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OF BOBO (UPPER VOLTA).

Columbia University, Ph.D., 1976  
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A SKETCH OF THE PHONOLOGY AND MORPHOLOGY OF BOBO  
(UPPER VOLTA)

Mary Lynn Alice Morse

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the degree of Doctor of Philosophy  
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1976

## ABSTRACT

### A SKETCH OF THE PHONOLOGY AND MORPHOLOGY OF BOBO (UPPER VOLTA)

Mary Lynn Alice Morse

While basically following the American structuralist tradition for the description of languages, this dissertation differs from the strictly Bloomfieldian model because of considerable emphasis on historical (diachronic) and socio-linguistic data and techniques. The Bobo language of the Upper Volta is shown to be both linguistically innovative and archaic. Considerable data is shown illustrating the relationship of Bobo with cognate Mandé languages. A discussion of the dialects within Bobo itself is also given.

The Introduction discusses problems involved with the classification of Bobo within the Mandé group, previously published materials and literature, and an ethnographic sketch of the Bobo people themselves, as this serves to elucidate some socio-linguistic questions included in later chapters.

The phonemes of Bobo are divided into segmental (consonants and vowels) and supersegmental (tone, juncture and terminal contours.) Long vowels are interpreted as sequences of identical vowels, two degrees of nasalization (primary and secondary) are discussed and stress is treated as a feature of tone and intonation and not phonemic in the language. /kp/ and /gb/ are discussed in light of historical data as well as their status in Bobo today.

The following phonological units larger than phonemes are

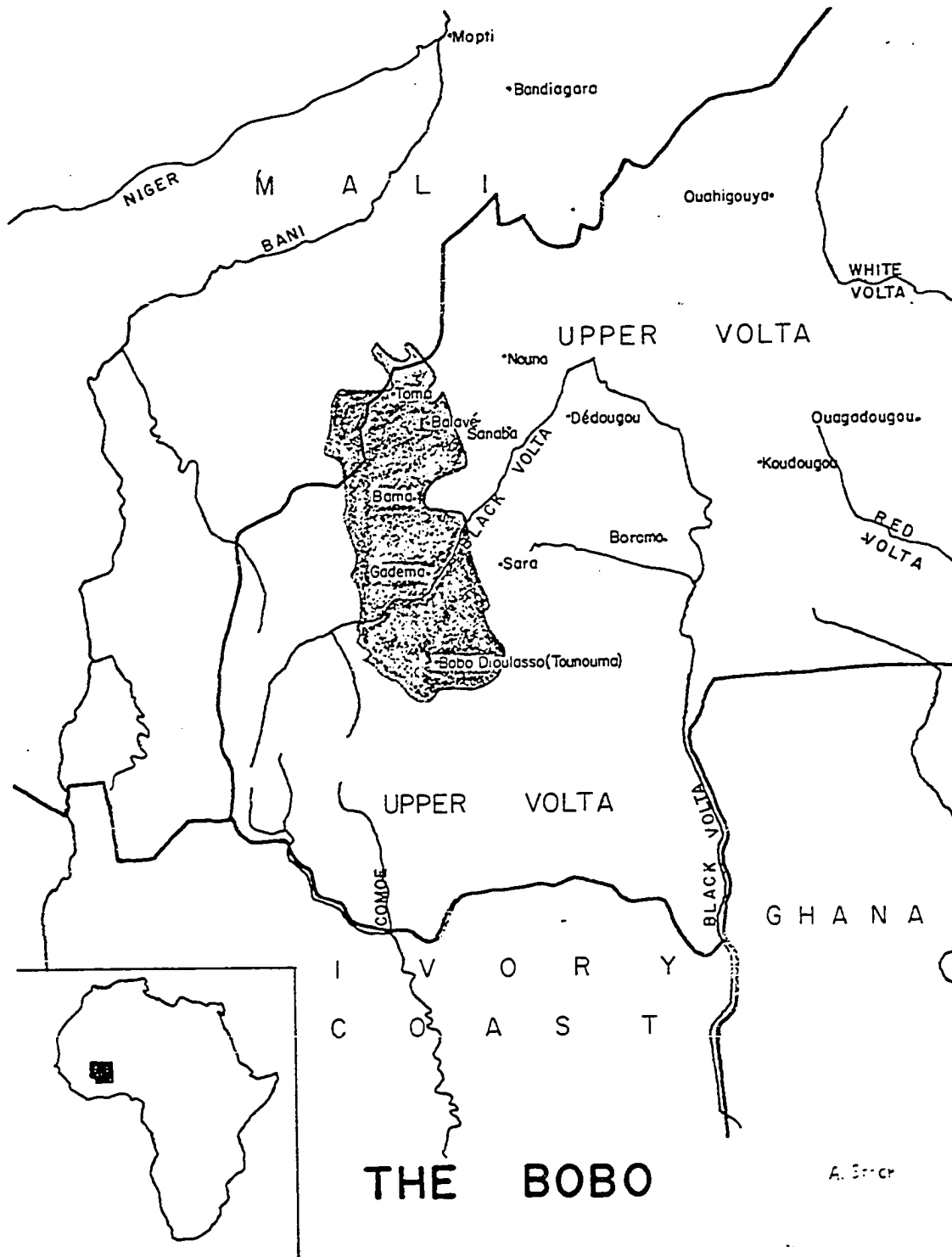
postulated: the syllable, the phonological morpheme, the phonological word, the pause group and the utterance. Criteria for the definition of each unit are given and discussed. Finally, the assimilation of foreign loan words (mostly from French and Bambara) into Bobo is discussed, dealing with such topics of area of vocabulary affected and phonemic shape of loan words.

Three tonal levels (high, mid and low) are set up in Bobo. Tonal glides on short syllables are interpreted as sequences of two tones occupying the same domain. The function of tone is phonemic, morphological and syntactic. Almost all Bobo words are assigned a base (lexical) tone, with the exception of several enclitics. The many and varying causes of tone ablaut (perturbation) are discussed.

The following morphological processes are found in Bobo: affixation (suffixation), replacements (involving vowels and tone), reduplication (partial and complete) and compounding. Examples of each type are given and discussed.

The word classes (parts of speech) are discussed. While it appears that historically, nouns, verbs and adjectives were once one large word class historically, the situation has changed sufficiently to warrant establishing a separate class for them today. Noun pluralization in Bobo is both varied and complex. Evidence is given to support the hypothesis that noun plurals represent the vestiges of a very old noun class system marked by suffixes, which shows historical relationships between Bobo and other branches of the Niger-Kordofanian language family.

The verb morphology of Bobo is discussed and several sub-classes of verbs are listed. Adjectives are only tentatively established as a separate part of speech. Morphologically they resemble both verbs and nouns. Other word classes established and discussed are: numerals, deictic words and demonstratives, postpositions, conjunctions, adverbs, time words and tense and aspect markers. These word classes are established through the use of morphological criteria only. The syntactic or distribution classes of Bobo are quite different.



**THE BOBO**

A. S. ...

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## CHAPTER I

## INTRODUCTION

1.1 The Language. The immediate purpose of this study is to present a description in the American structuralist style of the phonology and morphology of the Bobo language of the Upper Volta (Bóbbò-dà), a Mandé language spoken in the western part of this former French colony in West Africa. This work is based on material gathered during two periods of fieldwork in and around the city of Bobo-Dioulasso, a major city located in the southern part of the Bobo area. The first period was from November, 1961 through October, 1962 and the second was from December, 1968 through May, 1969. The informants for the first period were Messrs. Moussa Sanon, 28 years of age at that time, from the village of Sala, 28 kilometers north of Bobo-Dioulasso, and Christian Sanon, 19, from the village of Tounouma, adjacent to Bobo-Dioulasso. The informant for the second period was Mme. Edith Sanon, 22, also from the village of Tounouma.

The Bobo language area is divided into four major dialect areas: 1) The Tangakiré (tàŋa-kíré) dialect, spoken in the southern part of the region, around the city of Bobo-Dioulasso, is the subject of this study. This dialect is also sometimes referred to as Sia-kuma, the language of the people of Sia (Bobo-Dioulasso.) 2) The Sogo-kiré (sògò-kíré) dialect is spoken in the northern part of the Bobo area, in villages such as Fo, Léna and Balavé. This dialect is the most aberrant. It is not mutually intelligible with the other three dialects and could

therefore be considered a separate language. 3) The Vorè (vòrè) dialect is spoken in the southwest, in villages such as Koumi and Kokorowé. 4) The Sèngè (bèngè) dialect is spoken in a small region in the southeastern part of the Bobo language area, in the villages of Koro and Kotsédougou. The three southern dialects are mutually intelligible, perhaps with a degree of difficulty, requiring the use of slower and more deliberate speech.

The Bobo live in a country where French is the official language, and many Bobo, especially those thirty years of age and younger, speak French to some extent and there are numerous examples of French borrowings incorporated in the Bobo language (see Sec. 4.7). The trade language or lingua franca used in the western half of the Upper Volta and in surrounding areas of Mali and northern Ivory Coast is Bambara (or Dyoula.) Bambara is distantly related to Bobo and is also the source of many borrowed words, many of which are ultimately derived from Arabic. Approximately half of the Bobo people, with the highest proportion in urban areas and large villages, are bilingual in Bobo and Bambara. Most commercial transactions and inter-tribal contacts are carried out in Bambara, which is also the language used for communication and trade between speakers of the three southern Bobo dialects and those from the northern dialect area.

1.1.1 Classification. Bobo is a member of the Mandé (or Mandingo) language family, one of the seven branches of Niger-Congo, according to the classification of Joseph H. Greenberg<sup>1</sup>. There are approximately

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<sup>1</sup> Joseph H. Greenberg, The Languages of Africa. Bloomington, University of Indiana Press, 1966.

thirty major languages in the Mandé group. These are spoken in West Africa from eastern Senegal to the northwest corner of Nigeria. The Mandé language family originated in the east and moved westward in a series of migrations along the Niger River. Mandé peoples were among the earliest arrivals in the Upper Volta. Their early arrival in their present location is strongly attested by historical and linguistic evidence as well as by the oral traditions of the people themselves. The Bobo are believed to be the earliest arrivals in the Upper Volta. According to their traditions, their original Mandé ancestors settled Tiguisso, a village still occupied by Bobo people. Mandé languages have been classified by William E. Welmers<sup>2</sup> as well as by Greenberg. The internal classification of Mandé by Welmers and Greenberg coincides almost completely except for their placing of Bobo. Both authors agree on a major split between languages spoken in the northern and western part of the Mandé area and those spoken in the southern and eastern parts. Welmers calls these two groups North-Western Mandé and South-Eastern Mandé. Greenberg refers to them as Western and Eastern Mandé. In every case Welmers' North-Western group coincides with Greenberg's Western group, and Welmers' South-Eastern group agrees with Greenberg's Eastern group, except for Bobo. Welmers places Bobo in the South-Eastern group, and Greenberg places it in his Western group. The North-Western (Western) branch includes such languages as Bambara, Kpelle,

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<sup>2</sup> William E. Welmers, "The Mandé Languages", Georgetown University Monograph, Series on Languages and Linguistics, II, 1958.

Soninké, Vai, Mende, Loma and Susu. The South-Eastern (Eastern) branch includes such languages as Nwa, Dan-Gio, Mano, Samo (Samogo), Bisa (Busansé) and Busa. I have made a preliminary statistical word count using Swadesh' 200-word list comparing Bobo with several languages from both branches of Mandé and find Bobo to be slightly closer to the North-Western (Western) group, thus confirming the classification of Greenberg. For example, based on a comparative word count between Bobo and Bambara and Bobo and Susu, the results are 19 and 18 percent cognation respectively. In a comparison of Bobo with Samogo and Nwa, the results are 15 and 13 percent respectively.

1.1.2 Published materials and literature. There has been very little published on the Bobo language as yet. There is a brief discussion of the nominal and verbal functions of Bobo tones in M. Houis' article "Schèmes et fonctions tonologiques," Bulletin de l'Institut Français d'Afrique Noire XVIII, Nos. 3-4, Juillet-October, 1956. There are four pages of grammatical notes and 408 vocabulary items in A. Prost's Les Langues Mandé-Sud du Groupe Mana-Busa, IFAN-Dakar, 1953. Prost has recently completed a grammar and dictionary of Bobo which is presently in publication. There are several references to Bobo in M. Houis' "Rapport sur les langues du groupe Mandé" in Actes du Seconde Colloque International de Linguistique Négro-Africaine, Dakar, 12-14 avril, 1962, Dakar, 1963. There is also literature in Bobo such as catechisms, primers, song books and translations of various portions of the Bible, printed by both the French Catholic and American Protestant missionaries working among the Bobo. Some excellent ethnographic

material on the Bobo has appeared recently in Tierce Eglise Ma Mere, Paris, Beauchesne, 1972, written by Rev. Dr. Anselme Sanon, Bishop of Bobo-Dioulasso.

1.2 The People. There has been some confusion in terminology in the literature pertaining to the Bobo people and their language. Earlier French writers (Delafosse, Tauxier) referred to them as Sya. This is the name used by both Welmers and Greenberg in their classifications and discussions of Mandé languages. The name Sya is actually the Bobo word for the city of Bobo-Dioulasso, and should not be used to refer to the people themselves. The Government of the Upper Volta officially refers to them as Bobo Fing, or Black Bobo. The Bobo have frequently been classed together or confused with an adjacent ethnic group, the Bwa (Bobo Oulé, or Red Bobo.) Jean Cremer<sup>3</sup> applies the term Bobo to the Bwa, since the ethnographic details in this book describe the Bwa, not the Bobo. In several Government publications, a group called "Bobo" are described as numbering 275,000 people and living in such cities as Dédougou. Since Dédougou is in the Bwa area, and the population of the Bobo treated in this study was never estimated to be more than 60,000, the two groups are obviously considered to be one people. While these two groups are adjacent and share a long period of contact and mutual borrowing, they are not closely related, culturally or linguistically. The Bwa, in fact, belong to the Gur (Voltaic) language family, a separate branch of Niger-Congo. The Bwa refer to themselves as Swaba (singular Swamu) while the Bobo call themselves Boboi (singular

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<sup>3</sup>Jean Cremer, Matériaux d'Ethnologie et de Linguistique soudanaise, Tomes III et IV: Les Bobo. Paris, Geuthner, 1927.

Bobo.) As Guy LeMoal concludes in his article "Note sur les populations Bobo", "Il est à recommander d'abandonner le terme Bobo Oulé et d'adopter Bwa, les Bobo Fing devraient s'appeler Bobo tout simplement".<sup>4</sup>

The population of the Bobo was estimated to be 52,344 in 1960 and is probably somewhere between 60 and 70 thousand today, distributed among at least 171 villages. Most of the villages are located in the extreme western part of the Upper Volta, in the Cercle of Bobo-Dioulasso. A few villages, in the north, extend across the border into Mali. The Bobo are divided into three endogamous castes, sàsá (cultivators), kàrè (griots) and kòlò (blacksmiths.) The cultivators comprise approximately 90% of the population, while the griots and blacksmiths make up the remaining 10%. Griots function as drummers, praise-singers, genealogists and religious specialists. Blacksmiths are basically metalworkers, who do some cultivation on the side. They also serve as grave diggers, dispute settlers and medical specialists in the treatment of broken bones and minor diseases. Wives of blacksmiths are often pottery-makers and play a role in initiations. Both griot and blacksmith castes occupy their own villages or separate sections of villages, and are not permitted to marry either cultivators or non-Bobos. Blacksmith and griot castes have a widespread distribution in West Africa. Invariably they are believed to have originated elsewhere and attached themselves to their particular people many centuries ago. The cultivators have

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<sup>4</sup> Guy LeMoal, "Note sur les populations Bobo," Etudes Voltaïques, I, 1960, p. 17.



ambivalent feelings toward these castes. For example, they assign unpleasant tasks to the blacksmiths (chasing rabid dogs, preparing corpses for burial) and consider them basically inferior, but they give them important roles in initiation and religious ceremonies and consider them necessary as guardians of social order.

Bobo economy is based on grain agriculture with some craft specialization and trade. The cultivators, as well as many griots and blacksmiths, live three months of the year in their villages and nine months a year in temporary shelters in their fields surrounding the villages, engaged in the cultivation of several species of millet and sorghum, peanuts, yams, and a variety of beans, peas and garden vegetables. This dichotomy in habitation between the village (*kùrù*), place of permanency, comfort and safety, and the bush (*lò*), place of lawlessness and danger, permeates other aspects of Bobo life. A crime, for example, is far more serious and severely punished if it takes place in the village than if it occurs outside of a village.

The Bobo are organized into patrilineal clans (*sínákùmà*) and lineages (*wákùmà*.) There is no central political authority uniting all the Bobo, and each village is autonomous and independent. What does unite the Bobo is a common language and culture. A question or statement to a stranger begins with the phrase *ma darè* 'I say that...' Anyone who understands and responds is identified as a Bobo. Villages consist of one, or, in the case of larger villages, possibly several patrilineages of the same clan. Every village is under the leadership of a village

chief, who is often also the lineage head, called *dùgùtígí* or *kìrè-vó*. This chief is assisted by other old men of the village, who serve as his council or advisers. It is the job of the village chief and his associates to judge crime and maintain harmonious relations in the village between its residents and each other, neighboring villages and the supernatural (ancestral and non-ancestral spirits.) It is very important for a village to keep its reputation for peace and justice or else its inhabitants will move elsewhere and the young men of the village will have trouble finding wives.

Houses in a typical Bobo village are rectangular in shape, made of mud bricks with supporting wooden frames. Many of the houses are contiguous and are usually two stories high. Damage to the houses done in the rainy season is repaired in the dry season, after the agricultural work is over. On a pole at the edge of the village stands the *yèlè-sónó*, the guardian fetish of that village. The village is further subdivided into smaller segments, fragmentary lineages and extended families, *zàkáné*, under the leadership of a *zàkáné-tò*, or *kò-té* 'head of the house'. The village is the unit of habitation for the Bobo, and the lineages serve as the unit of collective work, *fóróbà*. For five days a week, during the rainy season, all males of the lineage work together cultivating their common, lineage fields (*fóróbá-lò*) under the direction of the lineage head. Here they grow the "sacred" crops: little millet, red sorghum, sesame and fonio. The harvest of the *fóróbá-lò* is divided into two parts. The first is given equally to the wives of all the workers and the second is stored in a

lineage granary (mòlò) until time of need. When famine time arrives, this grain is apportioned to families according to need. In principle this grain can not be sold, except to buy sacrificial animals, not for paying taxes or other expenses. The remaining two days a week, male members of the smaller units, zàkàń, work their family plots, and grow the "non-sacred" crops: white millet, peanuts, yams, peas and beans. These crops are stored in family granaries and can be sold.

The crime rate does not appear to be very high among the Bobo. Theft, sorcery and murder are the most serious crimes, and are punishable by severe beatings, fines and, in former days, by death. Crimes and infractions of social rules are considered a menace to the entire group which, if unconfessed and unatoned for, could bring punishment to everyone. Restitution and confession in the case of theft, or the sacrifice of a chicken or goat in the case of incest or sorcery, will restore normal relations in the village. The Bobo have various ordeals to ferret out unknown offenders and all unusual deaths must be investigated to discover the cause. Here they make use of divination techniques such as throwing down small stones to read their patterns or killing a white chicken to see if it will come to rest on its back or stomach, thus revealing guilt or innocence.

While the Bobo are basically patrilineal, there are traces of matrilineality which remain in their culture, leading to the assumption that at one time they were matrilineal, as is the case with some neighboring peoples. The amount of matrilineality which remains seems to vary from village to village. In some areas,

inheritance of livestock and money is from a deceased man to his sister's sons, and the matrilineal ancestors are honored and consulted more than the patrilineal ancestors. Elsewhere all inheritance strictly follows patrilineal lines and about all that remains of matrilineality is a distinctive term for the mother's brother, *kìyè*. In some Bobo villages the chieftainship is inherited matrilineally, but in most cases, if a chief dies, his younger brother succeeds him, and after that his own sons. There is always a distinction, in inheritance affairs, between siblings older and younger than the deceased. Younger siblings can inherit from an older, but never vice versa.

Bobo kinship terminology is basically Iroquois and employs the criteria of generation, sex, affinity, bifurcation and relative age. The Bobo practice lineage exogamy and there is preferential cross-cousin marriage between a young man and the daughter of his father's sister. This creates ties of reciprocity between lineages, since the lineage of the father, having yielded a girl to the lineage of her husband, expects a daughter in return. There is no real bride price among the Bobo, but often a form of suitor service. For three years after the public announcement of the engagement and exchange of symbolic gifts the future groom is expected to work in the fields of his future father-in-law, assisted by some of his friends and age-mates. Aside from this, there are only some token gifts of millet beer given periodically to the girl's father and also to the chief of her village. In many Bobo villages traces of mock bride capture remain. When the girl's father feels that she is ready for marriage, he notifies

the future husband to come and get her. When he arrives, accompanied by a dozen or so of his lineage-mates, the girl resists and attempts to run away and hide. The result is a scuffle, after which the new bride is carried away to her new home, in the groom's village. In recent years arranged marriages have become less frequent, especially among educated young people in the Bobo-Dioulasso area, and it is no longer obligatory to accept a mate chosen in the traditional manner. Nevertheless, restrictions against marrying outside of one's caste or tribe do not appear to be weakening.

Polygamy is legal but fairly rare among the younger men. Divorce is easy for men and is permitted for such reasons as infidelity, childlessness, bad temper and poor cooking. A woman has greater difficulty divorcing her husband for reasons other than extreme neglect, mistreatment or impotency. As elsewhere in Africa, marriage is considered a contract and permanent bond between two kinship groups, both of which have an interest in holding the union together. A runaway wife is usually compelled to return to her husband. However, if she frequently runs away and/or refuses to perform wifely duties for her husband, the husband will let her go and be satisfied with the payment of a goat or several chickens from the next man she marries. Traditionally, a widow is inherited by a younger brother of her late husband. In practice, she has the right to choose any man from the lineage of her husband, or, if elderly, to remain single.

