, because of its size and its structure. As far as Koshin language is concerned, phonological phrase is amongst the prosodic constituents which produce and organize more phonological processes. In this section on sentence phonology, two important issues are addressed: the motivations for sentence phonology and the constraints on the prosodic constituents (the phonological phrase and the intonational phrase) in the language.

5.2.1 Motivations for Sentence Phonology

We examine the question of what motivates the sentence organization into prosodic constituents namely the phonological phrase(s) and the intonational phrase. More specifically, in this section we outline the various processes which are sensitive to the phonological phrase on the one hand and, on the other hand, those which are sensitive to the intonational phrase.

5.2.1.1 Phrasal Processes

The expression "phrasal processes" refers to phonological processes which relate to the phonological phrase. These processes have been attested in the language, all of them are restricted to a special type of possessive construction, within the NP structure: coronalization, dorsalization, nasalization and schwa assimilation amongst others.

- **Coronalization, Labio-dorsalization, and Corono-nasalization**

Coronalization and labio-dorsalization are recurrent in Koshin. They have been identified at the prosodic word level (Cf. preceding chapter) and now, they are amongst the most noticeable processes at the phrasal level as shown in (10) below:

(10)	Noun	My + noun	Your +noun	Their+ noun	Gloss
(a)	kə̄-núŋ	s-áŋ	sh-y-á	ká-bɔ̀	"rooster"
	kə̀-kúm	s-áŋ	sh-y-á	ká- bɔ̀	"horse"
	bə̄-núŋ	b-áŋ	b-y-á	bá-bɔ̀	"roosters"
	fə̀-mɔ́	f-áŋ	f-y-á	fə̄-bɔ̀	"cat"
(b)	ndì	m-ə̄ŋ	m-w-ā	mə̄-bɔ̀	"water"
	bə̀-ntùmə̀	b-ə̄ŋ	b-w-ā	bə̄-bɔ̀	"fish pl"
	tə̀-tàŋ	t-ə̄ŋ	t-w-ā	tə̄-bɔ̀	"legs"
(c)	bə̄-zhɪ̃̄	m-b-áŋ	m-b-y-á	m-bá-bɔ̀	"food"
	bə̀-shə̃̄	m-b-áŋ	m-b-y-á	m-bá-bɔ̀	"face"
	bə̀-gɔ̀	m-b-áŋ	m-b-y-á	m-bá-bɔ̀	"chest"

Examples (10) or similar examples are repeated in many parts of this work (for different purposes). They show a phonological process restricted to a specific type of possessive construction: the possessed item (which is syntactically head of NP) is a common noun and the possessor (the modifier) is a pronoun. The process consists in coronalizing the concord marker preceding the modifier (10a), or "labio-dorsalizing" it (10b). In other contexts, the concord marker undergoes both nasalization and coronalization (10c). Discussion on which noun class is related to which process and many other phonological details are shown in the chapter on nouns, and in the chapter on noun class system. What is relevant here is to highlight that these processes are exclusively restricted to a special type of possessive construction.

- **[w] Deletion and Homorganic Nasal**

Another process restricted to possessive construction is the deletion of the concord marker preceding the pronominal modifier of an NP head. This NP head has to be one of the four items presented in (11) below.

(11)	Noun	My + noun	Your +noun	Their+ noun	Gloss
	nsɪ̃̄	ŋ-k-ə̀ŋ	ŋ-w-à	ŋ-wə̀-bɔ̀	"friend"
	wə̃̄	ŋ-k-ə̀ŋ	ŋ-w-à	ŋ-wə̀-bɔ̀	"son"
	kpɪ̂	ŋ-k-ə̀ŋ	ŋ-w-à	ŋ-wə̀-bɔ̀	"wife"
	nyū	ŋ-k-ə̀ŋ	ŋ-w-à	ŋ-wə̀-bɔ̀	" husband"

In the chapter on phrasal constructions and in other parts of this work, it is outlined that the two morphemes preceding the concord maker *w*- are attested only when the NP head of the structure is one of the four items in (11); and it is also hypothesized that whereas the nasal consonant refers to *intimacy*, the morpheme *k*- stands for the diminutive marker, in accordance with the reconstructed Proto-Bantu class 12 prefix /*kù-/ (diminutive marker). As observed in (11), this diminutive marker is attested only in the first person singular. And the occurrence of this marker implies the non-occurrence of the concord marker, as also shown in (11). This process can be schematized as follows:

(12) [w] ⟶ ø / k--- (the glide /w/ is deleted after /k/)

Moreover, it can be assumed from (11) that the nasal consonant assimilates with the dorsal place of the following segments /k/ or /w/. This process can be included in the general rule of homorganic nasal. This assumption becomes more tenable when the pronominal modifier in (10-11) above is nominalized as in (13) (NOM. Stands for nominalizer, the definiteness marker (DEF) is optional)

(13) (a) bə̄-tə́m b-w-á
NC-axe CONC-/^{w}/-2PERS.SG
Your axes.

(a')m-b-w-á (bə́)
NOM-CONC-/^{w}/-2PERS.SG DEF
Yours.

bə̄-nǐ m-b-ǐ
NC-corn food /^{N}/-CONC-3PERS.SG
His/her corn food.

m-b-ǐ (bə́)
NOM./^{N}/-CONC-3PERS.SG DEF
His/her.

(b) jùŋ y-ə̄ŋ
bBlessing CONC-1PERS.SG
My blessings.

(b') n-y-ə̄ŋ (yə̀)
NOM-CONC-1PERS.SGDEF.
Mine

kə̀-kúm sh-y-á
NC-horseCONC-/^{y}/-2PERS.SG
Your horse.

n-sh-y-á (kə́)
NOM-CONC-/^{y}/-2PERS.SG DEF
Yours.

(c) kə̀-kúm kə́-bɔ̀
NC-horseCONC-3PERS.PL
Their horse.

(c') ŋ-kə́-bɔ̀ (kə́)
NOM-CONC-3PERS.SG DEF
Theirs.

As examples (13) show, the nominalizer of the possessive modifier is realized bilabial (13a'), coronal (13b') or dorsal (13c') according to the place feature of the following consonant.

- **Total Assimilation of Schwa Vowel**

The total assimilation of the schwa is another rule which motivates the recognition of the phonological phrase as a prosodic constituent which organizes the "sentence phonology". Once more, it is attested within the possessive construction!

(14)	Adpos.-PRONOUN	NP head	Gloss
(a)	mɨ́-mə	shēm	"in my stomach"
	ú-wə	shēm	"in your stomach"
	ú-wù	shēm	"in his/her stomach"
(b)	ə́ = sə	shēm	"in our stomach"
	ə́ = mbɛ̃	shēm	"in your (plural) stomach"
	ə́ = bɔ̀	shēm	"in their stomach"

Examples (14) show a specific type of possessive construction attested with only three items as noticed in the chapter on phrasal constructions and in other chapters: "stomach" as in (14), "bush", and "mouth". In this specific construction where the possessor item precedes the possessed item -unlike the usual structure where the possessed item comes before the possessor- the adposition can *optionally* assimilate with the following segment, if this segment is a sonorant (nasal or glide) as in (14a), and that adposition is then bound to the pronoun like a mere affix. However, when the following consonant is an obstruent as in (14b), there is no assimilation at all. Like the preceding processes, the assimilation of the schwa vowel is not only restricted to possessive construction but it also aligns with the modifier of the NP head.

- **Phrasal Tone**

One of the most noticeable observations shared by all the scholars who worked on Koshin language is the predictability of the (class) concord morpheme tone. Hombert (1980:87) and J. Good (2011:130) hypothesized a high tone for all the class concords except the concords of class 1 and class 9 which carry the low tone. However, if the concord is, as outlined by Grevisse (2001:§415), " *le fait qu'un mot variable (que nous appelons receveur) reçoit d'un autre mot de la phrase (mot que nous appelons donneur) ses particularités morphologiques (…)*" [the fact that a variable word receives from another word of the clause its morphological peculiarities], the concord marker tone assumed above by the authors needs to be more precise. More specifically, the concord tone hypothesized above refers only to the tone of the concord marker of the possessive modifier. It can be shown as in (15) below (NC stands for noun class, CONC refers to concord marker).

(15)	(NC-)Noun	CONC-modifier	Gloss
(a)	kə̀-fǐ (NC 7)	kə̄-ntə́ŋə̄	"small pig"
	bə̄-dzɔ̄ (NC 8)	bə̄-bə̄nɨ̀	"mouths of the people"
	gbɨ̀yà (NC 3)	wū-wɔ̄lə̄	"yellow house"
	mbɨ̀ (NC 6a)	mə̄-fwə̄lə̀	"white wine"
	nsɨ̃̀ (NC 1)	wū-nzɔ́ŋə̄	"good friend"
	shàŋ (NC 9)	yə̄-lūmba	"big finger"
(bi)	kə̀-fǐ	s-ə́ŋ	"my pig"
	bə̄-dzɔ̄	bə́-bɔ̀	"their mouths "
	gbɨ̀yà	w-á	"your house"
	mbɨ̀	m-ɨ́	"our wine"
(bii)	nsɨ̃̀	w-ə̀nə̀	"your (pl) friend"
	shàŋ	y-ù	"his/her finger"

As outlined in examples (15), the tone of the concord marker depends on the phrase structure. When the NP modifier is an adjective or another noun (15a), the concord tone is usually similar to the tone of the modifier root. However, when the NP modifier is a pronoun marking possession, there are two possibilities: the concord marker carries a low tone when the NP head belongs to class 1 or class 9 (15bii), or the concord marker exhibits a non-low tone (high or mid) provided the NP head belongs to noun classes other than class 1 and 9. Therefore, it can be assumed the following:

(16) (a) With pronominal modifiers, the concord marker is assigned a low tone if the NP head belongs to class 1 or 9. The concord marker tone is high when the NP head belongs to other classes. This high tone is often (but not always) realized mid when the NP head has a lexical floating low tone or when the NP head carries at least three surface low tones. (Cf. bə̀-ntùmə̀ b-ə̄ŋ "my fish (pl)", mɨ̀ m-ə̄ŋ "my oil". "oil" has a floating lexical low tone as examined in (4b) above)

(b) With non-pronominal modifiers, the concord marker tone is usually similar to the first tone of the modifier root.

It should be observed that, when the modifier of NP head is a demonstrative, the concord marker tone usually shows a behavior identical to that of the possessive modifier in (15bi-bii) and described by principle (16a).

The processes just described can be construed as phrasal because they all refer to a specific possessive construction which is an instance of phrase structure. It can be highlighted that not only these processes refer to possessive construction but they also converge on a specific element within this phrasal construction: the modifier of the NP head. In fact, it appears that, in Koshin, the prosodic constituent relevant for the coronalization (or labio-dorsalization, or corono-nasalization) is exactly the one relevant for the glide deletion rule, for the schwa assimilation and for the phrasal tone process. This is an example of "*domain convergence"* (Selkirk 2003) predicted by the Prosodic Structure hypothesis which assumes that "*distinct types of phonological phenomena may converge on the same prosodic constituent structure, collectively providing evidence for that constituency in the first place*". More interestingly, it should be stated that Koshin phrasal processes diverge a bit from the cross-linguistic generalizations which tend to align processes with either the prominent head of a prosodic constituent or with the edge of the prosodic constituent. Beside the rules organized by the phonological phrase, there are other rules which are sensitive to the intonational phrase and which provide further motivation for sentence organization into prosodic constituents.

5.2.1.2 Intonational Processes

Intonational processes are processes which refer to the intonational phrase as domain. According to the prosodic hierarchy (Selkirk 1980), the intonational phrase immediately dominates one or more phonological phrases. Some processes which plead for the constituency of the intonational phrase and which refer to it are given below.

- **Metathesis, Schwa Deletion, and Homorganic Nasal**

The most recurrent process which refers to the intonational phrase yields as result the optional binding of the subject pronoun (first person singular) to the verb root or the verb clitic within the predicate. This can be observed as in (17) below:

(17)	1PERS.SG	Verb	Optional form	Gloss
(a)	mə̄	bɔ̄nə̀	(m̄-bɔ̄nə̀)	"I greet"
	mə̄	bə́ kə̄ dê -lə̄	(m̄-bə́ kə̄ dê -lə̄)	"Iwill eat (tomorrow)"
(b)	mə̄	zhǐ	(n̄-zhǐ)	"I eat"
	mə̄	dè	(n̄-dè)	"I cook"
(c)	mə̄	kɔ̀ŋə̀	(ŋ̄-kɔ̀ŋə̀)	"I like"
	mə̄	kə̄ (lə̄) zhǐ	(ŋ̄-kə̄(lə̄) zhǐ)	"I will eat soon"

The optional binding of the subject pronoun to the verb root shows, at the end, a homorganic nasal rule also identified at the lexical and phrasal level. A useful question to ask is: how do we get to this homorganic nasal? A process with three stages can be hypothesized:

(17) (a) Metathesis rule (mə > əm / in subject slot)

(b) Schwa deletion (ə > ø / in clause initial position)

(c) Homorganic nasal rule (/m/ assimilates the place feature of the following consonant)

It can be emphasized that there is a good reason to claim that the three rules hypothesized in (17) above cannot apply at any prosodic domain because, as shown in other parts of this work, the item *mə* do not necessarily undergo metathesis and bind to the following word in other prosodic domains. For example, this can be observed in the phrasal structure *mə̀ shēm* (my stomach) or *mə̀ twā* (my bush) which is never transformed into *n-shēm, n-twā*. This is simply because the structure does not form an intonational phrase, and the item *mə̀* is not in subject position, even if it is a pronoun.

- **Morpheme Simplification**

On a par with the preceding set of three rules which refer to the intonational phrase in order to apply, the morpheme simplification process also implies the subject and the predicate for its application. This rule consists in an optional simplification of the past 1 tense and the progressive markers into tones as follows:

(18) (a) wə̀ yə́ zhǐ (wə̀́ zhǐ) mə̄ yə́ dè (mə̄́ dè)
2PERS.SG P1 eat 1PERS.SG P1 cook
You have eaten (today). I have cooked (today).

(b) wù wú j-ə̄-lə́ (wù́ j-ə̄-lə́) sə̀ wú dē-lə̀-lə̄ (sə̀́ dē-lə̀-lə̄)
3PERS.SG PROG eat-DURATIVE-IMPERF 1PERS.SG PROG cook-DURATVE-IMPERF
He/she is eating. We are cooking.

The past tense 1 marker (18a) and progressive marker (18b) are both optionally simplified into a tone, and that tone is linked to the subject pronoun. It can be postulated that the morpheme simplification rule (which is restricted to the past tense 1 and the progressive markers) is the product of the application of some successive rules:

(19) (a) Glide deletion: w,y > ø /vowel---vowel (the glide deletes in intervocalic position, between a subject and a predicate)

(b) Vowel elision: a vowel deletes after another vowel, between a subject and a predicate

(c) Relinking of floating tone: a floating tone of the predicate relinks to the subject pronoun

it should be noticed that, in the same way phrasal rules converge on the possessive modifier, the intonational processes target specifically the subject pronoun. This means that the prosodic constituents obey some constraints. Let us highlight some of them according to what is observed from phrasal and intonational processes.

5.2.2 Some Constraints on the Phonological and the Intonational Phrase Structures

After the observation of phrasal processes and intonational processes, it has been realized that, beyond the general prosodic structure hypothesis, some further specific constraints organize the structure of the constituents. Two main types of constraint have been distinguished: phonological constraints (Prosodic markedness constraints) and morpho-syntactic constraints.

5.2.2.1 Prosodic Markedness Constraints

The first phonological constraint is the *Strict Layer Constraint* whose simplest conception is that "*a constituent of a higher level in the prosodic hierarchy immediately dominates only constituents of the next level down in the hierarchy*" (Selkirk 2003). This constraint is underlyingly active both in phrasal and intonational processes. In fact, in the identified phrasal processes for instance, the only required constituents are the two prosodic words: on the one hand the first prosodic word corresponding to the NP head (it can be regarded as the major prosodic word), and the second prosodic word which corresponds to the possessive modifier (which can also be considered the minor prosodic word because it is determined by the major prosodic word). No reference to lower prosodic constituents (such as the syllable) is made because it is not necessary.

Besides, only the two phonological phrases (not two prosodic words) corresponding to the NP in subject function and to the VP filling the predicate slot, respectively, are required in the application of the intonational processes.

Another phonological constraint observed through Koshin phrasal and intonational processes is the so-called *alignment constraint.* This constraint requires the alignment of the prosodic phrase *edges* with the prosodic phrase *prominences*. Concerning the phonological phrase examined in this section for example, this alignment constraint is respected. For instance,

if the possessive construction is considered, it will appear that the prosodic prominence which corresponds to the NP head is located at the left edge of the constituent. The strict layer constraints and the alignment constraints make up what is usually called in sentence phonology *Prosodic Markedness Constraints*. It should be noticed that, the existence of the properly phonological constraints as identified above, strengthens the hypothesis of the autonomy of the prosodic structure of the clause from its morpho-syntactic organization. Alongside these phonological constraints there are constraints which call for the faithfulness to the morpho-syntactic structure of the clause.

5.2.2.3 Morpho-syntactic Faithfulness Constraints

In Koshin, it is realized that there is a certain faithfulness observed between the prosodic constituents and the morpho-syntactic structure. In fact, the morpho-syntactic domain of the word corresponds to the prosodic domain of the word. In the same vein, the phrase domain in the morpho-syntactic structure corresponds to the phonological phrase within the prosodic structure, the same as the intonational phrase corresponds to the clause structure. Moreover, as said above, the morpho-syntactic NP head coincides with the phonological prosodic prominence within the prosodic structure.

Before concluding this section on sentence phonology, it should be noticed that, within the debate concerning the direct or indirect access of phonology to syntactic information, the phrasal and intonational processes identified in the language support the *Indirect Reference Theory*. In fact, all the identified rules (both phrasal and intonational) do not take into consideration the morpho-syntactic edges. The processes within the possessive construction for example apply inside the NP (not on its edges). This means that phonology can operate without passing absolutely through intermediate prosodic structures. As concluded by Patin and Rialland (2006:1) "*One of the main arguments in favor of DRT* [Direct Reference Theory] *is the existence of numerous rules, occurring generally inside nominal phrases, which refer to specific grammatical categories or syntactic constructions*." The same observation is valid for intonational rules because they apply not at the clause edge but inside the clausal structure, between the subject and the predicate.

In conclusion, Koshin exhibits concatenative structures yielding processes whose analysis is better captured the assumptions of the Lexical Phonology approach. In the same time, there are

also phonological processes which are sensitive to syntax. In order to account for them, it has been assumed that the prosodic organization of the clause is autonomous from its morpho-syntactic structure. After some chapters on phonology, both the underlying and surface organization of the Koshin phonological system are known. With this prerequisite, it is more plausible to have access to the higher level of description, that is, the morphological level.

SECTION II

LEXICAL CATEGORIES

In this section, the lexical classes attested in Koshin are discussed. Most specifically, the occurrence of each attested lexical class is accounted for, by identifying the morpho-syntactic characteristics of the class. For instance, nouns are attested as a lexical class in the language, and consequently, their characteristics have are outlined. It is worth observing that although lexical classes refer to the lexicon of the language, their consideration as such depends on grammatical matters, and finding out these grammatical characteristics of a lexical class cannot always be taken for granted. Beside the defining criteria of each attested lexical class, the structure of the words of that class is analyzed: the root, the affixes (without giving specific details) and free (lexical) modifiers. The detailed analysis of the grammatical modifiers is dealt with in the third section (section on grammatical systems).

CHAPTER 6

NOUNS AND LEXICAL MODIFIERS

In this chapter, the central topic deals with nouns and their lexical modifiers (lexical items whose function is to modify the noun within a noun phrase). They are one of the major lexical classes identified in Koshin. They can be classified according to their morphology (free or bound). They can also be classified according to their semantic organization, following their respective noun class prefixes even if, it is known that in many Bantu or Bantu-like languages, the classification of nouns into classes does *no longer* refer to semantic paradigms but is rather, as pointed out by many scholars like R. Hedinger (1980:12), "*a purely arbitrary system where in no one class can nouns of only one semantic class be found*". In spite of this general tendency, there are still, however, as the same author added, interconnections between some noun classes and the meaning. And finally, nouns in Koshin can also be classified according to whether they are definite or indefinite. Nevertheless, the semantic organization of nouns -through noun class prefixes- and their definiteness/indefiniteness morphemes will not be analyzed in this chapter, and are examined in detail in the section on grammatical categories.

6.1 Nouns

Analyzing nouns implies knowing their internal organization, the morphological processes they undergo, and their forms. However, it also implies knowing what criteria characterize them in the language.

6.1.1 Defining Criteria

Nouns share some properties with adjectives (and in some specific cases with verbs). That is why their defining properties need to be highlighted, comparing them to adjectives (the difference between nouns and verbs are examined in the next chapter), in order to better underline the specificity of each class. In Koshin, words which are considered nouns exhibit the following characteristics:

(1) (a) - In citation form, most nouns (but not all) have a surface specific noun class prefix (adjectives rather bear the class prefixes of the nouns they modify but have no specific class prefix on their own, even in citation form).

(b) -Some nouns -the countable ones- bear a class prefix for the singular and another for the plural (such a pairing has been often referred to in literature as *gender*), and most of these nouns can refer to *concrete objects* (trees, animals, plants, etc.), but adjectives usually describe characteristics.

(d) -Nouns are heads of the structure in which they appear- the noun phrase (NP): they determine the morphological agreement of the modifying items surrounding them. Such items can be lexical items or grammatical items. The concord markers of the grammatical elements which refer anaphorically to the nouns previously mentioned in the discourse are determined by the noun head. Adjectives cannot determine other modifiers.

(e) -Nouns can make alone a complete NP, with the noun class prefix being the only compulsory element (for a restricted number of nouns, a class suffix is also obligatory in some contexts). If there is no overt noun class affix, a noun can make an NP on its own and *may* carry the definiteness marker suffix.

(d) -Only some specific nouns can undergo reduplication process to express the temporal repetition or prolongation of the reduplicated item. Reduplication in adjectives expresses the superlative value.

Some of these morpho-syntactic characteristics of nouns -which are far from being exhaustive-are illustrated through the following examples where NC stands for noun class and DEF stands for definiteness marker, and CONC for concord:

(2) (a) kə̀-fǐ kə̄- lūmbā (b) bə̀-fǐ bə̄- lūmbā
NC- pig CONC- big NC- pig CONC- big
Big pig big pigs

(c) ø-mbɔ̀ŋ wə̀ (d) * lūmbā wə̀
NC-cow DEF. big DEF.
The cow The big one

In (2a), the noun prefix is shared by both the noun and the adjective. When the noun is in the plural form (2b), it requires a different prefix and consequently, this new prefix is imposed to the adjective. Whereas the noun “cow” can form a complete NP (2c) and may be accompanied by

the definiteness marker (DEF), the adjective in the same context gives an ungrammatical NP (2d).

6.1.2 Form

Morphologically, nouns usually exhibit two morphemes: the root and the class prefix. There are nouns with apparent class prefix (they show both the root and the prefix), and there are also those which show no apparent class prefix (they exhibit only the root). Before examining these two forms, some general characteristics of noun class prefixes have to be known briefly because they occur in the discussion that follows.

As in any language with noun class system, each noun belongs to a specific class shown by a prefix -which can be phonetically null. The class prefixes show the following main characteristics examined in detail in the section on grammatical system:

(3)(a)Noun class prefixes in Koshin are often-but not always- reduced to show the singular/plural variation of the noun.

(b)Noun class prefixes can sometimes refer to the semantic category (let us say *semantic type*) to which the noun belongs. Some of the attested major semantic types are: *humans, liquids, mass nouns, animals, diminutives,* and *inanimates*. However, as said earlier, no noun class is exempt from miscellaneous nouns, each class being compared to a veritable melting pot.

After this brief observation about noun class prefixes, it should be stated that nouns which have a class prefix are regarded as *bound roots*. However, those which are made up of just the root, the class prefix slot being phonetically null or covert, are called *free roots*. The bound and free forms of a noun are not conditioned by any morpho-syntactic requirement, at least synchronically speaking, and then are not predictable.

6.1.3 Free Roots

Free roots have no apparent class prefix. They are usually monosyllabic, even though some free roots are disyllabic. Although free roots have no apparent prefixes, these can be reconstructed through the concord markers (noun modifiers make use of prefixes which are almost –but not always- similar to noun class prefixes) as usually attested in any language which

makes use of noun class system. Below are presented some free roots (only root tones are indicated). The symbol [ø-] shows the empty slot which had been filled by the class prefix.

	Singular		Plural		
	Prefix root	Concord	Prefix	Concord	gloss
(4)(a)	ø-mbɔ̀ŋ	w-	bə-	b-	"cow"
	ø-kúbə̀	w-	tə-	t-(w)-	"rib"
	ø-ndì	m-(w)-	-	-	"water"
	ø- mbwē	w-	-	-	"salt"
	ø- zhwā	y-	-	-	"sauce"
(b)	/ø̀/.zùmə̀	y-	(ø̄)-	y-	"antelope"
(c)	/ʷ/.wɨ̀n	w-	(/ʸ/)-	y-	"tooth"
(d)	ø-gānə̄	w-	ø-	y-	"grain of corn"

The noun roots of (4) are all free noun roots. Nevertheless, they exhibit different morphological shapes. For instance, it can be observed that they carry different tones as illustrated on the tone bearing units (TBU). Some (TBU) carry low tones, others exhibit high or mid tones. More significantly, some free noun roots in (4) determine different concord markers on the modifiers: the first two items of (4a) show the same concord marker (w-) in the singular form but carry different concord affixes in the plural form (b(ə) versus t(ə)-), because they belong to different classes.

Still in a different way, some nouns are prefixless in the singular form but exhibit a prefix in the plural form whereas others cannot have a plural prefix, presumably because they are uncountable (the last three examples in (4a)). In (4c), it is realized that a noun root has an incorporated feature of labialization in the singular form, and a palatalization feature for the plural form. In a similar vein, in some nouns, the singular versus plural number is distinguished just by a tonal difference (4b): low (L) for the singular and non-low (here mid) for the plural. Furthermore, it appears that free noun roots can be monosyllabic (4a) and disyllabic (4b and 4d). The various syllabic shapes and the question of tone structure of both free and bound nouns are scrutinized later in this paragraph.

An observation about the nasal-obstruent cluster in "water" (4a) is in order. It *may* seem curious not to consider the sequence /nd-/ of this word as the class prefix. In fact, in most languages with noun class system, nouns referring to "liquids" semantic type are canonically prefixed by a nasal consonant or by an affix including a nasal consonant. In literature, this class prefix is considered a reflex of the Proto-Bantu (PB) prefix***mà** (class 6(a)). Even outside Guthrie's zones A through S (1971), the commonly called "Narrow Bantu" zone, it is not uncommon to see "liquid" nouns prefixed by an affix which consists, at least, in a nasal consonant. For instance, L. Hyman (1980:179-210), amongst other authors, makes some useful reflections on nasal classes in Bantu and in some Bantu-like languages where he highlights that "*The only nasal noun class marker found in most such languages [Bantoid languages: "the group which includes Narrow Bantu and Wide Bantu (WB) and presumably, certain non-Bantu languages"] involves the liquid class which has the reflex ma- in Bantu*". The author continues and emphasizes: "*This marker regularly shows up nasal in most branches of Niger-Kordofanian, even in languages where the noun classes have ceased to exist as such*". However, what makes the difference between the common reflexes of *PB class 6(a) attested in many languages and the nasal consonant preceding the noun root in "water" (4a) is the morphophonemic status of this nasal consonant. In (4a), unlike what has been said in previous works on the language, it is assumed that the nasal consonant preceding the noun root of "water" has ceased to exist as a phonemic unit. Details about the arguments supporting such an assumption are given in the chapter on noun classes.

In short, there are many free noun roots in Koshin, whose class prefixes are betrayed by the concord markers. It is time to consider the bound noun roots.

6.1.4 Bound Roots

The vast majority of nouns consist of bound roots in Koshin. According to the class it belongs to, any bound root is provided with a specific prefix, as in (5a-d) (tones in concords are not considered).

	Prefix-root	concord	gloss
(5)(a)	bə̄-zhɪ̃̄	m-b-(y)-	"food"
(b)	bə̀-tyə̀	b-(w)-	"parents"
	bə̀-ntùmə̀	b-(y)-	"fish(pl)"

	tə̄-kū	t-(w)-	“villages”
(c)	kə̄-núŋ	kə~s~sh(y)-	“rooster”
	bə̄-núŋ	b-(y)-	“roosters”
(e)	fə̀-ŋgbì	f-(y)-	“bat”
	fə̄-nsɔ̄	f-(y)-	“weapon”
(e)	kə̀-twā-lə́	kə~s~sh(y)-	“bush”

Bound roots are preceded by prefixes. Some nouns have prefix only in the singular form (5a), because they are not countable. On the other hand, other bound roots, are prefixless in singular (they have a null class prefix) but have an overt noun class prefix for the plural form (5b). Furthermore, some noun roots are variable in number and have singular and plural prefixes (5c). Only one noun has been attested (maybe there are others) with both a prefix and a suffix (a circumfix) as noun class markers. It is the word “bush” (5e). This exceptional example is examined in detail in the chapter on phrasal grammatical constructions.

In (5d), there is a homorganic nasal preceding the bound root, and this homorganic nasal is preceded in singular by the prefix fə-. The discussion about the phonemic status of the homorganic nasal in (5d) is consistent with the analysis about the nasal consonant preceding the noun root “water” discussed in the preceding paragraph.

Besides, it should be observed that concord prefixes are, as expected, intimately linked to noun classes in such a way that the concord prefix is more or less the copy of the noun class prefix. However, the examples in (5) present some curiosities: unexpectedly, these concords add specific feature not found in the noun prefix forms (5a-d). These issues and many others give the opportunity to examine the phonotactic organization of the noun roots. The following questions can be asked: how are the segmental and prosodic units of both free and bound noun roots organized? How can be explained, from the internal organization of the noun roots, the phonological and morphological intriguing aspects observed in the concord morphemes?

6.1.4.1 Internal Structure

One of the main objectives of Basic Linguistic Theory (BLT), the theory of linguistics as a natural science, on a par with other natural sciences –Geology, Biology, etc.-is to examine the underlying structure or organization of the (linguistic) phenomenon. How is the noun structure

organized in order to yield the surface facts referred to? At first, the syllabic organization is dealt with, and secondly, some morpho-phonological curiosities about the noun roots are outlined.

6.1.4.1.1 Syllabic Organization

In general, noun stems are monosyllabic or dissyllabic. Roots consisting of more than two syllables are very rare. They are usually borrowings, compound or reduplicated words.

Monosyllabic roots exhibit the following syllabic shapes (where C stands for non-syllabic segment -consonant or glide-, and V stands for syllabic nucleus –whether vowel or nasal consonant): C_1V; C_1C_2V; C1C2VC3;

(6)	Prefix	root		gloss
	ø-	də̄	(CV)	“bean”
	ø-	jwà	(CCV)	“honey”
	ø-	nsɨ̃	(CCV	“friend”
	ø-	lə́m	(CVC)	“tongue”
	ø-	fwɔ̄ŋ	(CCVC)	“stick for preparing food”
	ø-	mwə̀n	(CCVC)	“person”

From the monosyllabic roots, some generalizations and restrictions can be drawn:

- In CV structure, any consonant can fill the C slot and all the vowels of the language can occur in V. In C_1C_2V structure however, if the first consonant of the syllable onset slot is an obstruent it has to be followed by a glide- y, or w- . Or else, C_1C_2V should consist in a homorganic nasal followed by an obstruent. $C_1C_2VC_3C_4$ roots have not been attested.

- On the other hand, the restrictions observed in C_1C_2V/ $C_1C_2VC_3$ structures are the following: C_1 must be a homorganic nasal and C_2 an obstruent, or else, C_1 is an obstruent and C_2 a glide. Furthermore, C_3 (the final root consonant) has to be a nasal consonant.

	Prefix	Root		Gloss
(7) (a)	ø-	pí. yā	(CV.CV)	“pear”
	ø-	tù.wɔ̀ŋ	(CV.CVC)	“buttock”
	ø-	mé.kwə̀	(CV.CCV)	“big lizard”
	ø-	mbuń. dzá	(CVC.CV)	“fishing net”
	ø-	shyə́. mə̀	(CCV.CV)	“armpit”
(b)	ø-	á. nyàŋ	(V.CVC)	“iron”
	ø-	ā.kɔ̀.lɔ̀	(V. CV.CV)	“okra”
	ø-	ndɔ̀ŋ. kɔ̄. lɔ̀	(CVC.CV.CV)	“throat”

Some of the dissyllabic root structures attested in the language are the following: CV.CV; CV.CVC; CVC.CV; CCV.CV. There may be other possible shapes for dissyllabic roots. However, some aspects of dissyllabic nouns in (7) deserve a specific consideration: even though the word "iron" (7b) begins – unlike the earlier predictions- by a vowel, it seems to be a borrowed word, as is also the word "okra" (7b). The word "throat" (7b) is one of the rare words of more than two syllables encountered in the corpus- put aside the compound and reduplicated words-. Its syllabic shape is not different from the others discussed so far.

To sum up what has been said about the syllabic organization of noun roots, it is important to underline that Koshin noun roots are mostly monosyllabic, but some roots can have more than two syllables. The roots usually begin by a consonant and end by a vowel or a nasal consonant. The succession of two consonants in the same syllable is regulated by some constraints.

Tonologically, all the three tones- H, M, L- have been attested in monosyllabic roots (6). Complex tones are attested in monosyllabic roots, but they just result from the junction of level tones on one tone bearing unit (TBU). No tonal melody restriction in dissyllabic stems has been identified. The following melodies have been attested: HH (although rare), HM, HL, MH, ML, MM, LH, LL, etc. All in all, every aspect is as natural as observed in any language. However, some curiosities do emerge when we look towards bound roots –carrying prefixes- and when concord markers are involved.

6.1.4.2 Morpho-phonological Curiosities

It should be noticed that, all the morpho-phonological processes referred to below have been attested only in one specific grammatical structure: the possessive construction. In this grammatical construction, the modifier of the NP head is a (personal) pronoun (it is sometimes called "possessive pronoun" in literature) and the NP head itself is a noun.

	Noun	Gloss	my + noun	your +noun	their+ noun
(8)(a)	bə̄-zhɪ̃̀	"food"	m-b-ə́ŋ	m-b-y-á	m-bə́-bɔ̀
	ndì	"water"	m-ə̄ŋ	m-w-ā	mə̄-bɔ̀
(b)	bə̀-ntùmə̀	"fish pl"	b-ə̄ŋ	b-w-ā	bə̄-bɔ̀
	ø- mɔ́	"cats"	m-ə́ŋ	m-w-á	mə́-bɔ̀
	ø-ŋgbì	"bats"	m-ə́ŋ	m-w-**á**	mə́-bɔ̀
(c)	kə̄-núŋ	"rooster"	s-ə́ŋ	sh-y-á	kə́-bɔ̀
	bə̄-núŋ	"roosters"	b-ə́ŋ	b-y-á	bə́-bɔ̀

	kə̀-kúm	"horse"	s-ə́ŋ	sh-y-á	ká-bɔ̀
(d)	fə̀-ŋgbì	"bat"	f-ə́ŋ	f-y-á	fə̌-bɔ̀
(e)	ø-nsɨ̃̀	"friend"	ŋ-k-ə̀ŋ	ŋ-w-à	ŋ-wə̀-bɔ̀
	ø-wɑ̃̀	"son"	ŋ-k-ə̀ŋ	ŋ-w-à	ŋ-wə̀-bɔ̀
	ø-kpɨ̀	"wife"	ŋ-k-ə̀ŋ	ŋ-w-à	ŋ-wə̀-bɔ̀
	ø-nyū	" husband"	ŋ-k-ə̀ŋ	ŋ-w-à	ŋ-wə̀-bɔ̀

As shown in (8) above, the structure of the possessive modifier is: *Concord marker + -əŋ* for "my", *concord + -a* for "your", and *concord+-bɔ̀* for "their".

It can be recalled that the concord marker itself is usually a simple copy of the noun class prefix. But the data in (8) cannot be fully justified only by these assumptions. In (8a) for instance, the expected concord marker **b-** (corresponding to the noun prefix **bə**-) is flanked by a surprising [m] and the glide [y]. The same glide [y] is added after the concord marker referring to the prefix **fə-** in (8d). Besides, in both cases, the glide disappears before the morpheme ***–əŋ,*** and after the third person plural***–bɔ.***

Moreover, although the noun root of the first example in (8b) begins with a morphologically similar prefix, it triggers a different concord marker, because it belongs *to a different noun class*: there is no longer a nasal consonant preceding the concord marker, and, the glide **y** (in 8a) is curiously replaced by the labial congener **w**. Even more surprisingly, the noun prefix **kə-** in (8c) is realized **s-** (alternating with **sh**- and **kə**-) in the concord structure. In the same vein, the data in (8e) are curious enough: the nasal consonant and a strange **k-** are joined to the concord marker which is normally **w-**.

Some previous works – Jeff Good and Jesse Lovegren (2009); Jeff Good et al. (2011) - did not notice these alternations. However, some decades earlier, some (not all) of the morpho-phonological curiosities in (8) were also noticed by J-M. Hombert (1980:87). Examples (8d) are also quite interesting: the singular noun adds the glide [y] after the concord marker whereas the plural form adds [w]. All in all, these curiosities can be summed up into three morpho-phonological features (if the features in (8e) are not considered): the feature of nasalization /^{N}/, palatalization /^{y}/, and labialization /^{w}/. All these alternations are too much to be ignored. Their

understanding can unveil some hidden characteristics in the deep organization of some nouns in the language.

Another different curiosity observed in noun roots is the tonological behavior of the noun prefix. Usually –but not always-, the prefix tone is similar to the (first) tone of the stem as illustrated in (8a-b) and (8d). But examples (8c) are somewhat challenging: two noun roots with H tone yield two different tones onto the prefixes. One prefix is realized M, the other bears L tone.

It is usually admitted that one of the major tasks of any science is to explain facts, processes or phenomena, in order to make them more intelligible. Therefore, light has to be shed on the above curiosities in order to make them more understandable. All the apparently intricate data of (8) turn to be more comprehensible if it is admitted that in the underlying forms of the noun roots, there are some features which emerge only in a specific morpho-phonological and syntactic environment.

First of all, let us examine the strange nasal /N/ consonant preceding the concord marker in (8a). Some grammatical information has to be taken into account: all the nouns in (8) whose concords are preceded by the nasal share the same class. It is a minor class with a limited set of nouns including "*food* (in general), *corn food*, *mud*, *dew*, *cloud*, *soot*" and two body parts: *chest*, *face*. The class prefix of these words is ***bə-*** from class 14, cognate of the Pro-Bantu *ßù. These words are **mass** nouns, an item whose basic meaning refers to: *"a large amount of a substance that **does not have a definite shape or form**"* (*Advanced Learner's Dictionary* (2000:*725).* In fact, even the two body part items –*chest, face*- fit into the (bold part of the) definition. But, why mass nouns are related to the nasal consonant? Tentatively, this question can be asked through a comparison with the occurrence of prenasalized consonants. In fact, in Koshin system, prenasalized consonants occur within two roots: within diminutives and within liquids. Undoubtedly, "*food*, *mud*, *dew*, *cloud*, *soot*" cannot refer to diminutives, but they definitely share some semantic aspect with liquids (whose non-phonemic status of the nasal marker has been alluded to) and here is the key of the problem: to express the link with liquids (which once had as prefix a morpheme including a nasal consonant), class 14 mass nouns hide in their deep structure a nasal feature which interestingly emerges within the possessive construction. This floating prosodic feature -/^{N}/-, on a par with tone (within the principle of "tone stability"), survives

segmental absence because it is autonomous- henceforth *nasal stability*- and links, rightwards, onto the concord consonant.

The nasal feature which emerges within the concords of nouns in (8e) has a quite different origin: at first glance, it appears that the examples in (8e) all refer to humans, the appropriate candidates for the Proto-Bantu class 1 which, according to linguists (Meinhoff (1932), Welmers (1973) amongst others) is supposed to be ***mù**. It is said in literature that almost all the languages within the Narrow Bantu zone have the reflexes of this proto-prefix. Although it is not a Narrow Bantu language, Koshin seems to keep in some way, relics of class 1 proto-prefix. In this work, it is believed that the mysterious nasal consonant within concord markers (8e) has to do with some *human property*. Details are given in the chapter on noun classes, and in the chapter on phrasal constructions. However, it should be mentioned that the behavior of Koshin is not really uncommon, as far as Bantu and Bantu-like literature is concerned. As a matter of fact, Bantu languages are usually known to have nasal consonants in specific noun prefixes (class 1 amongst others). It is usually in the concord morphemes (the so-called "secondary concords") that non-nasal consonants are attested. However, as Hyman (1980: 194) pointed out, "*many northwest Bantu languages show nasals in the pronominal concords where central Bantu languages show secondary concord*." For this author, probably, "*there is an on-going process of replacement of secondary concord by primary concord. That is, the form on the noun is creeping into the agreeing elements (…)*". According to what precedes, it can be concluded that through the restricted examples in (8e) –all the words of this class do not behave in the same way-, Koshin behaves like some of the alluded northwest Bantu languages.

The analysis about the nasal stability is consistent with the analysis of the unexpected occurrence of /ʸ/ after the concord markers of certain nouns.

	noun	gloss	my + noun	your +noun	their+ noun
(9)(a)	bə̄-zhɪ̃̄	"food"	m-b-ə́ŋ	m-b-y-á	m-bə́-bɔ̀
	bə̀-mbə̃̄	"fences"	b-ə́ŋ	b-y-á	bə́-bɔ̀
	kə̄-nyə̄	"lung"	s-ə́ŋ	sh-y-á	kə́-bɔ̀
	bə̄-nyə̄	"lung"	b-ə́ŋ	b-y-á	kə́-bɔ̀
(b)	fə̀-mɔ́	"cat"	f-ə́ŋ	f-y-á	fə̃́-bɔ̀

This glide [-y-] is attested after the concord markers related to the following noun classes: class 14 nouns (mass nouns prefixed by bə-), class 2 nouns (also prefixed by bə-), class 7 nouns (prefixed by kə-), class 8 nouns (marked by bə- prefix), and class 19 nouns (prefixed by fə-). Except class 2 which refers to both humans (plural) and non-humans, the other classes refer to *non-humans*. Therefore, it can be assumed that [**y]** is the realization of a floating prosodic feature of palatalization -/^{y}/ which refers generally (but not always) to non-humans and which has different effect on segments it links onto:

(10) (a) (m)b- + /^{y}/ = (m)b^{y}-
f- + /^{y}/ = f^{y}-

(b) k- + /^{y}/ = k^{y}> s^{y}- (s^{y}>sh)

(c) s^{y}- + -əŋ = s**ø**-əŋ

As discussed in chapter 5, the transformation rules schematically formulated in (10) say that, whereas palatalization just adds the glide [y] to the labials, it does more with velars: It adds [y] and then completely modifies the nature of the velars "coronalizing" them. Furthermore, the resulting coronalized consonants undergo a subsequent process of spirantization or fricativization. In other words, palatalization becomes a corono-spirantization for velar stops. The coronal fricatives are then coronalized by the glide (10b in parenthesis), except if this glide was previously deleted by an elision rule (10c). What has been said thus far does not explain why the palatalization is inapplicable with the concord marker preceding the third person plural **bɔ̀**– "their + noun". It is assumed in this work that, -bɔ̀ is a bit different from the other personal pronouns:

- Unlike the other personal pronoun modifiers (with the structure V(C), or V.CV), it is made up of a CV structure (one of the canonical syllabic structure in the language and cross-linguistically).

- It is the only pronominal modifier which is marked both tonologically (L tone) whereas the others are all toneless.

It seems, from the preceding observations that the application of the two main prosodies (/^{y}/ and /^{w}/) prosodies depends on some constraints:

- At first, prosody in Koshin is a syllabic feature. It targets in priority the first constituent of the syllabic structure which is the initial syllable consonant (the onset). It is only when there is no onset that it applies to the syllabic nucleus. That is why, in almost all the preceding examples, only the concord makers are influenced by prosodies.
- Given the importance conveyed to the onset by the first constraint, labialization or palatalization prosodies cannot apply to a syllable if the following syllable gets a full onset slot. In other words, there is prosodic application only when the following syllable shows the characteristics of a non-canonical syllable: a syllable which, for instance, begins by a vowel or is toneless. To sum up, the palatalization and labialization prosodies tend to apply where they will have greatest effect.

Consequently, whereas the other bound personal pronouns which are toneless and have V(C) or VCV structure are favorable to any neighboring prosody, the pronoun bɔ̀ on the other hand, is restrictive. It can cohabit neither with palatalization prosody nor with labialization in a word. More details on personal pronouns structure are given in the chapter dedicated to pronouns.

With regard to the feature /ʷ/following the concord marker in (8a-b) and (11), it behaves like the other mentioned prosodic features. It emerges with concord markers modifying nouns which belong to class 1 and class 2 (humans), class 6(a) –liquids- and to class 13 – also plural to class 1-. Some words of class 6(a) refer to liquids of the body: *"tears, blood, and saliva".* Class 13 nouns are also plural to class 1 words which mostly refer to body parts. It is assumed that the floating labialization feature in nouns refers usually to *humans* and it appears in surface structure in the same way as palatalization and nasalization.

	noun	gloss	my + noun	your +noun	their+ noun
(11)	ø-ndǐnyà	"tears"	m-ə́ŋ	m-ʷ-á	mə́-bɔ̀
	ø-mɔ́	"cats"	m-ə́ŋ	m-ʷ-á	mə́-bɔ̀
	tə̄-fɛ̃̄	"kings"	t-ə́ŋ	t-ʷ-á	tə́-bɔ̀

Some explanation about class 19 nouns (and their plural forms) is in order. Whereas the concord marker of the singular form (say "your" cat) carry the phrasal palatalization prosody

(9b), the plural form, on the other hand, carry a phrasal labialization prosody (8b) and (11). This sounds a bit embarrassing because in (9a) for instance, it has been shown that both the singular and the plural forms of "lung" carry the same /^{y}/ prosodic feature. Why are things different? The answer comes from the value of the plural form. Is the plural form different from the singular because it just changes the singular into the plural (but keeps the same semantic value of the noun) or is the plural form different because it implies a further semantic change? If the plural class prefix refers to a simple number change (as in (8b)), the singular and the plural forms should carry the same grammatical prosody. However, if the plural form is far from being a mere "pluralization", then each form (the singular and the plural) keeps the prosodic feature referring to its semantic value.

With the word "cat" for instance, the singular form (9b) carry the class prefix 19 which refers to diminutives, and the concord marker is palatalized, indicating a non-human noun. The plural form "cats" in (11), puts this noun in a completely different semantic set: the set of liquids, which, as said in the preceding paragraph, carries the labialization prosodic feature. That is partly why, taking into account this consideration, it is assumed that the diminutive plural and liquids belong to a single noun class, instead of assigning to them two different classes (Cf J. Good et al. 2011 : 130).

The remaining curiosity observed in noun structure is related to tone. It has been said in previous paragraphs that noun prefixes quite often reproduce the (first) tone of the root and the concord root tone is usually (but not always) non-low. In the same vein, it has been said that noun roots have various tone melodies. Nevertheless, for some nouns, floating lexical tones have to be recognized as well in the deep structure of nouns, in the same way floating prosodic features have been admitted. In fact, as shown in some examples of (8) kept in (12) below, the occurrence of some tones will remain unexplained without the recognition of the floating lexical tones.

	noun	gloss	my + noun	your +noun	their+ noun
(12)	ndì	"water"	m-ə̄ŋ	m-w-ā	mə̄-bɔ̀
	kə̄-núŋ	"rooster"	s-ə́ŋ	sh-y-á	kə́-bɔ̀
	bə̄-núŋ	"roosters"	b-ə́ŋ	b-y-á	bə́-bɔ̀
	kə̀-kúm	"horse"	s-ə́ŋ	sh-y-á	kə́-bɔ̀
	fə̀-ŋgbì	"bat"	f-ə́ŋ	f-y-á	fə̃-bɔ̀

Instead of carrying the H tone of the roots, the second, third and fourth noun prefixes exhibit different tones (M and L). The concord tone in the first example is no longer H, as expected. Why? In the word "horse" for instance, a floating L tone has to be postulated in the underlying structure, as responsible for the L tone of the prefix. In the same vein, a floating L tone in "water" is postulated to justify the M tone –instead of the H one – in the concord. This situation is reminiscent of the downstep process observed in neighboring languages, where the H tone is realized less H after a floating L tone.

Furthermore, the mid tone of "rooster" and "roosters" remains unjustified. First of all, as a general observation, no high tone has been attested in noun prefixes, although there are noun roots with high tone. Then, it is assumed (Cf. chapter 5) that, this tonological process, which is also observed in verbs, can be accounted for by the following rules: the spread left branch of a high tone is blocked and the tone bearing unit is provided with a default mid tone afterwards.

After finding out the defining criteria of nouns, their forms, their internal structure with some of their morpho-phonological peculiarities, another step towards the understanding of nouns is the analysis of morphological processes applying to them.

6.1.4.3 Morphological Processes

One of the roles of morphology is to study the structure of words. This structure may involve the adding of something -a morpheme- to the base- the root or the stem. It may also imply a different process. Koshin is productive enough as far as noun morphological processes are concerned. All the six major types of morphological process outlined by Edward Sapir in his classic book *Language* (1921: 61-81) have been attested in the language: compounding, reduplication, change of tone, subtraction, internal change, and affixation –some aspects of these processes have been already examined. Furthermore, the language is pretty marked by the palatalization and labialization prosodies which are amongst the most relevant peculiarities of the system. While compounding implies linking of two roots, the other processes referred to above consist in joining morphemes to the root or to a stem – root /stem+ affix. Let us begin with the compounding process.

6.1.4.4 Compounding

Compounding implies the linking of two roots to form one stem. Whether the two roots are noun roots or not, the most important thing is that the two roots junction yields a final noun stem. (the sign > introduces the result of the compounding process)

(13) (a) *Noun-Noun*
-nyɔ̀m (noun) "animal" + zùwàŋ (noun) "snake"
>nyɔ̀m-jūwà "crocodile"

Noun-Verb
-mwə̀n (noun) "person" + būm (verb)"hunt"
> mwə̀ būm "hunter"

Verb-Noun
-nə̄m (verb) "work"+gā̀ (noun) "corns"
> nə̀m gà "annual festival symbolizing the corn harvest"

(b) *Noun- Noun*
də̄ (noun) "bean"+ŋkálə̀ (undetermined)
>də̄ –ŋkálə̀ "rice"

Noun-Adjective
bɨ̀ (noun) "dog"+ lùw-lə́ (adjective) "bitter"
> bɨ̀-lùw-lə́ "plant used as traditional medicine against vomit".

As shown in examples (13), several combinations of roots are attested: noun-noun, noun-verb, verb-noun, etc. Compounding process is particularly productive with *plant* and *animal* semantic types. The meaning of the compound is quite often inferable from the meaning of the two roots (13a). However, compounding is not always reduced to a mere association of the meaning of the two roots. For instance, instead of giving a complex stem referring to a more or less *bitter dog*, the second example in (13b) refers rather to a *plant.* It is also worth highlighting that the first root of the compound word is always the head of the structure if the two roots of the constituent are all nouns. The syntactic constraints are usually similar to what is observed in NP structures (analyzed in grammatical phrasal constructions). Therefore, the concord marker of the compound is very often the concord of the first root (tone concord is not considered):

(14) (a)

class-root	concord	gloss
ø-kə́	w(ə)-	"head"
kə̄-gə́ŋə̀	k(ə)-	(undetermined)

(b) Compound word:

ʞə̄-gə́ŋə̀	**kə̄**-kə́		"traditional pillow"
ʞə̄-gə́ŋə̀	**kə̄**-kə́	**kə̄**-nzɔ́ŋə̄	"good traditional pillow"

In (14) where the two constituents have different concords (14a) for example, the head of the structure imposes its concord to the dependent following noun (14b, first example) and even to the dependent adjective (14b, second example).

6.1.4.5 Reduplication

When all or part of the root is repeated and joined before or after that root, there is reduplication. Reduplication is not a particularly productive process in Koshin, but it does exist.

(15) (a)	kə̀-ŋwāŋ.ŋwāŋ	"small type of ant"
	fə̀-ŋkwēn.kwēn	"mason wasp"
	kə̀-zhǐn.zhǐ	"housefly"
(b)	bə̀twə̀.bə̀twə̀	"every day"
	kə̀-ntū.ntū	"morning"
	jyàlə́.jyàlə́	"every year"
(c)	fū.fū	"he-goat"
	gbà.gbà	"duck"
	ŋkə̀ŋ.ŋkə̀ŋ	"peaceful/lawful plant"
	kə̀-gyà.gyà	"hawk"

Three semantic groups are specifically targeted by reduplication: lexemes referring to time (15b), insects (15a) and a miscellaneous group consisting of birds, plants and animals (15a). Applied to time lexemes, reduplication process conveys a meaning of *repetition, prolongation*. It can be observed that the word *morning* (15b) is based on "ntùwə̄" meaning *night*. The prolongation of the night may reach the morning.

As for the meaning of reduplication referring to insects, it mostly conveys *smallness*. Consequently, many names of insects undergoing reduplication process belong to class 19 nouns -diminutives class-, and others to class 7.

The meaning of reduplication is not clear in (15c). However, careful observation added to some extra-linguistic consideration help to see a semantic connection between all these items. This course of action is relevant for the theory underlying this work. In fact, for Basic Linguistic Theory, there is a semantic basis to each part of any grammar. Moreover, as Dixon (2010a: 31)

points out in the first volume of his book, "*the words in the lexicon of a language naturally fall into a number of sets, which can be called "semantic types". All the words in each type have a common element of meaning, and they all share certain grammatical properties".* If some semantic distinctions in the world and Koshin cultural perception are put together, it will appear that there is a link between a *he-goat* (in comparison with a goat), a *duck* (in comparison with a hen for instance), a *hawk* (in comparison with other birds), and a *lawful plant* (compared to other plants). It is *power, strength.* During fieldwork in Koshin, one of our consultants (Tah Christopher) told us the following about the *lawful/peaceful plant* (which is quite common to the Grassfields area): "*It is planted by a lawful person for territory boundary; it is also given to a guilty person who has to give 5 goats* [as fine] *to the traditional authorities*." Worldwide, *hawk* is known as a "*strong* bird of *prey*" (Advanced Learner's Dictionary (2000:547).The *he-goat* is stronger than a female goat on a par with the *duck* which is the biggest and strongest amongst the-domestic- fowls attested in Koshin community.

Most of the attested instances of reduplication are full reduplication, but partial reduplication -last example in (14a)- are also attested.

6.1.4.6 Change of Tone

It is something almost recurrent outside the Narrow Bantu languages: class 9 and class 10 nouns are distinguishable only on tonal difference. In Beboid languages for instance (close relatives of Grassfields Bantu group), Hombert (1980:91) hypothesized a Proto-Beboid 9/10 gender based exclusively on tonal dichotomy: *ì-/*i´-. This author stated that, except for Missong language which maintained the tonal dichotomy on vowel prefixes, the other Beboid languages (which include Koshin) exhibit the contrast between class 9 and class 10 exclusively on the basis of tone differences on the "*stem with relatively lower tones associated with the singular form*". In Koshin therefore, the only difference between class 9 words and their plural counterparts of class 10 is based on a tone change: low tone (L) for the singular and non-low tone (mid (M)- or sometimes high (H)-) for the plural- as observed in (16):

(16) Singular (class 9)	Plural(class 10)	Gloss
shàŋ (y-L)	shāŋ (y-+M)	"finger"
zùmə̀ (y-LL)	zūmə̀ (y-ML)	"antelope"
kìyà (y-LL)	kīyā (y-MM)	"basket for carrying things from the bush"

bɨ̀ (y-L) bɨ́ (y-H) "dog"

The class 9 and class 10 nouns in (16) share the same concord marker (y-) and are both prefixless. They can only be distinguished by tone change. This situation can be taken into account in order to introduce the principle of *sound symbolism*, another important pillar supporting the theoretical architecture applied in this text. As a matter of fact, since Saussure (1916), the arbitrariness of the linguistic sign is, undoubtedly, taken for granted. Cross-linguistically, however, description of natural languages has shown progressively an undeniable connection between sound and meaning. In some aspects of languages -not in all aspects- sounds do convey meanings! Dixon (2010:70 vol. 1) emphasizes: "*There can be no doubt concerning a sound symbolic basis for many meaning contrasts in grammar and in lexicon*." Unfortunately, he continues, "*No proper theoretical framework has yet been devised to deal with this; as a result the topic is often not even mentioned in textbooks on linguistics*". Class 9 and 10 nouns are amongst the major noun classes in Koshin. Such a glaring phenomenon cannot be ignored. Sound symbolism is often referred to in this work wherein it is assumed that sound symbolism is one of the most efficient channels for the disclosing of the environment. In accordance with the data in (16), it can be concluded that, at least for the time being, low tone in Koshin refers to the singular and the plural number is conveyed by the non-low tone (H or M).

6.1.4.7 Internal Change

Strictly speaking, tone change analyzed in the preceding paragraph could have been considered a type of internal change, because there is a change of some segment of the root. But in literature, what is usually called internal change is the change of a non-tone segment (vowel or consonant) in the middle of the root. Within the label "internal change" is included any change involving a segment or syllable - of the root, whether in the middle or not- as in (17).

(17)	Singular	Plural	Gloss
(a)	**w**āny	**b**āny	"child"
	fū**bə̄**	fū**wə̀**	"bamboo"
	wū**nə̄**	jū**wɨ̀**	"feather"
(b)	**mwə̀n**	bə̀-**nɨ̂**	"person"
	nyū	bə̀-**nɔ̄**	"male"
	gbə̀n	bə̀-**gwə̀nə̀**	"father-in-law"

As shown in examples (17), internal change can target consonants (first example of 17a) or a whole syllable (last two examples of (17a-b). Except for “bamboo” and “feather”, the other words of (17) refer to human beings. There may be a meaning related to internal change process, taking into account extra-linguistic perception, but it is not clearly identified. It is likely that the key to this question goes beyond the scope of this work -considering, for instance some diachronic changes.

6.1.4.8 Subtraction

Subtraction is a process of deleting some part of the root -instead of adding or changing- as seen thus far. This process is attested in Koshin through the following examples:

		Singular/Concord		Plural/Concord		Gloss
(18)	(a)	tsāŋə́	w-	tsāŋ	y-	“palm nut”
	(b)	gānə̄	w-	gā̀	y-	“corn”
		ŋgə́ nə̄	w-	ŋgə̄	y-	“egg”
		nshwànə̀	w-	nshwám-		“small piece of sand”

The semantic type of nouns targeted by subtraction is quite homogeneous: All the nouns of this set are small concrete objects with a more or less round form. Subtraction process discloses another interesting aspect of Koshin world-vision. In fact, normal countable objects form their plural by adding or changing something to the singular form- not by subtracting (curiously) something. However, what koshin culture wants to express through the data in (17) is that, small entities are useless when scattered (singular for), but can gain importance (plural) only and only if they gather themselves into one but bigger and stronger block. In other words, when small countable entities are put together, they form a single monolith, a single block. This viewpoint is strengthened through the noun class system: diminutives form their plural by the prefixation of the liquid nouns morpheme. It is a lesson of solidarity and union for weak and small entities.

Looking now at the pure morphological aspect, it can be said that subtraction deletes (unpredictably?) just a vowel (17a) or a syllable (17b). The last example of (17), unlike the others, requires –intriguingly- a nasal consonant as concord marker in the plural form. It seems to be the plural diminutive marker.

6.1.4.9 Affixation

It is very productive in the language. It consists in joining an affix -a bound form- to the root. Concerning the value of affixation, this process can bestow on the noun root a semantic type, it can change or readjust the semantic value of the root, or it can mark some syntactic functions of the root. Affixation can refer to derivation or to inflection. While inflection concerns only the affixation of the noun class morpheme, all the remaining instances of affixation refer to the derivation process. With regard to the form, the affixation process can be an instance of *suffixation* –the affix (suffix) is joined after the root-, *prefixation* -the affix (prefix) comes before the root- or *circumfixation* –the prefix and the suffix (circumfix) must occur together. No instance of infixation -where the affix (infix) is inserted in the middle of the root- has been attested.

(19)	(a)	nyùm-fə̄ dryness-TEMPORAL “at dry season”	shɔ̀ŋ-yə̀ sheep- DEF “the sheep”
	(b)	fə̀-mɔ́ CLASS-cat “cat”	kə̀-zɔ̄ CLASS-mouth “mouth”
	(c)	fə̄-bǐ -lə̄ DIM.-kola nut-DIM. “Small kola nut”	n-tə̄-lə́ DIM.-stones-DIM. “small stones”

In (19a) the suffixation process has a syntactic value. The suffix marks the (peripheral) syntactic function of the noun phrase which is made up of a noun root (first example), or is the determiner of the head (second example). Prefixation is dealt with in (19b) and refers to the noun class prefixes. Beside the noun class circumfixation attested with the noun “bush” as stated earlier in this work, another instance of cicumfixation attested in the language is the diminutive construction (it is also worth observing that the definite marker *may* occur with noun the class prefixes, but they cannot be considered circumfix). Diminutive marker is, in fact, a discontinuous morpheme “fə-….lə” (for the singular) and “N….lə”(for the plural). Unlike what is suggested in Jeff Good et al. (2011:131), the diminutive maker cannot be confused with the (non-discontinuous) noun class 19 marker, the prefix “fə-”.

Nevertheless, it should be acknowledged that diminutive construction consists in prefixing the class 19 morpheme to the root *and suffixing* the morpheme *–lə to the same root*. By

so doing, diminutive construction puts aside the original noun class prefix (deletion of the original prefix) of the noun. Moreover, it is an instance of inflection. Nouns only inflect for noun class system in Koshin, and diminutive construction automatically assigns nouns the class 19 prefix and the suffixal part of the diminutive morpheme. Therefore, the original noun class prefix is deleted because, unlike derivation, the inflection process applies just once. After the deletion of the original prefix and the assignment of the diminutive circumfix, various phonological processes take place as explained in chapter 5.

The morpho-syntactic peculiarities of the diminutive construction are fully discussed in the chapter on grammatical constructions. For the time being, let us just emphasize that, as stated in the section on phonology, diminutive construction is an important instrument for the disclosing of some hidden elements which otherwise could have been detected with difficulty.

6.1.4.10 Prosodic Features: Palatalization and Labialization

Other quite interesting morphological strategies applicable to noun roots are labialization and palatalization prosodies. Instances of palatalization and labialization are attested mostly in nouns belonging to class 3 and class 4 as recalled below:

(20)(a) Singular/concord		(b) Plural/concord		Gloss
gbɨ̄yà	w-	zɨ̂yà	y-	“house”
gbɨ̄	w-	dzɨ̂/zɨ̂	y-	“hundred”
kpə̄n	w-	tsə̄n	y-	“tree”
wɛ̃̄	w-	jɛ̃̄	y-	“leaf”
mū	w-	mɨ̂	y-	“farm”
bwā̀m	w-	byā̀m	y-	“calabash used to drink corn beer”

As observed in (20), prosodic features convey the singular or plural number of the root. In other words, there is a relationship between prosody and number. Another important observation is that the prosodic process usually targets the first consonant of the root, as noticed many times in this work.

Therefore, it can be generalized that while labialization prosody refers to the singular number (20a) palatalization prosody refers to the plural number (20b). The influence of palatalization and labialization prosodies has been discussed in detail, in the chapter on the phonology of consonant system (3.4.3). It has been concluded that the palatalization prosody

both coronalizes and spirantizes segments whereas segments are labio-dorsalized with the labialization prosody.

The prosodic processes in (20) allow us to outline the symbolic value of the two attested features: whereas labio-velar (*peripheral points of articulation*) consonants convey singular number, plurality is expressed through alveo-palatal (*central points of articulation*). Schematically, to form the plural, one needs to make an effort "walking" from the "coast" towards the "hinterland". Before going to another point, it should be specified that nouns undergo a derivation process which "denominalizes" them. These types of derivation will be dealt with in chapter dedicated to the class the derivation transforms the noun into. However, the derivation process can transform verbs into nouns, through the prefixation of the homorganic nasal to the verb root. This process is analyzed in the next chapter.

To cut a long story short, at the beginning of this section on lexical classes, the morpho-syntactic functioning of nouns has been examined. First of all, the defining criteria of nouns have been outlined. Their free and bound forms have been analyzed, on a par with their internal structure, emphasizing the syllabic shapes and some of the curious morpho-phonological phenomena hidden in the underlying structure. Then, the attested morphological processes applying to noun roots have been discussed, studying in the same time the noticeable symbolic value.

As said at the very beginning of this chapter, one of the characteristics of nouns is that they can be head of noun phrases. This syntactic property implies that nouns may be accompanied by items whose function is to modify or determine the head. Some have been mentioned in this section –noun classes, concords, etc. Many of them are still to be discussed: possessives, demonstratives, quantifiers, relative clauses, noun phrases, etc. Most of them are closed grammatical systems or grammatical constructions. For a methodological purpose, these are preferably discussed in the third section. For the time being, the analysis is concerned with the discussion of the lexical modifiers of nouns.

6.2 Noun Lexical Modifiers

In the remaining part of this chapter, lexical modifiers of nouns are analyzed. One after the other, adjectives and then numerals are dealt with.

6.2.1 Adjectives

Adjectives are amongst the lexical modifiers of the noun. Within the noun phrase (NP) structure, they always come after the noun head. They usually tell descriptions, qualities, or characteristics about the noun they qualify. In Koshin they share some properties with both nouns and verbs. Their grammatical properties have to be stated in order to distinguish them from other lexical classes.

(21) (a) -Adjectives modify nouns within the noun phrase (NP) and may carry the noun class concord determined by the noun class prefix of the noun they qualify; they do not have proper class prefixes. Nouns, unless they have null prefix class, always carry a class prefix.

(b) -As said earlier, adjectives cannot form an NP on their own but nouns can do.

(c) -Adjectives –but not nouns- can be *head of intransitive predicate* (INTRA.PRED). Nouns can only fill the copula complement slot, through the copula verb. Some adjectives, when head of predicate, state the property of the subject by carrying the attributive suffix /-lɛ/. Nouns cannot.

(d) -Adjectives –but not nouns- can undergo total reduplication expressing the superlative value. Nouns, as said earlier, undergo reduplication in very limited situations without expressing any superlative meaning.

The properties enumerated in (21) above are the most important, but they are not exhaustive. They enable to distinguish adjectives from nouns. They can be illustrated by examples (22) below:

(22) (a) bə̀-ncɔ̄ŋbə̄ [bə́ -njɔ̄ŋbə́ -lɛ̄]INTR.PRED
NC-groundnuts CONC-be.sweet-ATTRIB.
“groundnuts are sweet”

(b) gbɨ̀yà wù-fwələ̄.wù-fwələ̄
house CONC-white.CONC-white
“Very white house”

(c) [gbɨ̀yà w-əŋ]S [nə̄ nzɔ̄ŋə́-lɛ̄] INTR.PRED.
House CONC-1PERS.SG P2 good
“My house was nice”

Alongside with the properties in (21), adjectives exhibit properties (23) which distinguish them from verbs:

(23) (a) -Like verbs, adjectives can fill the predicate slot (22a, 22c). However, when adjectives are heads of predicate they do not have referential meaning like verbs but state the property of the intransitive subject (S).

(b) - When they fill the predicate slot, adjective can be modified by tense markers like ordinary verbs (22c).

(c) - Most adjectives can carry the attributive suffix –lɛ. They are similar to verbs when these ones carry the imperfect marker-lɛ.

(d) - Adjectives, but not verbs, can undergo total reduplication conveying a superlative meaning- as stated in (21) and illustrated in (22b).

Some semantic types of adjectives have been attested. Some adjectives refer to *dimension* (big), *color (*white, red, etc.), *value* (good, strong, bad). Other adjectives refer to *physical aspects* (sweet, rotten, soft, slimy, etc.).

It is worth making some observation related to the concept of "bigness" and "smallness" (dimension semantic type). The concept "big/bigness" is expressed by two lexical items with two different syntactic properties as shown below:

(24) (a) Bum mɔ̀ mwə̀n wù-lūmbā
Bum be.PRESENT person CONC-bigness
"Bum is a big/great man"

(a') *Bum mwə̀n gɔ̀w-lɛ́
Bum person big-ATTRIB.
"Bum is a big/fat man"

(b) Bum gɔ̀w-lɛ́
Bum big-ATTRIB
"Bum is big/fat"

(b') *Bum lūmbā-lɛ̄
Bum big-ATTRIB
"Bum is big/great"

(c) *Bum mwə̀n gɔ̀w
Bum person big
"Bum is a big/fat man"

As shown in (24), the concept "big/bigness" is expressed through "lūmba" and "gɔ̀w-lɛ́" although the two items refer to two slightly different meanings. In fact, whereas the first item refers mostly to the moral aspect of "bigness", the second item conveys a physical dimension of

the meaning. However, what is intriguing is the fact, whereas "lūmbā" can modify an NP head within an NP structure and can carry the class concord as in (24a), "gɔ̀w-lɛ́ " fills the predicate slot (as in (24b). In the same vein, whereas "gɔ̀w-lɛ́" can fill the predicate slot and can carry the attributive marker as in (24b), the item "lūmba" in the same slot triggers an ungrammatical structure (24b'). Consequently, taking into account criteria (23), it is logical to consider "gɔ̀w-lɛ́" as an adjective (big) and "lūmbā" as a noun (bigness).

However, the ungrammaticality of the example (23d) makes this hypothesis problematic. It is perhaps the most intriguing aspect noticed amongst adjectives. In fact, if "gɔ̀w-lɛ́" is regarded as an adjective, like any natural adjective, it will be expected to modify the noun within the NP structure (Cf. gbɨ̀yà wù-fwələ "white house"). But such a structure is ungrammatical for the item "gɔ̀w-" cannot occur without the attributive marker "-lɛ́ ". More concretely, instead of being a mere adjective, "gɔ̀w-lɛ́" looks like a pure verb (but it is not a verb because, amongst other reasons, it cannot carry the infinitive marker which basically characterizes verbs). In this work, this item will be considered as an adjective, but its morpho-syntactic peculiarity needs to be reassessed in another specific analysis.

Concerning the concept "smallness", it is expressed through a single item which shows morpho-syntactic criteria similar to those observed in nouns. In other words, "smallness" is attested but "small" is not. For instance, this item exhibits a proper class prefix as in (25a) below, which refers to diminutive meaning. Let us recall that for the noun class of diminutives, the language uses the prefix (**fə-**) for the singular and a null prefix for the plural form**.** This describes exactly the same phenomenon observed with "smallness" as shown in (25)

(25) (a) fə̀-ntə́ŋə̄
NC-smallness
"smallness"

(b) kə̀-fĭ s-ə́ŋ kə̀-ntə́ŋə̄
NC-pig CONC-1PERS.SG CONC-smallness
"My small pig"

(c) bə̀-fĭ b-əŋ́ bə̀-ntə́ŋə̄
NC-pig CONC-1PERS.SG CONC-smallness
"My small pigs"

Examples (25) reveal that, in the same way as any noun in citation form (25a), "smallness" carries its prefix which, in this case is the singular prefix. Furthermore, like any noun modifying

another noun, the noun "smallness" carries a concord marker determined by the class prefix of the NP head. That is why the determination of the class of a word has to be grounded on morphological and syntactical properties *internal to the language.* It *should not* be based on the meaning of the item, or on the role that this item plays in another language. What is usually considered noun in language X can be regarded as verb in language Y or vice versa.

Concerning the structure of adjectives, it is very simple: in citation form, the sole root constitutes this lexical class (the root consists –like nouns- in monosyllabic shapes, or sometimes in dissyllabic structures). However, even if it ha sbeen noticed that some consultants give adjectival forms preceded by a class prefix, and others give the same adjectival form preceded by another class prefix, the most recurrent class prefix used with adjectives in neutral context (where there is no head to modify) is ***kə-.*** For instance, it is the case when the adjective is used within an adverbial context (26).

(26) wə̀ kə̄ tsə̄ kə̄-nzɔ́ŋə̄
2PERS.SG FUT.1 sleep CONC-good
"Good night -to you (Sg)- (you will sleep well)"

From the preceding example, it appears that amongst the noun class prefixes, kə- is selected when the adjective "good" is used in adverbial function. Therefore, it can be said that the class prefix *kə-* shows a lower *functional markedness* because it has greater frequency than the other class prefixes.

The morphological processes attested in adjectives are affixation (suffixation and prefixation), and reduplication (22b). The prefixation process relates to the concord prefix determined by the noun head. The common instance of suffixation refers to the attributive suffix.

6.2 Numerals

Numeral items also modify the noun phrase head. They do not convey descriptive value like adjectives. Instead, they number the noun. They could have been analyzed amongst grammatical items because they form a more or less closed system. However, for methodological reasons, they are treated as lexical units because, as stated below, some numerals are borrowed from lexical categories (such as nouns), and morpho-syntactically, they behave like pure nouns.

Strictly speaking, Koshin numeral system can be reduced to five (or at the most eight) basic figures. Morphological processes are applied to the five basic figures to get the overall numeral system. Besides the alluded five items, some items apparently borrowed from the noun system are inserted in the numbering semantic type.

(27) (a) mɔ̌	"one"	/wùfwɔ̄	(w)ū-mɔ̌	"one month"
fī̀	"two"	/tə̄-wùfwɔ̄	tə̄-fī̂	"two months"
tī̂yā	"three"	/tə̄-wùfwɔ̄	tə̄-tī̂yā	"three months"
nə̄/nē	"four"	/tə̄-wùfwɔ̄	tə̄-nə̄	"four months"
tū̀n	"five"	/tə̄-wùfwɔ̄	tə̄-tū̂n	"five months"
(b) **bə̄**-shwā	"six"	/ tə̄-wùfwɔ̄	bə̄-shwā	"six months"
bə̀-nē-tī̂yā	"seven"	/ tə̄-wùfwɔ̄	bə̀-nē-tī̂yā	"seven months"
jàŋ	"eight"	/ tə̄-wùfwɔ̄	jàŋ	"eight months"
bə̀-nē-tū̀n	"nine"	/ tə̄-wùfwɔ̄	bə̀-nē-tū̂	"nine months"
jūwfə̄	"ten"	/ tə̄-wùfwɔ̄	jūwfə̄	"ten months"
(c) mbàŋ	"ten (plural)"		(Cf. mbàŋ tī̂yā	"thirty")
gbī̂	"hundred(singular)"			
dzī̂	"hundred(plural)"		(Cf. dzī̂ (yì)-fī̀	"two hundred")
kɔ̄m		"one thousand"		
kɔ̄m bə́=	kə̄-mɔ̀́	"one thousand and one"		
bə̀-kɔ̄m	bə̀-fī̀	"two thousand"		
kə̄-byə̃̄		"one million"		
kə̄-byə̃̄ bə́=kə̄-mɔ̀́		"one million and one"		
bə̄-byə̃̄	bə̀-fī̀	" two millions"		

The first five numerals of (27) -the figures "1" through "5"- are like simple adjectives: in citation form they do not carry class prefix, but when they are used within an NP, they may carry the class prefix of the noun (27a). The other numerals, however, do not behave in the same way.

Some numerals are compound forms derived from the basic numerals: "seven" and "nine". In fact, as shown in (27b), the figures "7" and "9" are simply compound words involving the association of two figures whose addition makes out "7" (4+3=7) and "9" (4+5=9). This strategy enables us to appreciate how Koshin culture can elaborate the technical process of calculation. After this compounding process based on arithmetical calculation, a morphological process of affixation is applied to "seven" and "nine". These forms are provided with an unchangeable prefix (bə-). Figure "six" also undergoes the same process of unchangeable prefixation. After prefixation, a lexicalization process took place in such a way that the numerals

“six”, “seven” and “nine” always carry the prefix/bə-/ (27b), even in citation forms, on a par with real nouns.

It is important to notice that, amongst the various class prefixes available in the language, numerals “six”, “seven”, “nine” targeted the class prefix /bə-/ for affixation purpose, without any influence of the head noun class, exactly like the class prefix */kə-/* which was targeted for the singular form in (26).The same facts leading to the same interpretation, it can be concluded that the noun class /bə-/ is the functionally unmarked class prefix for plural number. Quite interestingly, in the language, words with /kə-/ prefix (class7) form their plural with */bə-/* prefix (class8)! Alongside with “seven”, “nine”, and “six” which are influenced by prefixation and lexicalization processes, “eight” and “ten” behave in a different way: there is no compounding, and there is no obvious affixation. However, the figures “eight” and “ten” do not behave neither like the basic figures in (27a) nor like the figures “six”, “seven”, “nine”, because they do not carry class concord when they modify a noun. But both the figures “eight” and “ten” begin by a palatal consonant. Therefore, it is believed that they probably show instances of palatalization.

Still more peculiar are the items referring to “tens” (27c). The base for the numeral “ten” is different from the base for the numeral referring to “twenty”, “thirty”, “forty”, etc., in such a way that the figure “ten” is simply regarded as a singular item compared to the root for “twenty”, “thirty”, which always behaves like a plural root. Such an irregular internal change is, as noticed earlier, characteristically reminiscent of nouns. For that reason, it is considered that the figure “ten” is a noun rather than an ordinary numeral.

Besides the numeral *kɔ̄m* “thousand” (27c), another item used to express “thousand” is *kìyà* which is the name of the *traditional basket used for carrying corn from the bush.*

Last but not the least, are the numerals “hundred” and “thousand”. In (20b) above, the prosodic features of palatalization and labialization have been outlined as processes applying on noun roots and the numeral “hundred” was one of these words undergoing the alluded processes. As stated again in (27c), the singular noun root “hundred” is opposed to its plural noun root congener only by prosodic processes (labialization for the singular form and palatalization for the plural). The noun-numeral “thousand” expresses the plural meaning through affixation like

any ordinary noun which exhibits the gender /kə-/ (class 7) and /bə-/ (class 8). The language expresses ordinal and cardinal numerals in the same way.

Another element to add about numerals is that, the language shows interesting mechanisms to express the figures "tens + units" on the one hand, and "hundreds + tens", "millions/thousands/hundreds +units" on the other hand. In fact, the link between "tens" and "units" is clearly distinguished from the link between "thousands" and "hundreds", "thousands" and "tens", or "thousands" and units, as shown in (28). In the following examples, CONJ. stands for CONJ. and "=" symbolizes the link between the conjunction and the marked NP head):

(28) (a) jūwfə̄ tsɔ̀ mɔ̀́ -mbàŋ fī̂ tsɔ̀ tū̂n
ten plus one tens two plus five
"Eleven (ten plus one)" "Twenty five"

(b) -gbǐ bə́ =kə̄-mɔ̀́ -dzǐ tǐyā bə́=nə̄
hundred CONJ=CONC-one hundreds three CONJ=four
"One hundred and one" "Three hundred and four"

- kɔ̄m bə́=kə̀-mɔ̀́ -bə̀-kɔ̄m bə̀-fī bə́=jūwfə̄ tsɔ̀ nē̄
Thousand CONJ=CONC-one NC-thousand CONC-twoCONJ=ten plus four
"One thousand and one" "Two thousand and fourteen"

As seen in (28), the item linking "thousands/hundreds" and units is the conjunction "and" which also functions as adposition meaning "with" whereas the meaning of the item linking "tens' and "units" is not very clear.

It should be noticed that one of our consultants (Yoah Moses) insisted that the numeral "million" is attested in the language (27c) and refers to "bundle". Other speakers hesitated first but at the last time agreed with him. Whether he is right or not, what is unquestionable is that the word "bundle" can be adequately used to refer to "million". It implies that the numeral system is well organized and can express any mathematical figure.

All the details given above explain how the numeral system is based on five basic items to which are added some compound numerals (2 items) or some items with noun characteristics. The number system can express any figure as said above. The numbering system is constructed as follows. To express a figure, the biggest unit is used first and the smallest one follows in such a way that the figure for *millions* eventually comes before the figure of *thousands* followed by the figure of *hundreds* and then the *units* as in (27c). Besides, to construct the tens, from the

figure “twenty” through “ninety”, the plural root of the figure “ten” is multiplied –not the singular root- two, three, four times. For instance, 20 is read “tens two times”, 30= “tens three times”, 40= “tens four times”. The same process is applied for the “hundreds” where 200 is read “hundreds two times”, 300 = “hundreds three times", 400 = “hundreds four times” as in (29) below. The “thousands” follow exactly the same principle.

(29) (a) jūwfə̄ “ten”	(30) (a) gbǐ “one hundred”
(b) mbàŋ fǐ “twenty”	(b) dzǐ fǐ “two hundred”
mbàŋ tǐyā “thirty”	dzǐ tǐyā “three hundred”
mbàŋ nē “fourty	dzǐ nē “four hundred”

In short, it can be said that from the five basic items, the language constructs the numeral class applying processes quite common to pure noun items such as compounding, affixation, lexicalization of grammatical elements, prosodic influence. It should also be noticed that these processes are underlined quite often by arithmetical operations such as addition (27b) and multiplication (29b).

To put it in a nutshell, it can be said that the noun and its lexical modifiers share some morphological properties within the noun phrase structure. There is an undeniable class agreement between the head and its modifiers in such a way that the noun class prefix (whether null or not) is reconstructed and (optionally) prefixed to all the dependent items. The alluded sharing of morphological characteristics cannot prevent from distinguishing nouns from adjectives or numerals because each lexical class (noun versus adjectives and numerals) is determined by its own morphological and syntactic criteria. Morphological processes applying to these lexical classes, some morpho-phonological peculiarities observed in nouns, and, interestingly, some symbolic evidences of sounds were also examined in this chapter. Nouns (and their modifiers) cannot build up a sentence or a clause on their own. They need the implicit or explicit support of another important and indispensable partner within a different phrase: the verb. How are verbs organized in Koshin? What are the dependent items? These questions and others related to them are tackled in the next chapter.

CHAPTER 7
VERBS AND LEXICAL MODIFIERS

This chapter analyzes the structure and functioning of the verbs and its dependent lexical elements. Discussion begins with verbs. The first concern is to determine their defining criteria and their structure. Afterwards, verbs are classified according to the meaning of the relation they establish between the participating arguments. Verbs which exhibit a referential meaning are also classified according to their transitivity value. Morphological processes are analyzed before examining the main lexical modifiers attested in the language.

7.1 verbs

Verbs (and nouns) constitute the major lexical classes attested in the language. They share some properties with both nouns and adjectives. But at the same time, they have peculiarities which distinguish them.

7.1.1 Defining Characteristics

Observations of the data let emerge some noticeable morpho-syntactic properties related to verbs in Koshin. Some of these properties are stated in the following lines:

(1)(a)- In infinitive form, verb roots carry a class prefix (kə-), like some noun, but this prefix is no longer used when the verb is inflected, whereas nouns (except free roots and very rare cases of prefix deletion) always carry the class prefix.

(b)-A verb (X), in infinitive form, can be subject of another verb (Y) filling the predicate slot. Nevertheless, a verb (X) can be derived into a noun (in subject function) with the meaning “the fact of X-ing”, by prefixing a homorganic nasal to the verb root. Nouns need not such a nominalization process.