A woman gives birth in her husband's village, assisted by his female relatives and midwives. The placenta is buried to give fertility to the soil. Twins are considered a good omen of coming

fertility. The education of a Bobo child begins at age 6 or 7 with first initiation to the cult of the spirit *Dò*. A second, more important, initiation takes place later, every seven years, thereby dividing all Bobo males into age sets of seven year intervals. The purpose of this second initiation is to mark the boys' transition to manhood and integrate them into adult society. The initiation takes place in a clearing outside of the village and lasts from several weeks to three months. It consists of learning a secret language (*lúwò*), further presentation to the cult of *Dò* and the learning of adult male-oriented secrets and traditions. Before initiation, a boy is called *síní-kíè* 'man not formed.' Afterwards he is a *yèlè* 'adult man.' Age sets formed at this time remain together throughout life and are given particular assignments. The oldest age sets assist the chief and do light tasks like basket-making and repairing gourds. The age-set of young men of marriageable age work together for each other's future fathers-in-law.

Bobos view death as a passage and never as an end of existence. The death of the aged is good and normal, but the death of a young person is bad and abnormal and the cause must be sought and the offended spirit or ancestor placated or the human murderer punished. Funerals are necessary to enable the soul of the dead person to leave its body. Bobo funerals occur in three stages, the first of which is the immediate burial of the body. A second ceremony, *sàkò-bì*, whose purpose is sending the soul on its way to the abode of dead persons, may take place simultaneously with the first or several weeks later. The third and final ceremony, *sàkò-kwíè*,

is performed during the dry season, on behalf of all the people of the village who have died that past year. Masked dancers, who are members of the cult of Dò, appear in fibrous costumes and are believed (by women and children, at least) to be actual representations of the ancestors. After this third funeral, the souls of the recently deceased villagers are permitted to cross a large river and actually enter into the home of the dead (wàrà-fórò.)

A belief in reincarnation is widespread among the Bobo. A soul may choose either to go to the home of the dead or to return to its family. The souls of dead children invariably choose reincarnation. A baby boy, born after the death of his older sister, is believed to be her, changed into a boy, and given the name fà-baré 'thing that changed.' While the Bobo don't appear to have an ancestor cult as defined by Meyer Fortes<sup>5</sup> (Bobo women may honor their husbands' ancestors, both matrilineal and patrilineal ancestors are sacrificed to, and people with no descendants can still become ancestors); nevertheless, ancestors play an important role in Bobo life, as a living link between the past and the present, guardians of morality and protectors of the village. The ancestors, sòmàlálá, are sacrificed to in the case of illness or sterility, and honored at funerals and other religious occasions.

Wùro is the high creator god, equated with the sky. He is the highest ranking of all spiritual beings, but is so remote and detached from the affairs of the people that there is no cult to him, and while his name is used constantly in benedictions, no

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<sup>5</sup>Meyer Fortes, "Some reflections on ancestor worship in Africa," African Systems of Thought, ed. by M. Fortes and G. Dieterlen, 1965.

sacrifices are made in his honor. To communicate with *Wuro*, one must use any number of spirit mediators, above all the fetish *Dò*. Virtually all the elements of Bobo religion, as well as the presence of a remote creator God, are commonly found in other West African religious systems. There is also an earth goddess, *làgà-ró*, connected with fertility. There are various taboos to avoid contaminating the earth (such as not granting burials to sexually deformed people or some criminals) and white sheep and chickens may be sacrificed to her, but on the whole the Bobo earth goddess does not play an important role in the religious life of the people, which is the exact opposite from the case found among some neighboring tribes such as the Tallensi, Mossi and Dagomba.

By far the most important aspect of Bobo religious life is the spirit *Dò* and the cult of *Dò*, which comprises virtually all adult male members of the society. Physically, *Dò* is easy to define—it appears to be a big, cylindrical package covered with skins, ropes and pieces of iron, which is kept in the home of the leader of the *Dò* cult, the *yèlè-vó*. Mystically, even the Bobo themselves find their chief deity hard to define, for it is really more than just a god, but the major force for unity between the world of the natural and the world of the supernatural, and also the link binding together all Bobo villages and their occupants. Several Bobo writers, describing their culture and beliefs in Lamogoya, a cultural bulletin of the parish of Touncuma, describe *Dò* as follows: "Il est difficile de dire exactement ce qu'est le *Dò*...le *Dò* est une communauté de vie socio-religieuse dirigée par



un roi invisible auquel le village obéit...la mentalité Bobo s'est forgée une vision du monde et dont le foyer de cristallisation est le Dò...cet entité invisible qui impose sa présence et qui maintient la cohérence du village et des villages..." (Lamogoya, Bul. 3, p. 14 and 34.) Dò fulfills the function of the real god of the Bobos, and regulator of their social and religious lives. An offense against the regulations of the cult of Dò is punishable by poisoning and leaders of this cult are most adept at the practice!

There are also several dozen lesser spirits or fetishes, many of whom have their own cults and shrines throughout the Bobo area. For example, there is a shrine to Dàfòra, spirit of fertility, at a cliff near the village of Kounouma, near a pool filled with tiny sheat-fish. A childless couple can go to this pool and sacrifice a chicken to Dàfòra. If a baby results, they must name the child Dàfòra and forever abstain from eating sheat-fish. There is also Dibí, spirit of hunting, Dòbà, spirit of agriculture, Kúru, protector spirit of villages, and Sògò, spirit of death. Other supernatural creatures in Bobo belief are zíní (related to genies in Islamic belief,) wiyàgà (leprechaun-like creatures who live in trees) and zio-díābírè (water sprites.) Some Bobo villages have a totemistic relationship with some plant or animal. This basically takes the form of food taboos in honor of some creature which rendered a service to the ancestors of the village in times past, rather than the idea of common descent.

Other than funerals, the Bobo have several important religious festivals. The most important is Sàni, a combination of

Thanksgiving and New Year's Day which marks the return to the villages at the end of the harvest season. Another, *Yísà*, is a first-fruits ceremony at the beginning of the harvest season.

The most important social values on which Bobo society is based seems to be the idea of *lámógó-yà*, from which the above-mentioned cultural bulletin is named. The closest English translation to this is 'brotherhood, kinship or group solidarity.' The cult of *Dò*, which unites all Bobo villages, age grades and initiations, which unites men of the same age range, the funerals and attachment to the ancestral land, which unite living and dead members of the community, all seem to submerge themselves into this larger ethic or social value which gives a Bobo a sense of relationship and belonging in his immediate environment and the security of living in a logical and ordered universe. Writing in *Lamogoya* (*ibid.*, p. 34) Dr. Anselme Sanon concludes, after discussing all these unifying factors, "Celui qui vit cela, vit le LAMOGOYA, qui est l'ensemble de tous ces traits. Et vivre dans le Lamogoya, c'est être sûr - dit-on, de la bénédiction de Wuro (Dieu), sûr du chemin qui parvient chez les Ancêtres (somlala)."

This ethnographic background sketch is included because I believe that it may serve to elucidate some socio-linguistic questions which are passingly referred to, such as alienably and inalienably possessed kinship terms, differences between male and female speech. etc.

## CHAPTER II

## THE SEGMENTAL PHONEMES

Chapters II, III and IV will describe the phonological hierarchy of Bobo, which consists of the phoneme, the syllable, the phonological morpheme, the phonological word, the pause group and the utterance.

The primary segmental phonemes are consonants and vowels which are distributed segmentally and sequentially in the syllable. The function of consonant phonemes in the syllable is marginal and non-syllabic. Vowels are central, syllabic and tone-bearing.

The following is a brief summarization of the segmental phonemes of Bobo:

Consonants: /p b t d k g kp gb f v s z m n ñ ŋ h w y/

Vowels: Oral: /i e ε a ɔ o u ə (schwa)/

Nasal: /ɪ ɛ̃ ã ɔ̃ ũ/

## 2.1 Consonants

## CONSONANT PHONEMES

	Bilateral	Labio-dental	Alveolar	Palatal	Velar	Labio-velar	Glottal
Voiceless stop	p		t		k	kp	
Voiced stop	b		d		g	gb	
Voiceless fricative		f	s				h
Voiced fricative		v	z				
Nasal	m		n	ɲ	ŋ		
Lateral			l				
Flap			r				
Semi-vowel				y		w	

General remarks about consonants. There are 21 consonant phonemes in Bobo, which contrast at seven points of articulation. Consonant permutations (initial consonant alternations) found frequently in Mandé languages of the South-Western branch (Kpelle, Loma) and occasionally in the Southern sub-branch (Guro, Gbã) are completely missing in Bobo.

Most consonants can be modified by certain secondary articulations--either pronounced simultaneously with or immediately following the consonant and which determine the allophones of the consonant. These secondary articulations are:

- a. Labialization or lip-rounding, symbolized by a sub-script  $\underset{\sim}{}$ .
- b. Nasalization--simultaneous and partial release of air through the nasal passage, symbolized by  $\underset{\sim}{}$ .
- c. Affricated release immediately following a plosive consonant, symbolized by a sub-script  $\underset{+}{}$ .
- d. Fronting--the pronunciation of a normally velar consonant in pre-velar position, symbolized by a sub-script  $\underset{\wedge}{}$ .
- e. Palatalization--the pronunciation of an alveolar consonant in pre-palatal position, symbolized by  $\underset{c}{}$ .
- f. Partial devoicing of a normally voiced consonant, symbolized by a sub-script  $\underset{o}{}$ .

Aspiration is not treated as secondary articulation but as a basic feature necessary to the definition of the phonemes which possess it.

All consonants in Bobo are non-syllabic except /r/ in several

French loan words: pudr̥ 'powder' and fl̥ɛr̥ 'flower.'

Description of consonants and their allophones. The consonant phonemes are phonetically realized as follows:

Stops. The voiceless stops are usually slightly aspirated; the voiced stops are not.

/p/ is a voiceless bilabial aspirated fortis stop. Before the front high vowel i it has a breathy quality and is pronounced with an affricated release [p̚]. Before back vowels u, ũ, ɔ, ɔ̃, ɛ̃ it is slightly labialized [p̚]. [p] occurs elsewhere.

Examples: /pi/ 'baobab tree' [pi̥]  
 /pũ/ 'younger sibling of the same sex' [pũ̥]  
 /pá-pà/ 'big, mature, adult' [pápà]

/b/ is a voiced bilabial unaspirated lenis stop. It occurs with affricated release before i [b̚] and is rounded before back vowels u, ũ, ɔ, ɔ̃, ɛ̃ [b̚]. In rapid speech it often has a fricative allophone [β] when it occurs morpheme medially between vowels a-a and ɛ-ɛ. [b] occurs elsewhere.

Examples: /bí/ '1st person subject pronoun, emphatic' [bí̥]  
 /bu/ 'sickness, epidemic' [bu̥]  
 /tàbá/ 'knife' [tàβá]  
 /sɛbɛ/ 'to write' [sɛβɛ]  
 /ba/ 'to ascend, climb, mount' [ba]

/t/ is a voiceless alveolar, aspirated fortis stop. It occurs with mild aspiration in all occurrences. It is farther front than the American English /t/, especially before front vowels and a. It is rounded before back vowels [t̚]. A voiceless palatal stop allophone [c] occurs when /t/ is followed by i or ĩ and another

vowel which is not i or ɪ. [t] occurs elsewhere.

Examples: /tuba/ 'hot' [tuba]  
 /tɪã/ 'truth' [tɪã]  
 /tã/ 'to stand, stop' [tã]

/d/ is a voiced alveolar unaspirated lenis stop. Like /t/, it is farther front than American English /d/, especially before front vowels and a. It is labialized before back vowels [ɖ].

Flapped r was originally a medial allophone of /d/ but is now interpreted as a separate phoneme (see section 2.5.) A voiced palatal stop allophone [j] occurs when followed by an i or ɪ plus some other vowel. In this position there is no contrast between /d/ and /g/. See section 2.5 for a fuller discussion of this problem. [d] occurs elsewhere.

Examples: /dú/ 'plot, trick' [dú]  
 /diemã/ 'to help, assist' [jiemã]  
 /da/ 'matter, affair' [da]

/k/ is a voiceless velar aspirated fortis stop. It is always accompanied by slight aspiration. It is rounded before back vowels [k̟]. It has a fronted allophone [k̠] pronounced in pre-velar position before i, ɪ and e. Before front vowels i and ɪ immediately followed by another vowel which is not i or ɪ, it is realized as a voiceless palatal plosive [c]. In this position there is no contrast between /k/ and /t/. [k] occurs elsewhere.

Examples: /kù/ 'debt, obligation, turn' [kù]  
 /kibe/ 'to open' [kibe]  
 /kiorɔ/ 'twenty' [ciorɔ]  
 /ka/ 'to put, place' [ka]

/g/ is a voiced velar unaspirated lenis stop. In rapid speech it has a fricative allophone [ɣ] when word medial between two a's. It has a rounded fricative allophone [ɣ̥] when word medial between two ɔ's. There is a fronted pre-velar allophone [g̊] before front vowels i, ɪ and e. When followed by a vowel cluster consisting of i or ɪ followed by a different vowel, /g/ is realized as a palatal plosive [j]: It is rounded [g̥] before back vowels. [g] occurs elsewhere.

Examples: /bàgà/ 'to implant' [bàɣà]

/sógò/ 'panthers' [sóɣò]

/gìná/ 'species of snake' [gìnáɣìná]

/gǎ/ 'rat trap' [jǎ]

/gũ/ 'to search, look for, obtain' [gũ]

/ganá/ 'country, territory' [ganá]

/kp/ is a voiceless, co-articulated labio-velar unaspirated fortis stop. There is articulation at both the lips and velum simultaneously. Among most speakers of the Tounouma dialect, /kp/ has as an allophone the consonant cluster [kw]. Some speakers use them completely interchangeably, while others tend to pronounce kp before a, á, e and é, and kw before i and ɪ. Neither occurs before back vowels or e. The problem of the interpretation of [kp] and [kw] will be discussed further in section 2.5.

Examples: /kpâ/ 'to fear' [kpâ] [kwâ]

/kpí/ 'millet beer' usually realized as [kwí]

/kpâ/ 'millet beer, plural' usually realized as [kpâ]



/gb/ is a voiced co-articulated labio-velar unaspirated lenis stop. It is in free variation with [gw].

Examples: /gbá/ 'sheep' [gbá] [gwá]  
 /gbège/ 'dog' [gbège] [gwège]

Both /kp/ and /gb/ have an allophone [ɲw] which appears in word medial position frequently preceding a nasal vowel. See section 2.5 for a fuller discussion of this.

Example: /kpā-kpā-lɔ/ 'elbow' [kpā-ɲwā-lɔ]

### Fricatives.

/s/ is a voiceless blade alveolar fortis groove fricative. It has a slightly palatalized allophone [s<sup>c</sup>] which occurs before the high front vowels i and ĩ. A rounded allophone [s̠] occurs before back vowels. A voiceless alveolar lateral fricative allophone [ɬ] has been noted in unstressed syllables of several polysyllabic words when the following consonant is an l. [s] occurs elsewhere.

Examples: /sĩ/ 'type, species' [s<sup>c</sup>ĩ]  
 /su/ 'medicine' [su]  
 /nĩmĩ-salá-lò/ 'boy' [nĩmĩ-ɬlá-lò]  
 /sa/ 'to leave, exit' [sa]

/z/ is a voiced blade alveolar lenis groove fricative. It is pronounced with the teeth more closed than its voiceless counterpart /s/. It has a slightly palatalized allophone [z<sup>c</sup>] which is realized before the high front vowels i and ĩ. It is rounded [z̠] before back vowels. [z] occurs elsewhere.

Examples: /zio/ 'water' [z<sup>c</sup>io]  
 /zùgù/ 'to sniff' [zùgù]  
 /zà/ 'to see' [zà]

/f/ is a voiceless labio-dental fortis fricative. It is slightly labialized [f̥] before back vowels u, ũ, ɔ, ɔ̃ and ɛ̃. [f] occurs elsewhere.

Examples: /fũ/ 'ten' [fũ]

/fà/ 'thing' [fà]

/v/ is a voiced labio-dental lenis fricative. It is slightly labialized [v̥] before back vowels. [v] occurs elsewhere.

Examples: /vũ/ 'to dip, ladle out' [vũ]

/vã/ 'to whip' [vã]

/h/ is a voiceless glottal fricative. It is rounded [h̥] before the back vowel ɛ̃ (no examples of /h/ followed by any other back vowel occur in the data.) [h] occurs before a.

Examples: /hɛ̃/ 'in, inside, within' [hɛ̃]

/hàlí/ 'even' [hàlí]

### Nasals.

/m/ is a voiced bilabial nasal. It is rounded [m̥] before back vowels u, ũ, ɔ and ɛ̃ (ɔ never follows any nasal consonant in Bobo.) [m] occurs elsewhere.

Examples: /mũ/ 'rabbit' [mũ]

/mã-gà/ 'rabbits' [mã ɣà]

/n/ is a voiced alveolar nasal. It is rounded [n̥] before back vowels. It is slightly palatalized [n<sup>c</sup>] before ĩ. [n] occurs elsewhere.

Examples: /nɔ̃/ 'child' [nɔ̃]

/nĩɔ̃/ 'to marry' [n<sup>c</sup>ĩɔ̃]

/nã/ 'to come' [nã]

/ñ/ is a voiced palatal nasal. It is rounded [ñ̥] before back

vowels ĩ and õ. [ñ] occurs elsewhere.

Examples: /ñũ/ 'to breathe' [ñũ]

/ñã/ 'sauce' [ñã]

/ŋ/ is a voiced velar nasal. It is rounded [ŋ] before back vowels. [ŋ] occurs elsewhere.

Examples: /dũŋũ/ 'black' [dũŋũ]

/ñãŋã/ 'cow' [ñãŋã]

### Lateral.

/l/ is a voiced lateral alveolar continuant. It is always clear. It is slightly nasalized [l̥] preceding a nasal vowel. It is rounded [l̥] before back vowels. [l] occurs elsewhere.

Examples: /lã/ 'custom' [lã]

/lũ/ 'cold' [lũ]

/lõŋõ/ 'hunting-spirit' [lõŋõ]

/lã/ 'to believe' [lã]

### Flap.

/r/ is a voiced apical alveolar flap. A trilled allophone [r̥] occurs in several words after the reduced vowel ə preceded by a voiceless stop. This allophone can also occur at word boundaries where the following vowel has been dropped. It also appears in a few borrowed words adjacent to a consonant. The use of the trilled allophone can also indicate tiredness or a slow tempo of speech. A pre-palatal allophone with a fricative release [r̥<sup>c</sup>] occurs in several tri-syllabic words always followed by an i. The rounded allophone [r̥] occurs before back vowels u, õ and õ. A nasalized allophone [r̥̃] is very rare in Bobo and is found only in several borrowed words and in the interrogative enclitic /-ra/ when preceded by several nasal syllables. There is evidence that a

nasalized allophone of /r/ was once more widespread but has now merged almost completely with /n/. [r] occurs elsewhere.

Examples: /sítara/ 'to bury' [s<sup>c</sup>ita<sup>r̃</sup>a]  
 /bere-dá/ 'conversation' [be<sup>r̃</sup>-dá]  
 /martó/ 'hammer' [ma<sup>r̃</sup>tó]  
 /siriri/ 'to slide' [s<sup>c</sup>i<sup>r̃</sup>i<sup>c</sup>i<sup>r̃</sup>i]  
 /-rú/ 'diminutive suffix' [rú]  
 /wǒ nǎ-ra?/ 'is it that?' [wǒ nǎ-rǎ?]  
 /bara/ 'work' [bara]

### Semi-vowels.

The semi-vowels /y/ and /w/ differ from their vocalic counterparts /i/ and /u/ in that they do not occur as the nucleus of a syllable and do not bear tone. Also, they are less tensely pronounced and are of shorter duration. Their onset is partially, but not completely, syllabic. Both semi-vowels have nasalized allophones [ỹ] and [w̃].

/y/ is a voiced palatal semi-vowel or approximant. It is rounded [ỹ] before back vowels. A nasalized allophone [ỹ] occurs when followed or preceded by a nasal vowel within a phonological word. /y/ is accompanied by considerable friction when followed by i or ɪ [ỹ]. [y] occurs elsewhere.

Examples: /yu/ 'moon, month' [yu]  
 /sǐ-yǒ/ 'masked dancers representing spirits of  
 the dead' [s<sup>c</sup>ǐ-yǒ]  
 /yǒǒ/ 'yonder, over there' [yǒǒ]  
 /yibe/ 'ashes, cinders' [yibe]  
 /yà/ 'wife' [yà]

/w/ is a voiced labio-velar semi-vowel. It is nasalized [w̃] when adjacent to a nasal or nasalized vowel within a phonological word. This nasal allophone is phonetically similar to the co-articulated nasal consonant ɱ, but lacks complete closure at the velum. [w̃] occurs when followed by an oral vowel, word initially, or surrounded by oral vowels word medially.

Examples: /wunã/ 'to burn' [w̃ynã]

/wa/ 'to remove, lift out' [wa]

## 2.2. Vowels

General remarks about vowels. Vowels may be modified by the following secondary articulations:

- a. partial devoicing--symbolized by a sub-script <sub>0</sub>.
- b. automatic secondary nasalization on oral vowels followed by nasal consonants /m n ŋ ñ/ within a phonological word--symbolized by <sub>̃</sub>. (See section 2.5 for a fuller treatment of nasalization.)

### Oral Vowels

		Front	Central	Back
High		i		u
	close	e		o
Mid	open	ɛ	a (schwa)	ɔ
Low			a	

### Nasal Vowels

		Front	Central	Back
High		ĩ		ũ
Mid		ẽ		õ
Low			ã	

Description of vowels and their allophones.

/i/ is a voiced high front oral vowel, pronounced with lips slightly spread. It has a partially devoiced allophone [i̥] which occurs after g. A nasalized allophone [ĩ] occurs when followed by a nasal consonant within a phonological word. [i] occurs elsewhere.

Examples: /sibè/ 'to be able' [s<sup>c</sup>ibè]

/kínà/ 'ladder' [kínà]

/yí/ 'honey' [yí]

/e/ is a voiced mid close front oral vowel, pronounced with lips slightly spread. A nasalized allophone [ẽ] occurs when followed by a nasal consonant within a phonological word. [e] occurs elsewhere.

Examples: /bemã/ 'ancestors' [bemã]

/ségé/ 'goat' [ségé]

/ɛ/ is a voiced close mid front oral vowel. The lips are slightly less spread than when pronouncing /e/. A nasalized allophone [ɛ̃] occurs when followed by a nasal consonant within a phonological word. [ɛ] occurs everywhere else.

Examples: /tɛnɛ̃/ 'heavy' [tɛnɛ̃]

/pɛrɛ/ 'to tie' [pɛrɛ]

/a/ is a voiced open low central oral vowel. A nasalized allophone [ã] occurs when followed by a nasal consonant within a phonological word. [a] occurs elsewhere.

Examples: /sàmìrì/ 'hyena' [sàmìrì]

/gbá/ 'sheep' [gbá]

/ɔ/ is a voiced close mid back rounded oral vowel. A nasalized allophone [ɔ̃] occurs when followed by a nasal consonant within a phonological word. [ɔ] occurs elsewhere.

Examples: /sɔ-nɔ̃/ 'tree' [sɔ̃-nɔ̃]

/sɔ/ 'wood' [sɔ]

/o/ is a voiced open mid back rounded oral vowel. A nasalized allophone [õ] occurs when followed by a nasal consonant within a phonological word. [o] occurs elsewhere.

Examples: /bogolo-nɔ̃/ 'mud brick' [bogolõ-nɔ̃]

/yoro/ 'to dance' [yoro]

/u/ is a voiced high back rounded oral vowel. A nasalized allophone [ũ] occurs when followed by a nasal consonant within a phonological word. [u] occurs elsewhere.

Examples: /dũɔ̃/ 'will, desire' [dũɔ̃]

/dũ/ 'anus' [dũ]

/ĩ/ is a voiced high front nasal vowel. It has a partially devoiced allophone [ĩ̥] when following s. [ĩ] occurs elsewhere.

Examples: /sĩ/ 'sun, day' [sĩ̥]

/nĩ/ 'life' [nĩ]

/ẽ/ is a voiced mid front nasal vowel.

Example: /bẽ/ 'to agree' [bẽ]

/ã/ is a voiced open low central nasal vowel.

Example: /dã/ 'to create' [dã]

/ɔ̃/ is a voiced mid back rounded nasal vowel.

Example: /fɔ̃/ 'to smell bad, stink' [fɔ̃]

/ũ/ is a voiced high back rounded nasal vowel.

Example: /gũ/ 'to search for, obtain' [gũ]

### 2.3. Rare or extra-systemic phonemes.

The high front rounded vowel ɨ occurs in four words in the corpus: pɨ 'to blow', pɨ 'fromager tree', sɨo 'medicines' and kɨa 'toad.' The occurrence of ɨ in these four words results from the dropping of an i in rapid speech. Therefore these words are phonemicized as follows:

/piu/ 'to blow'

/piu/ 'fromager tree'

/si-o/ 'medicines' (originally suyɔ)

/kpiɑ/ [kwia] 'toad'

æ occurs in only one word, kwæ 'houses' and appears to be a variant form of /kɔ̃-ã/. ʌ as in American English cup, ǐ, č, š and ž occur only in loan words (see Section 4.7 on the assimilation of loan words.) The glottal stop exists in Bobo but is treated as a feature of juncture and terminal contours rather than as a phoneme.

### 2.4. Evidence for phonemic contrasts.

#### Stops

The contrast between the voiced and voiceless pairs of single and co-articulated stops is seen in the following words (hyphen = morpheme boundary):

	<u>Word initial</u>	<u>Word medial</u>
/p/	paga 'full'	pá-pà 'adult'
	pɛ 'to blow'	poɓoni 'motor scooter, motor bike'
/b/	baga 'to implant'	tábá 'knife'
	bɛ 'to vomit'	



/t/	tà 'axe'	pete 'flat'
	tǎ 'father'	
/d/	dà 'sore, wound'	ladi 'to correct'
	dǎ 'dirty'	dò-da 'girl's name'
/kp/	kpa 'to make noise, resound'	sà-kpá 'funerals'
	kpǎ 'to fear'	
/gb/	gba 'to close the mouth, be silent'	kpǎ-ghaga 'nailed'
	gbǎ 'too much'	
/k/	ka 'to put'	màka 'to weed'
	kǎ 'foot'	
/g/	-ga 'negative enclitic'	mà-gà 'rabbits'
	gǎ-fúgá 'knapsack, bag'	pege 'tail'

### Fricatives

	<u>Word initial</u>	<u>Word medial</u>
/f/	furo 'white'	kófi 'waist beads'
	fǎ 'to be superior'	dufo 'type of drum'
/v/	vùro 'to hit, beat'	kíre-vó 'village chief'
/s/	sa 'to leave'	dàsí 'cotton'
	sí 'sun, day'	
/z/	za 'to urinate'	zǎ-zǎ 'to disperse'
	zǐ 'face, front'	zèzumǎ 'Friday'
/h/	hǎ 'negative particle'	bà-hǎ 'like similar to'
	hǎ 'in, inside of'	

Nasals

	<u>Word initial</u>	<u>Word medial</u>
/m/	mã 'first person sing. subject pronoun'	tamã 'one franc'
	mí 'to bathe'	
/n/	nã 'to come'	sãnã 'alone, only'
	ní 'life'	
/ñ/	ñã 'sauce'	kiñire 'couscous'
	ñí 'to sleep'	kañã 'to fit, co- incide'
/ŋ/	--	tãŋã 'to sit'
		dũŋũ 'black'

Lateral and Flap

	<u>Word initial</u>	<u>Word medial</u>
/r/	radio 'radio'	vorɔ 'to give birth'
		tara 'wide, broad'
/l/	laga 'to chase'	tálá 'one'
	lã-dá 'custom, habit'	wɔlɔ 'to shine'

Semivowels

	<u>Word initial</u>	<u>Word medial</u>
/w/	wà 'to wash'	mãwulã 'turkey'
	wã 'to burn the mouth, as with red pepper'	lawɔɔ 'chicken pox'
/y/	yà 'wife, woman'	sí-yí 'Masques'
	yã 'much, too much'	páyási 'straw mat- tress' from French <u>pailleasse</u> .

Vowels

<u>Oral</u>	<u>Nasal</u>
sì 'type'	sĩ 'male, man'
sá 'machete'	--
sè 'to hunt, contextually limited to rabbits'	sẽ 'nest'
sà 'stop'	sã 'forest, woods'
so 'wood, tree'	sõ 'to cultivate, farm'
so 'in two parts, in half'	--
su 'medicine'	sũ 'a cold, flu'

## 2.5. Interpretation of suspect segments and sequences.

/d/ and /r/. Originally in Bobo, d and flapped alveolar r were allophones of the same phoneme, with d occurring morpheme initially, and r occurring morpheme medially. Neither occurred morpheme finally. This is still the situation in several dialects of Bobo spoken to the north, and in several nearby related languages. I believe, however, that the situation has changed sufficiently in the Tounouma dialect of Bobo to justify interpreting both d and r as separate phonemes.

First, there are several examples of a medial d in loan words:

màdè-kamà 'Mande people'

radio 'radio'

ladi 'to correct, exhort'

pudrù 'powder'

bàláda 'banana'

d also occurs word medially in several words involving partial

reduplication:

dè-dènè-nó	'type of drum'
dò-dógò	'type of basket'
dǎ-dǎ	'to hunt'
du-dulu	'small hill'

d occurs in several other Bobo words which are not known to be borrowings or to contain more than one morpheme, although this may turn out to be the case:

pada	'to think'
kàdoro	'perhaps'

Second, there are some cases of r appearing word initially in borrowed words in the speech of fairly well-educated speakers:

radio	'radio'
rusi	'Russia'
républik	'republic'

Third, native speakers with whom I have discussed the phonemicization of d and r prefer to keep them separate, although they agree that historically they were one phoneme. They feel that so many words of French origin are coming into Bobo at the present time that the positing of a new phoneme /r/ is justified.

Finally, there is a precedent for this type of solution in the literature on other African languages.<sup>6</sup>

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<sup>6</sup> J. David Sapir, in A Grammar of Diola-Foony (West African Language Monographs 3, Cambridge University Press, 1965, p. 18) also classifies d and r as separate phonemes even though they are almost in complementary distribution.

[w] and [ɲw]. In Section 2.1 [w] was described as a nasalized allophone of /w/ when adjacent to a nasal or nasalized vowel within a phonological word. The co-articulated labio-velar nasal [ɲw] also exists in Bobo, similar to, but not identical to [w]. The difference is that with [ɲw] there is a complete closure at the velum, while with [w] there is not--at least not in slow, deliberate speech. In rapid speech these sounds are easily confused.

[ɲw] is best interpreted as an allophone of both /kp/ and /gb/ usually following a nasal vowel. /kp/ and /gb/ do not occur morpheme medially. When they occur word medially, because of reduplication or compounding, there is a tendency for the second /kp/ or /gb/ to become [ɲw], mostly in nasal syllables, but in a few oral syllables as well. For example, /kpã-gbaga/ 'nailed' can also be realized as [kpã-ɲwãga.] /kpã-kpã-lo/ 'elbow' fluctuates with [kpã-ɲwã-lo]. /gbè-gbèlè/ 'albino' also occurs as [gbè-ɲwèlè].

An alternative interpretation for [w] was to posit it as a unit phoneme, since it is close enough phonetically to [ɲw] to be analogous to the other co-articulated consonants /gb/ and /kp/. ɲw does exist as a separate phoneme in several neighboring languages, but as far as I know, w does not exist as a separate phoneme in any African language I am familiar with.

Another possible interpretation would be to consider w as an allophone of /ɲ/. Actually, w, ɲ and w are all in complementary distribution, w occurring morpheme initially before oral

vowels, w occurring morpheme initially before nasal vowels and ŋ occurring only intervocalically, morpheme medially. There are several occurrences of w morpheme medially in the corpus, but these may turn out to be borrowed or polymorphemic words.

Evidence obtained by comparing the Tounouma dialect with those dialects spoken in nearby villages is inconclusive, since what is ŋw or w in Tounouma can appear as g, ŋ, w or even m in other Bobo dialects.<sup>7</sup>

To complicate the situation further, ŋ before back vowels is very labialized [ŋʷ]. /sɔŋɔ/ 'to cry' [sɔŋɔ] sounds in rapid speech at least as if it might be sɔwɔ or sɔŋwɔ.

For the following three reasons I have interpreted w as an allophone of /w/, ŋ as an allophone of /ŋ/ and assigned phonemic status to /w/ and /ŋ/.

First, this is the unanimous preference of native speakers when asked to either write words containing these sounds or to describe what they feel they are.

Second, this interpretation seems most probable by analogy with /y/ and its nasalized allophone [ỹ]. In many ways /w/ and /y/ are similar in Bobo. Both have nasalized allophones before nasal or nasalized vowels. Neither occurs intervocalically within a morpheme. Since there is no phone under consideration as a medial allophone of /y/, it is less likely that ŋ be a medial allophone

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<sup>7</sup> For example, Tounouma [wɪ] 'to bite' is mɪŋ in Balavé, a village north of Bobo-Dioulasso, while Tounouma [wũ] is ŋũ.

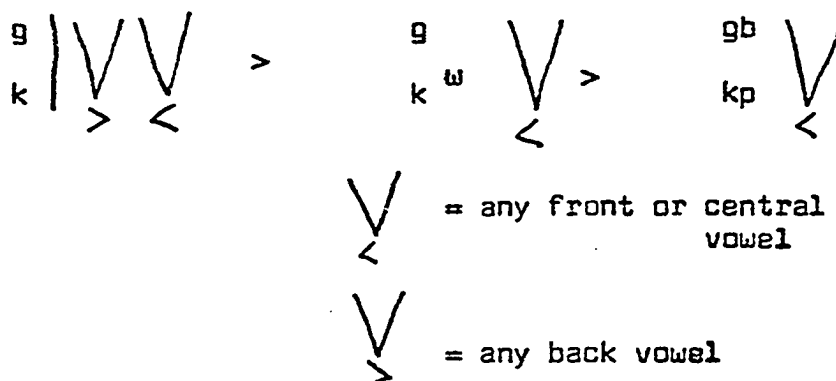
of /w/, and more likely that w be an allophone of /w/.

The third reason is phonological. Since w lacks a complete closure at the velum it is not as likely to be an allophone of /ŋ/ as ŋw or ŋ would be. Therefore, I feel that w is best interpreted as an allophone of /w/.

In other Bobo dialects, however, the solution may be entirely different. Probably historically there was a co-articulated nasal phoneme /ŋw/ which became w or m in some dialects and ŋ or k in others. While historical problems are beyond the scope of this paper, this possibility can be illustrated by a comparison of Bobo with several related Mandé languages. Bobo /w̃/ 'head' is wuro in Blé, wuro in Yauré, mi in Busa, kun in Maninka and xun in Susu. Bobo /w̃f/ 'to bite' is wi in Nwa, nyi in Blé, miŋ in the Balavé dialect of Bobo, kiŋ in Vai and xin in Susu. A proto-phoneme having both a labial and velar articulation would be a likely ancestral form.

kp and gb. The phonemicization of kp and gb is another complicated yet interesting problem in Bobo. /kp/ and /gb/ have been described in Section 2.1 as voiceless and voiced co-articulated stop phonemes with simultaneous closure at the lips and velum followed by a plosive release. It has also been stated that they have allophones, [kw] and [gw] with which they fluctuate more or less freely. There is almost complete fluctuation between gb and gw, while kw tends to precede high front vowels and kp appears elsewhere. Neither occurs before back vowels. In some dialects of Bobo the kp and gb sounds are missing entirely, while in others they occur far less frequently than in Tounouma.

I suggest that /kp/ and /gb/ are correctly analyzed as unit phonemes in the Tounouma dialect now, but that they are probably rather recent arrivals, perhaps borrowed from an adjacent language, several of which contain these sounds. The process by which /kp/ and /gb/ entered the Tounouma dialect appears to have been the following and is, in fact, still going on:



In other words, any back vowel following g or k and immediately followed by any front or central vowel within the same morpheme became reinterpreted as a ω. It is then no longer functioning as the nucleus of the first syllable, but was reinterpreted as part of the preceding consonant (CVV > CCV.) Two syllables therefore were reduced to one.

The following examples support this hypothesis:

a) The plural of /kǎ/ 'house' is /kpǎ/ 'houses'. A common technique for forming noun plurals in Bobo is by the addition of a vowel suffix such as -a.

kǎ + -a > kǎa > kpǎ

b) Similarly,

kũ 'fear' + -a > kũa > kpǎ 'fears'

c) sàkǎ 'funeral' + -a > sàkǎa > sàkpǎ 'funerals'



Another method of noun pluralization is by vowel replacement. In two syllable words, the first vowel is often replaced by a vowel cluster. This same process has resulted in some nouns with k in the singular and kp or kw in the plural:

- d) kùlâ 'hoe' + plural replacive morpheme > kùàlè >  
 kpèlè 'hoes' (kpèlè is the form presently in use)
- e) kúná 'wooden dish' + plural replacive morpheme >  
 kúéné > kpéné 'wooden dishes'

The origin of /kp/ and /gb/ as k and g plus back vowel seems obvious. Even today these phonemes never occur before back vowels. However, in spite of this, I feel that they should be interpreted as unit phonemes for the following three reasons:

1. /kp/ and /gb/ never occur either morpheme or word medially. There is an allophone [ɲw] which tends to replace them word medially in polymorphemic words:

[kpā-ɲwā-lò] 'elbow'

[gbè-ɲwé-lé] 'albino'

If kp and gb were analyzed as k and g plus back vowel, then similarly ɲw would have to be analyzed as ɲ plus back vowel, thereby making ɲ a variant of k and/or g, at least in some environments. ɲ does not appear word or morpheme initially, but there are enough contrasts between ɲ and both g and k medially to establish ɲ as a separate phoneme, at least at the present time, if not historically.

2. It would be very difficult to interpret a segment as a sequence. Since kp and gb are pronounced simultaneously, they must be analyzed as unit phonemes, now, no matter what their

history may have been.

3. kp and gb are appearing more and more frequently in the Tounouma dialect. My notes from 1968 contain more occurrences of them than my notes from 1961-62. Younger speakers tend to use them more than older speakers. There is evidence that not only k but also g is being reinterpreted as kp, which would not be likely if kp were basically k plus vowel. For example, pā-númá 'arrows' is pronounced by some speakers as kpā-númá.

Neutralization. Neutralization refers to the loss of phonemic contrast between two or more phonemes in certain phonological environments. Three examples of neutralization in Bobo and their proposed interpretations will be discussed.

1. /ũ/ and /ĩ/ are neutralized when they are immediately followed by mā, mě or nā within a phonological word. For example, a noun pluralizer consisting of nĩ + mā is homophonous with númā 'to eat'. The noun pluralizer is morphophonemically nĩ-mā but phonetically [númā].

There are six occurrences of this neutralization in the corpus, where the vowel of the first syllable is known to be ĩ:

nĩ + mā > númā 'noun pluralizer'

sàkĩ + mě > sàkúmě variant form of 'funerals'

sĩ + mā > súmā (or səmā) 'people'

kĩ + nā > kūnā 'coolness, freshness'

nĩ + mānĕ > númānĕ 'children'

dĩ + mā > dúmā 'dirt'

These six words involve morphophonemic changes due to suffixation

and could be handled purely as problems in morphophonemics. However, the other occurrences of this neutralization involve words of one morpheme where it is impossible to tell whether the vowel is a ĩ, an ẽ which has become a ĩ, or sounds like a ĩ in this environment, or something in between. Occasionally there will be a case of free fluctuation, as with wũnã ~ wõnã 'shadow.' Sometimes a speaker will vary his pronunciation within the ũ-õ range of tongue height. Since ĩ occurs most frequently, all nasal back vowels before mã, mẽ and nã have been phonemicized as /ĩ/.

2. There is also neutralization between /t/ and /k/ and between /d/ and /g/ when they occur word initially before i or ĩ followed by any back or central vowel. (Front vowels do not appear to cause this neutralization.) In other words, t and d are pronounced farther back in palatal position, k and g are fronted to palatal position and there is no longer any phonemic contrast. That is, kia would never contrast with tia, nor gia with dia, and a native speaker would perceive them as homophonous.

In Section 2.1 [c] was listed as an allophone of both /k/ and /t/, and [j] was listed as an allophone of /d/ and /g/. I have chosen this interpretation for the following reasons:

a. Even though this analysis would seem to violate the principle of biuniqueness, further study may make a definite assignment possible.

b. There is little justification for establishing c and j as separate phonemes, because it is usually possible to determine

which of the two consonants is present by asking the informant to pronounce the words slowly or to write them. Occasionally an informant will be inconsistent, or unable to choose between k/t or d/g, but he will always cheerfully reassure me that it doesn't make any difference anyway. Sometimes a morphological analysis of the words make certain the identification of the consonant in question. For example, a word which is phonetically [ciɔɔ] 'twenty' has a variant ke-. Here, since the second back or central vowel is no longer present, the conditioning factor has disappeared and now the initial consonant is clearly a fronted k [k̟].

c. There are twenty-seven words showing this neutralization in the corpus and 20 of them can be proven to be k or g by morphological and other evidence.

/kionǎ/ [ciɔnǎ] 'poison'

/kia/ [cia] 'to want, desire'

/giǎ/ [jiǎ] 'image'

/giǎti/ [jiǎti] 'to think'

One word is uncertain and is phonemicized as /k/ merely because k occurs more frequently than t, /kiu/ [ciu] 'respect.'

The other six words are phonemicized as /t/ or /d/:

/dia/ [jia] 'to be sweet, to please'

/diǎ/ [jiǎ] 'to agree'

/tiǎ/ [ciǎ] 'truth'

/tia-nǎ/ [cia-nǎ] 'species of fish'

/tiɔɔ/ [ciɔɔ] 'smoke'

3. The final neutralization involves the occurrence of very

short or reduced vowels in certain phonological environments. These reduced vowels frequently occur as the first vowel in two-syllable words and occasionally in words of three syllables (although these are more rare in Bobo.) Reduced vowels occur after /b p t d k g f v s z m w/ and never after /kp gb h n ñ ŋ r l/. The consonant immediately following the reduced vowel (they never occur word finally) is, in order of decreasing frequency, /r l n m/. The second, or following vowel ( $V_2$ ) is, in order of decreasing frequency, /a e o ɔ ā e ě ɔ̃/. It is interesting to note that the four high vowels /u ũ i ɨ/ never occur in this position. These reduced vowels are analyzed as a separate phoneme /ə/ (schwa), which functions as an archiphoneme. The following reasons have lead to this conclusion:

a. These reduced vowels are so short phonetically that it is impossible to determine which vowel phonemes they have resulted from. In normal conversation they sound more like open transition than vowels. However, they can not be interpreted as open transition because they bear tones. Words like sámá 'people' and sámá 'to trample' clearly have two syllables and two tones located on the vowels, even though they sound phonetically more like sámá and sámá respectively. Actually, their function might be considered as anaptyctic, resulting from the loss of the original vowel and serving only to prevent the occurrence of consonant clusters, which are very rare in Bobo and exist only in borrowed words.

b. There is more than one vowel which may undergo reduction.

In some cases it is possible to tell which vowel has been reduced, as in cases involving suffixation. ku 'short' + -ro 'nominalizing suffix' > karo 'shortness'. sǔ 'person' + -mǎ 'pluralizer' > sámá 'people'. There are six Bobo words whose sigmental phonemes are samã--it is not likely that they all represent the same underlying vowel. Actually, the only non-reduced vowel in this environment is a in sámà 'frog'.