(c)- Verbs –but not nouns- are heads of predicate and therefore can be modified by grammatical items such as tense and aspect markers.

(d)- In a negative clause, only verbs and adjectives should be followed by the negative particle; nouns should not.

The properties enumerated in (1a-d) distinguish verbs from nouns. Even though these two lexical classes sometimes overlap morphologically and syntactically, there is still place where the differences are clear-cut.

Besides the similarities and differences between adjectives and verbs analyzed in the preceding chapter, others can be added as follows:

(2) (a) - Like adjectives, verbs can be followed by the negative marker when they fill the predicate slot, in negative form. However, in this context, adjectives lose their attributive marker but verbs lose no morpheme in negative polarity (2ci-ii).

(b) - Only verbs can carry the relative marker–nə̄, suffixed to the verb root, in non-canonical relative clause constructions. Adjectives cannot carry this morpheme (Cf. Chapter on grammatical constructions).

(c) (i) -ŋkə̃ nzə̄ŋə́-lɛ̄
Corn beer be.good-ATTRIB
"Corn beer is good"

- mə̄ mw-ə̄-lə́ ŋkə̃
I drink-DUR-IMP. corn beer
"I am drinking corn beer"

(ii)- ŋkə̃ nzə̄ŋə́ kə̄
Corn beer be.good NEG
"Corn beer is not good"

- mə̄ mw-ə̄-lə́ kə̄ ŋkə̃
I drink-DUR-IMP.NEG corn beer
"I am not drinking corn beer"

After determining the morpho-syntactic properties of verbs, their structure can be analyzed.

7.1.2 Structure

In this paragraph, the structure of the infinitive form is analyzed. The non-infinitive form of the verb is referred to only when it helps to understand a phenomenon which otherwise will remain unnoticed. All the grammatical categories modifying the predicate head are tackled in the grammatical section.

Any Koshin verb, in infinitive form, is made up of two parts: the root and the prefix. Its similarity with noun form (which also shows very often a class prefix and a root) is obvious. This similarity between the morphological structure of nouns on the one hand, and the infinitive form of the verb on the other hand, cannot be that surprising, given that the infinitive form of the verb is the nominal facet of the verb. Usually, verb root structures are not complex. They are mostly monosyllabic, but some (very few) are dissyllabic. No root with more than two syllables has been attested. The prefix is even simpler: a CV morpheme carrying often the mid (M) tone, as shown in (3) below.

	Prefix- root		Gloss
(3)(a)	(kə̄)-nǐ	(CV)	"to walk"
	(kə̄)-yán	(CVC)	"to vomit"
	kə̄-fwē	(CCV)	"to broil"
	kə̄-byə̄n	(CCVC)	"to dance"
(b)	kə̄-mú .sə̀	(CV.CV)	"to think"
	kə̄-jú .wā	(CV.CV)	"to plant"
	kə̄-shwā.sə́	(CCV.CV)	"to suck"
	kə̄-lə́ m.tə̀	(CVC.CV)	"to feel like vomiting"

The verb syllabic structure shares lots of properties with the structure of noun roots studied in the preceding chapter. Some constraints are observed in one class and in the other: like noun roots, verb roots always end with a vowel or a nasal consonant. In both classes, if the syllable onset slot is filled by two consonants, the second must be a glide if the first one is an obstruent. As it has been noticed for nouns, verb roots with high tone root in (3) carry a prefix with mid (not high) tone. However, verbs exhibit some constraints that have not been observed in nouns: in the rare dissyllabic roots, only two vowels have been attested in the second syllables: the central vowels **a** and **ə** (3b). In the first syllable no restriction has been identified. Another peculiarity observed in verbs is that in monosyllabic roots, only high tone (H) and mid (M) tone are attested, whereas in dissyllabic roots the low tone (L) can occur in the second syllable but not in the first one. In other words, L tone is attested in verbs only as second tone. The first tone has to be high or mid, whether in monosyllabic or dissyllabic roots. As assumed earlier in this work, it is maintained that the spread left branch of a high tone is deleted and replaced, at a later stage of the derivation, by a default mid tone. That is why, by generalization, prefixes with high tone are not supposed to precede roots whose first tone is high.

The attested tonal melodies in verb roots are the following: HL, HM, and MH. It can be noticed that the ML melody has not been attested. Tonal alternations related to grammatical modifiers of verbs are analyzed in the chapter on the grammatical categories modifying the verb. Notwithstanding this methodological orientation, a focus on some tonological intricacies is in order, as far as the verb root is concerned.

(4)(a)-	Kə̄-zhǐ	-Kə̄-dé
	NC- eat	NC-cook
	"to eat"	"to cook"

(b) - mə̄ kə̄(lə̄) **zī̂-(lɛ́)**
1PERS.SG FUT.1 eat-IMPERF
"I will eat (very soon)"

- mə̄ kə̄(lə̄) **dɛ̄̀-(lɛ̄)**
1PERS.SG FUT.1 cook-IMPERF.
"I will cook (very soon)"

Two verb roots are illustrated in (4): "to eat" with mid tone and "to cook" with a high tone, at least as far as the infinitive form is concerned (4a). In future 1 tense, however, the tonological behavior of each verb root changes: whereas "eat" keeps its mid tone, "cook" changes its high tone into mid low (ML). Consequently, the tone of the imperfect marker is no longer the same in the two cases. As with nouns, a floating lexical tone has to be postulated in the underlying form of "to cook". A floating L which was not visible in the infinitive form emerges when the morpho-phonological context changes, and transforms the preceding high tone of the root into mid, and is as well responsible for the somewhat downstepping behavior of the following high tone. In short, the sole infinitive form of the verb cannot unveil the complete tonal characteristics of the root, exactly as the phrasal structure is indispensable to gauge the underlying structure of certain nouns.

7.1.2 Types

Verbs can be classified according to the meaning the verb exhibits within the predicate, and according to the transitivity value of the verb.

7.1.2.1 Meaning of Verb

The predicate is usually considered the most important syntactic slot of the clause which determines how many arguments and what type of arguments (core and non-core) the clause requires. In Koshin, the head of this structure (predicate) is very often the verb (but it can also be the adjective), as the noun is usually head of noun phrase. The predicate (filled by a verb phrase whose head is usually a verb) and the noun phrase make up the clause. According to their meaning within a predicate, verbs can be classified into two sets: on the one hand, there is the copula verb with *relational meaning*, and on the other hand, verbs with *reference meaning* (all the other verbs in the language).

7.1.2.1.1 Referential Verbs

Referential verbs are those which display reference, meaning, about the activity of the required arguments. Two types of referential verbs can be distinguished: *referential primary verbs* and *referential secondary verbs.* Each set of the two types of verb shows semantic but also syntactic criteria shared by the members of this set.

Primary verb set consists, as outlined by Dixon (2010b:399), of verbs which, not only in Koshin, but cross-linguistically, are always expressed by *lexical items or lexemes.* Amongst other examples, the following semantic types of primary verbs can be attested, with one or two illustrative examples for each semantic set:

(5) (a) Verbs of *giving*:	kə-fá	" to give"
(b) Verbs of *speaking*:	kə-zámə	" to say"
(c) Verbs of *liking:*	kə-kɔŋə	" to like"
(d) Verbs of *motion:*	kə-dzūbə	"to run"
(e) Verbs of *affect:*	kə-dwələ	"to kill", kə-kūm "slaughter"
(f) Verbs of *attention:*	kə-dá	"to see"
(g) Verbs of *corporeal:*	kə-zhɨ̀	"to eat", kə-mū "to drink"
(h) Verbs of *thinking:*	kə-músə	"to think"
(i) Verbs of *atmospheric phenomena:*	kə-nyá	"to rain"

Amongst primary verbs, there are still *primary-A* and *primary-B* distinctions. Verbs whose argument slots *may* not be filled by complement clauses but only by noun phrases (nouns and/or pronouns) are called *primary-A verbs.* If all the argument slots of the verb may be filled by noun phrases, but at least one argument may be filled alternatively by a complement clause, this verb is considered a *primary-B verb.*

(6) (a) [wə́]A mw-ə̄ [ndɨ̀]O
2PERS.SG.PROG drink-DURATIVE water
"You are drinking water"

(b) [wù]A zàmə [yə wə mw-ə ndɨ̀]O
3PERS.SG say.PRESENT COMPL. 2PERS.SG drink-DURATIVE water
"He says that you are drinking water"

In (6a), the predicate slot is filled by the verb "drink". This verb requires two core arguments: one in transitive subject function (A), and the other in transitive object function (O). The function of the two arguments is displayed by two noun phrases (NP) whose heads are a pronoun -for A- and a noun -for O. Neither of the two arguments is a complement clause. Therefore, the

verb “drink” (and all the other verbs exhibiting such a property) is said primary-A. Usually, verbs of *motion, giving, affect, corporeal,* amongst others, can play this role. In (6b) however, although the verb “say” can have two arguments with NP structure, its O argument is fulfilled by a complement clause. *Speaking verbs* -like in (6b)-, *thinking* and *liking verbs* are some sets of the primary-B category.

Many primary verbs exhibit a figurative meaning which is (as expected), different from the usual meaning. For instance, from the *corporeal* verb *kə̄-zhī* “to eat”, One can have the usual reference in (7a) implying the action of putting food in the mouth, chewing it and swallowing it. In (7b) on the contrary, the same verb is used in a figurative meaning. It refers to the *affecting* action of the cold.

(7) (a) mə̄ j-ə̄ bə̄-zhɪ̃̄
1SG eat-DURATIVE NC-food
“I am eating food”

(b) gbɪ̄ j-ə̄ mə̄
Cold eat- DURATIVE 1PERS.SG
“I feel cold (literally *cold is eating me*)”

As regard with *secondary verbs*, it is indispensable to highlight that they serve to modify, whether explicitly or implicitly, the meaning of primary verbs to which they are linked as grammatical elements or as lexemes through complement clause constructions or complementation strategies. In some languages they are realized through grammatical categories, in others they are lexical items. In Koshin and in many other languages, some secondary actions are expressed through lexical verbs (lexicon) and others are coded through grammar. That is why, the term *secondary concepts* -instead of the restrictive secondary verbs- is more appropriate. In literature, the sets of semantic concepts which, cross-linguistically, modify primary verbs include the following:

(8) (a) Concepts referring to *direction* (like “come”)

(b) Concepts with *aspectual-type meanings* (like progressive or habitual)

(c) And *secondary concepts or verbs* such as *“not”* [negator], *“can”, “should”, “must”, “begin”, “try”, “want”, “hope”, “plan”, “make”, and “help”*.

Many of these secondary concepts are attested in Koshin as lexemes or grammatical items. Some can be realized both as lexical and grammatical concepts. Inversely however, other concepts which are not cross-linguistically included amongst secondary concepts are coded grammatically in Koshin. In this chapter, not all the secondary concepts are examined. More specifically, only secondary concepts which are realized lexically (as verbs or as adverbs) are dealt with. The grammatical items coding secondary concepts are analyzed within grammatical topics.

The first secondary concept to be analyzed is *"go"* (referring to direction, a sub-semantic type of motion). An interesting observation about this concept comes from how the environment can be coded through its semantic organization. More concretely, it is realized that the way the language organizes some (not all) secondary verbs (the same observation can be made about some nouns) is closely linked to the language environment. As a matter of fact, five lexical items have been attested to express the sole action of moving from one place to another. The relevant variables determining the selection of one lexeme instead of the others are: *how far* is the distance and, more interestingly, the *up* or *down* direction of the movement.

(9)(a) kə̄-nē "to go": wù nè kə̀-ntūntū
3PERS.SG go.PRESENT NC-morning
"He/she goes in the morning"
(no distance/height specification is made)

(b) kə̄-gē "to go near": mə̄ gè shɨ̄=mə̄
1PERS.SG go market=ADPOS.
"I go to (inside) the market"

(c) kə̄-lɨ́ yā "to go far": mwə̀n kpɨ̄ kā lìyà- sə́-lə́ mū
person female CONSEC. go-ACT-IMPERF farm
"Then a woman is going to the farm"
(The speaker is at home, far from the farm)

(d) kə̄-yá "to go up": mə̄ yā-lə́ skūl
1PERS.SG go-IMPERF. school
"I am going up to school"

(e) kə̄-shɨ́ "to go down": Pius shɨ̀-gə́ gbɨ̄yà=mə̄
Proper name go.PERF.-GO OUT house=ADPOS.
"Pius is going down away home"

As stated in (9), the verb "go" corresponds to one neutral lexeme (functionally unmarked) used when there is no specification about distance and height (9a), and four functionally marked lexemes (9b-e). It should be mentioned that "*ya*" (9d), and "*shi*" (9e) can also be used as grammatical concepts (Cf chapter on the grammatical modifiers of verbs).

The plurality of items referring to the concept "go" can make somebody ask the following questions: Why is Koshin the way it is? Why is a single action shown by five different lexemes? How is it related to the language environment? In other words, how can the language *disclose* or *unveil* the (cultural and geographical) *environment* through the secondary verb "go"? This is one of the core questions of this work.

The mentioned variables which determine the selection of the lexemes in (9) are characteristic of the Koshin environment. Let us start with the variable "distance". As said in the introductory chapter, what is striking when somebody gets to the Lower Fungom area in general is the habitat, intimately related to the geography of the area. In fact, the different villages are all settled on the top of hills in such a way that any visitor can see any village from far, unless there is a preventing screen of another hill or other hills. Some of our consultants said that the selection of the summits of hills is not casual. It has not only a geographical but also a socio-historical explanation. In remote times, the selection of a mountainous summit as habitat was very strategic because, in case of war with enemies, the mountain can be a useful fortress. That is why the whole village (or more specifically the royal family and therefore the palace) is located, until nowadays, at the summit of the hill. The obvious consequence of the mountainous habitat is that there is no more appropriate place for agricultural activities around the village and the farmers have to go very far. In Koshin context for instance, the demographic pressure has provoked a delocalization-like of the village so that many Koshin people have built houses around their farms, kilometers away from the Koshin city and live there, making more critical the land-related problems with neighboring villages or nomadic breeders. People only come back to the "city" once a week, on the traditional Sunday called *"nsānə̄"*, for meetings, or during special events involving the life of the community. The idea of going far, at any time, for important activities has come to be natural in any Koshin citizen's life so that this idea, and its opposite (going near) have been coded in the language. Two of the favorite object arguments to the verb "go far" are, rightly, "farm" and "bush".

Distance coding in the verb "go" gives another opportunity to examine a different semantic type of sound symbolism. In accordance with what is observed in demonstratives (Cf chapter on demonstratives), the distribution of the vowel sounds can be observed as follows within "go far" and "go near":

(10) (a) Far distance: l**ǐ** yā (**i**-a) "go far"

(b) Close distance: g**ē** (**e**) "go near"

In examples (10), evidence for sound symbolism is not very obvious, but it does exist if these examples are not detached from the rest of the language but rather viewed as part of an *integrated system* where any element is analyzed in comparison with the others. In fact, evidence from demonstratives reveal that, whereas items coding *far distance* always include in their structure *high* vowels, those referring to *close distance* have to exhibit non-high (typically mid) *vowels*. That is exactly the situation depicted in (10), if the vowel *a* is not considered.

Within the articulator apparatus, the distribution of vowels according to their distance coding brings about the following observation: far distance (involving high vowels) corresponds to the high elevation of the body tongue towards the articulation point (the palate of the mouth in (10a)). Inversely, the low elevation of the tongue (expressed by non-high vowels) is related to short distance. It should be noticed that, the preceding observation is a bit parametrical as far as linguistic literature is concerned. In fact, usually, in languages coding distance through symbolic sound, the short versus long distance is quite often shown by front versus back sounds respectively. Why is Koshin different? The specificity of the Koshin geographical environment (where height is a relevant factor) may explain this peculiarity. In fact, as said earlier, the entire Koshin environment is essentially mountainous. It is almost impossible moving without referring to "up" and "down" direction. The area is too hilly so that very often, in order to go up (practically climbing) more easily, people use a long stick as support, mostly when they come back from the bush carrying something which is heavy.

The "up" and "down" coding is very frequent in the language. "Go up" is sometimes used for "climb" (to climb a tree, for instance), whereas "go down" is used for "fall" or "get down".

Moreover, these concepts are also used like grammatical categories, modifying primary verbs as in (11) below:

(11) (a) sə̀ kwà-*yá* bə̀-ntùmə̀
1PERS.PL catch-GO UP NC-fish
"We catch up (we fish) fish"

(b) skūl wə̀ gbɔ̂-sə̄-*shǐ* fə́jɔ́
School DEF collapse.PRESENT- ACT.-GO DOWN down
"The school (the wall of the school) collapses"

Taking into account examples (11), it may be said that the different lexical items referring to "go", mostly those related to "up" and "down" movement, probably had a grammatical origin – whose remnant traces can still be shown in (11)- and then underwent a process of lexicalization which triggers examples (9), due to the frequent use of the morphemic concepts.

The coding of height in the language organization is prevalent in Koshin. Besides the lexical items in (9d-e) and the grammatical concepts in (11), height is also expressed in another class of word presented in (12) below and analyzed in detail later.

(12) (a) Kɔ̄ bə̄ nə̄=*shīn*
Koshin people DEF ADPOS=down
Koshin people of the lower side

(b) Kɔ̄ bə̄ nə̄=*gù*
Koshin people DEF ADPOS=up
Koshin people of the higher side

Examples (12) show items referring to height (in italic form) which are in some way different from those examined in (9) and (11). The item referring to "up" (12b) is completely different from the one in the preceding examples. The word referring to "down" (12b) on the other hand shares much with its preceding forms referring to "down". Moreover, whereas in (9) and (11) the items are heads of predicate and modifiers of verbs respectively, in (12) the italicized items are modifiers of noun within a noun phrase. But they are not adjectives (for instance, they cannot bear the noun class of the noun head), even though they apparently play the same role. These issues are referred to in the part on lexical modifiers of the verb. For the time being, it is enough

knowing that height can be coded in the language by verbs, by a closed grammatical system, or by other lexical class items.

Beside the connection with height coding, the concept "down" is somewhat related to the name of the community. In fact, it is known amongst the Koshin people that, as in many other Cameroonian (and African?) communities, the name "Koshin" (referring to the language, the village or to the community) comes from the noun phrase stated in (12a) above which was given as answer to the question (which place is this?) asked by a white man, probably at the beginning of colonial days.

It has been said in previous lines amongst referential verbs, some -secondary verbs- modify the primary verbs to which they are linked through *complement clause constructions* or *complementation strategies*. Let us say a word about these verbs which make use of complement clause construction.

A complement clause (CoCl in short) is a clause which usually fills a core argument slot in a higher clause. In Koshin, for some verbs (*speaking* verbs for instance), the complement clause can be introduced by the complementizer marker **yə̄ –**as in (5b) considered again in (13a)- and there is no use of secondary verbs. When secondary verbs are used with complement clauses including primary verbs referring to *liking, affect* for instance, the complement clause is introduced by a null morpheme (13b-c).

(13)(a)[wù]A zàmə̀ [yə̄ wə̀ mw-ə̄ ndì] O
3PERS.SG say.PRESENT COMPL. 2PERS.SG drink-DURATIVE water
"He says that you are drinking water"

(b)[mə̄]A fǐyà [ø n-zhǐ bə̄-nǐ] O
1PERS.SG want.PRESENT COMPL 1PERS.SG-eat.PRESENT NC-corn food
"I want to eat corn food"

(c)[wù´]A fə̀-lə̀ [mə̄]O [ø n-sǐsə̀]E
3SG.PROG. do/make-IMPERF 1PERS.SG COMPL 1PERS.SG-laugh.PRESENT
"He is making me laugh"

In the preceding examples, the action the communication is about "eating" (13b) and "laughing" (13c), realized both by the subordinate clauses. The syntactically main verbs ("want" and "make") just give details about how the speakers fulfill the main actions of eating and laughing.

That is why "want" and "make" are considered secondary verbs. In this work, it is assumed that the structures in (13) are instances of complement clause constructions because any clause (whether the main clause or the subordinate clause) has its own subject and its finite form. Of course the subordinate clauses fill core arguments slots within the higher clauses. Interestingly, although both the subject argument of the main and subordinate clauses refer to the same reality as in (13b), the two arguments are fully stated. Furthermore, even though the subordinate clauses are introduced by a null complementizer, they fill the same syntactic role –core argument- as the subordinate clause which is complement of a primary verb (13a).

In (13b), the primary verb ("eat") originally (before the linking of the secondary verb) had *two arguments:* the transitive subject (A) and the transitive object (O). The linking of the secondary verb "want" adds no supplementary argument and the (main) clause remains with *two arguments***.** In literature, such a secondary verb, which can add no argument to the clause structure, is called *secondary-A verb.* In (13c) however, the linking of the secondary verb adds *two arguments,* instead of just one, in order to get three arguments: the transitive argument (A), the object argument (O), and the extended argument (E). This kind of secondary verb which is able to add two arguments is called *secondary-C verb* in literature. If a secondary verb adds only one argument to the structure, it is usually called *secondary-B verb.* Secondary verbs can also modify primary verbs through complementation strategies.

Complementation strategies are syntactic resources used by languages in place of complement clauses. Two main complementation strategies are used in Koshin: *serial verb constructions (SVC) strategies* and *nominalization strategies.* In literature, serial verb constructions usually exhibit the following characteristics (Cf. Dixon 2010a:§3.4) which are similar to what is observed in Koshin:

(14) (i) The predicate of SVC usually includes two or more verbs which can function as predicate head (the secondary verb and the primary verb) each of which could make up a predicate on its own.

(ii) The two verbs of the predicate are conceived as describing a single action

(iii) Because they describe a single action, the components of the SVC have a single subject argument.

The preceding properties can be illustrated by the following examples (some structures irrelevant for the present discussion are not indicated)

(15) (a) [mə̄]A [[mɔ̄mdà] [kə̄-zhɨ̌]] [bə̄-nɨ̌]O
1SG try.PRESENT NC-eat NC-corn food
"I try to eat corn food"

(b) [wù]A [[yátə̀] [mə̄]O [kə̄-nɔ́m]E]
3PERS.SG leave.PRESENT 1PERS.SG NC-work
"He/she lets me work"

It should be noticed, as said earlier that, the main communication in (15) is about "eating" (15a) and "working" (15b). The concepts "try" and "leave/let" only modify the main communication meanings. The serial verb construction in (15a) involves the secondary verb "try" as predicate head, syntactically speaking, and the primary verbs "eat" as complement of the secondary verb. The complement verb is in full infinitive form (the verb root carries the infinitive marker). In (15b), whereas the verb "leave/let" is syntactically the main verb and "work" the subordinate one, the communication is about the verb "work" which is the primary verb and the verb "leave/let" is the secondary verb whose semantic aim is to modify the primary verb meaning. All the examples in (15) are considered instances of serial verb constructions (SVC) because they meet all the characteristics enumerated in (14) above. Other details about serial verbs are given in the chapter on grammatical constructions.

Nominalization strategies (strategies which transform into nouns words from different morpho-syntactic categories) imply, as far as verb nominalization is concerned, the prefixation of a homorganic nasal to the verb root. Then the nominalized verb fills a core argument slot within the main clause, as in (16) below:

(16) (a) mī-mū ŋkàny nzɔ̀ŋə́-lɛ̄
NOM-drink corn beer good-ATTRIB
"Drinking corn beer is good"

(b) n̄-nɔ́m mū = mə̄ fà wù gâ
NOM-work farm-ADPOS give.PRESENT 3PERS.SG corn.NC
"Working in the farm gives him/her corn"

As shown in (16), the nominalized verb fills the subject argument slot within the main verb: it is intransitive subject in (16a) and transitive subject in (16b).

One verb which deserves specific attention is the verb "have". It can be used as referential lexical item (coding possession) or as grammatical category, hence secondary verb, marking modality. The two facets of "have" are analyzed amongst grammatical topics even though some secondary concepts referring to aspectual-type meanings are dealt with in paragraph on adverbs.

In summary, referential verbs in Koshin can be divided into primary (primary-A and Primary-B) and secondary verbs according to the meaning and syntactic behavior of these verbs. A specific stress has been laid on the linking between the Koshin environment and the semantic or phonetic organization of the verbs. Beside referential verbs, there is the relational verb, another type of verb which also deserves attention.

7.1.2.2.2 Relational Verb

There is only one relational verb in Koshin (kə̄-dɔ̀ m "to be"). It establishes relationship between arguments without giving any reference. It is a linking verb, also called copula verb, a kind of linguistic bridge between two partners/core arguments: the copula subject (CS) and the copula complement (CC), without adding any other semantic connection, as in (17).

(17) [wə̄ w-əŋ]CS mɔ̄ [Ousmanou]CC
name CONC-1PERS.SG be.PRESENT proper name
"My name is Ousmanou"

For the moment, the analysis of the structure of the two arguments (CS and CC) in (17) is not in order. What can be handled now are the various morpho-syntactic forms of the copula verb. As a matter of fact, the forms of "to be" vary according to three main grammatical factors:

(18) (a) According the grammatical *tenses* of the clause

(b) The declarative/interrogative versus imperative *mood* of the clause

(c) And the negative or positive *polarity* of the clause.

Practically, the three grammatical factors are intimately fused. A grammatical tense is obviously related to the mood category within one of the two poles of the polarity system. However, for the description clarity, it is better to separate them.

(i) The Copula Verb and the Grammatical Tenses

The copula verb "kə̄-dɔ́`m" (infinitive form) changes the form when the grammatical tense changes. Two plain forms and one null form can be distinguished, corresponding to the present tense, the past tenses and to the future tenses.

(19) (a) mə̄ *mɔ̄* bə́ = fɛ̀ny
1PERS SG be.PRESENT ADPOS.=king
"I am with the king (fon)"

(b) ā nə̄ nyā *ø* fɛ̀ny ŋwāŋ
DEM0 PAST2 PAST3 be king name of the first king of Koshin people
"It was king ŋwāŋ"

(c) wù bə́ kə̄ *dɔ̂m*-lə̀ fɛ̀ny w-ī̂
3PERS SG FUT.2 FUT.1 be-IMPERF. king CONC-1PERS.PL
"He will be our king"

As shown in (19), the copula verb forms are *mɔ̄* for the present tense (19a), *dɔ̂m* for the future tense (19c), and the null form *ø* for the past tenses (19b). But the forms in (19) will not be the same if the mood factor is included.

(ii) The Copula Verb and Mood Parameter

Besides the syntactic the structure, any clause displays a practical or pragmatic meaning included in its structure. This pragmatic meaning determines the type of speech act the clause belongs to. Confusing words are used in literature to refer to this phenomenon. Sometimes it is referred to as *modality*, sometimes *mood.* In this work, following Dixon (2010a: 95), one of the most representative author of Basic Linguistic Theory, the pragmatic aspect of the clause refers to its mood. In fact, in this work, mood refers to the declarative, interrogative, and imperative features of a clause corresponding to the *statement, question, and command* speech acts respectively. Modality is another grammatical category which will be dealt with in grammatical topics. All the examples in (19) refer to the declarative mood because they express a statement act.

The copula verb will have the same forms if examples (19) are put in the interrogative mood. In other words, the language put declarative and interrogative moods in one set. However, the form of the verb will change a bit if the copula verb is used in the imperative mood. A

question to ask is: which one of the forms *dɔ̂m*, *mɔ̄* and *ø* in (19) corresponds to the imperative mood of "to be"? Examples (20) give an answer to this question. The structure of the NP "my friend" is not given, because it is not relevant for the present analysis.

(20) (a) *dɔ̂m* nsɨ̄-ŋ- k-ə̀ŋ
be.IMPER.2SG (friend my)
"Be my friend"

(b) *dɔ̂m* fə́jɔ́
be.IMPER.2PERS.SG down
"Sit down"

In fact, the only form used in imperative is *dɔ̂m*. Furthermore, "be" can refer to the meaning of the *position* verb "sit down", when it is followed by the adverb "down", tending towards a referential verb. However, it should be noticed that it is not "be" on its own which gives the positional meaning because, as a recall, it is a mere relational verb. It is the adverb which conveys the meaning "sit down", a static position very compatible with "be" sometimes called *state verb* (contrasting with *action verbs*).

Observations from (19-20) reveal that *dɔ̂m* is the functionally unmarked form of "be", because it is the most frequently used form of the verb "be": it occurs in the infinitive form, in the future tense and in the imperative form. Now, what are the polarity-conditioned forms of "be"?

(iii) Polarity and Copula Verb

The last, but not the least factor determining the various forms of "be" is polarity as shown in (21).

(21)(a)(i) ndì mɔ̄ lə̀ (b)(i) ndì bə̀ kə̄
Water be.PRESENT there water be.PRESENT.NEG NEG
"There is water" "There is not water"

(ii) mə̄ yə́ ø bwā (ii) mə̄ *kɛ̄(sə̄)* bwā
1PERS.SG PAST1 be tiredness 1PERSSG be.PAST1.NEG tiredness
"I am tired" "I am not tired"

(iii) wù nə̄ nyā ø fə̀ny (iii) wù nə̄ nyā bə̀ kə̄ fə̀ny
3SG PAST2 PAST3 king 3SG PAST2 PAST3 be.NEG NEG king
"He was (the) king" "He was not (the) king"

(iv) wə́ bə́ kə̄ dɔ̂m kpɨ̂ ŋ-k-ə̀ŋ
2SG FUT2 FUT1 be.FUT(my wife)
"You will be my wife"

(iv) wə́ bə́ kə̄ *dɔ̂m* kə̄ kpɨ̂ ŋ-k-ə̀ŋ
2SG FUT2 FUT1 be NEG(my wife)
"You will not be my wife"

(v) dɔ̂m kpɨ̂ -ŋ-k-ə̀ŋ
be.IMP.2PERS.SG. (my wife)
"Be my wife"

(v) *mà(fyə̄)* wə̀ *dɔ̂m* kpɨ̂ ŋ-k-ə̀ŋ
NEG.IMPER. 2SG be.IMPER. (my wife)
"Do not be my wife"

Examples (21) compare affirmative forms (21a) to negative forms (21b) of the copula verb. The structure of the NP "my wife" in (21iv-v) is not given here. They show that the passing from affirmative to negative automatically entails morphological modification except for the future (19iv) where there is just a juxtaposition of the negative particle after the affirmative form of "be" (In present tense, however, forms with *copula + negative particle* may alternate with the form *bə̀ kə̄* attested in (21i). Besides the morphological modification triggered by the polarity change, it is interesting to note various portmanteau realizations involving the negative form of "be". In (21ii) for instance, the single form *kɛ̄ (sə̄)* – the reduced optional form is *kɛ̄-* includes "be" form, past1 marker, and the negative particle.

In summary, the language has one relational verb -which usually links a copula subject and a copula complement- and a large range of referential verbs divided into primary and secondary types. Whereas the copula verb exhibits various morphological forms depending on the grammatical categories of polarity, mood, and tenses, the most important characteristic of referential verbs is that they are organized into semantic types corresponding to specific syntactic behaviors. The semantic and morpho-phonological organizations of verbs are in some way related to the socio-cultural environment of the community. But verbs have another relevant feature which specifies them: their transitivity.

7.1.2.2 Type of Transitivity

In this paragraph, the syntactic behavior of the verbs is emphasized. More concretely, the types of referential verbs are analyzed according to the number of arguments they require in a clause. Copula arguments are also concerned in this paragraph even though they are not central to transitivity matters. But first of all, the *syntactic marking* (it is discussed in detail in the chapter on case system markers) of the clause arguments is analyzed although it is somewhat a

digression, as far as our methodological line (analyzing grammatical elements in the section dedicated to grammatical topics) is concerned.

Core argument marking is the mostly mentioned one. Peripheral arguments marking is examined in complex sentence structure under the grammatical constructions. Core arguments are arguments which must be stated or understood because they are *required* by the predicate head in order to convey a complete meaning. These arguments (which have been already alluded to) are mainly: the intransitive subject (S), the transitive subject (A), the copula subject (CS), the extended core arguments (E), and the copula complement (CC). The above abbreviations are mere indications. They could have been referred to as A, B, C, D, etc.

Koshin is a strong nominative-accusative language; that is, the subject arguments (transitive subject, intransitive subject, copula verb subject) are marked in the same way, on the one hand, and the object is marked in a different way, on the other hand. For the clarity of explanation, it is thought necessary to separate the subject of transitive verbs from the subject of the intransitive ones, because in some cases the two subjects exhibit different syntactic criteria. For instance, it is the transitive subject (but not the intransitive subject) which is involved in passive construction. And both the transitive and intransitive subjects are obviously different from the copula subject. For example, the presentative particle can be CS but not S/A argument. The main argument-marking criterion in Koshin is the *constituent order* (different from word order which is more relevant within a phrasal structure). This constituent order is the following: *Subject- Predicate- Object* as in almost all the clauses analyzed thus far and again in (22).

(22) [mə̄]A zhì [bə̄-nɨ̄]O
1PERS.SG eat.PRESENT NC-corn food
"I eat corn food"

In this example, the predicate head requires two arguments: one which displays the activity of "eating" (A argument realized through a pronoun) and another which undergoes the action of "eating" (O argument realized through an NP whose head is "food". And the A argument comes first, followed by the predicate, and then the O argument. Identifying an argument is not just limited to a surface procedure. Underlying strategies accompany the superficial marking. For instance, along with the constituent order marking, in passive construction (in chapter on grammatical constructions), the passive subject (the erstwhile O argument) always comes before

the predicate and the agent complement (the former A argument). As it can be seen, the constituent order is so strictly respected in such a way that it is not too difficult to identify what is the subject and what is the object and in case of clausal transformation triggering some twist to this canonical order, special marking has to show that there has been a movement.

After S, A, CS, and O arguments whose marking can straightforwardly be identified through constituent order marking, other types of core arguments are marked in a bit different way: the extended core arguments (E). The extended intransitive (it is the object argument used with intransitive verbs and then it is marked in the same way as canonical O) should be distinguished from the extended transitive (also abbreviated as E, it is an extension to the O argument in transitive clauses).

(23) (a) [mə̄]S dà
1PERS.SG see.PRESENT
"I (can) see"

(b) [mə̄]S dà [Ju]**E**
1PERS.SG see.PRESENT proper name
"I see Ju"

(c) [mə̄]A fà [Ju]O [**bə́ = ndì**]**E** (comitative)
1PERS.SG give.PRESENT proper name ADPOS=water
"I give Ju (some) water"

As stated in (23a), the attention verb "see" is a canonical intransitive verb which *may* not need an O argument to convey a full meaning. However, the communication need can make the speaker join an argument to "see" as in (23b), transforming an originally intransitive verb into a contextual transitive verb, *requiring* an O. In literature, this kind of verb is called *ambitransitive verb* (of type S=A as seen afterwards). The O argument joined to that originally intransitive is interpreted as an extension (hence E). The same analysis fits for example (23c) where the naturally transitive verb "give" can no longer convey a full meaning in this context. An extension to the O argument is required to get a complete meaning. In fact, "I give Ju", unless an extension is implicitly understood in the context, is meaningless. Therefore, an E argument is added to O. E.T (extended transitive) can be the complete denomination. What is different between the E argument in (23a) and the E argument in (23c) is the difference in making strategy. Whereas the extended intransitive is marked like a simple O, the extended transitive argument requires an

adposition to mark the function, because the constituent order strategy is no longer sufficient. The adposition used in (23c) has a *comitative* value. The clause in (23c) is literally interpreted as "I have accompanied Ju with water".

With regard to transitivity, two main types can be distinguished: *transitive* and *intransitive* verbs (if copula verbs are put aside). As said many times in this work, adjectives can also be head of an intransitive predicate. However, this unfamiliar situation is not discussed in this paragraph. Therefore, taking into account all the details, the two main types of verbs can still be divided into *intransitive, transitive, ambitransitive, and ditransitive.*

The intransitive verbs are those which require only one argument (the intransitive subject S). Some are strictly intransitive. It is the case of some *motion* verbs such as "go" analyzed in previous paragraphs. When these verbs are in imperfect aspect they often carry a particle referring to motion, to action (ACT) (the particle *–sə́*).

Others are intransitive but they can admit O arguments. Attention verbs like "see" in (23a) are of this set. Transitive verbs, as said above, require two arguments (A and O). Some verbs like "eat" in (22) are naturally transitive by virtue of their reference, but they can be used in an intransitive context, without O. When an intransitive verb is used transitively and vice versa, it is called *ambitransitive* (it is alternatively called *labile* verb in literature)**.** The type of ambitransitivity attested in Koshin is the type A=S (meaning a transitive verb can be used intransitively or an intransitive verb is used transitively). It is another syntactic criterion reinforcing the nominative-accusative strength of the language. Concerning ditransitive verbs, they are transitive verbs which add an extension to the O argument, yielding three core arguments. It is the specificity of giving verbs, for instance, as exemplified in (23c).

Before putting an end to this paragraph, it should be outlined that, in copula clauses, the copula subject and the copula complement are as indispensable as the A, S, O, and E arguments are for referential verbs. Hence, they have to be treated as core arguments. Quite often, the core arguments are NPs, pronouns, or a subordinated complement clause. However, some adverbs can sometimes fulfill the same role, as seen from the example in (20b) and once more considered in (24).

(24) (a) *dɔ̂m* fə́jɔ́
be.IMPER.2SG down
"Sit down"

(b) *dɔ̂m*
be.IMPER.2SG
*"Sit down"

The copula complement function is fulfilled by an adverb and the clause in (24) is meaningless without this adverb. It is now time to analyze some of the relevant morphological processes applying to verbs.

7.1.3 Morphological Processes

Four morphological processes have been attested for verbs: affixation, tone change, and subtraction.

7.1.3.1 Affixation

Two types of affixation processes can be distinguished. The first type gives an additional value to the verb root (i) and the second one has a category-changing effect on verbs (ii).

7.1.3.1.1 Affixation with Additional Value

Instances of prefixation and suffixation are attested. No instance of circumfixation has been noticed.

(25)	(a)	kə̄- mū	(b)	mə̄	mw-ə̄-lɛ́	mbɨ̌
		NC-drink		1PERS.SG	drink-DURATIVE-IMPERF	wine
		"To drink"		"I am drinking wine"		

In the above examples, the root verb undergoes a process of prefixation (25a) (where the class prefix/the infinitive marker is joined to the root), and a double process of suffixation (a durative marker is joined to the root, and later, the imperfect aspect. In the language, the aspect marker is joined by suffixation as in (25b), but tense particles come to the left of the root (although they are not necessarily bound to it and then there is not affixation in that case).

7.1.3.1.2 Changing-category Affixation

This type of affixation derives nouns and adjectives from verbs. Only one instance of this kind of affixation is shown in (26): an affixation which nominalizes a verb. Below, NOM stands for nominalizer.

(26) (a) n̄-zhɨ̄ ntùmə̀ nzɔ̄ŋ́ə-lɛ̄
NOM-eat fish good-ATTRIB.
"Eating fish is delicious"

(b) m̄-mū ŋkàyn cɨ̀nə́ mə̄
NOM-drink corn beer make fell drunk 1PERS.SG
"Drinking corn beer makes me feel drunk"

(c) wù kɔ̀ŋə̄ kə̄ ŋ̄-wā bə̄-sē
3PERS.SG like.PRESENT NEG NOM-wash NC-clothes
"He/she does not like to wash clothes"

Let us recall that, as said previously, infinitive form is usually the noun facet of the verb, and as such, it can fill the NP slot without specific morphological process. But the forms in (26a-c) are not simple nominalization processes because they trigger, additionally, the meaning of a "process-being-realized", unlike the infinitive form which conveys only the meaning "eat", "drink", and "wash". The nominalization process consists in prefixing a homorganic nasal (once more) to the root. Likewise, the prefixed nasal consonant and the following root consonant share the same point of articulation. This is why the nasal nominalizer morpheme is realized coronal (26a), labial (26b) or dorsal (26c) depending on the phonetic nature of the first consonant of the root. This is straightforwardly accounted for by the Feature Geometry Theory through the only propagation of the place articulator of the root consonant towards the nasal which had no place of articulation specification. Moreover, it is worth noting that the homorganic nasal carries a tone and is then syllabic nucleus.

7.1.3.2 Tone Change

In the verb subsystem, tone change process is usually related to tense. For instance, as observed in (27) below, the verb tone changes when the verb tense changes. In the present tense (27a), the verb carries a low tone. But in the future 1 tense, the tone is mid.

(27) (a) mə̄ mù mbɨ̌
1PERS.SG drink.PRESENT wine
I drink wine.

(b) mə̄ kə̄ mū mbɨ́
1PERS.SG FUT1 drink wine
I will drink wine (very soon).

As analyzed in the section on grammatical topics, the verb very often bears a low tone in the present tense irrespective of the infinitive tone it has. Therefore, tone change in verbs carries a grammatical function, as it has been observed in some contexts for nouns.

7.1.3.4 Subtraction

As observed in noun processes, the subtraction process deletes one or two segments within the root. Within the verb class, this process has two natures: a grammatical nature and a lexical nature.

(28)(a) mə̄ wú *dìn*
1SG PROG. come.IMPERF
"I am coming"

(a') *dî* bə́ = ndì
come.PERF 2SG ADPOS=water
"Come with water"

(b) mə̄ bə́ *tāŋə́* mî m-ə̄ŋ shî Sànyèrè = mə̄
1PERS.SG FUT2 sell oil CONC-1PERS.SG market name of place=ADPOS
"I will sell my oil at Sanyere market"

(b') mə̄ fĩyá mə̄ *tāŋ* sàvɔ̄ŋ
1PERS.SG want.PRESENT 1PERS.SG buy soap
"I want to buy soap"

(c) ŋwə̄léfə̄, mə̄ né *bāŋə̀* bə́ = Tchenkou
Yesterday, 1PERS.SG PAST2 meet ADPOS=proper name
"Yesterday, I mate Tchenkou"

(c') gbî j-ə̄ wə̀ *bāŋ* kə̄ w-à
Cold eat-DURATIVE 2PERS.SG cover.IMPER head CONC-2PERS.SG
"You are cold. Cover your head"

The only instances of lexical reduction that have been attested are in the pairs "sell" (28b) versus "buy" (28b') and "meet" (28c) versus "cover" (28c'). Maybe other examples are attested. However, a few examples of verbs undergoing grammatical reduction are attested. One can mention, amongst other examples, "come" and "go". The reduced form in these verbs always refers to the perfect aspect form, as shown in (28a) with "come" whereas the non-reduced form refers to the imperfect aspect.

In summary, verbs form a lexical class attested in Koshin and they are characterized by some defining criteria. They can be classified according to their meaning or according to their transitivity value. They also undergo some morphological processes on a par with nouns. As head of predicate, verbs are modified by many items. Almost all those items are grammatical and are examined in the section on grammatical topics. But there is nevertheless one type of verb

modifiers which can include lexical items: adverbs. It is now time to see how these verb lexical items are organized.

7.2 Lexical Modifiers of the Verb

As in many other languages, adverbs in Koshin modify the meaning of the verb. They constitute a minor word class with not many members. They also constitute the only verb modifying class which includes lexical items. Except through specific morphological processes, the other lexical classes discussed previously are not supposed to modify the verb meaning. Some adverbial concepts, which are not analyzed in this paragraph, are realized through an affix (bound to the verb root or verb stem) or through clitics (forms which in their properties, constitute a grammatical word, hence autonomous in some way, but not independent because they lean a contiguous phonological word).

Syntactically, lexical adverbs are head of the adverb phrase (AdvP) and may be modified by another adverbial concept within the adverb phrase. Semantically, the attested lexical adverbs of the language can be divided into spatial setters and non-spatial setters.

7.2.1 Spatial-setting Adverbs

Amongst the spatial-setting adverbs are demonstrative adverbs (they usually represent spaces you can point to or a known space you can allude to).The full range of demonstratives is analyzed in grammatical section. Adverbial demonstratives are exceptionally examined in this section.

(29)(a) dǐ *fɔ̄ŋ*
Come.IMPER.2SG here
"Come here"

(b) bə̀-fǐ mɔ̀ *fūny*
NC-pig be.PRESENT there (a bit far)
"Pigs are there"

In (29), the two adverbs (in italic form) modify the verb "come" and give a spatial reference about the copula subject through the copula verb "be". Furthermore, it should be outlined that, "here" and "there" have almost similar segmental forms except their vowels. As a matter of fact, on a par with sound symbolism discussed in referential verbs, and in demonstratives

(grammatical categories), far distance is resolutely related to high vowel and near distance implies mid vowels.

Other spatial-setting adverbs add a directional meaning to the action expressed by the predicate head, without any pointing reference.

(30)(a) mə̄ yà:-sə́ *zúny gù*
1PERS.SG go (up).IMPERF.PROG-ACT UP. up
"I am going further up"

(b) sə̀ gbà tsāŋ́ə́ *fə́jɔ́*
1PERS.PL cut.PRESENT bunch of palm nut down(and static)
"We cut down a bunch of palm nut"

(c) mə̀n kà:-sə́ *fwɔ̀*
2PERS.PL move-IMPERF.ACT . outside
"You (plural) are leaving"

As stated in (30), adverbs (in italics) modify the verb by adding a direction reference (up, down, or outside). In (30a), two items constitutes the adverb phrase: the head "up" and another adverb marking superiority (SUP.) which modifies the head.

7.2.2 Non-Spatial-Setting Adverbs

Many adverbial concepts of non-spatial-reference are coded through grammatical items. However, a few lexemes do exist, some of which are exemplified in (31) below, and refer to *time* and *quantity*:

(31) (a) ndì mɔ̄ *lə̀*
water be.PRESENT there (available)
"There is water (water is available)"

(b) sə̀ fə̀-lɛ̄ *wēny*
1PERS PL do-IMPERF now
"We do it now"

(c) mə̄ jì *kpə́n* kə̄
1PERS.SG eat.PAST1 enough NEG
"I have not eaten enough"

Whereas examples (31a-b) exhibit a temporal reference, (31c) refers to quantity. In the latter example, it can be realized that in negative clause, the adverb comes before the negative marker (NEG). As examined in detail in grammatical constructions, the negative marker shows the end

of the verb phrase (VP) structure. In other words, all the elements preceding the negative marker (the last negative particle, because when tense markers are used, negation is realized through two particles) are within the VP domain.

Adverbs, like other lexical items can undergo a morphological process. The only identified type of morphological process applying to adverbs is affixation. It produces a derivation whose objective is to "desadverbialize" the adverb as in (32) below (ADJ. stands for adjectivizer morpheme)

(32)(a) kə́ nə̄-*dīm* -kɔ̀ nə̄-*mə̄* -kɔ̀ nə̄-*zhīm*
Head ADJ-back hand ADJ-in hand ADJ-out
Nape of the neck palm back (of the hand)

(b)(i)-kɔ̄ bə̀ nə̄-*shīn*
Koshin DEF ADJ-down/low
Koshin people of the lower side

(ii)-mə̄ shǐy-sə́ nə̄-*shīn*
1PERS.SG go down.IMPERF.PROG-ACT ADJ-down/low
I am going down (within Koshin community)

(iii)-mə̄ shǐy-sə́ *shīn*
1PERS.SG go (down) IMPERF.PROG-ACT down/low
I am going down (outside Koshin community, to Nigeria)

In (32a) for instance, the affixation process makes it possible for the adverbs "back", "in" and "out" to modify the NP head through the adjectivizer particule. This analysis is consistent with the example in (32bi) where it is not possible for an adverb to modify a noun unless through adjectivization. The example (32bii) is a bit different: the adverb is (apparently) in its canonical syntactic function, but it requires the adjectivizer morpheme. The adverbial nature of this adverb may turn to be questionable in such circumstances. Fortunately, careful analysis helps to show that the adverb phrase of (32bii) does not modify directly the verb, but an elliptical NP which can be reconstructed in example (32bi). This analysis gains credibility in (32biii) where the alluded adverb modifies directly the verb and, interestingly, carries a meaning which is different from the meaning of the adverb modifying an elliptical NP.

Another observation is in order: the lexical status of some adverbs is sometimes very relative and unsteady.

(33)(a) kɔ̄̀ nə̄-*mə̄*
hand ADJ-in
"palm (of the hand)"

(b) sə̀ fyə̄nə̀ tsāŋ kás = *mə̄*
1PERS.PL stir.PRESENT palm nuts cooking pot=ADPOS
"We stir palm nuts in the cooking pot"

In fact, some adverbs are mere adpositions in other context, with the same semantic value nevertheless. As stated in (33), "in" can be realized as a lexical item, head of an adverb phrase as in (33a), requiring an adposition in order to modify the NP head "hand". The same concept can be coded as a grammatical category, as an adposition, which marks the syntactic function of the NP as in (33b). Probably, adverbs (at least some of them) are undergoing an instance of grammaticalization (of lexical items) because, often, they behave more like affixes/clitics than lexemes.

Finally, verbs form a specific lexical class with specific grammatical properties which distinguish them from other lexical classes such as nouns or adjectives. As head of predicate, it may be modified by adverbs which form another lexical class which share lots of properties with grammatical items but which do exist as lexical items, even if they are not numerous. Nouns, adjectives, verbs and adverbs make up the lexicon of the system. Besides this lexicon there is another important component of the language, the grammatical component, which is dealt with in the following section.

SECTION III

GRAMMATICAL SYSTEMS AND MARKERS OF SYNTACTIC FUNCTIONS.

A language may looks like a building whose different rooms are harmoniously linked to one another. Each room is useful, but it is still more useful when linked to the others for instance by corridors and/or stairs (if many floors are involved), because alone, the room cannot satisfy the full desire of the householder. Without those corridors, they cannot go from one room to another. Sometimes, an activity (say eating) can be realized more suitably in a specific room (say the kitchen) but it can also be tolerated in another room (bedroom, for example) provided special readjustments (say, putting a table in the bedroom) are fulfilled (to make the bedroom looks like a kitchen).

It goes without saying that it is far from being the same reality, but the lexical classes analyzed in the preceding section may be regarded as rooms of the building. To a certain extent, the different types of connection between these rooms (corridors, stairs, pipes, electric cords, telephone cords, etc.) may look like grammatical categories and grammatical constructions because while it is possible to put a large range of more or less similar objects in a specific room, the number of the connection types between rooms is strictly limited as just the grammatical categories and constructions are limited (unless in case of repair, water pipes in the same building are no longer needed, as soon as they have been installed by the plumber in the first time). In the rest of this work, grammatical topics are analyzed. More specifically in this section which is the longest of the thesis, only the grammatical systems (noun class system, pronouns, demonstratives, indefiniteness, and interrogatives) and the markers of syntactic functions are discussed.

CHAPTER 8

THE NOUN CLASS SYSTEM

Amongst the grammatical determiners of the noun in any Bantu or Bantu-like language, the noun class system is of paramount importance. In Koshin (and probably in many other languages with noun class system), all the lexical and grammatical modifiers of the noun are often morphologically determined by the noun class system. They may usually be preceded by the concord marker conditioned by the noun class of the NP head. For that reason, it seems methodologically better to examine first the functioning of the class system before any other grammatical system.

The chapter is organized as follows: the noun class morphemes (the class prefixes and the concord markers) are discussed as the first articulation of the chapter. And secondly, the pairing process (genders) of the attested classes is studied.

8.1 The Noun Classes and their Illustrative Affixes

First of all, some criteria which prove the contrastive value of noun classes in Koshin have to be stated. Some pieces of evidence show that Koshin is a language with noun class system and that the noun classes of this grammatical system have a contrastive value because of the following morpho-syntactic characteristics based on Hedinger's (1980: 2) criteria.

(1) (a) Nouns usually carry a prefix (overt or covert) which, theoretically, puts the noun root inside a semantic type. However, as said earlier, this semantic classification is not always respected.
    (b) Concording constraints are observed within or beyond the NP between the NP head and its modifiers.
    (c) Some noun classes (the countable ones) can be paired into singular and plural; but for others (the uncountable) the singular versus plural dichotomy is irrelevant.

The criteria presented above allow us to postulate the existence of noun classes in Koshin. The traditional numbering system adopted in literature is used to give a figure to each class. The infinitive class (which can be added to any verb root in infinitive form) and the discontinuous diminutive marker (which can also apply to any noun root and which is different from the non-discontinuous diminutive noun class) are not included amongst the noun classes.

For a better presentation of the attested classes, comparisons are made between each hypothesized class in Koshin and the reconstructed Proto-Bantu (*PB) and Proto-Beboid (*PBb) which the Koshin class is supposed to derive from. Comparisons with the noun classes postulated by previous works are also made, mostly when there are divergent assumptions.

The Proto-Bantu noun classes set referred to in the analysis is based on the synthesis of three texts: *Introduction to the phonology of Bantu languages* of Meinhoff (1932 reproduced in 1984), Bantu grammatical reconstructions of Meeussen (1967), and Bantu of Hinnebusch (1989). This synthesis can be found in *A comparative study of Bantu noun classes* of Maho (1999:51).

On the other hand, for the Proto-Beboid reconstructions, the analysis mainly refers to Hombert's 1980 article (Noun classes of the Beboid languages). The article of J. Good et al. 2011, (The languages of the Lower Fungom region of Cameroon: Grammatical overview) is also mentioned from time to time. Whenever necessary, the postulated hypotheses are compared to those of Hombert and J.Good et al. in order to see the strengths and weaknesses of each proposal. The concord markers of Proto-Bantu (*PB) are not indicated. Those of Koshin and Proto-Beboid (*PBb) are shown in parentheses. Koshin concords presented below refer to those which are used with the definite morpheme or with pronouns (in possessive constructions) because these constructions disclose better some processes which cannot be seen when the concord morpheme is used within a different construction. The presence versus absence of the schwa in the concord allomorphs usually depends respectively on the consonant versus vowel nature of the initial segment of the noun modifier. It was not found necessary to add examples with the schwa form even though it is attested. Now, the attested noun classes are presented below.

8.1.1 Class 1: **ø-** or **w(v)-**

Koshin Class prefix: ø-/w(v)-; Concord marker: (wə̀-); *PBb class prefix: *u-; concord marker: (*wə̀-); *PB class prefix: *mù-

(2) (a)	**Noun**	**your +noun**		**the +noun**		**gloss**
	mbɔ̀ŋ	mbɔ̀ŋ	w-ā	mbɔ̀ŋ	w-ə̀	"cow"
	ntùmə̀	ntùmə̀	w-ā	ntùmə̀	w-ə̀	"fish"
(b)	kpɨ̀ (bə̀-kɨ̀)	kpɨ̀-	ŋ-w-à	kpɨ̀	w-ə̀	"wife"
	w-ã̀ (b-ã̀)	wā	ŋ-w-à	wã̀	w-ə̀	"son"
	kpɔ̄ (bə̀-kɔ̄)	kpɔ̄	w-à	kpɔ̄	w-ə̀	"Koshin man"

(c)	nsɨ̃	nsɨ	ŋ-w-à	nsɨ̃	w-ə	“friend”
	mwən (bə-nɪ̂)	mwən	w-ā	mwən	w-ə	“person”

It is postulated that examples (2) show nouns which belong to class 1 prefix, even though this class prefix is realized as a null morpheme. This null morpheme is interpreted as the reflex of the *PB class 1 prefix (*mù-) because, amongst other reasons, not only examples (2) refer mostly (but not only) to humans, but also because the Koshin concord marker is realized as the labio-dorsal glide *w*- (2a).

Previous works also identified the same null prefix for this class. A third reason why nouns in (2) are postulated to belong to class 1 is that their concord marker carries a low tone (2b-c). In fact, it is usually said in literature that the tone of (the concord marker of) class 1 nouns is low in almost all the Grassfields languages and their close relatives.

However, it should be observed that some nouns of the preceding examples exhibit a concord marker with a non-low tone (2a second column). Curiously, the same nouns show a concord marker with a low tone in another context (2a third column). It seems as if this alternation varies from speaker to speaker and its predictability is not firmly established. This situation weakens more the few similarities which exist between the Narrow-Bantu and the Koshin language because, as mentioned above, the low tone in class 1 is supposed to be basically common to both Bantu and non-Bantu languages.

Furthermore, there is something which, unlike the ambiguous status of the low tone in class 1, strengthens the genetic relationship hypothesis between the Koshin examples in (2) and the *PB class 1 prefix. More concretely, as said in the chapter on noun structure, it is realized that some class 1 nouns in (2b-c) exhibit a nasal consonant in their concord markers. It has been assumed in other parts of this work that this nasal consonant is related, in one way or another, to the concept of “humanity” (because it occurs only in nouns referring to humans). As the *PB noun class prefix is hypothesized to be **mu*-, it will not be too strange to assume in this work that the nasal consonant occurring in the concord marker of some class 1 nouns is a relic form, reminiscent of the nasal consonant hypothesized in *PB class 1 prefix.

Moreover, it can be postulated that, for some items such as “friend” in (2c), the trace of the *PB class prefix is even visible in the root, after a probable process of lexicalization or fusion

between the former class prefix and the root. This tentative hypothesis may become more serious if the same item (friend) is considered in a closely related language like Aghem (Hyman (ed) 1979:222), where the item "friend" is glossed "**fɨn**" (then, it can be seen that, unlike what happens in Koshin, the process of lexicalization did not take place and there is no nasal consonant at the beginning of the word).

If the assumption of the null class prefix is globally sustainable in the preceding examples, the data in (2b) seem somewhat intriguing, mostly when the singular forms are compared to the plural forms (in parentheses). As discussed in the section on phonology, the analysis assumes that the class prefix in the words "wife" or "Koshin man" is *w(v)*-. The first consonant of the noun root undergoes a process of coalescence with the still active class prefix. The resulting process is the labialization of the first consonant of the root. Therefore, besides the null class prefix, an overt prefix has to be postulated for class 1 prefix in Koshin.

This analysis shows some divergences with respect to the previous works which all postulated only the existence of the null morpheme as the class 1 prefix. In the same vein, it is worth emphasizing that Hombert (1980) and J. Good et al. (2011) did not notice the nasal process (amongst other processes) applying to the concord, probably because they did not pay attention to (all the) possessive constructions like those stated in (2).

8.1.2 Class 2: bə-

Koshin class prefix: bə-; concord marker: (b(ə)ˊ-), (b^{w}ˊ-); *PBb class prefix: *ba- ; concord marker: (*ɓ-) *PB class class prefix: *ßà-

(3) (a)	**Noun**	**your +noun**		**the +noun**		**gloss**
	b-ã̃	b-ã̃	b-w-á	b-āny	b-ə́	"children"
	bə̀-kɨ̄	bə̀-kɨ̄	b-w-á	bə̀-kɨ̄	b-ə́	"wives"
	bə̀-nɔ̄	bə̀-nɔ̄	b-w-á	bə̀-nɔ̄	b-ə́	"husbands"
	bə̀-nɪ̄ˋ	bə̀-nɪ̄ˋ	b-wá	bə̀-nɪ̄ˋ	b-ə́	"persons"
(b)	bə̀-mbɔ̀ŋ	bə̀-mbɔ̀ŋ	b-w-á	bə̀-mbɔ̀ŋ	b-ə́	"cows"
	bə̀-ntùmə̀	bə̀-ntùmə̀	b-w-á	bə̀-ntùmə̀	b-ə́	"fish (plural)"

The class 2 prefix is the plural to class 1 words. It is another argument (beside the concord marker) for classifying the data (2) in class 1, because these data build their plural as in (3), with

the class prefix **bə-**, which is almost identical to the *PB form. Previous works identified the same prefix. However, none noticed the labio-dorsal glide on the concord marker. As postulated in the chapter on nouns, this glide refers to "humans" and is interpreted as a floating prosodic element in the underlying form of the noun root. It emerges with the concord marker in possessive constructions like those in (3). It is worth mentioning that some nouns of class 1 (mostly noun referring to humans) have different roots for the singular and plural form, although the prefix class is regular. This process is referred to as internal change in this work. In the same vein, the item "friend" unlike the other nouns of this class, does not form its plural in class 2.

8.1.3 Class 3: /^{w}/- or ø -

Koshin class prefix : /^{w}/- or ø-; concord marker: (ẃ -); *PBb class prefix :*u-; concord marker: (*ẃ-); *PB class prefix: *mù-

(4) (a)	**Noun**	**your +noun**	**the +noun**	**gloss**
	gbɨ̀yà	gbɨ̀yà w-á	gbɨ̀yà w -ə́	"house"
	kpɨ̀n	kpɨ̀n w-á	kpɨ̀n w- ə́	"wood"
	mū	mū w-á	mū w-ə́	"farm"
	wə̄	wə̄ w-á	wə̄ w-ə́	"name"
(b)	tàŋ	tàŋ w-á	tàŋ w-ə́	"leg"
	kū	kū w-á	kū w-ə́	"village"
	bɨ̀	bɨ̀ w-á	bɨ̀ w-ə́	"cutlass"

Class 3 is a singular class. In Koshin it is realized by two morphemic elements: the labialization prosody (4a) on the initial root consonant, and by a null prefix (4b). The two sub-sets of nouns form their plural in different classes: whereas the data in (4a) form their plural in class 4, the nouns in (4b) are classified within class 13 for the plural number. In (4a), the influence of the labialization prosody is better appreciated when compared to the palatalization effect in class 4. Preceding reflections on Koshin have all postulated the existence of class 3 prefix. However, all these reflections merely mentioned the labialization without alluding to the alternant null morpheme. Nevertheless, Hombert (1980) also postulated a class 3 morpheme with plural form in class 13 without saying how this is realized and therefore probably insinuating that this prefix is still the labialization prosody (4a). But, as seen in the following lines, the labialized roots of (4a) do not form their plural in class 13. It is believed that this null prefix can be regarded as an alternative realization of class 3 because of some reasons:

(5) (a) -The nouns in (4a) and (4b) exhibit the same concord, both tonologically and non-tonologically.

(b) -The concord marker is realized *w*-, as with class 1 nouns, but this concord is tonologically different because it is *always* realized non-low, unlike class1concord which is *sometimes* realized low. Therefore examples (4b) cannot be included within the class 1 set.

(c) -Besides the tonal difference, nouns in (4b) are also different from class 1 nouns because of their plural prefix which is completely different from the plural prefix of class 1 nouns.

(d) -Finally, the concordial marker in (4) is more or less similar to the *PB class 3 prefix and most of the words of this class are inanimates, inanimacy being one of the defining criteria of the *PB class 3.

The fact that one noun class is realized by more than one prefixal form is not surprising: in examples (2) above, it is noted that some words of class 1 are marked by the prefix *w(v)*- (wife) and the majority by a null morpheme.

It is now time to present one of the dissents between this work and what has been said about Koshin, as far as noun class system is concerned: the existence of class 5 in place of the class 3 class postulated in this work for the nouns in (4b). In fact, for Hombert (1980) and J. Good et al. (2011), the nouns classified in class 3 (examples 4b) are rather in class 5 (part of them are in class 5 for the first author, all of them are in class 5 for the others). Hombert (1980: 89) stated that, whereas in other Beboid languages class 5 nouns can be paired with (have as plural form) class 6, "*in Koshin, class 5 is paired exclusively with class 13* ***to-***". Good et al. propose the same pairing (5/13).

It should be recognized that the class 13 prefix is attested as a prefix to plural nouns in the language. However, the question to ask is what noun class the class 13 prefix is supposed to be the plural of ? Instead of class 5, it is hypothesized in this work that class 13 prefix is the plural of class 3 nouns, for the following reasons, taking into account the fact that the hypothesized reconstructed *PB class 5 is ***lì.** Semantic considerations have not been taken into account:

(6)(a) -No (not even the smallest) phonetic similarity is found between the *PB prefix ***lì** and the concord marker of the nouns postulated in class 5 by previous works. In fact, no morphological relationship cannot be established between the *PB prefix ***li** and the Koshin concord marker **w-** . This observation is corroborated by (6b).

(b) -Koshin has, for all the postulated classes (except the Hombert and J. Good class 5) a regular correspondence with the reconstructed *PB in such a way that at least one segment (vocal or consonant) of the *PB is kept in Koshin prefixes. Some examples can be given:

*(PB) **mù*-(prefix)……*w*- (concord) Koshin: class 1

*(PB) **ßà*-(prefix)…….*bə*- (prefix) Koshin: class 2

*(PB) **mù*-(prefix)…….. /ʷ/- (prefix) Koshin: class 3

*(PB) **mì*-(prefix)…….. /ʸ/- (prefix) Koshin: class 4 (below)

*(PB) **kì*- (prefix)…….....*kə*- (prefix) Koshin: class 7 (below)

*(PB) **ßì*- (prefix) .....*bə*- (prefix) Koshin: class 8 (below)

From the preceding correspondences (other morphological similarities can be established between many other *PB and Koshin classes), it can be observed Koshin prefixes are not morphologically far from the postulated *PB prefixes, and this close relationship is observed in all the remaining classes except the problematic class 5.

What is more surprising is the fact that Hombert (1980) hypothesizes for the noun class 5 the *PBb prefix ***i-** (with **lʸ -**as concord marker) which is also different from the alluded Koshin concords, for which the author (and J. Good et al) recognizes that the concord marker is **w-**. In (6) above, comparison is made between class 1 and class 3 because both classes share some similarities. But with a postulated class 5, there is no similarity to share and then there is no real need of comparison. In short, there is no way of postulating a class 5 morpheme.

8.1.4 Class 4: /ʸ/-

Koshin class prefix : /ʸ/- Concord marker: (y´ -); *PBb class prefix: ***i-**; Concord marker: (*ý-); *PB class prefix: *mì**-**

(7)		**Noun**	**your +noun**		**the +noun**		**gloss**
	(a)	**zɨ̀**yà	zɨ̀yà	y-á	zɨ̀yà	y -ə́	“houses”
		tsɨ̀n	tsɨ̄n	y-á	tsɨ̄n	y- ə́	“woods”
		mɨ̀	mɨ̀	y-á	mɨ̀	y-ə́	“farms”
		jə̄	jə̄	y-á	jə̄	y-ə́	“names”
	(b)	zhwā	zhwā	y-ā	zhwā	y-ə̄	“sauce”
		jwà	jwà	y-ā	jwà	y-ə̄	“honey”
		dzàŋ	dzàŋ	y-ā	dzàŋ	y-ə̄	“rain”

The class 4 prefix gathers some of the class 3 nouns in plural form (7a), and some uncountable nouns (7b). The most noticeable phonetic feature of this noun class is palatalization. The impact of this feature on non-tonal segments and its symbolic value are discussed in the chapter on nouns. All the works done on Koshin recognize that the class 4 prefix, realized through the palatalization of the first segment of the root, is the plural to the noun class 3 prefix.

8.1.5 Class 6(a): ø -

Koshin class prefix: ø -; Concord marker: (m-´), (mẃ-); *PBb class prefix: *m-; concord marker: (*mɨ́-); *PB class prefix: ****mà-**

(8)	Noun	your +noun		the +noun		gloss
	ndì	ndì	m-w-ā	ndì	m-ə̄	“water”
	mfwɔ̃	mfwɔ̃	m-w-á	mfwɔ̃	m-ə́	“blood”
	mɨ̀	mɨ̀	m-w-ā	mɨ̀	m-ə̄	“oil”
	ŋgbɨ̀	ŋgbɨ̀	m-w-á	ŋgbɨ̀	m-ə́	“vein”

The noun class in (8) is a singular one. It is not too difficult to realize that the nouns in (8) share some semantic connection. Almost all these nouns are liquids. In Bantu literature, the proto-prefix to which belong liquids is *mà−. For many scholars, this prefix is the amalgamated form of class 6 prefix (plural to class 5) and class 6a prefix (liquids). That is why, mostly in Grassfields linguistics, liquids class is numbered 6a (instead of 6) and it is quite often postulated to be a morpheme including the bilabial consonant **/m-/** or at least a homorganic nasal /**N**-/ as in (8). As far as Koshin is concerned, numbering “liquids” class prefix as 6 (like in *PB because the distinction between 6 and 6a is inexistent) or 6a (following languages which distinguish class 6 and class 6a nouns) does not matter much. For that reason, the noun class of the items in (8) can

be referred to as class 6 or optionally 6a, then 6(a). However, what is really critical is the status of the homorganic nasal in (8), another serious bone of contention between this work and the previous reflections on the language referred to above. Let us begin by the points of agreement about the class of liquids, because they do exist.

All the works done on Koshin recognize a class 6 or class 6a noun prefix which mostly refers to liquids and this noun class is realized by the concord marker **m-** carrying a high (H) tone (at least a non-low tone). There is also agreement in that the alluded nouns begin with homorganic nasals (the nasals systematically copy the articulation point of the first consonant of the noun root). Beyond these points dissents begin. One of the most fundamental disagreement is the phonemic status of the homorganic nasal. It is assumed in this work that the homorganic nasal in (8) is no longer phonemic but is part of the noun root and then the class 6(a) is a null prefix (ø-), whereas, on the other hand, Hombert (1980) and J. Good et al. (2011) convey a phonemic status to the homorganic nasal, because they recognize a class 6a prefix which is the nasal archiphoneme /**N-**/ and which assimilates the articulation point of the (following) root consonant. The homorganic nasals appear so regularly before the noun root so that, in a first time, one may have the temptation to consider them morphemes. However, relying on criteria internal to the language, there is always a possibility to reject or validate one hypothesis detrimentally to the other. In such a situation, the theory underlying this work gives a useful advice. In fact, Basic Linguistic Theory (BLT) -the theory which most rely on underlying facts (unlike formalist theory)- enable the researcher to look for arguments which go beyond the *formal* and regular appearance of the of homorganic nasals before roots. The following arguments have been found out as supports in favor of the non-phonemic status of the homorganic nasal in (8):

(9)(a) First of all, the homorganic nasal in (8) does not have a morphophonemic value because it is not a syllabic nucleus, although phonetic conditions are fulfilled. In fact, when a nasal consonant has a morphophonemic value, it carries a tone (the reverse is not always correct, that is, any syllabic nasal does not necessarily have a morphophonemic value), except when the alluded nasal follows a vowel and then, is syllabified as syllable coda.

(b) Secondly, in diminutive construction, the original noun prefix is deleted and replaced by the prefix **fə-** (or the plural form **N-**)and, the suffix **-lə** is joined to the root. Whereas all the noun prefixes attested in the languages are deleted in such a context (except the suprasegmental morphemes like palatalization and labialization prosodies which are fused with the root), the homorganic nasals remain undeleted. In other words, the homorganic nasals cannot alternate with the null morpheme because they cannot be isolated.

(d) In Koshin, in accordance with (9b), any noun has to exhibit one and only one noun class prefix. In other words, one noun cannot belong to more than one class *at the same time.* Hence the *inflectional* status of the noun prefix (contrary to other morphemes with *derivational* status and which can occur many around the head). The application of this principle implies that the homorganic nasals which precede the noun root in diminutive class (class 19) are considered part of the root, not prefixes, because the noun prefix class is *fə-* as stated in the following lines.

The arguments in (9) can be illustrated through the examples in (10) below:

(10) (ai)-m̄.bùm (mə̄ bùm) (aii) -m̄.būm nzɔ̄ŋə́-lɛ̄
1PERS.SG-hunt.PRESENT NOM.hunt.INFIN. good-ATTRI.
"I hunt" "Hunting is good"

(b) kə̄-fĭ "pig" > fə̄-fĭ -lə́ "small pig"
ø-mĭ̀ "oil" > fə̄-ø-mĭ̀ - lə̀ / "small quantity of oil"
ø-ndì "water" > fə̀-ndì- lə̀/ *fə̀-dì-lə̀ "small quantity of water"
ø-mfwɔ̃ "blood" > fə̄-mfwɔ̄-nə́/*fə̄-fwɔ̄-nə́ "small quantity of blood"

Examples (10) show that, unlike the homorganic nasal in (8), the nasal consonant preceding the verb root has a morphophonemic function. In fact, the first person subject pronoun *mə̄* (10ai) can optionally be realized by a homorganic nasal (after a metathesis process between the consonant and the following schwa). This nasal consonant "homorganizes" with the following verb root consonant and carries the mid tone previously carried by the pronoun vowel. The same process is realized with the nominalizer morpheme (10aii)), which "deverbializes" or "sustantivizes" the following root verb.

In the first example of (10b), it can be observed that the original class prefix (kə-) is deleted when the diminutive construction takes place. However, with the postulated noun class of liquids, the homorganic nasal remains undeleted (remaining examples of 10b) even if the noun carries the diminutive prefix.

Besides, as mentioned in other parts of this work, the diminutive construction in (10) is one of the most efficient means in the language to unveil the hidden segments. The circumfixation process (adding of both prefix and suffix to the root at the same time) discloses ideally the underlying structure of the noun root. How does it function concretely? Let us assume that the circumfix (the prefix *fə-* and the suffix *-lə*) is toneless. As expected, whereas the prefixal morpheme carries the first tone of the root, the suffixal counterpart bears the last tone of the root (if, in the underlying structure, the root has more than one tone).When discussing the morpho-phonological curiosities of the noun structure (chapter 6), it has been claimed that the root for "water" for instance (third example of (10b), carries an underlying floating low tone and that is why the concord tone of the noun carries a mid (M) tone, instead of the expected high (H) tone. The correctness of this hypothesis can be appreciated more naturally in (10b) where the suffix *–lə* carries the erstwhile floating low tone.

More interestingly, the diminutive construction tells us that the surface mid tone of the monosyllabic root for "oil" is not the original tone of the root. Rather, this root carries an underlying high-low (HL) tone melody. When the root comes to be polysyllabic through diminutive construction, the underlying tone melody emerges: the first tone links to the root tone bearing unit (TBU), and the second tone goes to the suffix. When the high tone is anticipated to the prefix, the left spread branch of the branching high tone (H) deletes and is replaced by a default mid tone (M) as assumed in previous chapters. However, when there is no joined affix to the root, the first high (H) tone links to the root and the second low (L) tone remains floating and lowers the H tone of the root to a mid (M) tone.

The non-phonemic status of the homorganic nasals in Koshin is not an isolated phenomenon, as far as Grassfields languages are concerned. As said in the section on phonology, Voorhoeve (1980) observed the same phenomenon in Adere, a Grassfields language of the Mbam-Nkam group. An important question is however in order: do the homorganic nasals in (8)

have been once morphemic? Voorhoeve (1980:59) assumed for Adere a hypothesis that supports the Koshin analysis: "*It is clear that this has not always been the case* [the fact that homorganic nasals do not have phonemic status], *and that the homorganic nasal was once a real prefix*". In fact, it is believed that not only homorganic nasals were once real prefix, but other noun classes such as the class 1 prefix examined above, which included phonemic nasals. The relic forms postulated for some class 1 nouns support such a hypothesis. Examples (10) and evidences from other parts of the language (Cf. chapter on pronouns) support the fact that, in Koshin, the homorganic nasals of class 6(a) and those of class 19 below, have undergone the transformation depicted in (11a) and illustrated in (11b), without going back to the *PB, (tonal processes are not considered):

(11) (a) *mə-* >1-Metathesis;
2-"Homorganization" of m- with the following consonant;
3- Schwa *deletion* in word initial position;
4- Lexicalization of the homorganic nasal;
5- Fusion of the homorganic nasal with the following consonant;
6- Phonemization of the homorganic nasal and the following consonant

(b) *mə*-fwɔ̄ŋ > *əm*-fwɔ̄ŋ > *əm*-fwɔ̄ŋ > *øm*-fwɔ̄ŋ > *mf*wɔ̄ŋ "blood"
mə-dì > *mə*-dì > *ən*-dì > *øn*-dì > *nd*ì "water"

As shown in (11), it is useful to observe that, the whole transformation process has begun by a metathesis rule. More details about this process are given in the following chapter.

8.1.6 Class 7: kə-

Koshin class prefix: **kə-** ; Concord marker: (kə́-), (ś-/sẖ-); *PBb class prefix :****ki- ;** Concord marker: *****(k´ -); *PB class prefix: *****kì**-**

(12)	Noun	your +noun	the +noun	gloss
	kə̀-mbàŋ	kə̀-mbàŋ shy-á	kə̀-mbàŋ k-ə́	"cheek"
	kə̄-bə́kə́	kə̄-bə́kə́ shy-á	kə̄-bə́kə́ k-ə́	"shoulder"
	kə̄-nyə̄	kə̄-nyə̄ shy-á	kə̄-nyə̄ k-ə́	"lung"
	kə̄-də́	kə̄-də́ shy-á	kə̄-də́ k-ə́	" door"
	kə̄-fwá	kə̄-fwá shy-á	kə̄-fwá k-ə́	"snail"

The Class 7 prefix concerns singular nouns. This is amongst the most conservative prefixes in Koshin, as it can be appreciated through the obvious similarity between the Proto-Bantu form, the Proto-Beboid form and the Koshin form. This prefix is recognized by any scientific research

done on Koshin. The only disagreement is about the allomorphs of the concord marker. The *sh(y)-* form is not attested in J. Good et al (2011), whereas Hombert (1980) noticed the allomorph *ts-* (it should be recalled that *ts-* alternates with *s-*) but made no mention of the allomorph *kə-*. This disagreement (which is discussed in the chapter on nouns (chapter 6) may be considered a detail, but it is very important in that it helps to predict which allomorph has to be used, in which context and why. The missing allomorph prevents the description from a useful explanatory power.

8.1.7 Class 8: bə-

Koshin class prefix : bə-; Concord marker: (bə́-), (bə́ -), (bə́y-); *PBb class prefix : *bi-; concord marker: *(by´ -); *PB class prefix:*ßì-

The class 8 is the plural to class 7. The examples in (11) above form their plural as follows:

(13)	Noun	your +noun	the +noun	gloss
	bə̀-mbàŋ	bə̀-mbàŋ by-á	bə̀-mbàŋ b-ə́	"cheeks"
	bə̄-bə́kə́	bə̄-bə́kə́ by-á	bə̄-bə́kə́ b-ə́	"shoulders"
	bə̄-nyə̄	bə̄-nyə̄ by-á	bə̄-nyə̄ b-ə́	"lungs"
	bə̄-də́	bə̄-də́ by-á	bə̄-də́ b-ə́	" doors"
	bə̄-fwá	bə̄-fwá by-á	bə̄-fwá b-ə́	"snails"

The observations made about class 7 can be, mutatis mutandis, stated about class 8: it is a conservative class as far as its relationship with *PB is concerned; previous scholars did not pay too much attention to the palatalization feature applying to the concord marker in some grammatical contexts such as in the second column of (13).

8.1.8 Class 9: /ˆ/

Koshin class prefix : / ˋ/; concord marker: (ỳ-); *PBb class prefix :*i- ; concord marker: *(ỳ-) *PB class prefix: *nì-

(14)	Noun	your +noun	the +noun	gloss
	nyɔ̀m	nyɔ̀m y-à	nyɔ̀m y-à	" animal "
	shàŋ	shàŋ y-à	shàŋ y-ə̀	"finger"
	bɨ̀	bɨ̀ y-à	bɨ̀ y-ə̀	"dog"
	zhùnə̀	zhùnə̀ y-à	zhùnə̀ y-ə̀	"shadow"
	zhù	zhù y-à	zhù y-ə̀	" hoe"
	zhùwà	zhùwà y-à	zhùwà y-ə̀	"river"

In literature, unlike the reconstructed *PB which is hypothesized to carry only low tone on all the noun classes, the noun class prefixes outside the Bantu zone are supposed to carry a high tone (which is visible mostly on their concords), except the class 9 and class 1 morphemes that are considered to be the only noun classes which exhibit a low tone. This tonal distinction is used by scholars as one of the most fundamental criterion to distinguish Bantu languages from non-Bantu languages. Koshin (on a par with almost all the Beboid languages) seems to respect this principle. The language has class 9 nouns whose distinctive feature is the presence of the low tone on the first root TBU and on the concord marker, contrasting with the non-low tone of the plural form (class 10 below).

8.1.9 Class 10: /˝ /

Koshin class prefix : /˝/; concord marker: (ý -); *PBb class prefix :***i-** ; concord marker: *****(ý -) *PB class prefix: *lì-,*nì-

(15)		Noun	your +noun	the +noun	gloss
	(a)	nyɔ̄m	nyɔ̄m y-ā	nyɔ̄m y-ā	“ animal ”
		shāŋ	shāŋ y-ā	shāŋ y-ə̄	“finger”
		bɨ́	bɨ́ y-ā	bɨ́ y-ə̄	“dog”
		zhūnə̀	zhūnə̀ y-á	zhūnə̀ y-ə́	“shadow”
		zhú	zhú y-á	zhú y-ə́	“ hoe”
		zhūwà	zhūwà y-á	zhūwà y-ə́	“river”
	(b)	nsɨ̃	nsɨ̀- ŋy-ā	nsɨ̀ny y-ə̄	“friends”
		ŋgāŋə̀	ŋgāŋə̀ y-á	ŋgāŋə̀ y-ə́	“hills”
		fūwə̀	fūwə̀ y-á	fūwə̀ y-ə́	“bamboos”
		də̄	də̄ y-á	də̄ y-ə́	“beans”

The nouns in (15) are plural to two noun classes: class 9 nouns in (14) whose plural is stated in (15a) and some nouns of class 1 “like friend” whose plural is stated in (15b). The two sets realize the plural in the same way. Neither Hombert (1980) nor J. Good et al. (2011) mentioned the words of class 10 in (15b) as plural counterparts of nouns from class 1, in the singular form. Let us recall that for the word “hills” for instance, the singular form is **ŋgàŋə̀** (*low*-low tone melody instead of the plural form which has *mid*-low melody) with **w-** as concord marker. Then, the plural form is realized through the tone change in the first syllable, exactly like the word “shadow” in (15a).

8.1.10 Class 13: tə-

Koshin class prefix: **tə-**; concord marker: (tə́-), (t-́), (tẃ -); *PBb class prefix : *to-; concord marker: *(t́ -); *PB class prefix: *tù-

(16)	Noun	your +noun	the +noun	gloss
	tə-kə́	tə-kə́ t-w-á	tə-kə́ t-ə́	"heads"
	tə-lə́m	tə-lə́m t-w-á	tə-lə́m t-ə́	"tongues"
	tə-nyú	tə-nyú t-w-á	tə-nyú t-ə́	"knees"
	tə̀-kú	tə̀-kú t-w-á	tə̀-kú t-ə́	" villages"
	tə-tə́m	tə-tə́m t-w-á	tə-tə́m t-ə́	"axes"
	tə-gɨ̂yā	tə-gɨ̂yā t-w-á	tə-gɨ̂yā t-ə́	"brooms"

The class 13 prefix is the plural class to the nouns of class 3, as discussed earlier. For Hombert (1980), it is the plural of class 3 and class 5 nouns, and for J. Good et al. it is merely the plural of class 5. The other disagreement between previous works and the analysis carried out in this work is the absence of the allomorph **/tw-/** as alternant to **t-** as stated in (16).

Another point which strengthens the hypothesis considering class 13 as plural to some of the class 3 nouns is that, nouns in class 3 exhibit, like their putative plurals, the same glide (w-) in their concord markers.

8.1.11 Class 14: bə-

Koshin class prefix: **bə-**; concord marker: (bə́-), (mb-́),(mbý -); *PBb class prefix:*bu-; concord marker: *(bẃ -); *PB class prefix :*ßù-

The class 14 morpheme gathers mass nouns in general. This class is realized through the prefix bə-.