In some cases there is free variation between a word with a reduced vowel and one of normal length, in which case it is clear what vowel has undergone reduction. For example:

támà ~ tumã 'to beat'  
 báré ~ bíré 'old'  
 kála ~ kúlà 'hoe'

In those cases where it is possible to ascertain the original vowel before reduction has taken place, it is usually /u/ or /i/. Less frequently it is /e ɔ ε/. It is never /a/.

c. This process of vowel reduction never takes place if it is followed by an identical vowel in the second syllable. This is especially obvious in two-syllable nouns with identical vowels whose plurals are formed by replacing the final vowel with another vowel. Since the resulting plural form now has dissimilar vowels, reduction may take place with  $V_1$  if the other phonological conditions are met:

túrù	'song'	tàrò	'songs'
ésnǎ	'mortar'	sánà	'mortars'
soro	'hand'	sara	'hands'
búrù	'bread'	bàrò	'breads, loaves of bread'
séré	'tobacco'	sárá	'chunks of tobacco'

d. In many cases, however, it is not possible to positively establish identity of the non-reduced vowel. Frequently, an informant will be unable to pronounce the reduced vowel slowly and, if he tries, the results may be artificial and inconsistent. Sometimes different speakers will disagree on the identification of the original vowel. For example, /pala/ 'two' has been pronounced slowly as pela, pola and pila. /sare/ 'to collapse' has been pronounced sire and sere.

e. There are 183 words in the corpus which contain reduced vowels. In at least 156 cases it is impossible to prove conclusively what vowel has been reduced. This is a number far too high to permit guessing or to select one arbitrarily. Therefore, I feel the best solution to this particular neutralization is the establishment of a separate phoneme /a/.<sup>8</sup>

Interpretation of palatal sounds /i/ and /y/. /y/ has previously been defined as a non-syllabic voiced palatal semi-vowel, and /i/ as a syllabic high front vowel. /i/ is a tone-bearing phoneme, while /y/ is not. In syllable-initial position, there is no problem of identification. /y/ occurs in this position, while /i/ does not. However, there are several environments in Bobo where palatal sounds occur and it is not always easy to

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<sup>8</sup> A similar case is reported by A. Prost (Elements of Sembla, Afrique et Langage, Document No. 5, 1971, p. 3) for Sembla, a language related to Bobo and spoken several miles east of the Bobo area. Shortened vowels apparently occur much less frequently in Sembla than in Bobo, but Prost also has chosen a schwa to represent them, but has omitted it from the list of phonemes.

interpret these as /y/, /i/, /iy/ or even as a palatal off-glide of the preceding consonant. This problem can be illustrated by the word bia 'to suck.' The segment before the final vowel a could be interpreted in five possible ways:

- a. bya (CV)--interpreting by as a unit phoneme /by/ analogous to /ñ/.
- b. bya (CCV)--interpreting b and y as a consonant cluster or sequence of two consonants b + y.
- c. b<sup>y</sup>a (C<sup>y</sup>V)--interpreting the palatal part of the segment as an off-glide of /b/ under certain phonological conditions.
- d. biya (CVCV)--interpreting the palatal segment as consisting of vowel + consonant, /i/ + /y/.
- e. bia (CVV)--interpreting the palatal segment as a vowel resulting in a vowel cluster but no medial /y/.

Each of these five possible interpretations will be discussed in light of the data and an attempt will be made to prove that /bia/ (CVV) is the best interpretation.

a. This first possible interpretation would be to consider the initial consonant plus the palatal segment as unit phonemes, thus creating a series of palatalized consonant phonemes contrasting with /b/, /k/, /s/, etc. as /ñ/ contrasts with /n/. Since the palatal sound in question can occur after /p b t d k g f v s z m n l w/, this would require setting up 14 additional phonemes



in the language which would occur only morpheme initially, never medially or finally. These palatalized consonants, if established, would not be completely analogous to /ñ/, because /ñ/ can occur in a CV syllable with i as the vowel, while the others could not. In other words, /ñi/ 'to sleep' and /ñi/ 'oil' occur, but syllables such as pyi, byi, kyi, etc. never occur. Therefore, if ky, py, etc. were phonemes, they would occur before all vowels except i or ĩ, which would be very unlikely. Also, there are many cases where the palatal element in question clearly bears a tone which is different from that of the following vowel. This would be impossible if it were part of the consonant. bià, bia or biá might be interpreted as bya, but not biá or bià.

b. The second possibility would be to interpret the initial consonant plus the palatal segment as a consonant cluster (CC) consisting of a consonant + y--by, sy, ky, etc. This is unlikely because no consonant clusters occur in word initial position in Bobo and word medially only in a few borrowed words. It is unlikely that the language would permit only one type of consonant cluster and no others. Again, the fact that the palatal element bears a tone proves that it is a vowel, not a consonant.

c. The third possibility is to consider the palatal element either as an off-glide of the initial consonant, resulting in /k<sup>y</sup>/, /b<sup>y</sup>/, /s<sup>y</sup>/, etc., or as a palatal element pronounced simultaneously with it. This situation occurs in at least one related language, Busa,<sup>9</sup> a Mandé language spoken in northwestern Nigeria, which

<sup>9</sup> Hans Wederkind, Preliminary Phonological Statement of the Busa Language (unpublished material) 1970.

has words g<sup>y</sup>a, k<sup>y</sup>a, etc. which contrast with gia and kia.

Apparently, however, the palatalized consonants do not contrast with /g/, /k/, etc. and are interpreted as allophones of /g/ and /k/ respectively, not as separate phonemes.

Minimal pairs in Bobo such as /kùrù/ 'beehive' and /kiùrù/ 'large lizard' are the final conclusive reason for not interpreting the palatal segments as allophones of the regular consonants as has been done in Busa.

d. The fourth possible interpretation is to interpret the suspect palatal segment as VC, a sequence of /i/ + /y/, resulting in words like biya and kiya. If this were the case, /y/ would be shown to occur intervocalically, morpheme medially. This interpretation would account for the tone on the suspect palatal segment and produce morphemes of a CVCV pattern, which is a very common canonical form in Bobo. The main argument against this interpretation, however, is that /y/ is extremely rare as a medial (intervocalic) consonant, if it even occurs at all in this position. If this fourth possible interpretation were accepted, 99% of the occurrences of "intervocalic /y/" would follow an i.

There is evidence that an intervocalic /y/ has existed in Bobo in the past. Singular and plural pairs of nouns like tù, tià 'caicedra tree', tù, tia 'bush buffalo' and sě, siã 'mouse' were formed by adding a suffix -ya. These cases, however, are always at morpheme boundaries. This explanation would account for the assimilation of u-i and ě-i in the three pairs above. There is also a nominalizing suffix -yá found today in such words

as lamṣṣa-yá 'extended family', nṣṣò-yá 'convalescence' and kenḗ-yá 'health'. Again, however, these occurrences of intervocalic /y/ are all word medial but never morpheme medial. This process of suffixing -yá has resulted in several cases of vowel assimilation similar to that found in the pairs of singular and plural nouns above. For example, bḗ 'to vomit' + yá > bíá 'vomit'. A word meaning fur or fiber, phonemicized in Tounouma as /wíá/ is wúyá in a neighboring dialect. There are numerous other examples from surrounding dialects where the assimilation to i has not taken place, adding weight to the argument that a word medial y was formerly present and fairly common in the Tounouma dialect. Evidence indicates, however, that after the assimilation took place, the medial y dropped out, leaving a VV sequence. Reaction of native speakers confirms this analysis. A morpheme medial y can not be found today in any word except borrowings, such as páyásí 'straw mattress' from French paillasse, and krèyó 'pencil' from French crayon. Medial y can however, be found word medially when a suffix beginning with y has been added, or in a word obviously reduplicated: /yò-yó/ 'waist' and /yé-yè/ 'big'. Finally even within words of two or more morphemes there is a tendency for medial y to disappear. Gbáyè 'sheep, plural' is more frequently pronounced gbáè by younger speakers. My 22-year-old informant even wrote it gbaa, even though -ye is a fairly common noun pluralizer. The only possible argument in favor of establishing a medial y in single morpheme words such as bia 'to suck' would be to conform to the more frequent canonical word types of CV and CVCV. However, CVV words exist, although rare, where there could not possibly be a medial y. So CVV can not be

eliminated completely as a word or morpheme type, nor could V be eliminated as a syllable type.

There are 189 occurrences of VV sequences within Tounouma dialect morphemes and in all but 6 of them the first vowel is i or í. Although these all probably came into existence as the result of assimilation because a medial y was present, this process of assimilation seems to be fairly complete now and there is no need to retain a medial y, at least in a descriptive analysis. /w/, which in many ways behaves similarly to /y/ is also extremely rare morpheme medially. It is found only in words known to be borrowed or suspected of being polymorphemic:

màwulà 'turkey'

laworo 'chicken pox'

tā-wèle 'squirrel'

Words containing this suspect segment are then phonemicized as /bia/ 'to suck', /síébè/ 'true, important', /kiu/ 'respect', /fiš/ 'a fetish', /wiàgà/ 'leprechaun', /viš/ 'to struggle', etc.

Morpheme medial /y/ occurs only in a few borrowed words:

/dâyã/ 'bronze'

/kuyere/ 'spoon'

It is interesting to note that this assimilation seems to be taking place with kuyere 'spoon'. An alternate pronunciation is kuiyere or kwiere, thus eliminating the medial y.

Finally, I do not believe that a medial y is phonetically present within single morpheme words of the type under discussion. There is a slight but clear difference between such pairs as sí-yš 'Masques' and fiš 'fetish'. Pronounced slowly, a y can be

heard in the first word, but not in the second.

e. Therefore, on the basis of this evidence, the fifth possible interpretation has been selected.

The phoneme /ñ/. There are three fairly similar sounds in Bobo: /ñ/, which has been described as a voiced palatal nasal phoneme, [y] the nasalized allophone of /y/ which occurs in the vicinity of nasal or nasalized vowels within a phonological word, and [n<sup>c</sup>], a palatalized allophone of /n/ before i.

All three of these similar phones occur word and morpheme initially:

- a. /ñ/ /ñā/ [ñā] 'sauce'  
/ní/ [ní] 'to sleep'
- b. [y] /yáá/ [yáá] 'to be excessive, too much'  
/yǒǒ/ [yǒǒ] 'yonder, over there'
- c. [n<sup>c</sup>] /níà/ [n<sup>c</sup>íà] 'this year'  
/ní/ [n<sup>c</sup>í] 'life'

All three of these sounds are rare morpheme medially. Medial /ñ/ occurs only in five words. Two appear to be single morpheme words (/kañā/ 'to fit' and /kēñē/ 'thick'); but they may involve reduplication and a morphophonemic change analogous to kp, gb and ŋw. The other three words are borrowed. Medial [y] occurs also only rarely in borrowings, as in /dâyā [dâyā] 'bronze'. Medial [n<sup>c</sup>] occurs only in seven morphemes.

Two of these sounds, /ñ/ and [y] are different enough phonetically to be distinguished fairly easily. [y] does not have a complete closure at the palate, while /ñ/ does. In some contexts,

however, it is difficult to distinguish /ñ/ from [n<sup>c</sup>ɪ]. For example, /níá-má/ 'marriage' sounds phonetically similar to /ñámá/ 'a fetish', in rapid conversation, because the first two syllables of níámá are pronounced very fast and have the same tone, and might be interpreted as ñámá. However, if níámá is analyzed morphologically, there is no problem, for it consists of /níǎ/ 'to marry' + /-má/ 'a nominalizer'. The different tones on the vowels of /níǎ/ 'to marry' (mid-low) make identification of the two vowels certain.

Another helpful source of evidence which sheds some light on this problem is a comparison with cognate languages. While this source is far from conclusive, in most cases where the informant felt that the suspect sound was the unit phoneme /ñ/, there are obviously cognate words in other Mandé languages which also contain a /ñ/:

Bobo /ñí/ 'salt'	corresponds with /ñεε/ in Sembla
Bobo /ñíní/ 'tooth'	corresponds with /ñí/ in Bambara
Bobo /ñǎǎ/ 'eye'	corresponds with /ñε/ in Bambara

Likewise, Bobo niǎ 'tongue' which in some contexts might be difficult to identify (as in niǎ-dúru-tè 'tongueless person') corresponds to ne in Bambara and ni in Sembla.

Evidence from morphology and tone perturbations in verb tenses and various other constructions makes correct identification of these two segments possible in most cases. Those few which are not proven are interpreted as /ñ/. Phonologically different minimal pairs such as /ní/ 'life' and /ñí/ 'oil' establish the

existence of /ñ/ as a separate phoneme.

The two main reasons why /ñ/ is not considered a sequence of  $\eta + \gamma$  are:

First, phonetically there is no sequence--it is pronounced simultaneously.

Secondly, there are no other Cy sequences in the language.

## 2.6 Distribution of phonemes.

Consonants. All consonant phonemes except /ŋ/ can occur initially in morphemes and words. All consonants can occur in syllable initial position:

/p/	/paga/	'to fill'
/b/	/ba/	'to hurt, be difficult'
/t/	/ta/	'to make, to do'
/d/	/da/	'matter, affair'
/k/	/ka/	'to put'
/g/	/-ga/	'negative enclitic'
/kp/	/kpa/	'to make noise, resound, thunder'
/gb/	/gbá/	'sheep'
/f/	/fà/	'thing'
/v/	/vagàká/	'corn'
/s/	/sa/	'to leave, go out'
/z/	/za/	'to urinate'
/h/	/há/	'negative particle'
/m/	/mā/	'first person singular subject pronoun'
/n/	/nà/	'to come'
/ñ/	/ñā/	'sauces'
/l/	/la/	'to believe'

/r/	/-ra/	'interrogative suffix'
/y/	/ya/	'to go, to walk'
/w/	/wa/	'to remove, lift out'

All consonants except /p kp gb v h z/ can occur in morpheme medial position. /s f t/ are rare in this position, and /ñ y, d w/ are extremely rare (fewer than five examples). (Borrowed words are excluded.)

/b/	/webe/	'to break'
/t/	/petɛ-lo/	'jar'
/d/	/ladi/	'to correct'
/k/	/mãko/	'to weed'
/g/	/kaga/	'to scratch'
/f/	/dũfo/	'type of drum'
/s/	/dasi/	'cotton'
/m/	/tcmě/	'seive'
/n/	/panã/	'to nick, cut slightly'
/ñ/	/keñě/	'thick'
/ŋ/	pãŋã/	'wind'
/l/	/yɛɛ/	'to break up, disintegrate'
/r/	/bara/	'work'
/y/	/dâyã/	'bronze' (possibly borrowed)
/w/	/mãwùlà/	'turkey' (possibly borrowed)

All consonants can occur in word-medial position. Morpheme boundaries are marked by a hyphen.

/p/	/pá-pà/	'big'
/b/	/zì-bé/	'to lower'
/t/	/bara-tɛ-tà/	'worker'



/d/	/dǎ-dǎ/	'to hunt'
/k/	/ñĩnǎ-kĩ-kĩ/	'eyebrows'
/g/	/ga-ga/	'crow'
/kp/	/kpɛ-kpɛrɛ/	'fried millet cake'
/gb/	/kpǎ-gbaga/	'nailed' (This word also occurs as <u>kpǎ-ŋwaga.</u> )
/f/	/kofì/	'waist beads'
/v/	/kire-vó/	'village chief'
/s/	/sǎ-šǎ/	'cultivator caste'
/z/	/zǎ-zǎ/	'dispersed'
/m/	/níǎ-mǎ/	'marriage'
/n/	/ñǎŋǎ-nɛ/	'cows'
/ñ/	/sù-ñɛ-tà/	'potter'
/ŋ/	/ñǎ-taŋǎ/	'potash'
/r/	/yoro-rɛ/	'dancers'
/l/	/molo-lu/	'little granary'
/w/	/ñǎ-were/	'porridge'
/y/	/yó-yó/	'waist'
/h/	/ba-hǎ/	'like, similar to'

No consonants can occur in syllable-final, morpheme-final or word-final position.

No geminates or consonant clusters are permitted in Bobo except in the following borrowed words:

/kǎlpa/	'to commit' (Bambara)
/pwɛti/	'point, nail' (French)
/mǎrto/	'hammer' (French)
/pɛtrɔli/	'kerosene' (French)

/kšplɛ/	'suit of clothes' (French)
/puɖrú/	'powder' (French)
/krɛyʂ/	'pencil' (French)
/klási/	'class' (French)
/sikartí/	'cigarette' (French)
/fɛnɛtri/	'window' (French)
/flɛri/	'flower' (French)
/lãmpó/	'tax' (French)
/pamterɛ/	'potato' (French)
/sòldá/	'soldier' (French)
/batwar/	'slaughterhouse' (French)
/zãdarmí/	'policeman' (French)
/presidã/	'president' (French)
/glási/	'ice' (French)
/plási/	'place' (French)
/fursɛti/	'fork' (French)
/trɛ/ (or tɛrɛ)	'train' (French)
/balãnda/	'banana' (Bambara)
/bisikleti/	'bicycle' (French)
/torsí/	'flashlight' (French)

Table I

The Distribution of Consonants in Syllables, Morphemes and Words

	p	b	t	d	k	g	kp	gb	f	v	s	z	h	m	n	ñ	ŋ	r	l	y	z	
SYLLABLE																						
initial	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
MORPHEME																						
initial	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	-	x	x	x	x	
medial	-	x	x	x*	x	x	-	-	x	-	x	-	-	x	x	x*	x	x	x	x*	x*	
WORD																						
initial	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	-	x*	x	x	x	
medial	x	x	x	x	x	x	x	x	x	x	x	x	x**	x	x	x	x	x	x	x	x	

\* very rare in this position--usually in borrowed words and subject to reinterpretation.

\*\* /h/ appears medially in only one word, ba-hô 'like', which may be interpreted as two words. In particles and postpositions, /h/ seems to alternate with zero, thus suggesting that its function may be epenthetic--to prevent the juxtaposition of two vowels across morpheme boundaries. /w/ also functions this way in several examples.

Vowels. Vowels are very rare in word-initial or morpheme-initial position. /a/ occurs most frequently, in 8 words in the corpus, the most common of which is à 'third person singular pronoun'. /o/ occurs initially in one word, as in the phrase ko o ko 'day by day.' /ɔ/ occurs initially in four words, but these may be morphophonemically wɔ.

All vowels except the archiphoneme /a/ can occur as a complete syllable, but this is always medially in morphemes and/or words, following another vowel, resulting in a VV sequence. Sequences of two vowels within a phonological morpheme or phonological word in Bobo are always treated as sequences or vowel clusters, not as diphthongs. Each vowel bears a tone and constitutes a separate syllable.

Table II

Vowels Occurring as Separate Syllables

/ɪ/	/bobo-ì/	'deaf mutes'
/e/	/wɔ-e/	'bones'
/ɛ/	/kpi-è/	'doves'
/a/	/lɛa/	'species of plant'
/ɔ/	/kiɔ/	'to whistle'
/o/	/tío/	'faucet'
/u/	/kpaù/	'to support, bring up'
/ɪ/	/kpāì/	'to turn around'
/ɛ/	/níɛ/	'to push'
/ā/	/gīā/	'trap'
/ɔ/	/vīɔ/	'to struggle'
/ū/	no examples	

All vowels can occur in syllable final position. All vowels except /a/ can occur in morpheme-final and word-final position.

Table III

Distribution of Vowels in Final Position

/i/	/sì/	'type, sort, species'
/e/	/sé/	'machete'
/ɛ/	/sɛ/	'to hunt (rabbits)'
/a/	/sà/	'to stop'
/ɔ/	/sɔ/	'tree, wood'
/o/	/so/	'a division into two'
/u/	/sù/	'pot'
/ĩ/	/sĩ/	'sun, day'
/ẽ/	/sẽ/	'tomorrow'
/ã/	/sã/	'forest'
/õ/	/sõ/	'person'
/ũ/	/sũ/	'a cold, flu'

All vowels can occur medially in morphemes and words.

Table IV

Distribution of Vowels in Medial Position

Oral Vowels

/i/	/tìbè/	'to spit'
/ə/	/gbəgə/	'dog'
/ɛ/	/səgɛ/	'to bark'
/a/	/sàlè/	'to hurry, hasten'
/ə/	/pəla/	'two'
/ɔ/	/sɔgə/	'panther'
/o/	/sògò/	'road, pathway'
/u/	/sulú/	'belt'

Nasal Vowels\*

/ĩ/	/sĩ-sĩ/	'fly'
/ɛ̃/	/vɛ̃-kɔ̃/	'fife'
/ã/	/sã-súrú/	'diviner'
/ɔ̃/	/sɔ̃-yaga/	'to dream'
/ũ/	/vũ-kabè/	'the year before last'

\* Nasal vowels occur morpheme medially only following nasal consonants /m n ŋ ñ/. Word medially, they occur either following nasal consonants or finally at a morpheme boundary, as in all of the five examples above. See Section 3.4 for a fuller discussion of the problem of nasalization.

Table V

The Distribution of Vowels Occurring Singly

	i	e	ɛ	a	ə	ɔ	o	u	ĩ	ẽ	ã	õ	ũ
SYLLABLE													
*Initially	x	x	x	x	-	x	x	x	x	x	x	x	-
Finally	x	x	x	x	x	x	x	x	x	x	x	x	x
MORPHEME													
Initially	-	-	-	x	-	-	x	-	-	-	-	x	-
Medially	x	x	x	x	x	x	x	x	x	x	x	x	x
Finally	x	x	x	x	-	x	x	x	x	x	x	x	x
WORD													
Initially	-	-	-	x	-	-	x	-	-	-	-	x	-
Medially	x	x	x	x	x	x	x	x	x	x	x	x	x
Finally	x	x	x	x	-	x	x	x	x	x	x	x	x

\* as a separate syllable

Sequences of vowels are interpreted as clusters, not as diphthongs, for each vowel bears a tone and functions as the nucleus of a separate syllable. Vowel sequences can occur both medially and finally in morphemes and words, but they are more common in final position.