(17)	Noun	your +noun	the +noun	gloss
	bə̄-zhɨ̂	bə̄-zhɨ̂ m-b-y-á	bə̄-zhɨ̂ m-b-ə́	"food"
	bə̄-nɨ̂	bə̄-nɨ̂ m-b-y-á	bə̄-nɨ̂ m-b-ə́	"corn food"
	bə̄-gɔ̀	bə̄-gɔ̀ m-b-y-á	bə̄-gɔ̀ m-b-ə́	"chest"
	bə̀-shə̄	bə̀-shə̄ m-b-y-á	bə̀-shə̄ m-b-ə́	" face"

The bilabial consonant of the class prefix in (17) is sometimes perceived as an implosive consonant, but very often it is the natural voiced consonant which is attested. The concord also varies between the prenasalized affix and the non-prenasalized one, but the former is far the most

frequent. For "food" it is *always* heard prenasalized. On the other hand, what is not at all optional is the glide **y-** in the concord morpheme. Unfortunately, previous works did not pay attention neither to the nasal preceding the concord, nor to the glide following the same concord marker.

Expectedly, Hombert (1980:87) analyzed class 14 and class 8 as similar, hence "14=8" as he stated. Such a hypothesis cannot be correct, because their respective concords are **mby-** versus **by-.** The value and linguistic status of both the nasal and palatal features linking to the concord marker were discussed in the chapter on noun structure (chapter 6).

8.1.12 Class 19: fə-

Koshin class prefix : **fə-**; concord marker: (fə́-),(f-´),(fy´ -); *PBb class prefix:*fi**-**; concord marker**: ***(fý -); *PB class prefix : *pì,-

A mere glance at the nouns in (18) reveals that these items share the diminutive semantic type.

(18)	Noun	your +noun		the +noun		gloss
	fə-mɔ́	fə-mɔ́	f-y-á	fə-mɔ́	f-ə́	"cat"
	fə-ŋbì	fə-ŋbì	f-y-á	fə-ŋbì	f-ə́	"bat"
	fə-ŋgbà	fə-ŋgbà	f-y-á	fə-ŋgbà	f-ə́	"castrated he-goat"
	fə-nshə̀	fə-nshə̀	f-y-á	fə-nshə̀	f-ə́	" hare"
	fə-ŋkūmə́	fə-ŋkūmə´	f-y-á	fə-ŋkūmə	f-ə́	" chameleon"
	fə-ŋkpɔ̀ŋ́	fə-ŋkpɔ̀ŋ´	f-y-á	fə-ŋkpɔ̀ŋ́	f-ə́	" swallow"

Then, there is an agreement in the fact that the nouns in (18) form the diminutive class, numbered 19, the reflex of the *PB pì,-. These nouns form their plural within class 6(a) (liquids). The concept "liquid", like mass concept in general, refers to a plural meaning in some way. Therefore, it is natural (at least it is not surprising) that small entities, (diminutives) when gathered build a mass concept or a liquid concept. Other morphological processes, such as subtraction discussed earlier, show that this conception is not too uncommon in the language. The analysis followed in this work agrees with Hombert (1980) who also paired class 19 words (singular) with class 6a (plural). J. Good et al (2011), however, pair class 19 with class 18, the number referring to the *PB locative prefix ***mù-**.

It should be noticed that postulating the noun class 18 in Koshin brings about a problem. In some Bantu languages, an unusual **mu-** class prefix which functions as the plural of class 19 is

actually attested and labeled class 18. As outlined by Hyman (1980:185), the plural of diminutive is labeled class 18 because "*it is identical in form to PB *mu-, which is a locative class*". The problem is that J. Good et al (2011:130), on the one hand, recognize the existence of one class labeled class 6a (liquids) with **N-** as prefix and **ḿ-** as concord marker, and on the other hand, postulate another different noun class numbered 18 (plural of diminutives) with **N-**as prefix and **ḿ-** as concord marker. In other words, the perfectly same set of noun class prefix and concord marker is hypothesized for two different classes in the same language. Taking into account the relative conservativeness of the language observed through the other noun prefixes, the preceding assumption becomes problematic.

Moreover, there is nothing common (except the formal aspect) between the plural of diminutives and the locative concept (even though it is known that the noun class system has generally ceased to show semantic contrastiveness). Consequently, the analysis prefers to consider the plural of diminutives, identical to class 6(a) (as Hombert (1980) did) for the following reasons:

- The class affixes of the plural diminutives and the liquids are perfectly identical (both in tonal and non-tonal features).
- As stated above, it is not far-fetched for liquids to be plural concepts and there is more semantic proximity between plural diminutives and liquids than between diminutives and the postulated locative class 18.
- Most importantly, in many Ring languages (a group of languages belonging to Grassfields zone, of which Koshin is a member in some classifications), diminutives form their plural in class 6(a) (liquids). Furthermore, some comparative studies revealed that "Plural *class 18 is not found within GB* [Grassfields Bantu], *unless the* ***6a found as the plural of 19*** [the marking is ours] *in the Ring languages* ***represents the merger of 18 and 6a***."(Cf L. Hyman (1980: 187)).

It should be admitted that the homorganic nasal which has ceased to be morphemic in class 19, and the other one which underwent the same lexicalization process with liquids in class 6(a) *may* originate from different sources. Nevertheless, at the present time, all these homorganic nasals are fused forms and can be gathered within the same 6(a) class.

Before closing this paragraph, it is important to notice that most borrowed words are classified in class 1 (for singular nouns) or in class 2 (for the plural ones). However, some borrowed items are also inserted in other noun classes.

(19)	Noun	your +noun	the +noun	gloss
(a)	mācì	mācì w-à	mācì w-ə	"match"
	shùkūl	shùkūl w-à	shùkūl w-ə	"school"
	kwátà	kwátà w-à	kwátà w-ə	"quarter"
	tǐ cà	tǐ cà w-à	tǐ cà w-à	" teacher"
	fə-gwávà	fə-gwávà w-á	fə-gwávà w-ə́	"guava tree"
(b)	bə̄-mācì	bə̄-mācì b-w-á	bə̄-mācì b-ə́	"matches"
	bə̀-shùkūl	bə̀-shùkūl b-w-á	bə̀-shùkūl b-ə́	"schools"
	bə̄-kwátà	bə̄-kwátà b-w-á	bə̄-kwátà b-ə́	"quarters"
	bə̄-tǐ cà	bə̄-tǐ cà b-w-á	bə̀-tǐ cà b-ə́	" teachers"
	ŋgwávà	ŋgwávà m-w-á	ŋgwávà m-ə́	" guavas"

As shown in (19), most borrowings are in class 1 for the singular form (19a), and class 2 for the plural (19b), probably because they are almost exclusively humans, or for human use. But there are a few nouns, like "guava" (last example in (19a and 19b) in class 19, which can occupy different class.

In summary, the analysis assumes the existence of twelve classes numbered as 1, 2, 3, 4, 5, 6(a), 7, 8, 9, 10, 13, 14, and 19, compared to the thirteen (which can be reduced to twelve) noun classes of Hombert (1980), and the fourteen noun classes of J. Good et al. (2011). None of these attested classes is unknown in the reconstructed chart of *PB noun classes. In other words, all the attested Koshin classes correspond to the noun classes attested in the reconstructed set of *PB noun classes. Reversely, some attested *PB noun classes do not exist in the Koshin noun class system. However, a careful observation outside the noun class system reveals that some *PB noun classes that are not attested in the Koshin noun class system appear under relic forms within other grammatical categories (mostly adpositions, but also pronouns). With these attested relic forms which are dealt with in the respective chapters, the Koshin system is really close to *PB, as far as the noun classes are concerned. For this reason, it can be believed that the Koshin language is amongst the most conservative outside Narrow-Bantu zone.

Identifying the noun classes, as in the preceding paragraphs, is not enough to understand how the noun class system is organized in the language. For example, if a specific class, say class 10, is considered, many questions can arise: are class 10 nouns only plural forms to class 9 nouns? Or, do they also include plural forms of other singular classes? Are there also uncountable nouns? To solve this problem, it is better to pair classes (those which can be paired) into genders. This is the topic of the following paragraph.

8.1.2 Class Genders

In the literature about the noun class system, a "gender" refers to each couple of noun classes paired according to the number criteria: the first class refers to the singular class and the second class refers to the plural. Expectedly, for some classes, the pairing strategy is irrelevant. The organization of noun classes into genders is useful in that, as said in the preceding paragraph, it betrays the origin of the nouns belonging to each class. Then, some of the attested Koshin noun classes can be paired into genders and those for which the pairing is not functional are identified. The following indications are adopted as guidelines:

(20) (a)-When the class prefix is a null morpheme, the illustrative concord marker is put within parentheses;

(b)-The tone of the class prefix is not indicated unless this prefix cannot be identified without the tone;

(c)- The noun classes consisting in prosodic morphemes (labialization and palatalization) are indicated within oblique lines.

(d)- The two forms (singular versus plural) of the gender are given if it is useful for the description.

8.1.2.1 Class 1/class 2: ø-; (wˋ-) /bə-

As said earlier, a few nouns of this gender are marked by the class prefix w(v)- in the singular form, or change their roots. However, the overwhelming majority show a null class prefix in the singular form. This gender has many members which are mostly from the following semantic types: humans (21a), animals (21b), plants (21c), and artifacts (21d).

		Nouns	gloss
(21)	(a)	kpɨ̄/bə̀-kɨ̄	“wife”
		Kpɔ̄/bə̀-kɔ̄	“Koshin people”
	(b)	mbɔ̀ŋ	“cow”
		ntùmə̀	“fish”
	(c)	lɔ̄kɔ̀	“cassava”
		ləmbū	“lemon”
	(d)	tə́m	“axe”
		mbúnjá	“fishing net”

8.1.2.2 Class 1/class 10: ø- (w`-) / ø´-

Nouns of this gender are not many. They come from different semantic types: humans (22a), plants (22b), and inanimates (22c). Some nouns of this gender form their plural by subtraction process.

		Nouns	gloss
(22)	(a)	nsɨ̃̄	“friend”
		mfwɔ̀ / mfwɔ̄	“slave”
	(b)	fūbə̄/ fūwə̀	“bamboo”
		gānə̄/ gē`	“maize”
	(c)	ŋgə́nə̄ /ŋgə̄	“egg”
		ŋgàŋə̀/ ŋgāŋə̀	“hill”

8.1.2.3 Class 3/class 4: /^{w}/-/ /^{y}/-

This group is fairly homogeneous: its members which are not many belong to plants (23a), body parts (23b), and inanimates (23c), amongst other semantic types, and with these characteristics the 3/4 group is somewhat close to the *PB 3/4 gender.

(23)	Nouns	gloss
(a)	kpɨ̄n /tsɨ̄n	“wood or tree”
	wēny /jēny	“tree leaf”
(b)	wī /jɨ̌	“eye”
	wūnə̄/jūwì	“feather”
(c)	gbɨ̄yà/zɨ̄yà	“house”
	mū/ mɨ̄	“farm”

gbɨ̂/ dzɨ̂ “hundred”

8.1.2.4 Class 3/class 13: ø- (ẃ -)/ tə-

Many nouns of this gender are body parts (24a) or inanimates in general (24b). This is another reason (although a secondary one) why the singular class in this gender has been assumed as class 3 (*PB class 3 is supposed to refer to “trees, plants, inanimates”) instead of the class 5 postulated by previous reflections (in *PB, class 5 is the set of “miscellaneous, paired things, augmentatives). It is amongst the major group of the language, with about several dozen members.

	Nouns	gloss
(24)(a)	kə́	“head”
	də̀	“chin”
	lə́m	“tongue”
(b)	bɨ́	“kola nut”
	búny	“ash”
	sɔ́ŋ	“flute”

8.1.2.5 Class 7/class 8: kə- /bə-

This group also has lots of members. Body parts (25a), animals (25b), and inanimates (25c) are amongst the most representative members of this set.

	Nouns	gloss
(25) (a)	kə̀-dè	“vagina”
	kə̀-zɔ̀	“mouth”
	kə̄-mē	“neck”
(b)	kə̀-kúm	“horse”
	kə̀-ŋkwə̄	“mouse”
	kə̄-fwá	“snail”
(c)	kə̄-jūwə̀	“yam”
	kə̄-sɔ̂	“arrow”
	kə̀-ncū̀	“mortar”

8.1.2.7 Class 9/10: *ø̀- /ǿ -*

Mostly animals (26a) are attested in this group. Nouns from other semantic types, such as body parts (24b), are also members of the set.

		Nouns	gloss
(26)	(a)	bì/bǐ	“dog”
		dzì/dzî	“elephant”
		nyəm/nyəm	“leopard”
	(b)	dzù/dzū	“penis”
		shàŋ/shāŋ	“finger”
		fìyà/fǐyà	“ankle”

8.1.2.8 Class 19/class 6(a): fə-/ ø- (m-)

As said earlier, this group gathers small entities of various types. However, small animals (27a) are by far the most numerous in the group.

		Nouns	gloss
(27)	(a)	fə̀-nshə̀ /nshə̀	“ hare”
		fə̀-ŋkūmə́/ŋkūmə́	“ chameleon”
		fə̀-ŋkpɔ̀ŋ̀ /ŋkpɔ̀ŋ̀	“ swallow”
	(b)	fə̀-nsî/nsî	“peace of calabash used to cut food from the pot”
		fə̄-ntɔ́mə̀	“seed”

In all, seven pairs of classes have been attested. However, some classes, according to their semantic value, do not need the pairing condition. They are not many and are presented below.

8.1.2.9 Class 1: ø- (ẁ-)

(28)	Nouns	gloss
	mbɛ̃̀	“milk/breast”
	wì	“fire”
	bū	“sky”
	gbǐ	“wind”
	mbwē	“salt”
	ǹtwā	“coco food”

This group of nouns has not been mentioned in previous works. As shown in examples (28), they are a subset of uncountable/mass nouns inserted within the class 1 set.

8.1.2.10 Class 4: /ʸ/-

This class is also a subset of mass nouns which share exactly the same morphological characteristics with class 4 words, except that the words in (29) are uncountable and hence do not have a singular form in class (3) like the other nouns of class 4.

(27)	Nouns	gloss
	Jùŋ	"soul"
	jwà	"honey"
	zhwā	"sauce"
	dzàŋ	"rain/thunder"

8.1.2.11 Class 6(a): ø- (ḿ-)

Amongst the single classes, class 6(a) is the most known. It is the plural of diminutives (30a) and, at the same time, the class of liquids (30b).

		Nouns	gloss
(30)	(a)	ndǐ	"water"
		ndǐnyà	"tears"
		mfwɔ̄ŋ	"blood"
	(b)	mɔ́	"cats"
		ntɔ́mə̀	"seed"

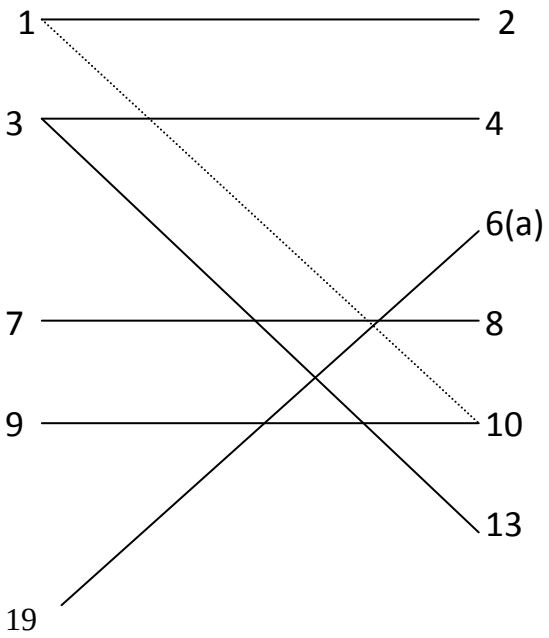
8..2.12 Class 14: bə- (mbý-)

The last single class is the noun class 14 which gathers mass nouns.

(31)	Nouns	gloss
	bə̄-kū̀	"cloud"
	bə̄-bwá	"dew"
	bə̄-ntsē	"mood"
	bə̀-tǐlə́	"soot"

It is important to observe that, some uncountable noun classes (29-31) share their class with plural nouns. As said earlier, this is not surprising because uncountable nouns are essentially plural concepts, in one way or another. All the twelve noun classes and the different genders attested in the language can be summed up and illustrated through the following figure (32) where the dotted lines indicate non-basic relation.

(32) **singular** **plural**



1

4

6(a)

14

Fig. 1: Gender organization of the noun classes

The figure 1 in (32) shows that some classes are branching (classes 1, 2 and 10), that is, their members go to or come from various sources. The figure also shows that the gender 1/10 is not a basic one. It can be interpreted as a functionally marked gender.

Another important observation about the noun classes is that, according to their affixes (prefixes and concords), hence relying on purely morphological criteria, the whole noun system in the language can be reduced into two main clusters: those which exhibit the dorso-velar glide **w-** as concord, and those which are marked by the glide **y-** in their concords. Interestingly, as expected, this morphological polarization of the noun system hides a deeper semantic requirement: the words carrying **w-** share some connection with **human** semantic type and those which are marked by **y-** are close to **non-human.** Metaphorically, let us call the two poles

"**semantic branches**". These semantic branches ground on a common semantic base which is the Koshin world vision. Let us compare this common base to the **"semantic root".** Beyond the two major branches, there are three sub-branches: two of them come from the two major and a third one which mixes elements from the two major branches. Hence, its components are linked to each of the two major branches. This specific sub-branch is realized through the nasal /N-/ which, semantically, refers to liquids or mass nouns. The different noun classes represent the **"leaves"** of our semantic tree. The distribution of the noun classes in the three sub-branches can be presented as in (33) where members of (33c) also occur in (33a) and (33b).

(33) (a) Humans (/^{w}/-): classes 1, 2, 3, 6(a), 13
(b) Non-humans (/^{y}/): classes 7, 8, 9, 10, 14, 19, 4
(c) Liquids/Mass (/N/): classes 6(a), 14

From the distribution of the noun classes in (33), the semantic organization of the whole noun system can be illustrated within a semantic tree as follows (the broken lines still show secondary relations):

(34)

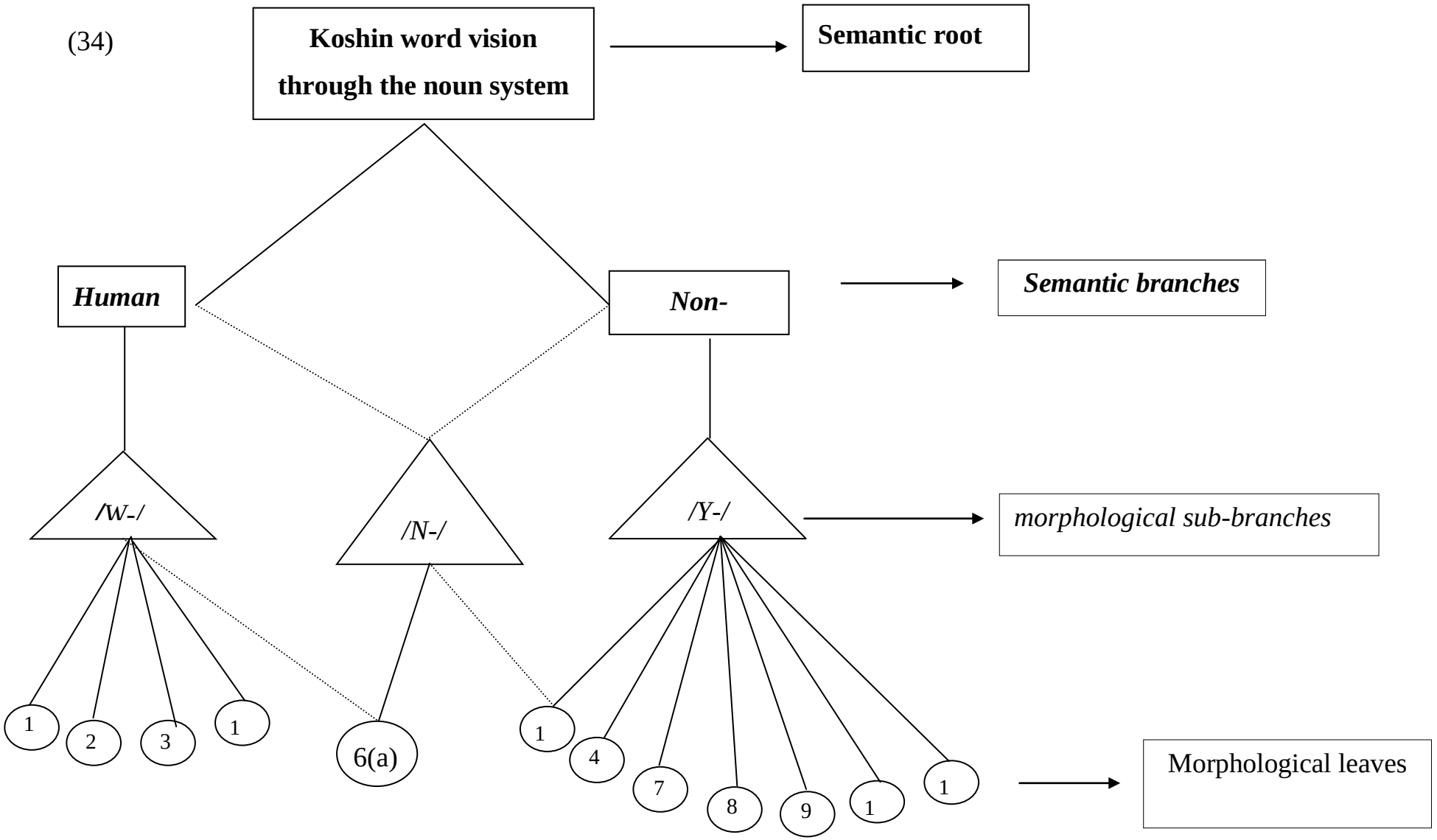


Fig. 2 : The semantic organization of nouns

The distribution in (33) and the diagram in (34) somewhat betray the Koshin world vision. Amongst other interpretations, the diagram shows that for the Koshin people, and probably for many other communities, the two major representatives of the world are humans on the one hand, and non-humans on the other hand. The diagram in (34) also shows that there are liquid/mass realities which are related to both humans and non-humans. The last observation, as far as our theoretical framework is concerned, is the following: the diagram suggests that, under morpho-phonological facts, there is always an underlying semantic organization. As expected in the functioning of languages, there are intruding classes. For instance, the noun class 3 (which essentially gathers inanimates) appears in the human set. In spite of this miscellany observed in the semantic parsing of nouns, the semantic organization of the language, as far as the noun classes are concerned, remains close to the *PB system.

In conclusion, this chapter has analyzed the noun class system of the language. It is a closed grammatical system which is basic in the overall functioning of the noun system. But this category is as important as the pronoun system which, besides the role of noun determiner, can substitute the noun head in the NP structure. Let us examine and analyze the peculiarities of this system within the Koshin system.

CHAPTER 9
PRONOUNS

After the study of the noun classes in the preceding chapter, the analysis of noun-dependent grammatical categories continues in this chapter through the description of another grammatical category strongly related to the noun: pronouns. Two main points make up this chapter: the analysis of personal pronouns on the one hand, and the discussion of the relative pronouns and relative markers on the other hand. But first of all, a restricted definition of the item "pronoun" has to be established because it underlines the overall organization of this chapter.

In literature, the concept "pronoun", inspired from what is usually called "traditional grammar", is quite often used to cover a wide range of closed systems: person and/or number markers, possessive markers, demonstrative markers, relative markers, interrogative markers, quantifiers, indefinite terms, etc. And it is commonly said that, a pronoun is "*a word that is used instead of a noun or noun phrase*" (Cf. *Advanced Learner's dictionary* 2000:934). However, some weaknesses arise when this widely accepted conception is observed carefully:

- First of all, although it is undeniable that the grammatical categories cited above can fill the same slot in the paradigmatic axis, they do not share many semantic similarities. For example, what is really common between a person marker and an interrogative marker? Or, what connection exists between a relative pronoun and a possessive marker? Not much, except that both of them can fill the same argument slot within a clause.

-Secondly, if some categories referred to as pronouns can be used instead of a noun, that is, they can refer back to a noun or an NP, others cannot. For instance, the NP realized by the proper noun "Ousmanou" in "Ousmanou writes a thesis" can be replaced by "He" in "He writes a thesis". However, what noun or NP the pronoun "I" or "you" replaces in "I/ you write a thesis"? It can scarcely said that "I" or "you" replaces a pretended noun or noun phrase, on a par with "he", even though it is acceptable that "I" and "you" are pronouns. Rather, "I" and "you" refer to participants in a speech act.

In order to avoid such a confusing situation, the word "pronoun" is used in this work in a restrictive way, following Dixon (2010b: § 15.1), as "*a small closed class of grammatical words*

*which **vary for person***" (the bold marking is ours). More concretely, it is a variety of *shifter* words, as outlines the preceding author at the same page, because its reference shifts when the role of the speech participants it refers to changes.

In Koshin, the closed grammatical systems which can reflect the grammatical persons, the speech act participants, are what they commonly call personal pronouns, and possessives. Exceptionally, relative pronouns and relative markers are included in the set of pronouns because the label "relative pronouns" is too well established so that it should be careless not to consider them pronouns, although they are not supposed to make reference to any grammatical person. Therefore, the term "pronoun" in this work cannot apply to categories such as demonstratives, interrogative content words, indefinite words, quantifiers.

9.1 Personal Pronouns

The label "(personal) pronouns" is used in this work to talk of the grammatical system whose members refer to the speech act participants which, in Koshin, are: the *speaker (first person*), the *addressee (second person*), and the *third person* which refers *neither to the speaker nor to the addressee*, and which, in literature, is often referred to as the person which is spoken of. For each of the three persons, there is a distinct form for the singular number and another for the plural number. More specifically, for each grammatical person (say the first person), two different forms are attested. Then, it can be said that the Koshin pronoun system has a singular versus plural organization.

Moreover, there is one set of personal pronouns which refers to *humans* and another set which refers to *non-humans*. Let us recall that in the preceding chapter, a central polarization of the language into humans and non-humans has been hypothesized for the noun system, (Cf Diagram 2, at the end of chapter 8). The human versus non-human polarization of the pronoun category is another support to this hypothesis! Let us discuss first the human pronouns and later the non-human pronouns.

9.1.1 Human Pronouns

Human personal pronouns make reference to human beings. They are further divided into two main syntactic sets: the noun phrase head personal pronouns (let us call them NP head or head pronouns) and the modifier personal pronouns (modifier pronouns in short). Three

important points of human pronouns are addressed below: the morpho-syntactic differences and similarities between NP head and modifier pronouns (that is the syntactic possibilities of each set of pronouns), the noun class marker in personal pronouns (the morphological relationship between noun class affixes and personal pronouns), and the morphological processes undergone by personal pronouns. In order to better examine the connection between the two sets of pronouns, both sets of pronouns are discussed at the same time.

9.1.1.1 Differences and Similarities between NP Head and Modifier Pronouns

The NP head pronouns and the modifier pronouns share differences and similarities which can be appreciated through the following table of comparison in (1) and the pronoun forms in table (2).

(1)

NP Head pronouns	Modifier pronouns
a-They exhibit forms which are quite similar to the noun class prefixes. They show an unchanging structure and are unbound (free) forms.	They are also similar to the noun class prefixes but exhibit bound forms.
b- They carry proper tone	b- They are toneless (except one of them), and their tone depends on the concord affix tone
c-They are head of an NP which can fill an argument slot within a clause	c-They are head of an NP but thisNP *should* be a modifier of another NP
d-They do not usually mark possession	d-They always refer to the possessor whereas the NP they modify is the possessed item

Table 1: The Characteristics of NP Head and Modifier Personal Pronouns

(2)

Function	Singular	Plural
a) NP head pronouns: they can fill an argument slot within a clause	(1 pers) mə̄	sə̀
	(2 pers) wə̀	mə̀n
	(3 pers) wù	bɔ̄
	bə̄	

b) Modifier pronouns: determiners of an NP (within an NP internal structure)	(1 pers) Conc. marker- **əŋ**	Conc. marker- **i**
	(2 pers) Conc. marker- **a**	Conc. marker- **ənə**
	(3 pers) Conc. marker- **u**	Conc. marker- **bɔ̀**

Table 2 : Head and Modifier (free/ bound) Personal Pronouns Forms

The pronouns forms in table 2 show that Koshin pronouns are organized into a free (unbound) versus bound (enclitic) dichotomy. As the upper part of table 2 shows (2a), some NP head personal pronouns forms are almost identical to some class markers examined in the preceding chapter: **wə̀** (second person singular), **wù** (third person singular), and the indefinite pronoun (discussed below) **bə̀**. The other NP head pronouns share similarities with some noun class prefixes already analyzed, but not in a straightforward way. On the other hand, there are personal pronouns which modify an NP and which should exhibit changing concord markers according to the class marker of the head the pronoun refers to.

It should be emphasized that, besides the three singular and three plural personal pronouns in NP head function, there is another pronoun (**bə̀)**, which, strictly speaking, belongs neither to a specific grammatical person nor to a specific number (singular or plural). It has rather an indefinite or impersonal reference. Morphologically, it is close to the third person plural pronoun. That is the only reason why it has been classified near the third person plural. However, semantically, it does not necessarily have a plural meaning. Let us call it "indefinite personal pronoun". It is semantically more or less similar to the French pronoun "**on**".

Let us discuss another important issue about personal pronouns: the hypothesis of the existence of a class affix in pronoun forms.

9.1.1.1.1 From the Class Markers to the Personal Pronouns

As a recall, it has been suggested in the preceding chapter that, although all the class prefixes attested in *PB are not attested in the Koshin noun class system, many relic forms can be attested in other parts of the language. The pronoun system is amongst those sub-systems

which include some noun classes existing in *PB but not attested in the Koshin noun class system.

First of all, let us show that the NP head pronouns and the modifiers pronouns derived from the same basic form. In fact, if each NP head pronoun of (2a) is compared to its respective counterpart in modifier function (2b), the following pairs are obtained:

(3) (a)	1 pers. Sg:	mə̄ ~ -əŋ	(b)	1 pers. pl:	sə̀ ~ -i
	2 pers. Sg:	wə̀ ~ -a		2 pers. pl:	mə̀n ~ -ənə
	3 pers. Sg:	wù ~ -u		3 pers. pl:	bɔ̄ ~ -bɔ̀

From the pairs in (3), it can be assumed that the two forms of the pronoun in each pair, not only are quite similar, but they can also be two allomorphs of the same morpheme, for the following reasons:

-For the 3 pers. Sg, the 2 pers. Sg, and the 3 pers. Pl, there is no need to hesitate; the forms of the NP head and the modifier pronoun are identical, put aside the sonorants **w-** and **m-** attested in the unbound forms but inexistent in bound pronouns.

-The first (NP head and modifier) person singular forms are distinguishable only by the segments changing position observed in the modifier form. For the 1 pers. Pl, it can be observed that there is a connection between the consonant of the unbound form (**sə̀**) and the vowel –**i** of the modifier form: they are all coronal sounds (segments).

Therefore, the NP head pronoun and the modifier pronoun can have the same structure in the underlying form. They are distinguished by morpho-phonological processes discussed in detail later. What needs to be clarified now is the relationship the above personal pronoun shares with the noun class markers. Which noun class has been taken for which personal pronoun?

Let us begin by the first person singular. Given the morphological similarity and the semantic connection they share, the pronoun mə- in the first person singular is believed to come from the *PB morpheme *mù- of class 1. In the discussion on noun structures, traces or reflexes of this *PB class prefix have been hypothesized in some words through a nasal consonant fused to the noun root, or an underlying prosodic nasal segment which emerges in a specific possessive construction. Therefore, it is not surprising that the pronoun forms exhibit the same phenomenon.

Information from literature reveals that the first person pronoun with the structure **m-(v)** or **vm (v)** is strongly prevalent in Grassfields languages. Let us appreciate it from a sample of some five Bantu-like languages (taken from five authors with established renown), in the following table. Tones are not indicated:

(4)

Language	First person singular pronoun
1-Aghem, L.M. Hyman (1979:49)	**N** (subject) / **muɔ**(object)
2-Tuki , L.M. Hyman (1980:31)	**-ame** (possessive)
3-Ngyembɔɔn ,S. C.Anderson (1980:46-47)	**N** or **məŋ** (subject) / **-ɔŋ**(possessive)
4-Adere, J. Voorhoeve (1980:63-65)	**mə** (subject) **-am** (possessive)
5-Akɔ̄ɔ̄sē, R. Hedinger (1980: 16)	**-em** (possessive)
Koshin	**mə** (NP head) **-əŋ** (non-head)

Table 3: First Person Singular Forms in five Bantu-like Languages (and Koshin)

The first person singular forms in the five Bantu-like languages are quite similar to the form of the first person singular pronoun in Koshin. Maybe a holistic analysis can establish the same head versus non-head dichotomy in all the above six languages (instead of the subject versus possessive parsing). If this hypothesis is verified, the similarity amongst the first person singular in the mentioned languages will be still more important (not only morphologically but also syntactically). However, in the negative way, it should be noticed that the syntactic organization of the personal pronouns in Koshin is specific in that it prefers the head versus non-head organization to the subject versus possessive parsing.

Hence, the **m-(v)** structure of the first person singular pronoun is far from being a peculiarity to Koshin and this observation boosts the hypothesis that links this widespread phenomenon to a diachronic source (the *PB class prefix). If this hypothesis is correct, the first person pronoun is a single and indivisible grammatical morpheme, but which may undergo morpho-phonological processes in the language, as analyzed later.

Concerning the glide **w-** attested in the second and third singular persons, it is similar to the concord marker of the class 1 nouns. It can be maintained that the first person singular marker **mə-** derives from the noun class 1 and that the glide **w-** in the second and third persons may have derived from the *PB class 1a. Interestingly, it can be noticed that nouns do not make a distinction between class 1 and class 1a, but this distinction has been maintained in the personal pronouns!

With regard to the third person plural **bɔ̄**, a comparison with the *PB forms suggests that, this pronoun form is not very different from the *PB noun class 2***ßà-** or, mostly, the class 2a ***ßɔ̀-** postulated by the linguists. Hence, there is no apparent objection in postulating that the Koshin third person plural **bɔ̄** is a relic form of the *PB class 2a noun prefix***ßɔ̀-** whereas the indefinite personal pronoun **bɔ̄**- is reminiscent of the *PB class 2 (bà-).

About the first and second persons plural, it should be noticed that, (unexpectedly?) forms which are more or less similar to the third person plural have not been attested, in spite of the fact that they are all plural pronouns. In fact, the first and second persons of the plural are quite different from the form of the plural third person. Moreover, *at first glance*, the two forms of the first person plural for instance are really different from one another: the NP head form is **sə̀** and the modifier form exhibits the structure **concord-i**. Nevertheless, when they are observed carefully and when other phenomena attested in other parts of the language are taken into account, it can be observed that there is a tacit connection. It is assumed that the first person plural **sə̀-** (NP head form) and **–i** (modifier form) are the derived forms of the personal pronoun reminiscent of the class 7 noun prefix **kə̀-** (***Pb kì**). More details about this topic are given in the following paragraph. But what is essential in the matter is that it refers to the palatalization process.

But an embarrassing question has to be asked about this hypothesis: What link can be established between the first person plural (which refers to humans) and the class 7 noun prefix (which deals mostly with inanimates)? Moreover, whereas class 7 is a singular class, the first person plural pronoun is supposed to refer to a plural meaning and it seems unclear to see their relationship. No convincing answer has been found to such a question even if, as said in previous chapters, it is known that, usually, the noun class affixes do not exhibit any more a semantic value in many Bantu and Bantu-like languages. This phenomenon may legitimately feed a

hypothesis different from the one adopted in this work. In fact, instead of a binary singular versus plural interpretation of the Koshin pronoun system observed in this analysis, one may postulate a tripartite (singular/ non-singular/ plural) interpretation, the first and second persons of the plural referring therefore to the non-singular paradigm. However, the binary interpretation is maintained for some reasons stated later.

With respect to the second person plural pronoun, it is not straightforwardly identifiable. It seems to be the junction of two affixes: **mə-**(class 1 marker as in the 1 pers.sg) and -**nə**, followed by a morphological process. What noun class prefix does the affix **–nə** refer to? It is not attested in the noun class system of the language, but it may be reminiscent of the *PB noun class 10 prefix (*lì,- *nì-).

Some connections between the personal pronouns and the noun classes have been examined. But the details about the functioning of the different processes related to these pronouns remains unknown. They are addressed in the following paragraph which deals with the morpho-phonological processes undergone by the pronoun system.

9.1.1.1.2 Morpho-phonological Processes in Personal Pronouns

If each NP head pronoun form is compared with its respective modifier form as in (4) above, morphological processes emerge, on a par with those attested in nouns. In other words, the changing of syntactic function is sometimes carried out through morphological processes some of which are attested in the noun morphology. Furthermore, some processes should be recognized if it is agreed that the pronoun forms are derived from class affixes. Apart from the indefinite pronoun which does not have an alternative form and which is, consequently, put aside, the six grammatical persons (three singular and three plural) exhibit, (surprisingly?) six different morpho-phonological processes. Some processes are examined one after another but others need to be discussed all together because of their connection.

9.1.1.1.2.1 Metathesis, Homorganic Nasal/Nasal Dorsalization, and Schwa Deletion

When there is a permutation of two sounds (A and B) of a sequence AB, into BA within a given context, we talk of metathesis. This process has been discussed in the preceding chapter where it was hypothesized that the nasal consonant of the class 6(a) prefix “metathesizes” with the following schwa, before the noun root. It was not a straightforward hypothesis because the resulting word initial schwa undergoes a deletion afterwards. Without supplementary data,

someone could more or less legitimately say that it is a mere instance of schwa deletion. However, the first person singular pronouns in (5) show that the hypothesis stated in the preceding chapter is correct.

(5)(a) *mə̄* mɨ̀-lə́ (*m̄*-mɨ̀-lə́) shāŋ y-*ə̄ŋ*
1PERS.SG lick-IMP fingers CONC-1PERS.SG
I am licking my fingers

(b) *mə̄* nə́ (*n̄*-nə́) dè bə̄-zhɨ̀ m-b-*ə́ŋ*
1PERS.SG PAST2 cook NC-food MASS-CONC-1SG
I cooked my food

(c) *mə̄* kə̄(*ŋ̄*-kə̄) wā kə̀-sə̀ s-*ə́ŋ*
1PERS.SG FUT.1 wash NC-clothes CONC-1PERS.SG
I will wash my clothes (singular meaning)

Examples (5) show that the metathesis process is undeniable in the language. In fact, this process is obvious both in the cliticised NP head form (beginning of the sentence) and in the modifier form of the first person singular pronoun (which is located at the end of each clause in (5) through the form**–əŋ).** In the NP head form of the pronoun (in transitive subject function (A), the metathesis process applies optionally. When this process takes place, it is followed by the homorganic nasal, and the schwa deletion rules. However, some questions are in order. The first one is: why is the metathesis rule optional in one case (with NP head pronoun) but obligatory in the other (with the modifier pronoun)? In other words, in which context does the metathesis process apply? The second question is: why is the schwa deleted in NP head form but remains undeleted in the modifier form where, furthermore, the nasal consonant takes a dorsal point of articulation (dorsalization)?

First of all, it is important to state that, the metathesis rule applies within a specific structure: the grammatical word. If this condition is not met, the process cannot apply. It goes without saying that the modifier pronoun and its NP head noun make up a grammatical word unit for the reasons stated in (6), inspired from Dixon (2010b:13):

(6)(a) A given structure: shāŋ y-**ə̄ŋ** "my fingers" (5a) for instance, make up a grammatical word with the structure *NPhead + modifier pronoun* because has *as base a lexical root* (*shāŋ*) *to which a morphological process* (tone change) *has*

applied and this lexical root imposes a specific concord marker (**y-**) and a specific tone (*non-low tone*) on the modifier person pronoun.

(b) Besides, the structure (NP head + pronoun) has a *conventionalized coherence and meaning*. This criterion is supported by the fact that, very often (but not always), the consultants join unconsciously the modifier pronoun to the lexical root instead of separating the two elements, when for example, objects are showed to them in order to know what they are called in the language. If the speakers, instead of saying just "fingers", "food", or "clothes" etc., say rather often and spontaneously, "my fingers", "my food" or "my clothes", it means that in their intuition, there is some union between the NP head and the modifier pronoun.

(c) Moreover, even if the lexical root of the grammatical word has many modifiers, this lexical root is *always followed immediately* by the modifier pronoun (which indicates possession) and the other modifiers are located after the pronoun. In other words, the grammatical word structure does not tolerate an intruding modifier between the lexical root and the modifier personal pronoun , as illustrated in (7) below.

(7) (a) fúfú w-ə́ŋ (w-úŋ) wə̄
he-goat CONC-1PERS.SG DEF.
"my he-goat" (a definite / specific one)

(b) kə̀-núŋ s-ə́ŋ kə̄-lūmbā kə́
NC-rooster CONC-1PERS.SG CONC- big DEF.
"my big rooster" (a definite one)

As seen in (7), the modifier pronoun is always located after the lexical root, and comes before any other modifier (the definiteness marker in (7a) or both the adjective and the definiteness marker (7b)). In one word, the modifier pronoun shares the same grammatical word structure with the NP head noun, and hence, undergoes a metathesis process.

The NP head pronoun, on the other hand, undergoes the metathesis process optionally because, as a subject of the verb, it can be considered a dependent element, a subject marker, hence a mere verbal morpheme, on a par with any verbal morpheme (say tense marker) and then,

a simple integrated verbal affix. Therefore, it is not surprising that the NP head pronoun in (5a-c) may undergo a metathesis process and, after the homorganic nasal rule, is bound as a prefix to the verb root (5a) or to the closest verb clitic (5b-c). This affixation of the subject pronoun is not uncommon in literature. In many well-known languages (Spanish for instance), the subject pronoun marker may be a simple bound element which is affixed to the verb root. However, it cannot be forgotten that the subject (whether a pronoun or a canonical NP can also be considered an autonomous element, a completely different syntactic partner to the verb within a superior structure: the clause. Then, although the subject may depend on the verb of which it usually realizes the action (and is considered a verb affix), this same subject is still a component of the clause structure, located at the same hierarchical level as the verb.

Koshin language has interestingly summed up these two syntactic roles of the subject pronoun through the optional application of the phonological metathesis rule. The metathesis rule and the subsequent binding of the nasal to the verb/noun root are comparable to a social behavior observed in human societies: less important (human) beings depend on the most important ones. Curiously enough, linguistic studies have not found it often necessary to emphasize the obvious connection between this linguistic variable (metathesis + affixation) and social realities (the weaker lives under the protection of the stronger).

Now, let us answer the question of the schwa deletion. The schwa deletion is not related to the syntactic function of the pronoun, but rather to the initial versus non initial word position of the schwa, after the metathesis and the homorganic nasal rules have applied. In fact, the schwa deletes only in word initial position; that is why, it is deleted with the NP head pronoun but remains undeleted with the modifier pronoun which is always located between the concord marker and the resulting final nasal consonant (hence in non-initial position). And this final nasal consonant which does not have a following consonant to "homorganize" with, and which is then in syllable final position, has changed into the dorsal nasal **−ŋ.**

The metathesis process involving the nasal consonant is not unfamiliar in Grassfields languages. Let us recall that for class 6(a) nouns, it has been hypothesized a metathesis rule at the beginning of a complex process which has led to the *dephonemization* of the class (6a) prefix and afterwards, to its lexicalization and rephonemization through a prenasalized bound form,

consisting of the nasal consonant and the former root first consonant. In an instructive article on Ngyembɔɔn (a Grassfields language), S. T. Anderson (1980: 39) observed the following: when the noun root begins with the phoneme /b-/, "*the class 6 plural prefix* [me] *is metathesized with the resulting initial "e"*(sic) *being subject to deletion when not clause-initial*". The metathesis process in Ngyembɔɔn seems to be similar to the one observed in Koshin, except that the schwa deletion, here, takes place in word initial position instead of the non-clause-initial position. And the author concluded on the same page, more or less in accordance with what is hypothesized for Koshin: "*This synchronic metathesis rule in a limited environment suggests that such a rule may often be the diachronic source of homorganic nasal noun class prefix, so prevalent in Grassfields Bantu languages*." Let us examine now the morphological process which applies in the two forms of the second person singular pronouns.

9.1.1.1.2.2 Toneless Syllable Onset Deletion

If the NP head pronoun is considered the basic allomorph, it implies that, in the underlying form, the modifier pronoun has the same structure as the NP head form and then, carries one of the three segments filling the onset slot of the NP head pronoun: **m-** (first person singular and second person plural),**s-** (for the first person plural),**w-** (second person singular and third person plural)and **b-** (third person plural). However, as shown in (4) above and all the examples on personal pronouns, all the modifier forms have no onset segment in their syllable structure, except the third person plural which shows the onset **b-.** Why, if one may ask? Why does the language delete the other onset segments (sonorant and obstruent) but keeps undeleted the segment **b-**? Is it because it is followed by an open vowel (**-ɔ**)? Is it because of the fact that, unlike the other deleted segments (which are onset within a toneless syllable), **b-** is the onset of a syllable with tone? In this analysis, it is thought that there is no apparent link between the deletion of an onset segment and the openness of the following vowel (it can be observed that the consonant **b**- preceding the vowel **ɔ** is not deleted in the third person plural pronoun). Maybe the solution derives from the syllable stability provided and/or expressed by the tonal characteristic.

The hypothesis can be the following: if a prosodic structure (the syllable) carries a tone, it is more stable and its components tend to resist alterations. This hypothesis may sound more plausible than the former. Besides, the onset deletion rule is amongst the criteria which distinguish NP head pronouns from the modifier pronouns. It should be noticed that this rule

takes place after the metathesis rule (not before) and that is why, the sonorant **m-** of the first person singular is not deleted.

9.1.1.1.2.3 Internal Change (Vowel Lowering)

All the personal pronouns (except the third person plural), show a schwa in their structure, at least in the NP head forms, probably because they are borrowed from the noun class prefixes which, in Koshin, usually include the schwa in their structure. This general observation can allow the analysis to deduce that, in the underlying representation, the personal pronouns attested in the language include the schwa as vowel. In other words, if a personal pronoun has two alternative forms, the form with the schwa should be considered the basic form, and the other form results from a transformation process (internal change is one example of transformation process). In the chapter on nouns, this process has been referred to as a change of a non-tonal segment (vowel or consonant) within the root.

(8)(a) **wə̀** sǐysə́ nə̄
2PERS SG laugh.PRESENT why
"Why do you laugh?"

(b) **wə̀** tǐ jùŋ **y-ā** ə́ = bə̄-zhǐ
2PERS SG put.PRESENT blessing CONC-2PERS SG ADP=NC-food
"You put your blessing on the food"

(c) ə́ = wə̄ (wā-ŋ) **w-à** Jísɔ̀s Krāyst
ADP=name son CONC-2PERS SG proper name Christ
"In the name of your son Jesus Christ"

Through the data (8), it is observed that the second person singular pronoun (in bold) have two alternative forms: **wə̀** (NP head form) and **concord-a** (modifier form). It is assumed that the NP head form is the basic form and the modifier form results from the internal change of the vowel **-ə** into **-a** (after the syllable onset deletion took place) because of the syntactic function change (ə > a). It should be noticed that the form of the second person singular pronoun in Koshin is peculiar compared to the form attested in neighbouring languages which usually show a form with a rounded vowel. The process under discussion may also be called *vowel lowering* given that the vowel **-a** is lower than the schwa. However, by using the label *internal change* there is the advantage of using a single terminology which usefully includes a wide range of processes

referring to personal pronouns, nouns, and verbs. The vowel change/ vowel lowering takes place after the onset deletion process, in order to give more phonetic strength and more stability to the former schwa devoid of the onset protection.

9.1.1.1.2.4 Labialization

The labialization process has been discussed in details in the chapter on nouns. It resolutely comes back, once more, with pronouns. If the hypothesis assumed about the schwa (it is the underlying vowel in the structure of personal pronouns, except the third person plural) is correct, it implies that the third person singular in (9) below undergoes a labialization process which transforms the underlying schwa into **-u**, both in the NP head form and modifier form through the rule **ə > u**.

(9)(a) mə̄ dà **wù**
1 PERS. SG look.PRESENT 3PERS SG
"I look at him/her"

(b) **wù** fà b-āyn) (b-**ú)** bə́ = nyū- (ŋ-w-**ù**)
3PERS.SG give.PRESENT children (HER) CONJ husband (HIS)
"She gives (it) to her children and her husband"

In (9b), the structure of "children" and "husband" is not indicated. As stated above, the third person singular vowel is **-u** both for the NP head form ((9a) and at the beginning of (9b)), and the modifier form (end of (9b)). Observations from some Grassfields languages attest that the majority of these languages usually select a coronal (or a central) vowel for the third person singular pronoun. However, Koshin and some languages like Aghem select a rounded vowel for both the NP head and the modifier form.

9.1.1.1.2.5 Coronalization (palatalization)

The palatalization process accounts for the form of the first person plural as follows:

(10)(a) 1-kə > kə + /^{y}/ ; 2- kyə > syə ; 3-syə > søə

(b) wù nə̀m bə́ = **sə̀**
3PERS SG work.PRESENT ADPOS.=1PERS PL
"He/she works with us"

(c) kū w-**ī** mɔ̄ kū kɔ̄
village CONC-1 PERS. PL be.PRESENT village Koshin
"Our village is the village of Koshin"

In the preceding lines, it has been assumed that the first person plural results from the application of the palatalization process (to the form borrowed from the noun class 7 kə-). The example (10a) shows the successive stages of this transformation: 1-the prosodic feature /^{y}/ is associated to the pronoun inherited from the noun class prefix 7; as stated in the chapter on nouns, the prosodic feature targets in priority the syllable onset; 2-the contact with the palatalization feature transforms **k-** into **s-**; 3- and finally, the glide y- is deleted before the schwa in a monosyllabic (not a polysyllabic) structure.

It is known that the hypothesizing the sound **s-** from **k-** *may* seem somewhat problematic. But it is not an unknown process in literature. Some interesting formal theories (such as the Constriction-based Model followed in this work) account for it in a natural way, in a context of palatalization (or more accurately, "coronalization"). In the following chapter, a closer look at the formal functioning of this process is taken, alongside with the processes of labialization and dorsalization. It should be recalled that this phenomenon has been also established for nouns.

Moreover, when observing the behavior of the first person plural pronoun in some Bantu-like languages (the forms of the first person singular pronoun have been examined in (5) above), it has been found out some exciting curiosities supporting the hypothesis assumed in this analysis. Once more, tones of the pronouns are not indicated.

(11)

Language	First person plural pronoun
a-Aghem, L.M. Hyman (1979:47-49)	**g**haʾ (excl.)/ **s**ɛ(incl): subject **g**haʾ (excl.)/ **s**ɛ(incl): object
b-Tuki , L.M. Hyman (1980:31)	**-is**o (possessive)
c-Ngyembɔɔn, S. C. Anderson (1980:46-47)	**peg** (excl.)/**pege** (incl): subject **-eg**(excl.)/**-ege** (incl): possessive
d-Adere, J. Voorhoeve (1980:65)	-**so**:possessive (dual) -**wut** (incl.(sic))-**sən** (incl):possessive (plural):
e-Akɔ̄ɔ̄sē, R. Hedinger (1980: 16)	**-ɛd** (possessive)
Koshin	**Sə** (NP head) **-i**(non-NP head)

Table 4: First Person Plural Forms in five Bantu-like Languages (and Koshin)

If the second column of this above table is observed, one *may* have the impression that the pronominal forms presented belong to five dialects of the same language, because they are quite similar to one another. Two main features characterize these forms: the pronouns have palatalized or dorsalized segments. When the forms are palatalized, they exhibit, as in the Koshin NP head form, the consonant **s-** (some examples of 11d), or a coronal vowel as in the Koshin non-NP head form (11e**)** or both the coronal consonant and coronal vowel (11b, inclusive) and (11d).When they are dorsalized however, the segments used are the dorsal consonants (11a, exclusive) or the labio-dorsal glide (11d, first form plural) which is also similar to what has been postulated for Koshin in the third person singular. It should be recalled that the way the whole palatalization process functions is concordant with the examples (11) which go beyond the Koshin system.

It should be emphasized that, after the deletion of the onset segment which carries the palatalization feature, this prosodic feature survives (Cf prosodic stability in § 6.1.4.2) and links to the vowel which otherwise remains unpalatalized, as in the NP head form.

Some aspects of the examples (11) have to be outlined: unlike what occurs in other Grassfields languages (Aghem (11a) and Ngyɛmbɔɔn (11c) for instance), the Koshin first person plural pronoun does not show the inclusive (the reference of the pronoun also includes the addressee) versus exclusive (the addressee is excluded from the reference of the pronoun) category. In these languages of examples (11) which exhibit the inclusive versus exclusive distinction, the inclusive form is expressed by a palatalized form whereas the labio-dorsalized form refers to the exclusive pronoun. Even in Adere (11d) where the author has mentioned two *inclusive* pronouns, it is believed that it is just a mistake and the form **wut** might have referred to the exclusive pronoun but the form **sən** to the inclusive form of the pronoun. If this assumption is sustainable, therefore Koshin has kept the form which, in genetically neighboring languages, refers to the inclusive pronoun.

9.1.1.1.2.6 Affixation and subtraction

In the previous lines, it has been hypothesized that the second person plural pronoun (**mə̀n**) is the association of **mə** and **nə** followed by a transformation rule. It is maintained that

the NP head form of the pronoun results from the subtraction of the last schwa (the forms **mə̀n** (12a) versus **–ənə** (12b, at the end of the clause) as shown in (12) below.

(12)(a) **mə̀n** dé-lə̀ (bə̀)-né
2 PERS PL cook.IMPERF CONC-what
"What are you cooking?"

(b) Dyàŋ bə́ = Jū, **mə̄n** zhǐ zhwā y-**ə̄nə̄**
name CONJ name 2PERS PL eat.IMPER soup CONC-2 PERS.PL
"Diang and Ju, eat your (plural) soup"

The fact that the NP head pronoun shows a subtracted form (unlike the non-subtracted form of the modifier pronoun), confirms the hypothesis defended in this analysis.

However, it is difficult to specify the type of affixation process applied in the second person plural pronoun. In fact, it can be postulated an instance of suffixation where the particle **-nə** is suffixed to the base **mə**, or, reversely, the prefix **mə-** is joined to the pronominal base **nə**. The two hypotheses are sustainable. A comparison with the noun system needs to be made: whereas the subtraction process in nouns (§ 6.1.4.8) conveys a plural meaning, in the pronoun system, it refers to the NP head function. The two apparently different meaning can nevertheless refer to a single concept: in both cases, the subtraction process conveys a concept of importance. In that point, the symbolic value of the subtraction process is not too far from the value of the tone change process.

9.1.1.1.2.7 Tone Change

The last morpho-phonological process attested in personal pronouns is the tone change observed in the third person plural (**bɔ̄** and **-bɔ̀**)

(13) (a) mə̄ bɔ̄nə̀ **bɔ̄**
1 PERS SG greet.PRESENT 3 PERS PL
"I greet them"

(b) **bɔ̄** yə́ tāŋ́ bə̀-ntùmə̀ bə̄-**bɔ̀**
3PERS PL PAST1 sell NC-fish CONC-3PERS. PL
"They have sold their fish (plural)"

Whereas for nouns (§ 6.1.4.6) the tone change process conveys a plural meaning (the low tone for the singular and the non-low tone for the plural), for pronouns it refers to a syntactic function

(the low tone refers to the modifier (123, end of the clause), and the mid tone (non-low) refers to the NP head function (13a, end of the clause or 13b, at the beginning)). Nevertheless, the two variants of the same process share a common semantic point: the low tone refers to less important element, whereas the high/mid tone refers to the most important element.

It goes without saying that a language, as an *integrated system*, has to be understood and analyzed as a *whole*. Some linguistic intricacies observed in one part of the language may be accounted for or simplified by processes observed straightforwardly in another part of the same system. This conception of the language allows the analysis to explain why it is preferable to assume the singular versus plural organization of the pronoun system, in spite of the unclear reference to the plural observed in the first and second person plural pronouns. In fact, as noticed earlier, unlike the singular pronouns which show morphological evidences referring to the singular number, it is not the case for the plural number.

Some morpho-phonological processes applied to pronouns provide arguments in favor of the singular versus plural interpretation of the pronoun system. In fact, when discussing the noun processes, it has been found out that nouns form plural meaning through the following processes: the changing of noun class affix (according to the gender organization analyzed in chapter 8) but also, more exceptionally, through palatalization, subtraction, and tone change (Cf §§ 6.1.4.6-9). Following these morphological processes which mark the singular versus plural numbers of the noun system, the description has also identified the palatalization, subtraction and tone change processes as processes which applying to the three person plural pronouns of the system. Interestingly, both in nouns and pronouns, the labialization process is kept only for singular items. These similarities between processes applying to nouns and pronouns can bring about the fact that the nouns and the pronouns of the system are both characterized by the same number shape.

All in all, pronouns in Koshin derive from noun class prefixes. Some pronouns are attested in the noun class system of the language but others are not, and can have their source in the *PB noun class system. Two types of processes applying to pronouns can be stated: the processes which account for the derivation of pronouns from noun class prefixes, and those which are specifically related to the syntactic (head or modifier) function of the pronoun. Most of the processes attested in personal pronouns are attested in the noun system, with almost the same

symbolic value: the labialization process for instance, in pronouns or nouns exhibits singular meaning while palatalization concerns the plural in both cases. Beyond the human personal pronouns, the Koshin system also include non-human pronouns. Let us analyze their functioning.

9.1.2 Non-human Pronouns

Non-human personal pronouns are used as substitutes for nouns which make reference to a non-human being (animal or thing for instance). They all fulfill an *anaphoric* function, like the human third person pronoun. In fact, they refer back to a noun from a specific noun class already mentioned in the discourse. For human pronouns, it has been distinguished on the one hand the NP head pronouns, and on the other hand, the modifier pronouns; and this functional difference corresponds to two pronominal forms. In the non-human pronouns however, the relevant distinction refers to subject versus non-subject dichotomy. Let us examine first the non-human pronouns in subject function.

9.1.2.1 Subject Pronouns

The non-human subject pronouns are attested only in the third person (as expected, given their anaphoric function). They can be translated into English with "it" (for the singular), and with "they" (for the plural), as illustrated in (14) for the twelve noun class attested in the language (ATTRIB. stands for attributive). The second column in (14) –pronoun +good-ATTRIB.- shows that the non-human subject pronouns have the structure CV where V corresponds to: either the *schwa*, the coronal vowel-*i* or the dorsalized vowel-*ɔ* and -*u*.

(14)

N^{o}	Pronoun + good-ATTRIB	Gloss	(CLASS)-referent/ Gloss	Noun class
a	*wù´* nzɔ̄ŋ́-lɛ̄ *wù* mù nd̄ì	"It is good" "It drinks water"	mbɔ̀ŋ "cow"	1
b	*bɔ̀´* nzɔ̄ŋ́-lɛ̄	"They are good"	bə̀-mbɔ̀ŋ "cows"	2
c	*wù´* nzɔ̄ŋ́-lɛ̄	"It is good"	gbɨ̄à "house"	3
d	*yì´* nzɔ̄ŋ́-lɛ̄	"They are good"	zɨ̄yà "houses"	4
e	*mɔ̀´* nzɔ̄ŋ́-lɛ̄	"It is good"	ndì "water"	6(a)
f	*kə̀´* nzɔ̄ŋ́-lɛ̄	"It is good"	kə̄-núŋ "rooster"	7
g	*bə̀´* nzɔ̄ŋ́-lɛ̄	"They are good"	bə̄-núŋ "roosters"	8

h	*yì´* nzɔ̄ŋɔ́-lɛ̄	"It is good"	tsə̀m "monkey"	9
i	*yì´* nzɔ̄ŋɔ́-lɛ̄	"They are good"	tsə̄m "monkeys"	10
j	*tɔ̀´* nzɔ̄ŋɔ́-lɛ̄	"They are good"	tə̄-fúfú "he-goats"	13
k	*bə̀´* nzɔ̄ŋɔ́-lɛ̄	"It is good"	bə̄-zhĩ̃ "food"	14
l	*fə̀´* nzɔ̄ŋɔ́-lɛ̄	"It is good"	fə̀-mɔ́ "cat"	19

Table 5: Non-human Subject Pronouns in Koshin

The non-human pronoun morphology strengthens the noun class-derived hypothesis supported in this work. In fact, as in human pronouns, the non-human personal pronouns are borrowed from the noun class prefix as observed in the table 5 above. This implies that the forms with the vowels **-i, -u** and**–ɔ** are forms derived by palatalization, labialization and internal change (vowel lowering processes) on a par with what occurs in human pronouns. Moreover, although it is dealt here with non-human referring items, it should be noticed that pronouns referring to nouns which share the same class as humans are different from pronouns referring to nouns which do not share their class with humans.

In fact, examples (14) show that, pronouns which show labialization refer to the following noun classes: class1 (14a), class 2(14b), class 3(14c), class 6(a) (14e), and class 13 (14j). It should be recalled that, in the preceding chapter, the noun classes have been regarded as "morphological leaves". Some of these morphological leaves prefixed to the nouns from specific classes depend on the "morphological sub-branch of labialization". Therefore, it sounds logical that the pronouns referring to these nouns whose class prefixes depend on the labialization sub-branch exhibit characteristics which are related to their referents. Languages are really *systems* where all the components are interwoven: the pronoun system can reflect some aspect of the noun system. Tonologically, the non-human pronouns usually carry a low tone like the human pronouns, even though in examples (14) they surface with a rising tone (LH), because of the verbless clause construction. This hypothesis is shown through the example "it drinks some water" (14a).

9.1.2.2 Non-subject Pronouns

Like their preceding congeners in subject position (let us call them X pronouns), the non-subject pronouns (Y pronouns) also refer back to an already mentioned noun in the discourse.

They can fill any non-subject slot, whether as core arguments or non-core (peripheral) arguments. Both the subject and non-subject non-human pronouns are unbound forms. Besides, Y pronouns, like the X ones, refer to the third person (singular or plural), and take their source from the noun class system. The only difference is that they fill a non-subject slot within the clause structure. In (15) below, they fill an O (object argument). Non-subject pronouns have exactly the same structure like subject pronouns, except the tonal aspect. Instead of the low tone carried by the X pronouns, the Y pronouns carry a high (H) tone except the one referring to class 1 and class 9 nouns. Let us not forget that the concord marker of the noun classes in Koshin carry a non-low tone except the concord marker of class 1 and class 9. Therefore, no objection has been found in concluding that the non-subject and non-human pronouns carry the same tonal characteristic.

(15)

N^{o}	Look (IMPER.2PERS.SG+ PRONOUN)	Translation	(CLASS)-referent	Noun class
a	dá *wù*	Look at it	mbɔ̀ŋ "cow"	1
b	da´*bɔ´*	Look at them	bə̀-mbɔ̀ŋ "cows"	2
c	dá *wú*	Look at it	gbɨ̄yà "house"	3
d	dá *yi´*	Lookat them	zɨ̄ya "houses"	4
e	dá *mɔ´*	Look at it	ndì "water"	6(a)
f	dá *kə´*	Look at it	kə̄-núŋ "rooster"	7
g	dá *bə´*	Look at them	bə̄-núŋ "roosters"	8
h	dá *yì*	Look at it	tsə̀m "monkey"	9
i	dá *yi´*	Look at them	tsə̄m "monkeys"	10
j	dá *tɔ´*	Look at them	tə̄-fúfú "he-goats"	13
k	dá *bə´*	Look at it	bə̄-zhǐ "food"	14
l	dá *fə´*	Look at it	fə̀-mɔ́ "cat"	19

Table 6: Non-human Non-subject Pronouns in Koshin

In summary, pronouns are divided into humans and non-humans. These two types of pronouns which support the semantic polarization of nouns (human versus non-human) are derived from the noun class system prefixes through morpho-phonological processes usually attested in nouns. It is worth noting that some processes which are attested in human pronouns are not attested in non-human pronouns. This is the case of the palatalization process attested in the first person plural of the human pronouns but which is absent outside the human pronouns

sub-system. Another grammatical system analyzed in this chapter is the relative pronoun/marker system.

9.2 Relative Pronouns and Relative Markers

Relative pronouns and relative markers are two grammatical items inherently connected to the relative clause construction. These grammatical items do not necessarily play the same role but both of them are characteristic of the type of clause they are members of. For methodological purpose, the relative pronouns are discussed first and then, the relative markers even though the two morphemes could have been discussed all together.

9.2.1 Relative Pronouns

As said earlier, following the conception of the item "pronoun" adopted in this work, the relative pronouns cannot be considered canonical pronouns, strictly speaking, because they make no reference to grammatical persons. However, the label "relative pronoun" is well-established in literature so that it is better to include this category amongst the pronouns. Usually, a relative pronoun indicates that the sequence it introduces is a relative clause (in short RC, a clausal construction which modifies an NP located in the main clause), and it replaces the NP it refers to (the common argument (CA)) in the RC. Like noun-human personal pronouns, relative pronouns fulfill an anaphoric function. They refer back, within the relative clause, to a noun or an NP located in the main clause (MC). Given that this noun or NP is located in the MC (where it fills an argument slot) but at the same time is represented in the RC by the relative pronoun, anaphorically, some linguists like Dixon (2010b: § 17.1) have called it the common argument (CA), because it is shared between the MC and the RC. Besides, morphologically, the relative pronouns, like personal pronouns, share some similarity with the noun class prefixes and then show some morphological interconnection with the noun class system. These characteristics of the Koshin relative pronouns can be shown through the following examples where CA stands for common argument; RC for relative clause; NP for noun phrase; CS for copula subject; O for object argument, and S stands for intransitive subject.

(16)(a)[ndì CA[***mə̄*** (O) *wə̀* *mū-mə́*]RC]NP:S jēnɔ́-lɛ̄
water **REL.PRON**. 2 PERS.SG drink.PRESENT-REL.MARK. dirty-ATTRIB
"The water you drink is dirty"

(b) [mwə̀n CA [***wù***(O) *wù* *tsɪ̄lə́-wə̀*]RC]NP:S nə̀m fwɔ̄ŋ
person **REL.PRON** 3PERS.SG know.PRESENT-REL.MARK. work.PRESEN THERE
"The person whom he/she knows works here."

Many details about relative constructions like those in (16) are discussed in chapter 16. For the time being, it is enough to notice that the relative pronoun (REL.PRON, in bold) has the (three) following characteristics in Koshin:

(17) (a) It introduces (comes at the beginning of) relative clauses (in italics);

(b) It is an overt morpheme which *refers back* (anaphora) to a noun/NP (CA) which immediately precedes. This anaphoric reference is interestingly expressed in a morphological way, as with personal pronouns: the relative pronoun form reflects the noun class prefix/concord of the CA. That is why, the CA "water"(class 6(a) with the class concord **mə-**) in (16a) is referred back by the relative pronoun **mə̄**, whereas the CA "person" (class 1 with the class concord **wə-**) is represented in the RC by a relative pronoun with a more or less similar form **wù**);

(d) It fills an argument slot within the relative clause. In (16), the two relative pronouns are in object argument function (O).

It should be noticed that the forms of the relative pronouns are closer to the forms of the noun class prefix than the forms of the personal pronouns. For instance, whereas the personal pronoun form for the class 6(a) is, for both subject and non-subject pronouns, **mɔ** (14-15 above, with the vowel lowering and labialization process), the relative pronoun exhibits the forms **mə**. The relative pronoun forms are presented in the following paragraph (through a comparison with relative markers forms).

9.2.2 Relative Markers

Like the relative pronouns, relative markers characterize the relative clause in Koshin. However, the latter are different from the former. In fact, the relative marker cannot show all the relative pronoun characteristics in (17). In (18) below, the characteristics of the relative marker are summed up:

(18) (a) It marks the relative clause, like the relative pronoun, so that any canonical RC has to include it;

(b) Unlike what is commonly noticed in literature, the relative marker shares a formal similarity with the class affix of the CA. Therefore, it makes morphological reference to the CA, like the relative pronoun does;

(c) Unlike the relative pronoun, it fills no argument slot within the RC;

(d) Unlike the relative pronoun which *always introduces the RC*, the relative marker is *always* added at the *end of the verb* within the RC, like a mere verbal particle.

These characteristics can be illustrated in (19) below:

(19)(a) [kə̀-núŋCA [kə̀ ´ j-ə̄-**ká** gḕ yə̄]RC]NP:CS mɔ̄ ŋ-s-ə́ŋ
NC-rooster REL.PRON. eat-DUR-**REL.MARK.** corn-DEF be.PRES. MINE
"The rooster which is eating the corn is mine."

(b) [wî CA [wù wù kpâ-**wə̀**]RC]NP:CS nzɔ̀ŋə́ kɛ̀
Fire REL.PRON. 3PERS.SG kindle.PRESENT-**REL.MARK.** good NEG
"The fire he kindles is not good."

Examples (16) and (19) are consistent with the characteristics stated in (18). More concretely, it can be observed that the relative marker (in bold) is put at the end of the verb (not at the end of the RC). This is more obvious in (19a) where this relative clause marker comes before the NP filling the O argument within the RC. Besides, it should be noticed that the relative clause marker is morphologically similar to the relative pronouns. Moreover, it shows a simpler form. Let us compare a few forms of relative pronouns and relative markers in order to show how, the noun class markers and the relative clause indicators are similar. For the specific objective of this paragraph, the following examples are fully representative of the twelve noun classes attested in the language. Tones of the grammatical items are the underlying ones.

(20)

Nouns	Noun class prefix/concord	Relative pronoun	Relative marker
wì"fire"	ø-/w(ə̀)- (class1)	wù	-wə̀
ndì "water"	ø- /m(ə́) (class 6(a))	mə́	-mə́
kə̀-núŋ "rooster"	kə - /k(ə́)-(class7)	ká	-ká
nyɔ̀m"meat"	ø-/y(ə̀)- (class9)	yì	-yə̀
bə̄-zhǐ"food"	bə-/b(ə́)-(class 14)	bá	-bá
fə̀-mɔ́ "cat"	fə-/ f(ə́)- (class 19)	fə́	-fə́

Table 7: Comparative Sample of Relative Pronouns and Relative Markers

From the comparative sample in (20), it can be realized that the relative indicators (relative markers and relative pronouns) are quite similar to the class morphemes. On the other hand, some morpho-phonological processes attested in personal pronouns like the palatalization of the class 7 morphemes, vowel lowering (internal change), tone change, etc. are not attested in the relative morphemes. Only the schwa vowel and the closed vowels are shown in the different forms so that it will not be exaggerated to say that the relative morphemes are closer to the noun class affixes and then to the *PB class morphemes than the personal pronoun forms.

The following details related to relative pronouns and relative clause pronouns are discussed in the chapter on relative clause construction: the relationship between canonical and non-canonical relative clauses, the allowed syntactic function of the CA both in the RC and in the main clause (MC), the allowed word classes in CA, etc.

In summary, this chapter discusses the morpho-syntactic functioning of pronouns, a closed grammatical system which includes what is considered (following many scholars) canonical (personal) pronouns and relative clause indicators (the relative pronouns and the relative clause marker). The two types of pronouns refer anaphorically to the noun previously mentioned in the discourse. Whereas personal pronouns are essentially divided into humans and non-humans (according to the human versus non-human noun polarization), the relative morphemes are parsed into relative pronouns and relative markers, each set exhibiting characteristic peculiarities. The noun class system and the pronominal system are amongst the most basic closed categories which refer to the noun, nucleus of the noun phrase structure. However, other grammatical noun-dependent categories unexamined thus far can reveal other interesting linguistic mechanisms the language is teeming with. Demonstratives are amongst these categories. Let us analyze them in the next chapter.

CHAPTER 10

DEMONSTRATIVES

In the preceding chapter, pronouns have been called *shifters*, following Dixon (2010b:§15.1), because their reference *shifts* when the role of the participants the pronouns refer to in the speech changes. In literature, they are sometimes called *participant shifters*. There is another set of grammatical shifters, called in literature *spatial shifters* whose reference changes when the place, the person or the thing they refer to shifts. There are demonstratives. They have a *deictic reference* because they *point to* something or somebody in a situation of discourse. This chapter on demonstratives is organized into five main points: the types of demonstratives attested in the language, their forms, their functions, the parameter of reference they show and their symbolic value in the system.

10.1 Types of Demonstratives

According to the syntactic structures they occur in, two types of demonstrative are attested in Koshin. There are those which occur in a noun phrase (NP) and those which occur in a clause, filling the same slot as adverbs. Let us call the former nominal demonstratives and the latter adverbial demonstratives.

10.1.1 Nominal Demonstratives

As said above, nominal demonstratives occur within an NP structure, with two different roles: they occur with a noun (1a-c) or make up an NP on their own (2a-b).

(1) (a) fūbə̄ **w-ɛ̃́ (nə̀)**
bamboo CONC-DEM1.
"This bamboo"

(b) fūbə̄ **w-ű(nə̀)**
bamboo CONC-DEM.2
"That bamboo"

(c)- fūwə̄ **y-ɛ̃́(nə̀)**
bamboos CONC-DEM.1
"These bamboos"

(2) (a) mə̄ fà wə̀ bɔ́ = **w-ɛ̃́ (nə̀)**
1 PERS.SG give.PRESENT 2PERS.SG ADPOS.=CONC-DEM1
"I give you this one"

(b) **à´** mɔ̄ (wā-ŋ k-ə̀ŋ)
DEM.0 be.PRESENT (son my)
"It is my son"

Examples (1-2) show that the nominal demonstratives have three forms:-*ẽ* (DEM.1) –*ũ* called here DEM.2) and **à´** (DEM.0). The DEM1 and DEM.2 forms are preceded by a variable concord affix (only **w-** and **y-** are attested in (1-2)). Details about DEM.0, DEM.1 and DEM.2 denominations are given in the following lines. For the time being, it is enough knowing that DEM.1 refers to "near distance", DEM.2 to "no near distance", and DEM.0 does not refer to distance, but to a situation of the discourse or introduces an NP. In other words, although the three demonstrative forms are nominals, they do not have the same semantic reference.

What is worth observing here is that nominal demonstratives can follow a noun within an NP as in (1a-c), or can make up a complete NP as in (2) where the demonstrative refers back to the word "bamboo", already mentioned in the discourse (2a) or introduces, through the copula "be", an NP. The nominal demonstrative is followed by the optional modifier (MOD) **nə̀** or its reduplicated form **nə̀nə̀** (which is not mentioned in the examples (1-2a)). The nominal demonstratives are in complementary distribution with the adverbial demonstratives which fulfill an adverb-like function (not a nominal function). Whereas the nominal demonstrative has a phrasal influence, the adverbial demonstrative, as examined below, has a clausal impact.

10.1.2 Adverbial Demonstratives

They are used within a clause structure (instead of the NP structure like the nominal demonstratives).They fill the same argument slot as adverbs.

(3) (a) bə̀ kā tī́kā bə̀-nyə̄ bə̄-bɔ̀ **n-ẽ̃ (nə̀)**
3PERS.PL CONSEC. leave.PAST NC-brothers NC-PERS.PL there2
"They (Koshin people) then left their brothers there (Mawa)"

(b) bə̀ kā dī́ **f-ɔ̄ŋ(nə̀)**
3PER.PL CONSEC. come.PAST here
"They (Koshin people) then came here"

(c) kə̀-fī́ mɔ̄ **f-ű̃(nə̀)**
NC-pig be.PRESENT there1
"A pig is there"

In the three examples of (3), the adverbial demonstratives neither occur with an NP nor make up an entire NP with nominal function. Rather, they fill a clausal argument slot. They make

reference to a place. Besides, each adverbial demonstrative conveys a different meaning: “here” in (3b), “there 1” in (3c) and “there 2” in (3a). The meaning “there 2” refers to a known place but which has been left by the speaker and then is *no* longer *visible* in the situation of the discourse, whereas “there 1” refers to a place which is still *visible* but not close to the speaker. Now, let us appreciate in detail the form or the structure of both nominal and adverbial demonstratives.

10.2 Forms of the demonstratives

In this part, the following points are examined: the morphological structure of demonstratives, the morphological differences and similarities between the two types of demonstratives and the morpho-phonological processes observed in demonstratives. The nominal demonstrative structure is dealt with first. It usually consists of a concord marker plus the demonstrative root and an optional modifier (MOD). In other contexts, it is made up by an invariable vocalic form.

10.2.1 Concord marker + root

The concord + root structure refers to the nominal demonstratives. Expectedly, the concord marker is determined by the NP head the demonstrative accompanies or refers back to anaphorically. This can be illustrated once more in (4) below:

(4) (a) -kə̄-núŋ **k-ény (nə̀(nə̀))** ***(s-ény)** (mɔ̄) kə̄-bǐ
NC-rooster CONC-DEM.1 (be.PRESENT) NC-red
“This rooster is red”

(b) -ndì **m-ɔ̄ŋ/m-w-ēy** nzɔ̄ŋə́-lɛ̄, ndì **m-ūny** jēnə́-lɛ̄
Water CONC-DEM.1 good-ATTRIBUT. water CONC-DEM.2 dirty-ATTRIBUT.
“This water is good, that (other) water is dirty”

(c)-fá bə̀-nyə̄ bə̄-kǐ b-w-í-lə́ bə́ = tə̄-bí **t-w-ény**
Give.IMPER.2SG NC-mother NC-women CONC-/^{W}/-1PL-DAT. ADPOS=NC-kola(CONC)-DEM1
“Give our mother-in-laws these kola nuts”

(d) mə̄ fə̀ wə̀ bə́ = **w-ény(nə́)**
1 PERS.SG give.PRESENT 2PERS.SG ADPOS.=CONC-DEM1-NOM.
“I give you this one (bamboo, class 1 word)”

As shown above, the nominal demonstratives include the following components: the concord marker (which may be followed by a prosodic feature of labialization), the demonstrative root

and an optional part which is only stated in (4a) and (4d). As stated in (2b), the nominal demonstrative can also exhibit a form with a monosyllabic vowel. However, this form is somewhat peripheral and restricted to a specific function of the nominal demonstrative. That is why it is discussed only when talking about the function of demonstratives.

The concord marker depends on the noun the demonstrative modifies or refers to. Like the concord marker of other modifiers, the concord marker preceding the demonstrative is determined by the noun class of the head. In (4c) for example, the concord marker *t-* is determined by the class prefix "*tə-*" (class 13) of the head (kola nut) of the NP structure. This concord marker may also carry the labialization feature which characterizes the nouns belonging to this class, as said throughout various chapters of this work.

The nominal demonstrative shows two optional forms: a full and a reduced form. The full form adds the particle "nə". This particle may occur as a simple form or as a reduplicated one, without any semantic difference. However, this particle can also occur without the explicit form of the demonstrative, as shown in (5) below:

(5) (a) w-ēyn (**nə̀**(**nə̀**)) mɔ̄ gbĭyà w-ə́ŋ
CONC-DEM1 (MOD(MOD)) be.PRESENT house CONC-1PERS. SG
"This is my house"

(b) **nə̄** gbĭyà w-ə́ŋ (**nə̀**)
DEM. house CONC-1PERS. SG (DEM)
"This is my house"

(c) b-úny (**nə̀**(**nə̀**)) (bə̀-fĭ) júbə́-lə̄
CONC-DEM1(MOD(MOD)) (NC-pig) run-IMPERF
"Those ones are running (pigs)"

It can be seen that in example (5b), the particle "nə" occurs alone (without the demonstrative base which is nevertheless understood) and may also optionally end the clause. It should be emphasized that the clause in (5a) and (5b) are semantically identical, but their syntactic structures are a bit different: whereas the demonstrative followed by the optional particle is in copula verb subject position (5a), the optional demonstrative particle, when used alone, usually fills the verbless clause subject slot. Moreover, as said later, the syntactic core argument functions are often fulfilled by the full form of the demonstrative detrimentally to the reduced

form. Henceforth, the demonstrative form considered in this discussion is quite often the form without the optional particle.

Coming back to the root form of the nominal demonstrative, two basic forms (alongside with the form **à´**) are attested in the language: **-eny** or **–ɔŋ** (for "here" DEM 1), and **–uny** (for "there and visible" DEM 2). The DEM 1 form refers to close distance (near to speaker), and DEM 2 form is related to a person or thing which is farther compared with DEM 1 or with the speaker (not near). It may sometimes be a relative reference in that the speaker is the one who knows what is really close to them. For instance, they can refer to two objects A and B with the same demonstrative DEM 1 when A is located one meter and B ten meters from the alluded speaker. Nevertheless, compared with DEM 1, the DEM 2 demonstrative always refers to farther distance. The DEM1 (**-eny ~ ɔŋ**) and DEM2 (**-uny)** forms are almost similar. It is assumed that in the underlying representation, there is only one form (**-eny**) from which the form **–uny** is derived. However, this process is discussed in the paragraph on the adverbial demonstrative forms.

Another observation is in order: as stated more clearly in (4c), the demonstrative morpheme can be considered a component of the grammatical word structure, like the bound pronoun within the possessive construction. It is the reason why the labialization feature emerges on the concord marker preceding the demonstrative root (4c), consistent with the assumption that the labialization prosody is visible only within a grammatical word structure (one instance of grammatical word structure is possessive construction involving a noun as NP head and a pronoun as modifier).

However, the same process cannot apply with the palatalization feature. As stated in (4a), the class 7 affix does not show the **k- > s-** process observed in (pronominal) possessive markers. The application of this process is not attested. Therefore the form ***s-eny** is ungrammatical in (4a). The interpretation may be that the demonstrative is not an obligatory component of the grammatical word as the bound pronoun is. It is rather an *optional* element. Then, with demonstratives, whereas some characteristic features of the grammatical word (say labialization prosody (4c)) are active, others (palatalization feature) do not emerge. Besides, the nominal demonstrative forms give another support to the hypothesis which claims that in class 7 affixes,

k- and **s-**markers are two variants of the same basic form **k-**and that **s-** is derived from **k-** under the influence of palatalization.

The last point about the nominal demonstrative forms deals with the two allomorphs of the demonstrative DEM 1: **(m)-ɔŋ** or **m-w-eny** (4b) on the one hand and **(k)-eny** (4a), **(t-w)-eny** (4c-d) on the other hand (tones are not considered). It is obvious that the vowel **–ɔ** in (4b) is not determined only by the labialization prosody feature because in (4c) where labialization is attested, the demonstrative shows the vowel **–e** instead of the rounded counterpart. The more sustainable hypothesis can be formulated as follows:

(6) (a)The coronal vowel **-e** becomes **-ɔ** when it is preceded by a labial consonant.
(b) The palatal nasal –**ny** becomes –**ŋ** when it is preceded by **ɔ**.

Amongst other criteria, a valuable scientific theory has to exhibit an explanatory power. Why are things the way they are? The coronal mid closed vowel **–e** becomes the back and mid open vowel **–ɔ** (instead of the back and mid closed vowel **–o**) after **-m**. The first reason is that the segment preceding this rounded vowel is a labial segment. Hence, it is a canonical assimilation process. But it is not enough to account for the presence of the mid open vowel instead of the mid closed counterpart. Another reason (a second one) is that there is no back mid closed vowel attested in the system. In fact, the Koshin vowel system (chapter 2) includes mid closed and mid open coronal (front) vowels but only one non-closed dorsal (back) vowel. This rule of labial assimilation cannot apply with the labio-dorsal glide **w** (though it is also a labial segment) because it is devoid of the consonant feature. Moreover, it is assumed that the palatal (coronal) nasal which usually occurs after a coronal vowel becomes dorsal because of the resulting preceding dorsal. It is worth noting that the closed dorsal vowel cannot trigger this process. This explains why in (4b), the DEM 2 nominal demonstrative still includes the coronal nasal consonant **–ny** (instead of the velar –**ŋ**) preceded by the dorsal vowel **–u**.

However, it is useful to observe that the processes described in (6) are *optional* because the two forms (one with the coronal vowel **e** and the other with the dorsal **ɔ**) are correct. Besides, some speakers do not recognize the DEM1 form with the dorsal vowel but others do.

In sum, by generalization, the following natural classes of segments can be identified according to the phonological processes observed in nominal demonstratives:

(7) (a) labial consonant (m) and labial vowel (ɔ) form a natural class of [labial] segments.
(b) coronal vowel (e) and coronal consonant (ny) form a natural class of coronals.
(c) dorsal vowel (ɔ) and dorsal consonant (ŋ) form a natural class of dorsals.

It should be repeated that the generalizations in (7), which are common in literature, can be accounted by the Feature Geometry Theory. One of the variants of this model (the Constriction-based model (Clements and Hume, 1995) accounts for the natural classes in (7) and then the *connection between vowels and consonants*, in a straightforward way, as stated in many parts of the section on phonology: the interaction of labial consonants and labial vowels (first set), the interaction between coronal consonants and front vowels (second set), and the interconnection between dorsal consonants and back vowels (third set), are merely based on natural processes like assimilation and dissimilation, because in their internal organization both the consonants and vowels of each set have the place node feature.

10.2.2 /f-/ and /n-/ Markers + Demonstrative Root

Let us analyze now the adverbial demonstrative forms through the examples in (3) considered again in (8) below:

(8) (a) bə̀ kā tī̀kā bə̀-nyə̄ bə̄-bɔ̀ **n-ẽ̀**
3PERS.PL CONSEC. leave.PAST NC-brothers NC-PERS.PL there2
"They (Koshin people) then left their brothers there" (in a putative place called Mawa, somewhere in North Cameroon)

(b) bə̀ kā dī̀ **f-ɔ̄ŋ**
3PER.PL CONSEC. come.PAST here
"They (Koshin people) then came here"

(c) kə̀-fī mɔ̄ **f-ṹ**
NC-pig be.PRESENT there1
"A pig is there"

If the first consonants of the adverbial forms in (8) are not considered, three different roots can be identified: –ɔŋ (for "here" (8b)), -ũ (for "there 1"(8c)), and -ẽ (for "there 2" (8a)). All the three forms are identical to the nominal demonstrative forms analyzed in the preceding paragraph. Hence, although they fulfill different syntactic functions, the demonstratives, *whether*

nominal or adverbial exhibit the same roots. Only the concord markers vary: it is an invariable **f-** or **n-**for the adverbial form and a variable consonant or glide in the nominal form.

If the interaction between the onset syllable and the syllable nucleus of the forms in (8) is observed, one can realize that this interaction is consistent with the predictions assumed for the nominal demonstratives. In fact, the form **f-ɔŋ** (7b) for instance**,** is completely illustrative of the following, assuming that the basic demonstrative form is **-ẽ**:

- The coronal vowel of the basic form (-e) becomes labio-dorsal by assimilation with the labial consonant f- (exactly as the same vowel optionally labializes after m- in nominal demonstratives)

-After the labio-dorsalization, the mid open vowel makes the coronal –ny become dorsal (as predicted earlier).

- Furthermore, the final –ny (8c) does not change after the closed dorsal vowel because only non-closed vowel can trigger assimilation rule, as said earlier.

- And finally, in a non-labial-consonant environment, the demonstrative root shows the form –ẽ (after the dorsal glide w- as in nominal demonstrative with an NP head noun which exhibits a w- concord; or as in the adverbial demonstrative (8a), after the coronal nasal n-). This last observation strengthens the conviction to consider the form –ẽ as the basic one. In fact, the demonstrative root –ẽ is the most recurrent root attested in both nominal and adverbial demonstrative.

The adverbial demonstrative forms in (8), and their nominal congeners in (4) to a certain extent, allow somebody to make further dichotomist generalizations in (9) which are usefully discussed when analyzing the symbolic value of the demonstratives:

(9)(a) The demonstrative root referring to far place that cannot be seen (invisible), is preceded by the *nasal* consonant **n-**, and the two roots referring to spaces which are visible follow the *oral* consonant **f-**

(b) Within demonstratives referring to places which are visible and which are

distinguished only on distance ground, the vowel –**e** points to near distance and the vowel –**u** to not near distance.

In the adverbial demonstrative forms, something has to be said about the identity of the consonants **n-** and **f-** preceding the demonstrative roots. What do they refer to? In nominal demonstratives, the consonants or semi-consonants preceding the roots refer to the class marker of the NP head the demonstrative follows or refers to. In adverbials, there is no NP head to modify. But what noun class morphemes are **n-** and **f-** derived from? Once more, there is good reason to believe that the consonants preceding adverbial demonstratives are relic forms of the class morphemes. Concerning the consonant **f-** for instance, someone may think of the class prefix 19 (fə-) attested in the language. However, the class 19 morpheme refers to diminutives and no clear link can be found between a demonstrative marker and a diminutive, even though class morphemes no longer always convey semantic relation in Bantu and Bantu-like languages, as stated in many parts of this work. However, if a closer look is taken at the reconstructed Proto-Bantu (*PB) class affixes, it will be realized that the demonstrative marker **f-** is somewhat similar to the *PB class prefix 16 (*pà) (alongside with the Koshin class prefix **fə-** which is assumed by previous studies on Koshin to come from *PB class 19 *pì,). In other words, whether in the recognized noun class 19 (diminutives) or in the postulated class 16, the *PB class prefix beginning by ***p-*** corresponds to the class prefix beginning by **f-** in Koshin.

More interestingly, it is worth considering that the *PB class 16 prefix refers to "locatives" (similar to the adverbial demonstratives which are locatives), "near" or "explicit" (Maho 1999:51). Hence, it is believed that the consonant preceding the adverbial demonstratives (which are locative terms) derives rather from the *PB class 16 which is not attested in the noun class system of Koshin. If this assumption is viable, it is therefore another argument to support the existence of noun class relic forms outside the class system in Koshin. With respect to the consonant **n-** preceding the "there 2" adverbial demonstrative form, the description has not established clear evidence to linking it to the Koshin class system or to the *PB class prefixes. Maybe a comparative study with other related languages or a diachronic study of the Koshin system (or both at the same time) can shed light on this issue.

It should be observed that, in spite of this possibility to separate the adverbial demonstrative root from the putative relic form, it is preferable to write the adverbial form as a

single morpheme because the relic form of the class morpheme is, unlike the concord marker in nominal demonstrative, unchangeable. Therefore, the item *fɔ̄ŋ* "here" instead of *f-ɔ̄ŋ* will be considered.

10.3 Functions

In this part, the functions of demonstratives are handled, insisting on the following issues: the syntactic functions, the identification function, and the anaphoric and cataphoric functions. But first of all, the discussion of the deictic function of the demonstratives is dealt with.

10.3.1 Deictic Function

Cross-linguistically, one of the defining basic functions of the demonstratives is the deictic function. This deictic function refers to the *activity of pointing* to a place, an object or a person within a context of speaking. Even though it is one of the canonical functions of the demonstratives, other categories like (personal) pronouns- can fulfill this function. It should be mentioned that the deictic and other functions of the demonstratives often conflate so that there may be confusion about the specificity of each function. In fact, if the case of nominal demonstratives is taken for instance, the distance reference of "this" (DEM1) versus "that" (DEM2) is not always relevant in all the contexts and these demonstratives can be used without conveying necessarily the distance reference even though, there are also instances where the deictic and the other functions of the demonstratives are clear-cut.

Let us consider the following context to illustrate what is discussed. One afternoon in the Koshin village, a young boy was found in a neighboring compound feeding two pigs, in a wooden container and the boy was very close to both pigs. One of the two animals tried to drive the other from the container in order to eat all alone and the young boy told the consultant the following sentence in (10) below:

(10) mə̄ kɔ̀ŋtə̄ kə̄ kà-fĭ k-**ɛ̃̄**/
1PERS SG like.PRESENT NEG NC-pig CONC-DEM1
"I do not like this pig (pointing with its lips and chin to the aggressive pig)

mə̄ kɔ̀ŋtə̄ k-**ʉ̃̄** (nə̀)
1PERS SG like.PRESENT CONC-DEM2
I prefer the other one (pointing to the other pig)"

In the context of (10), the two pigs cannot be distinguished in terms of relative distance from the young boy (the speaker). The only function of the demonstrative in this example is a deictic one. This function is realized here by the *pointing gesture* with *the lips and the chin*, probably (but not absolutely) because the boy's hands were occupied in feeding the pigs. Moreover, the first pig is referred to with the demonstrative "this" instead of the demonstrative "that" (when, once at home, the ordering of the demonstrative was modified, putting "that" before "this", the consultant rejected the sentence: "No put *this* pig before"). Therefore, when the distance reference is not relevant between many objects, the first one is referred to by "this". The use of the demonstrative in this context is somewhat similar to the use of the English demonstrative "this".

Parallel to what is observed in nominal demonstratives, adverbial demonstratives show the same deictic value and when the distance factor is irrelevant, the demonstrative "here" is used at first. For instance, after a tiring and painful day at the farm, the informant very often said that he had a pain "here" (touching his neck). Another day, he touched his leg using always the same demonstrative "here".

10.3.2Anaphoric and Cataphoric Functions

In literature, when a pronoun or demonstrative element B refers to or replaces an element A which is explicitly mentioned earlier in the discourse, it is said, referring to B, that there is an anaphora relation and that B has an anaphoric function. There is cataphora when the pronoun or the demonstrative comes before the element it refers to or replaces. In Koshin, demonstratives can show anaphoric and cataphoric functions. In fact, in some contexts the distance reference and the deictic function of the demonstrative are not relevant. They rather show anaphoric or cataphoric function.

This can be illustrated by the following. Let us imagine a conversation between two friends, in Yaoundé, about a known and very remote village, say Koshin village, and then one of the two friends reacts by the example in (11):

(11) kū w-ɛ̃̄ ɗiy-sə́-lə̄
village CONC-DEM1 far-INTRANS-IMPERF
"This village is far"

Located at almost two days journey by bus from the speaker, the village alluded to in the example (11), obviously, is not close. Hence, the demonstrative (DEM1) does not refer to distance in this context. That is why, functionally, there is no contradiction between the demonstrative "this" and the lexical item "far" in (11). In other words, parallel to the distance reference function of the demonstrative which conveys the false meaning: *"the village which is close is far", there is an anaphoric function which simply triggers the correct meaning and reads (11) as "the village *alluded to* (in the discourse) is far".

The cataphoric function of the demonstrative can be illustrated by the example (5a) above and which is repeated in (12) below:

(12) w-ɛ̃(nə) mɔ̄ gbɨ̈yà w-əŋ
CONC-DEM1 be.PRESENT house CONC-1PERS. SG
"This is my house"

In the copula constructions (5a, 12) and in verbless constructions like in (5b), the demonstrative can fulfill a cataphoric function where the item the demonstrative refers to comes after this demonstrative. Moreover, the structure in (12) is fully understandable whether the item (the demonstrative refers to) "house" is previously mentioned or not in the discourse.

10.3.3 Identification Function

In the part dedicated to nominal demonstratives above, it has been stated that beside the basic two forms of nominal demonstratives (DEM1 and DEM2), there is another special form that has been referred to as DEM0 and which is different from the preceding two forms both morphologically and functionally. Let us consider again the example of this demonstrative given in (2d), associated to other similar examples, in (13) below:

(13)(a) **à́** mɔ̄ (wā-ŋ k-əŋ)
DEM.0 be.PRESENT (son my)
"It is my son"

(b) - kū w-ɛ̃ (**à́**) mɔ̄ kū Kɔ̄
Village CONC-DEM1 DEM.0 be.PRESENT village Koshin
"This village, it is Koshin village"

- **à́** mɔ̄ kə̀-fǐ kə̄ ndè
DEM0 be.PRESENT NC-pig DEF. INTERROG (who)
"Whose pig is it? (It is the pig of whom?) "

(c) - **à́** jə̄-lɛ́
DEM0 cool-ATTRIB.
"It is cold"

- **à́** (mɔ̄) ndɛ́
DEM0 be.PRESENT (who)
"Who is it? "

The bold demonstrative form in (13) is morphologically different from the others because it consists in only one (vocalic) sound. Moreover, it has a specific function: unlike the other nominal demonstratives which make up a full NP or modify an NP head, the form in (13) is different in that, although it occurs in surface structure as a full NP, careful attention shows that it is a redundant part of an NP whose *real* form occurs elsewhere in the clause (it usually occurs in non-subject position) or at least is inferable from the context and therefore is clearly understood (13c). *Apparently*, this demonstrative always fills the copula subject (CS) slot (13a-b) or the verbless subject (VS) slot (13c), but in the underlying structure it does not occur at all. The redundant value of the demonstrative in (13) can be appreciated in (13b, first example) for instance where it follows the real subject of the verb, before the verb, and where its absence does not jeopardize the grammaticality of the clause. However, some questions are in order: what is the role of the DEM0 in the language? Is it really useless as far as the communicative value is concerned? If the structures (13) are acceptable in the language, it means that the DEM0 item has a certain value. In fact, the communicative value of this grammatical item is to identify, recognize, or lay emphasis on the real topic which is often detached from the subject position in surface structure.

Some aspects of the specific identification value of the demonstrative in the French language were examined by Ousmanou (2005) who found that French exhibits a demonstrative with identification function, similar to the one described in (13) for Koshin. The author also found that, as stated by Grevisse in his classical *Le bon usage* (2011: §236 a, 13th edition), "Le sujet peut être exprimé deux fois, par redondance […], dans la même phrase ou la même proposition. Ordinairement, une des deux fois il prend la forme d'un pronom […]" [the subject can occur twice, by redundancy, in the same clause or sentence. Usually, one of the two occurrences takes the form of a pronoun] (Grevisse's pronouns in this context include our personal pronouns and our demonstratives). And many students failed in how to translate the

structures including this type of demonstrative into Spanish, mostly because the French identification demonstrative was wrongly considered real subject of the verb (instead of a mere *apparent* subject which, in Spanish, cannot be translated).

In summary, the language has a specific nominal demonstrative form which exhibits a function of identification or recognition. This function, of course, can be associated to the pointing (deictic) function, basic to any demonstrative. For instance, the clause "it is my son" in (13a) can be stated with an associated gesture of pointing, even though the demonstrative can show a supplementary function.

10.3.4 Syntactic Function

No restriction preventing demonstratives or NPs including demonstratives from a specific syntactic function has been noticed. In other words, the demonstratives alone or the noun phrases including demonstratives can fulfill any of the syntactic functions recognized for nouns. Hence, the demonstratives can have a phrasal function (within the NP structure) or a clausal function (within the clause structure and which can be a core or peripheral function).

10.3.4.1 Phrasal Function (NP Head Modifier)

The canonical function of demonstratives within the noun phrase (NP) structure is *modifier* of the NP head. In this function, the demonstratives, as said before, agree with the head through the concord marker determined by the noun class of the noun head.

(14) (a) fə̀-mɔ́ **f-ɛ̃́**
NC-cat CONC-DEM 1
" This cat"

(b) bə̀-mbɔ̀ŋ **b-ű̃**
NC-cow CONC-DEM2
"Those cows"

It should be recalled that the demonstrative and the head it modifies within the NP can be modifier of another NP head within a noun phrase (phrasal function) or can fill any core/peripheral argument slot within the clause structure (clausal function).

10.3.4.2 Clausal Function

In clausal function, demonstratives occur alone, as an autonomous element (making up a full NP). In order to illustrate the preceding assumption, let us consider again in (15) below, example (10).

(15) mə̄ kɔ̀ŋtə̄ kə̄ kə̀-fĭ **k-ɛ̃̄** /
1PERS SG like.PRESENT NEG NC-pig CONC-DEM1
"I do not like this pig (pointing with its lips and chin to the aggressive pig)

mə̄ kɔ̀ŋtə̄ **k-ű̃** (nə̀)
1PERS SG like.PRESENT CONC-DEM2 MOD(MOD)
I prefer the other one (pointing to the other pig)"

It can be observed that, two demonstratives occur in (15) and are included within two NPs with two different grammatical functions. Whereas in the first occurrence the demonstrative (DEM1) is modifier within its NP structure, in the second occurrence the demonstrative (DEM2) is head of the NP filling the object argument slot within the clause. This demonstrative fills a core argument slot, but demonstratives can also occur in peripheral argument slot, as in (16).

(16) ɗĭ **fɔ̄ŋ** bə́=nɗĭ
come.IMPER.2PERS.SG here ADPOS. water
"Come here with water"

In fact, as stated in (16), the adverbial demonstrative "here" fills a peripheral argument slot referring to a place. After analyzing the types, the forms and the different functions of the demonstratives, it is useful to examine their parameters of reference.

10.4 Parameters of Reference

In this part, the following question is handled: what type of semantic reference the demonstratives express in the language? In other words, beyond the pointing reference cross-linguistically basic to any demonstrative, what type or types of reference the demonstratives codify? Two mixed parameters have been attested: the distance (spatial) reference and the visibility reference. The two parameters are presented separately here, for methodological purpose.

10.4.1 Spatial Reference

Two demonstratives are attested in Koshin on spatial or distance reference: the nominal demonstrative (DEM1) and the adverbial demonstrative "here" on the one hand (first set), and the nominal demonstrative (DEM2) and the adverbial demonstrative "there1" on the other hand (second set). The first set of demonstrative relates to the meaning "near the speaker" and the second one relates to "not near the speaker".

(17)

	Near the speaker	*Not near the speaker*
Nominal demonstratives	Concord marker-*ẽ*	Concord marker-*ũ*
Adverbial demonstratives	*fɔŋ*	*fũ*

From the illustration in (17), the following mechanisms emerge: the demonstrative form relating to "not near the speaker" is expressed through the dorsal and high vowel whereas the form relating to "near speaker" is shown by coronal and no high vowel (let us not forget that, as discussed previously, the coronal vowel has become labio-dorsal with the influence of the labial consonant).

It is worth noting that, beside demonstratives, the spatial reference can be coded by other (grammatical) categories of the language. In the part on referential verbs, it has been discussed in detail how some verbs such as "go" lexically code the distance reference in the language. It has been also emphasized that different roots for "go" are attested, relating , for instance, to "far distance", "close distance", "high distance", adequately corresponding to the social and geographical environment of the language. Moreover, as analyzed in a further chapter of this work, some verbal clitics show more or less the same value as demonstratives, as far as distance reference is concerned. In fact, the "coming" and "going" morphemes are also attested in the language through clitics. As explained in detail in the allotted place, the "coming" morpheme refers to an action "oriented towards the speaker" and which may be "near the speaker" (hence similar to DEM1),whereas "going" is quite similar to DEM2 because it refers to an action going away from the speaker and which may *not* be *near* the speaker.

10.4.2 Visibility Reference

Concerning the visibility parameter, two terms are also attested: the "visible" versus "non-visible" parameters. The visible demonstrative refers to an object, person or any item which can be seen by the speaker but the invisible demonstrative relates to an invisible item in the situation of the discourse. It *may* seem problematic to imagine an invisible item determined by a demonstrative, assuming that any demonstrative is basically deictic (pointing to the item it refers to). Hence, "how can somebody point to an object which is not seen?", one may ask. However, some factors can make the demonstrative "invisibility" credible.

Let us imagine that the "non-visible" item refers to an object which is *well known* and which has been *visible before*, but which, in the situation of the discourse, has moved out of the sight of the speaker. Or, in the same vein, let us imagine a person hidden behind a huge stone, discussing with us. Of course that person cannot be seen but one is able to point to the direction the alluded person is talking from. Therefore, it cannot be incorrect to point towards the direction where the object was once seen, even if it is more visible. Only one "invisible" demonstrative is attested in the language and the visible versus invisible dichotomy of the system can be shown as follows in (18) below where the broken lines refer to empty slots because there is no attested form filling them:

(18)

	Visible	*Not visible*
Nominal/adverbial demonstrative	Concord marker-*ẽ/fɔŋ* "near and visible"	----------
Nominal/adverbial demonstrative	Concord marker-*ũ/fũ* "not near and visible"	----------
Adverbial demonstrative	----------	*nẽ* "not visible"

As (18) shows, whereas the language exhibits a two-term sub-system of spatial reference (near/ not near), only one a one-term parameter of visibility is attested, without any codification of distance. In short the Koshin demonstrative system is a three-term system consisting of the following parameters: "near and visible", "not near and visible" and "not visible". In literature, it is not an uncommon system. For instance, Onishi (1997:25-26) described an identical system for the Bengali language. It should be emphasized that, alongside with what is said about (17) and even earlier, only one main segmental feature makes relevant the "visible" versus "not visible" opposition within the demonstrative system of the language. This is obvious enough when the adverbial demonstratives are compared: whereas the "visible" adverbial demonstratives show the oral sound **f-**(ẽ/ũ) before the demonstrative root, the "invisible" demonstrative shows the nasal **n-**(ẽ).

Before continuing the discussion on demonstratives, it is interesting to notice how natural languages always show surprising behaviors and are far from being expected mechanical systems. In fact, as an illustration, in the chapter on verbs (chapter 7), the occurrence of the high

versus low segments within the lexical organization of some verbs has been well-attested. It may seem therefore intriguing that within the demonstrative system (one of the canonical grammatical system of height/space codification), height reference is not attested. A careless generalization might have also predicted the height reference in the demonstrative system, and this is totally wrong. Hence, the linguistic analysis should not rely much on deductive procedures but rather, should operate *inductively*, that is, constructing generalizations from proved specificities. And hopefully, this is exactly one of the fundamental tasks of the Basic Linguistic Theory adopted in this work.

10.5 Sound Symbolism in Demonstratives

Many times in this work, one of the most neglected (or avoided?) topics of linguistic research has been highlighted, that is, the sound-meaning relationship in some parts of the language, which is often called sound symbolism or iconicity. In the same vein, it has been emphasized many times that, as outlined by many scholars, the interaction between linguistic sounds and meaning is too much to be ignored. In Koshin, the demonstrative system is one of the areas within the language where iconicity is attested. The sound symbolism is active in both the spatial and visibility references.

10.5.1 Sound Symbolism in Spatial Reference

A simple glance at demonstrative roots (nominal and adverbial) suggests that, there is a systematic observation of a sound symbolism presented in a different form in (17) above and which can be repeated in an easier way in (19) below (tones are irrelevant for this discussion):

(19) (a) –ẽ/ɔŋ : "near"

(b) –ũ : "not near"

In (19), the dorsal segments *–ɔ* and *–ŋ* being the derived forms of the coronal sounds –e and –ny respectively as analyzed in detail earlier, the only basic root of the demonstratives is –ẽ for "near" and –ũ for "not near". When the "invisible" demonstrative root (nẽ) is taken into account, there are good reasons to assume that the only basic demonstrative root is the form –eny (underlying form of –ẽ) because of the following:

(20) -Amongst the two allomorphs (-ẽ and -ũ), the form –e is the most recurrent (attested in "near and visible", "not near and visible" and "not visible or invisible")

-The form –ẽ is the functionally unmarked form (it is used even though the spatial reference is not relevant)

For the reasons given in (20), it can be assumed that in the underlying structure, only one demonstrative root is attested. From this basic form, two allomorphs are derived: -ẽ for "near" and -ũ for "not near". What is interesting in this discussion is the fact that whereas the "near" distance is shown in the language by the coronal (front) and non-high vowel, the non-near distance is expressed through a dorsal (back) and high vowel. It is absolutely reminiscent of what have been said at the beginning of the chapter on verbs. In fact, it has been assumed that the observation of some verb roots like "go" in Koshin allows somebody to establish a connection between the *coronal and non high* vowels and near/close distance on the one hand, whereas the *dorsal and high* vowels relate to non-near/far distance.

This hypothesis has been illustrated by l**í**yá "go far" versus g**ē** "go near" amongst others. The vocalic sounds of the demonstratives bring more strength to the assumption. Therefore, it cannot be denied that: coronal and non-high vowels have something to do with close distance. After observing many languages, Dixon (2010b:243) has made the following observations: *"A topic which has not been systematically studied on a cross-linguistic basis is the iconicity or sound symbolism typically found in demonstratives which distinguish degrees of distance. As first approximation, the 'near' term is more likely than non-near terms to involve a front high vowel and /or laminal or dental consonant(s)".* It can be observed that the Koshin system satisfactorily agrees with the preceding approximation except on one point: non-high vowels are here preferred to the high ones to code close distance. More interestingly, as stated in later chapters, when the sound symbolism targets the consonantal sounds, coronals are likely to code near distance than dorsals refer to non-near distance. This generalization is far from being parametrical to Koshin. For typological reasons, let us once more look at some Koshin related languages (alluded to in chapter and in the preceding one) in order to see how distance reference is symbolically coded in demonstratives.

(21)

Languages	DEM1	DEM2	DEM3
a)Tuki , L.M. Hyman (1980:32)	*-eena* "near the speaker"	*-la* "near the listener"	*-wɔkɔ* "far from both of them"
b)Ngyembɔɔn,S. C. Anderson (1980:43)	*-ɔŋ* "near the speaker"	*-ɛ* "near the addressee"	*-i* "away from both"
c)Adere, J. Voorhoeve (1980:66)	*-nɛ* "near the speaker"	*-nɛnɛ* "away from the speaker and addressee"	*-ən* "anaphoric"
d)Akɔ̄ɔ̄sē, R. Hedinger (1980: 18)	*-en* "this one here"	*-e* "that one there"	*-ini* "that one over there"

Some striking characteristics of (21) can be summed up as follows (DEM stands for demonstrative):

-As in Koshin, all the vocalic sounds of the above four languages exhibit non-high vowel in DEM1 form (second column).

-In three cases out of four, as in Koshin, the DEM1 form includes a coronal vowel. The only case where the DEM1 includes a dorsal vowel, there is a following dorsal consonant.

- In two cases (21b, 21d), the "far" demonstrative shows a high vowel, exactly as in Koshin, and in one case (21a), the demonstrative with the non-near meaning exhibits a back vowel, as in Koshin.

Something has to be said about the far-distance codification process in vowels. Assuming that the basic demonstrative is the form –eny, to derive the form –uny, there is a need of a double vocalic process of dorsalization and closure of the vowel **e**, which pushes this vowel backwards and up. Let us always bear in mind that the height parameter in Koshin can refer to various symbolic values, apparently different but basically connected in the language: high distance, far distance, plural meaning (through palatalization).This generalization may help somebody to understand the symbolism of visibility reference.

10.5.2 Sound Symbolism and Visibility Reference

Examples (18) illustrate the distribution of demonstratives on the visibility ground. To put it simpler, the difference between the visible and the invisible demonstrative is only based on the occurrence of the nasal consonant **n-** in the invisible demonstrative, on the one hand, and the

non-nasal consonant (f-, or a variable concord maker which is usually a non-nasal) on the other hand, for the visible demonstratives. The visibility reference is not attested in other parts of the language so as to allow someone assume convincing generalizations. However, based on what is said on distance codification, it can be tentatively said that the invisibility is expressed by the nasal sound whereas the visibility is coded through oral sounds, because an invisible distance is presumably farther than the visible distance. However, it has been realized that the farther the distance is the higher the sound is (mostly vowels). Then, assuming that the nasal cavity is higher than its oral counterpart (according to the articulator apparatus), it is natural that the nasal consonant be more likely used to code invisible distance. Nevertheless, the analysis is alert to the idea that this assumption may need more to be more sustainable.

In summary, in this chapter the following issues are addressed: the nominal and adverbial types of demonstratives, their forms and their deictic, anaphoric, cataphoric and syntactic functions. Their identification function is also analyzed the same as the parameters of reference exhibited by the system laying stress on distance and visibility. The symbolic value of the sounds has been emphasized with particular interest, consistent with what is attested in other parts of the language or in some related languages. All in all, like other (grammatical) sub-systems of the language such as pronouns, noun classes, the demonstrative system unveils quite important information related to the environment of the language. Other grammatical modifiers of the noun, somewhat close to demonstratives, have not been discussed thus far: the definiteness markers. Other modifiers which have not been examined as well are alternative markers. Let us examine both of them in the next chapter.

CHAPTER 11
(IN)DEFINITENESS SYSTEMS: ARTICLES, "INDEFINITE PRONOUNS", ALTERNATIVES AND QUANTIFIERS

In this chapter, two main objectives around the definiteness versus indefiniteness sub-categories are discussed. First of all, the morpho-syntactic functioning of the definiteness system (articles) is analyzed. Although articles in Koshin are not, strictly speaking, modifiers of the single NP head but rather modifiers of the whole NP structure, they have been purposely included amongst noun modifiers. As described in the following paragraphs, the definite versus indefinite articles are strongly linked to many of the other categories referring also to definiteness and indefiniteness parameter. Secondly, the other grammatical sub-systems related to definiteness parameter such as the "indefinite pronouns", the alternative markers and also some indefinite quantifiers are examined.

11.1 Articles

Cross-linguistically, articles are not an uncommon category. Nevertheless, they do not seem to be very common amongst the already described Koshin-related languages, at least, as far as the linguistic literature is concerned. Their canonical syntactic function is, as stated in the following lines, determiner, that is, a grammatical modifier within the noun phrase (NP). Other grammatical categories (say demonstratives) can also function as determiners. However, articles are traditionally considered *minimal determiners* because, unlike others determiners which determine the NP head and also add supplementary indication to the determination (*pointing* reference, for demonstratives; *possessive* reference, for possessives markers, etc.), articles only give determination, *definiteness/indefiniteness, actuality, real existence* to the noun head. In this vein, Grevisse (2001:§563, 13th edition) emphasizes that "l'article est le déterminant minimal, le mot qui permet au nom de s'actualiser dans une phrase, si le sens ne rend pas nécessaire le choix d'un autre déterminant." (the article is the minimal determiner, the word which gives real existence to the noun within a clause if the meaning does not make it necessary to select another determiner). In other words, articles convey some definiteness/indefiniteness to the noun they occur with. That is why the item "definiteness/indefiniteness" markers (DEF/INDEF) have been adopted in this work to refer alternately to the label "articles" even though it is well known that the terminology "articles" is more advantageous because more pervasive in the literature usage. In languages where they are attested, articles are usually divided into definite and indefinite.

Moreover, another specific indefinite marker –different from the article- is attested in the language. It is bound as a suffix to the noun items "person" and "thing" and the resulting compound structure functions as a pronoun, an *indefinite* pronoun, meaning respectively "something" and "somebody". Because of its specific structure and meaning, it cannot be regarded as an article. Instead, following traditional usage, it can be called *indefinite pronoun* (even if it does not meet the characteristics of what is called pronoun in this work). Let us examine the forms of the definiteness markers attested in the language.

11.1.1 Forms

Two allomorphs of the article are attested in the language: a plain allomorph and a null one. This can be seen in the following examples:

(1) (a) tə-lɔ́m-**ø** mɔ̄ kpɔ̄ wū wù tyə̀ nə̄ kpə̄-sə́
NC-funeral celebration-**IND** be.PRESENT day DEF. 3PERS.SG cry.PRES. PAST2die-INTRANS
The dead celebration is the day you cry (the people who) died

(b)tūŋə̄, sə̀ lə́ kə̄ fə́ təlɔ́m **tə̄** mwə̀n nə̄ kpə̄-sə́
On tūŋə̄, 1PERS.PL MOD. FUT1 do funeral celebration **DEF** person PAST2 die-INTRANS
On tūŋə̄ (the last but one day of the week), we can celebrate the dead persons

(2) (a) mə̄ kānə́ bə̀-lùŋ-**ø**
1 PERS.SG have NC-problems-**INDEF**
I have problems

(b) bə̀-lùŋ **bə̄** sə̀ kānə́ mɔ̄ bə̀-ŋɔ̀tə̀
NC-problems **DEF** 1 PERS.PL have.PRESENT be.PRESENT NC-books
The problems we have are books (the lack of books)

As shown in (1-2), each definiteness marker exhibits two (bold) allomorphs corresponding to the definite versus indefinite articles: the null form *(-ø)* corresponds to the indefinite articles (1a, 2a) while to the definite article corresponds the structure *concord marker- schwa (CONC- ə)* as observed in (1b, 2b). One can also say that the structure of the definite article is morphologically similar to the structure of the noun class prefix. The schwa may optionally assimilate the place feature of the preceding glide segment w- or y- and may be realized -u or -i respectively. The Koshin definite versus indefinite contrast of the article system through a non-null versus null morpheme respectively, is quite common in many languages. For instance, Masa (Chadic,

Cameroon and Chad; Melis 1999: 103; Ousmanou 2007:35) shows exactly the same system with a non-null form referring to the definite article while the indefinite article has the null form.

A word has to be said about the grammatical markedness in the definiteness category. Observations from (1-3) straightforwardly show that the morphologically marked article is the definite one while the indefinite morpheme is unmarked (because it is a null morpheme). Functionally, the unmarked morpheme is still the indefinite article: in their great majority, nouns are used without definite article. In other words, the most commonly used article is the (null) indefinite one, whereas the definite article is used only in restricted situations. For instance, in citation contexts, nouns are almost always used without definite article. Even in non-citation context, if there is no instance of specific determination, the nouns are used without the definite article.

The definite marker (unlike the indefinite one which is invariable) varies, according to the noun class of the determined noun head. This variation is reminiscent of the forms of other grammatical categories analyzed thus far, such as the non-human personal pronouns, the relative pronouns and also the overt noun class morphemes. As said in previous chapters, let us emphasize, once more, that all the grammatical categories modifying the noun mostly originate morphologically from the noun class system. From the examples (1-2), all the forms of the definite marker can be presented as in (3) below. The concord affixes (under the class affixes column) presented here are the forms occurring within the grammatical word, that is, forms exhibiting prosodic features such as labialization, palatalization and nasalization as stated throughout this work.

(3)

Class numbers	Class affixes		Definite articles	Examples
	Prefix	concord		
1	ø-	wə̀-	wə̀	mbɔ̀ŋ wə̀ “the cow”
2	bə-	b(ẃ)-	bə́	bə̀-mbɔ̀ŋ bə́ “the cows”
3	/ʷ/	ẃ-	wə́	wɨ̂n wə́/wú “the tooth”
4	/ʸ/	ý-	yə́	jɨ̂n yə́/yǐ “the teeth”

6(a)	ø-	m(ẃ)-	mə́	mɨ̂ mə̄ “the oil”
7	kə-	ḱ-sḱ-/ś-	kə́	kə̀-mbàŋ kə́ “the cheek”
8	bə-	b(ý)-	bə́	bə̀-mbàŋ bə́ “the cheeks”
9	/ˆ/	ỳ-	yə̀	nyɔ̀m yə̀/yì “the animal”
10	/ˊ/	ý-	yə́	nyɔ̄m yə́/yɨ́ “the animals”
13	tə-	t(ẃ)-	tə́	tə̄-kúbə̀ tə́ “the rips”
14	bə-	mḿ-	(m)bə́	bə̄-zhɨ̂ (m)bə́ “the food”
19	fə-	fˊ(y)-	fə́	fə̀-ŋbbà fə́ “the castrated goat”

It can be noted that, the tone of the definite marker is usually non-low (high or mid) except for nouns from class 1 and class 9 whose articles show a low tone, consistent with the analysis of the noun class system discussed throughout this work. However, what is quite noticeable is the general lack (in the definite articles column) of mechanisms clearly observable in personal pronouns marking possession, and to a certain extent, in demonstratives: the emergence of the prosodic features (labialization, palatalization, and nasalization) within the grammatical word structure. As a matter of fact, the definite morpheme in (1-3) shows a strong tendency to avoid the prosodic features. In the chart (3) above, only the definite article determining “food” (class 14) optionally occurs with a prosodic feature. The articles determining words from the other classes scarcely exhibit prosodic features. Why? The article is known to be one of the most faithful and closest companions of the noun. And, it goes without saying that the basic slot of the noun and its determiner article is the noun phrase (NP) structure. Why does not the article behave in the same way as pronominal possessive markers? This intricacy is discussed in the following paragraph.

11.1.2 Functions

In this part, two issues are discussed: on the one hand, the semantic function of the definiteness markers and on the other hand their syntactic function.

11.1.2.1 Semantic Function

The semantic function refers to the type of reference the article triggers in its relationship with the noun. This reference depends on the type of article. Obviously, the definite and indefinite markers do no exhibit the same reference.

The definite marker refers to an item which is known, specific, and determined in the situation of the speech. Consequently, a common noun used for the first time *tends* to be used with the indefinite (null) article. The definite article is not often used unless the noun it refers to is well known by the speaker and/or the addressee, even if, as stated above, another determiner can also be used in this context, when the meaning requires additional reference. In the examples (2) considered again in (4) below, the noun "problems" is used for the first time with an undetermined meaning (2a and 4a). It can refer to any type of problem, say family problems, farm problems, etc. And the noun does not bear the overt (definite) form of article.

(4) (a) mə̄ kānə́ bə̀-lùŋ **ø**
1 PERS.SG have NC-problem **INDEF**
"I have problems"

(b) bə̀-lùŋ **bə̄** sə̀ kānə́ mɔ̄ bə̀-ŋɔ̀tə̀
NC-problems **DEF** 1 PERS.PL have.PRESENT be.PRESENT NC-books
"The problems we have are books (the lack of books)"

However, in the second structure (2b, 4b), the item "problems" is used within a specific and definite meaning. The discourse is about the specific problems "we have", problems related to books (this structure is an excerpt from a text collected from the headmaster of the public school of Koshin, about the different problems he faces in his institution). Therefore, the item "problems" is well known and specific in this context, and then can be determined by the definite article. It has been amusing in the fieldwork to observe that, during text translations, some of the consultants who speak English translate sometimes (but not always), spontaneously, the definite marker by the English demonstrative "this". And when there is reaction through the form "this?" (and pointing at the same time), they keep quiet for a few seconds and then, as illuminated by a strange spirit, rectify suddenly the translation by saying "the". This anecdote simply betrays the *actualization* meaning shared by two close (but different) companions of the noun: the definite article and the demonstrative. That is why the consultants sometimes mix up the translation of the demonstrative with the translation of the article. Nevertheless, only demonstratives (not articles) show a pointing meaning. Therefore, as soon as the pointing action is involved, the consultants automatically remember the demonstratives rather than the articles.

Another evidence supporting the actualization and definiteness meaning of the article comes from alternatives. Details about this topic constitute the second articulation of this chapter. For the time being, it is enough observing that one of the alternative morphemes

(alternative 1), meaning "the other (out of a group of two)" cannot occur without the definite marker while the other alternative (alternative2) meaning "any other (out of a group of more than two)" carries the indefinite article. More concretely, it means that the alternative1 *must* refer to a known object, animal, or person (because there are only two involved choices) and hence falls naturally within the scope of the definite article. Unlike alternative 1, alternative 2 allows a large possibility of choices and targets any of the said choices. Therefore the use of this morpheme does not necessarily imply a known choice.

11.1.2.2 Syntactic Function

Talking about the syntactic function of the article may seem quite easy. In fact, cross-linguistically, it is well-established that the article is one of the determiners of the noun head, within the noun phrase structure. However, there are parametrical variations as to where this determiner is exactly located. For some languages, it precedes or immediately follows the noun head; for others, the article occurs at the beginning or at the end of the NP structure, etc. What is the case of Koshin? In other words, what is the structural domain of the article in the language? Is the article determiner of the noun head or determiner or the whole NP headed by the noun? Some pieces of evidence show that the definiteness marker determines the whole NP even if there is a class agreement with the head of the structure. Let us begin with the syntactic evidence supported by the examples in (5-6) below:

(5) (a) [***fūfū*** wə̀]
he-goat DEF
"The he-goat"

(b) [***fūfú*** *w-ə̄ŋ* wə̀]
he-goat CONC-1PERS.SG DEF
"My (specific)he-goat"

(c) [***fūfú*** *w-ə̄ŋ* *wù-lūmbā* wə̀]
he-goat CONC-1PERS.SG CONC-big DEF
"My (specific) big he-goat"

(6) (a) [*kə̀-**mfáŋ*** kə́]
NC-fatness DEF
"The fatness"

(b) [*kə̀-**mfáŋ*** *s-áŋ* *kə̄-fūfú* kə́]
NC-fatness CON-1PERS.SG CONC-he-goat DEF
"My fat he-goat"

The examples analyzed since the beginning of this chapter show a quite simple structure: (noun class) + noun root + definiteness marker. Such a structure cannot disclose the real position of the definiteness marker within the NP. This observation also holds for the examples (5a) and (6a) where the two lexical items (he-goat and fatness) are immediately followed by their respective definite articles. However, in the other examples (5b-c) and (6b), it is observed that, the more the NP structure is complex, the more the definite marker goes away from the NP head. In fact, whether the NP structure (into brackets) is *NP head + possessive morpheme* (5b), *NP head+ possessive morpheme + adjective* (5c) or *NP head + possessive morpheme + associative noun* (6b), the definite marker always occurs at the end of the structure. In other words, the definite marker, when attested, always occurs at the right edge of the NP domain while the NP head is interestingly located as the left border of this domain.

Let us recall that, as said in other chapters of this work, and in detail in the chapter on grammatical constructions (chapter 15), Koshin is a strong word order (and also constituent order) language and the NP structure is always left-headed. The example (6b) is more instructive and more interesting because it supports the claim that the definite marker determines the NP structure instead of the preceding NP head. In fact, although the associative noun preceding the definite marker has the concord marker w- (as stated in 6a), the following definite marker agrees rather with the NP head located at the far left edge of the structure. One may argue that the definite marker does not occur only at the end of the NP but also at the end of the clause structure. The supplementary examples given in (7) below bring about evidence supporting the NP-end location of the article (VCS stands for verbless clause subject:

(7) (a)[*mbɨ́ mə̀-fwə̀lə̀* mə̄]
wine CONC-white DEF
"The white wine"

(b)[[ŋkàny mə̄]VCS mə̄-nzɔ̀ŋə́-lə́
Corn beer DEF CONC-good-ATTRIB.
"The corn beer is sweet"

(c) [[ŋkàny]VCS *****mə̄-nzɔ̀ŋə́-lə́ **mə̄**
Corn beer CONC-good-ATTRIB DEF
"The corn beer is sweet"

In (7a), the definite marker occurs, as expected, at the end of the NP structure (into brackets), consisting of the NP head (wine) and the adjective (white, preceded by the noun concord). In (7b), the adjective (good) carries the attributive marker. It simply means that it is an instance of

verbless clause construction, and hence, the definite marker "looks for" its adequate position and "finds" it, expectedly, after the NP head (corn beer) and the entire NP functions as a verbless clause subject (VCS). The morpheme preceding the adjective root in (7b) is not the definite marker but the concord marker. In (7c) where the definite marker occurs at the end of the clause, the structure is naturally ungrammatical because there has been an unacceptable violation of the syntactic constraint which prohibits such an occurrence. This constraint reminds the reaction of that Koshin father, in the fieldwork, who gave us the corn beer and when we tried to compliment him by saying the structure in (6c): "*No,* he told us kindly with an encouraging smiling face. *It is not correct*. *Put* "*mə̄"*(the definite marker) *inside* (between the NP head and the adjective)".

It is worth noting that the definite marker is not attested at the end of all the complex NPs. For instance, no definite marker has been attested at the end of the structure consisting of an NP head and a modifying relative clause. And this restriction is consistent with the tendency to prohibit the definite marker from clause final position. As a matter of fact, given the left-headed structure of the NP, the modifying structure (whether a word, another NP or the relative clause (RC)) should come at the right, and the definite marker at the far right position. In case of an occurrence of an RC as NP head modifier, the following definite marker should violate the sacred principle of non-clause-final position of the definite marker.

Besides the syntactic support to the NP final hypothesis marking the definite marker, there is a morpho-phonological reason which pleads for the collocation of the alluded morpheme at the NP final position. Earlier in this chapter, it has been outlined that the definite marker is phonologically different from the other determiners such as the possessive marker, because the former does not exhibit the same processes as the latter. In fact, the definite article usually avoids the prosodic processes such as labialization and palatalization (which often occur at the grammatical word domain). If the definite morpheme is expected to determine the NP domain but not the NP head, it becomes obvious that this morpheme be "uninterested" in NP-inner matters! The behavior of the definite article enable to emphasize the critical difference between a linguistic formal theory (more concerned about surface behavior of the phenomena) and the Basic Linguistic theory (BLT) applied in this work which, before handling surface matters, digs deeper in order to understand the underlying parameters. By *first* paying attention to what is functional (but not formal), BLT enables us to inquire the difference between the functional NP border position of the definite marker and its surface position which is sometimes misleading

because it does not always correspond to the underlying position. Hopefully, there are always surface processes which betray what is happening in the underlying structure and whose analysis is a mere pretext to understand the deep forms.

11.2 Indefinite Pronouns

The label "pronoun" used in this paragraph does not follow the general usage adopted in this work. Some points stated in the chapter on pronouns need to be repeated here: in this work, the item *pronoun* refers to a grammatical category which can *shift* (vary) for grammatical persons within the discourse context (the speaker or first person, the addressee or second person, and the third person which does not refer to none of the two preceding persons). The category analyzed in this paragraph does not meet this restriction. However, no more appropriate terminology has been found to refer to it. Then, the widespread terminology has been followed. It calls *indefinite pronouns* words like those attested in examples (8b, 9b) below (in bold), because they can fill the functional slot of a real (personal) pronoun:

(8) (a) wù mɔ̄ mwən wù-lūmbā
3PERS.SG be.PRESENT person CONC-big
"He is a big man"

(b) **mwə̀-*ndɔ̄*** nəŋɔ́ wə̀
Person-IND look for.PRESENT 2PERS.SG
"Somebody looks for you "

(9) (a) mə̄ tən fĭnyɔ́ fə̄ jĭ-nə̄
1PERS.SG find.PRESENT thing REL.PRON. eat.REL.MARK.
"I try to find something to eat"

(b) mə̄ fə̀-lə̀ **fĭnyə̄-*ndɔ̄* *(fĭnyɔ́fə̄-*ndɔ̄*)**
1PERS.SG do.IMPERF. thing-IND
"I am doing something"

The items considered here *indefinite pronouns* are made up by the association of two morphemes: one lexical item (the noun root "person" or "thing" (8a, 9a)) and one grammatical bound morpheme (IND) which conveys the indetermination or indefiniteness meaning. As (8b) states, when the bound form is suffixed to "person", the resulting word refers to an unknown person or to a known person whom the speaker does not want to mention. This resulting word can be translated by the English "somebody" or "someone". On the other hand, the bounding of the indefinite morpheme to the lexical item "thing" refers to an indefinite thing unknown to the speaker or which is deliberately ignored. Let us notice that the lexical item can exhibit a reduced

form (two syllables) or a complete form of three syllables. The structure *thing + IND* can be translated by the English "something".

In many languages (French and Spanish are amongst them), the indefinite pronouns like those in (8b, 9b) change their morphology when the polarity changes. In other words, they may have forms for the affirmative polarity and different forms for the negative polarity. In Koshin, the polarity does not trigger morphological variation. The structures in (8b, 9b) form their negative form as (10a, 10b) respectively as follows below:

(10) (a) **mwə̀-*ndɔ̄*** nəŋə́ kə̄ wə̀
Person-IND look for.PRESENT NEG 2PERS.SG
"Nobody looks for you"

(b) mə̄ fə̀-lə̀ kə̄ **fíny*ə̄-ndɔ̄* (fíny*ə̄*f*ə̄-ndɔ̄*)**
1PERS.SG do.IMPERF. NEG thing IND
"I am not doing anything"

As shown in (10), the form of the indefinite pronoun does not change; only the negative marker is added at the end of the verb phrase structure.

Besides the indefinite morpheme which is suffixed to the nouns "person" and "thing" to form the indefinite pronouns, another morpheme with unmentioned but defined meaning has been attested. It refers to the "alluded person" previously mentioned in the discourse. For lack of a better label, let us call it the allusive (ALLUS) marker. Like the morpheme examined above, it is also joined to the lexical root "person" and the resulting combination can be translated into English by "the one" as in (11):

(11)(a) **mwə̄-tə́** wù dé-lə̀-wə̀ mɔ̄ kpə̀ Moses
person-ALLUS REL cook-IMPERFREL.MARK be.PRESENT wife proper name
"The one who is cooking is Moses' wife"

(b) bɔ̄ fā mɨ́ ə́ = **mwə̄-tə́ = lə́**
3PERS.PL give.PRESENT wine ADPOS= person-ALL-ADPOS
"They give wine to that (alluded) person"

Examples (11) show a nominal morpheme which occurs at the same place as the indefinite marker, but both morphemes have different meanings. As a matter of fact, whereas the indefinite marker can refer to an unknown and undetermined object, the allusive marker refers to the previously mentioned object. It is closer to the definite article and the personal pronoun.

It should be mentioned that the allusive morpheme is attested only for persons. When the item alluded to refers to a thing, an object or an animal, other strategies are used to refer back to the said item. For instance, a non-human pronoun is used (Cf chapter 19). The plural form of the

allusive morpheme is identical to the item for "persons" or "people". Therefore, the plural counterparts of the structures (11a-b) are the following:

(12) (a) **bə̄-nɪ̄** bə̄ dé-là-bɔ́ mɔ̄ bà-kɪ̀ Moses
NC-person REL cook-IMPERF-REL.MARK be.PRESENT NC-wife proper name
"The persons/those who are cooking are Moses' wives"

(b) bɔ̄ fā mɪ̀ ə́ = **bə̄-nɪ̄**-lə́
3PERS.PL give.PRESENT wine ADPOS.=NC-person-ADPOS.
"They give wine to those (alluded) persons"

It can be observed that the allusive morpheme disappears in the plural form and a lexical item is used. Hence, the plural form seems to be less attractive, as far as descriptive interest is concerned.

In summary, within the definiteness (article) sub-system, the definite marker and the indefinite marker can be distinguished. The definite marker or definite article is a plain morpheme consisting of the concord marker and the schwa vowel whereas the indefinite marker is a null morpheme. The former is morphologically and functionally marked. Syntactically, the definiteness morpheme determines the whole NP structure, even though it sometimes occurs, in surface structure, immediately after the NP head. Other nominal morphemes like the indefinite pronoun or the allusive marker share more or less some similarities with the definiteness marker but each morpheme keeps its specificity. Syntactically, some interesting links have been observed between the definiteness system and another grammatical category called "alternative". Let us examine how these alternative markers function.

11.3 Alternatives

Alternatives or alternative markers are the members of a closed grammatical system which modify the NP head by choosing it *out of two or more possibilities*. Like the definiteness system, alternatives do not seem to be commonly attested in Koshin neighboring languages, as far as linguistic literature is concerned. However, they are attested in the language studied in Koshin and, although they consist in a small grammatical system of two terms (alternative 1 and alternative 2), they play a useful role in the system. The alternative1 marker is analyzed first and secondly, the alternative2 marker.

11.3.1 Alternative 1 Marker

The alternative 1 marker selects its NP head noun amongst a very restricted set of two possibilities. This marker shares some morpho-syntactic constraints with canonical adjectives as stated below (NC stands ford noun class, CONC for concord marker, ALT1 for alternative 1 marker, and DEF stands for definiteness marker):

(13)	(NC)-noun	Gloss	(NC)-noun	CONC-ALT1-DEF	Gloss
(a)	kɔ̃	"hand"	kɔ̃	yĭ-ndə́-yə̀	"the other hand"
	tə́m	"axe"	tə́m	wə̀-ndə́-wə̀	"the other axe"
	fə̀-mɔ́	"cat"	fə̀-mɔ́	fə̀-ndə́-fə̄	"the other cat"
(b)	bə̀-də̀wà	"buffalos"	bə̀-də̀wà	bə̀-ndə́-bə̄	"the other buffalos"
	tə̄-kúbə̀	"ribs"	tə̄-kúbə̀	tə̀-ndə́-tə̄	"the other ribs"
	nsɨ̃	"friends"	nsɨ̃	yə̀-ndə́-yə̄	"the other friends"
(c)	kɔ̃	"hand"	kɔ̃	*yĭ-ndə́	"the other hands"
	tə́m	"axe"	tə́m	*wə̀-ndə́	"the other axe"
	fə̀-mɔ́	"cat"	fə̀-mɔ́	*fə̀-ndə́	"the other cat"
	bə̀-də̀wà	"buffalos"	bə̀-də̀wà	*bə̀-ndə́	"the other buffalos"
	tə̄-kúbə̀	"ribs"	tə̄-kúbə̀	*tə̀-ndə́	"the other ribs"
	nsɨ̃	"friends"	nsɨ̃	*yə̀-ndə́	"the other friends"

As examples (13) show, the alternative 1 marker (fourth column), like canonical adjectives, follows the noun head, consistently with the noun order constraint observed in the overall system. Besides, the alternative 1carries the concord marker like any other modifier of the NP head. On the other hand, examples (13) allow us to address three important parameters related to the alternative 1 marker: the syntactic relationship between the alternative 1 and the definite marker, the tonology of the alternative 1, and the semantic parameter the alternative 1 refers to.

It is stated above that the alternative1 chooses its NP head amongst a limited set of two possibilities; but one may ask, after observing examples (13): how? In fact, it is obvious for an item like "hand" (13a) to assume that the selection must be operated only between a set of two units (hands A and B), because in a canonical and natural context, nobody has more than two hands. However, how can an "axe", or a "cat" (13a), items which belong to a more or less unlimited set of units, as far as human experience is concerned, be selected from a putative set of two possibilities? In the same vein, one may ask how we can select many "buffaloes" or "ribs" from a set of two possibilities. To such a question the analysis proposes as answer the following explanation: let us imagine *two series* of each of the items given as examples in (13), whether a

singular noun (13a) or a plural one (13b). In other words, two series, two types or two categories of whether limited or unlimited units are selected, within the bigger set. The use of the alternative1 marker refers to the *selection of only one (of the two series)* out of the two series of the bigger set. This semantic parameter can account for the privileged relationship between the alternative 1 and the definite article.

As stated briefly earlier in this chapter, the alternative1 morpheme cannot be used without the definite article. It is one piece of evidence that an NP head modified by the alternative 1 *must* be identified or determined, definite, known. Therefore, whereas the examples of the alternative1 followed by the definite article (13a-b) are grammatical, examples (13c) where the alternative1 is followed by the indefinite article (13c) are ungrammatical. Let us remember that the null morpheme article refers to the indefinite article, even if it is not stated in (13c). The surface lack of "cohabitation" between the alternative1 morpheme and the indefinite article results straightforwardly from the underlying semantic incompatibility between the two morphemes. The alternative1 marker, as observed before, provides us with a fascinating morpho-syntactic material for the descriptive analysis, but, not less importantly, it is also a source of interesting discussion about tonological mechanisms.

If the tonal behavior of the alternative1 marker in (13) is observed, some constant features emerge:

-The alternative 1 root is always high-toned (H).

-However, the concord marker preceding the morpheme root is always low-toned (L).

-The definite morpheme following the root always carries the low (L) tone or the mid (M) tone, but never the high (H) tone.

At many points of this work, it has been assumed that for some lexical roots, lexical floating tones have to be postulated. It has been also observed that this phenomenon is not parametrical to Koshin language because it has been postulated by many authors in many Grassfields languages. Examples (13) give another support to this hypothesis. In fact, if, as assumed throughout the work, the class prefix is toneless for all the classes attested in the language, the constant low tone of the concord prefix preceding the alternative1 root can be accounted for by recognizing a low tone emanating from the root. However, in surface, this root exhibits a high tone. Therefore, the

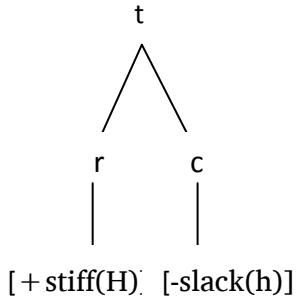
low tone occurring on the prefix has to originate from a floating L tone preceding the H tone which emerges in surface structure.

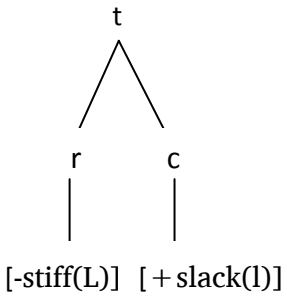
Furthermore, as a recall, the concord marker is assumed to bear a tone which varies according to the noun class of the NP head: this tone is low for class 1 and class 9 nouns and high elsewhere. In examples (13), the concord tone preceding the definite morpheme is never high. It is always low (L) or mid (M). Why? Let us remember that this mechanism has been discussed in some preceding chapters (for instance, in chapter 8) where it has been assumed that the mid (M) tone on the definite morpheme of some words results from the interaction between the floating L tone of the root and the H tone of the definite article. It is exactly the same case in (13). Consistently with the assumption that the concord marker is high-toned (except for class 1 and class 9 where it is L), the examples in (13b) and the last example in (13a) carry a H tone in their definite article. However, the actions of the floating low tone of the alternative1 lowers the H tone of the definite article to mid. For the first two examples of (13a), the definite article is L and then, a putative floating L of the root has no influence on the original low tone of the definite article.

A subsequent question is in order: how practically a low tone can lower a following high tone to a mid tone? Even though it may sound obvious, not all the (formal) theories can account for this tonal process. One of the most efficient theories which accounts for such a phenomenon is the tone model assumed by Bao (1999) in his instructive book *The structure of tone.* On a par with the feature geometry model which is one of the theoretical offshoots emanating from the Autosegmental Theory and which was proposed for non-tonal features, the geometry of tone hypothesized by Bao not only captures directly the well-known correlation between the tone and the voice qualities of consonants (which is not relevant in this work but enough prevalent in literature) but also assumes the organization of the tone into internal features. The tone is no longer the smallest distinctive unit; it is rather a combination of tonal features which are organized into autonomous tiers. More concretely, the structure of tone in Bao consists of two essential sister nodes dominated by the tonal root node (t): the *register* (r) node and the *contour* (c) node. Whereas the contour node specifies how the pitch of the tone behaves over the temporal duration of the tone-bearing unit (the dynamic aspect of the tone), the register node specifies the pitch level of the tone (static aspect of the tone). Moreover, the register node is specified by the laryngeal feature [stiff] and the contour node is specified by the laryngeal

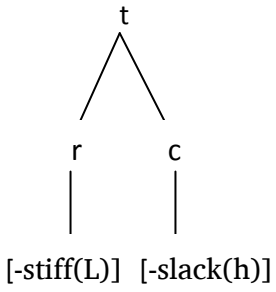
feature [slack]. Each (level or contour) tone is defined by the two laryngeal features specified by the value [+] or the value [-]. Consequently, the lowering of the high (H) tone to mid (M) after a preceding floating low (L) tone is accounted for straightforwardly by a natural process of assimilation predicted by the theory, where the [-stiff] feature of the L tone spreads to the register node of the following H tone; the spreading process is followed by the delinking of the former [+stiff] feature of the H tone. The resulting tone exhibits therefore the feature [-stiff], and [-slack] and becomes a mid tone. The preceding description is summed up schematically as in examples (14) below which present some reinterpreted structures of Bao (1999:48) (only the structure of level tones is shown):

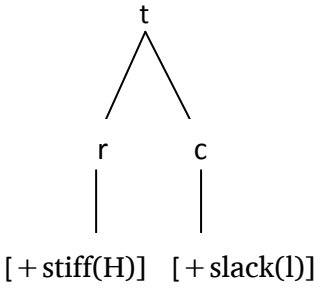
(14) **(a) i.(H tone)** **ii.(L tone)**





(b) **iii. (M tone)** iv.**(M tone)**





As (14b) states, the model assumed by Bao predicts two structurally distinct mid (M) tones: One mid tone (14biii) with [-stiff,-slack] (similar to the M tone resulting from the spreading of the L tone register to the following H tone register) and the other one (14biv) with [+stiff, +slack] structure.

In short, the alternative1 marker shows interesting semantic, morpho-syntactic, and tonological characteristics for the descriptive analysis. Let us examine the peculiarities of the alternative 2 marker.

11.3.2 Alternative 2 Marker

Whereas the alternative1 marker selects one element out of two possibilities and has a restrictive scope, the alternative 2 marker selects its NP head out of many possibilities, that is, out of more than two possibilities. More specifically, the alternative 2 does not operate within a restrictive choice. Rather, it selects *any* element out of the numerous (at least more than two) available possibilities. Alongside with the other alternative marker, the alternative 2 has specific characteristics which distinguish it amongst the closed alternative system and amongst the whole system of the language, as shown in (15) below:

(15)	(NC)-noun	Gloss	(NC)-noun +	CONC-ALT2	Gloss
(a)	sɔ́ŋ	"flute"	sɔ́ŋ	wə-tǐ-*ø*	"any other flute"
	ŋgàŋə	"hill"	ŋgàŋə	wə-tǐ-*ø*	"any other hill"
	kə-kúm	"horse"	kə-kúm	kə-tǐ-*ø*	"any other horse"
	bə-shə̄	"face"	bə-shə̄	bə-tǐ-*ø*	"any other face"
	fə-ŋkɔ̀ˊŋ	"swallow"	fə-ŋkɔ̀ˊŋ	fə-tǐ-*ø*	"any other swallow"
(b)	ŋkɔ̀ˊŋ	"swallows"	ŋkɔ̀ˊŋ	mə-tǐ-*ø*	"any other swallows"
	ŋgāŋə	"hills"	ŋgāŋə	yə-tǐ-*ø*	"any other hills"
	bə-kúm	"horses"	bə-kúm	bə-tǐ-*ø*	"any other horses"
	tə̄-sɔ́ŋ	"flutes"	tə̄-sɔ́ŋ	tə-tǐ-*ø*	"any other flutes"
(c)	sɔ́ŋ	"flute"	sɔ́ŋ	*wə-tǐ-*wà*	"any other flute"
	kə-kúm	"horse"	kə-kúm	*kə-tǐ-*kà*	"any other horse"
	ŋkɔ̀ˊŋ	"swallows"	ŋkɔ̀ˊŋ	*mə-tǐ-*mà*	"any other swallows"
	ŋgāŋə	"hills"	ŋgāŋə	*yə-tǐ-*yà*	"any other hills"

The preceding examples show some peculiarities of the alternative 2 morpheme: this morpheme and its prefixed concord obey a constant specific tonal shape (L H) –rather than the LHL melody of the alternative1 morpheme-; the alternative 2 is incompatible with definiteness marker, and consequently, this morpheme and its indefinite article trigger a different meaning.

The surface low-high (LH) tonal melody of the structure including the alternative 2 marker is constantly visible in both singular (13a) and plural (13b) forms and with words belonging to any class. Let us recall that, as stated everywhere in this work, some class prefixes are indicated here like segmental prefix preceding the noun roots, others are attested through

specific tone for the singular form and a different one for the plural (what is referred to as tone change), and others are simply null morphemes which reveal themselves through the concord particles. Whereas the alternative 2 marker carries the high (H) tone, the supposed toneless concord prefixed to this alternative 2 marker carries unexpectedly a low (L) tone. It is reminiscent of what occurs in alternative 1 marker. Hence the same hypothesis assumed there is valid here: alternative 2 also has an underlying floating L tone and this tone links to the preceding toneless bearing unit.

By selecting any object out of a set of many possibilities, the alternative 2 morpheme conveys an inherent indefinite meaning. The NP head (which can be an object, an animal, or a person) selected by such a morpheme is not clearly targeted with precision so as one can identify it/them amongst others. Any object, animal, or person of the set can be selected. Therefore the semantic proximity of the alternative 2 marker with the indefinite article on the one hand, and its incompatibility with the definite article on the other hand, become logical. As a matter of fact, as examples (15) testify, structures where the alternative 2 is followed by the indefinite article (null morpheme) are correct (15a-b) whereas the association of the definite article with the alternative 2 marker expectedly yields ungrammatical examples (15c).

11.4 Quantifiers

Quantifiers are other modifiers of the NP head. They quantify aspects such as the value, the number, the quantity, of the NP head they modify. They are also grammatical items because they belong to a closed system even though they are autonomous words which may require affixes like any lexical item. Two recurrent and productive quantifiers have been attested. Others may exist but the description is not probably aware of. However, what is sure is that some concepts which are usually coded by quantifiers (grammatical concepts) in other languages are expressed in Koshin through other strategies such as the use of lexical items (nouns or adverbs) and then cannot be regarded as quantifiers.

One of the attested quantifiers expresses totality while the other refers to a simple indefinite plurality. Once more, because of the lack of better terminology, the former is called in this work total *quantifier* and the latter *plural quantifier*.

11.4.1 The Total Quantifier

The total quantifier is an indefinite morpheme which selects all or the whole reference value of the noun it refers to. More concretely, unlike other indefinite (such as alternatives) which refer only to one or a part of the NP head reference, the total quantifier has a scope over the entire reference of the noun it determines. Consequently, it usually determines nouns with plural/mass reference, but it can also determine singular noun as exemplified in (16) below:

(NC)-Nouns	Noun (+IN/DEF)+ Concord-Quantifier	Gloss
(16)(a) ndȉ	ndȉ-ø ń-cə̄	"water/all water"
jwà	jwà-ø yə̄-cə̄	"honey/all honey"
mū	mū-ø wə̄-cə̄	"farm/all farm"
mɔ́	mɔ́-ø ń-cə̄	"cats/all cats"
bà-fȉ	bà-fȉ-ø bə̄-cə̄	"pigs/all pigs"
tə̄-kū	tə̄-kū-ø tə̄-cə̄	"villages/all villages"
(b) mū	mū-wə́ wə̄-cə̄	"farm/all the farm"
mɔ́	mɔ́-mə́ ń-cə̄	"cats/all cats"
bà-fȉ	bà-fȉ-bə́ bə̄-cə̄	"pigs/all pigs"
tə̄-kū	tə̄-kū-tə́ tə̄-cə̄	"villages/all villages"

The total quantifier provides some interesting features for the description. Let us begin by the simpler and more common characteristics. First of all, its tonal and non-tonal form is not complicated – a monosyllabic CV morpheme "cə̄" with a single tone- unlike the other modifiers studied thus far. The concord marker is expectedly prefixed to this simple root and the resulting complex structure determines the noun it refers to. More specifically however, unlike other indefinite modifiers such as the alternatives, the total quantifier can be associated with either the indefinite article (16a) or the definite article (16b). In other words, the semantic reference of the total quantifier allows it to alternatively modify definite or indefinite nouns. Still more critical is the following question: what is the syntactic function of the total quantifier in examples (16)?

It is tempting to quickly say that the quantifier in (16) is modifier of the NP head within the NP structure. Temptation may be still more important if one has some linguistic background in Indo-European languages such as English, French or Spanish where quantifiers are quite often (but not always) modifiers of noun within an NP. However, things are not always the way they seem to be: the NP-modifier-looking quantifier of (16) is not a member of the NP, although it seems to be one. Why? Let us outline some pieces of evidence supporting such a negation.

In (16a), there is no reason to disagree that the total quantifier is a mere determiner of the noun within the NP structure: the word order constraint is respected (the noun in head function precedes the putative modifying item), and the quantifier agrees with the noun by showing the concord marker controlled by the noun head. Everything is well done. Unfortunately, the definite forms in (16b) exhibit an intriguing definite article which (unexpectedly?) comes *before* the quantifier. Let us remember that in the discussion about the syntactic function of articles above, it has been assumed that the (in)definite article occurs at the right edge of the noun phrase polarizing with the NP head which *must* occur as the left border of the NP. Hence, the quantifier cannot be admitted as member of the NP determined by a definite article which comes before that quantifier, without violating the principle of non-contradiction strongly observed in any scientific investigation. In this work, it will be reiterated and maintained that in Koshin, the definite article is located at the right border of the NP; and it is assumed that the grammatical quantifier markers such as the one in (16) fill the verbless clause complement (VCC) slot instead of modifying the NP head within the same NP. By this assumption, there is no possible contradiction. The total quantifier and the noun it agrees with belong to two *very* different syntactic structures. Syntactically, the total quantifier in (16) is a bit close to the copula verb complement (CVC), the main difference being that the quantifier is complement through an empty predicate slot:

- The quantifier is complement within a *clause structure* which has no verb to fill the predicate structure (as the copula clause complement is complement within a clause whose predicate is filled by a copula verb) whereas the noun is head within an *NP structure*;
- It naturally *agrees* in class marker with the head of the NP in verbless clause subject function, even if the two words belong to different structures (alongside with the copula verb complement which usually agrees with the copula verb subject it is traditionally called *attributive* of.

In short, the total quantifier is a verbless clause complement and then it is not member of the NP whose head controls the class agreement with the said quantifier. Besides the arguments given above to support this assumption, another favorable claim comes from the plural quantifier which emphatically strengthens the attributive-function hypothesis of the quantifier system in Koshin.

11.4.2 The Plural Modifier

Instead of selecting all the quantity/number semantic scope of the noun it is attributive of, the plural modifier simply refers to the indefinite idea of: "important number of", "many", "a lot of" as stated in (17) below:

(17)	(NC)-Nouns	Noun + Concord-Quantifier-ATTRIB	Gloss
	zhwā	zhwā yə̀-dùw-lɛ́	"a lot of sauce"
	mĩ̀	mĩ̀ ǹ-dùw-lɛ́	"a lot of oil"
	bə̄-nĩ̀	bə̄-nĩ̀ bə̀-dùw-lɛ́	"a lot of corn food"
	bə̄-sɔ̂	bə̄-sɔ̂ bə̀-dùw-lɛ́	"many arrows "
	tə̄-wĩ̀	tə̄-wĩ̀ tə̀-dùw-lɛ́	"many guns"
	nsĩ̀	nsĩ̀ ǹ-dùw-lɛ́	"many pieces of calabash"

Examples (17) are similar to those in (16) in that each NP head *seems to be* modified by a morpheme which shows an indefinite quantification reference called here plural quantifier. Besides, this quantifier, like the preceding one, agrees in class category with the preceding noun which controls the said agreement. That is why, as expected, the quantifier root carries a different concord prefix following the noun class to which the preceding noun belongs. However, examples (17) exhibit characteristics which do not occur in (16). In fact, nouns occurring in examples (17) are not specified for definite articles (and perhaps for indefinite article as well?). More interestingly, like canonical adjectives, the plural quantifier carries the attributive suffix. Let us recall that the adjectives carry the attributive marker when they fill the verbless clause complement slot! In other words, the plural quantifier carries the morphological evidence of its (attributive) verbless clause complement function.

One intriguing experience related to the plural quantifier has to be confessed here. In fact, more than once (mostly at the beginning of the data collection), we have been frustrated by the changing attitude of some of our consultants who, in some texts, translate the structures like those in (17) using copula clause structures, but in others, without any apparently different contextual influence, translate with NP structures. More concretely, a single Koshin structure was translated into English by for instance "many arrows" and sometimes "the arrows are many". And at the beginning we could not explain such a (fanciful?) behavior up to the day the trick was understood. The key issue was that the native speaker just feels confused and probably

wonders whether they have to say “arrows are many” which is closer to the Koshin structure or “many arrows” which is also accepted in English but which does not meet the Koshin structure. And it is this confusion was expressed by the variation of structures in the translation.

On the other hand, the plural quantifier is also used in the language to fill a different functional slot. For instance, in some examples, this quantifier occurs within a peripheral argument slot, as in (18) below, where P.QUAN stands for the plural quantifier:

(18) wù nyǐ kə̀-dùw-lɛ́
3 PERS.SG defecate.PRESENT NC-P.QUAN-ATTRIB
“He/she defecates a lot”

Moses nə̀m kə̀-dùw-lɛ́
Proper name work.PRESENT NC-PQUAN-ATTRIB
“Moses works a lot”

The plural quantifier in (18) does no longer fill the verbless clause complement slot as in (17). It is no longer an attributive item agreeing with the head of the clause-subject NP. Rather, it is used as a peripheral argument referring to how the action is realized. It should be noted that many other languages behave like Koshin in using quantifiers for different syntactic functions. In the chapter on nouns, the specificity of the noun class prefix *kə-* and its plural counterpart *bə-* have been discussed as the unmarked morphemes of the class system because it is used even when there is no agreement constraint.

In summary, the definiteness and indefiniteness system(s) in Koshin are organized around two central points: on the one hand there are articles (which do not seem to be very common in Koshin-related languages) and which are divided into definite and indefinite, and on the other hand, there are the indefinite markers which can be “pronouns”, alternative markers or modifiers. The articles are related to almost all these categories in one way or another. Each of these grammatical categories has its specificity and contributes to the general description and consequently, the general understanding of the linguistic system.

The grammatical categories studied thus far are mostly linked to the noun, head of the NP structure. Some of these categories can syntactically substitute the NP head, others are restricted to the modifier function within this NP, and a third type can fulfill both roles, that is, it can be substitute of the noun and noun modifier. It is time to open the analysis to other types of grammatical categories, those which are not necessarily related to the noun or to the NP structure in general. Let us begin with the interrogative markers, the main topic of the next chapter.

CHAPTER 12
INTERROGATIVES

When the speakers of a language communicate, they transmit a message which may be broken into small units that literature usually calls "parts of the discourse". Some of them are words, phrases, and clauses. Some of these units show two basic components: the syntactic component and the pragmatic component. If consider the clause unit for instance is considered, the syntactic component can tell us what are the subject and the predicate, what are the core and/or peripheral arguments and their respective structures. On the other hand, the pragmatic component can tell us which basic speech act the clause belongs to: whether the clause refers to a *statement*, a *command*, or a *question* as Dixon (2010:95 Vol. 1) outlines. Each of the three preceding basic speech acts may exhibit its own *grammatical marker(s)* (let us not forget that the null morpheme is also a grammatical marker).

Interrogatives or interrogative markers are all the *grammatical* (both prosodic and non-prosodic) *markers* which indicate that a discourse unit refers to the question speech act. Four important aspects of interrogatives are examined in this chapter: the types of interrogatives (corresponding to the types of questions) attested in the language, the shared properties of the interrogatives, the lexical word classes the interrogatives relate to, and the various interconnections between interrogatives and some other grammatical systems.

12.1 Types of Interrogatives

Usually, human beings ask questions for two basic reasons: they pose a question because they *may* have a more or less vague idea of something and the question is intended to *seek a confirmation* or *invalidation* of the idea, as in the English question *Do you love her?* Or, on the other hand, people ask questions in order to *seek information* (not confirmation) about something they *may* have limited knowledge of. This can be exemplified through the structure *Where is the girl you love so much?* Or *what is the name of the girl you love so much?* In literature, the first type of questions is often called "yes/no" question (because these questions can be answered by the items "yes" or "no"). Alternatively, they are also called "polar questions". And the second type of questions is generally called "content questions". The two types of questions are attested in Koshin. Let us begin by the polar questions.

12.1.1 Polar Questions and Polar Question Techniques

First of all, it should be outlined that the label "polar question" is preferred to the "yes/no question" in this work, because Koshin language lacks a clear item for "yes", although the negation "no" is attested. As a matter of fact, for the two polar opposites "yes" and "no", only "no" is attested (for negative answers), the "yes" answers being coded by different strategies such as a non-articulated nasalized-like sound expressed by the speaker, or an affirmative sign expressed with the head, or both strategies simultaneously. In this respect, it should be mentioned that they are known languages which code the "yes/no" polarity exactly in the same way as in Koshin language. For instance, in the Massa language sometimes mentioned in this work, the affirmative "yes" is attested but "no" answer can only be coded through gestures or through a non-articulated nasalized sound. The most important point discussed in this paragraph concerns the morpho-syntactic strategies of polar questions. More concretely, it is examined how polar questions are built up, and what are the various techniques of creating polar questions.

12.1.1.1 Vowel Lengthening and a Low Pitch

Four general techniques are attested in polar questions. The first three techniques have a general scope over the clause whereas the third one conveys a *focus marking* on a specific constituent of the clause.

The first and most prevailing technique of creating polar questions is the combination of two strategies: a slight vowel lengthening and a low pitch at the end of the sequence. Let us remember that without this strategy -and without any of the three following strategies-there is no distinction between a natural statement sequence and a question. The constituent orders are identical, no other morphological or syntactical mechanism is observed. To be interpreted as a question, a statement has to bear a *low* pitch at the end of the sequence and the last vowel *may* undergo a slight *lengthening*, as in the following examples (the sign ":" shows the vowel lengthening and *Q* stands for question marker).

(1) (a) mbəm wə nzɔ̄ŋə́-lɛ̂:
milk DEF good-ATTRIB.Q milk
"Is milk delicious?"

(a') mbəm wə nzɔ̄ŋə́-lɛ̄
milk DEF good-ATTRIB
"Milk is delicious"

(b) mū wə̄ ɗiy-sə̂:
farm DEF be far-INTRANS.Q
"Is the farm far?"

(b') mū wə̄ ɗiy-sə́
farm DEF be far-INTRANS.
"The farm is far"

(c) wə̀ mɔ̄ lə: (c') wə̀ mɔ̄ lə
2 PERS.SG be.PRESENT there.Q2 PERS.SG be.PRESENT there
"Are you there?/are you resting?" "You are there (present)/resting"

As examples (1) outline, the only difference between questions (1a-c) and their respective statement counterparts (1a'-c') consists in the low tone on the lengthened last vowel of the clause. In other words, whereas a non-interrogative clause can bear a non-low tone at clause final position (as in 1a' and 1b' where the clause final tone is high and mid), the polar interrogative clause *must* bear a low tone *if any other strategy is not used*. It should be mentioned that in some unpredictable cases, the vowel lengthening is not always clearly audible. However, the low pitch should be perceptible unless the last vowel is previously low-toned, as in (1c) above where the polar low tone is undistinguishable from the previous low tone of the last vowel. Only the context allows us to recognize the clause as a question.

12.1.1.2 Polar Particle

When the final low tone is not used to mark a polar question, the language can adopt the polar particle technique and then a special particle is located at the end of the statement to show that it has become a question.

(2) (a)wə yə́ tsə̀-à (a') wə yə́ tsə̀
2 PERS.SG PAST1sleep-Q 2 PERS.SG PAST1 sleep
"Goog morning (have you slept)?" "You have slept"

(b) mən zhǐ mé-à (b') mən zhǐ mé
2 PERS.PL eat.PRESENT COMPLET.-Q 2 PERS.PL eat.PRESENT COMPLET.
"Have you (pl) finished eating?" "You (pl) have finished eating"

(c) Diang kwē-à (c') Diang kwē
Proper name return-Q Proper name return
"Is Diang back from the bush?" "Diang is back from the bush"

(d) wə yə́ shǐ-à (d') wə yə́ shǐ
2PERS.SG PAST1 spend the day-Q 2PERS.SG PAST1 spend the day
"Have you spent the day (Good afternoon)?" "I have spent the day (good afternoon)"

As shown in (2a-d), this particle exhibits the form "-a" with a constant low tone. This is the general form of the polar particle. In other contexts, however, the polar particle does not show the constant low tone. It rather copies the tone of the last vowel of the word it is joined to, as demonstrated in (3):

(3) (a) -wə́ j-ə̄-l-á (a') -wə́ j-ə̄-l-é́
2PERS.SG.CONT eat-DURATIVE-IMPERF-Q 2PERS.SG.CONT eat-DURATIVE-IMPERF.
"Are you eating?" "You are eating"

(b) -wə́ mɔ̄ lə-à (b') -wə́ mɔ̄ lə
2 PERS.SG.CONT be.PRESENT there-Q 2 PERS.SG be.PRESENT there
"Are you resting?/Are you there?" "You are there"

(c) -wə́ mw-ə̄ kə̄ ŋkə̃ (c') -wə́ mw-ə̄ kə̄ ŋkə̃
2PERS.SG.CONT drink-DURATIVE NEG. corn beer-Q 2PERS.SG drink-DURATIVE NEG. corn beer
"Aren't you drinking corn beer?" "You are not drinking corn beer"

Although the polar particle in (3) exhibits the vowel "-a" as in (2), its tone is no longer constant. It is low in the last two examples (where the closest vowel of the word carries a low tone) but high in (3a) (the neighboring vowel is high-toned). In other words, the polar particle copies the tone of the preceding vowel. This behavior is different from the case attested in (2b), for instance, where the polar particle shows the low tone, although the preceding vowel bears a high tone. Moreover, the polar morpheme in (3) is different in that it can exhibit two optional allomorphs: the first one is realized /-a/ (structurally toneless) in (3) and the other one, /yə̀/, exemplified in (4) below (3a, b, c correspond to 4a, b, c respectively):

(4) (a) -wə́ j-ə̄-lé́-yə̀
2PERS.SG.CONT eat-DURATIVE-IMPERF.Q
" Are you eating?"

(b) -wə́ mɔ̄ lə-yə̀
2 PERS.SG.CONT. be.PRESENT there-Q
"Are you there/ are you resting?"

(c) -wə́ mw-ə̄ kə̄ ŋkə̃́-yə̀
2PERS.SG.CONT drink-DURATIVE NEG. corn beer-Q
"Aren't you drinking corn beer?"

In one word, the polar particle exhibits two forms according to the context: in some contexts, it is shown through the vocalic sound /-a/ carrying an invariable low tone, and in other contexts, it can be optionally expressed through a toneless /-a/ or the allomorph /-yə̀/. A question is in order: why are the examples (3-4) different from the others? In other words, what is the common property shared by examples (3-4) which distinguishes them from the structures in (2) for example? From observations, one can realize that examples (3-4) share a common property related to the *extent* of the action the predicate describes. In fact, the verbs in these examples

express actions which are *not punctual, not instantaneous*, whether in a past perspective or in the future perspective. In literature, various confusing labels are used to call such a category. Among other labels, one can mention: *aspect, extent, completion*. In this work, this category is referred to as *extent*, with two grammatical subcategories: the extent of the action can be *punctual* or it can be *durative* (otherwise called *perfective aspect* and *imperfective aspect* in some texts). An action is considered "punctual" when it is realized instantaneously, whereas the "durative" action is continuous. Therefore, any continuous or progressive action for instance enters the scope of the durative extent. Details on this topic are given in the chapter on "non-spatial setters".

To sum up, it can be said that the polar question particle is realized following the extent category carried by the predicate: it is realized /-à/ when the predicate shows a punctual action, and /-a/ or/-yə/ within the durative or progressive extent. And this conclusion raises the question of dependency between grammatical categories. In the present case for instance, if the interrogative category implies necessarily the extent category -reversely, the "extent category" does not absolutely imply the "interrogative mood"- , it is then plausible to say that *interrogative category* in Koshin *depends on the extent category*.

It should also be noted that, whereas in examples (2a-d) and (3b) the polar particle /-a/ does not trigger the elision of the preceding vowel, in (3a) and in (5a-c) below, it does:

(5)(a) wə̀ j-ə̄-l-á
2PERS.SG.CONT eat-DURATIVE-IMPERF-Q
"Are you eating?"