Table VI

The Distribution of Vowels in Clusters

<u>Vowel Cluster</u>	<u>Medial Position</u>	<u>Final Position</u>
ie	bierò 'termite'	siè 'mother'
iɛ	kwie-rì 'twins'	sie 'time'
ia	pia-rè 'younger siblings'	tia 'bush buffaloes'
io	ziro 'young'	kiò 'to break off'
io	sio-rì 'horses'	sio 'horse'
iu	kiuru 'species of lizard'	kiu 'respect'
iẽ	dĩemã 'to help'	siẽ 'stories, fables'
iã	giã-è 'traps'	giã 'rat-trap'
iõ	tĩõ-tĩõ 'species of fish'	viõ 'to struggle'
iũ	no example	no example
ẽi		mẽi 'lizard'
ea		lea 'species of plant'
ẽɛ		gɔŋɔẽ 'cans, drums'
oi		bobo-ì 'deaf mutes'
oe		kaso-è 'prisons'
ɔe		wo-è 'bones'
ue		fù-é 'blind men'
ui		fúi 'nothing'
ãf		kpãf 'to turn around'



Table VI, cont.

<u>Vowel Cluster</u>	<u>Medial Position</u>	<u>Final Position</u>
ai		táí 'all'
ao		tao 'species of tree'
ãɛ		mãɛ 'to hurt'
ae		tasa-è 'plates'
au		kpàù 'to support'

It is interesting to note that 92% of the occurrences of vowel clusters begin with the vowels i and ɪ. Only those clusters beginning with i or ɪ occur in medial position in morpheme and word, indicating a basic and underlying difference between these clusters and those beginning with other vowels. This difference, I believe, can be attributed to the previous existence of medial y. It is interesting to speculate that the third syllable in words like biero 'termite', ziɔɔ 'young', kiuru 'lizard' and dĩmã 'to help' may have at one time been separate morphemes--such as class markers.

Vowel length in Bobo is treated as sequences of identical vowels and will be discussed in Section 3.4. All vowels except /ə/ (schwa) may occur as long, but only in morpheme and word final position.

Table VII

Distribution of Long Vowels in Final Position

ii	siri-í	'died, recent past tense'
ee	fée	'ever'
εε	pene-ε	'red, pred. adj. form'
aa	sàà	'three'
oo	zogo-o	'a little'
oo	kòò	'five'
uu	kúú	'Black Volta River'
	súú	'immediately'
fi	tíí	'early'
	míí	'immed. fut. tense marker'
éé	fèè	'boy's name'
ãã	nàà	'four'
ɔɔ	yɔ̀ɔ̀	'yonder, over there'
ũũ	dũũ-ũ	'black, pred. adj. form'

The following three clusters of three vowels have been

recorded:

ĩãe	gĩã-è	'rattraps'
ioe	sio-e	'pointed sticks'
ioa	zio-e	'waters', alternate plural of <u>zio</u> 'water'

TABLE VIII

Distribution of Vowels in Clusters (including identical clusters) in  
Final Position

		SECOND VOWEL IN CLUSTER													
		i	e	ɛ	a	ə	ɔ	o	u	ĩ	ẽ	ã	õ	ü	
FIRST VOWEL IN CLUSTER	i	X	X	X	X	-	X	X	X						
	e		X		X	-									
	ɛ			X		-									
	a	X	X		X	-		X	X						
	ə	-	-	-	-	-	-	-	-	-	-	-	-	-	
	ɔ		X			-	X								
	o	X	X			-		X							
	u	X	X	X		-			X						
	ĩ					-				X	X	X	X		
	ẽ					-				X	X				
	ã					-				X	X	X			
	õ					-					X		X		
	ü													X	

Table IX

Possible Consonant-Vowel Combinations within a Syllable

	i	e	ɛ	a	ə	ɔ	o	u	ɪ	ɛ̃	ã	õ	ũ
p	x	x	x	x	x	-	x	x	x	x	x	-	x
b	x	x	x	x	x	x	x	x	x	x	x	-	x
t	x	x	x	x	x	x	x	x	x	x	x	x	x
d	x	x	x	x	x	x	x	x	x	x	x	x	x
k	x	x	x	x	x	x	x	x	x	x	x	x	x
g	x	x	x	x	-	x	x	x	-	-	x	x	x
kp	x	x	x	x	-	-	-	-	x	x	x	-	-
gb	-	x	x	x	-	-	-	-	-	x	x	-	-
f	x	x	x	x	x	x	x	x	x	x	x	x	x
v	x	x	x	x	x	x	x	x	x	x	x	-	x
s	x	x	x	x	x	x	x	x	x	x	x	x	x
z	x	x	x	x	x	x	x	x	x	x	x	x	-
h	-	-	-	x	-	-	-	-	-	-	-	x	-
m	-	-	-	-	x	-	-	-	x	x	x	x	x
n	-	-	-	-	-	-	-	-	x	x	x	x	x
ɲ	-	-	-	-	-	-	-	-	x	x	x	x	x
ŋ	-	-	-	-	-	-	-	-	x	x	x	x	x
l	x	x	x	x	-	x	x	x	-	-	x*	-	-
r	x	x	x	x	-	x	x	x	-	-	-	-	-
y	x	x	x	x	-	x	x	x	-	-	x	x	-
w	x	x	x	x	x	x	x	x	x	x	x	x	x

\* As a rule, /l/ never occurs before nasal vowels. The one occurrence of /l/ before /ã/, lã-da, 'customs', may be morphophonemically lã-nã-da.

## 2.7 Frequencies of phonemic occurrences.

Table X shows consonant phonemes in morpheme initial position in morphemes containing only one consonant. It is based on a sample of 433 morphemes.

Table X

<u>Consonant</u>	<u>Number of Occurrences</u>
p	24
b	31
t	43
d	35
k	49
g	5
kp	8
gb	6
f	18
v	15
s	51
z	22
z	22
h	3
m	29
n	18
ñ	11
ŋ	0
l	9
r	8
y	27
w	21

In order of decreasing frequency, these would be arranged as follows:

s	51	p	24	l	9
k	49	z	22	r	8
t	43	w	21	kp	8
d	35	f	18	gb	6
b	31	n	18	g	5
m	29	v	15	h	3
y	27	ñ	11	ŋ	0
				<hr/>	
					433 TOTAL

A tabulation of the same 433 morphemes consisting of one consonant and one vowel (CV) shows the following frequency of occurrence of vowels after oral (non-nasal) consonants:

<u>Oral Vowel</u>	<u>No. of Occur.</u>	<u>Nasal Vowel</u>	<u>No. of Occur.</u>
i	22	ĩ	27
e	20	ẽ	34
ɛ	28	ã	30
a	69	ã	33
ɔ	27	õ	32
o	37		
u	29		
	<hr/>		<hr/>
TOTAL ORAL VOWELS	232	TOTAL NASAL VOWELS	156

The following vowels occur after nasal consonants /m n ŋ/:

<u>Vowel</u>	<u>No. of Occurrences</u>
i	11
ɛ	6
ã	15
ɔ	8
ü	5
TOTAL	<u>45</u>

Summary: In this sample of 433 morphemes of a CV pattern, there are 221 occurrences of oral vowels and 201 occurrences of nasal vowels.

The relatively high percentage of nasal to oral vowels in Bobo is due to the following two factors:

- a. Only nasal vowels occur after nasal consonants
- b. The former existence of suffixes beginning with nasal consonants which nasalized the preceding vowels before dropping out of the language is another possible explanation for the frequent occurrence of nasal vowels. This will be discussed further in Chapter 6.

Front vowels occur 148 times, central vowels (/a/ and /ã/) occur 114 times and back vowels occur 171 times. The only vowel which does not occur in this position is /ə/.

Table XI  
Distribution of Consonants in Morphemes of a CVCV Pattern

C <sub>1</sub>	C <sub>2</sub> →	p	b	t	d	k	g	kp	gb	f	v	s	z	h	m	n	ñ	ŋ	l	r	y	w	Total C <sub>1</sub>
	p	-	-	1	1	-	5	-	-	-	-	-	-	-	1	1	-	1	5	19	-	-	34
	b	-	3	1	-	1	11	-	-	-	-	3	-	-	3	6	-	1	7	20	-	-	56
	t	-	7	2	-	-	26	-	-	-	-	-	-	-	7	11	-	4	16	18	-	-	91
	d	-	9	-	-	-	27	-	-	1	-	2	-	-	8	2	-	11	5	14	-	-	79
	k	-	14	3	-	8	10	-	-	1	-	3	-	-	9	9	2	1	26	29	-	-	115
	g	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	1	1	-	-	5
	kp	-	-	-	-	-	2	-	-	-	-	1	-	-	-	6	-	-	1	9	-	-	19
	gb	-	-	-	-	-	2	-	-	-	-	1	-	-	1	1	-	2	4	1	-	-	12
	f	-	-	2	-	-	14	-	-	-	-	-	-	-	-	7	-	5	3	9	-	-	40
	v	-	-	-	-	-	4	-	-	-	-	-	-	-	-	5	-	2	5	10	-	-	26
	g	-	6	1	-	1	24	-	-	1	-	3	-	-	12	10	-	4	10	20	-	-	92
	z	-	2	-	-	-	13	-	-	-	-	-	-	-	3	6	-	1	7	1	-	-	33
	h	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
	m	-	-	-	-	2	5	-	-	-	-	1	-	-	1	6	-	3	13	10	-	-	41
	n	-	1	-	-	1	1	-	-	-	-	-	-	-	7	4	-	2	1	-	-	-	17
	ñ	-	-	2	-	1	-	-	-	-	-	-	-	-	3	13	-	8	-	-	-	-	27
	ŋ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	l	-	1	-	1	-	12	-	-	-	-	-	-	-	-	-	-	1	-	3	-	-	18
	r	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	y	-	2	-	-	-	8	-	-	1	-	1	-	-	-	1	-	-	11	17	-	-	41
	w	-	4	-	-	-	4	-	-	-	-	2	-	-	2	8	-	-	13	29	-	-	62
TOTAL C <sub>2</sub>		0	49	12	2	14	168	0	0	4	0	17	0	0	57	98	2	47	129	210	0	0	809



Table XI is a tabulation of 809 two-syllable morphemes of a CVCV pattern. The first (initial) consonant is symbolized by C<sub>1</sub> and the medial consonant is symbolized by C<sub>2</sub>.

This table shows that plosives occur most frequently as C<sub>1</sub> (411 cases), followed by fricatives (192 cases), semi-vowels (103 cases), nasals (85 cases) lateral (18 cases) and flap (no cases).

Plosives also appear most frequently in C<sub>2</sub> position with 245 occurrences, mostly because of the high frequency of /g/ as a medial consonant (168 examples). Flapped /r/ is second with 210 occurrences, followed by nasals (204 cases), lateral (129 cases), fricatives (21 cases) and semi-vowels (no occurrences in this position.)

Table XII shows the 21 consonants in order of decreasing frequency in C<sub>1</sub> and C<sub>2</sub> position. The number of occurrences is in parenthesis:

Table XII

Frequency of Consonants in C<sub>1</sub> and C<sub>2</sub> Position

<u>Initial Position (C<sub>1</sub>)</u>	<u>Medial Position (C<sub>2</sub>)</u>
k (115)	r (210)
s (92)	g (168)
t (91)	l (129)
d (79)	n (98)
w (62)	m (57)
b (56)	b (49)
m (41)	ŋ (47)
y (41)	s (17)
f (40)	k (14)
p (34)	t (12)
z (33)	f (4)
fi (27)	d (2)
v (26)	p (0)
kp (19)	kp (0)
l (18)	gb (0)
n (17)	v (0)
gb (12)	z (0)
g (5)	fi (0)
h (1)	h (0)
ŋ (0)	y (0)
r (0)	w (0)

A study has also been made of the vowels occurring in the 809 CVCV morpheme sample used in Table XII. About half of the time (407 times out of 809) the two vowels ( $V_1$  and  $V_2$ ) are identical. All oral vowels except /a/ occur as  $V_1$  and  $V_2$  in these morphemes. Identical nasal vowels occur only when both  $C_1$  and  $C_2$  are nasal consonants.

Identical vowel combinations in order of decreasing frequency (number of occurrences is in parentheses):

a...a	(97)
ε...ε	(84)
o...o	(59)
ɔ...ɔ	(52)
a...e	(46)
u...u	(33)
ã...ã	(11)
ẽ...ẽ	(9)
ɓ...ɓ	(7)
ɪ...ɪ	(5)
i...i	(2)
ũ...ũ	(2)
TOTAL	<u>407</u>

In 153 cases one oral vowel and one nasal vowel occur together in this sample, always explainable by the fact that only nasal vowels can occur immediately following a nasal consonant within a morpheme. Therefore, out of 402 examples of dissimilar vowels occurring as  $V_1$  and  $V_2$ , there are 153 cases of one oral and one nasal vowel, 202 cases of two oral vowels and 47 cases of two nasal

vowels in this sample. When both vowels are oral, i...e, u...a, a...a, i...a, a...e, a...e, and i...e are the combinations most frequently found. When both vowels are nasal, ĩ...ã, õ...ã, ĩ...ã, ĩ...ẽ, and ã...ẽ occur most frequently. In morphemes containing one oral and one nasal vowel, the most common combinations are i...ẽ, a...ã, e...ẽ, o...ã, u...ã, and e...ã. In 128 cases the oral vowel occurs as  $V_1$  and the nasal vowel as  $V_2$ , while in only 25 cases does the nasal vowel occur as  $V_1$  and the oral vowel as  $V_2$ . This is because nasal consonants occur more frequently as  $C_2$ , thereby necessitating a nasal vowel in  $V_2$  position.

Table XIII is compiled from a count of 2000 lexical items from three texts showing the lexical frequencies of consonant and vowel phonemes (in percentages), regardless of position in morpheme and word:

Table XIII

Lexical Count of Phoneme Frequencies

<u>Consonants</u>	<u>Vowels</u>
/r/ (14%)	/a/ (19%)
/g/ (12%)	/ā/ (16%)
/n/ (11%)	/ε/ (10%)
/s/ (9%)	/ɔ/ (9%)
/m/ (8%)	/ɛ/ (9%)
/k/ (7%)	/e/ (8%)
/l/ (7%)	/ɔ/ (7%)
/d/ (5%)	/o/ (5%)
/t/ (5%)	/u/ (4%)
/b/ (4%)	/i/ (4%)
/w/ (4%)	/a/ (3%)
/y/ (3%)	/i/ (2%)
/p/ (3%)	/ū/ (2%)
/f/ (2%)	
/ñ/ (2%)	
/h/ (1%)	
/v/ (1%)	
/ŋ/ (1%)	
/kp/ (1%)	
/gb/ (1%)	

A study of the possible vowel combinations permitted as  $V_1$  and  $V_2$  in two-syllable morphemes indicates that considerable assimilation has taken place. For example, it is quite rare to find a front vowel /i ī e ε ě/ occurring as  $V_1$  with a back vowel /u ū o ɔ ǔ/ as  $V_2$ . Central vowels /a ā a/ are neutral and can occur with either front or back vowels. Front/back assimilation will be discussed in greater detail in chapter 5, so just one example will be sufficient here. An a>ε replacive change in final vowels sometimes occurs in verbs to indicate intransitive constructions:

fuga 'to catch' + a>ε replacement > fige (not fuge)

Of the fourteen most frequent vowel combinations as  $V_1$  and  $V_2$  (listed on pages 73 and 74), none has a back vowel as  $V_1$  and a front vowel as  $V_2$  or vice versa. In fact, out of a total of 402 morphemes with different vowels as  $V_1$  and  $V_2$ , only 19 combine front and back vowels within one morpheme. This probably represents a type of "vowel harmony". Front vowels /i/ and /ī/ are very rare as  $V_2$  (only five cases occur in the 809 morpheme sample) and back vowels /u/ and /ū/ never occur as  $V_2$  except in cases where  $V_1$  is also a /u/ or a /ū/. /o/ and /ǔ/ are also comparatively rare as  $V_2$ , but /o/ is more common, especially following /g/ as  $C_2$ .

In this 402 morpheme sample containing dissimilar vowels, /a/ and /ā/ are comparatively rare as  $V_1$  (only 12 cases) but very common as  $V_2$  (185 cases). /a/ (schwa) occurs only in  $V_1$  position. /e/ is fairly infrequent as either  $V_1$  or  $V_2$  in this sample, while /ε/ and /ě/ are common in both position.

Vowel Harmony. A note about another kind of "vowel harmony" is appropriate here. Vowel harmony in West African languages is usually described as a tense/lax opposition which operates within the phonological word. In fact, the main criterion for establishing the phonological word as a unit in the phonological hierarchy in many descriptions of African languages is that it is the domain of vowel harmony. Several Mandé languages have vowel harmony. Vowels of Busa, for example, are divided into two sets of mutually exclusive vowels, with /a/ neutral and occurring with both sets. The main type of vowel harmony operative in Bobo seems to be based on the front/back opposition in vowels. This second type of vowel harmony, based on tongue height (or tense/lax opposition) exists also, but more as a tendency or generality than a hard and fast rule. Usually vowels e/o and ɛ/ɔ are affected. In other words, e and o and ɛ and ɔ tend to be paired within morphemes (the phonological morpheme in Bobo is the unit affected by vowel harmony, not the phonological word.) This tendency occurs about 97% of the time within a morpheme. Exceptions such as zòlo 'one hundred', sògè 'panther', wòló 'cola nut' and zòló 'jar' prevent vowel harmony from being established as a definite rule or a criterion for the establishment of either morpheme or word as phonological units. There is a distinct possibility, however, that "morphemes" such as these four cited, which violate vowel harmony, are in reality two separate morphemes and that the second syllables, -lo and -gè are suffixes. This possibility will be discussed further in Chapter 6. But until further research shows these exceptions

to be polymorphemic, vowel harmony in Bobo must continue to be a "tendency", not a "law."

The following three "tendencies" have been observed with Bobo vowels:

a. The "tendency" to have the same vowel throughout the word:

mámù-lù 'star'                      māmā-là 'stars'

tenē-ŋēnē ~ tini-ŋīnī 'tiny'

b. The "tendency" toward vowel harmony based on front/back tongue position:

kibe, kuba 'trans. and intrans. forms of 'to open''

c. The "tendency" toward vowel harmony based on tongue height or tense/lax opposition:

bó-logo 'there they are'

bó-lege 'there he is'

ségè 'goat'    ségè 'goats'

lekɔl 'school' from French l'école. (not ləkɔl)

There are very few morphemes with three consonants in Bobo. Most words of this type involve reduplication, suffixation, compounding and borrowing from other languages. A survey of 52 possible CVCVCV morphemes indicates that they have the same general frequencies found in CVCV morphemes. /m n g r k/ appear most frequently as C<sub>2</sub> and /r l n/ occur most frequently as C<sub>3</sub>.



## CHAPTER III

## THE SUPERSEGMENTAL PHONEMES

The following secondary supersegmental phonemes occur in

Bobo:

Tone: High /´/, Mid (unmarked) and Low /`/

Junctures: /Stop, pause, word, hyphen and close/

Terminal contours: /./, /?/, /#/ , and /!/

## 3.1 Tone.

The locus of tone in Bobo is the syllable. Tone is distributed on vowels since they are the tone-bearing units of the syllable. There are no tone-bearing syllabic consonants in Bobo as are common in many African languages.

Bobo is not a terrace-level language. Downstep is phonetic and automatic and is interpreted as a feature of terminal contours (intonation). (See Section 3.3)

Bobo is a "tone language" according to the definition of Pike, who defines a tone language as a "language having lexically significant, contrastive, but relative pitch on each syllable."<sup>10</sup>

Bobo is basically a register-tone language with three tonal levels, high, mid and low. There are three tonal phonemes (tonemes):

High - indicated by ´ (acute accent)

Mid - indicated by - or unmarked

Low - indicated by ` (grave accent)

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<sup>10</sup> Pike, Kenneth L., Tone Languages, University of Michigan Press, Ann Arbor, 1948, p. 3.

The lexical contrast between these tones is attested by the following examples:

One-syllable words: kú 'armpit'  
 ku 'land turtle'  
 kù 'debt, obligation'  
 ná 'first person singular possessive pronoun (alienable)'  
 -nã 'iterative particle'  
 nã 'associative particle'  
 ká 'type of seed used as a flavoring'  
 ka 'second person plural subject pronoun'  
 kà 'to deep fry in fat or oil'

Two-syllable words (CVV pattern):

síé 'fiber'  
 síè 'mother'  
 sie 'much, a lot'  
 síé 'possibility'  
 sí-è 'types, species'  
 píí 'spring' (H-H)  
 táí 'all' (H-H)  
 dia 'to be sweet, to please' (M-M)  
 sío 'to light, kindle' (M-M)  
 kíò 'to break a piece off' (L-L)  
 fúi 'nothing' (H-L)  
 tíó 'faucet' (L-H)  
 víí 'to struggle' (L-M)

pãě 'to turn around' (M-L)

kpaù 'to care for, provide for' (M-L)

Two-syllable words (CVCV pattern):

démě 'bedbug'

demě 'species of bat'

děmě 'species of beans'

kpàré 'gourd-like plant whose seeds are used  
in flavoring for sauces'

kpàre 'spider'

kpàrè 'three-legged stool'

dúru 'a well'

dùru 'hippopotamus'

dùru 'lack'

parè 'shame'

pere 'species of palm tree' (ronier)

pèrè 'cord, rope'

sélò 'pick axe'

sèló 'spear'

kúru 'flock, herd'

kuru 'village'

kùru 'beehive or small hut in the fields'

kùru 'humus, compost pile'

tógó 'fire'

togo 'name'

tògo 'ancestor'

tògó 'part of crops reserved for next year'

wuru 'navel'

wúru 'appointed time'

wùru 'night'

wùrú 'hole'

túlú 'dust'

tulù 'stomach'

tùlù 'gourd, squash, melon'

In a sample of 285 two-syllable words of a CVCV pattern, slightly over half (54%) consisted of two level tones:

High-High (19%)

Low-Low (19%)

Mid-Mid (16%)

46% consisted of two different tones:

Low-High (16%)

Low-Mid (15%)

Mid-Low (8%)

High-Low (7%)

Mid-High occurs only rarely in words of two-morphemes. High-Mid never occurs.