(a') wə̀ j-ə̄-lɛ́
2PERS.SG.CONT eat-DURATIVE-IMPERF.
"You are eating"

(b) Edith dē-lə̀-l-á
Proper name cook-DURATIVE-IMPERF-Q
"Is Edith cooking?"

(b') Edith dē-lə̀-lɛ́
Proper name cook-DURATIVE-IMPERF-Q
"Edith is cooking"

(c) mbə̀n wə̀ nzɔ̄ŋə́-l-ā
Milk DEF good-ATTRIB.-Q
"Is milk delicious?"

(c') mbə̀n wə̀ nzɔ̄ŋə́-lɛ̄
milk DEF. good-attrib.
"Milk is delicious"

It can be observed that the phonological environment is not the same in the two situations: in (2a-d) and (3b), the polar particle is preceded by the vowels /e-/ (2b-c), the schwa (2a, 3b), and the vowel /i-/ (2d). In other words, when the polar particle follows the vowels /e-, ə-, i-/, there is no elision. On the other hand, there is elision when the preceding vowel is /ɛ-/ as in (5). Hence, the vowel /a-/ undergoes an elision after the low or open vowel (/ɛ-/), but this process does not apply with the non-low vowels (it is interesting to realize that the schwa vowel does not trigger

/a-/ deletion, because even if it is not as high as the vowels /i/,/u/ for instance, it is not as low as /ɛ/ or /ɔ/. The IPA (International Phonetic Alphabet) convention rightly classifies the schwa aperture between mid-high and mid-low, that is, lower than a mid-high vowel -such as /e/- but higher than a mid-low vowel -such as /ɛ/, /ɔ/- (Cf Duchet (1998:48-49).

Besides the low pitch and the polar particle, another technique for creating polar questions in Koshin is the tag strategy.

12.1.1.3Tag

The tag is an item *word*, added *after* a natural statement, transforms it into a question whose answer can be "yes" or "no". Unlike the polar particle, the tag is a separate phonological word, not a bound or clitic form. Besides, it has a fixed and regular form. Essentially, the speaker uses the tag in Koshin to seek agreement from the addressee, because the speaker is almost sure of the correctness of the statement preceding the tag, as in (6) below:

(6)(a) sə kə́ dá kə̀
1PERS.PL FUT.1 see no
"We will see (very soon), won't we?"

(b) kə̀-yɔ̀ŋnə sh-á kə̀
NC-thank CONC-2PERS SG no?
"(I can bid you) thank you, can I?"

As shown through the questions in (6), the addressor knows more or less the answers to the questions. For instance, when a well known member of the community is asked the question (6a) (we will see very soon, won't we?), the addressor knows that politeness and other social conventions usually require only one answer: "yes, we will see". Therefore, what is expected from the addressee is just an agreement and the question is asked just for form sake. Furthermore, in natural contexts, nobody can deny to benefit from a gratitude expression such as the one in (6b).Concerning the tag form, it is reminiscent of the clause negative marker some of whose aspects have been mentioned in the paragraph dedicated to the copula verb.

We still remember the day when one of our consultants (Pius) used the clause in (6a) while leaving. We thought that he wanted us to understand that he and we will not meet again, and we asked him without beating around the bush: "Are you travelling?" He began to laugh and

we then realized that there has been misunderstanding. Afterwards, he told us that he tried to let us understand: “we will see very soon, no?” (We will see very soon, won’t we?)

12.1.1.4 Focus Marking Strategy

The label “focus” sometimes is confused with the item “topic” which, in this work, refers to a discourse category (not a grammatical category). More specifically, the topic is the *referent* of some argument -in some grammatical function- *shared* by *successive clauses* or *sentences*. As Dixon (2010a:§3.21) emphasizes, “*An argument of a clause is topic if it is coreferential with an argument of a clause which is immediately (or almost immediately) preceding or following*”. However, the label “focus” is a clausal strategy. As illustrated into details in the chapter on grammatical constructions, the focus can be expressed by different means, by different strategies through languages: these strategies make up what is called *focus marking*. The aim of the focus marking is to *highlight the focused* argument. Such a strategy is also employed in polar questions, when the question has scope on a specific constituent of the clause (not the whole clause) as in the examples below (FOC. stands for focus marker, DEM. for demonstrative, PROG. for progressive, NC for noun class, and DAT. for dative).

(7) (a) ā w-ẽ̃ mɔ̄ mū w-â
FOC. CONC-DEM1 be.PRESENT farm CONC-2PERS.SG.Q
“Is this your farm?”

(b) ā nyɔ̀m wù dé-lə̀-lɛ̂
FOC. meat 3PERS.SG cook-DURATIVE- PROG.Q
“Is it the meat that she/he is cooking?”

(C) ā bə̀-sè mɔ̄ bɔ̀-lɛ́̀
FOC NC-clothes be.PRESENT 3PERS.PL-DAT.
“Are the clothes theirs?”

As examples (7) state, polar questions also use focus marking strategy when the question targets a specific argument of the clause and gives it prominence. Two supplementary elements are added to the canonical polar question strategies: the focused argument is moved to the beginning of the clause and the particle *ā* (focus marker) is located at the beginning of the clause. It should be mentioned that this focus marker may not be obligatory but the focused argument must move at the beginning. It is also worth noting that, the focus marking strategy in polar questions frequently –but not exclusively- employs the copula verb (be) as shown in (7a and 7c), and that the focus marker particle is very similar to the demonstrative morpheme used for identification

function (chapter 10). The relationship between interrogatives and other grammatical categories are discussed later in this chapter.

In short, polar question techniques have been discussed thus far. However, the language exhibits another type of question markers: the linguistically well-known content question words which can certainly show us different mechanisms. Let us examine them.

12.1.2 Content Question Words

As said at the very beginning of this chapter, content questions may be intended to seek information about something the asker has limited idea of, or about something they have no idea of at all. Such questions cannot be answered by "yes" or "no" (unlike the polar questions). In Koshin, as in many other languages, content questions are marked by interrogative words often called in literature "content question words" (this label is also adopted in this work) which fill a grammatical slot whether within the phrase or within the clause. Below, the various content question words attested in the language are surveyed according to their grammatical values, as follows: the content questions words in nominal function (NP head or modifier within the NP) on the one hand, and those which fill an adverbial function within the clause.

12.1.2.1 Nominal Content Question Words

In this paragraph, the content question words which are usually NP head are examined first, and secondly, those which are modifiers of a head within the NP are discussed.

- **ndé "who?"**

(8) (a) wə̄ w-á mɔ̄ [ndé]CC
name CONC-2PERS.SG be.PRESENT WHO
"What is your name?"

(b) ă mɔ̄ [ndé]CC
DEM0 be.PRESENT WHO
"Who is it?"

(c) ă mɔ̄ kə-fĭ [kə-ndé]NP head MOD.
DEM0 be.PRESENT NC-pig CONC-WHO
"Whose pig is it?"

(d) ā bə̄-zhĭ̃ mb-ə́ŋ ā zhĭ̄ [ndé]A
FOC. NC-food CONC-1PERS.SG FOC. eat WHO
"Who is the man who has eaten my food?"

The content question word "who?" is attested in the language and can fill various functional slots such as the copula complement (CC) function in (8a-b), the NP head modifier (MOD) function as in (8c), or the transitive subject (A) function in (8c). It is important to note that "who" *always* occurs at the end of the clause whether there is focus as in (8c) or in a simple context (8a-c). Besides, the use of the question word "who?" in focus structure exhibits an interesting material - the O constituent and the predicate head (irregularly?) occur at the left of the content question word-to formal syntactic theories interested in derivational processes such as "movement operations". The question of syntactic derivations goes beyond the scope of this work, but it is important, for further analyses, to highlight these peculiarities observed in the system. Nevertheless, it is worth recalling that Koshin is a strong constituent order language with the structure subject-predicate-object. In example (8d) "who" is subject and its canonical slot, according to the constituent order of the system, occurs at the beginning of the clause. A clause-fronting focus strategy could have given the regular constituent order prevalent in the system.

- **(bə̀)né "what?"**

It should be mentioned that, the English question word "what" correspond to two distinct forms in Koshin. There is one form of "what" which can fill an argument slot and which is examined right now, and there is another form which functions as modifier within the NP, analyzed later.

(9) (a) mə̀n dé -lə̀ [(bə̀)né]O
2PERS.PL cook-DURATIVE WHAT
"What are you (plural) cooking?"

(b) wə̌ mw-ə̄ [(bə̀)né]O
2PERS.SG.PROG drink-DURATIVE WHAT
"What are you (singular) drinking?"

(c) ā [(bə̀)né]O wù yə́ dè
FOC. WHAT 2PERS.PL PAST1 cook
"What is the thing you (singular) have cooked?" (what have you cooked?)

Like the content question "who", "what" -with two optional forms (bə̀né or né)- also occurs at the end of the clause, except in case of focus marking and the subsequent movement at the beginning of the clause. In other words, whereas "what" occurs at the beginning of the clause when there is focus marking, "who" cannot, although both words are head of NP and can occur at the end of the clause.

The two content question words just discussed are always head of NP, even though they can modify another NP (8c for instance). There is another type of content question words which are always modifiers within the NP.

- **"what?"(modifier)**

(10) (a) kū Ousmanou mɔ̄ [w-ēny kū]NP:CC
Village proper name be.PRESENT CONC-WHAT village
"What is Ousmanou's village?"

(b) wə̀ kɔ̀ŋ(tə̄) [b-ēny bə̀-núŋ]NP:O
2PERS.SG like.PRESENT CONC-WHAT NC-roosters
"What roosters do you like?"

(c) ā [y-ēny tsǐn]NP:O sə̀ nə́ kpà
FOC CONC-WHAT trees 1PERS.PL PAST2 burn
"What trees did we burn?"

Unlike the preceding "what" in (9a-c) –head of NP and which may fill an argument slot- the content question word in (10a-c) is always modifier of the head within the NP. More interestingly, this question word consists of a root (quite similar to the demonstrative 1 form) and a concord marker which agrees with the NP head. The only difference between the demonstrative1 and the question word in (10) is the position each of the two morphemes occupies around the head: the demonstrative1 follows the head whereas the question word precedes the head.

- **"which?"**

If the question word "which" is used instead of "what", examples (10) become (11) as follows:

(11) (a) kū Ousmanou mɔ̄ [w-ēny.w-èny kū]NP:CC
Village proper name be.PRESENT WHICH village
"Which is Ousmanou's village?"

(b) wə̀ kɔ̀ŋ(tə̄) [b-ēny.b-èny bə̀-núŋ]NP:O
2PERS.SG like.PRESENT WHICH NC-roosters
"Which roosters do you like?"

(c) ā [y-ēny.y-èny tsǐn]NP:O sə̀ nə́ kpà
FOC WHICH trees 1PERS.PL PAST2 burn
"Which trees did we burn?"

The content question words "what" and "which" are quite similar: morphologically, they are both based on the demonstrative 1 morpheme root. Moreover, they both require a concord marker which agrees with the NP head determined by the question word. The morphological

difference derives from the reduplicated form of "which" on the one hand and the non-reduplicated form of "what" on the other hand. Semantically, the difference between the two content question words is similar to what is observed in languages like English. In fact, the use of "what" -such as in examples (10)- implies an *unlimited* choice of the items the content question determines whereas "which" supposes a *limited* choice of entities the interrogative modifier refers to. For instance, the question in (10a) implies that the asker does not have a selected and specifically limited set of villages Ousmanou is supposed to originate from. In (11a) however, it is different. The context can be the following: let us imagine that the asker knows that Ousmanou comes from the Far North Cameroon, Mayo-Danay division and from an area where only five (5) villages are attested: A, B, C, D, and E. And the questioner expects as answer one of this limited set of five villages.

- **Concord-màŋ "how many"**

Like "which" and "what" that agree with the head within the NP structure, the question word "how many" requires a concord marker which is morphologically determined by the head.

(12) (a) fèny kānə́ bə̀-kǐ̄ bə̀-màŋ
Chief have.PRESENT NC-wives CONC-HOW MANY
"How many wives the chief has got?"

(b) Bum yə́ bùm zūmə̀ yə̀-màŋ
Proper name PAST1 hunt antelopes CONC-HOW MANY
"How many antelopes Bum has hunted?"

(c) Fidelis nə́ tàŋ tə̀-bǐ̄ tə̀-màŋ
Proper name PAST2 sell NC-cutlasses CONC-HOW MANY
"How many cutlasses did Fidelis buy?"

(d) ā mɔ̄ bə̀-fǐ̄ bè-màŋ
FOC be.PRESENT NC-pig CONC-HOW MANY
"How many pigs are there?"

As examples (12) show, the concord morpheme prefixing "how many" varies according to the noun class of the NP head accompanied by the question word. This NP including the content question word expectedly occurs at the end of the clause.

The content question words "who", "what", "how many" and "which" are heads of NP or modifiers of NP. Any of these two functions is considered nominal function. Other content question words fill an adverbial function within the clause. Let us analyze them.

12.1.2.2 Adverbial Content Question Words

The attested adverbial content question words refer to place, time, reason, manner, the feeling, or to quantity.

- **nè "where"**

(13) (a) wə̌ gēn nè
2PERS.SG.PROG. go.IMPERF. WHERE
"Where are you going?"

(b) mbɔ̀ŋ wə̌ nè
Cow DEF.PROG. WHERE
"Where is the cow?"

(c) mən tsə̄ nè
2PERS.PL live/sleep.PRESENT WHERE
"Where do you (plural) live?"

Like the preceding question words, "where" occurs at the end of the clause.

- **wēn "when"**

The content question "when" is quite similar to the English equivalent. It may probably be a borrowed word from English, but it is also attested as in (14) below, at the end of the clause:

(16) (a) wə̀ nə́ đì wēn
2PERS.SG PAST.2 come WHEN
"When did you (singular) come?"

(b) wù bə́ nê wēn
3PERS.SG FUT.2 go WHEN
"When shall he/she go?"

- **nē "why"**

Morphologically, "why" is closer to the other question words than "when". It also occurs at the clause end like other question words.

(15) (a) wə̌ sǐy-sə́ nē
2PERS.SG.PROG. laugh-INTRAN. WHY
"Why are you laughing?"

(b) mən dà mə̄ nē
2PERS.PL look.PRESENT 1PERS.SG WHY
"Why do you (plural) look at me?"

- **yə̄nné "how"**

In Koshin, two morphemes translate the English "how". The first morpheme refers to the *manner* how things are done, how actions are fulfilled, as in (16).

(16)(a) wə̀ dà yə̄nné
2PERS.SG see.PRESENT HOW
"How do you see it?"

(b) sə̀ yá shɔ̄m = wə̄ yə̄nné
1PERS.PL go up.PRESENT palm tree=ADPOS. HOW
"How do we climb a palm tree?"

(c) mə̀n bɔ́ fə̀lə̀ yə̄nné
2PERS.PL FUT.2 do HOW
"How will you do?"

- **gēny "how fell"**

The question word "how fell" refers exclusively to health as follows in the following examples:

(17) (a) mə̀n yɔ́ tsə̄ gēny
2PERS.PL PAST.1 sleep HOW FELL
"How have you (plural) slept?/ (How do you feel?)"

(b) Nelson, wə̀ yɔ́ shǐ gēny
Proper name 2PERS.SG PAST1 afternoon HOW FELL
"Nelson, how have you spent the afternoon?/ (how do you feel this afternoon)"

(c) wə̌ mɔ̄ gēny
2PERS.SG.PROG be.PRESENT HOW FELL
"How are you (How do you fell)?"

(d) há bɔ́ = wə̀
how ADPOS=2PERS.SG
"How are you (How with you)?"

The interrogative "how feel" exhibits two forms: the one in (18a-c), and the other one in (18d). Both interrogatives are frequently used, mostly the last one (18d). However, the last form seems to be borrowed from the English interrogative "how". One of the reasons of this interpretation is based on the morphological similarity between the interrogative in (18d) and the English operator "how". Besides, not only the segment [h] is not attested in the phonological system of the language, but also the position of the interrogative in (18d) –beginning of the clause, as in English- is very different from the position of Koshin interrogatives. Even some native speakers believe that it is an English word.

- **gèny.gēny "how much"**

Morphologically, the content question word "how much" is the reduplicated form of "how feel", as in the following examples where the structure of some irrelevant words is not given.

(19) (a) wə̌ tāŋ́ə kə̀-fǐ k-ễ gẽ̃.gẽ̃
2PERS.SG.PROG sell NC-pig (this) HOW MUCH
"How much are you selling this pig?"

(b) ā gẽ̃.gẽ̃ (ŋkã̀ m-w-ā)
FOC HOW MUCH (corn beer (your)
"It is how much? (your corn beer?)"

As with the other question words, "how much" occurs in clause final position. Let us notice that the reduplication process which is not particularly frequent in lexical words -it is attested however- is shown in two interrogatives -"which" and "how much"- even if its semantic value is not clearly established.

In summary, two main types of content question words can be identified in the language: the nominal content question words which can be NP heads or head modifiers, and the adverbial content question words which fulfill an adverbial function. These types of question markers share undoubtedly some properties with the polar question markers, even though to a certain extent, they have differences as previously indicated. Let us examine the overlapping properties the interrogative markers share.

12.2 Shared Properties of Interrogatives

Besides the semantic common interrogative meaning attested in any interrogative marker –whether polar or content interrogative marker- there are two syntactic important properties shared by all the interrogative markers irrespective of the sub-category the interrogative marker belongs to. These properties constitute what can be considered the syntactic –not semantic- defining criteria of interrogatives: the clause final position and the fronting mechanism in focus marking.

12.2.1 Clause Final Position

Whereas in many languages the question markers (mostly the content question markers) occur at the beginning of the clause, in Koshin canonical interrogative clauses, both the polar and non-polar question markers occur at the end of the clause, as shown earlier. It should be

emphasized that when the content question word accompanies a head within an NP structure, it is the Whole NP which occurs at the end of the clause, not the question marker alone. This clause final property can be illustrated through all the examples given in this chapter, except in case of focus marking. Interestingly, even with the question markers in subject position –say "who"- this property is attested and the question marker occurs at clause final position, violating the strong constituent order (subject-predicate-object) principle so prevailing in the language.

12.2.2 Fronting Mechanism in Focus Marking

Almost all the interrogatives can move at clause initial position when there is focus marking. As shown earlier, this criterion is mainly attested with content interrogatives. The said interrogative markers or the NP including the interrogatives as modifiers follow the focus marker at the beginning of the clause. An exception to this general rule comes from the interrogative "who" which always occurs at clause final position even in focus marking structures, as previously attested in (8a-d).

Beyond the two basic syntactic criteria which characterize the interrogatives, there is a secondary criterion of morpho-phonological type which is only attested in content interrogatives: it is the nasal consonant segment. As a matter of fact, almost all the content interrogatives include a nasal consonant, a kind of Koshin alter ego of the English [wh-] sequence. More concretely, **n**dɛ́ "who", **n**é "what", **n**ē "why", **n**è "where", **m**ə̀**ŋ** "how many", wē**n** "when", yə̄**nn**é "how", g**ɛ̃̀** "how fell", g**ɛ̃̀**.g**ɛ̃̀** "how much", all include at least a nasal (in bold) consonant segment. It should be noticed that interrogatives including nasalized vowels can be alternatively articulated by an oral vowel followed by the final palatal (coronal) nasal. Therefore it could not be exaggerated to talk of "n-words" or "n-operators" in the Koshin system. However, for the time being, there is no advantage in using such a curious label, as far as descriptive value is concerned.

The interrogative system shares two syntactically basic features which can distinguish this category amongst others. However, as attested earlier, interrogatives can be divided into semantic sub-categories (polar interrogatives and content interrogatives). Furthermore, beyond the semantic criterion, the interrogatives examined thus far can also be parsed according to the lexical categories each interrogative is related to, on the basis of certain morpho-syntactic

parameters. More specifically, in spite of the common properties they share, interrogatives can be differentiated according to the lexical categories they integrate with.

12.3 Interrogatives and Related Lexical Classes

According to morpho-syntactic features, the content question words can be classified into three sub-categories: there are content question words which share similarities with nouns, others are similar to adjectives and a third set of interrogatives behave like adverbs. It is worth noting that the similarities interrogatives share with lexical categories do not transform them into the corresponding lexical words. More concretely, a content question word X does not become a noun –or is not a sub-class of a noun- just because it sometimes exhibits some characteristics of a noun; for, in spite of the shared similarities, X remains an interrogative.

12.3.1 Noun-like Interrogatives

Two interrogatives share some similarities with nouns: "who" and "what" (the nominal form). In fact, like canonical nouns, "who" and "what" can fill an argument slot.

(20) (a) ā bə̄-zhĩ̃ mb-ə́ŋ ā zhī́ [ndé]A
FOC. NC-food CONC-1PERS.SG FOC. eat WHO
"Who is the man who has eaten my food?"

(b) wə̄ w-á mɔ̄ [ndé]CC
name CONC-2PERS.SG be.PRESENT WHO
"What is your name?"

(c) wù́ dé -lə [(bə)né]O
2PERS.SG cook-DURATIVE WHAT
"What are you (plural) cooking?"

As shown in some preceding examples considered again in (20), "who" can fill the transitive subject (A) slot (20a). It can also fill the copula complement (CC) slot (20b). On the other hand, it can be seen that "what" fills the object slot, canonically reserved for nouns. Moreover, like natural nouns in associative construction –examined later in this work-, the interrogative "who" can carry the concord marker of the NP head when it accompanies this head.

(21)(a) ă mɔ̄ kə̀-fĩ́ [**kə̀**-ndé]NP head MOD.
DEM0 be.PRESENT NC-pig CONC-WHO
"Whose pig is it?"

(b) ă mɔ̄ bə̀-fĩ́ [**bə̀**-ndé]NP head MOD.
DEM0 be.PRESENT NC-pig CONC-WHO
"Whose pigs are there?"

(c) tə̄-bǐ tw-ɛ̃̄ mɔ̄ tə̄-bǐ [**tə̀**-ndɛ́]NP head MOD.
NC-kola nut CONC-DEM1 be.PRESENT NC-kola nut CONC-WHO
"Whose kola nuts are these?"

As examples (21) illustrate, when the interrogative "who" modifies a noun (NP Head MOD) within an associative construction –a construction where a noun has as modifier another noun, of the type *the teacher's book*-, "who" takes the concord marker of the head, exactly as nouns do. That is why, the concord marker (in bold) prefixing "who" in (21a) is different from the one prefixing the interrogative in (21b) and (21c), simply because the NP head in each case belongs to a different noun class.

12.3.2 Adjective-like Interrogatives

If the noun-like interrogatives fill functional slots usually filled by nouns, the adjective-like interrogatives can be identified as items which syntactically function as adjectives one of whose main functions is modifier of a noun. Three interrogatives meet this characteristic: "what" –as modifier-, "which", "how many"

(22)(a) wə̀ kɔ̀ŋ(tə̄) [b-ɛ̃̄ bə̀-núŋ]NP:O
2PERS.SG like.PRESENT CONC-WHAT NC-roosters
"What roosters do you like?"

(b) ā [y-ɛ̃̄.y-ɛ̃̄ tsɨ̄n]NP:O sə̀ nɔ́ kpà
TOP WHICH trees 1PERS.PL PAST2 burn
"Which trees did we burn?"

(c) Fidelis nɔ́ tàŋ tə̀-bɨ̂ tə̀-mə̀ŋ
Proper name PAST2 sell NC-cutlasses CONC-HOW MANY
"How many cutlasses did Fidelis buy?"

Amongst the alluded adjective-like interrogatives, the interrogative "how many" (22c) is the one exhibiting the most visible adjectival characteristics. In fact, not only does it carry the prefix concord determined by the NP head class –as canonical adjectives do- but it also *follows* the head, meeting the word order constraint: *the noun head (or equivalent) must be followed –not preceded- by the adjective modifier (or equivalent)*. The other adjective-like interrogatives (22a-b) carry the concord marker like adjectives, but they precede the NP head (showing that an interrogative-like word cannot be confused with a canonical adjective no matter their similarities).

12.3.3 Adverb-like Interrogatives

The last set of interrogatives exhibit some syntactic features which are quite similar to those of adverbs. Both the adverbs and the interrogatives can mostly fill peripheral argument slots referring to place, manner, time, reason, and value, amongst others. Let us recall that peripheral arguments are not obligatory within the clause –unlike the core arguments. Besides, like canonical adverbs, the adverb-like interrogatives are "invariable". They bear non agreement marker because they agree with no other words. These interrogatives are: "where", "when", "why", "how", "how fell", and "how much" as illustrated in (23). The notion any interrogative refers to is given in parentheses.

(23) (a) wə̌ gēn [nè] (place)
2PERS.SG.PROG. go.IMPERF. WHERE
"Where are you going?"

(b) wə̀ nə́ ɗi [wēn] (time)
2PERS.SG PAST.2 come WHEN
"When did you (singular) come?"

(c) mə̀n dà mə̄ [nē] (reason)
2PERS.PL look.PRESENT 1PERS.SG WHY
"Why do you (plural) look at me?"

(d) mə̀n bə́ fə̀lə̀ [yə̄nné] (manner)
2PERS.PL FUT.2 do HOW
"How shall we do?"

(e) mə̀n yə́ tsə̄ [gə̃] (manner of feeling)
2PERS.PL PAST.1 sleep HOW FELL
"How have you (plural) slept?"

(f) wə̌ tāŋ́ə̀ kə̀-fĭ̀ k-ə̃́ [gə̃.gə̃] (price)
2PERS.SG.PROG sell NC-pig (this) HOW MUCH
"How much are you selling this pig?"

In short, the interrogative system can be internally structured into three morpho-syntactic sub-categories: there are interrogatives which share similarities with nouns, others with adjectives and a third portion of interrogatives are linked to adverbs. However, interrogatives are not linked only to lexical categories. There is also an interesting connection between some interrogatives and other grammatical categories, at least on a morphological and semantic basis. Let us analyze this connection.

12.4 Interrogatives and Other Grammatical Categories

Connections have been identified between some interrogatives and four other grammatical categories: demonstratives, negation marker, indefinites, and aspect system.

12.4.1 Interrogatives and Demonstratives

The relationship between interrogatives and demonstratives is more noticeable than the others discussed in the following paragraphs. In fact, the (modifiers) interrogatives "what" and "which" exhibit the same morphology as the demonstrative1 (DEM1) analyzed earlier in this work.

(24)(a) kū **w-ɛ̃̄** điy-sə́-lɛ̄
Village CONC-DEM1 far-INTRANS-IMPERF
"This village is far"

(b) ā mɔ̄ **w-ɛ̃̄** kū sə̀ dà
FOC be.PRESENT CONC-WHAT village 1PERS.PL see.PRESENT
"What village do we see?"

(c)) ā mɔ̄ **w-ɛ̃̄.w-ɛ̃́** kū sə̀ dà
FOC be.PRESENT CONC-WHICH village 1PERS.PL see.PRESENT
"Which village do we see?"

(25)(a) wə̀ kɔ̀ŋ(tə̄) kə̀-fǐ k-**ɛ̃̄**
2PERS SG like.PRESENT NC-pig CONC-DEM1
"You like this pig"

(b) wə̀ kɔ̀ŋ(tə̄) k-**ɛ̃̄** kə̀-fǐ
2PERS SG like.PRESENT CONC-WHAT NC-pig
"What pig do you like?"

(c) wə̀ kɔ̀ŋ(tə̄) **k-ɛ̃̄.kɛ́̃** kə̀-fǐ
2PERS SG like.PRESENT CONC-WHICH NC-pig
"Which pig do you like?"

If examples (24) and (25) are observed, it will be realized that the bold forms are almost identical, as far as segmental features are concerned. The only difference is that –beside the position in comparison with the NP head- in each set of three clauses there is a reduplicated form and two non-reduplicated forms. However, this morphological similarity in the three clauses of each example cannot deny the fact that there are three different grammatical words involved: a demonstrative (24a) and (25a), the interrogative "what" (24b, 25b) and the interrogative "which" in (24c) and (25c). There is undoubtedly an interconnection between the demonstrative (DEM1)

and the interrogatives ("what" and "which"). This statement is consistent not only with the singular number as in examples (24-25) but also with the plural as illustrated in (26) below:

(26) (a) bə̄-kúm **b-ẽ́** mɔ̄ bə̄-bɨ̂
NC-horse CONC-DEM.1 (be.PRESENT) NC-red
"These horses are red"

(b) ā mɔ̄ **b-ẽ́** bə̄-kúm
FOC be.PRESENT CONC-WHAT NC-horse
What horses are they?

(c) ā mɔ̄ **b-ẽ̃.b-ẽ̃** bə̄-kúm
FOC be.PRESENT CONC-WHICH NC-horse
"Which horses are they?"

Even in plural, the demonstrative 1 form and the interrogatives "which"/"what" share a morphological similarity. A quite interesting question which cannot unfortunately meet a satisfactory answer within the scope of this work can be: which category is derived from the other? In other words, did the interrogative develop a second function (demonstrative) or, reversely, the demonstrative underwent a mutation into the interrogative item in certain contexts? Maybe the interrogatives "what" and "which" are offshoots of the demonstrative marker, because of the general characteristic of interrogatives (the nasal segment commonly attested in the majority of interrogatives) being unattested in "what" and "which". However, this hypothesis has to be proved by a diachronic and/or typological study.

The semantic interconnection between demonstratives and the specific interrogatives "what" and "which" is not far-fetched: basically, any demonstrative implies the pointing and by so doing, demonstratives are essentially items which *select, discriminate, and target* a specific reality amongst a given number of reduced or large number of elements. The interrogatives "what" and "which" as outlined above imply exactly the same discriminating connotation.

12.4.2 Interrogatives and Negation Marker

Another noticeable interconnection with interrogatives involves negation. Before giving details about negation in the chapter on grammatical secondary concepts (chapter 14), let us simply mention that, a negative clause is canonically marked by the predicate final particle /kə̄/. Curiously, an almost identical word is attested at the end of a polar question, if another strategy is not preferred. It has been called "tag" –different from the polar question particle- as stated

earlier in this chapter. A comparison between the negative marker and the tag can be illustrated as in the following examples:

(27)(a) wə tsɨ̌ kə̄
2PERS.SG know.PRESENT NEG.
"You do not know"

(b) wə tsɨ̌ kə̀
2PERS.SG know.PRESENT NEG.
"You know, don't you?"

(28) (a) sə kə̀ zhɨ̄ kə̄
1PERS.PL FUT.1 eat NEG.
"We will not eat"

(b) sə kə̀ zhɨ̄ kə̀
1PERS.PL FUT.1 eat NEG.
" We will eat, won't we?"

As noticed through the examples (27-28), the only difference between the negative marker and the tag is tonological (mid tone versus low tone respectively). It can be added that whereas the negative marker occurs at the end of the predicate, the tag occurs at clause final position. However, as mentioned in (27) and (28), it is almost impossible to capture this difference because the two clause final morphemes are similar. The interconnection between demonstratives and negation is not that parametrical to Koshin. Dixon (2012:§27.7) reports that "*in Kham negator prefix ma- has developed a second function as marker of a polar question and that, in some varieties of Quechua, -chu is used as a negator and also to form polar questions*."

12.4.3 Interrogatives and Indefinites

There is also a privileged interconnection between indefinites and interrogatives which is worth mentioning. Let us recall that in the chapter on (in)definiteness systems (chapter 11), because of no more adequate terminology, some morphemes which refer to people and things in an indefinite way have been called "indefinite pronouns", on a par with "someone" and "something" in English. There is a single morpheme which is commonly used to form the indefinite pronouns and which is suffixed precisely to the items meaning "person" (for somebody) and "thing" (for something) as in (29a) and (30a) below (IND. stands for indefinite):

(29) (a) mwə-**ndɔ̄** nə̄ŋɔ́ wə
Person-IND look for.PRESENT 2PERS.SG
"Somebody looks for you"

(b) ā wə̀ ā nəŋə́ **ndé**
FOC 2PERS.SG FOC look for.PRESENT WHO
"Who looks for you?"

(30)(a) wù fə̀-lə̀ fĭnyə̄**-ndɔ̄**
3PERS.SG do.IMPERF. thing-IND
"He/she is doing something"

(b) ā fĭnyə̄-ndɔ̄ ā fə̀-lə̀ **ndé**
FOC thing-IND FOC do.IMPERF WHO
"Who is doing something?"

In (29b) and (30b) some examples of interrogative clauses marked by the content question word "who" are given. Even though it may not be as obvious as in the preceding cases of interconnections between interrogatives and other grammatical categories, it can be assumed that, the indefinite morpheme bound to the items "person" and "thing" to form the indefinite pronouns "someone" and "something" on the one hand, and the interrogative "who" on the other hand, can have the same source. This claim is based on morphological and semantic reasons.

Morphologically, the two morphemes (in bold form in each example of (29) and (30) are quite similar: both morphemes begin by a prenasalized coronal segment /-nd/ followed in each case by a non-high vocalic segment. However, basing our claim only on morphological consideration does not sound very convincing. There is a supplementary semantic support to our hypothesis. On the semantic ground, the indefinite morpheme in (29-30) refers to a person or a thing whose identity is not known by the speaker, or it refers to a person/thing the speaker does not want to disclose the identity. Hence, the identity is *not determined*, it is *uncertain* (even though, for the examples (29-30), it refers to a specific person/thing –not any person/thing). Interestingly, "who" is a question word and a question is basically "*doubt or uncertainty about something*" as outlined by many points of view (Cf Advanced learners dictionary (2001: 955). Therefore, there is nothing unnatural to use an indefinite for interrogative matters.

Moreover, in literature, there are many examples of *"languages where there is a relationship between (some or all) interrogative words and one or both varieties of indefinites* [*specific indefinite* which relates to a specific person, and *general indefinite* which refers to general population] (Dixon (2012:§27.6)".

12.4.4 Interrogatives and Aspect Markers

In the paragraph on polar questions, it has been noticed that the polar particle exhibits two forms depending on the aspectual characteristic of the predicate: on the one hand, it is realized /-à/ (with a low tone) when the predicate shows a perfect action, and on the other hand, it is realized /-a/ (toneless) or optionally /-yə̀/ within the imperfect aspect. The description has alluded to the dependency between the interrogative system and the aspectual system. This interconnection between the two grammatical systems is well-known in literature where it is attested that tense and aspect may determine the type of interrogative marking (cf Frank 1990: 79).

In conclusion, four important characteristics of interrogatives have been studied in this chapter. First of all, the types of interrogatives have been examined. The two types of interrogatives, corresponding to the polar and content questions, have been discussed, each with its internal characteristics. The overlapping properties shared by interrogatives have been also discussed and it has been concluded that Koshin interrogatives canonically occur at clause final position, except in case of focus marking where the interrogative or the NP modified by the interrogative usually moves at the clause initial position**.** To a certain extent, it has been also mentioned, in a similar vein, that the majority of interrogatives in the language share the nasal consonant segment.

Besides, the relationship between interrogatives and other categories has been discussed. In this respect, it has been highlighted on the one hand, the connections between interrogatives and lexical categories and, on the other hand, the links interrogatives maintain with demonstratives, the negation markers, indefinites and the aspect category. Interrogatives constitute a closed grammatical system, on a par with other systems already analyzed such as the noun class system, pronouns and demonstratives amongst others. Another grammatical system quite common in natural languages is the case system whose morphemes mark the syntactic function of NPs within the clause. These case morphemes are realized in various ways amongst languages. They can be realized as affixes, clitics, independent grammatical words, or through the simple constituent order. The next chapter is to discuss the case system markers through their various facets in the language.

CHAPTER 13

CASE SYSTEM MARKERS

Strictly speaking, the case system refers to the grammatical markers which show the syntactic function of the words within the clause. Within the label "grammatical markers" are included, for this work, not only morphemes but also some specific strategies such as the constituent order. Besides, the syntactic function it is referred to is related to the role of the noun or NP element exclusively within the *clause* - not within the NP structure. It means that, within the perspective of Basic Linguistic Theory underlying this work, the genitive marker –marker of an *intra-NP* possessive relation- cannot be considered a case marker, as often stated in traditional grammar, confusing a *phrasal* function with a *clausal* function. In languages with well-known case system like Latin for instance, the case markers are affixes joined to the noun root or stem by an inflection process. Therefore, it can be referred to as *case inflection*. For example, a noun exhibits different affixes according to whether it is in core argument function –say subject (nominative case), object (accusative case)- or in peripheral argument function –such as ablative case, locative case both cases referring to location. By so doing, it is usually said that such as noun has been *declined* or the noun *declines* through its different forms.

However, many languages –Koshin is one of them- do not have a system of case inflections. They rather employ other strategies which, in grammar, have exactly the same status as case inflections, the difference being just a matter of *surface* realization. And one cannot deny the existence of the case system in the language simply because its markers are not inflection affixes.

This chapter is organized into two main points: at the first point, the case marking strategies used in the language are discussed, and secondly, the relationship between the case clitic markers (one of the case marker strategies) and other categories of words is studied.

13.1 Case Marking Strategies

Essentially two non-inflectional case strategies can be distinguished, alongside the core versus peripheral syntactic functions attested in the language: the constituent order strategy and the case clitic or adposition strategy.

13.1.1 Constituent Order Marking Strategy

Koshin is a strong constituent order language, as stated in various places earlier in this work. Usually mislabeled "word order" in literature, the constituent order refers to "*the order in which phrasal constituents occur within a clause*" (Dixon 2010b: 334, Glossary). In literature, there are languages with "free constituent order" where phrasal constituents can appear in any order: for example, the predicate can optionally occur before or after the subject, the subject can virtually appear after or before the object, the predicate can be the first or last constituent of the clause, amongst other possibilities. In Spanish for instance, the structure "*el profesor Saluda a los alumnos*" (the teacher greets the students) conveys the same meaning as "*Saluda a los alumnos el profesor*" (literally, greets the students the teacher), the only difference between the two structures being a stylistic matter. Moreover, some languages like Latin are considered "free word order" languages because wherever the word is located in the clause, its different declined forms show its respective syntactic function within the clause. However, there are also languages with a fixed constituent order of which Koshin can be representative. The constituent order strategy marks essentially some of the core arguments (obligatory arguments of the verb clause, stated or understood from the context). More concretely, it allows us to distinguish the following functions: the subject on the one hand and the object, copula complement, on the other hand as follows (some word structures, irrelevant for this discussion, are not given):

(1) (a) [tānyə̀] **CS** [mɔ̀] **COPULA** [mwə̀n bāny shāŋ fī]**CC**
Twins father be.PRESENT person childs twins two
"Tanyə is a person with twins"

(b) [shɔ̄m]**CS** [mɔ̀]**COPULA** [fə̃ tsî̤n]**CC**
Palm tree be.PRESENT king trees
"The palm tree is the king of the trees"

(c) [nsî̤-ŋ k-əŋ]**A** [zhǐ]**PREDICATE** [kə̀-fǐ]**O**
friend my eat.PRESENT NC-pig
"My friend eats pig"

(d) [Ju]**A** [bɔ̄nə̀]**PREDICATE** [Diang]**O**
Proper name greet.PRESENT proper name
"Ju greets Diang"

The clauses (1) show the same underlying constituent order: Subject-Predicate-Object/ Subject-Copula-Copula complement. The subject always comes before the predicate and this predicate or this copula comes before the object or copula complement respectively. Any readjustment to this

order is only triggered by the focus construction where the object can move in front of the clause as stated many times in the preceding chapter. Without the constituent order strategy, one cannot know which elements are copula subjects in (1a-b) because the copula complements in the two clauses are likely potential copula subjects. Moreover any of the two phrasal constituents flanking the predicate verb in (1c-d) can potentially be interpreted as transitive subject. Only the constituent order constraint prevent us from considering "pig" and "Diang" subjects of the verb "eat" and "greet" respectively. It should be recalled, as said in the chapter on pronouns that, when the subject of the verb is the first person singular pronoun (*mə̄*), it may be realized as an affix bound to the verb. The nasal consonant of the pronoun *may* be prefixed to the verb after a process of metathesis and schwa deletion as discussed in the chapter mentioned above. This optional affixation of the pronoun cannot apply when the pronoun is object of the verb. The syntactic behavior of the subject pronoun discloses a syntactic phenomenon very frequently observed in natural languages: the subject may be realized as a noun *and/ or* an affixal part of the verb (and may be considered an inflectional element of the predicate in many languages). In the same vein, nouns which are in object function may also be realized as an affix bound to the verb.

However, this is simply a surface phenomenon: in the underlying representation, the subject and the object are independent constituents which cannot be parts of the predicate. This statement contrasts with the claim supported by traditional grammar which usually divides the clause into two constituents: the subject, as the first constituent, and the verb phrase -which consists of the verb and all the arguments such as the object and the peripheral arguments. Such a claim is not assumed in this work where, consistently with Basic Linguistic principles, the object in a clause is *not part* of the predicate but is rather an independent element within the clause even if this object is required by the verb valency.

Examples (1) also allow us to mention something about the word order *within the NP* structure of the language, even though it should be clearly stated here that this is not an instance of case marking. Let us look at the NP structures in copula complement function (CC) in (1a) ("the person with two twins") and in (1b) ("the king of the trees"). It can be observed that the head of the NP in each structure is located at the left edge of the NP. That is, the NP is always left-headed. On a par with the core argument functions exclusively determined by the order of the constituents, the function of a noun within the NP also depends exclusively on the order of

the words within the alluded NP structure. Details about the word order within the NP structure are given in the chapter on phrasal constructions (chapter 15).

The constituent order strategy marks the function of core arguments within the clause such as the subject arguments (A, S, CS) and the object argument (O). Other core arguments cannot be marked only by the constituent order strategy. They add the clitic marking strategy. They are examined later. Besides the core arguments, there are other syntactic functions within the clause (the peripheral arguments) which are usually marked by clitics. Let us discuss their marking.

13.1.2 Clitic Marking Strategy

Clitic marking refers to the case marking realized through clitics whose well-known labels are "prepositions" (when preceding the marked NP), "postpositions" (when following the marked element), and probably more recently, "adpositions", (which is a general term for both prepositions and postpositions). Hence, they can be called, optionally, as clitics or adpositions (ADPOS.) which are often confused with affixes in some texts. That is why the difference between the two items has to be clearly determined in order to avoid that confusion. The grammatical particles marking the syntactic functions in Koshin language are called "clitics" instead of "affixes" because of the criteria discussed in the following paragraph.

13.1.2.1 Defining Criteria of Clitics or Adpositions

In the first volume of his very informative *Basic Linguistic Theory*, Dixon (2010a: §5.4) identifies some important properties distinguishing clitics from affixes (these properties can also be usefully used in Koshin in order to distinguish clitics from affixes):

(2) (a) Clitics can be regarded as separate grammatical word but which cannot stand alone making up a phonological word by itself. They rather "lean" on a full word or NP (its "*host*"). Affixes, on the contrary, are joined to the root or to the stem and *"the whole functioning as one grammatical word (and generally also as one phonological word)"*

(b) Whereas affixes show phonological rules which are only attested across a root-affix boundary or an affix-affix boundary (showing that they form with the root or stem one word), clitics do not exhibit phonological rules which

make them look as integral parts of their hosts but rather behave like autonomous (but not independent) words just added to their hosts.

(C) Clitics are not restricted to specific word classes. They are typically "omni-locatable" and can be added to any of a wide range of words, but affixes are usually restricted to some word classes.

(d) Clitics are not used on several words in the same structure – say NP- whereas affixes can occur on many words in such a construction.

(e) Koshin affixes, because of criterion (1a), cannot be separated from the root by an intervening modifying *word*. The clitics, however, naturally occurs at the end or at the beginning of the NP, whether it is separated from the NP head by an intervening lexical modifier or not.

The preceding five criteria which are paraphrased statements adopted from Dixon's properties define adequately clitics in Koshin language. They can be illustrated through the following examples (ADPOS. stands for adposition; "=" refers to the word-clitic boundary; "-" refers to root/stem-affix boundary (sometimes also affix-affix boundary). These conventional signs are borrowed from Dixon (2010a:§5.4); the constituents are put in brackets followed by their syntactic function; the notions the (peripheral) arguments refer to are also given).

(3)(a) [wə̀]S [gə̄ fĩ́]**PREDICATE**[fèny = lə́]**NP:RECIPIENT**
2PERS.SG go.PRESENT talk king=ADPOS
"You go and talk to the king"

(b) [ā]CS [mɔ̄]**COPULA** [wù = lə́]**NP:BENEFICIARY**
DEM0 be.PRESENT 3PERS.SG=ADPOS
"It is for him/her"

(c) [wù]A [fì]PREDICATE [tsāŋ]O [kás = mə̄]**NP:LOCATION**
3PERS.SSG put.PRESENT palm nuts cooking pot=ADPOS
"He puts palm nuts in the cooking pot"

(d) [sə̀]A [tsù]PREDICATE [tsāŋ]O [kə̄-shwā kə̀-ntə́ŋə̄ = mə̄]**NP:LOCATION**
1PERS.PL grind palm nuts NC-engine CONC-smallness=ADPOS
"We grind palm nuts in an engine"

(e) [kə̀-jĩ] /A [tĩ́]PREDICATE [jùŋ-y-ā]O [bə̄-zhĩ̃-m-bə́ = wə̄]**NP:LOCATION**
NC-God, put.IMPERATIVE blessimg-CONC-2PERS.SG NC-food-DEF=ADPOS
"God, put your blessing on the food (bless the food)"

Examples (3) straightforwardly illustrate the criteria in (2). Let us begin by criteria (1a-b).The clitic particles following the symbol "=" in each clause cannot stand alone. They can only be added to their respective hosts. Nevertheless, they are not integral parts of the word they are added to, because it can be observed that particles which are affixed to nouns usually share morphological properties with these nouns or undergo specific transformation rules. For example, the class prefix is an integral part of the noun as in (3d-e) because it shares morpho-phonological properties (for instance, the class marker segment of the NC prefix is determined by the NP head class) with the NP head, on a par with the other modifiers of that noun such as the concord marker. The clitics in (3) share no morphological properties with their respective hosts. In the same vein, whereas the NP head and its affixes form a phonological word (for example, the tone of the affixes is determined by the tone of the head), the tones of the clitics in (3) are invariable. Moreover, no phonological rule has been attested in clitics irrespective of the phonological characteristics of the host.

The criterion (2c) assumes that affixes are restricted to some word class meanwhile the clitics "are omni-locatable". In fact, examples (3a-b) show that the adposition conveying dative marking can be added to a noun (lexical class) and to a pronoun (grammatical category) without any problem. Besides, the locative-marking adposition is not restricted to occur with a noun (3c) but can also follow an adjective (3d).

The property (2e) states that affixes are expected to be joined to the root or the stem, whereas the clitics do not exhibit such a constraint. Example (3d) confirms this statement if the locative-marking adposition is regarded as a clitic –not an affix- because it is separated from the NP head by an intervening lexical modifier.

And finally, the criterion (2d) outlines that inflectional affixes in many languages can appear on more than one word within a given structure –such as in (3d) with the class marker which occurs with the NP head and also with the following noun- but clitics never do. It is claimed that the (peripheral) argument markers in examples (3a-e) are clitics because only one marker is used in each NP structure, although in some examples like (3d) there is more than one lexical word which can potentially carry the marker of syntactic function.

For all the preceding reasons, it is maintained that peripheral arguments –and some core arguments- in Koshin are marked not by affixes but by clitics whose positioning within the clause has to be examined in the following paragraph.

13.1.2.2 Positioning of the Clitics

This paragraph essentially aims at answering the following question: which "host" the clitics attested in the language "lean on"? In other words, which linguistic element the clitics are attached to? Are they attached to the NP head or the whole NP? If this element is determined, do the clitics precede it or follow it? The question is partly answered with the examples (3), but there is much more to say about it.

In examples (3a-c), the clitic is attached to nouns and to a pronoun. Both the hosts function as NP head. Hence, we can think that the clitics are attached to the NP head as it occurs in many languages. However, examples (3d-e) disclose a different analysis. The clitic particles can follow a noun which is not an NP head (3d) or a definite marker modifying a noun (3e). In both contexts, the clitic is separated from the NP head. Therefore, one may say that clitics are attached to the noun (when that noun appears alone) and to the noun modifier (when there is a modifier). However, a more satisfactory and economical hypothesis is to say that in both contexts, the clitic particle has the same host: the *whole NP* structure, not only the NP head. This NP can consist of a single noun as in (3a) and (3c), a pronoun (3b), a noun modified by another noun (3c) or a noun followed by a definite marker (3d). Whatever the NP structure is, the clitic particle in (3) appears at the right edge. Such a particle can be more commonly called "*postposition*", because it occurs after the marked element.

The Koshin language shows another positioning of clitics, as in the examples below:

(4) (a) [mwən kpɨ̂]**S** [bāŋə̀]**PREDICATE** [bə́=mwən nyū]**NP: ACCOMP**
person female meet.PRESENT ADPOS=person male
"A woman meets a man"

(a') [mwən kpɨ̂]**S** [bāŋə̀]**PREDICATE** [bə́ =w-ɛ̃ mwən nyū]**NP:ACCOMP**
person female meet.PRESENT ADPOS=CONC-WAHT person male
"A woman meets what man?"

(b) [sə̀]**S** [gə̀]**PREDICATE** [fə́=shɔ̄m=tɨ̂n] **LOCATION**
1PERS.PL go.PRESENT ADPOS palm tree=ADPOS.
"We go under the tree"

(b')[sə̀]**S** [gə̀]**PREDICATE** [fə́=w-ɛ̃.w-ɛ̃ shɔ̄m=tɨ̂n]**LOCATION**
1PERS.PL go.PRESENT ADPOS=WHICH palm tree=ADPOS.
"We go under which tree?"

(c) [wù]**S** [fà]**PREDICATE** [ə́ =wə̀=lə́]**RECIPIENT**
3PERS.SG give.PRESENT ADPOS=2PERS.SG=ADPOS
"He/she gives (it) to you"

(c') [wù]**S** [fà]**PREDICATE** [ɔ́ = b-ɛ̃ bə̄-nî =lɔ́]**RECIPIENT**
3PERS.SG give.PRESENT ADPOS=CONC-WHAT NC-person=ADPOS
"He/she gives (it) to what people?"

The positioning of clitics in examples (4) diverges from the positioning of those in (3). In the first example (4a), the clitic occurs before –not after- the NP structure it marks the syntactic function. In this context, it is called "*preposition*". The items which occur before the accompaniment arguments (4a-a'), location arguments (4b-b'), and recipient arguments (4c-c') are clitics –not affixes- because, amongst other reasons, they can be separated from the NP head by an intervening modifier (Cf. property (2e) above). In this case, the intervening modifier is the interrogative "what" or "which".

It should be mentioned that the NP referring to the accompaniment argument in (4a) is different from the other NPs marked by adpositions. In fact, whereas the absence of the NPs in (4b, 4c) does not trigger the ungrammaticality of their respective clauses, the absence of the NP in (4a) triggers an unacceptable clause. In other words, the NP marked by the adposition in (4a) is *required* by the verb, exactly as the core arguments are required by the verb valency. Therefore, it is logical to regard the NP following the verb "meet" in (4a) as core argument not as a peripheral argument (more details on this topic are given in the following paragraphs).

The last examples (4b-c') combine two clitics. In fact, the same host is flanked by a preposition and a postposition, both of them marking the same syntactic function. Many examples have been attested where the use of the same NP marked by two adpositions can optionally be marked by only one, without any noticeable semantic or syntactic change.

(5) (a) [tî]**PREDICATE.A** [jùŋ y-ā]O [ɔ́ =bē-zhĩ̂-bɔ́ =wə̄]**LOCATION**
put.IMPERATIVE.2PERS.SG blessing CONC-2PERS.SG ADPOS= NC-food-DEF=ADPOS
"Put your blessing on the food (bless the food)"

(b) [tî]**PREDICATE.A** [jùŋ y-ā]O [ɔ́ =bē-zhĩ̂-bɔ́]**LOCATION**
put.IMPERATIVE blessing CONC-2PERS.SG ADPOS= NC-food-DEF
"Put your blessing on the food (bless the food)"

(c) [tî] **PREDICATE.A** [jùŋ y-ā]O [bē-zhĩ̂-bɔ́ =wə̄]**LOCATION**
put.IMPERATIVE blessing CONC-2PERS.SG NC-food-DEF=ADPOS
"Put your blessing on the food (bless the food)"

All the three structures in (5) are grammatically acceptable: in the first example (5a), the NP "the food" is marked by both a preposition and a postposition. In the second example (5b), the same NP is only marked by the preposition and in the third one (5c), the NP is marked only by the

postposition. It is an optional method of double marking. This optional double marking of the adpositions described in (5) is reminiscent of another more or less similar phenomenon reported by Dixon (2010a: §5.4): "*In the classical Indo-European languages* […], says the author, *cases are combined with prepositions.* […] *This is a fascinating, double-barrelled* (sic*) method of marking. One can just use the case* […] *or a case plus a preposition*". The only difference between the situation of the classical Indo-European languages and the examples in (5) is that Koshin uses only adpositions in its double marking method.

Thus far, three instances of case clitics have been discussed: case clitics as prepositions, postpositions or as a double-marking method which combines both a preposition and a postposition. Beyond the three preceding types of case clitic marking, other syntactic strategies have been identified with a specific type of verbs. In fact, some movement verbs do not need a clitic marker to the peripheral argument referring to the place a movement is oriented to/from. Instead, with these movement verbs, there is a null (empty) case marker if the peripheral argument refers to a space to/from which the movement of the verb action is oriented, as in (6) below:

(6) (a) [mə̄]**S** [lǐ yā]**PREDICATE** [mū]**NP:LOCATION**
1PERS.SG go far.PRESENT farm
"I go to the farm"

(b)[wù]**S** [yə́ kwē]**PREDICATE** [gbɨ̀à]**NP:LOCATION**
3PERS.SG PAST1 come back NC.house
"He/she has come back home"

(c) [Kɔ̄]S [kā nēkā] PREDICATE[Sāwɨ̄]**NP: LOCATION**
Koshin people CONSEC. leave.PAST name of place
"Koshin people then left Sawi"

(d) [bə̀] [kā dɨ̄]PREDICATE[fɔ̄ŋ]**ADVERB:LOCATION**
IMPERS. CONSEC come.PAST HERE
"They then came here"

As it can be observed from examples (6a-b), movement verbs such as "go far", "come", "come back", and "leave" can carry NPs referring to locations without any adposition, if the movement of the verb is going towards the alluded NPs or coming from them. However, as also observed earlier in examples (4b-c), if a secondary meaning is added to movement meaning, the NP in peripheral argument function carries an adposition. This context can be observed with "go + for" in (4b), "go + under" in (4c) or "go + inside", as exemplified in (7a) below:

(7) (a) [sə̀]**S** [kə̄ gə́]**PREDICATE**[shî bə̄-byálə̀ = mə̄]**NP:LOCATION**
1PERS.PL FUT.1 go market NC-place=ADPOS
"We will go to the market (inside the market place)"

(b) [mə̄]CS [mɔ̄]**COPULA** [bə̄ = gbɨ̂yà]**NP: LOCATION**
1PERS.SG be.PRESENT ADPOS = NC.house
" I am at home"

When the NP referring to location follows a verb which does not show movement meaning as in (7b) or in many preceding examples, the NP is usually marked by an adposition.

Let us sum up this paragraph as follows: the syntactic domain the case clitics are attached to in Koshin is the NP. These clitics can mark such an NP by appearing before it (as prepositions), they can also occur after the NP (postpositions) or they can appear on both sides (preposition and posposition). Now, it is time to examine the various syntactic functions marked by these case clitics.

13.1.2.3 Syntactic Functions Marked by Clitics

At the very beginning of this chapter, it has been said that the core arguments are mostly marked in the language through the constituent order strategy. Besides, the peripheral argument marking has been discussed (through the case clitic strategy). Below, these peripheral arguments (also called peripheral syntactic functions or non-core arguments) are analyzed, according to the various notions they refer to, the most recurrent of them being location (with many sub-notions), accompaniment, instrument and privation. Time and manner arguments are also mentioned even if they are coded through a variety of strategies. The beneficiary and recipient arguments are regarded as specific type of core arguments marked by adpositions and are analyzed later.

13.1.2.3.1 Peripheral arguments

Location arguments are analyzed first, then, accompaniment, instrument and privation arguments, and finally the specificity of manner and time arguments are considered.

- ***Location***

Location arguments are amongst the most recurrent. They are marked by many different clitics according to the type of location indicated in the clause, according to whether or not the verb clause conveys movement.

(8) (a) [wə̀]CS [yə́ ø]COPULA [bə̄ = gbɨ̂yà]NP:LOCATION
2PERS.SG PAST1. be ADPOS=NC.house
"Have you been *at* home?"

(b) [mə̄]**S** [tsə̄]PREDICATE [(t)sə̄fə̄ = Garoua]NP:LOCATION
1PERS.SG live.PRESENT ADPOS = name of town
"I live/stay *after/after* Garoua"

(c) [Ju]**S** [yá -lə́]PREDICATE [kpɨ̂n = wə̄]NP:LOCATION
Proper name climb-IMPERF tree=ADPOS
"Ju climbs a tree (Ju goes up *on* a tree)"

(d) [mwən kpɨ̂]**A** [tɨ̀]PREDICATE [nyɔ̀m]**O** [ə́ = kás = mə̄]NP:LOCATION
person female put.PRESENT meat ADPOS= cooking put=ADPOS
"A wife puts the meat *in* the cooking put"

(e) [mwə̀-ndɔ̄]**A**[kə̀nsə̀]PREDICATE [wɨ̂]**O** [ə́ = kás = tɨ̂n]NP:LOCATION
person-INDEF kindle.PRESENT fire ADPOS=cooking put=ADPOS
"Somebody kindles a fire *under* a cooking put"

(f) [sə̀]**S** [gə̀]PREDICATE [fə́ = shɔ̄m = tɨ̂n]LOCATION
1PERS.PL go.PRESENT ADPOS palm tree=ADPOS.
"We go under the tree"

Only in examples (8), six different location arguments occur and are marked by five different adpositions. The different clitics in (8) can be translated by their corresponding English equivalent such as "at, after, on, in, under". As expected, each of the preceding adpositions conveys a specific meaning to the NP it marks.

- ***Accompaniment and Instrument***

Accompaniment and instrument arguments are both marked by the same clitic. Only the context distinguishes them. They are frequent in the language. As shown in the examples below, the adposition /bə́/ comes before the NPs which are regarded as something/somebody acting/happening/appearing at the same time as another entity (accompaniment argument), or something/somebody used as a device for the fulfillment of a particular task (instrument). In (9b) the accompaniment argument fills a syntactic core slot.

(9) (a) [bàbā]VOCATIVE/ [nē yā dɨ̌ dɔ́ m]PREDICATE [bə́ = sə̀]NP:ACCOMP.
Daddy, come up.IMPER. GO IN be.IMPER ADPOS=1PERS.PL
"Daddy, come and be with us"

(b) [mwən kpɨ̂]**S** [bāŋə̀]PREDICATE [bə́ = mwən nyū]NP:ACCOMP
person female meet.PRESENT ADPOS=person male
"A woman meets a man"

(c) [mə̄]S [nə̀m]PREDICATE[bə́ =kɔ̂ y-ə̄ŋ]**NP:INSTR.**
1PERS.SG work.PRESENT ADPOS=hand CONC-1PERS.SG
"I work with my hand"

(d) [mə̄]**A** [ywə̄-lə́]**PREDICATE**[nyɔ̀m yə̀]**O**[bə́ =wɪ̂]**NP:INSTR**
1PERS.SG kill-IMPERF animal DEF ADPOS=gun
"I kill the animal with a gun"

(e) [Gɔ́vmènt]**A** [gɔ̄mtə̀]**PREDICATE**[sə̀]**NP:O**[bə́=b-yə̄ny bə̄-skūl]**NP:INSTR**.
Government help.PRESENT 1PERS.PL ADPOS=NC-things CONC-school
"Government helps us with school things (school furniture)"

- ***Privation***

Whereas the accompaniment argument more or less "accompanies" the action undertaken by another element, the privation argument (usually marked by the privative adposition) refers to the argument which *does not collaborate* (with another argument) in order to achieve an objective. The privation (PRIV) argument does not occur regularly in the data and has been attested with only one clitic.

(10) (a) [mə̄]**S** [kānə́ kə̄ kə̄-būm]**PREDICATE**[màdá=tə̄-wâ ŋ t-ə́ŋ]**NP:PRIV**
1PERS.PL have NEG NC-hunt ADPOS=NC-spear CONC-1PERS.SG
"I do not have to hunt without my spears"

(b) [b-ã̃ bə̄]**S** [lɪ̂yà-lə̀]**PREDICATE**[skūl]**LOCATION**[màdá =bə̄-ŋɔ̀tə̀]**NP:PRIV**
NC-child DEF go far-IMPERF school ADPOS=NC-book
"The children are going to school without books"

(c) [sə̀]**A** [zhɪ̀]**PREDICATE** [bə̄-nɪ̂]**O** [màdá =ŋkàny]**NP:PRIV**
1PERS.PL eat.PRESENT NC-corn food ADPOS=corn beer
"We eat corn food without corn beer"

- ***Manner***

Manner arguments are coded essentially through three ways in the language. They can be realized as grammatical categories modifying the verb within the predicate slot (this point is handled in the following chapter), they can be coded through the reduplicated form of the verb clause, or they are can be expressed through NP structures marked by the same adposition as the one marking accompaniment/instrument arguments, as in examples (11) below.

(11)(a) [b-àny bə̄]**S** [bɔ̄nə̀]**PREDICATE** [bə̀-tyə̀ bə̄-bɔ̀=lə́]**NP:RECIPIENT**
NC.child DEF greet.PRESENT NC-parents CONC-3PERS.PL=ADPOS
"The children greet their parents
[bə́ =kə̀-cɔ̄sə̄]**NP:MANNER**
ADPOS=NC-respect
with respect (respectfully)"

(b) mə̄ zàmə́ bə́ =zàmə̀-mə̀
1 PERS.SG talk ADPOS=talk
"I am just talking"

- *Time*

Strictly speaking, time arguments could have not been included amongst peripheral argument marked by adpositions. In fact, whereas many adpositions marking location within the NP are attested in the language as shown earlier, the temporal clitic markers within the NP structure, on the other hand, are rather quite rare in the data. The time concept is expressed through other strategies. For instance, a temporal marker is used in complex sentence constructions (examined in chapter 16). Within the NP structure, a suffixation strategy (already mentioned in chapter 6) can be used exclusively with some nouns carrying temporal meaning, to mark the syntactic function. Another strategy is to use the item "time" within an NP structure such as a modifying noun follows the head "time" to convey the meaning "during the period expressed by the NP modifier". In other words, the noun "time" plays the same role as an adposition to convey the meaning "all through a period of time (mentioned by the noun modifier)". Some examples of time marking strategies can be observed as in (12) below:

(12)(a)[kpɔ̃̄ tə̄lɔ́m]**NP:TIME** [kə̀-ntū.ntūn-fə́]**NP:TIME** /
Day funeral celebration NC-morming-TEMPORAL
"In the morning of the funeral celebration day,

[sə̀]**S**[gə̄]**PREDICATE** [bə́ =shǐ]**NP:ACCOMP** [fə́ =dzǐm]**NP:LOCATION**
1PERS.PL go.PRESENT ADPOS=fowl ADPOS=grave
we go (down) to the grave with a chicken"

(b) ŋkpù-fə́ / [mī-]**A**[bə́ kə̄ zhǐ-lə́]**PREDICATE** [nyɔ̀m]**O**
Tomorrow-TEMPORAL, 1PERS.SG-FUT2 FUT1 eat-IMPERF meat
"Tomorrow, I will eat meat"

(c) [mən]**S**[kānə́ kə̄ zámə̀]**PREDICATE**[bə̄-lə́ŋ bə̄-nə̀m]**NP:TIME**
2PERS.PL have.PRESENT NEG talk NC-time CONC-work
"You (pl) do not have to talk during work (the time of work)"

Following criteria (2) above, the temporal marker in (12a-b) can be considered an affix (not an adposition or clitic) because, amongst other reasons, the use of this morpheme is restricted to only one class word: nouns. Besides, it is not any noun but some nouns which refer to time concept. Moreover, no example has been attested where a given morpheme is separated from the root by an intervening modifier.

Besides the core arguments analyzed in the first articulation of this chapter and which are marked only by the constituent order strategy, there is another type of core arguments which are marked by adpositions (like peripheral arguments). On a par with any type of core arguments, they are required by the verb clause. They must be stated openly or understood in the context, otherwise the clause should be unacceptable.

13.1.2.3.2 Some core arguments marked by adpositions

Whereas the subject (A, S, CS), the object, and the copula complement arguments are marked by the constituent order parameter, other important types of core arguments are marked by clitics: these arguments show the semantic roles of "recipient", "beneficiary", "addressee" on the one hand, and the "gift" semantic role on the other hand.

- *Addressee / Recipient / Beneficiary*

When the NP refers to the beneficiary (somebody who benefits from an action), the recipient (somebody who receives something), or the addressee (somebody the message is addressed to), the language uses the same grammatical mechanism. The same clitic is added (before and) after the NP as follows (some irrelevant word structures are not given; (E) refers to the Extended argument, that is, the extension of the core argument):

(13) (a) [Ousmanou],**VOCATIVE** [bɔ̄nə̄]**PREDICATE** [kpɨ̂-ŋ-w-à=lə́]**NP:ADDRESSEE(E)**
Proper name, greet.IMPER. wife your=ADPOS
"Ousmanou, greet your wife (say greetings to your wife)"

(b) [mə̄]S [dzàmə̄]**PREDICATE** [wù=lə́]**NP:ADDRESSEE**
1PERS.SG tell.PRESENT 3PERS.SG=ADPOS
"I tell him/her (I tell it to him/her)"

(c) [mə̄]A [fà]**PREDICATE** [nɗì]O [ə́ =wə̀=lə́]**NP:RECIPIENT(E)**
1PERS.SG give.PRESENT water ADPOS=2PERS.SG=ADPOS
"I give water to you (I give you some water)"

(d) [ā]**CS** [mɔ̄]**COPULA** [wə̀=lə́]**NP:BENEFICIARY**
DEM0 be.PRESENT 2PERS.SG=ADPOS
"It is for you"

(e)[kə̀-fĭ k-ɛ̃̄]**CS** [mɔ̄]**COPULA** [fɛ̃̂-lə́]**NP:BENEFICIARY**
NC-pig CONC-DEM1 be.PRESENT king=ADPOS
"This pig is for the king"

It should be mentioned that, specifically for constructions like the one in (13c), the special marking with clitic is attested only if the recipient "you" follows the understood or stated object

argument (the "gift" as stated in the following lines). When there is an open (stated) object argument which occurs after the recipient, the recipient can no longer be marked by the clitic. Then if the "recipient" appears before the "gift" the clause in (13c) will have the following structure still repeated in (14):

[mə̄]**A** [fà] **PREDICATE**[wə̀]**NP:RECIPIENT (O)** bə́ = [nd̆ì] **NP:GIFT(E)**(I give you some water).

In other words, when the said recipient argument is used in O function, it is not marked by the adposition, but when it occurs as an extended argument (an extension to core argument) after the O argument, the adposition is used.

- *Gift*

Following Dixon's denomination (2010a §1.11), the "gift" semantic role is the role of the argument which refers to *something that is given* (the italic marking is ours) to somebody. The person who gives is called the "donor" and the person the gift is given to is called the "recipient". More specifically, it means that a gift argument can occur only in clauses where there is a verb of "giving type" as in (13c) above where "water" is the *gift*, "I" the *donor*, "you" the *recipient,* and the *giving verb* is "give". However, as stated above, the gift is not marked in (13c) by an adposition. Another condition misses in order to get a gift argument marked by a clitic. This condition is met in (14) below:

(14) (a) [mə̄]**A** [fà]**PREDICATE** [wə̀]**O** [bə́ = nd̆ì]**NP:GIFT (E)**
1PERS.SG give.PRESENT 2PERS.SG ADPOS= water
"I give you some water"

(b) fā]**PREDICATE** [mə̄]**O** [bə́ = kĭyà yì-mŏ]**NP:GIFT(E)**
Give.IMPER.2PERS.SG 1PERS.SG ADPOS=basket CONC-one
"Give me one thousand (francs)"

It is worth emphasizing that the gift argument has a special behavior because it can be marked by an adposition or not, depending on the position it occupies in relation to the recipient argument within the clause. That is, the adposition is required only in a specific context with the same semantic role (cf the comparison between 13c and 14). Therefore, it corroborates the assumption that adpositions are very often (but not always) mere *surface markers* of syntactic function, on a par with case affixes, and that the only difference between the two types of items is based on their different morphological realizations.

Furthermore, unlike grammatical categories which are the *basic* linguistic systems, adpositions (clitics) are mere markers of syntactic functions, exactly as the constituent order strategy is. In order to better appreciate the functional distribution of the clitics attested in the language, let us summarize them by making up their table so as to know which adposition(s) mark(s) which syntactic function(s). The inventory of clitics in (15) does not include the null morpheme marking location arguments when the verb clause is a movement verb and when no supplementary meaning is added to the said movement meaning. As a recall, the sign "=" refers to the boundary between the NP and the clitic marking this NP.

(15)

N°	**clitics(adpositions)**	**marked function**	**gloss**	**examples**
a	bə̄= (preposition)	location	position of rest at	(7b), (8a)
b	=mə̄ (postposition)	location	in, inside	(3c), (7a)
c	=tɨ̂n (postposition)	location	under	(4b), (8e)
d	=wə̄ (postposition)	location	on	(3e), (8c)
e	fə́ = (preposition)	location	down	(4b), (8f)
f	(t)sə̄ fə̄=(preposition)	location	after, behind	(8b)
g	ə́ =(preposition)	location	on	(5a)
		location	in, inside	(8d)
		location	under	(8e)
		recipient	to	(13c)
h	=lə́ (postposition)	recipient	to	(3a)
		addressee	to	(13a-b)
		beneficiary	for	(3b), (13d-e)
i	bə́ =(preposition)	instrument	by	(9c-e)
		gift (E)	with	(14a-b)
		manner	with	(11a)
		accompaniment	with	(4a)
j	màdá=(preposition)	privation	without	(10a-c)

Table 1: Clitics (Adpositions)

From table 1, one can learn the following: ten (10) adpositions have been attested in the language (five prepositions and five postpositions); the majority of these adpositions are used to mark location arguments; some arguments (say location) are marked by more than one clitic and reversely, some clitics ("bɔ́" for instance) mark more than one argument.

In sum, the case marking in Koshin can be realized through two main strategies: the constituent order and the clitic marking. Both strategies play the same functional role –to mark the syntactic function of NPs-, the difference between them being a matter of surface realization. For the specific case of clitics, some good reasons can make someone believe that they are not an isolated set of items within the system. They (at least some of them) share some properties with other items from more or less different categories. Then, let us examine the link between adpositions and other sets of words.

13.2 Relationship between Case Clitics and Other Sets of Words

Two main connections with case clitics have been identified: the connection with conjunctions and adverbs on the one hand, and more importantly, the connection with the *PB noun classes.

13.2.1 Case Clitics and *PB Noun Classes

When the reconstructed Proto-Bantu classes (taken from Maho 1999: 51) are observed, one can realize that there is a special connection between some Koshin adpositions and the Proto-Bantu locatives sub-set. Before discussing adequately this interrelation, let us recall that, as established in the chapter on noun class system (chapter 8), locatives are not attested in the language class system. Still in this chapter on noun classes, it has been stated that, although many Proto-Bantu (*PB) noun classes are not attested in the Koshin noun class system, a careful observation shows that some of these missing *PB classes appear in the language under relic forms or cognates through other grammatical categories. Within the demonstrative system for instance, some relic forms of *PB classes have been identified. It has been also claimed that clitics group includes some relics or cognate forms of *PB locative classes –which are not attested within the Koshin noun class system. Therefore, let us analyze the traces of the *PB noun classes within the clitics group.

First of all, it should be mentioned that, according to the possible set of reconstructed noun classes and noun prefixes in Proto-Bantu based on Meinhoff (1932), Meeussen (1967),

Welmers (1973) and Hinnesbusch (1989) (Cf Maho 1999:51), four locative class prefixes can be distinguished as in (16) below:

(16) (a) *pà-(class 16): "locatives", "near" or "explicit"
(b) *kù- (class 17): "locatives", "remote" or "general"
(c) *mù- (class 18): "locatives", "inside"
(d) *ɨ- (class 23): "locative", "unspecified"

A mere comparison between the set of clitics in (15) and the Proto-Bantu locatives in (16) reveals that some shared properties can be established between the two sets.

Let us begin with what seems to be more obvious: the adposition in (15.b) and the *PB prefix in (16c) are similar both morphologically and semantically (the meaning of the noun class and the meaning *indicated by the adposition* are identical). In fact, they both include an initial nasal consonant and they also refer to location. Furthermore, the two morphemes refer to what is located "inside". There is no way of denying that the two items derive from the same source or are interconnected in one way or another.

The following connection cannot be stated as straightforwardly as the first one, but it is still viable: the link between the *PB class 16 (in example 16a) on the one hand, and the adpositions (15a), (15d) and (15e) on the other hand. The two morphemes, as in the first case, not only share the same semantic value –they all refer to an explicit location meaning- but also share some phonological property: they all include an initial labial segment. If this hypothesis is accepted, it means that the single locative class 16 prefix has developed into three adpositions in Koshin.

It is also likely that the adposition marking location in (15g) has derived from the *PB class 23 (16d) because both consist in a monosyllabic vowel and refer to location. However, still more challenging is the interconnection between the *PB class 17 (16b) and the adposition (15f). It is true that both items refer to location and that the meaning indicated by the adposition "behind/ after" *may* correspond to the "remote" or "general" location of the *PB noun class 17. But phonologically, the two morphemes *seem* to be far from one another: whereas the *PB noun class shows one syllable, the putative corresponding adposition consists of two syllables. Besides, while the mentioned clitic has an initial alveolar segment, the noun class prefix begins with a velar (dorsal) one. Against this apparent contradiction, the following claim can be

hypothesized: first of all, the difference between the two initial segments can be a phonetic (not a phonological) one because, as examined many times in the preceding chapters, the velar consonants can be realized as fricative alveolar consonants because of the palatalo-spirantization process discussed into details in other preceding chapters. Moreover, it is believed that the adposition in (15f) (*tsə̄fə̄* or *sə̄fə̄*) indicating the meaning "behind, after" is likely the fusion of the adposition *sə̄* (the palatalized and spirantized version of the *PB kù (16b) and *fə̄* (15e) indicating the meaning "down". It is known that some interconnections between the *PB noun classes and the Koshin clitics may be less obvious than others. However, it is too much to consider these morphological and semantic similarities between *PB locatives and some Koshin clitics marking location as a mere casual fact.

The interconnections between the *PB locatives and the Koshin clitics specifically indicating location are not that parametrical in literature. In fact, it is known that in literature, many languages exhibit locative noun classes which are only related to a limited set of nouns whose meaning deals almost exclusively with spatial concepts such as "place", "on-the-ground", "on-top". For instance, Whiteley and Muli (1962:54) report that in Kamba language, locative noun classes are used only with a single root: "place", in class 16 with its plural in class 18. However, it is also established that in some languages, instead of locative noun classes, adpositions are used to mark the location arguments. It is the reason why Welmers (1973:167) emphasizes that, *"In a few Bantu languages, and in many non-Bantu Niger-Congo languages, reflexes or cognates of */pa-/, */ko-/, */mo-/* -respectively *PB class 16, class 17, and class 18 prefixes (*pà-, *kù-, and *mù- in other sources) which refer to locatives- *function somewhat like prepositions".*

It must be admitted that the discussion of locative markers is not the most widespread in literature. Or rather, the topic, as far as it is analyzed by linguists, is sometimes more confusing than informative. That is why, for instance, Maho (1999:95) states that "*A methodological difficulty in collecting data about locative classes is that they are inconsistently described by grammarians* (…)". This unfortunate feeling is in line with what Růžička (1959:209) experienced four decades ago, by the following: "*having studied the grammar-books, I was exceedingly surprised how very complicated and confused the book[s] on this category were. I have not found merely two Grammars which would agree with each other in the opinion on a number of locative classes*." Still more curiously, the same author continues: "*Some authors state*

a single class with one prefix only, whereas in the section of "adverbs" and "prepositions" they all speak of three locative prefixes".

The statements of the two authors quoted above merely support the evidence that the analysis of locatives in Bantu and non-Bantu languages is still to be clarified in one way or another. In this work, it is believed that the disagreement amongst the linguists about the number of locative classes in a language can be more or less easily handled. The problem may mostly come from the confusion sometimes maintained between the different types of locative markers. More specifically, affixes and clitics are often confused, and there is no clear-cut distinction between a locative class affix and a clitic marking locative (say an adposition), as in (2) above. Consequently, locatives classes and what are called "prepositions" are confusingly mixed up in the same basket as locative affixes, or else "prepositions" are regarded as noun class affixes not as clitics. Even if the two categories of morphemes may have the same objective in the language, as stated many times above –marking the location argument-, they do not behave in the same way, morphologically and syntactically speaking. The locative class affixes belong to a limited grammatical system whereas adpositions make up a set of syntactic function *markers*. The confusion between the two categories must lead to many misunderstandings and that is what explains, at least partly, the situation depicted by the authors in the preceding lines. Therefore, for any language where locative affixes and adpositions are attested, the two sets should be clearly identified in terms of morpho-syntactic features so that confusion can be avoided. The most important interconnection that involves clitics concerns the relationship with the *PB noun classes. However, other interconnections can also be established such as the one with adverbs and conjunctions.

13.2.1 Clitics, Conjunctions and Adverbs

The Koshin adpositions also maintain some connection with conjunctions and adverbs as in 17 below (CONJ. stands for conjunction).

(17) (a) wə̄ w-əŋ mɔ̄ **bə́** Ju
name CONC-1PERS.SG be.PRESENT also proper name
"My name is also Ju"

(b) Ju **bə́** Diang, mən zhɨ̄ bə̄-nɨ̄ b-ə̄nə̄
proper name CONJ. proper name, 2PERS.PL eat.IMPER NC-corn food CONC-2PERS.PL
"Ju and Diang, eat your corn food"

(c) mə̄ bāŋə̀ [**bə́** = mwə̀n kpî]NP: ACCOMP.
1 PERS.SG meet.PRESENT ADPOS.=person female
"I meet a woman"

(d) [mə̄]S [nə̀m]PREDICATE [**bə́** = kɔ̂ y-ə̄ŋ]NP:INSTR.
1PERS.SG work.PRESENT ADPOS = hand CONC-1PERS.SG
"I work with my hand"

The clauses given in (17) show a single (bold) form with different syntactic values. It is an adposition in (17c-d) and it marks accompaniment and instrument arguments. However, the same form is used as conjunction (17b) coordinating two NPs filling, as a whole, the transitive subject slot. In (17a), the said form is regarded as an adverb. Serious reasons make someone believe that in all the examples (17), the adposition, the conjunction and the adverb are a single word playing different syntactic roles. First of all, the morphological similarity: it is exactly the same for the different contexts. More importantly, careful observation shows that the meaning indicated by the adposition (accompaniment and instrument), the meaning of the conjunction (and), and the adverb (also) refer to the same concept. A single semantic property can be shared by all these words: the *addition* meaning.

The same (morphological and semantic) interconnection can be established between the adposition "after/behind" and the adverb of comparison "more" (index of comparison) in comparative constructions. The two items can be compared in the following examples.

(18) (a) wə̀ dzùbə̀ **(t)sə́ fə́** mə̄
2PERS.SG run.PRESENT MORE 1PERS.SG
"You run more than me"

(b) mə̄ tsə̄ **(t)sə̄ fə̄** = ŋgàŋə̀ wə̀
1PERS.SG live.PRESENT ADPOS.=hill DEF.
"I leave after/behind the hill"

It can be concluded from the meaning and the morphology of the two bold items that they are two facets of the same item used in different contexts, with two different syntactic roles: peripheral argument of comparison in (19b) and clitic case marker in (19a), but the two items refer to the meaning of "overtaking", "passing".

In summary, in this chapter two key points are discussed: the case marking strategies attested in the language and the interconnections between some case markers (clitics) and other sets of words. For the first main point, it is assumed that two main strategies are used in the language in order to mark the syntactic function of NPs: the constituent order strategy and the

case clitic strategy. Whereas the constituent order strategy allows someone to distinguish the core arguments from each other –the subject arguments from the non-subject core arguments, the clitics mostly mark peripheral arguments but they can also mark some core arguments. A clear distinction is also made between case affixes (which are not attested in the language) and adpositions or clitics marking the syntactic function of NPs. It is emphasized that both the case affixes and case clitics may play the same syntactic role, and that their difference is a mere question of realization in the surface representation. For the interconnection of adpositions with other categories, the link between the adpositions and the reconstructed *PB locatives classes (which are not attested in the Koshin class system) is outlined, and the connections between adpositions on the one hand and some conjunction and adverbs on the other hand are also highlighted.

Many adpositions with location and non-location reference have been. But all these clitics mark exclusively noun phrases (NPs). However, they are other grammatical items which relate not to NPs but to a different structure: the verb phrase (VP). More specifically, there are grammatical concepts which modify the predicate head (the verb) and which exhibit a different behavior. Let us analyze them in the next chapter.

CHAPTER 14

TENSE MARKERS AND GRAMMATICAL SECONDARY CONCEPTS

In the preceding chapter, the attested clitics or adpositions have been analyzed. The role of these grammatical items is to mark the syntactic function of the noun phrase (NP). However, not all the grammatical items mark (or refer to) the noun phrase. There is another type of grammatical items that surround and modify the predicate. In this chapter, two important types of grammatical items which refer to the predicate structure –not to noun phrase- are examined. Firstly, the tense markers and the movement or action marker (activeness) are analyzed. Secondly, the various grammatical secondary concepts recurrent in the language (and which naturally modify exclusively the verb, head of predicate) are scrutinized. Some of the dependency relations between the analyzed grammatical categories are outlined at the end of the chapter.

14.1 Tense Markers and Activeness

Tense markers are grammatical items which refer to time. They are *temporal shifters* because their reference changes when the time they refer to changes. They belong to a well known grammatical system amongst natural languages. The movement marker refers rather to verbs of action, of movement. In fact, some verbs whose meaning involves action or movement carry a specific marker. Tense and activeness markers are not included here within secondary concepts, even if they all refer to the head of the predicate, because these morphemes do not modify much the meaning of the verb. They do not add semantic details to what is conveyed by the verb even though we are aware that the action marker could have been perfectly included amongst secondary concepts. However, the secondary concepts are supposed to add a secondary meaning. Let us first examine the tense markers and then the intransitive marker.

14.1.1 Tense Markers

Three main tenses have been identified in Koshin: the present tense, the past tense (with three main divisions) and the future tense (with two divisions).

14.1.1.1 Present Tense

The present tense marker is the specific morpheme the verb exhibits when this verb expresses an action which begins and is realized at the time of speaking. In the Koshin system, verbs in the present tense forms show a form which is different from the infinitive, the past and

the future tense forms. In the examples (1) below, beside the present tense forms, only the infinitive form of the verb is given (within parentheses). (INF. stands for the infinitive marker).