In a sample of 314 one-syllable words of a CV pattern (excluding tonal glides which will be discussed below), 22% were High, 39% were Mid, and 39% were Low. Out of 72 words of a CVV pattern, 9% were High-Low, 7% High-High, 19% were Low-Low, 25% were Mid-Mid, 21% were Low-High and 19% were Low-Mid. High-Mid or Mid-High never occurred.

Note on the possibility of a fourth tone. Some speakers of the

Tounouma dialect distinguish four separate tonal levels, as on the following four words:

f<sup>́</sup>ɔ̃ 'until' (High)

f<sup>̇</sup>ɔ̃ 'to smell bad, stink' (High-Mid)

fɔ̃ 'to be better, improve' (Mid)

f<sup>̀</sup>ɔ̃ 'species of antelope' (Low)

Most speakers, however, combine Mid and High-Mid, thereby pronouncing f<sup>̇</sup>ɔ̃ 'to smell bad' and fɔ̃ 'to improve' identically.

Even among speakers who distinguish a fourth tonal level, it is extremely rare. In fact, I have found it only on two other words:

kpā-kiri 'name of a village'

diri 'illness that makes small bald spots  
on the head of a child'

Since most speakers pronounce these two words with regular mid tone, there is no need to posit a fourth tone.

Lexical tone. All morphemes except a few suffixes have inherent or lexical tone, as pronounced when the morpheme is said in isolation. The negative suffix -ga, for example, has no inherent tone, but derives its tone from the preceding tone according to certain rules. After low tone, -ga is pronounced with mid tone:

kā nā-ga 'don't come'

After mid tone, it is pronounced as either mid or high (free variation):

...mā nē gbēge-gá '...not a dog'

à tá yà foro-ga 'his wife is not nice'

After high tone, -ga is pronounced as either mid or high:

má a gù bé-ga 'I didn't find it here'

wónó nà be nà dúgú-gá 'Why didn't you come yesterday?'

Another example of an inherently toneless morpheme is the interrogative suffix -ra, which is usually pronounced low after low tone, and mid after high and mid tones.

Except for these and few other examples, membership in a lexical tone class is assigned to a morpheme on the basis of its pronunciation in isolation (citation form).

Morphemes are also assigned to morphophonemic tone classes on the basis of how they behave in frames and how they affect surrounding tones within a particular tonal construction or tone phrase (one of various grammatical constructions characterized by tone perturbations). Morphophonemic tone classes usually overlap lexical tone classes and are very complicated. For example, morphophonemically there are two classes of morphemes with High-High lexical tone pattern. One remains High-High and the other becomes High-Low when followed by either a low tone or pause. Another example of morphophonemic tone classes differing from lexical classes concerns the form of personal pronouns used with direct objects and postpositions. Lexically, these pronouns would be classed as follows:

Low tone: à 'him', mĕ 'us, excl.', kè 'us, incl.', yè 'them'

Mid tone: nĕ 'me', be 'you, sing.', ka 'you, plu.'

When immediately followed by the postposition má 'on', the mid-tone lexical tone class behaves similarly:

- ně má 'on me'  
 be má 'on you, sing.'  
 ka má 'on you, plural'

but the low-tone lexical tone class divides into two morpho-  
 phonemic classes:

1. à má 'on him'  
    yè má 'on them'
2. mǝ má 'on us, inclusive'  
    kè má 'on us, exclusive'

In other frames, these seven pronouns are divided differently into  
 morphophonemic tone classes, making the total picture extremely  
 complicated. For example, when followed by the postposition  
 (actually dependent noun) zǐ 'face, in front of', their division  
 is as follows:

1. ně zǐ (low-mid tone glide) 'in front of me'  
    be zǐ 'in front of you, sing.'  
    ka zǐ 'in front of you, plural'  
    mǝ zǐ 'in front of us, inclusive'  
    kè zǐ 'in front of us, exclusive'
2. à zǐ 'in front of him'  
    yè zǐ 'in front of them'

Restrictions on tonal occurrences. By this is meant that tones  
 can not always occur freely in any morpheme class or in particular  
 combinations within morphemes or words. For examples, all post-  
 positions have low tones. No verb contains a high tone in its  
 lexical or citation form. Within a morpheme, High-Mid or Mid-High  
 tone combinations never occur. There are never more than two

high tones within a tonal construction (either phonological words or pause groups.)

The function of tone. The function of tone is lexical (contrastive at morpheme and word level), morphological and syntactic. Tone perturbations mark both morphological and syntactic constructions and there are also morphemes of tone (tonally realized morphemes.) Some are replacives and some are suffixed to the lexical tone, creating a tone glide. An example of a replacive tonal morpheme is a replacive high tone on the first syllable on some clauses, marking them as dependent (part of the preceding utterance.) A tonal morpheme which is part of a negative construction can be both suffixed or replacive. On mid tones it is a replacive: - > ´, and on low tones it is a suffix: ` + ´ > ˇ. (má zǐ-qá 'I don't eat', ǎ zǐ-qá 'he doesn't eat'.)

Tone glides. Tonal glides are so common in Bobo that rapid conversation sounds as if there are far more glides than level tones. Most Mandé languages have tone glides. There are five possible ways to interpret them:

a. As allotones of level tonemes in particular phonological environments and therefore not phonemic.

b. As unit phonemes ( / ˇ / / ^ /, etc. )

c. As occurring only on long or lengthened vowels. Thus a word containing a glide, such as kǎ, would be interpreted as kǎá. This third interpretation would postulate two syllables per glide, at least in the underlying forms.

d. As sequences or combinations of tones sharing the same domain (the vowel.) Some of the previously mentioned suffixed



tonal morphemes illustrate this principle.

e. As contours or patterns. If tone is analyzed on a level higher than the syllable (such as morpheme or phonological word), the pattern or contour itself could be the significant unit, making a glide on a one-syllable word like Low-High (dǎ) equivalent to low-High on a two-syllable word (dà-ló).

The fourth and fifth interpretations (d and e) are best able to account for the data in Bobo.

First of all, tone glides exist on about one hundred one-syllable morphemes (CV pattern) in lexical or citation form. There seems to be no phonological explanation for them. They are found on all vowels except /a/, both oral and nasal. They occur after plosives, fricatives, nasals, lateral and semi-vowels, both voiced and voiceless.

The lexical contrast in morphemes containing tone glides is evidenced in the following examples:

nǐ 'first syllable of a compound word meaning  
encephalitis'

nǐ 'life'

nǐ 'mine' (reduced from nē-yì) (Mid-Low glide)

nǐ 'part, share' (Low-Mid glide)

kú 'armpit'

ku 'land turtle'

kù 'debt'

kǔ 'back'

kǔ 'river'

k<sup>5</sup> 'coolness, chills'

k<sup>5</sup> 'skin, body'

k<sup>5</sup> 'voice, noise, sound' (Low-High glide)

k<sup>5</sup> 'house' (Low-Mid glide)

The following tonal glides contrast in one-syllable morphemes:

a. High-Low ( <sup>^</sup> ). This is found only on one morpheme in citation form, n<sup>5</sup> 'mother.' n<sup>5</sup> contrasts with two-syllable morphemes with a High-Low pattern in three ways: The two-syllable morphemes are longer, there is potential pause between the two syllables, and there are two perceptible pulses or beats.

b. Low-Mid ( <sup>~</sup> ). Examples:

k<sup>5</sup> 'house'

s<sup>5</sup> 'forest'

k<sup>5</sup> 'foot, leg'

f<sup>5</sup> 'blind man'

v<sup>5</sup> 'vine'

t<sup>5</sup> 'bush buffalo'

d<sup>5</sup> 'sore'

c. Low-High ( <sup>ˇ</sup> ). Examples:

k<sup>5</sup> 'fear'

d<sup>5</sup> 'jackal'

s<sup>5</sup> 'person'

k<sup>5</sup> 'voice'

y<sup>5</sup> 'species of fish'

s<sup>5</sup> 'mouse'

d<sup>5</sup> 'bridge'

d. Mid-Low (↘). Examples:

kũ 'back'  
 wũ 'hunger'  
 yɔ̃ 'soul'  
 mā̃ 'friend'  
 dō̃ 'tribal deity'

If these tone glides were analyzed as unit tonemes, an additional four tonemes would therefore be necessary in addition to the three level tonemes, High, Mid and Low.

Tonal glides which are contrastive lexically occur almost exclusively on nouns of a CV pattern. They never occur morpheme medially. When nouns bearing tonal glides are combined in larger constructions involving tonal perturbations, in many cases the glide will disappear. A simple frame like 'it is a \_\_\_\_\_' or 'I saw the \_\_\_\_\_' will elicit the lexical form of the noun (and therefore the glide) but they disappear in noun-adjective constructions, most compound words, etc.

The origin of these tone glides is obvious when nouns containing tone glides are compared with their plural forms:

<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
sǎ̃	sà-má	'person'
tú̃	tì-a	'bush buffalo'
wũ	wɔ-gò	'hunger'
pɛ̃	pà-ga	'forked stick'
sí̃	sì-e	'kind, species'
fú̃	fù-e	'blind man'
dá̃	dà-e (or dà-ye)	'sore'

<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
lú	li-a	'cold'
sě	sí-ǎ	'mouse'
kpi	kpi-ɛ	'dove'
kǎ	kǎ-ɛ	'foot'
vú	vú-i	'vine'
zǒ	zǒ-ɛ	'fishnet'
pǎ	pǎ-ɛ	'ladle'
mǎ	mǎ-rè	'friend'
yǒ	yǒ-rè	'soul'
pú	pí-a-rè	'younger sibling'
pɛ	pa-gǎ	'foreleg'
dǔ	dǎŋǎ	'bridge'
pǔ (piu)	pí-a	'fromager tree'
kú	kɔ-kɔ-lǒ	'back'
kǒ	kǒ-ǎ	'voice'
kǒ	kpǎ (kǒ-ǎ)	'house, hut'

Approximately 70% of the morphemes containing tonal glides are nouns whose suffixes in the plural form correspond tonally to the last element of the tonal glide in the singular. 16 cases of glides occur on nouns which have no plural at the present time (but most likely did at one time), ten occur on verbs and other parts of speech and 4 cases are seemingly exceptions to this principle, such as yě, yě-rí 'affinal relative' which maintains the glide in the plural form also. Perhaps there was at one time a singular suffix with the same tone as the plural suffix,

which disappeared, leaving only its tone behind. (Some singular suffixes still remain in Bobo. The complex problem of noun pluralization will be discussed further in Chapter 6.) The same process has happened with several possessive pronouns: bi 'yours', ni 'mine' and ki 'yours, plural' have resulted from be-yi, ne-yi, and ka-yi, respectively. The forms for the third person singular and plural, a-yi and ya-yi 'his, their', still reflect the original form.

In every case it is the first part of the glide which is important. By this is meant that tonal deletion rules eliminate the second part of the glide in many tonal constructions:

nâ 'mother'	>	nâ síébé 'a true mother'
kū 'back'	>	ku síébé 'a true back'
sǎ 'person'	>	sǎ síébé 'a true person'
kǎ 'house'	>	kǎ síébé 'a true house'

In about 90% of the tonal constructions involving tonal perturbations, Mid-Low combines with Mid tone, and the Low-Mid and Low-High glides combine with Low tone.

The functional load of the glides, therefore, is actually very small. In light of these facts, I have interpreted tone glides on one-syllable (CV) morphemes as combinations of two tones sharing the same locus or domain. The first part of the glide (the starting point) is the essential part for determining the tonal behavior of these morphemes in most frames. The second part of the glide, at least in the case of the singular nouns, is probably the remnant of a very old class system, serving now only to mark the forms to which they are attached as singular nouns.

There are other cases in Bobo where tonal glides have been created by the suffixation of a morpheme of tone:

a. There is a morpheme realized as suffixed (or replacive) high tone occurring with -ga to mark negative constructions. This morpheme of high tone may be suffixed to an aspect or tense marker, but it is usually suffixed to the subject (noun or pronoun.) When the final syllable of the subject has mid tone, the mid tone is replaced by the high tone. However, when the final syllable of the subject has low tone, the high tone is suffixed to it, creating a Low-High glide:

à ti yó 'he is there'  
 ǎ ti yó-gá 'he is not there'  
 mǎ ti bé 'I am here'  
 má ti bé-gá 'I am not here'

b. There is a morpheme of low tone which can be suffixed to some nouns and verbs roughly translated as 'act of'.

zɛ-nǒ 'a fish'  
 zɛ-nǒ 'act of fishing'  
 tère 'preparation of millet'  
 tère 'act of preparing millet'

If this morpheme is suffixed to a syllable with high tone, it is realized as a High-Low fall. If suffixed to a syllable bearing mid tone or low tone, these tones are automatically raised to High before suffixing the low tone:

tógò 'construction'	tógô 'act of building'
tígè 'a jump'	tígê 'act of jumping'
bérè 'conversation'	béré 'act of conversing'
ya 'to go'	yâ 'act of going'

c. A third example of tonal glides created in this manner is the prefixing of low tone on the first syllable of a dependent noun which is possessed inalienably. On one syllable words of high tone, this results in a Low-High glide:

zǐ 'face'	ně zǐ 'my face'
dǔ 'chest'	ně dǔ 'my chest'

d. A fourth example is the suffixation of high tone as part of future tense formation on low tone verbs:

zì 'to go down'	mā nǎ zǐ 'I will descend'
nǎ 'to come'	mā nǎ nǎ 'I will come'
wǒ 'to remain'	mā nǎ wǒ 'I will remain'

On syllables with mid tone, this morpheme is realized as a replacive:

ko 'to enter'	mā nǎ kó 'I will enter'
sa 'to leave'	mā nǎ sá 'I will leave'
zǒ 'to eat'	mā nǎ zǒ 'I will eat'

Other tonal glides are features of juncture. This occurs, for example, with words formed by the reduplication of a syllable bearing low tone:

/gà-gà/ 'crow'	[gǎ-gà]
/dǎ-dǎ/ 'hunter'	[dǎ-dǎ]
/dě-dě/ 'type of drum'	[dě-dě]

Finally, some glides are caused by assimilation in rapid speech: One frequent type of tonal assimilation results from the juxtaposition of two low tones across word boundaries but within the same pause group:

/lù nǎ/	[lǔ nǎ]	'of cold'
/à nǎ tí bē/	[à nǎ tí bē]	'he will be here'

If tone in Bobo were analyzed on a level higher than the syllable, the glides would present no problem. Actually, there is some evidence that this would be the best solution:

a. The same tonal combinations found on the glides on CV morphemes are also found on morphemes of CVCV and CVV patterns:

v	=	`	´	(Low-High)
^	=	´	`	(High-Low)
∩	=	-	`	(Mid-Low)
∪	=	`	-	(Low-Mid)

Neither permit High-Mid glides or Mid-High glides. A Mid-High rise is found on words such as zε-nǔ 'fish', but never on single morphemes. A High-Mid combination is permitted on neither morphemes nor words.

b. There are some constructions in Bobo where the pitch contour seems to be the significant unit, not the number of syllables of any single tone. For example, phonological words created by suffixing the nominalizer -bé to one or more morphemes of mid tone may have from two to five syllables, all of the same Mid-High pattern:

tεrε-bé	'slavery'
fɔrε-bé	'goodness'
sara-mā-kpiε-bé	'greed'
nǔnǔ-nā-yā-bé	'selfishness'

However, most evidence indicates that tone is best analyzed on the level of the syllable. Not all compound words function like (b) above. High-Low is a fairly common pattern on CVCV morphemes, but on CV morphemes it is found on only one word, nâ 'mother'. Analyzing tone at morpheme or word level would create more problems than it would solve.



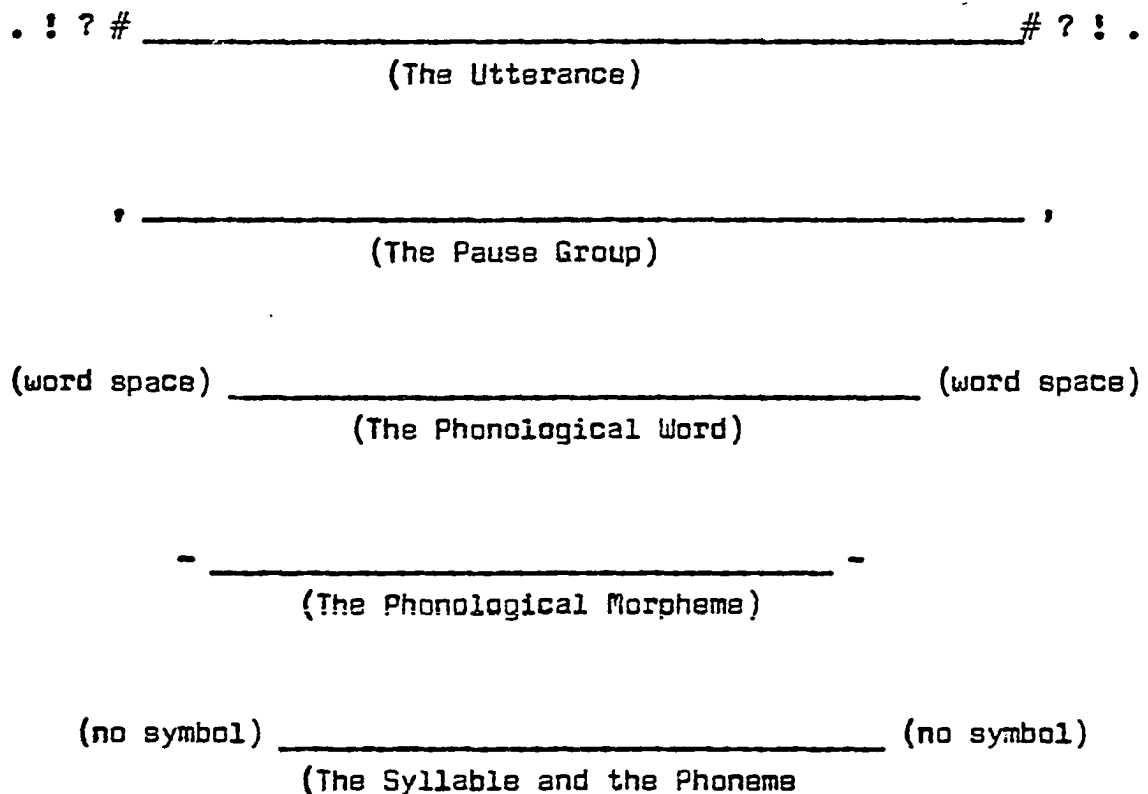
### 3.2 Juncture and phonemic concatenators.

Five juncture phonemes are set up in Bobo:

- a. Stop (or sentence) juncture--symbolized by any of the following punctuation marks: / . ! ? # /
- b. Comma (or pause) juncture--symbolized by / , /
- c. Word (or break) juncture--symbolized by word space
- d. Hyphen (or open) juncture--symbolized by / - /
- e. Close juncture--no symbol.

The occurrence of these five juncture phonemes is summarized in Table XIV:

Table XIV



Stop (or sentence) Juncture. This is symbolized by any of the following punctuation marks: ? . ! #. This juncture surrounds the utterance. It is characterized mainly by a brief period of complete silence before and after the utterance. At the beginning of the utterance, it is characterized by a breath intake. At the end of the utterance, it is characterized by a non-phonemic glottal stop, except in the case of interrogative utterances which are characterized by slight, non-phonemic lengthening of the final vowel and absence of the glottal stop.

Comma (or pause) Juncture. This juncture is symbolized by a comma and surrounds the pause group. Its main characteristic is a slight pause or break in the flow of speech. The following examples are utterances consisting of two pause groups separated by comma juncture:

a. mã gbanã bí, gbège vùró nã.

I took the stick to hit the dog.

b. mã nã, mèně.

I came to drink. (Contrast with: mã nã mèně. 'I will drink')

c. à mǎně ye bà, kù nã.

He hurt himself in the war.

d. mế tà, a bo bí.

He took mine. (literally 'mine, he took that')

There is never any vowel elision across comma juncture. There is no glottal stop marking this juncture. Therefore, vowels are of normal length. There is also no tone perturbation across this juncture. In other words, no tone within a pause group can

affect any tone within another pause group.

Word (or break) Juncture. This juncture is symbolized by word space. It surrounds the phonological word (simple, complex and compound or extended words.) Its main characteristic is a very slight pause, inaudible (at least to me) in rapid speech, but perceivable in slow, deliberate speech as in the following pair:

nàà 'four' (no word juncture)

nà ā ti? 'how is he?'

Word juncture is also characterized by tone patterns and by tone changes at word boundaries. For example, for many speakers there is a noticeable glide on the first of two identical tones across word juncture. In the case of mid and high tones, this is a downglide. With low tone, it is an upglide. Contrast the following three pairs:

a. má nà yā-ga# 'I will not go' /ya-ga/

mā nà yágá 'I will spoil'

b. bànà 'vain'

ǎ nà 'he came' /à nà/

c. mā nà bígé 'I will go home'

má nà bĕ-ga# 'I will not vomit' /bĕ-gá/

Finally, there is only one occurrence of primary stress within a stretch of speech bounded by word juncture.

Hyphen (open) Juncture. This juncture is symbolized by a hyphen and indicates slight or more likely potential pause at morpheme boundaries within a single word (phonological word). Both nasalization and vowel harmony tend to function within this

boundary. Tonally, it is used in the formation of longer compound nouns which are tonally similar to nouns composed of one or two morphemes. Compare:

zǝ-fá 'food'

kuru-hǝ-sǝ 'someone of the village'

tũ-hǝ-zabare-nĩ 'salt to sell in the market'

tara-hǝ-kie-fárc 'earrings'

(literally, ears-in-put-things)

Close Juncture. This juncture is marked by the absence of any of the four above junctures and exists merely as a convenience to separate primary segmental phonemes and syllables within the phonological morpheme and word.