(1) (a) mə̄ zhǐ bə̄-nǐ̄ (kə̄-zhǐ̄)
1 PERS.SG eat.PRESENT NC-corn food (INF-eat)
"I eat corn food"

(b) nē̄ dè bà-ntùmà (kə̄-dé)
mother.1PERS.SG cook.PRESENT NC-fish(es) (INF-cook)
"My mother cooks fish"

(b) sà bɔ̀nà wà = lɛ́ (kə̄-bɔ́nà)
1PERS.PL greet.PRESENT 2 PERS.SG=ADPOS (INF-greet)
"We greet you"

(c) bà-kǐ̄ tàŋà ŋkàny (kə̄-tə̄ŋà)
NC-women sell.PRESENT corn beer (INF-sell)
"Women sell corn beer"

The preceding four clauses have as predicate heads four verbs whose infinitive forms are different, at least, as far as tonological characteristics are concerned: two monosyllabic roots with mid (M) and high (H) tone, and two dissyllabic roots carrying high-low melody (H-L) and mid-low melody (M-L). However, irrespective of their tonological differences in the infinitive form, the four verbs in the four clauses all show the same tonal characteristic in the present tense: the low tone (L). Therefore, someone can't help concluding that the present tense marker in the language is the low tone (L). If this hypothesis is correct, it should be recognized the following for the verb derivation:

(2) (a) The infinitive form of the verb is, as usual, its nominal facet, and like any noun root in the language, carries a tone or a tone melody in the underlying form. This tone or tone melody is unpredictable.

(b) Finite verb roots are toneless in the underlying representation (unless it is based on the infinitive form), and the tonal characteristic of the verb is determined by tense markers and other grammatical categories examined later.

(c) In line with (2b), tone segments and non-tone segments are not previously linked in the underlying representation.

(d) In the present tense form, the grammatical low tone (L) links to the first tone

bearing unit (TBU) of the root. If the verb has a dissyllabic structure, the L tone spreads on the right vowel. Evidence of floating tones at the right edge of the verb root pleads for this interpretation.

14.1.1.2 Past Tenses

With the past tense morpheme(s), the verb describes or refers to an action which took place in the past. In the language, a past action can be envisaged through three divisions: the recent past (P1), the middle past (P2), and the far past (P3).

14.1.1.2.1 Past 1 (P1)

The past 1 marker refers to an action realized the same day as the moment of speaking even though, compared to this time of speaking, the time of the action must precedes. The P1 marker is more or less close to the English present perfect tense. In the past 1 tense, the clauses in (1) with present tense verbs can be expressed as in (3) below:

(3) (a) mə̄ yə́ = zhǐ bə̄-nɨ̀ (kə̄-zhɨ̀)
1 PERS.SG P1= eat NC-corn food (INF-eat)
"I have eaten corn food"

(b) nɛ̄ yə́ = dè bə̀-ntùmə̀ (kə̄-dé)
mother.1PERS.SG P1=cook NC-fish(es) (INF-cook)
"My mother has cooked fish"

(c) sə̀ yə́ = bɔ̀nə̀ wə̀ = lɛ́ (kə̄-bɔ́nə̀)
1PERS.PL P1=greet 2 PERS.SG=ADPOS (INF-greet)
"We have greeted you"

(d) bə̀-kɨ̀ yə́ = tàŋə̀ ŋkàny (kə̄-tāŋə̀)
NC-women P1 = sell corn beer (INF-sell)
"Women have sold corn beer"

The only difference between the present tense verb clauses in (1) and the clauses in (3) is the addition of the P1 marker in (3). In fact, the present tense verb forms are tonologically identical to past 1 verb forms (both roots exhibit a low pitch). However, the P1 forms add a clitic form before the verb root which becomes then the "host", as said in the preceding chapter. Therefore, the past1 tense marker is shown by the clitic /yə́/ and the low pitch on the verb root. It should be mentioned that the clitic can optionally be reduced to its tonological form, without taking into consideration the non-tonal segments as in (4) below:

(4) (a) wə́ tsə-à (wə yə́ = tsə-à)
2PERS.SG.P1 sleep-Q
"Have you slept well? (good morning)"

(b) mə́ tsə (mə yə́ = tsə)
1PERS.SG.P1 sleep
"I have slept. (good morning"

In (4), it is observed that the P1 marker cannot only be realized as /yə́/ –in parentheses, as in (3) above- but also, optionally, as a high tone linked to the preceding word, usually the subject (in the preceding examples, it is the pronoun). More specifically, the glide of the P1 marker deletes (surely because of its intervocalic position), then the schwa of the subject pronoun and the schwa of the P1 marker come to be in contact after the glide deletion, and finally, one of the two schwas is also deleted and the floating tone is linked to the remaining vowel. The same process is observed with the continuous marker analyzed later in this chapter and which confirms the preceding hypothesis.

It should be highlighted that there is no contradiction between the linking of the P1 marker tone to the subject and the assumption that the P1 marker is a clitic whose host is the verb, head of the clause. As a matter of fact, syntactically, the P1 tense marker is hosted by the verb because the tense morpheme is intimately related to the realization of the clause action. And the verb is the only clause element which expresses the action –not the subject which realizes this action. On the other hand, the linking of the tense marker to the subject is a mere phonetic matter which does not have any underlying impact on the nature of the tense system.

14.1.1.2.2 Past 2 (P2)

The P2 morpheme refers to an action which took place farther in the past, compared to the P1 marker, but closer to the present compared to P3. The time when the P2 action took place is usually known, whereas the past 3 morpheme refers to no specific time in the past. That is why P2 can also be regarded as the middle past. It can be determined by temporal concepts such as "yesterday".

(5) (a) ŋwələ́-fə, Ju nə́ = bùm dzǐ (kə̄-būm)
Yesterday-TEMPORAL, proper name P2= hunt elephant (INF-hunt)
"Yesterday, Ju hunted an elephant"

(b) wù nə́ = dà nzèny (kə̄-dá)
3PERS.SG P2=see porcupine (INF-see)
"He/she saw a porcupine"

(e) w-ã̃ wə nə́ = zyàsə (kə̄-zyásə̀)
NC-child DEF P2=urinate (INF- urinate)
"The child urinated"

From examples (5), it can be concluded that the P2 tense marker is shown by a low pitch (like the present tense and the P1 tense) and the clitic /nə́/ before the verb root. Unlike the P1 marker which can optionally be reduced to its tonal aspect, the P2 marker occurs always with its tonal and non-tonal features. This is justified by the fact that the P2 marker, like the P3 below, does not include a glide, the potentially "deletable" segment in intervocalic position, when flanked by a pronoun and a clitic.

14.1.1.2.3 Past 3 (P3)

As mentioned above, the P3 tense marker refers to an action which took place farther in the past compared to P2. Usually (but not always), it is too remote so that the speaker may no longer remember when exactly this action took place. It is always accompanied by the P2 marker as in (6) below. In P3 tense, the preceding examples in (5) become (6) as follows:

(6) (a) Ju nə́ = nyā = búm dzì (kə̄-būm)
proper name P2= P3=hunt elephant (INF-hunt)
"Ju hunted an elephant"

(b) wù nə́ = nyā = dá nzẽ̃ (kə̄-dá)
3PERS.SG P2=P3=see porcupine (INF-see)
"He/she saw a porcupine"

(f) w-ã̃ wə nə́ = nyā = zyásə́ (kə̄-zyásə̀)
NC-child DEF P2=P3=urinate (INF-urinate)
"The child urinated"

As shown in (6), in the past3 tense, the verb carries a high pitch –not the low one- and there is a juxtaposition of another clitic to the P2 marker. More concretely, P3 tense coexists with P2 in the same clause. No instance of Past3 clitic modifying a verb clause without the Past2 has been identified. Reversely however, the past2 morpheme can be attested without the P3. This syntactic requirement cannot be a casual fact. It can rather unveil the Koshin word vision in relation to the conception of the past. As a matter of fact, amongst other possible interpretations, it may simply mean that in Koshin culture, the evocation of the remote past necessarily has an undeniable consequence on the middle past, and by extension, on the present. In other words, the past intimately influences the present.

It should be noticed that, somewhat challenging for the hypothesis adopted here, the P1 tense is not taken into account not only when P2 is involved, but also when P3 is used. A possible explanation is that semantically, the P1 is also regarded as a tense of the present even if morphologically it behaves as a past tense. In fact, as noticed earlier, the P1 tense refers to actions which take place the *same day* as the moment of speaking. It is a kind of checkpoint where the present tense and the past tense overlap. This *may* be why the P1 is not considered when the P2 and the P3 are involved.

14.1.1.3 Future Tenses

The future shows two divisions: the future 1 (Fut1) and the future 2 (Fut2). Both divisions refer to an action which takes place in the future, in the moment to come. The specificity of the future tenses is that they are based on the infinitive form root.

14.1.1.3.1 Future 1 (F1)

When an action is supposed or planned to take place just a few minutes or a few hours from the moment of speaking, the future 1 tense is used. Then, this tense refers to an action which usually takes place the same day as the time of speaking.

(6) (a) sə̀ kə̄ (lə̄) = dá (kə̄-dá)
1PERS.PL F1 (F1)=see (INF-see)
"We will see each other (very soon)"

(b) ŋ̄-kə̄ (lə̄) zhɨ̂ nyɔ̀m (kə̄-zhɨ̂)
1PERS.SG-F1 (F1) eat meat (INF-eat)
"I will eat some meat"

(c) zyā kə̄ (lə̄) lɨ̂yá mū (kə̄-lɨ̂yá)
brother/sister.1PERS.SG F1 (F1) go far farm (INF-go far)
"My brother / my sister will go (far) to the farm"

The clauses in (6) include in their predicates verbs in the future 1 tense whose marker is the clitic /kə̄lə̄/ or its reduced form /kə̄/. Let us recall that the subject pronoun in (6b) is affixed to the F1 clitic after a process of metathesis and schwa deletion, as analyzed in many parts of this work earlier. Besides, it is easily observable that the verb in each clause carries the same tone as the infinitive form –in parentheses. Therefore, it can be concluded that, unlike the tenses analyzed thus far, the future1 is based on the infinitive form tone. The same observation can be expressed for the future 2 tense.

14.1.1.3.2 Future 2 (F2)

The future 2 tense refers to an action which is farther from the moment of speaking than the F1 tense. It can include actions taking place the following day, the following week, the following year or still farther in the future. The examples in (6) above become (7) if the predicate heads are put in future 2 tense.

(7) (a) sə̀ bə́ = kə̄ = dá (kə̄-dá)
1PERS.PL F2 = F1=see (INF-see)
"We will see each other"

(b) mī-bə́ = kə̄ = zhɨ̄ nyɔ̀m (kə̄-zhɨ̄)
1PERS.SG-F2=F1= eat meat (INF-eat)
"I will eat some meat"

(c) zhyā bə́ = kə̄ = lɨ̂yá mū (kə̄-lɨ̂yá)
brother/sister.1PERS.SG F2=F1=go far farm (INF-go far)
"My brother / my sister will go (far) to the farm"

In the F2 tense, the verb hosts two tense markers: the F1 (closer to the verb) and the F2 (on the periphery, separated from the verb by the F1). As with the F1 marker, the nasal consonant of the first person singular is affixed to the F2, after a metathesis and a schwa deletion processes, copying subsequently the bilabial point of articulation of the F2 consonant. What is really worth noting is that, on a par with what occurs when P3 is used (the P2 is used as well), the use of the F2 tense triggers the use of the F1 marker (but the use of F1 does not trigger the use of F2). As interpretation, it can be said that the farther future (F2) is based on the closer future (F2) and by extension on the present. In other words, the present determines the future (exactly as the past determines the present).

It is worth emphasizing that the human experience can be coded through various ways and various scientific domains. For instance, what has been just said about the codification of the concept of time in Koshin community can be expressed in sociological, anthropological, or philosophical studies. However, not said enough, it can also be handled through a linguistic perspective, and more specifically through basic linguistic categories. And this analysis goes in line with the methodological backbone supporting this work.

It is also worth noting that there are more divisions within the past tense (three divisions) than in the future tense (two divisions). In this specific aspect, Koshin language obeys the cross-linguistic generalizations which claim that "*there may be several divisions within past tense, and*

also sometimes several within future (but never more in future than in past)" (Dixon 2010a: §3.15).

To sum up, let us say that Koshin culture divides the time conception into the grammatical present tense, the past tense (with three divisions) and the future tense (with two divisions). Whereas the future tenses are based on the infinitive form root whose tone is unpredictable, the present tense and the past tenses usually show a low tone.

14.1.2 Activeness (ACT)

The description has identified a curious marker which is suffixed to the following verbs in specific contexts: "go", "go far", "go up", "go down", "go out", "go in", "laugh", "leave" "collapse" "do". Maybe it is also attested with other verb roots but the preceding ones are the most recurrent. The most important common point found between these verbs is their action-referring meaning. This is why this suffix has been called "action or movement marker". It is realized /-sə́/. It is suffixed to the alluded verbs only when they refer to an imperfect aspect. More specifically, the suffix "-sə́" is used within a durative or progressive action as in (8) below:

(8) (a) mə̏ lìyà:-sə́ mū
1PERS.SG.PROG go far-ACT farm
"I am going (far) to the farm"

(b) wə̏ sǐ:-sə́ nē
2PERS.SG.PROG laugh-ACT WHY
"Why are you laughing?"

(c) sə̏ fə̀ :-sə́ bə̀-lùŋ bə̄
1PERS.PL.PROG do-ACT NC-problem DEF
"We are facing some problems"

(d) mə̏ zhyə̀ŋ-sə́ gbɨ̄yà tsə̄-nə̄=mə̄
1PERS.SG go in-ACT house sleep-ADJ=ADPOS
"I am going into the sleeping room"

However, it should be noted that the action morpheme is not usually used with other verbs of action. It should also be noticed that the suffixation of the action marker triggers a lengthening of the preceding vowel, as shown in (8). Obviously, if the preceding segment is a consonant as in (8c), there is no lengthening.

14.2 Grammatical secondary concepts

In the chapter on verbs (chapter 7), it has been noticed that there is a distinction between primary verbs (verbs referring directly to an activity or a state) and secondary verbs or more generally secondary concepts (verbs or concepts which provide a modification for a primary verb within the predicate structure). Still in the chapter on verbs, it has been observed that secondary concepts can be lexical (already analyzed in the mentioned chapter) or grammatical elements. It is time to give details about these grammatical secondary concepts which are realized as affixes, clitics or grammatical words. One of these secondary concepts refers to extent.

14.2.1Extent

In the chapter on interrogatives (chapter 12), it has been mentioned that the interrogative category depends on the extent category and consequently, a verb clause carrying the durative marker for instance yields a different polar question marker in the clause. Always in this chapter, it is said that the extent category shows two complementary facets: the *punctual* versus *durative* (progressive or continuous) action described by the predicate and which unfolds over a period of time. In the following examples, CONT. stands for "continuous", IMPERF. stands for "imperfective". Let us clearly put that the continuous or progressive marker conveys exactly the same meaning as the durative marker. Hence, the discontinuous morpheme "CONT…CONT" in (8) is the same morpheme as the association of "CONT…DURATIVE" used thus far. As shown in the examples, the addition of the imperfective (IMPERF) marker is optional. The punctual marker is morphologically unmarked and is supposed to be attested any time the continuous marker is not used.

(9)(a) Paul wú būm-ə́(-lɛ́) zùmə (kə̄-būm)
Proper name CONT hunt-CONT-(IMPERF) antelope (INF-hunt)
"Paul is hunting an antelope"

(b) wə̀ wú (wə̀́) mw-ə̄ (-lɛ́) ŋkə̃́ (kə̄-mū)
2PERS.SG CONT drink-CONT-(IMPERF) corn beer (INF-drink)
"You are drinking corn beer"

(c) mə̄ wú (mə̄́) j-ə̄(-lɛ́) (kə̄-zhǐ)
1PERS.SG CONT eat-DURATIVE(-IMPERF) (INF-eat)
"I am eating"

(d) mən wú (mə̀́n) dɛ̄-lə̀(-lɛ̄) nyɔ̀m (kə̄-dé)
2PERS.PL CONT cook-DURATIVE-(IMPERF) meat (INF-cook)
"You (plural) are cooking meat"

Examples (9) exhibit some interesting phonological processes which deserve to be examined into details. First of all, they show as durative marker (the discontinuous morpheme /wú…ə/) which flanks the verb root. The first part of the discontinuous morpheme can be reduced to a high tone (H) when the subject of the clause is a pronoun (9b-d) and, as attested for the P1 tense marker, the floating tone is later linked to the pronoun. In (9), this reduced form is put in parentheses immediately after the first part of the continuous morpheme. When the subject of the clause is not a pronoun as in (9a), there is no reduction. That is, there is reduction only when grammatical elements are involved.

The second part of the discontinuous morpheme is realized as a schwa suffixed to the verb root. This schwa influences the high vowels as follows: it triggers the gliding of the preceding vowel [u-] into [w-] (9b), and the deletion of the preceding vowel [i-] (9c). However, when the preceding vowel is a non-high vowel as in (9d), a lateral segment is inserted between the non-high vowel and the schwa. Also, should it be noticed that the [coronal] (palatal) fricative segment [zh-] *clearly* becomes the affricate [j-] before the schwa vowel [-ə]. In terms of the Constriction-based Model, one of the tendencies of the Feature Geometry Theory, this process can be accounted for as follows: as soon as the vowel [-ə] comes to be in contact with the [+continuant] (fricative) segment [zh-], because of the deletion of the vowel [-i], the feature [-continuant] is linked under the oral cavity of this fricative segment previously marked by the feature [+continuant]. With this linking of the feature [-continuant] associated to the feature [+continuant] under the oral cavity, an affricate consonant is derived. Let us not forget that affricate segments carry both the [-continuant] and the [+continuant] features.

Tonologically, the schwa carries the tone of the preceding vowel as in (9b-c). In (9d) the schwa shows a curious low tone which does not occur in the infinitive form root. In the chapter on verbs (structure) and in other parts of this work, it is assumed that the only explanation is to postulate for some verb roots lexical floating tones –in accordance with what is observed in nouns and also attested in neighboring languages- which emerge when, by affixation process, the verb roots carry appropriate affixes. Then the putative floating low tone of the verb root in (9d) lowers the lexical high (H) tone of the verb and is then linked to the schwa marking the second part of the continuous morpheme. The H tone of the imperfect morpheme is lowered to mid (M) after a sequence of ML tones. In line with this hypothesis, the verb root in (9a) is supposed to carry a lexical floating H tone which emerges and links to the continuous morpheme.

14.2.2 The Completion (COMPLET)

The item "completion" is used in literature in a variety of (confusing) meanings. In this work, it deals with the completeness of the action described by the predicate head (the verb), that is, the *aspect* of the action. Within the completion category, two grammatical aspects are distinguished: the imperfect aspect (IMPERF) -sometimes called imperfective by some authors-, and the perfect aspect (PERF) -perfective in other texts. The imperfect aspect in Koshin is morphologically marked and the perfect aspect is morphologically unmarked. The aspect of an action is considered imperfect when this action is *not completed* or when the end of this action is not envisaged by the speaker. The imperfect action is an action which began in the past but is still continuing at the moment of speaking, or an action which is planned for the future. On the other hand, a perfect aspect here refers to a realized action or the one whose realization is considered more or less obvious.

Therefore, in line with the *perfect* versus *imperfect* dichotomy, the *completive* versus *incompletive* action can be alleged. All the future tense markers and the durative (continuous or progressive) marker fall naturally in the scope of the imperfect aspect, whereas the three divisions of the past tense and the present tense are under the perfect aspect. In examples (9) above, the verbs optionally carry the imperfect marker at the right edge of the predicate structure, that is, after the durative marker. It is realized as the suffix /-lɛ́/. However, sometimes this morpheme is optionally heard as/-lə́/ -instead of /-lɛ́/ from some speakers. Examples with future tenses such as those in (7) can also carry the imperfect marker aspect as in (10) below:

(10) (a) sə̀ bə́ = kə̄ = dâ -lɛ́ (kə̄-dá)
1PERS.PL F2 = F1=see-IMPERF. (INF-see)
"We will see each other"

(b) mī-bə́ = kə̄ = zhî-lɛ́ nyɔ̀m (kə̄-zhî)
1PERS.SG-F2=F1= eat-IMPERF. meat (INF-eat)
"I will eat some meat"

(c) zhyā bə́ = kə̄ = lîyá-lɛ́ mū (kə̄-lîyá)
brother/sister.1PERS.SG F2=F1=go far-IMPERF farm (INF-go far)
"My brother/my sister will go (far) to the farm"

14.2.3 Direction markers (directionals) and Repetition marker (repetitive)

From the verb "come" and its antonym "go" the language has derived two contrasting grammatical items, two clitics with the meaning "*go in*" (it can be called directional 1, DIR1 in

short) and "*go out*" (DIR2). The directions coded by DIR1 and DIR2 can be schematized as follows:

Speaker ⟵ (DIR1) , ***Speaker*** ⟶ (DIR2)

In fact, when the verb action is modified by the DIR.1 morpheme, the action is oriented towards the speaker whereas with the DIR.2 the action goes away from the speaker. Let us observe them through some examples as in (11) below:

(11) (a) gbwē, fā = dí mə́ bə́ = nđì
friend give.IMPER.2PERS.SG =DIR1 1PERS.SG ADPOS=water
"Dear friend, give me some water"

(b) wù tù = gə́ kə̀-ghə̄
3PERS.SG take.PRESENT=DIR2 NC-calabash
"He/she takes away a calabash (from the speaker)"

(c) ? gbwē, fā = gə́ mə́ bə́ = nđì
Friend, give.IMPER. 2PERS.SG=DIR2 1PERS.SG ADPOS=water
"? Dear friend, give me away with some water (to somebody else)"

(d) ? wù tù = dí kə̀-ghə̄
3PERS.SG take.PRESENT=DIR1 NC-calabash
"? He/she takes (towards the speaker) a calabash (from somebody else)"

Examples (11) illustrate the semantic polarity of the clitics DIR1 (dí) versus DIR2 (gə́). Unless in specific contexts, the examples (11c-d) are not very frequent. The clause (11c) is almost unacceptable because it considers a human being a gift which can be given away to somebody else.

It should be emphasized that the DIR1 clitic can also be used, in a different context, to express the repetition of an action. In this context, it is called "repetitive" marker. Both the DIR1 and the repetitive morpheme show exactly the same form; only the context can distinguish them. The repetitive (REP) morpheme can be illustrated as in (12) below:

(12) (a) wə̀ kə̄ = zhǐ = dí kə̄
2PERS.SG FUT1=eat=REP. NEG
"You will not eat again"

(b) kpə̀ Pius wà = dí bə̀-sè b-ɨ́
Wife proper name wash.PRESENT= REP. NC-clothes CONC-3PERS.SG
"Pius's wife washes her clothes again"

(c) m-bə́ kə̄ zámə̀ = dí
1PERS.SG-F2 F1 talk=REP
"I will talk again"

The directional markers give us another opportunity to recall one of the central topics discussed in this work, that is, the sound symbolism. As a matter of fact, when analyzing the symbolic value of some verbs referring to distance, and the demonstrative system, it has been highlighted that for vocalic sounds *far distance* is usually coded by *high* vowels whereas the *close distance* is symbolically expressed by *mid vowels* (Cf chapters 7 and 10). If this analysis is correct, it will be tricky enough to demonstrate that the vowel symbolism operates in (11) above, because the morpheme DIR1 –which is supposed to express close distance- embarrassingly includes a high vowel (-i) instead of a mid one. Besides, the schwa vowel which can be regarded as a mid vowel is attested in the morpheme referring to farther distance (DIR2). However, it is maintained that sound symbolism still operates in (11) but through a different color. It is coded through consonants: the coronal consonant /d-/ versus the velar /g-/ expressing the close distance and the far distance respectively. What allows someone to draw such a conclusion is what has made Basic Linguistic Theory grow stronger and stronger: the progressively wide understanding of the human language through the description of individual languages. More specifically, much information from described languages pleads for the interconnection between coronal sounds (vowels or consonants) and the close distance on the one hand, and non-coronal sounds and the far distance on the other hand. Dixon (2010b: § 15.2.4) emphasizes: "*As a first approximation, the 'near' term is more likely than 'non-near' terms to involve a front high vowel and/or* ***laminal*** or ***dental consonant****(s)* [the bold marking is ours]". In sum, in Koshin, distance reference can also be coded through the consonant system, beside the vocalic system.

14.2.4 Height

In the same way directional concept can be coded through lexical and grammatical items, concepts of "height" can be expressed by lexemes (as indicated by "go up" and "go down" in the chapter on verbs) and grammatical items as in (13) below:

(13) (a) sə̀ kwà = yá bə̀-ntùmə̀
1PERS.PL catch.PRESENT=UP NC-fish
"We catch up fish"

(b) ó Bàbā, nē = yá = dí bá = sə̀
INTERJERTION Daddy, come.IMPERF=UP=DIR1 ADPOS=1PERS.PL
"Oh Daddy, come up (and stand) with us"

(c) gbɨ̌yà w-əŋ gbɔ̀:-sə́ = shí fəjò
NC.house CONC-1PERS.SG collapse-ACT.IMPERF=DOWN down
"My house is collapsing"

The example (13b) reports a clause uttered during the funeral celebrations, by the first son of the dead person and which illustrates an interesting use of two grammatical secondary concepts: the DIR1 and the height marker "up", both clitics modifying the same verb root. It should be noticed that the height marker "up" comes before the DIR1.

14.2.5 Consecutiveness (CONSEC)

What is regarded as consecutive marker in this work is the grammatical item which modifies a verb expressing a consecutive action *in the past*, that is, an action which follows closely another past action described by the preceding clause. It can be translated into English by the item "then".

(14) (a) kɔ̄ nə́ fwə́ = dí Māwā
Kosin people P2 go out=DIR1 name of place
"Koshin people came from Mawa"

(b) bə̀ kā = tɨ̌kā (kə̄-tɨ̌kā) bə̀-nyə̄ bə̄-bɔ̀ n-ènỳ-(nə̀)
3PERS.PL CONSEC=leave.CONSEC.PAST NC-brothers NC-PERS.PL there2
"They then left their brothers there"

(c) bə̀ kā = dɨ̌ (kə̄-dí) zhỹə̃ (kə̄-zhỹə̃) Sàwɨ̌
3PERS.PL CONSEC=leave.CONS.PAST reach.CONSEC.PAST name of place
"They then came and reached Sawi"

In (14), there are three successive clauses. More concretely, it is a sequence where the event or action described in the second clause (14b) is consecutive to the action described in (14a) and the third action described in (14c) is consecutive to the one described in (14b). Therefore, except the first clause which follows no other clause, the other two clauses are each consecutive to the preceding one. The marker of this consecutiveness is the clitic /kā/. Furthermore, it can be realized that there is a permanent mid (M) pitch on the verb root irrespective of the infinitive tonal form (put in parentheses). That is why it is assumed that the consecutiveness consists of two elements: the clitic /kā/ and a floating mid (M) tone which links to the verb. The consecutive

past (CONSEC.PAST) melody linking to the verb is only attested when the consecutive marker is involved.

14.2.6 Durative (always)

When an action *always* takes place, the language uses a specific affix joined to the verb root. This suffix is also used when the verb is in progressive form. That is why it is preferable to call it, in a general way, as durative marker instead of frequency marker, as exemplified in (15):

(15) (a) fə̀-mɔ́ fə́ būm-ə̄-lɛ́ kə̀-ŋkwə̄ kə́
NC-cat DEF hunt-DURATIVE-IMPERF NC-mouse DEF
"The cat always hunts the mouse".

(b) mwə̀n kpɨ̀ wā-lə̄-lɛ́ bə̀-kɛ̄ b-ɨ́
Person NC.female wash-DURATIVE-IMPERF NC-pan CONC-3PERS.SG
"A woman always washes her pans".

(c) mə̄ mw-ə̄-lə́ nɗi mū=mə̄
1PERS.SG drink-DURATIVE-IMPERF water farm=ADPOS
"I always drink water at the farm"

The durative marker in (15) shows some alternations: it is realized as a schwa (15a) and (15c) or as a schwa preceded by the lateral consonant (15b). In the preceding paragraphs this alternation has been accounted for by a lateral insertion process which occurs between the low vowel and the schwa, whereas after a consonant (15a) or a non-low vowel, only the schwa is attested.

14.2.7 Speed/Manner Markers

Whether an action is realized *quickly* or *slowly*, the language uses grammatical words which modify the head of the predicate. They can be called speed markers but they can also be regarded as manner markers. They can be illustrated through the following examples.

(16) (a) [b-ã̃ bə̄]SUBJECT [nyānə́ lɨ̄yá-lə́ kə̄]PREDICATE skūl
NC-child DEF QUICKLY/EARLY go far-IMPERF NEG school
"The children do not go quickly/early to school"

(b) [bə̀-kɨ̄]SUBJECT [nyānə́ zàmə́-lɛ̄]PREDICATE
NC-woman QUICKLY speak-IMPERF
"Women speak quickly"

(c) [ŋ-]SUBJECT [wə̄lə̀ zàmə́-lɛ̄]PREDICATE
1PERS.SG SLOWLY/GENTLY speak-IMPERF
"I speak slowly"

The speed markers in (16) are considered grammatical –not lexical- items, and are therefore within the predicate structure as indicated with brackets in (16) because of the syntactic constraint they obey. In fact, lexical items which modify the predicate head, such as lexical adverbs, usually occur *after* the verb –not before the verb. It should be noticed that the position where the speed markers occur is the same for other attested established grammatical items such as tense markers. Besides, as examined later, one of the most important limits of the predicate domain is the negative marker. Usually, lexical modifiers of the verb occur after the negative marker. In (16a) for example, it can be noticed that the item QUICKLY or EARLY is located after the NP subject of the verb and before the negative marker.

14.2.8 Quantity (enough)

The quantity adverb "enough" is expressed in the language by a grammatical item which modifies the head of the predicate. It follows this predicate head as illustrated in the examples below:

(17)(a) wù zàmə kpə̄n
3PERS.SG talk.PRESENT ENOUGH
" He/she talks enough"

(b) wə̀ zhǐ kpə̄n kə̄
2PERS.SG eat.PRESENT ENOUGH NEG
"You do not eat enough"

Let us observe that the negation occurs after the grammatical word "enough". As said in other contexts, it is a piece of evidence for considering "enough" as part of the predicate domain.

14.2.9 The Irrealis Marker

Amongst the non-spatial-setting parameters of an event described in a clause, there is what some linguists call "reality". The reality of an event can be viewed, following Dixon (2010a: §3.15) as "realis" when it "*refer*[s] *to something that has happened or is happening*" or "irrealis" when it "*refer*[s] *to something that didn't happen in the past (but could have) and to all or most of the post-present domain."* In the Koshin language, there is no full morpheme referring to the realis sub-category. In other words, the realis morpheme is morphologically unmarked. However, the irrealis sub-category is shown by full morphemes.

As indicated by the preceding definition, in the language, one can distinguish on the one hand, an irrealis marker referring to *what did not happen in the past* but could have happened,

and on the other hand, a number of *modality* markers –termed *mood* markers by other linguists- referring to future events. It should be noticed that in this work the labels "modality" and "mood" refer to completely different things. As a matter of fact, mood refers to a three-member grammatical system covering indicative, interrogative and imperative which often indicate respectively the pragmatic functions of statement, question and command. However, modality refers to one of the markers within the irrealis –not realis- and which refers to some aspect of a future event. Let us see how it works concretely in the language as in (18) (IRR.P stands for past irrealis; some irrelevant word structures are not given).

(18) (a) màn yə́ sə̄ kə̄-mū ŋkàny mw-ĭnə̄
2PERS.PL P1 IRR.P NC-drink corn beer YOUR
"You (pl) would have drunk your corn beer"

(b) ŋwə̀lə́-fə̄ , mə̄ nə́ sə̄ kə̄-lĭyá mū
Yesterday-TEMP. 1PERS.SG P2 IRR.P NC-go far farm
"Yesterday, I would have gone to farm"

(c) wù nə́ nyā sə̄ kə̄-wā bə̀-kɛ̄ b-ɨ́
3PERS.SG P2 P3 IRR.P NC-wash NC-pan HIS/HER
"He/she would have washed his/her pans"

It can be observed that the past irrealis (IRR.P) in (18) is attested with the three tenses of the past (P1, P2, P3). And in all the three examples, the past irrealis occurs after the tense marker. No example of IRR.P with other tense has been attested in the language.

(19) (a) nsānə̄ , sə̀ kānə́ kə̄-shĭ
Traditional Sunday, 1PERS.PL IRR.F NC-rest
"On traditional Sunday, we have to rest"

(b) sə̀ kānə́ kə̄-tāŋ b-àny bə̄ bə́ = bə̄-ŋɔ̀tə̀
1PERS.PL IRR.F NC-buy NC-child DEF ADPOS=NC-books
"We have to buy books to children"

(c) tūŋə̄, sə̀ lə́ kə̀-fə̀ tə̄-lɔ́m tə̄
The 7th day of the week, 1PERS.PL IRR.F NC-do NC-funeral celebrations DEF
"On the 7th day of the week, we can do funeral celebrations"

(d) mə̄ lə́ kə̄-tāŋə́ mĭ m-ə̄ŋ
1PERS.SG IRR.F NC-sell oil CONC-1PERS.SG
"I can sell my oil"

In examples (19), the irrealis marker is called "future irrealis". It should be observed that the verbs following the irrealis in (19), morphologically, do not exhibit the future morpheme.

However, the clauses semantically refer to future events. That is why the label "future irrealis" has been adopted. The attested two future irrealis (IRR.F) markers are given: in (19a-b), the irrealis marker expresses the "duty", or the "moral obligation" to realize the action described. For instance, buying books to children (19b) is a duty for parents who are referred to in the example by the first person plural pronoun. Therefore, the irrealis morpheme can be translated by the English "have to". It is worth noting that the irrealis marker in (19a-b) is syntactically the head of the predicate, but semantically, it is the modifier of the following infinitive verb. In (19c-d) however, the irrealis marker expresses the "potential" or "the possibility" to realize an action. As said earlier, whereas the past irrealis (IRR.P) refers to a past action, both the duty and the potential markers (IRR.F) refer to events which are not yet realized.

14.2.10 The Achievement (ACHIEV.) Marker

The predicate of a clause describes actions in various ways. For instance, it can focus on whether an action is realized. It can also focus on the starting or beginning of the action. In the same vein, the predicate can also target the specific end of an action, its achievement or its accomplishment. In this context, Koshin language joins a modifying grammatical word to the head of the clause predicate. It can be illustrated as in (20) below:

(20) (a) à́ mē
DEM0 ACHIEV
"It is finish"

(b) mə́ zhǐ mē
1PERS.SG.P1 eat ACHIEV
"I have finished eating"

(c) gāŋ, mə́ kā zhǐ mē kə̄
No, 1PERS.SG P1.NEG eat ACHIEV NEG
"No, I have not finished eating"

Whereas in (20b-c) the achievement marker modifies a full head of the predicate, in (20a), the predicate head modified by the achievement marker is has no verb. This verbless construction is dealt with into details in the following chapter. Besides the secondary concepts examined thus far, there is another secondary concept which can co-occur with any other secondary concept. It is the negation marker.

14.2.11 The Negation (NEG) Marker

Within the indicative sub-system, one of the three constituents of the mood grammatical system (indicative, interrogative, imperative), one can distinguish a {positive, negative} *polarity* (the notation is taken from Dixon (2010)). Whereas in Koshin –and many other languages- the positive component of the polarity is not morphologically marked (a positive clause does not need a specific marker to be considered positive), the negative component shows an explicit morpheme which marks the clause. Without this morpheme, the clause is regarded as positive or affirmative. Let us notice that the adverbial negative is not analyzed below (even if it is attested in the language), because it is not a constituent of the predicate domain. Besides, negation in copula structures has been examined in the chapter on verbs and then is no longer in order in the present paragraph. Neither is negation in verbless constructions (which are dealt with in the following chapter) examined here.

(21) (a) Pius [zhǐ kə̄]PREDICATE nyɔ̀m
Proper name eat.PRESENT NEG meat
"Pius does not eat meat"

(b) wə̀́ [wā-lə́ kə̄]PREDICATE kɔ̄ y-ā
2PERS.SG.CONT wash-IMPERF NEG NC.hand. CONC-2PERS.SG
"You are not washing your hands"

(c) ŋ-[ká zhǐ kpə̄n kə̄]PREDICATE
1 PERS.SG-NEG. eat.PAST ENOUGH NEG
"I have not eaten enough"

(d) wù [ká lǐyà kə̄]PREDICATE mū
3PERS.SG NEG go far.PAST NEG farm
He/she has not gone to farm.

(e) sə̀ [kānə́ kə̄ kə̄-tǐkə́ kə̄]PREDICATE bɔ̀ gbūyà
1PERS.PL IRR.F NEG NC-leave NEG 3PERS.PL house
"We do not have to leave them at home (students)"

In all the five clauses of (21), it is observed that the negative marker is always attested at the end of the predicate. It should be recalled that the predicate domain *must* not include the arguments of the clause (whether core or peripheral arguments). Therefore, the object argument (O) always occurs after the negative marker, outside the predicate domain, contrasting with some widespread traditional opinion in literature which divides the clause into only two constituents: the subject and the predicate (verb and everything around it except the subject). As shown in

(21), the negative or negation marker symbolizes the surface border of the predicate. It occurs after all the modifiers of the predicate head. In some contexts (21c-e), two negative markers occur: one at the left edge and the other at the right edge of the predicate structure).

After careful observation, one can notice that the left-edge negative marker appears when there is a tense marker (past or future; the present tense (21a) does not trigger a left-edge negative marker) or when the predicate is modified by the future irrealis which refers to duty (21e).

Once more, it should be recalled that the irrealis marker in (21e) syntactically functions as a predicate, even if semantically it modifies the following verb. Then, it is not a simple secondary concept like the others examined thus far.

14.2.12 Imperative

Whereas interrogatives (analyzed in a whole chapter earlier) transform a statement into a question, imperative, another choice from the mood system, makes a statement a direct command. The imperative form is quite simple in the language. No special morpheme is joined to the predicate head. Three forms corresponding to three grammatical persons are attested as follows. (the infinitive form of the verb occurs in parentheses so as to better determine the imperative form).

(22) (a)- dá (kə̄-dá) w.āny wə̀
Look.IMPER.2PERS.SG NC.child DEF
"Look at the child"

- John, kūm (kə̄-kūm) shɔ̀ŋ yə̀
Proper name, slaughter sheep DEF
"John, slaughter the sheep"

(b)- sə̀ dá wù
1PERS.PL look.IMPER 3PERS.SG
"Let us look at him"

- sə̀ kūm shɔ̀ŋ yə̀
1PERS.PL slaughter sheep DEF
"Let us slaughter the sheep"

(c) -mbə̀n dá wù
2PERS.PL look.IMPER 3PERS.SG
"Look (plural) at him"

- mbə̀n kūm shɔ̀ŋ yə̀
2PERS.PL slaughter sheep DEF
"Slaughter (plural) the sheep"

As examples (22) show, imperative forms are based on the infinitive root of the verb. Only the infinitive marker is left out. The plural persons keep their pronouns in the imperative (22b-c), but the singular person does not show the pronoun (22a). It should be mentioned that in the imperative, the form of the second person plural pronoun can optionally be realized with an initial sonorant consonant (/mə̀n/ as in the indicative or interrogative forms) or with an initial mid-nasal consonant (/mbə̀n/ -sometimes heard / mbə̃ /), as in (22c) above). This free variable of the second person plural pronoun (whose importance is not critical in this paragraph) provides the description with an interesting material when discussing the phonological status of mid-nasal consonants in the language. This important discussion has been addressed in the section on phonology.

All the modifiers of the predicate head discussed thus far do not occur in a chaotic way in the grammar of the language. They are well-organized in relation with others so that whenever a specific grammatical category is used, another category may be involved or not. In one word, there are some dependencies between some of the grammatical modifiers of the verb. Let us analyze them.

14.3 Some Dependencies between the Predicate Modifiers

Amongst the grammatical categories discussed in the preceding paragraph, some are independent from each other. Let us give an example: in Koshin, the tense system and the {positive, negative} polarity system are independent from each other. In fact, whether in positive or in negative clauses, the same number of grammatical tenses: the present, the past (with three divisions), and the future (with two divisions) is attested. However, other categories are interconnected. One of these interconnections can be found between the imperative and the grammatical person

14.3.1Person >Imperative

Following the notation *person >imperative* (adopted from Dixon 2010), one can read that imperative depends on the system of persons. As said earlier, the imperative form of the verb is expectedly attested only for the first and second persons.

14.3.2Tense > consecutiveness

It has been shown in the preceding lines that the consecutive marker occurs only in the past tenses. In other words, the consecutive marker cannot be used without involving automatically one of the three divisions of the past tense.

14.3.3Tense > irrealis

Only one irrealis marker has been attested, and this marker refers to a past action which did not happen (but could have happened). Then, the irrealis category depends exclusively on the past tense.

14.3.4 Aspect >Extent

The language shows a progressive (or continuous) marker which has to refer to the extent of the action. In the same vein, it has been emphasized that this progressive marker is attested only within the imperfect aspect.

14.3.5Aspect > Durative

An action which always happens has been regarded as durative. And when this durative marker modifies the verb, the action described by this verb is supposed to be in imperfect aspect. No durative morpheme has been attested with perfect actions; then the dependence of the durative marker on the aspect category.

14.3.6Aspect > Activeness

Some verbs denoting action have been discussed. It has been identified that these verbs exhibit an activeness morpheme which occurs only when the alluded verbs describe an imperfect action.

From the preceding dependency relations, it can be observed that the aspect and the tense systems are the ones which share more interconnections with other grammatical categories.

In summary, this chapter discusses the grammatical categories surrounding the predicate head. These grammatical categories include the tense system and some secondary concepts. Whereas the tense system refers to shifters whose meaning changes when the time of the action changes, the secondary concepts provide a semantic modification to the primary verb, head of the predicate. Three main tense markers have been identified: the present, the past and the future tenses, the past presenting more divisions than the future, consistently with the cross-linguistic

generalizations. Concerning the secondary concepts, they refer to a variety of concepts including, amongst others, non-spatial concepts such as aspect, extent, consecutiveness, durative, repetition, irrealis, negation, but also grammatical spatial setters referring to height and direction. The sound symbolism of these spatial concepts has been discussed in accordance with what is attested in other parts of the grammar. Finally, dependencies between the attested systems modifying the predicate head have been analyzed. It has been concluded that the tense and aspect categories share more interconnections with other categories than other analyzed secondary concepts.

SECTION IV

GRAMMATICAL CONSTRUCTIONS

In this fourth and last section of the thesis, the discussion continues with the analysis of grammatical topics. However, the discussion does not target the closed grammatical systems any more. Instead, it deals with grammatical constructions commonly viewed as the different ways in which words are used together to form a phrase, a clause, or a sentence structure with *specific properties*. Hence, a grammatical construction has to exhibit certain properties which distinguish it amongst other constructions. In this section, the most recurrent grammatical constructions of the language are examined one after the other. The section is made up by two chapters: it begins with the phrasal constructions and then the clause and sentence constructions, which involve longer and more complex structures, are discussed.

CHAPTER 15
PHRASAL CONSTRUCTIONS

In this chapter, only the most relevant phrasal constructions attested in the language are examined. More specifically, the analysis focuses on the different ways on how words are combined within noun phrase structures, each noun phrase structure exhibiting specific syntactic properties. Constructions involving the verb phrase are included amongst the clause and sentence constructions dealt with in the next chapter.

The chapter is organized as follows: first of all, some clarification about what is meant by "phrase" and "phrase construction" is given, in order to avoid some misleading conception. And secondly, the most relevant phrasal constructions are scrutinized one after the other.

15.1 Definition: Phrase and Phrase Construction

In literature, phrases are usually construed as constituents which are made up by one or more words and which can fill functional slots within the clause structure. In this work, two basic types of phrase are dealt with and then two types of phrase construction: the noun phrase (NP) construction and the verb phrase (VP) construction. Whereas the NP fills an argument slot, the VP fills a predicate slot. That is why in some contexts, NP and VP seem to be confused with argument and predicate respectively. Adjective and adverb phrase could have been studied as well. However, these two phrases are usually ultimately linked to the NP and the VP. As a matter of fact, the ultimate role of an adjective phrase for example is to modify a noun, quite often –but not always- within an NP. Besides, one of the most fundamental criteria for considering a given structure "phrase" is the possibility of that structure to be reduced to the single *lexical* head, namely the noun for an NP, a verb for a VP. What requires the preceding clarification is the fact that, strikingly enough, in literature, some authors generalize the label "phrase" to structures which do not deserve this label, because the putative head of the phrase cannot be a lexical item. For instance, a mere NP marked by an adposition is sometimes called "prepositional phrase" whose supposed head is the preposition.

In a *Basic Linguistic* approach, the approach underlying this work and which pays more attention to *underlying structures*, such a generalization is avoided. As a matter of fact, the label "phrase" implies a constituent and for the theory adopted in this work, a preposition is a mere marker of grammatical function and therefore, cannot be regarded as head of a constituent. As

highlighted in Dixon (2010a: §5.6), "*The principle is that grammatical markers –case, tense, aspect, mood, etc.- are attached to lexemes or combinations of lexemes which make up a constituent itself. Following this principle, if a preposition cannot be a constituent of a phrase, it can scarcely function as the head of one*." Talking of "preposition phrase" proceeds from forgetting that in the underlying structure, the preposition is an empty slot. In fact, adpositions are mere surface instruments which mark syntactic functions (affixes can also play the same role, as well as a simple word order). What is curious is that when the syntactic function is marked by an affixal form X in a language, no one talks of an "X phrase" (genitive phrase for instance), but when the NP is marked by a preposition, the denomination "prepositional phrase" is adopted.

Once more, Dixon (2010a: §1.11) makes an instructive comment with an illustrative example taken from the English language. He comments the structure "*to the fat man*" from the clause "*He gave an apple to the fat man*" as follows: "***to the fat man*** [the bold marking is ours] *is a noun phrase, marked by a preposition* ***to*** *(which in this context indicates benefactive function). Some linguists call* ***to the fat man*** *'prepositional phrase', with a binary split into constituents* ***to*** *and* ***the fat man*** *(and some go further, and say that* ***to*** *is the 'head' of this 'prepositional phrase'). But in Latin for instance, 'to the fat man' would be* ***vir-ō obes-ō,*** *where the –****ō*** *ending on both* ***vir-*** *'man' and* ***obes-*** *'fat' marks masculine singular dative (Latin has no grammatical category of articles). One surely wouldn't call* ***vir-ō obes-ō*** *a 'case phrase' (although this would be the logical extension of calling* ***to the fat man*** *'a prepositional phrase'). And one surely wouldn't pick out the repeated ending* ***ō-*** *as an immediate constituent of* ***vir-ō obes-ō*** *(and as the head of this phrase!); neither should* ***to*** *in English be treated as a lexical-type constituent.).* After this useful clarification, let us then examine the main types of phrasal constructions attested in the language.

15.2 Phrasal Constructions

The canonical and simplest noun phrase construction is examined first. Later, the diminutive construction, a peculiar type of noun phrase construction, is examined. We end the chapter with another type of NP which expresses possession and which is usually termed in literature possessive construction. The three types of constructions have been selected on the basis of their relevance in the descriptive analysis. In fact, we believe that the most relevant and

essential phrasal constructions to be known in the language are found within these three types of NP.

15.2.1 Canonical Noun Phrase Construction

This part examines how the canonical NP structure is built up. More specifically, details are given about the organization of the NP head and the NP modifiers. But first of all, let us define the domain of the NP structure.

15.2.1.1 NP Domain

A simple NP structure boundary can be recognized through the *position of the definite marker* modifying the head of that NP. In fact, when a noun is modified by a definite marker, this morpheme occurs at the end of the NP domain.

(1) (a) [mbɔ̀ŋ *wə̀*]NP
Cow *DEF*
"The cow"

(b)[mbɔ̀ŋ wù-ndə́ *wə̀*]NP
Cow CONC- OTHER *DEF*
"The other cow"

(c) [mbɔ̀ŋ wù-ndə́ *wə̀*]NP nzɔ̀ŋə́-lɛ́
Cow CONC-OTHER *DEF* good-ATTR
"The other cow is good"

In examples (1), it is realized that, whether the NP is made up of a noun (1a) or a noun and a grammatical modifier (1b-c), the definite (DEF) marker always occurs at the right boundary of the structure. The same observation is applied to an isolate NP (1a-b) or to an NP filling a syntactic slot (say verbless clause subject) within a higher structure such as the verbless clause in (1c).

It should be noticed that when the NP has a more complex structure, this syntactic constraint is no longer observed. For instance, when a noun with the definite marker is modified by another noun with the definite marker, (in structures such as "[*the role of the teacher*]"NP), the definite marker of the noun head (*role*) does not occur at the end of the whole NP, but instead occurs immediately after the head. In the same vein, a definite marker is not attested at the end of the whole NP in structures where the noun is modified by a relative clause.

Another syntactic boundary to the NP is adposition. When the syntactic function of an NP is marked by an adposition, this *adposition* appears at the *left edge* (2a), at the *right edge* (2b) or at *both sides* (2c) of the NP, as shown in the chapter on case markers, even if the definite marker is used (2c).

(2) (a) mə̄ fà wə̀ [*bə́ = nd̄i m-ə̄ŋ*]**NP**
1PERS.SG give.PRESENT 2PERS.SG ADPOS= water CONC-1PERS.SG
"I give you my water (I give to you my water)".

(b) [kə̀-fĩ k-ẽ̄] [mɔ̄] [fẽ̄ w-ẽ́ = lə́]**NP**
NC-pig CONC-DEM1 be.PRESENT king CONC-DEM1=ADPOS
"This pig is for this king"

(c) mə̄ fà nd̄i [ə́ = bə̀-mbɔ̀ŋ = bə̄ = lə́]**NP**
1PERS.SG give.PRESENT water ADPOS=NC-cow=DEF=ADPOS
"I give water to the cows (I give cows some water)"

Therefore, the definite marker and the adpositions can be regarded as the NP boundaries in structures where they occur.

15.2.1.2 NP Structure

The NP structure in Koshin is the same as what is observed cross-linguistically. There is an NP head which may be accompanied by one or more modifiers.

15.2.1.2.1 NP head

The head (or nucleus, as said in many sources) of the NP can be a noun (lexical class) or a syntactic equivalent.

(2) (a)*[bə̀-kī]* yə́ dè ŋkàny (noun)
NC-wife P1 cook corn beer
"*The wives* have cooked corn beer"

(b) [*bə̀*] yə́ dè ŋkàny (pronoun)
3PERS.PL P1 cook corn beer
"*They* have cooked corn beer"

(c) [*b-ẽ̃ (nə̀) (nə̀)*] dè ŋkàny (demonstrative)
CONC-DEM1 cook.PRESENT corn beer
"*These ones* cook corn beer"

(d) [*kə̄-dé*] nzɔ̄ŋə́-lɛ̄ (infinitive)
NC-cook good-ATTR
"*To cook* is good"

(e) *n*-dé ŋkã̃, *ŋ*-wā bà-sé nzɔ̄ŋɔ́-lɛ̄ (substantivized verb)
NOM-cook corn beer, *NOM*-wash NC-clothes good-ATTR
"Cook*ing* corn beer, wash*ing* clothes is good"

(f) bà yɔ́ dè *[(bà)né]* (interrogative)
3PERS.PL P1 cook *WHAT*
"*What* have they cooked?"

(g) mɔ̃́ nywā-lɔ́ bɔ̀
1PERS.SG.PROG beg-IMPERF 3PERS.PL
"I am begging them

[yɔ̄ bà fà mɔ̄ bɔ́ = ŋkàny] (Complement Clause)
CONJ 3PERS.PL give.PRESENT 1PERS.SG ADPOS=corn beer
that they give me some corn beer"

In examples (2), it is shown how the NP head slot in Koshin can be filled by different morpho-syntactic categories: it can be a noun or pronoun, or a substantivized element which can be a simple word or a higher structure such as the complement clause (CoCl). All the equivalents of the noun fill a syntactic slot commonly filled by the noun. It should be noticed that substantivized adjectives have not been attested in the language. Beside the infinitive form in (2d) which directly fill the NP slot, there is a substantivized form of the verb (2e) in which the nominalization conveys to the verb (X) the meaning "the fact of X-ing".

15.2.1.2.2 NP head Modifiers

The NP head modifiers exhibit various forms. Some are complex. Others are simpler. Let us give some of the most recurrent examples of them as in (3) below.

(3) (a) *bà*-kɨ̄ *bɔ̄-tsɔ̀* yɔ́ dè ŋkàny (a noun class prefix and an adjective)
NC-wife *CONC-young* P1 cook corn beer
"*Young* wives have cooked corn beer"

(b) bà-kɨ̄ *bɔ̄-fɨ̄* yɔ́ dè ŋkàny (a noun class prefix and a numeral)
NC-wife *CONC-two* P1 cook corn beer
"*Two* wives have cooked corn beer"

(c) bà-kɨ̄ *fɛ̃̄* yɔ́ dè ŋkàny (a noun class prefix and another noun)
NC-wife *king* P1 cook corn beer
"The *king's* wives have cooked corn beer"

(d) bà-kɨ̄ *b-ɛ̃̄* yɔ́ dè ŋkã̃ (a noun class prefix and demonstrative)
NC-wife *CONC-DEM1* P1 cook corn beer
"*These* wives have cooked corn beer"

(e) bə̀-kɨ̄ *bə̀-ndə́* bə̀ yə́ dè ŋkə̃̄ (noun class and alternative and definiteness)
NC-wife *CONC-ALT1* DEF P1 cook corn beer
"*The other* wives have cooked corn beer"

(e) ā *b-ẽ̃* bə̀-kɨ̄ yə́ dè ŋkə̃̄ (noun class and interrogative)
FOC *CONC-WHAT* NC-wife P1 cook corn beer
"*What* wives have cooked corn beer?"

(f) bə̀-kɨ̄ *b-ɨ́* yə́ dè ŋkàny (a noun class prefix and pronoun)
NC-wife *CONC-3PERS.SG* P1 cook corn beer
"*His* wives have cooked corn beer"

(h) bə̀-kɨ̄ *bə̀́* *j-ə̄-lɛ́* *bə́* yə́ dè ŋkə̃̄ (an NC prefix and RC)
NC-wife *REL.PROG* *eat-DURATIVE-IMPERF* *REL.MARK* P1 cook corn beer
"The wives *who are eating* have cooked corn beer"

As illustrated in (3), the NP head can be modified by various types of morpho-syntactic elements. They can be lexical elements such as adjectives (3a), nouns (3c), or grammatical elements such as pronouns in possessive constructions (3g), alternatives (ALT) (3e), or the noun class prefix (NC) (3a-h). It should be outlined that the noun class prefix is the only obligatory modifier of the noun in the language. It can have an overt form as in examples (3) or a covert form which can be reconstructed through the concord markers, as seen throughout this work. Besides, nouns can also have as modifier a complex structure such as the relative clause (RC) as in (3h). It should be emphasized that, apart from the noun class prefix, almost all the NP head modifiers of (3) follow –but do not precede- the head. The only attested instances of NP head modifiers which precede the head are the interrogatives "what" -as in (3f)- and "which", and optionally, pronouns in specific instances of possessive constructions examined later in this chapter. Therefore, as said in many places of this work, the NP construction is strongly *left-headed*.

As said above, nouns usually exhibit one obligatory modifier which is the noun class prefix. Instances of class suffixes (class affix joined after the root) or class infix (affix inserted within the root) have not been attested. However, one and only one noun carrying a circumfix (both the prefix and the suffix) has been identified. It is the noun "bush" or "forest" given in (4) below:

(4) (a) kə̀-twā-lɔ́
CLASS PREF-bush-CLASS SUF."
"bush"

(b) kə̀-twā-lə́ kə̀-nzɔ̄ŋə̄
CLASS PREF.-bush-CLASS SUF. CONC- good
"good bush"

(c) kə̀-twā-lə́ kə̄-gə̂
CLASS PREF.-bush-CLASS SUF. CONC- corns
"bush of corn"

(d) kə̀-twā-lə́ s-ə́ŋ
CLASS PREF.-bush-CLASS SUF. CONC- 1PERS.SG
"My bush"

(e) ā mɔ̄ kə̀-twā-lə́ kə̄-Pius
FOC be.PRESENT CLASS PREF.-bush-CLASS SUF. CONC-Pius
"It is Pius's bush"

(f) mə̄ lî̱jà-sə́ *ø*-twā-*ø*
1PERS.SG go far-ACT bush
"I am going to the bush"

(g) ā mɔ̄ ə́=mə̀ *ø*-twā-*ø*
FOC be.PRESENT ADPOS=1PERS.SG bush
"It is in my bush"

The item "bush" in (4) shows a completely different syntactic behavior, compared to common nouns. First of all, unlike common nouns which carry only a prefix (which can be covert or overt), the item "bush" exhibits two class affix modifiers (a class prefix and a class suffix), what is usually called circumfix. The prefixal part of this circumfix and the concord realization (4a-f) allow us to classify this noun amongst the class 7 nouns. More interestingly, this circumfix which occurs with the root in isolation context or when the root is followed by a modifier (4a-f), is deleted as soon as the root is *not followed* by a modifier (4f-g). Another attested word which exhibits the same behavior –although it does not carry a circumfix- is the word "mouth" in (5) below (maybe the noun "stomach" and probably a few other similar nouns behave in the same way. But for the word "stomach" there is no overt prefix to illustrate it).

(5) (a) kə̀-dzɔ̀ "mouth"
kə̀-dzɔ̀ kə̀-lūmbā "big mouth"
kə̀-dzɔ̀ s-ə́ŋ "my mouth"

(b) ā mɔ̄ ə́=mə̀ dzî̱
FOC be.PRESENT ADPOS=1PERS.SG mouth
"It is in my mouth"

(c) gú-yá wə̀ dzî̱
open.IMPER-UP 2PERS.SG mouth
"Open your mouth"

In fact, the noun "mouth" naturally carries its class prefix when it occurs in isolation or when it is followed by modifiers (5a). However, when it is not followed by any modifier, it deletes its class prefix (5b-c).

This type of construction will be examined into more details when discussing the possessive construction. What can be mentioned now is that this phenomenon is reminiscent of a syntactic principle usually termed "*prefix deletion*", attested in some Grassfields Bantu languages. As a matter of fact, some scholars have identified in some of this linguistic branch a process deleting the noun class prefix when this noun is followed by modifier. In Aghem language (Grassfields Bantu, Cameroon, Hyman 1979:27) for instance, it has been noticed that "*the prefix of the modified noun falls when followed by any modifier except a numeral*". In the same vein, Tschonghongei (2012, unpublished) gathers some evidence of prefix deletion in other Grassfieds Bantu languages such as Isu, Mbu', Bù and Mmen. Nevertheless, it should be recognized that, whereas the common prefix deletion process takes place when the noun is followed by modifiers, in the Koshin language, it happens exactly in the opposite context, that is, when the noun is not followed by a modifier, in non-isolation environment.

Besides, the occurrence of a circumfix indicating the noun class category is not really restricted to Koshin, with the examples (4) above. In the Aghem language mentioned above, Tschongongei (2012) has also noticed instances of circumfix such as the one realized /kɨ̌-…-lò/, in noun class 7 (let us notice the strange similarity with the /kə-…-lə/ circumfix of Koshin, class 7). Given this important similarity between the two affixes in the two languages, and given that this circumfix is extremely rare in Koshin (attested only in one word, maybe there are others but their number is unquestionably insignificant), it is believed that the single Koshin circumfix and its subsequent deletion in some contexts, *may* proceed from a possible borrowing from a neighboring language such as Aghem.

From a tonological view point, it should be noticed that the form of the word "bush" with a class circumfix is useful to disclose some tonal behaviors of the noun root which, otherwise, may remain unknown. In fact, the only root form /ntwā/ -when devoid of its circumfix, because of the affix deletion process- cannot allow us to realize that the noun root exhibits a first low (L) tone and a high (H) tone. When the noun occurs with the circumfix, the two floating tones emerge. Hence, it should be observed that in languages like Koshin, any reflection on tones should be alert to these details in order to get a better understanding of the tonological system.

Another useful type of construction which helps to identify hidden segments is the diminutive construction.

15.2.2 Diminutive Construction

Let us immediately clarify that diminutive construction refers to nouns and as such, could have entered the whole noun phrase construction. Nevertheless, it needs to be studied separately in this work because it shows a *specific property* unknown in ordinary NP constructions. Let us recall that the diminutive construction is another structure which implies the use of a circumfix (both prefix and suffix). This construction conveys a diminutive meaning to the noun root carrying the diminutive circumfix. It has been mentioned at least twice in this work, and in these two occasions, it has been observed that the diminutive construction is a powerful environment which discloses hidden tones (Cf chapter 6). Also, it has been emphasized that the diminutive construction enables us to discuss the phonemic status of the alleged homorganic nasal class-prefixes attested in the language (Cf. chapter 8). Here again, this important topic is addressed in order to sum up the relevant issues involving the diminutive construction, discussed in previous chapters, and to give more details about the morpho-phonological usefulness of this construction. Let us begin with the data in (6) below (the symbol ø- refers to a segment deletion):

	(NC)-noun	Diminutive form	Gloss
(6) (a)	nɗi	fə-nɗi-lə/ -	“small water”
	mɨ̌	fə̄-mɨ́-lə/ -	“small oil”
	wɨ̌	fə̄-wɨ́-lə́ / n̄-jɨ̌-lə́	“small eye(s)”
	kɨ̌yà	fə-kɨ̌yà-lə/ŋ̀-kɨ̌yā-lə̄	“small basket(s)”
	kə̄-fwá	fə̄-fwá-lə́ / n̄-fwá-lə́	“small snail(s)”
	fə-ŋgbɨ̌	fə-ŋgbɨ̌-lə/ŋ̀-ŋgbɨ̌-lə	“small bat(s)”
(b)	nyɔ̀m	fə-nyɔ̀m-øà/ -	“small meat”
	tə́m	fə̄-tə́m-øə́/n̄-tə́m-øə́	“small axe(s)”
	mwən	fə-mwən-øà/ǹ-nɨ̌-lə	“small person(s)”
	mbɔ̀ŋ	fə-mbɔ̀ŋ-øà/m̀-mbɔ̀ŋ-øà	“small cow(s)”
	tāŋ	fə-tàŋ-øə́ /ǹ-taŋ̀-øə́	“small leg(s)”
	kə̄-núŋ	fə̄-núŋ-øə́/n̄-núŋ-øə́	“small rooster(s)”
(c)	ntùmə	fə-ntùmə /ǹ-ntùmə	“small fish(es)”
	wūwnə̄	fə̄-wūwnə̄/mī-wūwnə̄	“small tail(s)”
(d)	mfwɔ̃̄	fə̄-mfwɔ̄-nə́/-	“small blood”
	fɛ̃	fə-fɛ̀-nə / ǹ-fɛ̀-nə́	“small king(s)”
	wɛ̃	fə̄-wɛ̄-nə́ / n̄-wɛ̄-nə́	“small leaf/leaves”
	bɨ̃	fə-bɨ̀-nə́ /m̀-bɨ̀-nə́	“small foot/feet”

	tūwə̃	fə̀-tūwə̀-nə̀/	ǹ-tūwə̀-nə̀	“small buttock(s)”
	kə̄-tṹ	fə̄-tú-nə́	/ n̄-tú-nə́	“small ears”
(e)	bə̄-zhḭ̃	n-zhḭ̀-nə́/	-	“small food”
	bə̄-nḭ̀	fə̄-nə̀ m-ə́/	n̄-nə̀m-ə́	“small piece(s) of corn food”

Through the data in (6) and considering everything discussed in relation to the diminutive marker, the following assumptions, which have a critical impact on the language description, are maintained.

First of all, the diminutive marker, as said before, consists in a toneless discontinuous morpheme (or the circumfix) /fə-… -lə/ (for the singular) and /N-… -lə/ (for the plural). This morpheme is different from the noun class 19 prefix /fə-/ (whose plural form is /N-/, similar to the concord marker of class 6a). The ideal environment to show the morphological structure of the diminutive is in examples (6a) where the noun roots end with a CV (open) syllable structure and the vowel is not nasalized. However (and this has not been said before, in this work), if the noun root ends with the open syllable structure /–Nə/(the consonant has to be a nasal), the suffixal part of the diminutive is not added to the root, although it is an instance of final open-syllable structure. That is why the data (6c) (but not those in 6a) do not include the suffixal part of the diminutive, although both of them end with an open CV syllable. There is clear evidence that the affixation process (morphology) is sensitive not only to the syllabic structure, but also to the phonological nature of the syllable constituents (phonology). Since the event of Lexical Phonology, such phenomena are better understood and accounted for, because this theory focuses rightly on the interconnections between morphology and phonology.

Secondly, when the noun root ends with a closed syllable structure (CVC), the lateral consonant of the suffixal part of the diminutive morpheme automatically deletes, as in (6b) where the symbol [-ø] shows the empty slot left by the deleted lateral consonant. Let us mention that when the root ends with a closed syllable, the coda must be a nasal. Roots ending with a palatal nasal consonant alternate, at least as far as auditory impression is concerned, with roots showing nasalized vowels discussed below.

More importantly, one of the fundamental issues related to diminutive construction which can be highlighted in this paragraph is that the diminutive construction enables us to understand the real status of the nasalized vowels of the language. In fact, beside the nasal consonants and the non-nasalized vowels, the nasalized vowels are also attested in noun root final position. In

other words, nouns in Koshin must end in three ways: with a nasal consonant, a non-nasalized vowel, or a nasalized vowel. The phonemic status of these nasalized vowels is not straightforwardly a clear one, although nasalized vowels are frequently attested, as far as phonetic realization is concerned. For J. Good et al (2011: 127), there is no doubt: "*Koshin also employs contrastive nasalization in its vowel system*", even though the authors recognize that "*In at least some cases, such nasalization can be traced to historical nasal codas* (J. Good et al 2011:127)" and that "[t]*his* [the fact that Koshin employs contrastive nasalization in vowel system] *appears to be a unique aspect of Koshin in the context of Yemne-Kimbi* [a group of languages made up by Koshin and neighboring languages previously called in literature "Western Beboid languages (2011:127)"]. The preceding restriction is confirmed by J.P. Mve (2014) who did not notice any glimpse of nasalized vowel in the description of Fáng, the allegedly closest relative of Koshin, as far as linguistic classification is concerned. Careful observation of examples (6) allows us to strongly believe that, even in Koshin, nasalized vowels *do not have* a phonemic status, and then, do not exhibit any contrastive value.

As a matter of fact, when used in diminutive construction, all the nouns ending with a nasalized vowel exhibit a non-nasalized vowel, as clearly illustrated in (6d). More interestingly, the lateral consonant (of the suffixal part of the diminutive morpheme) becomes a coronal nasal consonant after the noun root ending with the nasalized vowel. Someone cannot help believing that the erstwhile nasalized vowel is, in one way or another, responsible for the nasalization of the lateral. But how can it be put?

As assumed in chapter 4, let us suppose that, in the underlying form, all the noun roots ending with a nasalized vowel end with sequences of an oral vowel followed by the nasal consonant /ny/. At word final position, this nasal consonant, unlike the other nasals (*n* and *ŋ*), undergoes a process of prosodization (by which the nasal segment becomes the prosodic feature of nasalization /^{N}/, on the prosodic plan). The resulting prosodic feature of nasalization needs a prosodic bearing unit (PBU) into which it has to be segmentalized. The most appropriate PBU is the preceding vowel which fills the syllable nucleus and which is then nasalized. As long as this nasalized vowel is in word final position, it remains nasal.

However, in a context where the root is followed by a suffix, as in the diminutive construction, this segmentalized prosodic /^{N}/ undergoes a denucleization process and becomes an

archiphoneme which is then associated to the skeletal slot left empty after the prosodization of the consonant /ny/.

If the following consonant is lateral (with a coronal place of articulation), the archiphoneme /N/ copies the coronal feature of the lateral by assimilation, yielding a coronal nasal, as illustrated in (6d). The lateral is deleted later. It should be noticed that the /^{N}/ prosodic hypothesis in Koshin vowels cannot be easily postulated if alternations such as those in (6) are not found, and this may explain why nasalized vowels have been regarded as contrastive segments by some scholars.

One unexplained phenomenon has been observed with the noun “corn food”, and to a certain extent “food” (6e). The root for “corn food” changes the vowel [-i] of the isolated form into the schwa, and this schwa is followed by a nasal consonant, in the diminutive form which becomes similar to the root for “work”. Besides, whereas the noun “corn food” exhibits a singular and plural diminutive forms, only one form is attested for the root “food” and this form is the one usually used with plural diminutives.

The usefulness of the diminutive construction in disclosing the hidden lexical tone has been discussed in previous lines of this work. Let us however just recall that, for the noun “oil” for instance (6a), it has been assumed that, the mid (M) tone on the isolated form proceeds from the influence of the second tone of the root, the floating low (L) tone, on the first tone which is high (H). Hence, the underlying tones of this root are HL. However, both the H and the L tones are invisible, unless the noun root occurs with surrounding affixes, as those attested in diminutive construction. In the same vein, through the construction in (6), one can realize that the root “foot” with a mid (M) tone (6d) in the isolated context, shows two tones (LH) in the underlying form illustrated in the diminutive construction. Therefore, the same apparently identical mid (M) tone realized on two distinct noun roots is derived from two underlying different tone melodies: HL (as in “oil”) and LH (as in “foot”). It would have been difficult to imagine these hidden structures without the diminutive construction, given that, basically, the language shows an isolating morphology and given that constructions combining prefixes and suffixes at the same time are quite rare.

15.2.3 Possessive Construction

Besides the diminutive construction examined in the preceding paragraph, there is, still within the NP structure, another NP construction usually called “possessive construction”, which

shows a specific property and which covers a wide range of relationships between two NPs referring to two entities: the possessor and the possessed. In fact, diverse types of relationship between the possessor and the possessed are usually included within the possessive construction, such as, amongst others, kinship (say Ousmanou's father), ownership (Ousmanou's book), whole-part relationship (ousmanou's hand) or association relationship (ousmanou's village). In this paragraph, some important issues related to the possessive construction are examined. These include, without any ordering, the variables which determine possessive constructions in Koshin, the nature of possessive markers, the internal structure of a possessive construction, the other means of expressing possessive constructions. Let us examine first of all, the ways in which possessive construction is shown in the language.

15.2.3.1 Ways of Expression

Four strategies are used to show the possessive construction in the language, two of them are more recurrent: the apposition strategy, and the apposed bound pronoun strategy. But there are also the fused noun-pronoun strategy, and the strictly bound pronoun strategy. At the end of this part another exceptional strategy used in the language is analyzed.

15.2.3.1.1 Apposition strategy

Apposition strategy is one of the most common strategies. It marks the possessive construction only by the word ordering. It is the juxtaposition of the possessor and the possessed without any other marking element. This strategy is sometimes called by some authors "associative construction". In the following examples, D is the short form for "possessed" and R stands for "possessor" (the last letters have been considered)

(7) (a) bə̄-zhɪ̃̄ (D) bə̄-kə̀-fĭ (R)
NC-food CONC-NC-pig
"The food of the pig"

(b) bə̄-zhɪ̃̄ (D) bə̄-Pius (R)
NC-food CONC-proper name
"The food of Pius (Pius's food)"

(c) kə̄ (D) wù-kū (R) mɔ̄ fɛ̃̀
head CONC-village be.PRESENT king
"The head of the village is the king"

Examples (7) show that the possessed (D) NP, which is syntactically head of the larger NP, always occurs before the possessor (R). This ordering is the only mean to show this possession relationship, recalling that Koshin belongs to a strong word order type of language. It is worth noting that the D is the head of the possessive NP because it determines the concord marker of the R NP, whether R is a common noun (7a), a proper name (7b), or whether D shows an overt noun class prefix (7a-b) or a covert class prefix (7c). This issue is analyzed into details in the paragraph on the internal structure of the possessive constructions.

15.2.3.1.2 Bound Pronoun Strategy

The possessive construction can also be shown through strictly bound pronoun as in (8) below.

(8) (a) tyə̀ (D) Nelson (R)
Father proper name
"Nelson's father"

(b) ty-ɔ̄(R) mɔ̄ Nelson
Father-2PERS.SG be.PRESENT proper name
"Your father is Nelson"

(c) ty-ù (R) mɔ̄ Nelson
Father-3PERS.SG be.PRESENT proper name
"His/her father is Nelson"

The (D) NP in the last two examples of (8) refers to the noun root "father". This root carries a bound pronoun which is suffixed to the root and both the root and the bound pronoun form a single word. Such a bound pronoun which refers to possessor is usually called in literature "pronominal pertensive", based on the Latin *pertinēre 'to belong'* (Cf. Dixon 2010b: §16.2). The suffixation of the pronoun to the root triggers a coalescence process. In example (8b), the schwa of the root coalesces with the 2PERS.SG vowel /-a/ (as shown in many examples of this work) and yields the mid-low back vowel [-ɔ]. In (8c), the contact of the schwa vowel and the vowel /-u/ of the pronoun produces the elision of the schwa. It should be observed that the strictly bound pronoun strategy like the one in (7) is not very productive. It has been attested with only three words (father, mother, sibling). This structure is also examined in detail afterwards.

15.2.3.1.3 Fused Noun-pronoun Strategy

This strategy is, like the preceding one, rare. It has been also attested with the three nouns mentioned for the bound pronoun strategy. However, it applies only in the first person singular pronoun.

(9)	bā (D.R)	"my father"	(Cf. tyə̀ w-ī̀ "our father")
	nē (D.R)	"my mother"	(Cf. nyə̄-bɔ̀ "their mother")
	zhyā (D.R)	"my sibling"	(Cf. à-nyə̄-bɔ̀ "their sibling")

In examples (9), the forms include noun roots and the first person singular pronoun, but their realizations are not segmentable. They are instead fused together, unlike the forms in (8b) where, the root and the pronoun can be identified.

13.2.3.1.4 Combination of Apposition and Bound Pronoun Strategy

This strategy associates the first two strategies, that is, apposition and bound pronouns form. It is, with apposition, the most recurrent strategy attested in possessive constructions.

(10)(a)	jùŋ	y-ə̄ŋ	(b)	kə̀-kúm	sh-y-á
	blessing (D)	CONC-1PERS.SG(R)		NC-horse(D)	CONC-/^{y}/-2PERS.SG(R)
	"My blessing"			"Your horse"	
(c)	bə̄-tə́m	b-w-á	(d)	bə̄-nǐ	m-b-ǐ
	NC-axe (D)	CONC-/^{w}/-2PERS.SG(R)		NC-cornfood(D)	/^{N}/-CONC-3PERS.SG./^{y}/(R)
	"Your axes"			"His corn food"	

The possessive constructions in (10) combine the apposition strategy and the bound pronoun strategy. In fact, the D-R ordering is respected and the pronoun referring to the possessor is bound to another item. However, bound pronouns do not exhibit the canonical strategy presented in (8b) above because the pronouns are not directly suffixed to the noun root but instead, are bound to the concord marker determined by the NP head noun. On the other hand, as discussed in the chapter on nouns, prosodic features emerge and are bound to concord-pronoun structure, as illustrated in (10b) for palatalization (/^{y}/), (10c) for labialization (/^{w}/), and both nasalization (/^{N}/) and palatalization (/^{y}/) in (10d).

In examples (10), the apposed bound pronouns (R) are syntactically modifiers of the (D) NP. They can also be used as NP head and then, a nominalizer morpheme is used but the pronoun remains bound. Therefore, examples (10) become (10') where NOM. Stands for nominalizer, and DEF for the definiteness marker:

(10')(a') **n**-y-ə̄ŋ yə̀ (b') **n**-sh-y-á kə́
NOM-CONC-1PERS.SG(R) DEF. NOM-CONC-/^{y}/-2PERS.SG (R) DEF
"Mine (blessing)" "Yours (horse)"

(c') **m**-b-w-á (d') **ø**-m-b-ɨ́ bə́
NOM-CONC-/^{w}/-2PERS.SG (R) NOM-/^{N}/-CONC-3PERS.SG./^{Y}/(R) DEF
"Yours (axes)" "His (corn food)"

13.2.3.1.5 Optional Possessor-possessed Ordering

All the preceding strategies showing possessive constructions share one common and recurrent characteristic: the possessed (D) always precedes the possessor (R) yielding the D-R ordering. Nevertheless, some exceptions have been attested where the general D-R ordering is optionally realized R-D. Three nouns support this strategy.

(11) (a) shēm "stomach"
shēm (D) y-ə̄ŋ (R) /mə̀ (R) shēm(D) "my stomach"
ā mɔ̄ ə́ = shēm(D) y-ā (R)/ā mɔ̄ ə́ = wə̀(R)shēm (D) "it is in your stomach"

(b) kə̀-twā-lə́ "bush/forest"
kə̀-twā-lə́ (D) s-ə́ŋ (R)/ mə̀ (R) twā (D) "my bush"
ə́ = kə̀-twā-lə́ (D) shy-ɨ́ (R)/ ə́ = sə̀ (R) twā (D) "in our bush"

(c) kə̀-dzɔ̀ "mouth"
kə̀-dzɔ̀ (D) sh-ɨ̂ (R) / wù (R) dz-ɨ̂ (D) "his/her mouth"
ə́ = kə̀-dzɔ̀ (D) sh-ɨ̂ (R)/ ə́ = wù (R) dz-ɨ̂ (D) "in his/her mouth"

Examples (11) show two optional forms within the possessive constructions: the possessed items can occur before the possessors as generally observed in any possessive structure, but they can also occur after the possessors. In this context, if the possessor is a pronoun (he can also be a common or proper noun), this pronoun shows a free –not bound- form, with a constant low tone. As shown in the last example of (11a, 11b, and 11c), another favorite context where the data in consideration exhibit the R-D ordering is when the possessive construction is marked by an adposition which refers to location or to the orientation "inside" (the place referred to by the possessive construction).

Another curious phenomenon observed in (11) is the alternation of the root for "mouth" (11c). In D-R ordering, this root shows a mid-low back vowel with a low vowel. However, in the R-D ordering, the root shows the coronal high vowel with a mid tone. A diachronic study may

perhaps shed light on this apparently intricate phenomenon (which is not attested in “bush” (11b) and “stomach” (11a)).

Besides, the analysis could not find out why “stomach”, “bush” and “mouth” are different from the other nouns, nor what other common feature (beside the fact that they refer to location/direction) these nouns share in order to deserve such specific behavior. But, it is believed that a careful cultural investigation can lead to some instructive explanations.

It is now time to emphasize an important phonological process related to the R-D ordering. In examples (11) above, the adposition marking the R-D construction is realized as a clitic (that is, a grammatical element part-way between a word and an affix). Optionally, this clitic can be realized as an affix. Let us remember that this is not that strange in the language (Cf the 1PERS.SG subject pronoun /mə̄/ which can optionally be realized as clitic or as an affixal form /N-/ bound to the following consonant within the predicate structure). As an affix, the grammatical element marking the orientation towards the NP possessive construction is realized as in (12) below:

(12)	ɔ́- (R) +	(D)	Gloss
(a)	mí-mə̀	shēm	“in my stomach”
	ú-wə̀	shēm	“in your stomach”
	ú-wù	shēm	“in his/her stomach”
(b)	ɔ́-sə̀	shēm	“in our stomach”
	ɔ́-mbɛ̃̀	shēm	“in your (plural) stomach”
	ɔ́-bɔ̀	shēm	“in their stomach”

Examples (12) provide us with useful data to emphasize, once more, one of the most critical issues of the phonology of Koshin: the status of the nasal-obstruent initial clusters in the language. In the chapter on noun classes (chapter 8), this question is widely addressed and it has been concluded by assuming that, synchronically, nasal-obstruent initial clusters (mostly attested in nouns from the class of liquids) cannot be interpreted as sequences of two phonemes: the nasal consonant + the following obstruent. The analysis rather pleads for sequences of phonemes which include both the nasal and the obstruent, that is, the nasal in this structure cannot stand as a phoneme alone. Let us see how this assumption is supported by the data (12). In fact, examples (12) show that the schwa preceding the possessor (R) pronoun undergoes a process of full assimilation to the first segment of the pronoun, if this segment is sonorant. This explains why

the schwa becomes a bilabial nasal before /-m/, or it changes into the high back vowel before the glide /-w/ (12a) (it is known that the segments [u] and [w] show the same features; the only difference between being that [u] fills the syllabic nucleus slot but [w] fills the onset or coda position). Before the segment /-s/ and /-b/ however, the schwa remains unchanged, because neither of the two consonants is a sonorant. In the same vein, the assimilation of the schwa is also blocked before the sequence /-mb/. If this sequence were the association of two phonemes (/m-/ and /-b-/), the schwa could have changed into a bilabial nasal, because of the first segment of the sequence. However, as the /-mb/ sequence is regarded as a single non-sonorant phoneme, it cannot trigger the assimilation.

In the preceding section, the morphological structure (morphological level) of the diminutive construction gives us the opportunity to determine the linguistic status of nasalized vowels. In this paragraph, the possessive construction (Syntactic level) enables us to emphasize the phonemic value of the nasal-obstruent clusters. The conclusion that can be drawn from this observation is that it is highly risky to undertake the phonological study of a language without knowing the morphological and syntactical functioning of that language, because everything holds together in a language, rightly viewed as an integrated system.

In summary, possessive construction can be shown by the apposition strategy, but it can also be shown by bound pronouns attached to the possessed NP, by pronouns fused with roots, by free pronouns referring to the possessors, or else, it is realized through the combination of the apposition and bound pronouns strategies. And one may ask: what elements condition the variation of the possessive construction realizations? In other words, what are the determinants of the possessive construction? This question is answered in the following part.

15.2.3.2 Determinants of the Possessive Construction

Morpho-syntactic and semantic parameters determine whether a possessive construction can be marked by apposition, pronominal pertensive, the combination of both techniques, and the root-pronoun fusion. One of these parameters is the syntactic nature of the possessor item.

15.2.3.2.1 The morpho-syntactic Nature of the Possessor Item

With this parameter, the possessive construction types depend on whether the possessor is a pronoun or a non-pronoun item.

(13) (a) tyə̀-bɔ̀ mɔ̄ mwə̀n wù-dwə̀nə̀
Father-3PERS.PL (R) be.PRESENT man CONC-old
"Their father is an old man"

(b) nɛ̄ dè bə̀-ntùmə̀
Mother.1PERS.SG (R) cook.PRESENT NC-fish
"My mother cooks fish"

(c) bə̀-ncɔ̄ŋbə̄ b-ə́ŋ bə́-njɔ̄ŋbə́-lə́
NC-groundnut CONC-1PERS.SG (R) CONC-sweet-ATTRIB
"My groundnuts are sweet"

(d) tyə̀ Felix mɔ̄ mwə̀n wù-dwə̀nə̀
Father proper name (R) be.PRESENT man CONC-old
"Felix's father is an old man"

(e) bə̀-ncɔ̄ŋbə̄ bə́-kū bə́-njɔ̄ŋbə́-lə́
NC-groundnut CONC-village(R) CONC-sweet-ATTRIB
"The groundnuts of the village are sweet"

From examples (13), one can learn that when the possessor is a pronoun, a possessive construction can be realized through one of the three possibilities (which are not optional): a pronominal pertensive, a noun-pronoun fused form, a bound but "apposed" pronominal form (13a, 13b, and 13c respectively). However, when the possessor is not a pronoun as in (13d), the only way of showing possession is the word order (apposition strategy).