### 3.3 Terminal contours (intonation).

There are at least four phonemic terminal contours in Bobo. They operate at the level of the utterance and include such phonological features as phonetic downdrift, stress, length, pitch range, tempo or speed of utterance, etc. The four terminal contours identified are:

- a. Period contour--symbolized by / . /
- b. Question contour--symbolized by / ? /
- c. Negative contour--symbolized by / # /
- d. Exclamation contour--symbolized by / ! /

All four of these terminal contours are marked by automatic phonetic downdrift, which is not to be confused with phonemic downstep, which does not exist in Bobo, since Bobo is not a terraced level language. By phonetic downdrift is meant that there is a slow and gradual descent in pitch throughout the utterance. The distance from low to high is less at the end of a

fairly long utterance than at the beginning. This may be attributed in part to loss of energy or running out of breath, and is very common in Mandé languages. Unlike phonetic downdrift, other intonational features are not automatic, but purposeful to indicate various attitudes and emotional conditions of the speaker.

Period contour. This contour indicates the absence of any strong emotional state and is used to mark simple declarative sentences and narration. It is characterized by normal pitch range, vowel length and tempo, and the presence of a terminal glottal stop, which makes the final vowel sound very short.

à ti bɛ́. 'He is here.'

Question contour. This contour marks an interrogative utterance. It is characterized by the absence of the final glottal stop and slight lengthening (°) on the final vowel.

à ti bɛ́°? 'Is he here?'

On final mid tones there is often a slight downglide as well as absence of glottal stop and slight lengthening of vowel:

wù ti bé ná sǐ°? 'Are you hungry already?'

wù ti né ná sǐ. 'I'm already hungry.'

Negative contour. This terminal contour is marked by /#/ and marks a negative utterance. It is characterized by a suffixed or replacive morpheme of high tone (usually on the subject) and final negative suffix-ga. There is a slightly higher pitch level running throughout the entire utterance than occurs on the other two utterance types.

Exclamation contour. This contour marks an utterance showing

emotion, excitement, surprise, emphasis, etc. It is marked by very high pitch range throughout and increased speed or tempo. An utterance final low tone in an exclamatory utterance sounds like what mid tone would be in a declarative sentence. Final high tone is extremely high, followed by a sharp and brief downglide to about mid-tone level<sup>11</sup>

### 3.4 Interpretation of suspect segments and features.

Included in this section is a discussion of the interpretation of long (lengthened) vowels, nasalization and stress. This discussion is included in this chapter (supersegmental phonemes) because these three features are frequently analyzed as supersegmental phonemes in African languages.

3.4.1 Long (lengthened) vowels. Sequences of identical vowels occur in Bobo. There are three possible ways of interpreting them:

a. Long vowel phonemes could be set up in contrast to short vowels. This would necessitate the addition of 12 more phonemes to the phonemic inventory.

b. The feature of length could be set up as a supersegmental phoneme, located, like tone, on particular vowel phonemes. This would result in 13 vowel phonemes and one phoneme of length which could occur on all but one of them (/a/).

c. "Long" vowels could be treated as sequences of identical vowels. This third interpretation is the most satisfactory for

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<sup>11</sup> Note: The same symbols are used for the four terminal contours and also for stop juncture because there is never any overlap. Stop juncture separates utterances and every utterance is marked by an intonational contour.

Bobo.

Phonetically, there are actually four degrees of vowel length:

a. Extremely short. This may be illustrated by the archiphoneme /ə/ (schwa)--the tone-bearing entity whose precise vowel identity is indistinguishable.

b. Regular length of one mora--appearing on both level vowels and glides. Glides usually sound longer than level vowels, but I don't believe that they are--this effect is due to the glide.

c. Slightly lengthened vowels due to the absence of final glottal stop at the end of an interrogative utterance (\*). Vowels marked with ˙ are longer than one mora, but shorter than the two-mora identical vowel clusters. In the sentence nã nã nã. 'Mother will come,' the third component sounds longer than the other two. However, native speakers don't hear or interpret them as long and when pronounced with two-mora vowels they are noticeably shorter. Therefore, while they might be phonetically a little longer (especially on upglides), they are not phonemically longer.

d. Sequences of two identical vowels--two morae in length.

Examples:

nãã 'four'

sãã 'three'

kõõ 'five'

Lengthened vowels occur only morpheme and word finally in Bobo, never medially. Bobo, therefore, has no contrasting

pairs such as:

baara 'work'

bara 'homeland'

as Spears has found in Faranah-Maninka.<sup>12</sup>

Many "long" vowels in Mandé languages have resulted from a process involving progressive weakening of a medial consonant. For example, the Bambara/Malinke word 'to go' goes through four stages, taka > taga - taya > taa, resulting in a complete loss of medial consonant and a "long" vowel.<sup>13</sup> This same process can account for some, but by no means all, of the "long" vowels in Bobo. Sometimes both forms (CVV and CVCV) are still in free fluctuation. Sometimes older speakers maintain the CVCV form while younger speakers prefer CVV. Sometimes a comparison with closely related dialects gives evidence of the existence of a former medial consonant. Examples of "long" vowels formed in this manner are the following:

- a. tîí 'early', pronounced tîni by some elderly speakers.
- b. kôô 'five', pronounced kòrò in some neighboring dialects and in koro-sôô 'eight' (literally five-three).

Another explanation for the occurrence of some of these "long" vowels is the presence of a morpheme of length with the

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<sup>12</sup> Spears, Richard A., The Structure of Faranah-Maninka, University Microfilms, Inc., Ann Arbor, 1965, p. 24.

<sup>13</sup> Westermann, Dietrich and Ida C. Ward, Practical Phonetics for Students of African Languages, London, 1964, p. 132.



following functions:

a. To mark the immediate past tense along with the particle dò:

mã dò siri-i 'I just died'

mã yé dò bara-a 'I just tore them'

mã dò zã-õ 'I just ate'

b. To mark the present or past participle in predicate adjective constructions. This morpheme consists of a suffixed reduplicated (lengthened) vowel with mid-tone, suffixed to a certain sub-class of verbs:

f'ɛŋɛ-ɛ 'was thin'

dòre-e 'stopped up'

kùlé-e 'lowered'

vígí-i 'pulled out'

yága-a 'ruined'

nĩõ-õ 'swollen'

Contrast the following pairs:

à mǎnɛ tá 'he stopped'

à mǎnɛ tá-a 'he was stopped (standing)'

à penɛ 'it is red'

à penɛ-ɛ 'it is reddened'

A third explanation for the existence of identical vowel clusters is the juxtaposition of vowels across word boundaries:

má á gù 'I find it'

Three of the numbers 1-10 appear as lengthened vowels: sàà 'three', nǎà 'four' and kòò 'five'. kòò has already been explained as the result of a reduction from kòrò. This may be

the case, also, for the other two numbers, for sàà 'three' is sawa in Mende and saba in Maninka. Or perhaps these vowels have been lengthened to two syllables for rhythm in counting.

Morphophonemic processes can also explain some lengthened vowels: wà à ti 'where is he' results from assimilation of wè à ti.

Lengthened vowels are frequently found in ideophones:

kpèèè ɲwèèè ɲwèèè 'to turn a half circle'

Greetings also contain numerous lengthened vowels:

mǎǎǎ 'general term used in greetings, an acknowledgement'

Many lengthened vowels occur in adverbs of time, place and manner:

féeé	'ever'
súúú	'always'
sííí	'already, still'
tííí	'early'
yǎǎǎ	'over there, yonder'
fííí	'much'
yòòò	'conditional particle'
sòòò	'for a long time'
mííí	'immediate future marker'

Perhaps a morpheme of length is involved here.

Vowel length in Bobo is interpreted as sequences of identical vowels for the following reasons: There is never any contrast between V: and CVV in any context or involving any phonological feature. Long vowels are equal in length to a cluster of two non-identical vowels, occur in the same phonological environments (except morpheme medially, where there are a few examples of

dissimilar VV sequences) and bear similar tone patterns. In about 65% of the occurrences of lengthened vowels they do not bear the same tones. Words like nǎǎ 'four' and sǎǎ 'three', when pronounced very slowly, are given two distinct pulses, indicating two syllables. Many of them can be interpreted as V + morpheme of length. To interpret the unexplainable cases of "long" vowels as unit phonemes would add 12 more phonemes to the phonemic inventory and unnecessarily complicate the situation.

While there are at least two morphemes of length in Bobo, there is no phoneme of length. "Long" vowels are sequences of identical vowels, each bearing its own tone and never occurring within the same syllable.

3.4.2 Nasalization. There are two kinds of nasalization in Bobo-- automatic and phonemic. There are also two degrees of intensity of nasalization: primary and secondary.<sup>14</sup> Phonemic primary nasalization occurs on five vowels /ĩ ẽ ã ǔ ũ/ which contrast with oral vowels /i e a ɔ u/. Automatic primary nasalization occurs in syllables starting with a nasal consonant /m n ŋ ñ/ and also on vowels preceded by a nasal vowel within the same morpheme. In other words, all vowels following a nasal consonant or a nasal vowel within the same morpheme receive primary nasalization. In morphemes of a CVV pattern, both vowels are either oral or nasal. If the first is nasal, the second one must be also. There is never any contrast between vowels with primary phonemic

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<sup>14</sup> There is a third degree of very intense nasalization in the Balave dialect of Bobo. Some vowels in this dialect are actually pronounced completely through the nose, with the mouth shut.

nasalization (the nasal vowels /ĩ ẽ ã õ ũ/ and those receiving automatic primary nasalization (because of their phonological environment.) Only the nasal vowels appear after Ċ and/or Ṽ within a morpheme.

Automatic secondary nasalization (there is no phonemic secondary nasalization) occurs in three phonological environments:

- a. On syllables preceding a nasal consonant within a phonological word
- b. On non-nasal consonants preceding nasal vowels within a phonological word
- c. On vowels following nasal vowels across morpheme boundaries but within a phonological word.

The following examples will illustrate these three conditions. The symbol for automatic phonetic secondary nasalization is a sub-script ,:

a. /tãḡã/ 'to sit' has primary nasalization on the second vowel because it follows a nasal consonant, and secondary nasalization on the first vowel [tãḡã] because it is the syllable preceding a nasal consonant with a phonological word. The first vowel receives slight nasalization and the final vowel receives stronger nasalization.

b. Even consonants can be affected by secondary nasalization if they occur in a syllable before a nasal consonant and if they have nasal allophones. For example, /winĩ/ 'to awake' has primary nasalization on the second syllable and secondary nasalization on the first syllable (wĩnĩ).

c. Words such as qĩã-è 'rattraps' and kã-e 'feet, legs' consist of two morphemes. The final vowels of both words are slightly (secondarily) nasalized. This could not be primary nasalization because ẽ does not occur. Primary nasalization on these two final e's would automatically change them to ẽ. These two words are phonetically [gĩã-è̃] and [kã-è̃]. Primary nasalization is never found on /e o/ but secondary nasalization may be, as in the word /bemã/ 'ancestor' [bẽmã]. If the first vowel received primary nasalization, the word would be realized as bẽmã.

Since secondary nasalization is always automatic and predictable, it is not written in a phonemic transcription. Even though some primary nasalization is automatic, it is not always possible (as after nasal consonants) to tell whether it is automatic or the regular phonemically nasal vowels, so the nasal vowels are used throughout.

Because of the existence of these two degrees of nasalization, nasalization is interpreted as a feature of the syllable, not of the morpheme, as in some other African languages.

Primary nasalization is interpreted as a feature necessary to the definition of /ĩ ẽ ã õ ũ/, not as a separate phoneme of nasalization occurring simultaneously with /i e a o u/. Nasal vowels (primary nasalization) occur only in morpheme final position when following oral consonants, except in a few borrowed words:

bàlãdà	'banana'
fítanã	'lamp'

In morphemes of a CVU pattern, only primary nasalization occurs

(fíǎ 'fetish', qíǎ 'trap', nǎǎ 'four'). Primary nasalization frequently occurs word medially after oral consonants, but only at morpheme boundaries:

kǎ-tigi 'chief'  
 pǎ-libi 'shoulder'  
 tǎ-wèle 'squirrel'

As stated above, nasal consonants automatically give primary nasalization to subsequent vowels within a morpheme. Nasal vowels /ĩ ẽ ā õ ũ/ occur after oral consonants only in morpheme final position. 93% of the occurrences of these non-automatic nasal vowels are on morphemes of a CV pattern. 6% occur on morphemes with a CVV pattern and less than 1% occur as the final vowel on morphemes of a CVCV pattern--and this 1% is highly suspect and may actually be more than one morpheme. Nasal vowels occur after oral consonants in all morpheme classes except pronouns. (Nasal vowels occur in pronouns such as mǎ 'I' and nẽ 'me' but always after nasal consonants.)

A closer study of the morphemes containing non-automatic nasal vowels suggests that many of them originated from the loss of a following syllable beginning with a nasal consonant. Many of the nouns which contain nasal vowels in their singular forms have plural forms consisting of root + suffix:

zí	'face'	zégé	'faces'
sũ	'excreta'	sàqà	'excreta'
dũ	'chest'	dàqǎ	'chests'
tũ	'week'	tímí	'weeks'
sà-kǎ	'funeral'	sà-kúmè	'funerals'
nǎ-tũ	'potash'	nǎ-tàqǎ	'potash, plu.'

zè	'roof'	zànà	'roofs'
dǐ	'glue'	dúmǎ	'glue, plu.'
tǐ	'father'	tamě	'fathers'
nā-dǔ	'hen-house'	nā-dǎǎ	'hen-houses'
sǎ	'snake'	samě	'snakes'

It is very likely that at one time the singular form of these nouns was also marked with a suffix beginning with a nasal consonant, which dropped out, leaving only nasalization as evidence of its past presence. This singular suffix may have been -nǐ, which is still in widespread usage as a singular marker.

The same process may also have taken place in verbs. Perhaps in the past there was not a clear-cut distinction between a class of nouns and a class of verbs (as in Mende today.) Some Bobo verbs which contain nasal vowels have nominal forms marked by suffixes beginning with nasal consonants:

zǐ	'to eat'	zámǎ	'food, act of eating'
sǐ	'to cultivate'	sámǎ	'cultivation'
		sǎ-sǎ	'caste of cultivators'

This process of nasal vowels resulting from deleted nasal syllables is seen in some compound words in present-day usage:

vǔ-vǎǎ	<	vǔǔ-vǎǎ	'mason wasp'
bǎ-yege	<	bámǎ-yege	'sand'
sǎ-mǔru	<	sǎǎ-mǔru	'milliped'
lǎ-da	<	lǎ-nǎ-da	'customs, habits'
kǔlě-dò	<	kǔlě-nǎ-dò	'doorway'

Finally, evidence from other Bobo dialects further corroborates this hypothesis:

Tounouma	wĩ	'to bite'	=	Balavé	miŋ
Tounouma	sǎ	'person'	=	Balavé	sùŋ
Tounouma	sã	'snake'	=	Balavé	samiya

3.4.3 Stress. Stress in Bobo is automatic and predictable and therefore not written in a phonemic transcription. There is primary stress and optional secondary stress distributed within the phonological word. Stress is correlated with tone level and is governed by the following rules:

Primary stress falls:

a. On the first of two or more identical tones within a phonological word:

'tòlá	'species of chicken'
'bara	'work'
'dùrù	'hippopotamus'

b. On the first high tone in a phonological word containing one or more high tones:

ʔǎ-ʔǎ-be-'bé	'pride'
dà-'lò	'girl'
nĩmĩ-sà-'lá-lò	'boy'
teně-'nǎ	'heaviness'

c. On the first mid tone in a phonological word containing only low and/or mid tones:

gbè'ge	'dog'
sìò-'nǎ	'colt'

d. On the first element of tonal glides (either High or Low) occurring on single vowels in morphemes with a CV pattern.

Secondary stress falls:



a. On the second high tone in a phonological word containing two high tones.

b. On the second mid tone in phonological words containing only low and/or mid tones.

c. On the first mid tone in a phonological word containing one high tone (which receives the primary stress).

Post-positions, particles, tense and aspect markers and some pronouns seem to receive less stress in the context of an utterance than content words like nouns, verbs, etc.

Elsewhere, stress seems to be fairly evenly distributed within the phonological word.

On the utterance level, stress is a feature of the exclamation terminal contour and denotes emphasis, surprise, emotion, sarcasm and excitement.

## CHAPTER IV

## THE PHONOLOGY OF LARGER SEGMENTS

This chapter deals with the interpretation of the syllable (4.1), the phonological morpheme (4.2), the phonological word (4.3), the pause group (4.4), the utterance (4.5), a note about phonological exceptions and irregularities (4.6) and the assimilation of loan words (4.7).

## 4.1 The Syllable.

The syllable consists of phonemes and is distributed within the morpheme and the phonological word. The Bobo syllable consists of a vowel nucleus plus one of three tonal phonemes (or a combination of two) plus an optional pre-nuclear consonant. All Bobo syllables not part of borrowed words fit the formula:

$$(C)V^T \quad (T = \text{tone})$$

A VV sequence is interpreted as two separate syllables. The two possible syllable types in Bobo, therefore, are V and CV (with tone included in the vowel.)

a. V-type syllables. These can occur initially, medially or finally within morpheme and word

Initially:  $\grave{a}$  'third person singular subject pronoun'

$\grave{a}m\acute{i}n\grave{a}$  'so be it, amen'

Medially:  $gi\grave{a}ti$  'to think'

$pi\grave{a}-r\grave{e}$  'younger siblings of the same sex'

Finally:  $gi\grave{a}$  'trap'

$gb\acute{a}-\grave{e}$  'sheep, plural'

b. CV-type syllables. This syllable type can also occur initially, medially and finally within morpheme and word.

Initially: gbaŋã 'stick'  
           ka 'you, plural'  
 Medially: sàmãrè 'donkey'  
           nã-mãnè 'children'  
 Finally: sisálù 'species of plant'  
           sògù 'grass, straw'  
           nã-nã 'hen, chicken'

In a sample of 750 syllables taken from one text, 89% were of the CV pattern and 11% were V. The only exceptions are found in loan words, where occasionally a CCV syllable occurs. However, these are extremely rare and treated as extra-systemic. The only cases of closed syllables are in a very few French loan words in the speech of well-educated speakers. An educated speaker will pronounce the word 'Christmas' as nosl, but a speaker with little or not formal education will pronounce it noeli or niwali. (See Section 4.7 on the assimilation of loan words.)

Close juncture is postulated at syllable boundaries within the morpheme.

In a sample of 860 morphemes taken from another text, 34% consisted of monosyllabic morphemes, 64% were bi-syllabic and 2% consisted of morphemes with three or more syllables, although these are highly suspect and may actually contain more than one morpheme. In a sample of 1,005 phonological words taken from a third text, 28% consisted of one syllable, 52% of two syllables, 9% of three syllables, 5% of four syllables and 6% of five or more

syllables.

#### 4.2 The Phonological Morpheme.

There are three reasons for interpreting the morpheme as a phonological unit in Bobo.

First, the morpheme is the domain of whatever vowel harmony exists in Bobo. This has already been described as a tendency, rather than a rule. Usually, ɔ and ɛ belong to one set of vowels and o and e to another. Occasionally, vowels of different sets will co-exist within a morpheme, such as sóqè 'panther', but several informants have expressed the opinion that sóqè didn't sound quite right (but they couldn't state why) and several have preferred to pronounce it as sóqé. In a statistical count of these two vowel sets within a morpheme, there are 86 examples of ɔ and ɛ within a morpheme, but only 3 examples of o and e (and there is always the possibility that these "morphemes" might actually be two morphemes.) There are 71 examples of o and e occurring together within a morpheme, but only 6 cases of o and ɛ. Finally, ɔ and o occurred together within a morpheme 110 times, but ɔ and o only twice. ɛ and e occurred together 145 times, but ɛ and e only once. However, within a phonological word and across morpheme boundaries there seem to be no restrictions on co-occurrence of vowels from these two sets. Suffixes like -bé 'nominalizer' and be 'causative' can be suffixed to stems with any vowel and appear to cause no vowel assimilation.

The second reason for treating the morpheme as a level separate from the word in the phonological hierarchy is the

feature of secondary automatic nasalization. Within a morpheme, a nasal consonant occurring as  $C_2$  in a CVCV morpheme will automatically slightly nasalize (,) the preceding vowel. However, this does not seem to occur across morpheme boundaries within a phonological word, or, if it does, it is so slight that I have not been able to detect it. The addition of suffixes such as -nó 'manner of' or -mã 'nominalizer' do not appear to nasalize the preceding vowel.

The third reason is that nasal vowels occur only finally after oral consonants in the morpheme, but may occur medially within the phonological word, pause group and utterance.

For these three reasons, the morpheme has been set up as a phonological unit, separated by hyphen juncture from surrounding speech within a phonological word.

Morphemes consist of one to three syllables. The tri-syllabic ones are suspect for three reasons:

- a. There is a tendency to have the same vowel throughout.
- b. Some of them probably involve reduplication.
- c. There are a number of recurrent syllables which may be (or at least were in the past) separate morphemes.

#### 4.3 The Phonological Word.

The phonological word consists of from one to eight syllables, and is surrounded by word (break) juncture, involving slight pauses and tonal glides, and is delimited by word space. There is only one occurrence of primary stress in a phonological word, so that if two adjacent high or mid tones occur, both receiving primary stress, there must be a word boundary between them. The importance of stress in defining the phonological word can be seen by

comparing the following:

[ 'sɔ kà'ló ] 'branch of tree' (living, still on tree)

[ sɔ-'kálo ] 'tree-branch' (dead, used for firewood)

The first example is a noun phrase. There are two occurrences of primary stress and both members of the construction appear with lexical tone. The second construction is a phonological word. There is only one primary stressed syllable and the tone perturbations further indicate the close degree of grammatical cohesion. (Although tone perturbations also may occur within multi-word pause groups as well as phonological words.) In the first example there is a very short pause between the two constituents, while in the second there is not.

A study of the distribution of the reduced vowel /ə/ is also helpful in certain cases in distinguishing morphemes from phonological words. /ə/ occurs only word medially and never at a word boundary (but it may occur morpheme finally.) If the plural suffix -má were added to sǎ 'person', the resulting form would be sà-má 'people', two morphemes but one phonological word. However, if a separate word, the postposition má 'on' were added to sǎ 'person', the resulting form would be sǎ má 'on, for the person', two separate words separated by word boundary. /ə/ would not occur.