Two restrictions are in order: as illustrated in (11-12) above, some nouns which refer to the location "inside" allow optional possessive constructions involving free pronouns as possessors. Besides, for pronouns, the parameter of grammatical person has to be considered as well, because there is some complementary distribution of the construction types related to what grammatical person is involved. For instance, the only pronoun which undergoes a fusion with the possessed noun root is the first person singular pronoun, the bound attached pronouns are observed specifically with the second, third singular person pronouns and the third plural person pronoun, but the bound apposed pronoun form can concern any grammatical person.

13.2.3.2.2 The Semantic Nature of the Possessed Item

Another parameter to be taken into account and which determines the possessive construction is the semantic nature of the possessed item. This variable divides the noun system into three sets: the basic *kin terms*, the *orientation/location* terms, and the *other nouns*.

In the language, three basic kin terms show the same behavior in possessive construction: “father”, “mother”, “sibling”. Many other kin terms attested in the language take as morphological base one of the three preceding nouns. The other kin terms behave differently, as the ordinary nouns. These basic kin terms, when stated as possessed items, are the only nouns that can be used in almost all the construction types attested in the language.

(14) (a) tyə̀ Nelson wú ɗìn
Father (D) proper name PROG come.IMPERF
“Nelson’s father is coming”

(b) ny-ū dyàbɔ́-lə̄
Mother-3PERS.SG(D) well-ATTRIB
“His/her mother is well”

(c) zhî́yá yɔ́ wà bə̄-sē
Sibling.D P1 wash NC-clothes
“My sibling has washed clothes”

(d) ā-nyə̄ w-ì̌ bə̄ dá sə̀
?-sibling (D) CONC-1PERS.PL FUT.2 see 1PERS.PL
“Our sibling will see us”

It can be realized that with the three basic kin terms as possessed nouns, one can construct a possessive construction by apposition (14a), by the strict bound pronoun strategy (14b), by root-pronoun fusion (14c), or by both binding and apposition procedures (14d). It should be mentioned that in the language, “my father” means more than the simple reference to the chief of the family. It mostly refers to “my genitor” or “my creator”, more or less comparable to God, rightly called in Koshin “my Father God” (bā kə̀-jǐ).

The location/orientation terms specified by the possessive construction are the nouns “stomach”, “bush/forest” and “mouth” that have been referred to in (11) and (12) above. It has not been found out why they are different from other nouns which also exhibit location reference, but they exhibit, unlike other nouns, two optional structures when they are used as possessed items. No other noun (even basic kin terms) shows a similar behavior. Besides, it has been discussed in previous pages that two of these nouns (“mouth”, and “bush”) exceptionally delete their noun class prefixes when no modifier follows, and when they are not used in isolation context. It is interesting to notice that these two specific characteristics show how in any language, there can always be found some correlation between the semantic organization and morpho-phonological processes.

13.2.3.2.3 The Semantic Nature of the Possessive Relationship

The last factor which determines the structure of the possessive construction is the semantic nature of the possessive relationship. On the basis of this criterion, it has been identified that *intimacy* or the *closeness* of the relationship parses the noun system into two sets: on the one hand, the possessive construction specifies items of intimate considerations and, on the other hand, items which are regarded as neutral or non intimate by the possessive construction. Whereas the second set includes most of the nouns of the system, the first set is quite limited. Exactly four items make up the set: "wife", "husband", "son", and "friend". One can think that, between the preceding four nouns, there is no better common feature than "intimacy".

It should be outlined that, whereas "father" and "mother" are included amongst kin terms (14), the item "son", curiously, is not. Reversely, whereas "son" is culturally regarded as intimate, "father" and "mother" are not. It simply means that the way a son considers his parents is different from the way parents look at their children, at least as far as Koshin culture is concerned. It is not that the noun "son" does not refer to kinship. The better way to put it is to say that, for the nouns "son", "husband", and "wife" the kinship value is irrelevant. The most distinctive feature is "intimacy", exactly as in the case of "friend" which has no kinship denotation but which carries an important feature of intimacy. How all this is shown in grammar? Let us begin with possessive structures where the items "wife", "husband", "son", and "friend" are used as possessed (D) items and the possessors (R) are proper (not pronouns) names.

(15)	Singular (D)	Gloss	Plural (D)	Gloss
	kpə̄ Pius	"Pius's wife"	bə̀-kɪ̄ Pius	"Pius's wives"
	nyū Mary	"Mary's husband"	bə̀-nɔ̄ Mary	"Mary's husbands"
	w-ã̃ Mary	"Mary's son"	b-ã̃ Mary	"Mary's children"
	nsɪ̃̄ Pius	"Pius's friend"	nsɪ̃̄ Pius	"Pius friends"

In examples (15) above, possession is marked by a simple apposition and absolutely nothing special is shown except two aspects which are not relevant for the present discussion: "husband" exhibits an internal change process in the plural form, and "wife" shows also an internal change but which is not restricted only to grammatical number (Cf. (16) below).

(16)(a) kpɨ̀	(b)nyū	(c)w-āyn	(d)nsɨ̀ny	Gloss
kpɨ̀ **ŋ-k**-ə̀ŋ	nyū **ŋ-k**-ə̀ŋ	w-ā **ŋ-k**-ə̀ŋ	nsɨ̀- **ŋ-k**-ə̀ŋ	“my + noun ”
kpɨ̀ **ŋ**-w-à	nyū **ŋ**-w-à	w-ā **ŋ**-w-à	nsɨ̀- **ŋ**-w-à	“your+noun”
kpɨ̀ **ŋ**-w-ù	nyū **ŋ**-w-ù	w-ā **ŋ**-w-ù	nsɨ̀- **ŋ**-w-ù	“his/her +noun”
kpɨ̀ **ŋ**-w-ǐ	nyū **ŋ**-w-ǐ	w-ā **ŋ**-w-ǐ	nsɨ̀- **ŋ**-w-ǐ	“our + noun”
kpɨ̀ **ŋ**-w-ənə	nyū **ŋ**-w-ənə	w-ā**ŋ**-w-ənə	nsɨ̀- **ŋ**-w-ənə	“your(pl)+ noun”
kpɨ̀ **ŋ**-wə-bɔ̀	nyū **ŋ**-wə-bɔ̀	w-ā **ŋ**-wə bɔ̀	nsɨ̀-**ŋ**-wə bɔ̀	“their + noun”

Examples (16), unlike those in (15), show segments (in bold) which have been noticed nowhere in possessive constructions. First of all, the velar stop [k-] is attested in the first person singular. It occurs with no other grammatical person. Absolutely nothing could have accounted for its occurrence, because it is usually attested as concord marker for class 7 nouns. Still in this context, as illustrated in the chapter on nouns, it is coronalized and spirantized into [s-] (except in the third person plural). Then, where does this velar segment come from? Furthermore, one can notice the intriguing occurrence of the nasal consonant. It could have been less surprising in (16c) and (16d), because the noun roots include a final nasal segment (whether considered a coronal nasal as presented in (16) or a feature linked to the vowel as discussed in the paragraph on diminutive construction), but in (16a-b), the occurrence of the nasal consonant is strongly unexpected. In fact, the nouns in (16a-b) exhibit no nasal segment in the root final slot (15). The only explanation comes from the possessive construction when the pronoun fills the possessor (R) role and the items “wife”, “husband”, “son”, and “friend” are in the possessed role, that is, when a pronoun is involved in an intimate relationship. Definitely, languages translate, in one way or another, semantic concepts into morpho-phonological processes. In other words, cultural representations of the community are expressed through linguistic processes.

Because the nasal consonant occurs with all the items referring to intimacy, let us consider it *the intimacy marker*. Someone could also regard this nasal as the marker of *humanity* as suggested in some earlier parts of this work. But what does /k-/ stand for? It is obvious that it does not refer to the first person singular. It is thought that it may refer to something which is not far from intimacy, close relationship, or affection. A look has been given at the descriptions of some Koshin-neighboring language, in order to see if a similar phenomenon has been noticed. Unfortunately, in what the consulted descriptions call “possessive pronouns”, one could not find something which, at least, could have served in a comparative procedure. Then, the table of the reconstructed possible noun classes and noun prefixes in Proto-Bantu (Maho 1999:51) has been

observed. It has been noticed that the segment /k-/ in (16) *may* be a cognate form to the Proto-Bantu (*PB) class 12, reconstructed as /*kù/ and which refers to "*diminutives*". Morphologically, this assumption is not that far-fetched, given the apparent similarity between the *PB and the Koshin forms. Semantically however, some clarifications need to be given. In one of the preceding paragraphs, the diminutive construction has been analyzed as a structure which consists in conveying a *reduced-size meaning* of the object or item marked by the diminutive affix. However, the putative diminutive in (16) refers to a different meaning. It refers to *familiarity* and to *intimacy*. And it is known that familiarity and intimacy are not far from each other. In many well described languages, mostly Indo-European languages, diminutive markers quite often refer to attachment and love. Let us call this type of diminutive "*hypocoristic diminutive*". Grevisse (2001:§164) reports that in French for instance, "*Les suffixes diminutifs servent de façon affective*" (diminutive suffixes are used in an emotional way). Even in some African languages, the diminutive and appreciative values are interconnected. In Masa (Chadic, Cameroon and Chad, Melis 1999:124; Ousmanou 2007: 40) for instance, the diminutive versus augmentative suffix is attested for some nouns. In other nouns, this diminutive versus augmentative contrast correlates with the feminine versus masculine meaning. And, interestingly, when the speaker wants to convey a stylistic appreciative meaning to a noun, only the diminutive –not the augmentative- suffix is used. If this hypothesis is viable, therefore, it can be understandable that in the Koshin culture, when somebody is referred to by "my husband", "my wife", "my son" or "my friend", it be done with attachment and emotion.

Another observation is in order: the closeness relationship (or intimacy) marker and the hypocoristic diminutive marker discussed above are attested exclusively when the possessive construction involves *possessed singular* items. In other words, these specific markers are not attested in structures like "my wives", "my children", "my husbands" and "my friends". If the assumption of intimacy and hypocoristic diminutive markers is correct, then it implies that in the Koshin culture, somebody can have only *one intimate friend*, *one intimate wife* (even in a polygamy context), and it also means that *a woman cannot have intimate relationship with more than one husband* (bigamy is not an accepted custom in the society). Moreover, it can also mean that, even if somebody has many children, there is probably one *preferred child*. In short, it is the expression of the fidelity and loyalty towards one person.

Before putting an end to this part, let us recall that, phonologically, the glide [w-] does not occur in the first person singular in (16) because of an elision rule which, as stated in the chapter on nouns, deletes glides segments (both [y] and [w] before the context of "schwa + nasal". Therefore, the examples involving the hypocoristic diminutive can be accounted for as follows: after the 1PERS.SG pronoun, the concord marker (w-) is added, and then the hypocoristic /k-/. The glide deletes and, later, the intimacy nasal is added.

15.2.3.3 Further Roles of the Possessive Markers

Since the very beginning of this chapter, it is examined how possessive constructions are shown in the language. Some marking strategies, such as the word order strategy (apposition), the bound pronouns, the apposed bound pronouns, and the fused forms, have been discussed. It has been also mentioned the example of an optional free pronouns marking. Now, something has to be said about the further roles played by these possessive markers in the language.

If the apposition strategy (word order) is considered, it will be realized that it is another (but quite different) variant of the common case marking strategy prevailing in the language. For example, it has been mentioned that in many instances, the ordering of the constituents (constituent order) is a case marker, well-known in the language, because, a subject NP can be distinguished from the object NP only on the basis of their ordering within the clause (S-V-O). In the same way, except in specific situations, the possessor NP (R) can be distinguished from the possessed (D) only on the basis of the ordering of these NPs: D usually comes before R.

As for the bound pronoun marker, it seems to be the peculiarity of the possessive marker. In other words, only possessive constructions are shown by bound pronouns. As stated many times in this work, it should be mentioned, however, that the first person singular pronoun can *optionally* be realized as bound pronoun when it fills the *subject* slot, no other pronoun can show this phenomenon. No fused pronominal form has been attested in the language outside possessive constructions.

15.2.3.4 Internal Structure

Concerning the internal structure of the possessive construction, the general possessor-possessed ordering corresponds to the *head-modifier* structure as illustrated in the examples given thus far. The only exception to this general tendency is the context where the possessive construction optionally involves, as possessor, a free pronoun (11-12).

The concept of possession is mainly conveyed by the different structures discussed thus far. However, other means are used in the language to express possession. It is time to analyze them.

15.2.3.5 Other Means of Coding Possession

Outside the canonical possessive constructions, two verbs which establish possession have been identified. One of these verbs is *kə̄-kānə́* "to have" as in (17) below.

(17) (a) mə̄ kānə́ gbɨ̌yà wù-fwələ (have = possess or own)
1PERS.SG have NC.house CONC-white
"I have a white house"

(b) kū w-ɨ̌=mə̄, sə̀ kānə́ bə̀-kwátà bə̄-tūn (have = identify)
Village CONC-1PERS.PL=ADPOS, 1PERS.PL have NC-quarters CONC-five
"In our village, we have five quarters"

(c) bə́=shɔ̄m, sə̀ kānə́ mbɨ̌ mə̄ (have = obtain)
ADPOS=palm tree, 1PERS.PL have palm wine DEF
"With a palm tree, we get palm wine"

In the preceding three examples, the verb "have" is used in three slightly different meanings. In (17a), "have" is likely similar to the verb "possess" or "own". However, in (17c), "have" is semantically close to the verb "get", "obtain", and in (17b), the verb "have" conveys the meaning of "identify". It can also be logical to say that it refers to "exist", "be" (the subject, semantically, being the object argument of the verb).Therefore, from the single verb "have", many semantic nuances related to possession can be derived. Besides its role of establishing possession, it should be recalled that "have" is also used as an irrealis marker in the language, as stated in the preceding chapter.

Another verb which conveys a meaning of possession is the copula verb kə̄-dɔ̀m "to be". It should be noticed that only a few examples of this type of construction have been attested in the data. Let us see some of them in (18) below.

(18) (a) kɔ̄ (R) mɔ̄ bə́=bə̄-bɨ̌nə̄ (D) bə̀ bɔ̀nə̀ nəmgà
Koshin be.PRESENT ADPOS=NC-dance 3PERS.PL call.PRESENT work.corn
"Koshin people have dances we call "nəmgà" (dances realized during the annual festival)"

(b) wù (R) mɔ̄ bə́=tə̄-bɨ̌(D) tə̄-fɨ̂
3PERS.SG be.PRESENT ADPOS=NC-cutlass CONC-two
"He/she is with two cutlasses (he/she has two cutlasses)"

As illustrated in (18), a possessive construction involving the copula verb requires, like a canonical copula constructions, three constituents: the copula subject (CS), the copula verb, and the copula complement (CC). Nevertheless, some constant restrictions should be noticed: the possessor NP (R) *must* fill the copula subject slot, and, more specifically, the possessed NP (D) which fills the copula complement slot, *must* be marked by the *adposition /bə́=/*.

To put it in a nutshell, in this chapter on phrasal constructions, some clarification about the conception of the item "phrase" adopted in this work has been given, and the most relevant noun phrases attested in the language have been discussed, namely the canonical NP construction, the diminutive construction, and the possessive construction. Each of these three types of construction exhibits important processes which significantly feed the descriptive analysis. Whereas the canonical NP construction helps us to identify the general principles and constraints referring to the NP structure, the diminutive construction unveils hidden segments and the possessive construction discloses more details about the semantic organization of the noun system, beside what is revealed within grammatical systems such as the noun class system.

Grammatical constructions are not restricted to phrasal structures. There are other types of construction, more complex than the ones examined in this chapter and which deserve also important consideration for a better understanding of the linguistic system. These types of construction refer to the clause and sentence structures. Let us analyze them.

CHAPTER 16
CLAUSE AND SENTENCE CONSTRUCTIONS

In the preceding chapter, some types of noun phrase constructions have been analyzed. It has been mentioned that these constructions are constituents which can fill syntactic slots within another type of grammatical construction which is larger and more complex: the clause. Besides the clause, another complex structure which is worth considering is the sentence. The clause and sentence constructions are amongst the largest and most complex grammatical constructions oft-mentioned in literature. It is known that, in some contexts, this classification is given simply as an indication because, strictly speaking, a complex phrase construction (say an NP consisting of a noun head followed by a relative clause) can sometimes be larger in extension than a clause. Nevertheless, in the syntactic hierarchy, because a clause is usually made up of at least two phrases (an NP and a VP), it is considered superior compared with the NP and inferior compared with a sentence (which can imply more than one clause).

In this chapter, some syntactic constructions whose domain is precisely the clause or the sentence are examined. Moreover, the verb phrase (VP) construction is exceptionally added to these large constructions because, more than the noun phrase (NP), the VP is intimately connected to the clause. It is the VP head which determines all the constituents of the clause. Therefore, it is preferable to talk of the VP construction within the clause constructions. Before fully discussing the constructions mentioned above, it seems relevant to give clarifications about some important items which are recurrent in this chapter.

16.1 Definitions: Verb Phrase, Predicate, Clause, and Sentence

Four concepts are recurrent in this chapter and it is useful to clarify their meaning, because they are sometimes conceived differently by authors in literature. These concepts are: verb phrase (VP), predicate, clause, and sentence.

First of all, let us begin by the labels *verb phrase* (VP) and *predicate.* These two items are interconnected. In fact, as suggested in the preceding chapter, the predicate is the *syntactic slot* filled by the VP. That is why the item "predicate" is sometimes used in the place of the label "VP" without great difference. The VP (or the predicate it fills) refers to the *most important* structural element of the clause. More specifically, the VP is a structure whose head is typically – but not always- the verb, surrounded by modifiers. As stated in the chapter on *Tense markers and grammatical secondary concepts* (chapter 14), some authors consider "predicate" everything in

the clause except the subject. This conception of the VP and the predicate are not adopted here. Within the Basic Linguistic approach followed in this work, only the verb modifiers (tense markers, grammatical secondary concepts) and the predicate head make up the VP. In Koshin, the VP structure domain can be easily identified by putting the clause in the negative form. The negative marker(s) occur(s) at the VP edge(s).This can be illustrated through the following examples.

(1) (a) Pius [zhǐ kə̄]VP nyɔ̀m
Proper name eat.PRESENT NEG meat
"Pius does not eat meat"

(b) wə̀́ [wā-lə́ kə̄]VP kɔ̄ y-ā
2PERS.SG.CONT wash-IMPERF NEG hand.NC CONC-2PERS.SG
"You are not washing your hands"

(c) ŋ-[ká zhǐ kpə̄n kə̄]VP
1PERS.SG-NEG.P1 eat ENOUGH NEG
"I have not eaten enough"

(d) wù [ká lǐyà kə̄]VP mū
3PERS.SG NEG.P1 go far NEG farm
"He/she has not gone to farm"

(e) sə̀ [[kānə́ kə̄] [kə̄-tǐkə́ kə̄]] VP bɔ̀ gbūyà
1PERS.PL IRR.F NEG NC-leave NEG 3PERS.PL house
"We do not have to leave them at home (students)"

Examples (1) show that whether the predicate is made up by a single verb (1a) or a verb followed by the imperfect marker (1b), the negative marker (NEG) always occurs at the right edge of the predicate. When the action occurs in a past tense (1c-d), the negative marker occurs both at the left edge and at the right edge of the predicate. Example (1e) is quite instructive. It shows two verbs with different values. In fact, whereas the action is about the verb "leave", the verb which, by virtue of syntactic features, plays the role of main verb, is "have" ("leave" is subordinate). Nevertheless, each of the two verbs is *syntactically* head of its own VP (even if one is head of the main VP and the other is head of the subordinate VP). Consequently, the language provides two negative markers, located at the right boundary of each VP.

Some of clause grammatical constructions analyzed in this chapter are based mainly on the nature of the VP head (Is the VP head a referential verb? Is it made up by one or more than one verb? Is it a copula verb? Or, is it a non-verb word?). In other words, the nature of the VP

head can determine the type of clause. Because of this intimate relationship between the VP and the clause type, we prefer to talk of the verb phrase in the chapter on clauses. Some of these constructions are mentioned in the chapter on verbs.

Concerning the labels "clause" and "sentence" they are hierarchically superior to the VP. A clause includes an obligatory predicate which requires one or more core arguments and, eventually peripheral arguments. It can occur alone (it is called *main clause*) and in this context it is equivalent to a *simple sentence*. Dixon (2010a:§ 3.1) rightly observes that "*A simple sentence consists of a single clause".* However, many combined clauses can make up a single sentence. Therefore, a sentence is, in this context, superior to the clause. The way various clauses are combined within a sentence yields different grammatical constructions some of which are examined in this chapter.

16.2 Constructions Involving a Single Clause

In this part, grammatical constructions whose domain is a single clause are discussed. Some of these constructions are analyzed in some aspects in the preceding chapters. Therefore, in the present paragraph only basic elements of the analyzed topics are recalled and the aspects which have not been dealt with are analyzed into details. Let us begin with the copula construction.

16.2.1 Copula Verb Construction

The syntactic domain of a copula construction is a copula clause. The peculiarity of this clause is that it indicates a *relational* –not a referential- meaning, between two arguments: the copula subject (CS) and the copula complement (CC). Obviously, the VP head of such a construction must be a copula verb. Hence, the canonical copula construction is: *Copula Subject (CS)- Copula verb- Copula Complement (CC).* In the chapter on verbs (chapter 7), it is emphasized that the copula verb "kə̄-dɔ́ ̀m" (to be) undergoes morpho-phonological variations conditioned by three main grammatical factors which are recalled in (2) below.

(2) (a) The grammatical *tense* of the clause

(b) The declarative/interrogative versus imperative *mood* of the clause

(c) And the negative versus positive *polarity* of the clause

The influence of the grammatical factors in (2) can be illustrated and recalled through examples (3) below:

(3)(a) (i) ndǐ *mɔ̄* lə̀
water be.PRESENT there
"There is water"

(ii) mə̄ yə́ *ø* bwā
1SG PAST1 be tiredness
"I am tired"

(iii) wù nə̄ nyā *ø* fèny
3SG PAST2 PAST3 be king
"He was (the) king

(iv) wə̀ bə́ kə̄ dɔ̂m kpî ŋ-k-əŋ
2SG F2 F1 be.F (my wife)
"You will be my wife"

(v) dɔ̂m kpî ŋ-k-əŋ
be.IMP. 2SG. (my wife)
"Be my wife"

(b) (i) ndǐ *bə̀* kə̄
water be.PRESENT.NEG NEG
"There is no water"

(ii) mə̄ *kɛ̄(sə̄)* bwā
1SG be.PAST1.NEG tiredness
"I am not tired"

(iii) wù nə̄ nyā *bə̀* kə̄ fèny
3SG PAST2 PAST3 be.NEG NEG king
"He was not (the) king"

(iv) wə̀ bə́ kə̄ *dɔ̂m* kə̄ kpî ŋ-k-əŋ
2SG F2 F1 be NEG (my wife)
"You will not be my wife"

(v) *mà(fyə̄)* wə̀ *dɔ̂m* kpî ŋ-k-əŋ
NEG.IMPER. 2SG be.IMPER. (my wife)
"Do not be my wife"

It can be observed that the grammatical factors in (2) strongly influence the canonical copula construction CS-copula verb-CC. The copula verb changes from the affirmative (3a) to the negative (3b) polarity; from the present tense (3i) to the future (iv) or past tenses (iii); or the declarative/interrogative (3i-iv) to the imperative (v) mood. Furthermore, it is realized that in some contexts, the meaning of the CC argument does not allow it to co-occur with the copula verb in negative form as in (3bi).

Concerning the CS and CC arguments, they are typically filled by nouns or equivalents.

(4) (a) [ā]CS [mɔ̄]copula [ndɛ̀]CC
DEM0 be.PRESENT WHO
"Who is it?"

(b) [kə̄-zhǐnyá k-ɛ̃̄]CS [mɔ̄]copula [ŋ-k-ə́ŋ]CC
NC-ram CONC-DEM1 be.PRESENT NOM-CONC-1PERS.SG
"This ram is mine"

In the CS function for instance, besides the noun (3i) and (4b), one can find a pronoun (2i-iv) or a demonstrative (4a). In the CC function on the other hand, the attested NP can be an adverb

(3ai), a noun (3ii-v), an interrogative (4a) or a pronoun (4b). It should be noticed that, the pronoun used in (4b) usually modifies the NP head in the possessive construction (Cf the modifier of the NP head "ram" in CS function). However, the language does not allow an adjective or equivalent to fill that slot. Therefore, this pronoun has been substantivized by the prefixation of the homorganic nasal.

Nevertheless, complement clauses barely occur in these slots. Unlike what occurs in many other languages, *adjectives cannot occur in copula complement slot*. Moreover, as observed in the preceding chapter, the copula construction can express possession, not only as the structure in (4b) above (through a CC filled by a substantivized possessive phrase), but also as an NP marked by an adposition, a structure where the CS refers to the possessor item and the CC (the NP marked by an adposition) refers to the possessed item.

Besides the syntactic structure of the CS and the CC, it has been noticed that the copula constructions in Koshin mark a range of semantic relations between the CS and the CC. These semantic relations are mostly determined by the nature of the CC argument. In (3ai) for instance, through the locational adverb "there" in CC argument slot, the copula construction marks a *location relation* between the CS and the CC. In (3iii-v) and (4a) however, the two arguments (CS-CC) are linked by an *identity relation.* In (4b), the possessive phrase in CC shows that it is an instance of *possessive relation.* Another relation which is shown in copula construction is the *attribution relation* as in (3ii) above.

16.2.2 Verbless Clause Constructions

In the preceding part, the copula construction has been construed as a construction which marks a *relational meaning* between a *CS and a CC* through the *copula verb.* There are clausal constructions which exhibit the same characteristics as copula clauses, except on one point: they lack a verb as predicate head but instead, show as a verbless predicate slot. They are therefore similar to what is known in literature as *verbless clauses* (Dixon 2010a: §341). In such clauses, the verbless clause complement (VCC) states the property of the verbless clause subject (VCS), (as the CC states the property of the CS) and syntactically, it fills the verbless clause complement slot. This syntactic construction can be illustrated as in (5) below. (VCS. stands for the verbless clause subject, VCC stands for the verbless clause complement, and INTR.PRED stands for intransitive predicate)

(5) (a) [bà-ncɔ̄ŋbā bə́-kū]VCS [bə́-njɔ̄ŋbə́-lɛ̄] VCC.
NC-groundnut CONC-village CONC-sweet-ATTRIB.
"The groundnuts of the village are sweet"

(b) [gbà w-ə̄ŋ]VCS [lwāfə́-lɛ̄] VCC
body CONC-1PERS.SG smooth-ATTRIB.
"My body (skin) is smooth"

(c) bà-ncɔ̄ŋbā bə́-kū bə́-njɔ̄ŋbə́
NC-groundnut CONC-village CONC-sweet
"Sweet groundnuts of the village"

(d) gbà w-ə̄ŋ lwāfə́
body CONC-1PERS.SG smooth
"My smooth body (skin)"

(e) [bà-ncɔ̄ŋbā bə́-kū]VCS [bə́-njɔ̄ŋbə́ kə̄]INTR.PRED./VCC
NC-groundnut CONC-village CONC-groundnut NEG
"Groundnuts of the village are not sweet"

(f) [gbà w-ə̄ŋ]S [lwāfə́ kə̄]INTR.PRED./VCC
body CONC-1PERS.SG smooth NEG
"My body (skin) is not smooth"

If examples (5) are compared with the copula constructions, one will find the following: as illustrated in (5a-b and 5e-f), the VCC states the property of the verbless clause subject (VCS), exactly as the CC states the property of the CS. However, whereas the CC slot can be filled only by a noun or a syntactic equivalent, the word which states the property in (5) *must* be an adjective.

Moreover, it should be noticed that in Koshin, unlike what is reported from other languages, the adjective in verbless clause complement function shows another important syntactic function: it fills the predicate slot left empty by the verb. In other words, verbless clauses in Koshin show a verbless predicate, but this predicate is not left empty. It is filled by the adjective which displays also the function of verbless clause complement. In fact, the occurrence in the predicate head slot is one of the most important criteria to distinguish nouns from adjectives in the language. The predicate-head function of the adjective is accounted for by the position of the negative marker. When defining the VP/predicate structure above, it has been outlined that, amongst other characteristics, the predicate domain boundary is shown by the negative marker which occurs at the right edge or both at the right and left edges of the predicate domain. When examples (5e-f) are observed, one can realize that the negative marker (NEG)

always occurs after the adjective. Undoubtedly, the adjective is head of the predicate. That is one of the reasons why, in the chapters on adjectives and verbs, it has been said that adjectives and verbs share some syntactic similarities in the Koshin language.

Comparing structures (5) with canonical intransitive clauses, on can say that the clauses in (5a-b and 5e-f) are more or less identical to any intransitive clause because of many characteristics: canonical intransitive clauses show one subject (S) like the clauses in (5a-b) and (5e-f). Besides, like canonical intransitive predicates, the clauses in (5a-b) and (5e-f) exhibit a full predicate. Furthermore, in the same way negative marker(s) occur(s) at the boundary of the intransitive predicates, the clauses in (5e-f) show a negative marker at the right edge.

However, the structures in (5a-b) and (5e-f) show some peculiarities unknown with the canonical intransitive clauses: the predicate head, which is an adjective, *must* carry a morpheme which shows that it states the property of the intransitive subject (in negative clauses, this requirement is unnecessary). This morpheme is called here the *attributive (ATTRIB)* marker. Maybe it is not the best label for this function. When this marker is not added to the adjective (5b-c), there is no clause structure any more, and the structure is interpreted as a simple NP where the former intransitive predicate head plays the role of noun modifier within the NP. Furthermore, another important difference between examples in (5) and other intransitive clauses is that while the head of canonical clauses has a *referential* (it has a meaning, a reference) value, the predicate head of the clauses in (5a-b) and (5e-f) has a *relational* meaning.

Besides the differences enumerated above, another important difference between the head predicate in (5a-b) and (5e-f), and the canonical head of an intransitive predicates is that, when the predicate head is an adjective, it may also carry a concord marker determined by the intransitive subject but the intransitive verbs do not carry any concord marker.

16.2.3 The Comparative Construction

Comparative constructions are structures where, typically, two or more items are examined in terms of the degree of some property (which relates to the examined items).Therefore, comparative constructions aim at observing similarities and differences between the compared items. In Koshin as in many other languages, comparative constructions involve *four elements*: the two participants being compared, the property or the quality in terms of which they are compared (the three basic elements), and the item that shows the level of comparison. Dixon (2010a:§3.23) uses the following labels, adopted in this work: the *comparee*

(refers to the item which is being compared), the *standard* of comparison (the item against which the comparee is being compared), the *parameter* of comparison (the property in terms of which the the comparee and the standard of comparison are compared), and the *index* of comparison (the item showing the level of comparison). These four elements are illustrated as in (7) below.

(7) **COMPAREE** **PARAMETER.INDEX** **STANDARD**

(a) [Evelyne] A [(t)sàfə́]TRAN.PRED [Mary]O
Proper name surpass/exceed proper name
"Evelyne is more than Mary (Evelyne surpasses Mary)"

(b) [bə̄-núŋ b-áŋ]A [(t)sàfə́] TRAN.PRED [m-b-y-á]O
NC-rooster CONC-1PERS.SG surpass/exceed NOM-CONC-/^{Y}/-2PERS.SG
"My roosters are more than yours (my roosters exceed yours)"

In the two preceding clauses, the comparee and the standard are clearly stated. However, the parameter and the index of comparison are expressed through one item: the verb "surpass/exceed". In other words, this verb is an *inherently comparative* item so that there is no need to add an index to the construction in order to be interpreted as comparative construction. In structures where the parameter of comparison is not the verb "surpass", the parameter and the index are clearly distinguished as in (8) below.

(8) **COMPAREE** **PARAMETER** **INDEX** **STANDARD**

(a)[gbĭyà w-əŋ]A [gɔ̀ (t)sə́fə́]TRAN.PRED [ŋ-w-á wə́]O
house CONC-1PERS.SG be.big MORE NOM-CONC-2PERS.SG DEF
"My house is bigger than yours"

COMPAREE **PARAMETER** **INDEX** **STANDARD**

(b) [kə̄-núŋ k-ɛ̃́]A [ká fwənə (t)sə́fə́ kə̄] TRAN.PRED[k-ű̃́-nə̀]O
NC-rooster CONC-DEM1 NEG be.white MORE NEG CONC-DEM2
"This rooster is not whiter than that one"

COMPAREE **PARAMETER** **INDEX** **STANDARD**

(c) [wə̀] A [jùbə̀ (t)sə́fə́]TRAN.PRED. [mə̄]O
2PERS.SG run.PRESENT MORE 1PERS.SG
"You run more than me (you run faster than me)"

COMPAREE **PARAMETER** **INDEX** **STANDARD**

(d) [wə̀] A [ká jùbə̀ (t)sə́fə́ kə̄]TRAN.PRED. mə̄
2PERS.SG NEG run.PRESENT MORE NEG 1PERS.SG
"You do not run more than me (you do not run faster than me)"

Examples (8) show all the four elements of the comparative construction. Unlike examples (7) where the parameter and the index are expressed through one item (the verb *surpass*/*exceed*), examples (8) show two distinct items for the parameter and index. Let us examine the syntactic possibilities for each of the four basic elements of the comparative construction.

Concerning the comparee, it has to be an NP whose head is –as expected- typically a noun as in (7a-b) or (8a-b), but it can also be a pronoun (8c-d). But most importantly, this NP *must* fill a transitive subject (A) slot. The A function of the comparee is straightforwardly recognizable in (7) where the transitive and inherently comparative verb -"exceed"- requires two core argument slots: the transitive argument (A) slot (filled by the comparee) and the object argument (O) slot (filled by the standard of comparison). It can be observed that the A and O functions in (7) are accordingly marked by their respective position before and after the predicate.

In examples (8) however, the structure of the clauses need to be examined with careful attention. The verb "surpass/exceed" which fills the predicate head (and which is at the same time index of comparison) in examples (7) plays a slightly different syntactic role in (8): it is index of comparison and therefore functions as a post-head modifier of the parameter. But at the same time, the verb "surpass" is part of that predicate. The parameter of comparison which is an adjective as in (8a-b) or a verb (8c-d) is modified by the index and both elements make up the predicate. It simply means that in comparative constructions like those in (8), the predicate slot is filled by a complex element made up either by an *adjective* plus *the verb "surpass"* or by any *verb* plus the *verb "surpass"*. In other words, the predicates in (8) are filled by *serial verbs* (constructions where two predicate heads can function together as a single predicate without any syntactic linkage or any overt marker of subordination or coordination). The occurrence of the negative marker externally to the *parameter-index domain* shows that the parameter and the verb "surpass" make up the predicate. The type of serial verb construction (SVC) used in (8) is called in literature "*asymmetrical*" (Cf. Dixon 2012: § 26.2.5) because the minor component of the construction ("*surpass"*) is a restricted element (it cannot be any verb but exclusively the verb "surpass/exceed"), and the major component can be any predicate head (adjective or verb).

On the other hand, the constructions in (8) show another property shared by adjectives and verbs in Koshin. As a matter of fact, as stated in the paragraph on constructions with adjectives as predicate head, adjectives can fill, like ordinary verbs, a predicate slot; and in (8a-b)

above, adjectives are the major members of the SVC, exactly as any verb can be in (8c-d). Moreover, when the comparative construction is in negative form, the serial structure (adjective + "surpass") is enclosed with a discontinuous negative marker (8b), exactly as when the serial construction consists of a verb + "surpass" (8d).

It should be said that, in the serial constructions in (8), if the index is the element which modifies the parameter, it is still the one which determines the valency of the predicate. Because of this index ("surpass") the predicates in (8) are all transitive. Therefore, whereas the comparee fills the transitive subject slot (A), the standard is object argument (O) because of the constituent order of the clause.

All the examples (8) show comparative constructions expressing the superiority of the comparee over the standard. And this superiority is coded through the index "surpass" which can correspond to the English "more". The index "less" (which expresses inferiority) is not attested in the language. However, the index "the same as", marking *equality*, is attested as in (9) below.

	COMPAREE	PARAMETER	INDEX	STANDARD
(9) (a)	gbɨ̌yà w-ə̄ŋ	[gɔ̀-lə́]PRED.	nə̀kā = gbɨ̌yà	w-ā
	house CONC-1PERS.SG	big-ATTRIB.	SAME AS=house	CONC-2PERS.SG
	"My house is as big as your house"			
	COMPAREE	**PARAMETER**	**INDEX**	**STANDARD**
(b)	wù	[zàmə̀]PRED.	nə̀kā = à-ny-ū	
	3PERS.SG	speak.PRESENT	SAME AS=?-mother-3PERS.SG	
	"He/she speaks as his/her sibling"			

The structure of the comparative constructions in (9) is different from the one of those in (8). Apart from the semantic difference, the first difference is the structure of the parameter. Whereas in examples (8) the structure of the parameter involves a serial construction (verb/adjective + "surpass"), the parameter slot of the constructions in (9) is filled only by a verb (9b) or an adjective (9a). Moreover, the nature of the index is completely different. The index "MORE" in (8) is a verb and then can function as a predicate head while the index "SAME AS" is not a verb. It is rather a grammatical item which marks the peripheral function of the standard of comparison. It is regarded as a mere clitic leaning on following NP (the host). Outside the context of comparative construction, the index in (9) functions as a conjunction marking the peripheral function as in (10).

(10) bā gɔ̄mtə̀ mə̄ bə́-byə̄ny bə̀-skūl nə̀kā = bə̀-ŋɔ̀tə̀
Father.1PERS.SG give.PRESENT 1PERS.SG NC-thing CONC-school SUCH AS=NC-books
"My father gives me school materials such as books"

The syntactic role played by the index "SAME AS" seems to be identical to the one in (10). Therefore, even in comparative constructions in (9), it can be regarded as a mere conjunction.

Before putting an end to this paragraph on comparative constructions, something has to be said about the *superlative* (the form of a word –typically an adjective or an adverb that expresses the highest degree of something) because both the comparative and the superlative are semantically underlined by the concept of degree, of index in terms of which a property attributed to a specific reality is shown. However, it is known that some properties distinguish a comparative from a superlative. In fact, whereas the comparative construction relates two (or more) participants of the more or less same status as in (7-9) (two things, persons, animals), the superlative identifies a unique item. In the superlative forms, some comparative constructions in (8) can be realized in (11) as follows.

(11)(a) [gbǐyà w-ə̄ŋ]S [gɔ̀ (t)sə́fə́]INTRAN.PRED
house CONC-1PERS.SG be.big MORE
"My house is the biggest"

(b) [kə̄-núŋ k-ɛ̃́]S [ká fwə̀nə̀ (t)sə́fə́ kə̄]INTRAN.PRED
NC-roosterCONC-DEM1 NEG be.white MORE NEG
"This rooster is not the whitest"

(c) [wə̀] S [jùbə̀ (t)sə́fə́]INTRAN.PRED.
2PERS.SG run.PRESENT MORE
"You run the most (you are the fastest)"

Through examples (11), it can be realized that the superlative exhibits the same structure as the comparative. Only the deletion of the standard of comparison –which can be understood implicitly- makes the difference between the comparative (7-9) and this type of superlative (11). The superlative in (11) is regarded as *relative*, because its highest degree takes into account other realities implicitly understood. In an *absolute* meaning, the superlative in Koshin is shown as in (12) below.

(12) (a)[gbǐyà w-ə̄ŋ]S [lānsə́ gɔ̀w-lə́]INTRAN.PRED
house CONC-1PERS.SG lastly big
"My house is very big"

(b) [kə̄-núŋ k-ɛ̃]S [lānsɔ́ fwɔ̀nɔ̀-lɔ́ kə̄]INTRAN.PRED
NC-roosterCONC-DEM1 lastly be.white MORE NEG
"This rooster is not the whitest"

It should be observed that the *absolute superlative* is constructed with an adverb which, outside the superlative construction means "lastly", "ultimately".

16.2.4 The Serial Verb Construction (SVC)

As mentioned in the preceding part and in the chapter on verbs (chapter 7), serial verbs constructions are constructions where, basically, two (or more in some languages) verbs which can make up a predicate on its own (in an ordinary clause construction) *function together as a single predicate* without any syntactic linkage or any overt marker of subordination and whose combination is conceived of as *describing a single action*. The SVCs are typically used in place of the complement clauses (which are also attested in the language but which are used with verbs from a specific semantic type), as complementation strategies (strategies used in place of the complement clauses).

In this work, to this canonical set of SVCs, the description also adds constructions involving two items which can make up each, a predicate on its own, whether these two items are all verbs or not. In other words, in this work, SVCs also include structures where an adjective plus a verb function together as one predicate, as in comparative constructions examined in the preceding part, because adjectives can also make up predicates. Therefore, the following properties can be outlined for serial verb constructions in Koshin:

(13) (i) The predicate of a SVC includes *two verbs* or *one adjective and one verb* which can function together as *predicate* head, each of which could make up a predicate on its own.

(ii) The two components of the predicate are conceived as describing a *single action.*

(iii) Because they describe a single action, the components of the SVC have a *single subject argument*.

(iv) SVCs in Koshin are *asymmetrical*: one component of the predicate can be any verb or any adjective while the other component comes from a restricted set of verbs whose aim is to provide semantic modification to the other component.

(v) In the negative polarity, the two components of the SVC in Koshin are enclosed with the discontinuous negative marker even when the predicate does not include a past tense marker.

The properties in (13) can be illustrated as in (14) below.

(14)(a) (i) [mə̄]A [[*mɔ̄mdà]* *[kə̄-zhī*]] [bə̄-nǐ]O
1SG try.PRESENT INF-eat NC-corn food
"I try to eat corn food"

(ii) mwə̀n kpǐ wə̀ [[*mùsə́-lə́]* *[kə̄-dé*]] [nyɔ̀m]O
Person female DEF think/hope.PRESENT-IMPERF INF-cook meat
"The woman hopes (that) she cooks the meat"

(iii) [wù]A [[*yátə̀]* [nsǐ ŋ-w-à]O *[kə̀-nə́m*]]
3PERS.SG leave.PRESENT friend INT-CONC-3PERS.SG INF-work
"He/she lets his/her friend work"

(iv) ty-ù [[*ká gɔ́mtə̀*] [wù]O [*kə́-nə́m*] *kə̄*]
Father-3PERS.SG NEG make.PRESENT 3 PERS.SG INF-work NEG
"His/her father does not make him/her work"

(b) (i) [wə̀] A [*ká [jùbə̀]* *[(t)sáfə́]* *kə̄*] [mə̄] O
2PERS.SG NEG run.PRESENT MORE/SURPASS NEG 1PERS.SG
"You do not run more than me (you do not run faster than me)"

(ii) [gbɨ̌yà w-ə̄ŋ]A [[*gɔ̀]* *[(t)sáfə́*]] [ŋ-w-á wə́]O
house CONC-1PERS.SG be.big MORE/SURPASS NOM-CONC-2PERS.SG DEF
"My house is bigger than yours"

The preceding examples show SVCs involving two verbs in non-comparative construction (14a) on the one hand, and on the other hand, SVCs with verb/adjective + verb structure in comparative construction (14b). They are regarded as instances of SVCs for the following reasons:

In (14a) for instance, the main communication is about the *single actions* of "eating" (14ai), "cooking" (14aii) and "working" (14aiii-iv); these single actions are made up by two components (in italics) which can *make up a predicate on their own*: the primary verbs "eat, cook, work"(or *any other verb*) and the secondary verbs "try" (14ai), "hope" (14aii), "leave/let" (14aiii), and "make" which come from a *restricted set of verbs* and which only modify the main communication meaning. Therefore, SVCs are *asymmetrical*. However, syntactically, the secondary verbs are the main verbs, and the primary verbs are regarded as subordinate to the secondary verbs. The complement verb is in full infinitive form (the verb root carries the

infinitive marker). In each example of (14), there is only *one subject argument* for the serial predicate. As shown in (14aiv), when the SVC is in negative polarity, the *negative marker occurs on both sides* of the construction.

16.2.5 The Passive Construction

In the chapter on verbs (chapter 7), it has been highlighted that (leaving aside the copula verb) Koshin verbs are divided into two main sets: they are either *transitive*, with two core arguments (in A and O functions), or *intransitive*, with one core argument (in S function). There are also *ambitransitive* verbs which may function in both transitive and intransitive clauses. However, there is a syntactic process which makes a transitive clause occur in surface structure as an intransitive clause. More concretely, there is a *detransitivizing derivation* by which a transitive clause emerges intransitive, lacking the transitive object O. One of the strategies which detransitivizes the transitivity value of the verb is usually called *passive voice* or passive construction. In Koshin, passive construction exhibits the following properties:

(15) (a) It makes an underlying transitive (with A and O arguments) clause be a derived intransitive clause (with a single S argument).

(b) Following property (a), the underlying A argument (of the transitive clause) becomes S Argument (in the derived intransitive clause), and the underlying O argument becomes a peripheral argument.

(c) Both the derived S and the derived peripheral argument are marked only by their syntactic position (the S argument precedes and the peripheral argument follows the derived intransitive verb without any other formal marking).

(c) The passive construction is explicitly marked by a passive marker which occurs at the beginning of the passive construction and which is more or less similar to the focus marker. Instead of the passive marker hypothesis, it can also be claimed hat it is the focus marker. In fact, this morpheme gives more prominence to the erstwhile O argument by putting it in front of the clause, in subject position.

The properties in (15) above account for the following examples (The focus marker (FOC) could have been replaced by the passive marker (PASSIV) without any change.

(16) (a) à bə̄-nɨ̂ b-ɛ̃́ yɔ́ zhɨ̀ mə̄
PASSIV. NC-corn food CONC-DEM1 P1 eat 1PERS.SG
"The corn food has been eaten by me"

(a') mə̄ zhǐ bə̄-nǐ̄ b-ɛ̃́
1PERS.SG eat NC-corn food CONC-DEM1
"I eat this corn food"

(b) à nyɔ̀m nə́ bùm Pius
FOC animal P2 hunt.PAST proper name
"An animal was hunted by Pius"

(b') Pius nə́ bùm nyɔ̀m
proper name P2 hunt animal
"Pius hunted an animal"

(c) à shɔ̄m bə́ kə̄ gbá zhyā
FOC palm tree F2 F1 cut sibling.1PERS.SG
"A palm tree will be cut by my sibling"

(c') zhyā bə́ kə̄ gbá shɔ̄m
sibling.1PERS.SG F2 F1 cut palm tree
"My sibling will cut a palm tree"

In the passive constructions illustrated in (16a, b, c), the predicate heads are syntactically transitive, at least, as far as underlying structure is concerned, because two core arguments can be understood and reconstructed: a transitive subject (A) and an object (O). The two core arguments can be reconstructed as in the respective corresponding *active* clauses (16a', b', c').

As assumed in (15), in passive constructions, the underlying transitive clauses are derived into intransitive ones. The derived peripheral argument in the passive clauses may be confused with the O argument in the transitive clauses, because they are marked in the same way: only by their post-predicate position. However, this is not that exceptional for the passive peripheral argument to be marked only by its position within the clause (like core arguments). In fact, although the peripheral arguments are mostly marked by adpositions (Cf chapter 13), it has been also noticed an instance of peripheral argument marking without adposition: when the location argument follows a verb of movement and refers to a place to/from which the movement is oriented. Therefore the peripheral argument of *agent* can be classified in the same set. It should also be noticed that, except when the active verb is in the present tense (16a') –and the passive verb form carries the P1 marker as in (16a)- the passive verb and its active corresponding carry the same tense marker.

16.3.3 Focus Construction

In the chapter on interrogatives (chapter 12), it has been mentioned the confusion between the items "focus" and "topic" observed in literature. In fact, the two labels are sometimes used to refer to the same thing. It should be recalled that in this work, unlike the label "topic" which is a *discourse strategy* and which serves to *link together successive clauses*, the label *focus* refers to *"an argument (or the predicate) being accorded prominence within a single clause"* (Cf Dixon 2010a:§3.21). Hence, a focus construction in this work operates strictly in a clausal domain, as in the structures 17 below.

(17) (a) ā ndi mə̄ mw-ə̄-lə́
FOC water 1PERS.SG drink-DURATIVE-IMPERF
"It is water that I am drinking?"

(a') mə̄ mw-ə̄-lə́ ndi
1PERS.SG drink-DURATIVE-IMPERF water
"I am drinking water"

(b) ā (bə)né wə dé-lə ?
FOC WHAT 2PERS.SG cook-IMPERF
"What is the thing you are cooking?"

(b') wə dé-lə (bə)né ?
2PERS.SG cook-IMPERF WHAT
"What are you cooking?"

(c) ā [y-ēny tsĭn] sə nə́ kpà ?
FOC CONC-WHAT trees 1PERS.PL P2 burn
"It was what trees that we burn?"

(c') sə nə́ kpà y-ẽ̃ tsĭn?
1PERS.PL P1 burn CONC-DEM1 NC.tree
"What trees did you burn?"

(d) ā bə̄-zhĩ̃ m-b-ə́ŋ ā zhĭ ndé ?
FOC. NC-food /^{N}/-CONC-1PERS.SG FOC. eat WHO
"Who is it, the man who has eaten my food?"

(e) ā wə ā nə̄ŋə́ ndé ?
FOC 2PERS.SG FOC look for.PRESENT WHO
"Who looks for you?"

It is not difficult to observe that most (but not all the) examples in the preceding clauses are in interrogative mood. The reason is that, as mentioned in the chapter on interrogatives, the interrogative construction is one of the favorite contexts to express focus marking, because

questioning an item essentially refers to *giving prominence* to that item. However, as shown in (17a), focus marking can be expressed as well in a non-interrogative context. In the same vein, it has been noticed that the passive construction also unveils a focus strategy by giving prominence to the passive subject (the erstwhile O argument). What is important to notice is that, whether in interrogative contexts or not, focus construction exhibits three syntactic strategies as highlighted in (18) below:

(18) Focus marking strategies

(a)The focused item typically *moves in front of the clause.*

(b) And the *focus marker* occurs before the focused element.

(c) When the focused item is the interrogative "who" filling the subject argument slot, the predicate of the clause (and possibly the O argument) occur before "who" preceded by the focus marker.

The first two strategies in (18) can be observed by comparing the focus constructions (17a, b, c) with their respective non-focused counterparts in (17a', b', c'). As (18c) outlines, when the focused argument is the interrogative "who" (17d-e), this argument occurs unexpectedly at the clause final position. Still more striking, in this final position, the focus marker does not precede the focused argument "who" but occurs before the clause predicate and, possibly, before the object argument. In other words, whereas the other constituents of the clause carry the focus marker and occur at the clause initial position, the interrogative "who" remains in situ when it is the focused item. Formalist theories interested in accounting for the surface ordering of the clause constituents *may* find interesting material in the difference between the syntactic behavior of the interrogative "who" and the other interrogatives and, by extension, the other focused items in the system.

All the grammatical constructions examined since the beginning of this chapter target exclusively the structures involving a single clause. Let us now discuss constructions based on combined clause structures.

16.3 Constructions Involving Combined Clauses

The syntactic domain of the grammatical constructions discussed thus far is the clause which typically consists of a predicate and appropriate arguments conditioned by the predicate valency. In this context, it is usually said that the structure involves a single clause or a simple

sentence. However, there are constructions which involve complex structures where clauses are *embedded* in one another or *linked* together without an embedding strategy. Embedded constructions are discussed first and then the (non-embedded) linked constructions are examined.

16.3.1 Embedded Constructions

Within the embedded constructions, two main sets of structures are dealt with: the relative clause constructions and the complement clause constructions.

16.3.1.1Relative Clause Constructions

In the chapter on pronouns (chapter 9), it has been mentioned that there is an unavoidable connection between the relative pronouns and the clausal sequence this pronoun introduces, that is, the relative clause, within the relative clause construction. This is a type of *subordinate structure* where a clause, subordinated by a grammatical item called *relative pronoun*, *modifies an NP located within another clause.* This description corresponds to any *canonical* relative clause. There is also another type of relative clauses which exhibit a different construction. They are regarded as non-canonical relative clauses. Let us first outline the most relevant syntactic properties of the canonical relative clause constructions in Koshin as follows in (19) below.

(19)Canonical relative clause construction properties

(a) Relative clause constructions are attested in *subordinated structures* involving two clauses: the main clause (MC) and the relative clause (RC), the whole making up a single sentence.

(b) The subordinate RC which shows the *basic structure of a clause* (involving a predicate with modifiers such as tense markers, and core arguments) *must syntactically follow and modify an NP* (the common argument (CA)) located within the MC, and can be *substituted by a mere adjective*.

(c) The RC is *subordinated by a relative pronoun* (REL.PRON) which must be stated and its morphology and meaning are determined by the NP head (CA) modified by the RC. In other words, the REL.PRON. and the CA *must share morphological and semantic properties*. The relative pronoun fills an argument slot within the RC.

(d) A *relative marker* (not the relative pronoun, as discussed in chapter 9) is morphologically quite similar to the relative pronoun, and is added *at the end of the predicate* and does not fill any argument slot.

The properties highlighted in (19) above are the most relevant and they can be illustrated through the following examples.

(20)(a) [ndì CA [***mə̄*** (O) *wə̀* *mù-**mə́***]RC] NP:S jēnə́-lɛ̄
water **REL.PRON**. 2 PERS.SG drink.PRESENT-REL.MARK. be.dirty-ATTRIB
"The water you drink is dirty"

(b) [mwə̀n CA [***wù***(O)*wù* *tsǐlə́-**wə̀***]RC]NP:S nə̀m fwɔ̄ŋ
person **REL.PRON**.3PERS.SG know.PRESENT-REL.MARK. work.PRESENT HERE
"The person whom he/she knows works here"

(c) [sə̀ CA [***bə́***(S) *lyà:-sə́-**bə́*** *mū*]RC]NP:CS mɔ̄ kɔ̄
1PERS.P L REL.PRON.PROG go.far-ACT-REL.MARK farm be.PRES. Koshin people
"We who are going far to farm are Koshin people"

(d) [kə̀-núŋCA [***kə́***(O) *mə̄* *kɔ̀ŋtə́-**kə́***]RC]NP:A wú j-ə̄ gɛ̃̀ yə̄
NC-rooster REL.PRON. I like.PRESENT-REL.MARK. PROG eat-DUR corn DEF
"The rooster that I like is eating the corn"

The syntactic properties of the relative constructions in (19) adequately account for examples (20). As a matter of fact, the subordinate structures in (20) consist of a relative clause (RC) –in italics- and a main clause (MC) – in non-italic form- and they perfectly meet the property (19a). As assumed in (19b), the RC always occurs after the CA located in the MC where it fills an argument slot. This CA is typically a noun as in (20a-b and 20d), but it can also be a pronoun as in (20c). The CA (plus the following RC) fills an argument slot within the MC (for instance, VCS, S, CS, and A as in (20a, 20b, 20c, and 20d respectively). Moreover, the relative clauses can be substituted by lexical adjectives (as suggested in 19b) as follows (only the first two RC are substituted by adjectives).

(21)(a) [ndì [***ǹ-jĩtə̄***]] NP:S jēnə́-lɛ̄
water CONC-black be.dirty-ATTRIB
"Black water is dirty"

(b) [mwə̀n [***wù-tɔ̄bə̄***]]NP:S nə̀m fwɔ̄ŋ
person CONC-intelligent work.PRESENT HERE
"An intelligent person works here"

Besides, it should be noticed that the internal structure of RC can be similar to the structure of an MC. However, quite often, unlike the structure of an MC where the constituent order is strongly S-V-O (except in case of focus marking where this order can be disturbed), the internal structure of the RC can be O(object)-V(verb)-S(subject) when the relative pronoun fills

the O argument as in (20a-b) and (20d). Besides the O argument, the relative pronoun is attested in other syntactic functions (within the RC) such as the S function as in (19c).

The morphological connection between the CA and the relative pronoun (in bold and italics, at the beginning of the RC), as suggested in (19c), is straightforwardly shown when the CA triggers a noun class prefix as in (20d). When the noun class prefix is a null morpheme, the concord marker shows the similarity with the relative pronoun. Besides, the semantic value of the predicate head of the RC and the syntactic function of the relative pronoun unveil the semantic relationship between the CA and the relative pronoun. In fact, in (20a) for instance, the head of the predicate of the RC is "drink", and the O argument of this verb is the relative pronoun. It means that the relative pronoun refers semantically to something which can be drunk, like "water" (which is the CA).

Finally, the relative marker occurs at the right edge of the *RC predicate* (in bold and in italics). Unlike the relative pronoun which fills an argument slot within the RC, the relative marker fills no argument slot. However, it is, like the relative pronoun, a relative clause marker. It is quite similar to the relative pronoun, to the non-human personal pronoun, and it also shares morphological similarities with the noun class markers. In the preceding examples, it is represented as a suffix, but there is no obvious reason not to consider it a clitic which leans on the RC predicate.

Let us notice that, instead of assuming a relative pronoun at the beginning of the RC and a relative marker at the end of the RC predicate, someone could argue for the occurrence of a discontinuous *relative marker enclosing the RC*, as attested in other languages in literature. However, the main weakness of such an assumption is that the assumed relative marker does not occur at the end of the RC but rather, occurs at the end of the RC predicate as in (20c) where the O argument of the RC is located after the RC marker.

In literature, relative clauses are usually (but not always) divided into two typological sets: *restrictive RCs* (which give semantic limit to the reference of the CA) and *non-restrictive RCs* (which apply to a CA already fully specified). In Koshin, there is not such a distinction. Restrictive RCs as in (20a, b, and d) or non-restrictive RCs as in (20c) exhibit exactly the same phonological and syntactic characteristics. Indeed, they show the same prosodic features, the same syntactic constructions. However, there is a clear distinction amongst two main RCs within the system. On the one hand, there is the set of the relative clauses (discussed thus far) which are

canonical relative clauses and which obey all the syntactic properties found in the relative clause constructions. On the other hand, there are constructions which lack some of the properties enumerated in (19) but which can still be considered relative clause constructions. Let us talk about their properties in (22) below.

(22) Non-canonical relative clause construction properties

(a) Like canonical relative clauses, they are attested *in subordinated structures* involving two clauses: the main clause (MC) and the embedded non-canonical relative clause (RC), the whole making up a single sentence.

(b) As in canonical RC, they *must syntactically follow and modify an NP* (the common argument (CA)) located within the MC, and *can be substituted by a lexical adjective.*

Beyond these similarities with canonical RCs which allow us to consider them a type of relative clauses, non-canonical RCs exhibit important peculiarities:

(c) Unlike the canonical RC, they have *no obligatory subordinating relative pronoun.* The relative pronoun may not occur, but the relative marker must occur. However, *this relative marker is, morphologically, completely different* from the relative pronoun and the relative marker attested in canonical RCs.

(d) Unlike what is observed in canonical structures, the verb of the non-canonical RC exhibits *no tense marking*.

(d) And more importantly, the non-canonical RCs typically denote *the function or role of the referent of the CAs.* Therefore, these RCs can be dubbed *functional Relative clauses.*

Now, let us see how the examples of non-canonical RCs in (23) below can be accounted by the properties (22).

(23) (a) bə̄ tə̄n [bə̄-nɨ̂] CA [ø zhɨ̂-nə̄ RC]
3PERS.SG.IND look for.PRESENT NC-corn food REL.PRON eat-REL.MARK
"They look for something to eat"

(b) dí bə́ =ndì CA [ø *mū-nə̄*RC]
Come.IMPER.2PERS.SG ADPOS=water REL.MARK drink-REL.MARK
"Come with drinking water"

(c) bə́ = shɔ̄m, sə̀ kānə́ kpɨ̂nCA [*wū wū-nə̄ gbīyà* RC]
ADPOS=palm tree 1PERS.PL have.PRES. NC.wood REL.MARK build-REL.MARK NC.house
"From a palm tree, we get wood for building house"

(d) mə̄ tāŋə́ bə̀-ŋɔ̀tə̀ [*bə̄* *bɔ̄`-nə̄* RC]
1PERS.SG buy.PRESENT NC-book REL.PRON read-REL.MARK
"I buy books for reading"

(e) bə̄-gə́ŋə̄ CA [*bə̄* *jūw-nə̄* *fə́jɔ́* RC] dùw-lɛ́
NC-chair REL.PRON sit-REL.MARK down be.MANY-ATTRIB
"Chairs for sitting are many (there are many chairs)"

(f) góvmèn fà sə̀ bə́ = bə̀-tícā CA [*bə̄* *lā-nə̄* RC]
government give.PRESENT 1PERS.PL ADPOS=NC-teacher REL.PRON teach-REL.MARK
"Government gives us teachers (teachers for teaching)"

If the relative clauses in (23) (in italics) are observed, one can easily realize that some of them do not show a relative pronoun (23a-b), but instead, they are all marked by an *uncommon relative marker* located at the end of the predicate domain, exactly as the relative marker discussed above for canonical relative clauses. Besides, whether introduced by a relative pronoun or not, these relative clauses immediately follow the CA they modify, exactly as the canonical ones in (20a-d). Moreover, although the structure of the relatives in (23) seems to exhibit the basic structure of the clause, the verb of their predicates shows a form which is almost identical to the infinitive form (only the infinitive marker is missing). No instance of tense variation is noticed.

Besides all these properties, the last but not the least criterion which distinguishes the relative clauses in (23) is the obvious semantic interconnection between the CA and the RC (the RC likely gives the *function*, the *role of the CA* in the context of the clause). For instance, the function of "water" in (23b) is to be used "for drinking", "wood" is used "for building a house" in (23c), whereas the "teachers" in (23f) are, as expected, regarded as those who "teach". Taking into account what precedes, one would like to assume that the relative clauses in Koshin can be more appropriately divided into *functional* and *non-functional* (instead of the widespread division between *restrictive* versus *non-restrictive* relative clauses).

After the analysis of the relative clauses, let us discuss another type of embedded structures which show different constructions. They are called in this work complement clauses.

16.3.1.2 Complement Clause Construction

In the preceding discussion, it has been highlighted that one of the main defining criteria of a relative clause is that it *must modify an NP* (the CA) located within the main clause where it fills an argument slot. And we also notice that both the main clause and the relative clause function as a unique structure (a sentence).Therefore, it is an instance of embedded structure.

Another type of clauses that occurs in an embedded structure is the complement clause. As expected, it shows properties that are completely different from those identified in the relative clause. Let us give more details about how complement clauses behave in Koshin.

(25)Defining properties of the complement clause (CoCl)

(a) The CoCl is marked by an *explicit or null* preceding *complementizer* item.

(b) It shows the structure of a canonical clause but *fills an argument slot within the main clause (MC)*.

(c) The syntactic slot filled by a CoCl must be a *core argument slot*.

(d) Unlike the RC which can occur in the middle or at the end (never at the beginning) of the MC (according to the position of the common argument), the CoCl can occur *before* or *after the MC*.

(e) The CoCl attested in the language refers mainly to three main semantic concepts typically related cross-linguistically to complement clauses or complementation strategies (Cf Dixon 2010b:§ 18.4)

- *Fact*: the perception that something took place (is completed), or the perception of some state.
- *Activity*: the perception of a continuous activity relating to its extension in time.
- *Potentiality*: the perception of the potentiality of the subject of the CoCl becoming involved in the activity.

Let us see how the preceding properties can account for the nature and the structure of the complement clauses.

(26)(a) wù zàmə [*yə̄ wə̀ mw-ə̄ ndì*CoCl]O
3PERS.SG say.PRESENT COMPL. 2PERS.SG drink-DURATIVE water
"He says that you are drinking water" *(Activity)*

(b) [wù´]A fə̀-lə̀ mə̄ [ø *mə̄ sìsə̀* CoCl]E
3SG.PROG. do/make-IMPERF 1PERS.SG COMPL 1PERS.SG laugh.PRESENT
"He/she is making me laugh" *(activity)*

(c) [ø *kə̄-dɔ̂ m sɨ̄-ŋ w-à* CoCl] S nzɔ̄ŋə́-lɛ̄
COMPL NC-be friend CONC-2PERS.SG be.good-ATTRIB
"To be your friend is nice" *(fact)*

Examples (26) involve complement clauses (in italics). As stated in (25a), these clauses can be marked by an explicit complementizer (26a) (which is, morphologically, reminiscent of the past tense 1 marker or the concord class marker 10) or a null one (26b-c). Whereas the predicate of the complement clauses in (26b) is filled by a finite verb, in (26c) the complement clause

includes a verb in infinitive form. In spite of these differences, all the subordinate clauses in (26) are considered complement clauses because they all function as core arguments of the verb of the main clause, consistently with the predictions (25b-c). Henceforth, such a verb can be called a complement taking verb (CTV in short). Different core arguments are attested with the preceding CoCls: object argument (O) as in (26a), extended transitive argument (E) in (26b), and copula subject argument (CS) in (26c). Besides, as assumed in (25d), the CoCl can occur after (26a-b) and before (25c) the MC. Concerning the meaning of the CoCls in (26), it refers to activity (26a-b) and to fact (26c).

It should be noticed that, the full versus null occurrence of the complementizer and the position before versus after the MC of the CoCl depend on the interconnection of two main factors: the *function of the CoCl*, and the *nature of the complement taking verb* (CTV). Concerning the first factor for instance (function of the CoCl), it is consistent with the general constituent order constraint observed throughout the language: the subject comes before the predicate which is then followed by the object. Therefore, irrespective of the other factors, the CoCls in subject function tend to come before the verb and those in non-subject function usually come after the verb.

(27) (a) (i) ə́ = sə-lə́ [ø *kə̄-káŋsə̀ bə̀-lùŋ bə́*CoCl]VCS
ADPOS=1P.PL-ADPOS. COMPL INF-arrange NC-problem DEF
"(It is) to us to arrange the problems" *(potential)*

(ii) [ø *kə̄-dɔ̂ m sɨ̄-ŋ w-à*CoCl] VCS nzɔ̄ŋə́-lɛ̄
COMPL INF-be friend CONC-2PERS.SG be.good-ATTRIB
"To be your friend is nice" *(fact)*

(b) (i) [mə̄]A fɨ̃yà [ø *mə̄ zhɨ̀ bə̄-nɨ̄* CoCl]O
1PERS.SG want.PRESENT COMPL 1PERS.SG eat.PRESENT NC-corn food
"I want to eat corn food" *(potential)*

(ii) wù zàmə̀ [*yə̄ wə̀ mw-ə̄ ndì*CoCl]O
3PERS.SG say.PRESENT COMPL. 2PERS.SG drink-DURATIVE water
"He says that you are drinking water" *(Activity)*

(c) (i) sə kānə́ kə̄ kə̄-tɨ̃kā ká skūl [*yə̄ wù gbɔ̀́-sə́ shî fə́jɔ́*CoCl]E
1P.PL have NEG INF-allow NEG school COMPL IT collopase.IMP-ACT DOWN down
"We do not have to allow the school to collapse". *(fact)*

(ii) mə̄ nywā-lə́ wə̀ [*yə̄ wə̀ tɨ̄ jùŋ y-ā̄ bə̄-zhɨ̃ bə́ = wə̄*CoCl]E
1P.SG beg-IMPERF 2P.SG COMPL 2P.SG put blessing CONC-2P.SG NC-food DEF=ADPOS.
"I beg you to put your blessing on that food" *(potential)*.

(d) bə̀-lùŋ bə̀ à́ mɔ̄ [*yə̄ sə̀ kānə́ kə̄ kpɔ̄*CoCl]CC
NC-problem DEF FOC be.PRESENT COMPL 1PERS.PL have NEG money
"The problems are that we have no money" *(fact)*

As shown in (27aii) above, the CoCl in subject function occurs before the predicate, as a simple NP in the same function. Nevertheless, in (27ai), the structure is different. In this example, the CoCl occurs after an empty predicate slot. In fact, the predicate slot is empty but it can be filled by the copula verb which is understood. If this copula verb is reconstructed, the structure (27ai) becomes a canonical one, with the following structure: [*ø kə̄-káŋsə̀ bə̀-lùŋ bə́* CoCl]CS [mɔ̄ PREDICATE] [ə́=sə̀-lə́ CC] (literally, to arrange the problems is to us). In (27b-d) however, the CoCls are not in subject function. Therefore, they occur after the predicate.

Now, let us see how the nature of the CTV can influence the structure of the CoCl. If examples (27b) are considered, one will realize that the main clause (MC) predicates are filled by two verbs with different nature: in (27bi), the verb "want" is regarded as a secondary verb because the action in this example is about "eating" and this action is expressed by the verb of the CoCl. The verb "want" of the MC semantically modifies the meaning of the verb "eat" (then the primary verb). In (27bii) however, the CTV "say" is a primary verb which conveys itself the action of "saying". This difference between the primary verb (27bi) and the secondary verb (27bi) triggers a consequence on the structure of the respective following CoCl: whereas the CoCl shows an explicit complementizer in (27bii), it shows a null complementizer in (27bi).The same interpretation accounts for the difference between the full versus null complementizer in the CoCls in (26a) and (26b).

It should also be observed that, in Koshin, it is not uncommon that an NP can simultaneously function in the MC and in the CoCl, showing the same syntactic function or not. In (27bi) for example, the 1PERS.SG pronoun shows the same function (A) both in the MC (with the verb "want") and in the CoCl (with the verb "eat"). In (27cii) on the other hand, the 2PERS.SG fills two different syntactic slots: it is O argument in the MC (with the verb "beg") and A argument in the CoCl (with "put").

Moreover, the preceding examples show that the language establishes some specific links between CTVs on the one hand and CoCls on the other. More concretely, some of the attested links between complement taking verbs (CTVs) and Complement clauses can be shown schematically as follows:

Complement taking verbs (CTVs)		Meaning of Complement Clause
(28) (a)-adjective, "be", "allow"	----------	Fact (27aii, 26c, 27ci)
(b)- "do", "make"	----------	Activity (26b, 27bii)
(c)- "be", "beg", "want"	----------	Potential (27ai, 27bi, 27cii)

It should be recalled that, as said in the chapter on verbs and in other parts of this work, besides the complement clauses, the language also uses supplementary strategies in order to fill an argument slot in a higher clause, the so called complementation strategies. These two complementation strategies (which have been already dealt with in previous parts) are serial verb constructions (SVC) and nominalization strategies.

One of the common points between relative clauses and complement clauses is that, as said earlier in this chapter, they occur in an embedded structure where the subordinate (relative or complement) clause modifies an argument or fills an argument slot within the main clause. There is another way of combining clauses together, in a non-embedded style. Let us discuss this type of construction.

16.3.2 Complex Sentence Construction

Some different meanings are given in literature about the label "sentence" and then the label "complex sentence". Hence, a clarification should be given in order to say what these labels refer to in this work. In the preceding paragraphs, the sentence has been regarded as a structure superior to the clause. A *simple sentence* has the same structure as a clause but there are also *embedded sentences* which include a main and subordinate clauses, and which are then more complex than a clause. Concerning the *complex sentence,* it is viewed in this work as a *non-embedded* structure where two clauses are *linked* together according to the following characteristics stated with some words borrowed from Dixon 2010a: §3.11)

(29) Complex sentence properties

(a) *No clause* in a complex sentence can be *modifier* of an NP or can fill an *argument* slot within another clause.

(b) There is *a clause which determines the mood* of the whole complex sentence (called "*the Focal clause*") to which at least one other clause ("*the supporting clause*") is *linked*.

(c) The type of linkage involves *addition*, *cause*/*reason*, and *temporal*/*condition*.

(d) One grammatical marker is usually attached to the supporting clause in order to show the type of linkage.

The properties identified above account for the following sentences:

(30) (a) sə̀ kə̄ lɨ̄yá mū sə̀ kə̄ nə́m nə̀m y-í
1PERS.PL FUT.1 go.far farm 1PERS.PL FUT.1 work work CONC-1PERS.PL
"We will go to farm and we will work (our works)"

(b) kɔ̄ kā nēkā Oku kā díy-sə̀ nə̀mfùŋ
Koshin people CONSEC leave.PAST Oku CONSEC come.PAST-ACT ahead
"Koshin people then left Oku and then came ahead"

(c) mə̄ sɨ̀sə́ *jūkānə́=mə̄* *njēŋfə́-lə́*
1PERS.SG laugh.PRESENT BECAUSE=1PERS.SG happy-ATTRIB.
"I laugh because I am happy"

(d) Ju nə̀m kə̄ *jūkānə́=bù´* *wə̄* *wù*
Ju work.PRESENT NEG BECAUSE=hunger ache.PRESENT 3PERS.SG
"Ju does not work because he is hungry"

(e) *ā=wə̀* *bāŋə̀* *bə́=mwə̀n*, wə̀ bɔ̄nə̀ wù
WHEN/IF 2PERS.SG meet.PRESENT ADPOS=person 2PERS.SG greet.PRESENT 3PERS.SG
"When/if you meet a person, you greet him"

(f) *ā=mə̄* *līyā* *kə̄-twā-lə́* *s-áŋ*, mə̄ kwē gbɨ̄yà
WHEN/IF=1PERS.SG go.far NC-bush-NC CONC-1PERS.SG 1PERS.SG back house
"When/if I go to my bush, I come back home"

Different complex sentences are illustrated by the examples above. In the first two sentences, the two clauses are coordinated by juxtaposition. No other formal marker is used to mark this linkage, but the meaning undoubtedly shows that it is an instance of coordination (addition). Any of the two clauses in (30a-b) could have been considered *focal* or *supporting* clause, syntactically speaking. However, on a semantic basis, each first clause in (30a-b) presents more advantages to be the focal clause.

In the other examples, things are different. A clear grammatical item marking the type of linkage is attached to the supporting clause (in italics): "because" for the reason marking (30c-d), and "when/if" for the temporal marking. It should be noticed that, outside the complex sentence construction, the item "when/if" in (30c-d) is also used as focus marker as stated earlier in this chapter.

To put it in a nutshell, in this chapter, the main grammatical constructions (whose domain is the clause) have been discussed. After the clarification about the labels "verb phrase", "predicate", "clause" and "sentence", the following constructions have been discussed: copula construction, comparative construction, serial verbs and passive constructions, amongst others.

The common point between all these constructions is that they all share as domain the simple clause. Furthermore, constructions involving combined clauses have been analyzed. These can be divided into embedded and non-embedded structures, with a specific focus on relative clauses and complement clauses on the one hand, and complex sentences on the other hand. The analysis of the clause and sentence constructions puts an end to the discussion on grammatical constructions.

CHAPTER 17
GENERAL CONCLUSION

In this final chapter, the whole work is synthesized by outlining its most important points and findings. Some recommendations are also given for further study related to the language or to the main theoretical framework adopted in this work, namely the Basic Linguistic theory.

Therefore, the overall organization of this chapter is mapped out as follows: after the summary of the introductory chapter, *the most important points* of the four main sections of the work are summed up. Then, *the research questions* asked in the introduction and which support the research problem are answered. By answering these questions, the chapter evaluates at the same time whether the initial objectives have been met or not. And finally, *some recommendations for further studies* related to the topic are suggested.

The introductory chapter of this work entitled "*How to disclose the environment through basic linguistic description: A basic linguistic analysis of Koshin ["Beboid" Bantu]*" sets the scene: it provides background information for a better understanding of the rest of the work. This task is realized through four points: the first point presents the topic (with special interest in the literature review on the one hand and the geographical, historical, political, economic, and socio-cultural characteristics of the Koshin community (Koshin environment), on the other hand). The second point deals with the topic interest (where the research problem and research questions, the hypotheses based on these research questions, and the objectives and aim of the work are discussed). The theoretical and methodological assumptions of the work (consisting of one *basic* theory and a series of seven *formal* theories associated to a specific procedure for collecting, analyzing and writing the data or the results of the analysis) are examined in the third point. And finally, the scope and organization of the work is presented as the last point of the introduction.

After the introduction, the first section of the work deals with the language phonology. Four chapters make up this part.

The first chapter handles the *phonology of vowels and prosodic units*. Relying mostly on the Structuralist approach but also on the Generative and Autosegmental models, the phonetic inventories of the attested segments have been made, the suspicious pairs of sounds established, the minimal pairs identified and the phonological status of the segments that cannot make up a minimal pair has been discussed. Finally, a vocalic system of eight (8) phonemic units has been identified. Three (3) underlying level tones (with both lexical and grammatical value and which

can be borne by vowels or nasal consonants) have been attested, and also three (3) underlying grammatical prosodic features -coronalization (palatalization), labio-dorsalization (labialization), and nasalization carried by word initial consonants.

Amongst other important findings, it has been discovered that, unlike proposals made by previous researchers on the language, nasalized vowels do not show a phonemic status but are rather phonetic realizations of underlying oral vowels followed by the coronal nasal consonant /ny/ in word final position. Besides, leaning on the feature geometry of tone assumed by Bao (1999), it has been demonstrated that, in common pairs of nouns making (singular versus plural) number distinction through low versus non-low tones, there is one underlying lexical tone (melody) for both the singular and plural items, but the number distinction is triggered by a specific grammatical *tone feature* (the register [-stiff] for the singular on the one hand, and another one, the register [+stiff], for the plural on the other hand). Concerning the prosodic grammatical features, it has been emphasized that, whereas the grammatical feature of labialization conveys the place feature [labial] to consonants, the coronalization feature both coronalizes and spirantizes the targeted segments, disclosing in Koshin a special instance of the well-known process of"palatalization". Concerning nasalization feature, it transforms oral consonants into mi-nasals.

The second chapter of the phonology section, which is concerned with the *phonology of consonants*, follows the same steps and theoretical orientations adopted for the phonology of vowels and prosodic units. At the end of the discussion thirty seven (37) consonants have been attested as phonemes. They have been defined by the same features which characterize the vowels, consistently with the Feature Geometry theory assumed by Clements and Hume (1995). Resulting from the influence of the two prosodic features depicted in the first chapter, labio-dorsal consonants (attested in singular nouns) and coronal consonants (attested in plural nouns) have been identified as allophones (more precisely, combinatory variants) derived from underlying dorsal (velar) and coronal consonants. Parallel to this combinatory variation, another noticeable characteristic of the consonant system is the phonemicity of pre-nasal consonants. Their phonemic status has been attested on the basis of various arguments taken from different parts of the language (phonology, morphology, and syntax). This view of pre-nasals as phonemes departs from the analysis of previous reflections undertaken on the language.

The functional possibilities of the phonemic units within the syllable and the phonological word (*phonotactics*), and the *prosodic morphology and phonology* of the language are the two central articulations of the third chapter of the first section. After the analysis of the reasons supporting Koshin syllable as a prosodic constituent, the different sub-systems of consonants in relation to the syllable structure -*O*(nset) and *R*(hyme) [*N*(ucleus) and *C*(oda)]- and the word structure (*initial*, *middle*, and *final position*) have been analyzed. No restriction to the phonotactic distribution of vowels and tones within the word structure has been attested (except the case of two neighboring high tones: one on the prefix vowel and another on the first vowel of the root). For consonants, it has then come up that in general, any of them can occur at word initial position (or at syllable onset position) and at word middle position. However, in word final position, only vowels or nasal consonants occur (although the underlyingly attested coronal nasal /ny/ is "prosodized" in word final position and linked onto the immediate preceding vowel). This restriction of the word final position to vowels and nasal consonants is fully observed in native lexicon. However, in the phonotactic structure of loan words, any consonant can occur at word final position. Consequently, it has been postulated that this lack of general synchronic constraint against non-nasal consonants *may* be the consequence of a diachronic process which ended with the deletion of non-nasal consonants at word final position. With regard to the prosodic morphology and phonology analysis, it has been shown that, because of some morpho-phonological processes commonly attested in the language such as reduplication, internal change, tone change, subtraction, coronalization and labialization, Koshin has been considered a basically "nonconcatenative" language, in accordance with McCarthy's (1981) model.

The fourth and last chapter on phonology section has been focused on two important points: the processes resulting from the organization of morphemes within agglutinative structures attested in the language (these processes are accounted for by the *Lexical Phonology*), and the processes related to the syntax-phonology interface (which are analyzed by *sentence phonology*). In the Lexical Phonology model, three layers/levels have been identified within the word structure: the root level (most processes of which have been analyzed in the chapter on Prosodic Phonology), the stem level, and the word level. In each of these levels, it has been shown that morphological and phonological processes apply in tandem (not that phonology applies after all morphological processes have taken place). One particular process commonly

known in the languages of the area and also attested in Koshin is the association of the floating lexical tone at the stem and word levels. This process is not very widespread in other tone languages where floating tones usually exhibit a grammatical value. Another common process identified at word level is the blockage of the leftward spreading of the high tone which prevents the spreading of the high (not low or mid) tone of the root to the prefix vowel. Consequently, there is no attested prefix with high tone preceding immediately a high tone on the root. And it has been interpreted as an instance of the well-known tendency termed Obligatory Contour Principle (OCP). Besides, after giving some motivations for sentence phonology, the processes occurring at the phrase level have been dealt with and the analysis has ended with the rules taking place at the intonational phrase.

The second section of the work has discussed the lexical categories attested in the language: the nouns and their lexical modifiers (adjectives and numerals) in the fifth chapter and verbs and lexical adverbs in the sixth chapter. Each lexical category has been defined in terms of morpho-syntactic criteria. For instance, it has been demonstrated that, although adjectives share some characteristics with nouns (they can both carry a concord marker), they remain a different lexical category because they cannot fill the copula complement slot like nouns do. Afterwards, the morphology of the attested lexical classes, their internal structure and the morphological processes applying to them have been scrutinized one after the other. Many relevant findings can be mentioned in lexical items. For instance, whereas subtraction process applying to nouns conveys the plural meaning to small things, unveiling a requirement of solidarity amongst the smallest entities, in verbs it is worth outlining the diversity of lexemes referring to the verb "go": to go "near", "far", "up", "down" or simply to "go" are interestingly coded through different lexemes, disclosing the geographical environment of the Koshin speakers. The semantic distinction between referential verbs and the single relational verb, and the verb transitivity are also important issues discussed in this section which precedes the analysis of grammatical systems.

The chapter opening the section on grammatical systems deals with noun classes (it is the seventh chapter of the thesis), a closed system from which many other grammatical categories derive, *morphologically* but not functionally. Twelve noun classes have been identified. Some are *null* (but can be identified through their concord marker(s)) but others are *overt*. Both the null and overt noun classes somewhat mirror the reconstructed Proto-Bantu noun classes, but not too

much as in Narrow Bantu languages. Some divergences have been noticed between previous studies on the language and the hypotheses assumed in the thesis. Amongst others, the analysis can mention the noun class 6(a). It refers to “liquids” and for Hombert (1980) and Good et al (2011), this class morpheme is postulated to be the homorganic nasal /N-/. However, on the basis of arguments internal to the language, it has been claimed that this homorganic nasal can no longer show a phonemic value and consequently, on a purely synchronic view, the noun class 6(a) is a null morpheme instead of the alleged homorganic nasal. Besides, it has been observed that, taking into account concord morphemes in possessive construction, the class system of the language can be parsed into two main clusters which can reflect two important semantic types, reflecting once more the community worldvision: the class morphemes including the segment /w-/ in their concord prefix and those which include /y-/. The former cluster refers mostly to “humans” whereas the latter essentially gathers “non-humans”.

The chapter which follows the one on noun classes, the eighth of the thesis, analyzes pronouns. In this chapter the description includes the commonly called personal pronouns and possessives on the one hand (first point of the chapter), and the relative pronouns and relative markers on the other hand (second point). Concerning the first point, a distinction has been made between human pronouns (there are some which fill the NP head slot and others that are modifiers of NP) and non-human pronouns (parsed into subject and non-subject pronouns), reflecting the human versus non-human hypothesis underlying the noun class system. Morpho-phonological processes undergone by these pronouns have been discussed, the same as their morphological interconnections with noun classes. For the second point, in spite of the characteristics shared by relative pronouns and relative markers (both of them mark the relative clause and share formal similarity with the common argument class marker), relative pronouns and relative markers still remain different. As a matter of fact, whereas the former introduce the relative clause and fill an argument slot within the relative clause, the latter always occur at the end of the relative clause and do not fill any argument slot. Let us mention that, unlike the general tendency observed in literature, relative markers in Koshin do share a formal similarity with (the class affix of) the common argument (the traditionally called “antecedent” of the relative pronoun).

The ninth chapter of the work handles demonstratives which, like canonical pronouns, are regarded as a type of shifters because their reference shifts when the item they refer to changes.

In this chapter, the following issues are discussed: nominal and adverbial types of demonstratives, their forms, their functions, the parameter of reference they show, and, quite importantly, the symbolic value triggered by the segments making up the demonstratives.

Whereas nominal demonstratives exhibit two items corresponding to “this” and “that”, adverbial demonstratives show a three-term system: “here and visible”, “there and visible” and “there and invisible”. Hence, two main parameters characterize the system: the spatial reference (relevant for both nominal and adverbial demonstratives) and the visibility reference (only relevant for adverbial demonstratives). With regard to the symbolic value of sounds making up demonstratives, it has been concluded that, whereas far distance sounds are usually coded through high vowels, non-far distance ones are expressed through non-high vowels. Interestingly, this interpretation has been supported by data from the lexicon and data from four other somewhat related languages.

The definiteness system has been the topic of the tenth chapter. The article (with its forms and syntactic function), the indefinite pronouns, the alternative makers, the quantifiers, have been all discussed, with a specific focus on the peculiarities of each category. For example, some evidence has been given to show that the article modifies the whole NP instead of modifying the NP head only, and that the total quantifier fills the verbless clause complement instead of being an NP head modifier.

The eleventh chapter concerns the interrogative system. Polar question particles and content question words have been outlined as the two types of interrogatives whose shared properties and related lexical classes have been carefully studied. The discussion has then distinguished noun-like, adjective-like, and adverb-like interrogatives, on the basis of their morpho-syntactic behaviors. It has been also identified that interrogatives shared some morphological interconnections with demonstratives, the negation marker, and the aspect marker.

With regard to the case system markers, topic of the twelfth chapter of the thesis, two main articulations have drawn the attention: the case marking strategies used in the language and the relationship between case clitics (one of the marking strategies) and other categories of words. Therefore, constituent order (not word order) strategy and the case clitics have been identified as the case marking strategies attested in the language. The defining criteria of clitics, their positioning and the syntactic functions they marked have been also studied before the

analysis of the connections between clitics and reconstructed Proto-Bantu noun classes, the Koshin conjunctions, and adverbs. The chapter on case system markers ends the discussion about grammatical systems related to nouns.

The next chapter, the thirteenth, discusses the grammatical systems occurring within the predicate domain: tense markers (one present tense, three past tenses, and two future tenses), the activeness marker, and some grammatical secondary concepts such as the extent (punctual versus progressive/continuous markers), the completion/aspect (imperfect versus perfect markers), directionals ("go in" versus "go out" markers), repetition, height ("up" versus "down"), durative (always), speed ("quickly" versus "slowly"), quantity (enough), irrealis ("what did not happen in the past but could have happened" versus modality markers referring to future events), achievement, negation, and imperative (simply based on the infinitive form of the verb without the infinitive class marker). This chapter, which is the last on the discussion about grammatical categories and markers of syntactic functions, has been ended with the analysis of some dependencies between the categories enumerated above.

The chapter on phrasal constructions (the fourteenth chapter of the thesis) opens the last section of the thesis, the one examining the grammatical constructions. After some clarifications about the label "phrase" as used in the work, the most relevant types of noun phrase constructions of the language has been highlighted. More concretely, the description has examined the canonical noun phrase (with its domain and its structure), the diminutive construction (which has been quite useful to account for some phonological intricacies that, otherwise, could have remained unexplained), and the possessive constructions (their ways of expression, the parameters determining their constructions, their internal structure and the other means of expressing possession). The verb phrase has been analyzed within the chapter on clause and sentence constructions.

And finally, the fifteenth and last chapter of the work, before this conclusion, is the chapter on clause and sentence constructions. the Copula verb construction, the verbless clause construction, the comparative construction, the serial verb construction, the passive construction, and the focus construction have been noticed as the main clause constructions attested in the language. Besides, the relative clause construction, the complement clause construction (both are embedded constructions), and the complex sentence constructions (non-embedded structures) have been examined one after the other, into comprehensive elements. Special mention should be

made about the peculiarities of the relative clauses in the language. In fact, unlike the cross-linguistic tendency dividing relative clauses between the restrictive and non-restrictive ones, Koshin organizes relative clauses into functional and non-functional sets.

After this synthesis of the work, it is now time to answer the main research questions supporting the problem of this thesis. Let us recall that, in order to solve the problem of identifying the way of disclosing the environment through linguistic description, the thesis h asked four main research questions oriented towards the same objective: to show that Koshin reflects the environment of its speakers through its organization. These questions are: what are the general characteristics of Koshin environment? What are the prototypical strategies or ways which help us disclose these environmental characteristics within a linguistic system? What environmental characteristics are really attested within the language? And what are the further implications of this language-environment link?

Concerning the first question, as postulated in the research hypotheses, the Koshin community shows an environment with specific geographical, political and socio-cultural characteristics. General information about each aspect of the environment is given as background in the introductory chapter. About the strategies which unveil these characteristics in the language, it has been claimed that, as testified throughout the work, the linguistic description has to look first at the overall *underlying organization* of the language. Basic linguistic categories of the language (lexical categories, the grammatical closed systems, the grammatical constructions, the phonological system and so on) have to be scrutinized because they always mirror, in one way or another, the geographical and socio-cultural milieu of the speakers. Let us emphasize in this respect an example: unlike what occurs in the well-known European languages, possessive constructions in Koshin (as in some other African languages) puts “friend” in the same set as “son”, “wife” and “husband”, that is, “intimate relationships”. This is far from being a mere linguistic fact. The time spent in the Koshin village for fieldwork allows us to testify that, for many Koshin people, a friend is really like a son or a spouse. Let us just remember how, thanks to friendship, the Koshin people do not need to materialize the territory integrity of the kingdom, the boundary, by the “lawful plant”, separating them from the Bum people.

This disclosing of the environment through underlying basic categories meets the second hypothesis postulated in the introduction. Furthermore, it has been realized throughout the work that other non-postulated strategies also help to disclose the environment in Koshin. To this

respect, the analysis can mention the sound symbolism prevailing in some parts (not in all parts) of the language. Unfortunately, even in languages where it is attested, it is obscured by the widespread dictatorship of the linguistic-sign-arbitrariness belief. In the same vein, it has been discovered that, some morpho-phonological processes also disclose environmental realities, provided the description is alert to their perception. For instance, it has been noticed that, in Koshin, the plural form of the nouns such as "palm nut", "corn", "egg", "small stone" (all these items refer to small entities), is realized through a process of *subtraction* by which a syllable or a syllabic nucleus is taken away from the singular form. In other words, the "scattering" into more syllables of the singular is opposed to the "union", "gathering" into less syllables (one syllable) of the plural. And when one looks at the daily life of Koshin people organizing many activities in groups, one can recognize that the subtraction process conveying plural is not casual but intimately connected to the environment of the community. In sum, the environment of the speakers can be disclosed through the underlying organization but also through the sound symbolism and morpho-phonological processes.

After the analysis of the system, it has been observed that, as expected, almost all the environmental aspects of the community have been attested in some way through the language description: geography, economy, history, culture and so on.

After the foregoing lines, one can say that the objective postulated at the beginning of this thesis (to show that Koshin language reflects the environment of the speakers in its organization) is achieved. This work is supposed to be a real contribution to the store of human knowledge, as it sheds light on a previously non-described language. The thesis is also supposed to enable more scholars to regard the language description as somewhat similar to an exploration process and consequently, as something that can be a powerful key-point for the understanding of the community speaking the described language. If this is viable, then, the linguistic description can then be useful in many other domains, different from the purely linguistic one.

For further studies within the same theoretical orientation, it should be outlined, firstly, that, if it goes without saying that the language description is mostly concerned with underlying structures, it can also be admitted that linguistic description looses nothing when formal aspects of the language are added to basic description. Secondly, the analysis would simply recall one of the most basic concepts anybody can learn from Saussure Structuralism, that is, the language is a *system*. One of the greatest implications of the label "system" in Basic Linguistic theory is that,

any part of the language is absolutely interconnected with the others. Consequently, there is no way of getting into the environment of a community without taking into account, *at the same time*, all the parts of the language. There is no way of putting this view better than these words of Dixon (2010a: §9.1.3), one of the most representative followers of Basic Linguistic theory:

"*A fieldworker should be a good all-round linguist. Every part of a language description is equally important and each part interrelates with the others. Someone who says (to others, or just to themself) anything like 'I'm basically a phonologist' or 'I'm primarily syntactician' is not likely to produce a good overall description.*"

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APPENDICES

The appendices are made up by three important points: a wordlist, two texts related to the Koshin environment, and the orthographical system of the language followed by and illustrative text.

1- Wordlist

The wordlist (which is far from being exhaustive) is intended to be organized in the form of *thesaurus*, that is, words are grouped into *semantic types*. The organization of this thesaurus is inspired from Dixon (2010a: §8.2)'s scheme which itself owes a great deal to the first volume of the *Handbook of Australian languages* (1979). The noun wordlist is presented first, the verb wordlist follows, and then adjectives and adverbs. As expected, grammatical items are not included within the lexicon (because they are not members of the lexicon) and can be consulted only within the respective chapters.

1.1 Nouns

The concord markers considered below are taken mainly within the possessive construction, because it discloses some morpho-phonological features which are not attested in concords from other constructions.

1.1.1 Body parts

Prefix-	root (-suffix)	concord	gloss
-	gbə̀	ẃ-	"body"
tə̀-	gbə̀	t(ẃ)	"bodies"
-	dzə̀	ỳ-	"skin"
-	dzə̀	ý-	"skins"
kə̄-	náŋə̀ kə̀-gbə̀	ḱ-sh-shy-	"body part"
bə̄-	náŋə̀ bə̀-gbə̀	b(ý)	"body parts"
-	ká	ẃ-	"head"
tə̄-	ká	t-(ẃ)-	"heads"
-	ká nə̄ đim	ẃ-	"nape of the neck"
kə̄-	fū	ḱ-s-shy-	"hair"
-	jwá	ý-	"pubic hair"
-	jwá kə̀-zɔ̀	ḱ-s-shy-	"moustache"
-	jwá bə̀-zɔ̀	ƀ-by-	"moustaches"
-	zùbə̀ wɨ̄	ȳ-	"socket"
bə̄-	shə̄	mb(ȳ)-	"face"
-	wɨ̄	w̄-	"eye"

-	jɨ̄	ý-	“eyes”
-	tsəbə́	ý-	“eyelash”
kə-	zɔ̀	ƙ-s-shy-	“mouth”
bə-	zɔ̀	ɓ-by-	“mouths”
-	wṹ	ẃ-	“nose”
tə-	wṹ	t(ẃ)-	“noses”
kə-	nshúŋ	ƙ-s-shy-	“catarrh”
kə-	mbàŋ	ƙ-/s-shy-	“cheek”
bə-	mbàŋ	ɓ-/by-	“cheek”
kə-	tṹ	ƙ-s-shy-	“ear”
-	shɨ̄ kə-tṹ	ý-	“dirt within the ear”
-	nɗinyà	m̄ (w)-	“tears”
-	wɨ̄n	w̄-	“tooth”
-	jɨ̄n	ȳ-	“teeth”
-	ləm	ẃ-	“tongue (body part) ”
tə-	ləm	t(ẃ)-	“tongues”
-	də	ẃ-	“chin”
kə-	mē	ƙ-s-sy-	“neck”
bə-	mē	ɓ-by-	“necks”
-	ndɔŋkɔlɔ	ẃ-	“throat”
-	njɔŋ	ḿ(w)-	“saliva”
-	mfwɔ̃	ḿ(w)-	“blood”
bə-	gɔ̀	mƀ-mby-	“chest”
-	mbēn	ẃ-	“breast”
-	shəm	ȳ-	“stomach/heart”
tə-	jā	t(ẃ)-	“intestines”
-	kwə	ȳ-	“abdomen”
-	tùmə́	ý-	“navel”
-	shyə̀	ý-	“part below the belly”
-	tùwɔ̃	ȳ-	“bottom part”
-	tánə́ tùwɔ̃	w̄-	“buttock”
tə-	tánə́ tùwɔ̃	t(w̄)-	“buttocks”
kə-	bɔ̃	ƙ-s-shy-	“waist”
bə-	bɛ̃	ɓ-by-	“waists”
-	fɨ̄	ȳ-	“kidney”
-	fɨ	ý-	“kidneys”
kə-	nyə	ƙ-s-shy-	“lung”
bə-	nyə	ɓ-by-	“lungs”
-	jə̀m	ȳ-	“back”
kə-	bə́kə́	ƙ-s-shy-	“shoulder”

bə-	bə́kə́	ƀ-by-	“shoulders”
fə-	shàŋ	f´-fy-	“spine”
-	kúbə̀	w̄-	“rib”
tə-	kúbə̀	t(w̄)-	“ribs”
-	tsɛ̀n	ȳ	“arm”
-	tsɛ̀	ý-	“arms”
-	shyə́mə̀	ẃ-	“armpit”
tə-	shyə́mə̀	t(ẃ)-	“armpits”
-	kpɨ̄	ȳ	“elbow”
-	kpɨ̄	ý-	“elbows”
-	kɔ̃̀	ỳ-	“hand”
-	kɔ̄	ý-	“hands”
-	kɔ̃̀ nə mē	ỳ-	“palm”
-	kɔ̃̀ nə zhǐm	ỳ-	“back (of the hand)”
-	shàŋ	ỳ-	“finger”
-	shàŋ	ȳ-	“fingers”
kə-	kē	ƙ-s-shy	“nail”
-	bɨ̃̄	ȳ-	“foot”
-	bɨ̃́	ý-	“feet”
kə-	cɨ̃́	ƙ-s-shy-	“heel”
-	nyə̀	ȳ-	“toe”
-	nyə̀	ý-	“toes”
-	ŋkəbə̀	w̄-	“ankle”
-	fiyà	ȳ-	“bone of the ankle”
-	tàŋ	ẃ-	“leg”
tə-	tàŋ	t(ẃ)-	“legs”
-	bə-shə́ bə-tāŋ	ƀ-by	“shin”
-	bə-shə́ bə-tə-tāŋ	ƀ-by	“shins”
-	fūmbú fə-tāŋ	f´-fy	“calf”
-	nyú	ẃ-	“knee”
tə-	nyú	ẃ-	“knees”
-	jə̃ ŋ	ȳ-	“thigh”
-	jəŋ	ý-	“thighs”
-	gbə̄	w̄-	“skin”
-	nyɔ̀m yɨ̀ gbə̀	ȳ-	“flesh”
-	təfɔ́	ẃ-	“brain”
tə-	jā	t(ẃ)-	“intestines”
fə-	ŋbí	f´-fy-	“muscle”
-	ŋbí	m(ẃ)-	“muscles”
-	dzù	ȳ-	“penis”

kə-	dèn	ƙ-s-shy-	“vagina”

1.1.2 Human classification

-	mwən	ẁ-	“person”
bə-	nĩ̂	ɓ(w)-	“people”
-	nyū	ƙ-ẁ-	“male”
bə-	nɔ̄	b(ẃ)-	“males”
-	kpə̀/kpĭ	ƙ-ẁ-	“female”
bə-	kĭ	ɓ(w)-	“females”
-	wã̄	ƙ(ẁ)-	“child”
-	bã̄	ɓ(w)	“children”
-	nsɨ̃́	ƙ-ẁ-	“friend”
-	nsɨ̃́	ȳ-	“friends”
-	ŋkùwnə	w̄-	“guest”
bə-	ŋkùwnə	ɓ(w)-	“guests”
-	mfɔ̀	w̄-	“slave”
-	mfɔ̀	ý-	“slaves”
-	fɛ̃̄	w̄-	“chief/king”
tə-	fɛ̃̄	t(ẃ)-	“chiefs/kings”
-	mwən tsā	ẁ-	“doctor”
-	mwən bĭnlĭ	ẁ-	“blacksmith”
-	mwən būm	ẁ-	“hunter”
-	mwən fwə̄	ẁ-	“wood worker”
-	mwən cǐŋ	ẁ	“guiarist”
-	bəcá	ẁ-	“witch”
-	kənə́	w̄-	“ghost”
-	gɔ̀jəŋ	w̄-	“shadow”
-	gbə̄ pĭlə	w̄-	“corpse”
tə̄-	gbə̄ tə-pĭlə	w̄-	“corpses”
-	wə̄	ẃ-	“name”
-	jə̄	ý-	“names”
-	tǐcā	ẃ-	“teacher”
bə-	tǐcā	b(ẃ)-	“teachers”

1.1.3Kinship

-	bā/tyə̀	ẁ-	“father”
-	nē/nyə̄	ẁ-	“father”
bə-	nyə́	ɓ-	“mothers”
bə-	bā	ɓ-	“fathers”

bə-	tyə	b(w̄)-	“parents”
-	wã̄	k̄-wə̀-	“son, child”
-	bã̄	ɓ-b(ẃ)-	“children”
-	zhi̋yá	wə̀-	“sibling”
-	bɔ̃̄	b(ẃ)-	“siblings”
-	zhi̋yá wə-nyūmfə	wə̀-	“brother”
-	zhi̋yá wə-kpi̋	wə̀-	“sister”
-	zhi̋yá nəmfə	wə̀-	“elder sibling”
-	tyə nyə	wə̀-	“maternal grandfather”
-	tyə bā	wə̀-	“paternal grandfather”
-	bàmbā	wə̀-	“grandmother”
-	wātyà	wə̀-	“paternal ant”
-	wātyà	wə̀-	“paternal ant”
-	ñnyə	wə̀-	“maternal ant”
-	bā	wə̀-	“paternal uncle”
-	wā nyə́	wə̀-	“maternal uncle”
-	tyətyəbā	wə̀-	“ancestor”
bə-	tyətyəbā	b(ẃ)-	“ancestors”
-	nyū	k̄-wə̀-	“husband”
-	kpə̀/kpi̋	k̄-wə̀-	“wife”
bə-	ki̋	ɓ(w)-	“wives”
-	gbə̀n	wə̀-	“father/brother-in-law”
bə-	gwənə̀	b(ẃ)-	“fathers-in-law”
-	ñnyə́ kpi̋	k̄(w)-	“mother-in-law”
-	ānyə wə-kpi̋	k̄(w)-	“sister-in-law”
-	nsɨ̃̄	k̄(wə̀)-	“friend”
-	nsɨ̃̄	ȳ-	“friends”
-	kpə̂ ŋkū	wə̀-	“widow”
-	mwə̀n kū	wə̀-	“widower”
-	mwə̀n nyū kəkáy	wə̀-	“barren man”
-	mwə̀n kpi̋	wə̀-	“barren woman”
fə-	ntə́ŋə	f(ý)-	“smallness”
-	lūmbā	ẃ-	“bigness”
kə-	yɔ̀ŋnə	ḱ-s-shy-	“thanks”
bə-	yɔ̀ŋnə	ɓ-by-	“many thanks”
kə-	tsɔ̀	ḱ-s-shy-	“youth”
bə-	dwənə̀	b(ý)-	“old age”
bə-	tɔ̄bə̄	b(ý)-	“intelligence”
kə-	yúŋ	ḱ-s-shy-	“foolishness”

1.1.4 Mammals

-	bɨ̀	ȳ-	“dog”
-	bɨ́	ý-	“dogs”
fə̀-	mɔ́	f(ý)-	“cat”
-	mɔ́	m(ẃ)-	“cats”
-	mè	ȳ-	“goat”
-	mé	ý-	“goats”
-	fūfū	ẃ-	“he-goat”
tə̀-	fūfū	t(ẃ)-	“he-goats”
fə̀-	ŋbà	f(ý)-	“castrated he-goat”
-	ŋbà	m(ẃ)-	“castrated he-goats”
-	shɔ̀ŋ	ȳ-	“ewe”
-	shɔ̄ŋ	ȳ-	“ewes”
-	məbātə	ȳ-	“ram”
-	məbātə	ȳ-	“rams”
-	mbɔ̀ŋ	w̄-	“cow”
bə̀-	mbɔ̀ŋ	b(w̄)-	“cows”
kə̀-	fɨ̀	ƙ-s-shy-	“pig”
bə̀-	fɨ̀	ɓ-(by)-	“pigs”
kə̀-	kúm	ƙ-s-shy-	“horse”
bə̀-	kúm	ɓ-(by)-	“horses”
-	nyɔ̀m	ỳ-	“animal”
-	nyɔ̄m	ȳ-	“animals”
-	nyə̀m	ỳ-	“leopard”
-	nyə̄m	ȳ-	“leopards”
-	də̀wà	w̄-	“buffalo”
bə̀-	də̀wà	w̄-	“buffalos”
-	dzɨ̀/zɨ̀	ȳ-	“elephant”
-	dzɨ́	ý-	“elephants”
-	bɨ̀ kə́m	ȳ-	“lion”
-	bɨ́ ə̀ kə́m	ȳ-	“lions”
-	fūlā	w̄-	“lion”
bə̀-	fūlā	b(ẃ)	“lions”
kə̀-	fɨ̀ kə̀-tūwā	ƙ-s-shy-	“bush pig”
-	tsə̀m	ỳ-	“black monkey”
-	tsə̄m	ȳ-	“black monkeys”
-	tsɔ̃̄	ỳ-	“white monkey”
-	tsɔ̃̄	ý-	“white monkeys”
-	mátsá	w̄-	“chimpanzee”
bə̀-	mátsá	b(w̄)-	“chimpanzees”

-	zùmə̀	ȳ-	“antelope”
-	zūmə̀	ȳ-	“antelopes”
fə̀-	nshə̀	f(ý)-	“hare”
-	nshə̀	m(ẃ)-	“hares”
fə̀-	ŋkɔ̄	f(ý)-	“doe”
-	ŋkɔ̄	m(ẃ)-	“does”
fə̀-	ŋbǐ	f(ý)-	“bat”
-	ŋbǐ	m(ẃ)-	“bats”
kə̀-	ŋkwə̄	ƙ-s-shy-	“mouse”
-	nzɛ̃̄	ȳ-	“porcupine”
-	nzɛ̃̄	ý-	“porcupines”
-	nyɔ̀m ywàŋkə̄	ȳ-	“hippopotamus”
-	nyɔ̄m ywàŋkə̄	ȳ-	“hippopotamuses”

1.1.5 Reptiles

-	zùwɑ̃̀	ȳ-	“snake”
-	zúwɑ̃́	ȳ-	“snakes”
kə̄-	fǐ	ƙ-s-shy-	“viper”
bə̄-	fǐ	ɓ-by-	“vipers”
-	kūm	ȳ-	“boa”
-	kūm	ý-	“boas”
-	nyɔ̀m jūwà	ȳ-	“crocodile”
-	nyɔ̄m jūwà	ȳ-	“crocodiles”
-	tɔ̀lɔ̀kí	w̄-	“tortoise”
bə̀-	tɔ̀lɔ̀kí	b(ẃ)-	“tortoises”
kə̄-	fwá	ƙ-s-shy-	“snail”
bə̄-	fwá	ɓ-by-	“snails”
kə̄-	ŋkɛ̃̄	ƙ-s-shy-	“crab”
bə̄-	ŋkɛ̃̄	ɓ-by-	“crab”
-	mékwə̀	w̄-	“big lizard with red head”
bə̀-	mékwə̀	b(ẃ)-	“big lizards with red head”
fə̀-	ntí àŋə́	f(ý)-	“small lizard”
-	ntí àŋə́	m(ẃ)-	“small lizards”
fə̀-	ŋkūmə́	f(ý)-	“chameleon”
-	ŋkūmə́	m(ẃ)-	“chameleons”

1.1.6 Birds

kə̄-	núŋ	ƙ-s-shy-	“rooster”
bə̄-	núŋ	ɓ-by-	“roosters”
-	shǐ	ȳ-	“chicken/fowl”

-	shī̂	ȳ-	“chickens/fowls”
-	gbàgbā	ẃ-	“duck”
bə-	gbàgbā	b(ẃ)-	“ducks”
kə-	bē	ḱ-s-shy-	“wing”
bə-	bē	ɓ-by-	“wings”
-	wūnə	ẃ-	“feather”
-	jūwǐ	ý-	“feathers”
-	ŋgə́nə	ẃ-	“egg”
-	ŋgə	ý-	“eggs”
kə-	ywēŋ	ḱ-s-shy-	“bird”
bə-	ywēŋ	ɓ-by-	“birds”
kə-	gyàgyà	ḱ-s-shy-	“hawk”
bə-	gyàgyà	ɓ-by-	“hawks”
-	mbɔ̀ŋgɔ́ŋ	w̄-	“vulture”
bə-	mbɔ̀ŋgɔ́ŋ	b(w̄)-	“vultures”
kə-	kánə	ḱ-s-shy-	“kite”
bə-	kánə	ɓ-by-	“kites”
kə-	wū̂ ŋ	ḱ-s-shy-	“owl”
bə-	wū̂ ŋ	ɓ-by-	“owls”
fə-	ŋkpɔ̌ ŋ	f(ý)-	“swallow”
-	ŋkpɔ̌ ŋ	m(ẃ)-	“swallows”

1.1.7 Fishes

-	ntùmə	w̄-	“fish”
bə-	ntùmə	b(w̄)-	“fishes”
-	jəŋ	ȳ-	“small fish”
-	jə́ŋ	ȳ-	“small fishes”
-	zǐyá	ý-	“tiepos (sg)”
-	zíyá	ý-	“tiepos(pl)”

1.1.8 Insects, etc.

kə-	ntā̂ n	ḱ-s-shy-	“cricket”
kə-	ntā̂ n	ɓ-by-	“crickets”
kə-	zhǐnzhǐ	ḱ-s-shy-	“housefly”
bə-	zhǐnzhǐ	ɓ-by-	“houseflies”
-	fǐ́	ȳ-	“cockroach”
-	fǐ	ȳ-	“cockroaches”
-	jī̂	w̄-	“louse”
tə-	jī̂	t(ẃ)-	“lice”
-	mfùm	w̄-	“bee”

bə-	mfùm	b(ẃ)-	“bees”
kə-	mɔ̄	ƙ-s-shy-	“bee-hive”
bə-	mɔ̄	ɓ-by-	“bee-hives”
fə-	ŋkwēnkwēn	f(ý)-	“mason wasp”
-	ŋkwēnkwēn	m(ẃ)-	“mason wasps”
kə-	kwəkwólə	ƙ-s-shy-	“butterfly”
bə-	kwəkwólə	ɓ-by-	“butterflies”
fə-	ntàntà¯n nyùmó	f(ý)-	“dragon fly”
-	ntàntà¯n nyùmó	m(ẃ)-	“dragon flies”
-	jə́	ȳ-	“ant”
-	jó	ý-	“ants”
kə-	wāŋwāŋ	ƙ-s-shy-	“small type of ant”
-	ghə	ẃ-	“moth”
-	ghə	ý-	“moths”
-	ncɔ́	ẃ)-	“praying mantis”
bə-	ncɔ́	b(ẃ)-	“praying mantis (pl)”
-	fyàŋ	ȳ-	“spider”
-	fyáŋ	ȳ-	“spiders”
-	fyàŋ yəkə	ȳ-	“scorpion”
-	fyàŋ yəkə	ȳ-	“scorpions”

1.1.9 Language, Ceremony

bə-	nyə	b(y)-	“language”
-	lɔ́m	ẃ-	“funeral celebration”
tə-	lɔ́m	t(ẃ)-	“funeral celebrations”
-	nəmgà	?	“harvest festival”
kə-	jĩ	ƙ-s-shy-	“god”
kə-	jĩ	ƙ-s-shy-	“god”
-	jùŋ	ȳ-	“blessing”
kə-	tyùm	ƙ-s-shy-	“story, tale”
bə-	tyùm	b(ý)-	“stories”
bə-	lùŋ	b-	“problems”
-	ŋkənó	ẃ-	“devil”
bə-	ŋkənó	b(ẃ)-	“devils”
-	bəkə	b(ẃ)	“devils”
-	jwə̃	ỳ-	“sickness”
-	jwə̃	ý-	“sicknesses”
-	yɛ̄	ẃ-	“sickness”
tə-	yɛ̄	t(ẃ)-	“sicknesses”
kə-	ntəfó	ƙ-s-shy-	“tale, proverb”

bà-	ntəfə́	b(ý)	“tales, proverbs”
-	kɔ̀	w-	“kɔ̀ group”
bà-	kɔ̀	b(ẃ)-	“kɔ̀ groups”
fə̀-	mbwé͂	f(ý)-	“fə̀-mbwé͂ group”
bà-	mbwé͂	b(ẃ)-	“fə̀-mbwé͂ groups”
-	njàŋ	ẃ-	“njàŋ group”
bà-	njàŋ	b(ẃ)	“njàŋ groups”
kə̄-	ŋkú̄m	ḱ-sh-shy	“ŋkú̄m group”
-	ŋkú̄m	m(ẃ)	“ŋkú̄m groups”

1.1.10 Artefacts, etc.

-	mbã̄	w̄-	“fence ”
bà-	mbã̄	b(w̄)-	“fences”
-	mbã̄	w̄-	“nail ”
bə̄-	mbã̄	b(w̄)-	“nails”
kə̄-	kə́	ḱ-s-shy-	“traditional chair”
bə̄-	kə́	ɓ́-by-	“traditional chairs”
kə̄-	gə́ŋə̄	ḱ-s-shy-	“small stool”
bə̄-	gə́ŋə̄	ɓ́-by-	“small stools”
-	zhǐnyá	ẃ-	“bed”
bə̄-	zhǐnyá	b(ẃ)-	“beds”
-	tǐlə́	ȳ-	“traditional mattress”
-	tǐlə́	ý-	“traditional mattresses”
-	ŋgɔ̀ŋgɔ̀ŋmā	ẃ-	“modern mattress”
bà-	ŋgɔ̀ŋgɔ̀ŋmā	b(ẃ)-	“modern mattresses”
-	ányàŋ	ẃ-	“iron”
bà-	ányàŋ	b(ẃ)-	“irons”
-	tə́m	ẃ-	“axe”
-	tə́m	ẃ-	“axe”
tə̄-	tə́m	t(ẃ)-	“axes”
-	shə̀ŋ	ỳ-	“knife”
-	shə̄ŋ	ȳ-	“knifes”
-	zhù	ȳ-	“ hoe”
-	zhú	ý-	“ hoes”
-	bǐ	ẃ-	“ cutlass”
tə̄-	bǐ	t(ẃ)-	“ cutlasses”
-	sǐsá	ẃ-	“ chisel”
bə̀-	sǐsá	b(ẃ)-	“ chisels”
kə̀-	mbɔ̃̂	ḱ-s-shy-	“hammer”
bə̀-	mbɔ̃̂	ɓ́-by-	“hammers”
kə̄-	sɔ̂	ḱ-s-shy-	“arrow”

bə̄-	sɔ̂	ɓ-by-	“arrows”
fə̄-	nsɔ̂	f(ý)-	“weapon”
-	nsɔ̂	m(ẃ)-	“weapons”
-	wâ ŋ	wȳ-	“lance”
tə̄-	wâ ŋ	t(wȳ)-	“lances”
-	wî	ẃ-	“gun, fire”
tə̄-	wî	t(ẃ)-	“guns”
-	sɔ́ŋ	ẃ-	“flute”
tə̄-	sɔ́ŋ	ẃ-	“flutes”
kə̀-	mbɨ̀	ḱ-s-shy-	“drum”
-	ŋgùw	ẃ-	“piece of wood on which music is played”
bə̀-	ŋgùw	ẃ-	“pieces of wood on which music is played”
-	cǐŋ	ẃ-	“traditional guitar”
tə̄-	cǐŋ	t(ẃ)-	“traditional guitars”
kə̀-	cə̄ŋ kə̄-cǐŋ	ḱ-s-shy-	“wooden part of the guitar”
bə̀-	cə̄ŋ kə̄-cǐŋ	b(ý)-	“wooden parts of the guitar”
-	wáyà wə̄-cǐŋ	ẃ-	“string of the guitar”
bə̀-	wáyà wə̄-cǐŋ	b(ẃ)-	“strings of the guitar”
-	kù	ȳ-	“rope”
-	kû	ȳ-	“ropes”
-	kû	ȳ-	“ropes”
kə̄-	mbɔ́ŋə́	ḱ-s-shy-	“canoe”
bə̄-	mbɔ́ŋə́	b(ý)-	“canoes”
kə̄-	sē	ḱ-s-shy-	“clothes”
bə̄-	sē	b(ý)-	“clothes (pl)”
-	tɔ̀m kə̄-sē	ẃ-	“wrapper”
-	bɛ̀	wȳ-	“bag”
bə̀-	bɛ̀	b(wȳ)-	“bags”
-	kǐyà	ỳ-	“basket for corn, groundnut”
-	kǐyā	ȳ-	“baskets for corn, groundnut”
-	gbə̄jà	ȳ-	“basket for food”
-	nshɔ̄ŋə́	ẃ-	“basket for vegetable”
-	gǐyā	ẃ-	“broom”
tə̄-	gǐyā	t(ẃ)-	“brooms”
kə̀-	ncû	ḱ-s-shy-	“mortar”
bə̀-	ncû	ɓ-by-	“mortars”
kə̀-	ntɔ̄m	ḱ-s-shy-	“pestle”
bə̀-	ntɔ̄m	ɓ-by-	“pestles”
-	nsɔ̃ kú	ẃ-	“winnowing tray”
bə̀-	nsɔ̃ kú	b(ẃ)-	“winnowing trays”

-	nsə̃ kálə	ẃ-	“winnowing tray”
bə-	nsə̃ kálə	b(ẃ)-	“winnowing trays”
kə-	lé	ḱ-s-shy-	“calabash”
bə-	lé	ɓ-by-	“calabashes”
kə-	kɛ̄	ḱ-s-shy-	“pan”
bə-	kɛ̄	ɓ-by-	“pans”
-	kpɨ̂	ẃ-	“cooking pot”
-	tsɨ̂	ý-	“cooking pots”
bə-	tɨ̄lə́	mb(ý)-	“soot covering the pot”
-	ŋgə̀	ẃ-	“calabash for serving corn beer”
bə-	ŋgə̀	b(ẃ)-	“calabashes for serving corn beer”
-	bwā̂ m	ẃ-	“calabash for drinking corn beer ”
-	byā̂ m	ý-	“calabashes for drinking corn beer ”
fə-	nsɨ̄	f(ý)-	“piece of calabsh for removing food from the pot”
-	nsɨ̄	m(ẃ)-	“pieces of calabash for removing food from the pot”
-	fwɔ̄ŋ	ẃ-	“stick used for mixing food ”
tə-	fwɔ̄ŋ	t(ẃ)-	“sticks used for mixing food ”
-	mbɔ̀ŋgɨ̄lè	ẃ-	“needle”
bə-	mbɔ̀ŋgɨ̄lè	b(ẃ)-	“needles”
-	shúm	w̄-	“needle for sewing bags”
tə-	shúm	t(w̄)-	“needles for sewing bags”
-	gbɨ̂ wū-tsɨ̂sə̄	ẃ-	“fishing-net”
-	mbúnjá	ẃ-	“throwing fishing-net”
bə-	mbúnjá	b(ẃ)-	“throwing fishing-nets”
-	mbúnjá	w-	“throwing fishing-net”

1.1.11 Fire, Food, Water

bə-	zhɨ̃	mɓ-mby-	“food”
bə-	nɨ̄	mɓ-mby-	“corn food”
-	ntwā	w̄-	“coco food”
-	nɗi	m̄(w)-	“water”
-	mbèn	w̄-	“milk”
-	jwā	ȳ-	“honey”
-	nyɔ̀m	ȳ-	“meat”
-	ntùmə̀	w̄-	“fish”
bə-	ntùmə̀	ɓ(w)-	“fish/pl”
-	nyɔ̀m	ȳ-	“meat”
-	ntwā	w̄-	“coco food”
-	zhwā	ȳ	“sauce”
-	fū̂	ẃ-	“slimy sauce”

-	mbwē	wī-	“salt”
-	mū	mī(w)-	“corn flour”
-	māŋə́	mí(w)-	“type of salt”
-	mɨ̀	mī(w)-	“oil”
-	mbɨ̀	m(wī)	“wine”
-	ŋkə̃	m(wī)	“corn beer”
-	kpə̃	wī-	“wood”
-	tsə̃	ȳ-	“woods”
-	wɨ̂	wī-	“fire”
tə-	wɨ̂	t(wí)-	“fires”
-	nyɨ̀m	mī(w)-	“smoke”
-	tɔŋ	wī-	“place of fire”
tə-	tɔŋ	t(wí)-	“places of fire”
-	bŭ	w-	“ash”
tə-	bŭ	t(wí)-	“heaps of ash”
-	kɨ́yá	wí-	“charcoal”
tə-	kɨ́yá	t(wí)-	“pieces of charcoal”
-	nsŭ	wí-	“stone supporting the cooking pot ”
tə-	nsŭ	t(wí)-	“stones supporting the cooking pot ”

1.1.12 Celestial, weather

-	bū	wí-	“sky”
bə-	kû	mb(ý)-	“cloud”
-	gbɨ́	wī-	“wind/cold”
-	dzàŋ	ȳ-	“rain/thunder”
-	gbɨ̀	wì-	“cold”
-	bɔ̄bə̄	wí-	“hailstone”
tə-	bɔ̄bə̄	t(wí)-	“hailstones”
-	wə́	wī-	“sun”
-	wùfwɔ̄	wí-	“moon”
tə-	wùfwɔ̄	t(wí)-	“moons”
-	mbyàlə́	wí-	“star”
bə-	mbyàlə́	b(wí)-	“stars”
-	jùwàlə́	ỳ-	“pole star”
-	jūwālə́	ȳ-	“pole stars”

1.1.13 Geography, dwellings

-	kū	wì-	“village”
tə-	kū	wì-	“villages”
kə-	tû	ḱ-s-shy-	“compound/extended family”

bə̄-	tū̂	b(ý)	“compounds/extended families”
-	njɔ̀ŋə̀	ẃ-	“community”
bə̀-	njɔ̀ŋə̀	b(ẃ)-	“communities”
-	gbǐyà	ẃ-	“house”
-	zǐyà	ý-	“houses”
kə̄-	dɔ́	ḱ-s-shy-	“door”
-	fùm	ỳ-	“roof”
-	fūm	ý-	“roofs”
kə̀-	tɔ̄	ḱ-s-shy-	“central pillar sustaining the roof”
bə̀-	tɔ̄	ɓ́-by-	“central pillars sustaining the roof”
kə̀-	tà	ḱ-s-shy-	“secondary branch sustaining the roof”
kə̄-	ntē´	ḱ-s-shy-	“ladder used for climbing the roof”
bə̄-	ntē´	ɓ́-by-	“ladders used for climbing the roof”
-	nshwànə̀	ẃ-	“small piece of dust”
-	nshwá	m(ẃ)-	“small pieces (heap)of dust”
bə̄-	ntsē	mb(ý)-	“mud”
kə̄-	ndzɛ̃̄	ḱ-s-shy-	“mud”
bə̄-	ndzɛ̃̄	ɓ́-by-	“heaps of mud”
bə̄-	bwá	ɓ́-bý-	“dew”
-	jǐ̂	ẃ-	“lake”
tə̄-	jǐ̂	t(ẃ)-	“lakes”
-	zhùwà	ỳ-	“river”
-	zhūwà	ȳ-	“rivers”
-	ntúwɛ̃̄	m(ẃ)-	“long and large river”
-	tə̄	ẃ-	“stone”
tə̄-	tə̄	t(ẃ)-	“stones”
kə̄-	bǐ	ḱ-s-shy-	“big stone”
bə̄-	bǐ	ɓ́-by-	“big stones”
-	ŋgàŋə̀	ẃ-	“hill”
-	ŋgāŋə̀	ý-	“hills”
-	dǐ̂	ẃ-	“mountain”
tə̄-	dǐ̂	t(ẃ)-	“mountains”
-	jə̃̄	ỳ-	“road”
-	jə̃̄	ȳ	“roads”
kə̄	bé`	ḱ-s-shy-	“path”
bə̄	bé`	ɓ́-by-	“paths”
kə̄-	twā-lɔ́	ḱ-s-shy-	“bush”
bə̄-	twā-lɔ́	ɓ́-by-	“bushes”
kə̀-	kwɛ̄	ḱ-s-shy-	“forest”
bə̀-	kwɛ̄	ɓ́-by-	“forests”

-	mū	ẃ-	“farm”
-	mɨ̄	ý-	“farms”
-	shɨ̂	ý-	“market”
tə-	shɨ̂	t(ẃ)-	“markets”
-	skūl	ẃ-	“school”
-	dàlə	ỳ-	“place”
bə-	dàlə	b(ý)-	“places”

1.1.14 Flora

-	fwã̄	ẃ-	“grass”
tə-	fwã̄	ẃ-	“grasses”
-	kpə̃̄	w̄-	“tree”
-	tsə̃̄	ȳ-	“trees”
-	wɛ̃̄	ẃ-	“leaf”
-	jɛ̃̄	ý-	“leaves”
kə-	gúwlə	ḱ-s-shy-	“bark”
bə-	gúwlə	ɓ-by-	“barks”
-	fə-kpən tè	ẃ-	“trunk”
-	fə-tsən tè	ý-	“trunks”
kə-	gáŋə	ḱ-s-shy-	“stick”
bə-	gáŋə	ɓ-by-	“sticks”
-	gbəŋ kpən	ẃ-	“root”
-	zəŋ tsən	ý-	“roots”
fə-	ntɔ́mə	f(ý)-	“seed”
-	ntɔ́mə	m(ẃ)-	“seeds”
-	gànə	ẃ-	“corn”
-	gə̀	ý-	“(heap of) corns”
-	shɨ̀ŋ	ẃ-	“corn cob without stalk”
tə-	shɨ̀ŋ	t(ẃ)-	“corn cobs without stalk”
kə-	ŋgɔ̄	ḱ-s-shy-	“corn cob with stalk”
bə-	ŋgɔ̄	ɓ-by-	“corn cobs with stalk”
kə-	ncɔ̄mbə	ḱ-s-shy-	“groundnut”
bə-	ncɔ̄mbə	ɓ-by-	“groundnuts”
kə-	ŋwɛ̀	ḱ-s-shy-	“plantain”
bə-	ŋwɛ̀	ɓ-by-	“plantains”
kə-	cūkə	ḱ-s-shy-	“banana”
bə-	cūkə	ɓ-by-	“bananas”
kə-	ncàŋ	ḱ-s-shy-	“banana/plantain trunk after harvesting”
bə-	ncàŋ	ɓ-by-	“banana/plantain trunks after harvesting”
kə-	jūwə	ḱ-s-shy-	“yam”

bə̄-	jūwə̀	ƀ(y)-	“yams”
-	lɔ̄kɔ̀	ẃ-	“cassava”
bə̀-	lɔ̄kɔ̀	b(ẃ)-	“cassavas”
kə̄-	ləpə̄	ḱ-s-shy-	“potato”
bə̄-	ləpə̄	ƀ(y)-	“potatoes”
-	də̄	ẃ-	“bean”
-	də̄	ý-	“beans”
-	də̄̂ ŋkálə̀	ý-	“rice”
-	gē ŋkə̃́y	ý-	“millet”
-	wə̀	t(ẃ)-	“bitter leaves”
tə̄-	wə̄	ẃ-	“bitter leaf”
kə̄-	nsháńshà	ḱ-s-shy-	“pumpkin leaf”
bə̄-	nsháńshà	b(ý)-	“pumpkin leaves”
-	ntɔ̄	ẃ-	“pepper”
bə̀-	ntɔ̄	b(ẃ)-	“peppers”
-	bǐ	ẃ-	“kola nut”
tə̄-	bǐ	t(ẃ)-	“kola nuts”
-	shɔ̄m	ẃ-	“palm tree”
-	shɔ̄m	ý-	“palm trees”
-	tsàŋə́	ȳ-	“palm nut”
-	tsāŋ	ý-	“palm nuts”
-	shyəŋ	ȳ	“rope for climbing palm trees”
-	shyəŋ	ý	“ropes for climbing palm trees”
kə̀-	lə̃́	ḱ-s-shy-	“part of the rope holding the palm tree”
bə̀-	lə̃́	ƀ-by-	“parts of the rope holding the palm tree”
-	dzə̀	ȳ-	“part of the rope holding the waist”
-	dzə̀	ý-	“parts of the rope holding the waist”
fə̀-	ntɔ̀	f(ý)-	“small part of the rope joining the other two parts”
-	ntɔ̀	m(ẃ)-	“small parts of the rope joining the other two parts”
-	pǐyā	ẃ-	“pear”
bə̀-	pǐyā	b(ẃ)-	“pears”
-	kpǐn pǐyā	ẃ-	“pear tree”
-	máŋgɔ̀lɔ̀	ẃ-	“mango”
bə̀-	máŋgɔ̀lɔ̀	b(ẃ)-	“mangoes”
-	ləmbū	ẃ-	“lemon”
bə̀-	ləmbū	b(ẃ)-	“lemons”
-	kpǐn ləmbū	ẃ-	“lemon tree”
kə̀-	nzānzáŋ	ḱ-s-shy-	“sugar cane”
bə̀-	nzānzáŋ	b(ý)-	“sugar canes”
fə̄-	mbǐ məŋkālə̀	f(ý)-	“pineapple ”

-	mbɨ̌ màŋkālə	m(ẃ)-	"pineapples"
kə̄-	fwē	ḱ-s-shy-	"*vitex doniana sweet* (sg)"
bə̄-	fwē	ḱ-by-	"*vitex doniana sweet* (pl)"
fə̂-	ntɔ́mə	f(ý)-	"fruit of *vitex doniana sweet*"
-	ntɔ́mə	m(ẃ)-	"fruits *vitex doniana sweet*"

(The fruits of *vitex doniana sweet* are small (that is why they are called as "seeds" black and sweet.)

-	lāŋ	??	"*Ricinus communis* (sg)"
-	plural	??	"*Ricinus communis* (pg)"

(The seed of this plant are boiled and consumed against articulation pains.)

fə̂-	nshəŋ	f(ý)-	"traditional plant consumed as medicine against pain"
-	nshəŋ	m(ẃ)-	"traditional plant consumed as medicine against pain"
-	pələ́ká	ẃ-	"pawpaw "
bə̀-	pələ́ká	b(ẃ)-	"pawpaws"
fə̂-	gwávà	f(ý)-	"guava"
-	gwávà	m(ẃ)-	"guavas"
-	fĩnyà	ỳ-	"traditional plant consumed against stomachache (sg)"
-	fĩ̄nyà	ȳ-	"traditional plant consumed against stomachache (pl)"
-	mwĩ̄	ẃ-	"tobacco plant"
tə̄-	mwĩ̄	t(ẃ)-	"tobacco plants"
-	ŋkə̀ŋkə̄ŋ	ẃ-	"lawful plant"
bə̀-	ŋkə̀ŋkə̄ŋ	b(ẃ)-	"lawful plants"

(when someone violates an established rule, they are given the lawful plant and consequently, they have to give five goats as fine. Besides, this plant occurs in all the boundaries of Koshin land, except the boundary with Bum people (sign of friendship)).

-	bɨ̀ lùwlə̄	ȳ-	"traditional plant consumed against vomit"
-	bɨ̀ lùwlə̄	ý-	"traditional plants consumed against vomit"

1.2 ADJECTIVES

Adjective	**Gloss**
gòw-lɛ́	"be big"
nzɔ̄ŋə́-lɛ̄	"be good"
dyàbə́-lɛ̄	"be well"
bɛ̀:sɛ́-lɛ̄	"be bad"
jēnə́-lɛ̄	"be dirty"
ŋjɔ̄ŋbə́-lɛ̄	"be sweet"
lə̄lɛ̀-lɛ́	"be bitter"

twàtə́-lɛ̄	“be insipid”
fwàsɛ́-lɛ̄	“be rotten”
kùlə́-lɛ̄	“be slimy, be rough”
lwāfə́-lɛ̄	“be soft”
shələ́-lɛ̄	“be hot”
dyələ́-lɛ̄	“be cold”
ŋjēŋfə́-lɛ̄	“be happy”
nshēn-lɛ́	“be sad”

1.3 VERBS

1.3.1 Motion

Infinitive-root		Gloss
kə̄-	dzūbə́	“to run”
kə̄-	né	“to go”
kə̄-	gē	“to go near”
kə̄-	lǐyā	“to go far”
kə̄-	yá	“to go up, to climb”
kə̄-	shǐ	“to go down”
kə̄-	kwē	“to come back”
kə̄-	nǐ	“to walk”
kə̄-	sə̄́	“to limp”
kə̄-	gá	“to fly”
kə̄-	yə́	“to start”
kə̄-	fwə̄	“to go out”
kə̄-	zhyə̃̄	“to enter, to reach”

1.3.2 Rest

kə̄-	shɪ̌́	“to rest”
kə̄-	dɔ́m	“to be, to stay”
kə̄-	tyəmə́	“to stop”
kə̄-	tɪ̌yālə́	“to remain”
kə̄-	kə́tsə̄	“to sleep, to live”
kə̄-	jəmə́	“to wait for”
kə̄-	léy	“to grow”
kə̄-	kpə̄	“to die”
kə̄-	wé`	“to breathe”

1.3.3 Induced position (including giving)

kə̄-	wɔ́nə̀	“to lay down”
kə̄-	dúwmə̀	“to jump”
kə̄-	tɛ̄́	“to swim”
kə̄-	nɛ́	“to play”
kə̄-	jám	“to collide”
kə̄-	gɔ́	“to fight”
kə̄-	fá	“to give”

1.3. 4 Affect

kə̄-	dé	“to cook”
kə̄-	kpá	“to burn”
kə̄-	fwɛ̄	“to roast”
kə̄-	kǐyā	“to fry”
kə̄-	nyāmɔ́	“to mix food within the pot”
kə̄-	náy	“to dress”
kə̄-	yɛ̃́	“to put one’s shoes”
kə̄-	wá	“to wash”
kə̄-	jɛ̄́	“to soak”
kə̄-	sū̃́	“to shake”
kə̄-	fyə̄nɔ́	“to stir solid material within the pot”
kə̄-	kə̄kwā	“to stir liquid material within the pot”
kə̄-	kə̄nsə̄ wǐ	“to kindle fie”
kə̄-	fū	“to remove solid material from the pot”
kə̄-	kwɔ̄	“to stir liquid material from the pot”
kə̄-	kɔ̄m	“to dry”
kə̄-	yɔ́mə̄	“to put a liquid within a container”
kə̄-	kwá	“to catch”
kə̄-	nɔ́m	“to work”
kə̄-	júwā	“to plant”
kə̄-	bǐyā	“to dig up”
kə̄-	fū̃	“to clear the farm”
kə̄-	wá	“to crush”
kə̄-	nyə̄	“to stamp on”
kə̄-	cū	“to grind”
kə̄-	wɛ̄	“to harvest corn”
kə̄-	byā	“to harvest groundnut”
kə̄-	kpɛ́	“to gather fruits”
kə̄-	nə̄ŋ	“to collect spices for cooking”
kə̄-	kɔ́ŋsə̀	“to arrange”

kə-	būm	“to hunt”
kə-	kwā	“to arrest”
kə-	kwā bə-ntùmə	“to fish”
kə-	yálə	“to husk corn”
kə-	bǐyə	“to husk groundnut”
kə-	shǐlə́	“to heat”
kə-	kúm	“to slaughter”
kə-	bgá	“to cut”
kə-	bū´	“to cut into big various parts”
kə-	bə̂	“to cut into two parts”
kə-	mû	“to peel”
kə-	gɔ́zùm	“to make war”
kə-	kɔ̄ŋ	“to drive somebody from a place”
kə-	tūm	“to shoot”
kə-	jwələ́	“to kill”
kə-	jwābə́	“to cause pain”
kə-	bə́	“to carry”
kə-	gə̃	“to lift”
kə-	tūwə	“to beat”
kə-	mɔmdà	“to try”
kə-	fə	“to make, to do”
kə-	tūwə njɔ̄ŋ	“to spit”
kə-	lē´	“to insult”
kə-	shyə´	“to congratulate”
kə-	tâ	“to steal”
kə-	tāŋ	“to buy”
kə-	tāŋə́	“to sell”
kə-	shwásə	“to borrow”
kə-	wū̃	“to build”
kə-	gú	“to open”
kə-	bāŋ	“to cover, to close”
kə-	bāŋə	“to meet”
kə-	yátə	“to leave”
kə-	gɔ́mtə	“to help”
kə-	tǐ	“to put”
kə-	jɪ̃	“to join”

1.3.5 Attention and Mental

kə-	dá	“to see”
kə-	wú	“to hear”

1.3.6 Liking

kə̄-	nə̄ŋə́	“to need”
kə̄-	fǐyā	“to want”
kə̄-	kɔ̄ŋə́	“to like”
kə̄-	sǐsə́	“to laugh”
kə̄-	bílə̀	“to exaggerate”
kə̄-	dám	“to reject, to condemn”

1.3.7 Speaking and Thinking

kə̄-	zámə̀	“to speak, to talk”
kə̄-	bɔ́nə̀	“to greet, to read”
kə̄-	músə̀	“to think over, to hope”
kə̄-	wə́ŋə̀	“to memorize”
kə̄-	tsǐ	“to know”
kə̄-	dyāsə́	“to forget”
kə̄-	bǐ́	“to ask”
kə̄-	dǐyə̄	“to cry”
kə̄-	bɔ̃́	“to call”
kə̄-	tē	“to lie”
kə̄-	yāmə́	“to sing”
kə̄-	dǐyə̄	“to cry”
kə̄-	zǐsə́	“to make noise”
kə̄-	nywālə́	“to beg”

1.3.8 Corporeal

kə̄-	zhǐ	“to eat”
kə̄-	mū	“to drink”
kə̄-	mé	“to swallow”
kə̄-	yán	“to vomit”
kə̄-	ləmtə̀	“to feel sick/to want to vomit”
kə̄-	zyásə̀	“to urinate”
kə̄-	nyǐ	“to defecate”
kə̄-	zhū	“to become thin”
kə̄-	gɔ̄w	“to grow fat”
kə̄-	nɔ̄m	“to taste, to bite”
kə̄-	fwə̄	“to blow one’s nose”
kə̄-	cē	“to sneeze”
kə̄-	shwāsə́	“to suck”
kə̄-	mǐ	“to lick”
kə̄-	tsə́nə̄	“to have sex”

kə̄-	kwāmə́	“to scratch”

1.3.9 Meteorological

kə̄-	nyá	“to rain”

1.4 Adverbials and some nouns with adverbial meanings

We begin with items coding spatial reference and then those which have non-spatial reference.

1.4.1 Spatial

fə́jɔ́	“down”
fɔ̄ŋ	“here”
fū̃	“there, visible”
nɛ̃̄	“there, invisible”
fwɔ̀	“outside”
zū̃ gù	“further up”
nəmfùŋ	“ahead”

1.4.2 Non spatial

bə̀-	ləŋ	b(ý)-	“time”
-	bə̀-zàŋ-fə̄	b(ý)-	“rainy season”
-	nyùm-fə̄	(ỳ)-	“dry season”
-	kpɔ̃̄	ẃ-	“day”
-	kɔ̃̄	ý-	“days”
-	shɨ̄	ȳ-	“week”
-	shɨ́	ý-	“week”
-	wùfwɔ̄	ẃ-	“month”
tə̄-	wùfwɔ̄	t(ẃ)-	“months”
-	zhɨ̀yà	ỳ-	“year”
-	zhɨ́yà	ȳ-	“years”
-	bwíŋ wɔ̀		“dawn”
-	kə̀ntūntū		“morning”
-	kə̀ntūntū-fə́		“this morning”
-	bə̄kwē		“evening”
-	bə̄kwē-fə́		“this evening”
-	nshə̄		“midday”
-	nshə̄-fə́		“this midday”
-	ntwə̄		“night”
-	ntwə̄-fə́		“tonight”
bə̄-	fwə̄	b(ý)-	“darkness”
	wɛ̃̄		“now”

əwɑ̃	"today"
wɑ̃-fə	"after"
ŋ́wələ́-fə	"yesterday"
ḿkpù-fə́	"tomorrow"
lə	"available now"
kpə́n	"enough"

2- Texts

Two texts are transcribed below: the first text is about the origin of Koshin people. It was told at Koshin village by Mr. Ngong Lucas Ju, the chief of the Traditional Council of the royal palace, the 15th August 2012. The text was translated by two consultants: Prince Emmanuel Bum and Mr. Pius Tchenkou, two days later. The second text describes the funeral celebrations. It was told by Prince Emmanuel Bum, the 13th August 2012 and translated the same day by Prince Emmanuel Tah and Mr. Yoah Le, at Koshin village.

2.1 Text 1

kə̀-tyùm kə̄-kɔ̄
NC-story CONC-Koshin people
" The story of Koshin people"

1- kɔ̄ nə́ fwɔ̀ dí Māwā. bə̀ kā tɨ̄kā bə̀-nyə̄ bə̄-bɔ̀ nèny,
kɔ̄ PAST2 come GO IN Mawa. 3PERS.PL CONS let.PAST NC-bother CONC-3PERS.PL THERE
"Koshin people came from Mawa. Then, they let there their brothers,
kɔ̀mə̀ ndɨ̄ mə̄ dɔ̀w-nə̀. bə̀ kā dɨ̄ zhyə̄ny Oku
COMPL water REL.PRON cross-REL.MARK. 3PERS.PL CONS. come reach Oku
because of a river to cross. Then, they came and reached Oku."

2- bə̀ kā dɨ̄ zhyə̄ny Sawi, kā dɨ̄:-sə̀ nə̀mfùŋ
3PERS.PL CONS come reach Sawi, CONS. come-ACT ahead
"Then, they came and reached Sawi, and then they came ahead."

3- bə̀ kā dɨ̄ zhyə̄ny Ndwə̀nə́. bə̀ kā nə̄m bə̄-zhɨ̃̄
3PERS.PL CONS come reach Ndwə̀nə́. 3PERS.PL. CONS. work NC-food
"Then, they came and reached Ndwə̀nə́. Then, they worked in farms"

4- bə̄ kā kə̄-nzɔ̄ŋ. bə̀ kā nē:-sə́ fēny Ndwə̀nə́
IT be.PAST.NEG CONC-good. 3PERS.PL CONS go.near.ACT there Ndwə̀nə́
"It (farm work) was not well. Then, they left Ndwə̀nə́."

5- bə̀ kā dɨ̄ fɔ̄ŋ. bə̄ kā nywā də̀lə̀ yə̀ Nsɔ̀m=lə́
3PERS.PL CONS come HERE. 3PERS.PL CONS. beg place DEF Nsɔ̀m =ADPOS
"Then, they cane here. Then, they begged Nsɔ̀m people for a place (to settle)."

6- bə̀ kā shyəŋ kə̀-jùŋ, kā fā nsɔ̀m = lə́
3PERS.PL CONS. tie NC-bush cow, CONS give Nsɔ̀m community=ADPOS
"Then, they tied a bush cow and gave it to Nsɔ̀m people."

7- bə̀-nsɔ̀m bə́ kā kə̃́ kə̃́ bə́ = kɔ̄
NC-Nsɔ̀m DEF CONS make an agreement agreement ADPOS=Koshin people
"Nsɔ̀m people made a pact with Koshin people."

8- kɔ̄ kā dɔ́m tɨyalə́ fɔ̄ŋ
Koshin people CONS stay remain HERE
"Then, Koshin people stayed and remained here."

9- nsɔ̀m kā yə́ tū bə̃́ bə̀-kɔ̄ jwālə́
Nsɔ̀m people CONS start ? NC.child NC-Koshin people kill
"Then, Nsɔ̀m people started killing Koshin children."

10- kɔ̄ kā gɔ́zùm bə́ = bɔ̀ kā kɔ̄ŋ bɔ̀
Koshin people CONS. make war ADPOS=3PERS.PL CONS. drive 3PERS.PL
"Then, Koshin people made war with them, and drove them."

11- bə̀ kā shɨ̀:sə́ Nigeria. Kɔ̄ kā tyālə́ fɔ̄ŋ.
3PERS.PL CONS go down Nigeria. Koshin people CONS remain HERE
"Then, they went down to Nigeria. Koshin people remained here."

12- fə̃́ wù nə́ tū dí sə̀ à́ nə́ nyā ŋwāŋ.
king REL PRON. PAST2 bring GO IN 1PERS.PL DEM0 PAST2 PAST3 Ŋwaŋ
"The king who brought us was Ŋwaŋ."

13- yə̀́ Ŋwaŋ dí kpāsə̄, Jumbuo Ambuba kā dɔ́m
COMPL Ŋwaŋ GO IN die Jumbuo Ambuba CONS stay
"When Ŋwaŋ died, Júmbuo Ambuba was installed as king."

14- yə̀́ Jumbuo Ambuba dí kpāsə̄, Yoah Mbong Chum, Diang Aso, Kə Fwe, Bum a kə Few, Salomon Yoah Bum, Ju Thomas Bine, Wilson Yoah Bum kā dɔ́m.
"When Jumbuo Ambula died, Yoah Mbong Chum, Diang Aso, Kə Fwe, Bum kə Few, Salomon Yoah Bum, Ju Thomas Bine, Wilson Yoah Bum kā dɔ́m succeded as kings."

15- nə̄ tə̀-fə̃́ bə̀.nē.tūn
IT NC-king NC.four.five
"It is the ninth king"

16- kɔ̄ mɔ̄ bə́ = bə̄-bɨ̀nə̄
Koshin people be.PRESENT ADPOS = NC-dance.
"Koshin people have dances."

17- bə̄ bɔ̄nə̀ bə́ yə̄ nə̀mgà
3PERS.PL call.PRESENT 3PERS.PL COMPL work.corn
"They call them "nə̀mgà".

18- bə̄ bɪ̄nə̀ bə́ jyàlə́.jyàlə́
3PERS.PL dance.PRESENT 3PERS.PL year.year
"They dance them every year."

19- kū w-ɪ̄ = mə̄, sə̀ kānə́ bə̀-kwátà bə̄-tūn:
village CONC-1PERS.PL=ADPOS, 1PERS.PL have.PRESENT NC-quarters NC-five
"In our village, there are five quarters:
Bədɔ̄ŋ 1, Bədɔ̄ŋ 2, Bəbɛ̄, bɔmbù, Bɛ̄bùŋùŋ"

2.2 Text2 tə̄-lɔ́m (funeral celebration)

1- tə̄-lɔ́m mɔ̄ kpɔ̄ wū wù ɗiyə́ nə́ kpə̄sə̄
NC-funeral celebration be.PRESENT day REL.PRON. 3PERS.SG cry.PRESENT PAST2 die
"tə̄-lɔ́m is the day of funeral celebration."

2- sə̀ kānə́ kə̄-kpā ŋkə̃̄. sə̀ mù
1PERS.PL have.PRESENT NC-burn corn beer. 1PERS.PL drink.PRESENT
"We have to cook corn beer. We drink. "

3- sə̀ tɛ̄tə̀ bə̄-byənə̄.
1PERS.PL take care NC-dances
"We take care of dance groups."

4- sə̀ fà ŋkə̃̄ mə̄ kɔ̀ bə́=shǐ yǐ-bɔ̀
1PERS.PL give.PRESENT corn beer DEF kɔ̀ ADPOS=fowl CONC-3PERS.PL
"We give the corn beer and fowl to kɔ̀ group."

5- sə̀ fà ŋkə̃̄ mə̄ fə̀-mbwə̂̃
1PERS.PL give.PRESENT corn beer DEF NC-mbwə̂̃ group
bə́ ŋkə̃̄ mə̄ njàŋ bə́=shǐ yǐ-bɔ̀
CONJ corn beer DEF njàŋ CONJ=fowl CONC- 3PERS.PL
"We give the corn beer and fowl to fə̀mbwə̂̃ and njàŋ groups."

6- sə̀ fà ŋkə̃̄ mə̄ ŋkú̄m bə́=shǐ yǐ-bɔ̀
1PERS.PL give.PRESENT corn beer DEF ŋkú̄m group CONJ=fowl CONC-3PERS.PL
"We give the corn beer and fowl to ŋkú̄m group."

7- sə̀ tyə̃̄ jūwā nyɔ̀m.
1PERS.PL look for.PRESENT sauce meat.
"We find meat sauce."

8- sə̀ fà bə̀-nyə́ bə̀-kǐ b-w-í=lə́
1PERS.PL give.PRESENT NC-mother CONC-wife CONC-/W/-1PERS.PL=ADPOS
bə̄ kpā bə̄ ŋkə̃̄ mə̄
REL.PRON. burn REL.MARK corn beer DEF
"We give (it) to our mothers-in-law who cook the corn beer."

9- kpə̃̄ tə̄-lɔ́m kə̀ntūntū-fə́,
NC.day NC-funeral celebration morning-TIME
sə̀ kānə́ kə̄-gə̄ bə́=shǐ fə̄=dzǐm
1PERS.PL have.PRESENT NC-go ADPOS=fowl ADPOS=grave
"The day of funeral celebration, in the morning, we have to go to the grave."

10-tyə̀ lūmbā fə̄tə̄ tù shǐ yə̀. wù kā bə́ tyáŋ gə̀.
father big compound take.PRESENT fowl DEF. 3PERS.SG CONS. incantatiom
"The eldest father of the compound takes the fowl. He says incantations":

11- ó bàbā! wə nə́ kpə̀sə̀. ə́wɛ̃̀ mɔ̄
INTERJ. Dad! 2PERS.SG PAST2 die. today be.PRESENT
kpɔ̃̄ w-ā wù-tə̄-lɔ́m t-w-ā
NC.day CONC-2PERS.SG CONC-NC-funeral celebration CONC-/^{w}/-2PERS.SG
"Oh Dad, you died. Today is your funeral celebration day."

12-sə̀ f-ə̀-lɛ́ wɛ̃̀
1PERS.PL do-DURATIVE-IMPERF now
"We are doing (it) now."

13-wə̀ nè yá dí dɔ́m bə́ = sə̀
2PERS.SG go.PRESENT UP GO IN stay ADPOS = 1PERS.PL
"You come up and stay with us."

14-sə̀ fə̀ tə̄-lɔ́m tə̄ kə̄-nzɔ́ŋə̀
1PERS.PL do.PRESENT NC-funeral celebration DEF CONC-good
"we do the funeral celebration well."

15-fyā bə̄-gɔ̀ dɔ́m
be.IMPER. NC-fight be
"Do not let fight happen."

16-kɔ̄ zhǐ bə́ mù kə̄-nzɔ́ŋə̀
Koshin people eat.PRESENT CONJ drink.PRESENT CONC-good
"Koshin people eat and drink well."

17-sə̀ kɔ̀ŋ bə̄-kə̄ b-w-á.
1PERS.PL drive NC-devil CONC-/^{w}/-2PERS.SG
"We drive your devils."

18-kā wə̀ gə̀ dɔ́m bə́ = bə̄-bɛ̃́ ny-ɔ̄ kə̄-nzɔ́ŋə̀
CONS. 2PERS.SG go.PRESENT stay ADPOS = NC-siblings mother-2PERS.SG NC-good
"Then, you go and stay well with your siblings."

19-bə̀ kā tùm wɪ̂. tə̄-lɔ́m kā yə̀.
3PERS.PL CONS shoot.PRESENT gun. NC-funeral celebration CONS. start.PRESENT
"They shoot (with gun). Then, funeral celebration starts."

20-kɔ̄ kā yə̀ bə́ = mū-nə̄
Koshin people CONS start.PRESENT ADPOS = drink-ADJ
"Then, Koshin start drinking."

20-tə̄-lɔ́m kā mè bə̄kwē
NC-funeral celebration CONS finish.PRESENT evening
"Then, Funeral cebebration finishes in the evening."

3- Alphabet and Orthographic Principles

Firstly, the alphabetical system is proposed, and secondly the orthographic principles.

3.1 Alphabet

Before proposing the alphabet, it is useful to recall the phonemic inventories of segments and auto-segments attested in the system.

3.1.1 Inventories of Phonemic Segments and Auto-segments

Eight vowels: /i, ɨ, u, e, ɛ, ɔ, ə, a/

Thirty-eight consonants: /b, p, f, m, mb, mf, d, t, s, ts, dz, l, n, nd, nt, ns, nts, ndz, sh, c, j, y, ny, nsh, nc, nj, k, g, gh, ŋ, w, ŋk, ŋg, kp, gb, ŋkp, ŋgb, ŋw/

Three level tones: High tone / ˊ/, low tone /ˋ/, mid tone /¯/

Tree prosodic features: palatalization /^{y}/, labialization /^{w}/, nasalization /^{N}/

As stated in the work, prosodic features are applied exclusively on consonants. While palatalization (also called coronalization) and labialization (or labio-dorsalization) occur at lexical and post-lexical levels, nasalization is attested only post-lexically).

3.1.2 Graphemes

The basic principle generally followed here is to have one grapheme or letter for each phonemic unit, and each phonemic unit is represented by a grapheme. However, in some cases, this general principle has not been fully respected.

3.1.2.1 Vocalic Graphemes

Eight vocalic graphemes are proposed for the eight vocalic phonemes. For practicability, it is more useful to consider in the orthographic system the letter o instead of the phoneme ɔ. Besides the practicability argument, the sound [o] is attested in the language as free variant of the phoneme /ɔ /. Therefore, the following letters should be considered: "**i, ɨ, u, e, ɛ, o, ə, a**". The nasalized vowels are represented by their oral counterparts followed by the consonant "ny". Any long vowel should be written as short vowel.

3.1.2.1.1 Consonant Graphemes

For consonants, all the attested phonemes are represented by graphemes. As adopted throughout the thesis, some symbols are used for practicability instead of the International

Phonetic Alphabet symbols, as follows: “c” is used for the palatal affricate voiceless consonant, “j” is used for the palatal voiced phoneme, “y” for the palatal glide, “sh” for the palatal fricative voiceless consonant, “gh” for the velar fricative, and “ny” is adopted for the palatal nasal consonant. Then, the thirty-eight phonemes will be represented by the following graphemes: “**b, p, f, m, mf, d, t, s, ts, dz, l, n, nd, nt, ns, nts, ndz, sh, c, j, y, ny, nsh, nc, nj, k, g, gh, ŋ, w, ŋk, ŋg, kp, gb, ŋkp, ŋgb, ŋw**”.

In the discussion of consonants, it has been observed that, in some contexts, [kp], [ts], and [s] are allophones originating from the phoneme /k/, [gb] and [z] are allophones of /g/, [w] and [j] allophones of /(d)z/, under the influence of palatalization and labialization. Nevertheless, in these specific cases, the allophones will be provided with graphemes even though it goes against the general principle adopted here. This decision comes from the fact that these allophones are also phonemes in other contexts. However, the sound [z] has been attested as free alternation of the sound [dz]. Therefore, instead of the grapheme “z” corresponding to [z] (allophone of /g/), it will be proposed “**dz**”. Consequently, the following words will be written as follows:

(1)

Phonetic form		Phonological form		Orthographic form		Gloss
Singular	Plural	Singular	Plural	Singular	Plural	
(a) [kp̀i]	[ts̀i]	/^{w}k̀i/	/^{y}k̀i/	“kp̀i”	“ts̀i”	“pot/pots”
[kp̄in]	[ts̄in]	/^{w}k̄in/	/^{y}k̄in/	“kp̄in”	“ts̄in”	“tree/trees”
(b) [gbɨ́yà]	[zɨ́yà]	/^{w}ḡiyà/	/^{y}ḡiyà/	“gbɨ́yà”	“dzɨ́yà”	“house/houses”
[gbɨ́]	[dzɨ́]	/^{w}ḡi/	/^{y}ḡi/	“gbɨ́”	“dzɨ́”	“hundred/hundreds”
(c) [wɨ́]	[jɨ́]	/^{w}dzɨ́/	/^{y}dzɨ́/	“wɨ́”	“jɨ́”	“eye/eyes”
[wūnə̄]	[jūwɨ̀]	/^{w}dzūnə̄/	/^{y}dzūwɨ̀]	“wūnə̄”	“jūwɨ̀”	“feather/feathers”

Concerning words including free alternations of consonants the z and dz, and, nz and ndz, the words will be written with the consonants “**dz**” and “**nz**” adopted as the phonological forms. As stated above, the consonant /ny/ which is prosodized and linked to the preceding vowel at word final position, will be written in the orthographic form. Therefore, [nsɨ̃́] will be written “**nsɨ̄ny**]” (friend).

3.1.2.1.2 Tonal graphemes

Consistently with the *Alphabet général des langues camerounaises* (Tadadjeu et Sadembouo 1984), two out of the three level tones attested in the language will be represented, namely the high and low tone. The mid tone will not be represented in the orthographic system. Then, the sign " ´ " will represent the high tone while the sign " ` " will refer to the low tone.

3.1.2.1.3 Prosodic graphemes

At the lexical level, the prosodic features of labialization and palatalization are taken into account. As shown above, the allophonic consonants resulting from the influence of these prosodic features are included within the alphabetical system. At the phrasal level, the consonants resulting from the influence of labialization, palatalization and nasalization are also included amongst the alphabetical system because they coincide to consonants which have phonemic (and orthographic) value in other contexts. Let us give some examples (all the phonological details are not considered):

(2)

Phonetic form	Phonemic form	Orthographic form	Gloss
[kəfĭsəŋ]	/ kə-fĭ /^{y}/ k-əŋ /	"kəfĭ səŋ"	"my pig"
[tətàŋtwá]	/ tə-tàŋ /^{w}/ t-w-á/	"tətàŋ twá	"my leg"
[bəzhĭmbyá]	/bə-zhĭny /^{N}/ /^{y}/ b-á/	"bəjĭny byá"	"your food"

To recapitulate briefly, the Koshin alphabet distinguishes three tonal graphemes, eight vowels and thirty-eight consonants which can be presented as follows:

(3) Koshin alphabet

Tones/phonemes	graphemes	examples	gloss
/ ´ /	« ´»	ləm	"tongue"
/` /	«` »	shàŋ	"finger"
/ ¯ /	«` »	mu	"farm"
/a/	« a »	tàŋ	"leg"
/b/	« b »	bəni	"corn food"
/c/	« c »	ce	"all"
/d/	« d »	dəwà	"buffalo"
/e/	« e »	kədé	"to cook"

/ə/	« ə »	mwə̀n	“person”
/ɛ/	« ɛ »	bɛ̀	“to cook”
/f/	« f »	fula	“lion”
/g/	« g »	ganə	“corn”
/gb/	«gb»	gbɨyà	“house”
/gh/	« gh »	ghə	“moth”
/i/	« i »	bǐ	“kola nut”
/ɨ/	« ɨ »	bɨ̌	“dog”
/j/	« j »	jwà	“honey”
/k/	« k »	ku	“village”
/kp/	«kp»	kpɪ̄n	“tree”
/l/	«l »	lokò	“cassava”
/m/	« m »	mu	“farm”
/mb/	« mb »	mbòŋ	“cow”
/mf/	« mf »	mfò	“slave”
/n/	« n »	ne	“my mother”
/nc/	« nc »	ncò´	“praying mantis”
/nd/	« nd »	nd̄ì	“water”
/ndz/	« ndz »	ndzenfə́	“happy”
/nj/	« nj »	njoŋ	“saliva”
/ns/	« ns »	nsiny	“friend”
/nsh/	« nsh »	nshwànə	“sand”
/nt/	« nt »	ntùmə	“fish”
/nts/	«nts »	kə̀ntsany	“basket for food”
/ny/	«ny »	nyú	“knee”
/ŋ/	«ŋ»	kənúŋ	“rooster”
/ŋk/	«ŋk»	ŋkùwnə	“guest”
/ŋg/	«ŋg»	ŋgànə	“hill”
/ŋw/	«ŋw»	kə̀ŋwè	“plantain”
/ŋkp/	«ŋkp»	fəŋkɔ́ŋ	“swallow”
/ŋgb/	«ŋgb»	fə̀ŋgbɨ̀	“bat”

/ɔ/	«o »	kəgɔ́	“to fight”
/p/	«p »	pə̀lə̀ka	“pawpaw”
/s/	«s »	sɔ́ŋ	“flute”
/sh/	«sh »	shɨ̌	“fowl”
/t/	«t»	tɔ́m	“axe”
/ts/	«ts»	tsɔ́m	“monkey”
/u/	«u»	dzù	“penis”
/w/	«w»	wany	“child”
/y/	«y»	kɨ́yá	“charcoal”
/z/	«z»	zùmə	“antelope”

3.2 Orthographic Principles

Two main aspects are considered in this part: the way of writing words and the way of calling the different punctuation marks.

Concerning the first point, let us propose that words will be written as follows: the roots and their affixes will be written as one bloc, without a specific mark. For example, the class prefix and the noun root will occur as a single unit. However, the noun and the modifying pronoun within the possessive construction will be written as two separate words: the noun on the one hand, and the pronoun preceded by the concord marker on the other hand. Following this principle, the subject pronoun and the verb will be written as two separate words (except when the subject is the first person singular which can optionally be prefixed to the verb root or to another element of the predicate. It is better to write adpositions as separate words because they mark the whole NPs which precede or follow them. Therefore, it will not be correct to link them to a single member of the NP.

With regard to punctuation marks, the same signs used for languages such as French or English, can be adopted, with the following names:

(4)

Punctuation mark		Koshin name	Meaning
“full stop”	(.)	“*tyəmɔ̂*”	“stop (imperative)” from the *kətyəmɔ́* “to stop”
“comma”	(,)	“*yəmɔ̂*”	“wait” from the verb *kəyəmɔ́* “to wait for”
“semi-colon”	(;)	“*yəmɔ́ fəntə́ŋə*”	“wait a bit”

"question mark"	(?)	*"bǐ"*	"ask" from the verb *kəbǐ* "to ask"
"exclamation mark"	(!)	*"kəmáŋ"*	"surprise" from the noun *kəmáŋ* "surprise"
"colon"	(:)	*"bé"*	"cut (into two" from the verb *kəbé* "to cut"
"suspension periods"	(…)	"*dùwlə̂*"	"many" from the quantifier *dùwlə́* "many"
"quotation marks"	(" ")	"*gú bə́ baŋ*"	"open and close" from the verbs *kəgú* "to open" and *kəbaŋ* "to close"
"new paragraph"		*"tyəmə́ bə́ dúwmə"*	"wait and jump"from the verbs *kətyəmə́* "to stop" and *kədúwmə́* "to jump"

The alphabet and the orthographical principles adopted above can be illustrated through the orthographic transcription of any Koshin text.

3.3 Illustrative Text

Below, a text showing the orthographical techniques that have been proposed is transcribed. It is done into four aspects: the first line (a) shows the phonetic transcription, the second line (b) shows the phonological transcription, the third line (c) deals with the inter-linear gloss, the fourth line (d) presents the orthographical transcription, and the fifth line (e) gives a more or less exact translation of the Koshin sequence into English. The text is about twins. This story has been told by Mr. Pius Tchenkou, father of twins, at Koshin village, the 18th August 2010.

Text: a- [bə̃ bə̀-nyày]
b- /b.àny bə-nyày/
c- NC.child CONC-twin
d- Bàny bənyày
e- "twins"

1- a. [Tānyə mɔ̄ mwən bə̃ bə shāŋ fi]
b. /Tānyə dɔ̂ m mwən bāny bə shāŋ fi /
c. Tānyə be.PRESENT person NC.child DEF twins two
d. Tanyə mo mwən bany bə shaŋ fi.
e. "Tanyə is a person with twins."

2- a. [Mānyə mɔ̄ nyə́ bə̃ bə shāŋ fi]
b. /Mānyə dɔ̂ m nyə́ bāny bə shāŋ fi /
c. Mānyə be.PRESENT mother NC.child DEF twins two
d. Manyə mo nyə́ bany bə shaŋ fi.
e. "Manyə is a mother of twins."

3- a. [ā wə kānə bə̃ bə shāŋ fi ə́ kɔ̄,]
b. /ā wə kānə́. ` bāny bə shāŋ fi ə́=kɔ̄, /
c. COMPL 2PERS.SG have.PRESENT NC.child DEF twins two ADPOS=Koshin people
d. A wə kanə bayn bə shaŋ fi ə́ Ko,
a. [wə́ Mānyə]
b. /wə wú Mānyə/
c. 2 PERS.SG PROG Mānyə
d. wə wú Mānyə
e. "When you get twins amongst Koshin people, you are called Manyə."

4- a. [wə gē bə́ bɔ̀ gbɨ̄yà wū-nyày]
b. / wə gē.` bə́=bɔ̀ /^{w}/.gɨ̄yà wū-nyày /
c. 2PERS.SG go near.PRESENT ADPOS=3PERS.PL NC.house CONC-twin
d. Wə ge bə́ bò gbuyà wunyày.
e. "You go with them to the twin house.'

5- a. [bə fyənə bə̃ bə̄]
b. /bə fyənə.` bāny bə /
c. 3PERS.PL wallow NC.child DEF
d. bə fyənə bany bə.
e. "They make the children wallow."

6- a. [wə kwē:sə́ dɨ́ gbɨ̄yà wā=mə̄]
b. /wə kwē-sə́ dí /^{w}/.gūyà w-a=mə̄]
c. 2PERS.SG come back-ACT GO IN LAB.house CONC-2PERS.SG=ADPOS
d. Wə kwēsə́ dí gbɨ̄yà wā mə̄.

e. “You come back to your house.”

7- a. [wə fwɛ̃ shĭ]
b. /wə fwɛ̄.̀ shĭ/
c. 2PERS.SG burn.PRESENT fowl
d. Wə fwɛ̀ shĭ.
e. “You kill a fowl.”

8- a.[wə tɛ̄tə bã̄ bə̄ bə́ shĭ yə̀]
b. /wə tɛ̄tə̄.̀ b.āny bə bə́ = shĭ yə/
c. 2PERS.SG feed.PRESENT NC.child DEF ADPOS = fowl DEF
d. Wə tɛtə bany bə bə́ shĭ yə̀.
e. “You feed the children with fowl.”