Only in words involving reduplication is there any tonal assimilation within a phonological word and this involves only three words:

/gà-gà/ [gǎ-gǎ] 'crow'

/dǎ-dǎ/ [dǎ-dǎ] 'hunter'

/dè-dè/ [dè-dè] 'type of drum'

Across word boundaries, however, the juxtaposition of two high tones and two low tones usually results in a brief glide on the first of the two identical tones (but this varies from speaker to speaker and depends also on tempo of speech--the faster the tempo, the more glides appear.)

lù 'cold' + nǎ 'for' > [lǔ nǎ] 'because of the cold'

If the low-tone possessive suffix -yì were added to lù there would be no glide, for the resulting form would be one phonological word:

[a lù-yì] 'it's the cold's'

Similarly, two adjacent high tones across word boundaries often show a similar glide: ' + ' > '- '. But within a phonological word they will remain ' '.

Finally, secondary automatic nasalization operates within a phonological word. If the suffix -nǎ 'singular' is added to bogolo 'mud brick', the final o is slightly nasalized [bogolɔ-nǎ]. If word boundary were between them instead of hyphen (morpheme) boundary, there would be no noticeable nasalization on the vowel preceding the nasal consonant.

Phonological words in Bobo consist of:

- a. Simple, one morpheme, usually one or two syllables, numerically the most frequent.
- b. Compound words, consisting of two or three content morphemes, such as:

tú-ko 'market day'

sia-kámǎ 'people of Bobo-Dioulasso'

ñǎ-ñĩĩ 'cow-milk'

- c. Complex words which consist of content morphemes

(up to five) and particles, suffixes and/or  
postpositions (up to three):

sà-màla-la-bé 'old age'

(two content words, two suffixes)

sòrò-kòrò-bé 'laziness'

(two content words, one suffix)

zǎ-fàrɛ-tɛ-nǎ 'cooking'

(three content words, one suffix)

nǎnǎ-mǎ-lɔ-bàrà 'serious work'

(three content words, one postposition)

ziò-hǎ-fàré 'water creatures, marine life'

(two content words, one postposition)

mǎga-hǎ-pɛrɛ-fá 'necklace'

(three content words, one postposition)

sala-nǎ-mǎ-síé 'thumb (mother of the fingers)'

(two content words, one suffix, one post-  
position)

síò-do-hǎ-kíɛ-fàré 'bridle'

(four content words, one postposition)

Words of the type of the last five examples (like English 'jack-in the-pulpit') are often classed as separate entities--like tone groups or tone phrases--but in Bobo they meet all criteria in the definition of the phonological word. They are characterized by particular tone patterns, but so are much shorter words of one or two morphemes. At the present time, I see no reason to separate them from other phonological words.

In a sample of 752 phonological words taken from a text, 78% were of type a (simple), 5% were type b (compound) and 17%



were type c (complex). In a syllable count of the same 752 phonological words, 41% had one syllable, 32% had 2 syllables, 16% had three syllables, 6% had four syllables, 2% had five syllables, 2% had six syllables and less than 1% had seven or eight syllables.

#### 4.4 The Pause Group.

The pause group consists of from one to seven phonological words (the average is 4.3) and is separated from surrounding speech within an utterance by comma juncture (,). The main criterion for positing the pause group as a unit in the phonological hierarchy is the presence of an actual but brief pause, or break in the flow of speech. However, this pause is shorter than utterance-final pauses. Vowel elision or assimilation of any kind (segmental or supersegmental) takes place only within the pause group. In other words, this unit is the domain in which tones or other sounds may affect one another. Usually there is no intake of breath at the beginning of a pause group unless it is a very long one or if the speaker is out of breath or excited.

Grammatically, the pause group can correspond to the sentence, the clause or even a phrase:

à ti bé. 'He is here.' (also an utterance--corresponds to  
grammatical sentence)

à siri, à tèrè wé timì nà ñì pala-ló. 'He died, two days  
after he bought it.' (This utterance consists of  
two pause groups. The first corresponds to a gram-  
matical clause and the second to an adverbial phrase.)

à siri, kù nà. 'He died in the war.' (two pause groups,

the first a clause, the second a noun phrase.)

wǐ yà ǝ nà dúgú, à mǝ. 'The woman who came yesterday, it's I.'

(Two pause groups, both clauses)

bíi hò nǝ dúgù, má zè-ga. 'When it's dark here, I can't see.'

(Two pause groups, both clauses)

tàbàlì wè, mā ti. 'Under the table, I am.' Order reversed to

emphasize 'table'. (Two pause groups one phrase, one clause)

à manǝ yerè, fǝ à ǝ wè. 'He waited until she was finished.'

(Two pause groups, both clauses)

bé da dia nǝ mã fóró nǝ. 'I like you very much.'

(One pause group, also an utterance, corresponding to one grammatical sentence.)

#### 4.5 The Utterance.

The utterance is the highest level in the phonological hierarchy which is described in this paper. There is a "discourse" found in narration and public speaking, but I have not studied it sufficiently to deal with it here. The utterance usually corresponds to the grammatical sentence and less frequently to the clause. (It would correspond to lower levels only in conversation--one word answers, etc.)

The utterance contains from one to six pause groups and is bounded by stop (punctuation) juncture. The utterance is also characterized by one of four possible terminal contours, and by intonational downdrift. The terminal juncture of an utterance is marked by such features as the non-phonemic glottal stop (missing only in interrogative utterances.) The glottal stop

is only found in utterance-final position. The utterance is bounded by complete silence, usually well less than a second in normal conversational speech. Its onset is marked by a breath intake (it might also be called a breath group.) Volume is usually louder at the beginning of a fairly long utterance and there is a pronounced fall-away and relaxation of the vocal organs at the end of the utterance, on the last few syllables (except in an utterance marked by exclamation contour.)

There are four major utterance types:

- a. Declarative or regular--characterized by a period terminal contour (.)
- b. Interrogative--characterized by question terminal contour (?)
- c. Negative--characterized by negative terminal contour (#)
- d. Exclamatory--characterized by exclamation terminal contour (!)

There are several other utterance types, such as ones involving direct quotations and parenthetical elements in narrative and discourse which have not been analyzed yet due to insufficient data of this type.

#### 4.6 Phonological Exceptions and Irregularities.

Exceptions to statistical frequencies, unusual sounds and other rare phonological features are found in three major areas of the Bobo language:

- a. Ideophones
- b. Greetings, benedictions and courtesy phrases
- c. The secret language (Lia)

a. Ideophones. These are defined by Doke as "a vivid representation of an idea in sound. A word often onomatopoeic which describes a predicate, qualificative or adverb in respect to manner, colour, sound, smell, action, state or intensity."<sup>15</sup> Newman describes them as "a phonologically peculiar set of descriptive or qualificative words."<sup>16</sup> Occurring very frequently in most African languages, they often comprise phonological sub-systems. In other words, they break the phonological rules. Not much will be mentioned here about Bobo ideophones except to briefly mention a few of the ways in which they violate phonological norms. First, triple reduplication occurs only in Bobo ideophones. kpèè ñwèè ñwèè 'to make a half circle' has already been cited. Another example is the emphatic particles tíqí tíqí tíqí and kpà kpà kpà. All three components are necessary.

à wǎ 'it's so'

à wǎ tíqí tíqí tíqí 'it's really and truly so'

à wǎ kpà kpà kpà 'it's really and truly so'

Other cases of triple reduplication function similarly, as intensifiers or to show emphasis or truth.

Other rare phonological features which occur in Bobo ideophones are the occurrence of extra-systemic phonemes, exaggerated tones below or above the normal range, abnormal intonation,

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<sup>15</sup> Doke, C. M., Bantu Linguistic Terminology 118, London, 1935.

<sup>16</sup> Newman, Paul, "Ideophones from a syntactic point of view", JWAL 2, 1968, pp. 107-17.

atypical syllable types, including a few closed syllables, onomatopoeic words for bird and animal cries and various sounds occurring in nature, different frequencies of phonemic occurrences and the greater than average use of double and triple reduplication. A few exclamations and nonsense words in riddles and children's stories also come under the classification of ideophones.

b. Greetings, benedictions and courtesy phrases. These show the following phonological irregularities: a higher than normal frequency of long vowels, exaggerated tone and intonation, excessive assimilation (because they are so common), medial consonant dropping and vowel elision. For example, an acknowledgement used in greetings which might be phonemicized as /mǎǎ/ is much longer and of much lower tone than the word for 'four' (nǎǎ) which is similarly phonemicized. Also, the highly ritualistic /be nǐ pala/ 'I haven't seen you for two days' > bǐǐ pala and the response, /mǎǎ, be nǐ sǎǎ/ 'that's right, not for three days' > mǎǎ, bǐǐ sǎǎ. Both phrases exceed the normal tone range for both high and low tones and the lengthened vowels are excessively long. (These phrases, incidentally, are exchanged between two people meeting each other whether they haven't seen each other for two hours or for two months.) Benedictions, wishes for long life, cook nights, many children, recovery from illness, a good harvest, etc. (very frequent in Bobo conversation) also contain many of these phonetic abnormalities.

c. The secret language liǎ. About the time of puberty, a small group of male age-mates goes out into the bush for a

four- to six-week period for circumcision, puberty rites and numerous instructions and physical hardships, resulting finally in their membership in the secret society of the deity  $\hat{O}o$  and assumption of adult status in Bobo society. Part of these puberty rites is lió-weně, learning the secret language. Since women traditionally have no part at all in this (except, in certain areas, the wives of blacksmiths), it was very difficult to find a male informant who would reveal anything about this secret language (this would entail breaking an oath.) I was finally able to obtain less than one hundred words in it and also "sworn to secrecy" by my informant, which promise I will respect. Therefore, I can only say that this language, like greetings and ideophones, contains many phonological aberrations. Those which stand out particularly are the high prevalence of two-syllable words and high frequency of plosives as medial consonants, something which is relatively rare in normal speech. It is made up of syllable components, never perfectly learned, choppy and artificial sounding and bears little resemblance to the rest of the language.

#### 4.7 The Assimilation of Loan Words.

Borrowings in Bobo come from two major sources: French, which is the national language of the Upper Volta, and Bambara (Dyoula) which is the lingua franca of the western Upper Volta and surrounding parts of Mali and the Ivory Coast. A knowledge of French is limited to urban dwellers and those who have attended primary school. Bambara is known by approximately half of the Bobo population--more men than women--especially those

who live in regions bordered by other ethnic groups and who frequent markets and engage in inter-group trading. Several dozen words of Arabic origin have come into Bobo, probably via Bambara or other Mandingo languages. These words deal mostly with religion (Islam), proper names, days of the week, and some terms concerning literacy and education. There is also a small number of borrowings from Swamu (or Red Bobo, whose area is northeast of the Bobo, and with whom they share some culture traits), Gouin, Senoufo, etc., but these tend to be restricted to Bobo villages near the borders of these other ethnic groups, not spread throughout the entire Bobo language area.

Borrowings from Bambara tend to be uniform everywhere throughout the eight major Bobo dialect regions. They are used by educated as well as illiterate speakers and pronounced fairly consistently everywhere. Since Bambara and Bobo are related (they show an approximate 16% rate of cognate words in a sample of 250 basic vocabulary items) it is sometimes difficult to determine whether a similarity in form and meaning in Bobo and Bambara is due to genetic relationship or a borrowing at a later period. Terms dealing with trade, certain plants and animals, religious concepts, and political terms are almost certainly borrowings. Bobo and Bambara are phonetically similar, thereby making unnecessary much reinterpretation or modification, as Bambara words are borrowed into Bobo. The two major changes are insertion of vowels to prevent consonant clusters and the re-interpretation of Bambara /j/ as Bobo /z/. In older borrowings, all Bambara /j/'s became /z/ in Bobo, but more recent Bambara borrowings retain the

ǰ sound in Bobo. Bambara ǰakuma 'cat' has become zákumǎ in Bobo, but Bambara ǰabe 'henna' is ǰabi in Bobo. Finally, initial h is rare in Bobo, and some cases of Bambara initial h have been reinterpreted as k in Bobo. Bambara haks 'sin' > kakie in Bobo.

The following is a list of Bambara borrowings in the corpus, divided into the semantic categories of:

- a. religion
- b. political and educational terms
- c. plants, animals and miscellaneous cultural items

a. Religious terms:

<u>Bobo</u>	<u>Bambara</u>	<u>Gloss</u>
sàlè-sámǎ	sali, seli	Moslem prayers (Arabic)
yafa	yafa	to pardon, forgive (Arabic)
dǎŋǎ	daŋa	to curse
diniǎ	duniya, diñe	the world, universe
kǎlfa	kalfa	to commit, entrust (Arabic)
kakírí	hakili	spirit, intelligence
kákíe	haks	sin (Arabic)
sítanē	setane, sitane	Satan, the devil (Arabic)
kǎfare	kafari	to forgive (Arabic)
bato	baro, bato	to adore, honor
mǎkare	makari	to pity
mǎkó	mako	need
zíní	ǰins	evil spirit (Arabic)



<u>Bobo</u>	<u>Bambara</u>	<u>Gloss</u>
káré	kari	Sunday, Sabbath
mìsiri	misiri	Mosque (Arabic)
b. Political and educational terms:		
kala	kalã, karã	to write, to read
màdé-kamã	mãde	Mandé peoples
fala-só	fula, fila	Fula, Fulani
dùgùtígí	dugutigi	village chief
-tígí	tigi	chief, master
kiti	kiti, kiri	sentences, judgement
nàsàrè	nasara	European (Arabic)
fànãmã	fana, famama	king ruler (fana='force, power)
kobi	kube	district, administrative center
c. Plants, animals and cultural items:		
zãmã	ǰaba	onion
bãse	basi	couscous
zákúmã	ǰakuma	cat
mãrè-fá	marfa	gun, rifle
taŋkɔŋɔ	taŋkɔŋɔ	duck
gàrè-fá	karafe	bridle, bit
*màsàku	masaku	sweet potato
*màsàñĩnã	masanyina	guinea pig

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\* Bambara masa means 'royal,' ku means 'yam,' and nyina means 'rat'. So a sweet potato is a 'royal yam' and a guinea pig is a 'royal rat.'

<u>Bobo</u>	<u>Bambara</u>	<u>Gloss</u>
māḡādiè	manǰe	papaya
mísàdà	miseli	needle, sewing utensil
sāḡiè	saḡke	mosquito netting
fìtanā	fitina	kerosene lamp
māḡòrò	maḡgoro	mango
tabalagi	tubalaǰi	baggy pants (Fulani)
sanǰ	sanu	gold
balāda	baranda	banana
sumāra	sumbala	balls of seasoning made from nere seeds
néré	nere	tree bearing pods with yellow substance used for cooking oil
ǰabi	ǰabi	henna
takara	takala	matches
kále	kale	cosmetic (mascara)

Borrowings from French are not uniform throughout the Bobo-speaking area and depend to a great extent for their form on the educational level of the speaker. In other words, the more education a speaker has, the more closely the loan word will resemble French. For example, uneducated speakers consistently add final vowels to French words ending with consonants. Speakers with a primary school education add final vowels to some words but not all, and speakers who have had some high school education in French are very conscious of their pronunciation of French loan words, use as many as they can possibly employ and make them as true to Parisian French as they can. The following is a list

of French borrowings from my major informant, Mme. Edith Sanon, who has completed six years of primary school plus some teacher training. Alternate pronunciations of the word commonly heard in Tounouma, if they occur, are in parenthesis:

<u>Bobo</u>	<u>French</u>	<u>Gloss</u>
pwěti	point,	nail, point
mārto	marteau	hammer
pětrolì (pètòli)	petrole	kerosene
bútólè (bútele)	bouteille	bottle
mobili (mōbili)	automobile	car
kōplè	complet	man's suit
kalisó	caleçon	brief shorts, under-pants
puđr (puđrù)	poudre	powder (talc)
páyasi	paillasse	straw mattress
krèyó	crayon	pencil
fětì	fête	holiday, celebration
kaso	cachot	prison, cell
kamīseriya	Commissariat	government office
sikartí	cigarette	cigarette
mēsia	messe	Catholic mass
mōtoro	montre	wristwatch
àvió (bàle-yálo 'iron bird')	avion	airplane
vélo (bàle-síó 'iron horse')	vélo	bicycle
lérè	l'heure	the time, o'clock
fènétrí	fenêtre	window

<u>Bobo</u>	<u>French</u>	<u>Gloss</u>
lám-pó	l'impôt	tax
flér (flerì)	fleur	flower
lèkol (lèkolì)	l'école	school
kàròtí	carotte	carrot
komädä	commandant	Major, government official
tabáli (tabále)	table	table
sòldá (sòldási)	soldat	soldier
tomatí	tomate	tomato
dímási	dimanche	Sunday
bàtwàr	abattoir	slaughterhouse
žädarm (žädarmi)	gendarme	policeman, law enforce- ment officer
noel (niwale, noeli)	Noël	Christmas
pàtalš	pantalon	pants, trousers
mēwizie	nenuisier	carpenter
prezidä	president	president
šú (sù)	choux	cabbage
ēdepädási	independance	independence
pak	Pâques	Easter
lâpo	lampe	light, lamp
sòda	soda	soda, soft drink
torose (torose)	torche	flashlight
anānā	ananas	pineapple
lètèrè (lètèrè)	lettre	letter, mail
avoka	avocat	avocado
komĩñš	communion	communion

<u>Bobo</u>	<u>French</u>	<u>Gloss</u>
sùkare (sukara)	sucre	sugar
tásá	tasse	plate, dish
trē (tère)	train	train, railroad
glàsi	glace	ice
polosi (polisi)	police	police
só	seau	pail, bucket
sàlāti	salade	lettuce
bàrikò (bàràkó)	barrique	barrel, keg
dògàtòrá	docteur	doctor
kìlòti	culotte	shorts
dùvè	du vin	some wine
tolè	tôle	sheet metal roof
kafè	café	coffee
papie	papier	paper
plási	place	place
berì-mázi (radio)	machine	talking machine (radio)
per (pere)	père	priest
kuyere (kwiye)	cuillère	spoon
fùrsèti	fourchette	fork
klási	classe	classroom, class
tàkasi	taxi	taxicab
gar (gari)	gare	train station, depot
simá	ciment	cement
kesù	caisse	trunk, chest
ver (veri, vere)	verre	drinking glass
maser	ma soeur	nun

CHAPTER V  
MORPHOLOGICAL PROCESSES

The following morphological processes are utilized in Bobo:

Affixation (5.1)

Replacives involving vowels and tone (5.2)

Reduplication (5.3)

Compounding (5.4)

5.1 Affixation.

Suffixes are the only affixes which occur in Bobo. There are two recurrent forms, mā- and ka-, which I suspect are remnants of previous prefixes which existed earlier in the language, but these are rare and it is difficult to prove prefix status at the present time.

Suffixes in Bobo are both inflectional and derivational, neither of which can stand alone in normal speech. The inflectional suffixes -ga, -g, -õ -ra, -re and mõ are enclitics, since they occur outside of the domain of the phonological word. They are the only morphemes in Bobo without a lexical or citation tone of their own, but are dependent for their tone on the word to which they are suffixed. No other suffixes are enclitics. All derivational suffixes actually or potentially change the part of speech of the word to which they are affixed. Inflectional suffixes do not.

Inflectional suffixes.

a. -ga 'negative enclitic.' Suffixed to the last element of a sentence or utterance, it has two allomorphs: -ḡã when

suffixed to a nasal vowel and  $-ya$  when suffixed to an a. It is realized as the same tone as that of the syllable to which it is affixed, or one level higher.

b.  $-o$  'please'. This is suffixed to the last element of a sentence to indicate courtesy or politeness.

Example:  $turu\ b\acute{e}\ s\grave{e}\ n\acute{e}\ m\bar{a}-o$ . 'Sing this song to me, please'  
 However, in greetings, this suffix has a different meaning, roughly equivalent to English "how is..?"

Examples:  $b\acute{a}\ k\grave{e}\ da-o?$  'How are matters at your house?'  
 $b\acute{e}\ da-o$  'How are things here?'

In very slow deliberate speech this suffix is realized as  $-yo$ , but in normal conversation only the vowel is heard.

c.  $-\grave{e}$  'emphatic suffix'.

Example:  $b\acute{o}\ b\grave{i}-\grave{e}!$  'Take this one!'

d.  $-r\grave{e}$  'iterative particle.' This suffix indicates that a sentence is being repeated, or that someone else is being quoted.

Examples:  $b\acute{e}\ ya\ dia-r\grave{e}$ . 'Good-bye to you, too'  
 $m\acute{a}\ da-r\grave{e}$  'I saw, now...'

e.  $-ra$  'interrogative suffix.'

Examples:  $m\bar{a}\ ti\ b\acute{e}-ra?$  'Am I here?'  
 $b\acute{e}\ kak\acute{a}ba-ra?$  'Are you crazy?'  
 $gb\grave{e}ge\ sege-ra?$  'Did the dog bark'

f.  $-m\check{s}$  'interrogative particle.'

Examples:  $\grave{a}\ k\check{o}-m\check{s}?$  'Whose is it?'  
 $\grave{a}\ k\acute{a}ka\ n\grave{u}m\acute{a}\ ye-m\check{s}?$  'Is he still eating meat?'

g. Noun plurals. The system of noun pluralization in Bobo





In some usages, -kie expresses the idea of 'expert' rather than excessiveness:

bara-té-kie 'master workman'

à wè ñǎnǎnǎ-kie 'he's an expert crawler' (snake)

d. tè (singular) kàmǎ (plural) 'proprietor, owner'

This suffix indicates a person or people of a possession or trait, and also ownership or proprietorship.

Examples: fà-tè 'owner of a thing'

fà-kàmǎ 'owners of a thing'

ñǎnǎnǎ-tè 'rich man' (owner of wealth)

nǎ-nǎ-tè 'owner of a chicken'

zǐ-tè 'person in front' (owner of first place)

sièrè-tè 'witness' (owner of truth)

e. -lo (lò) (singular) -la (là) (plural) 'nominalizer and singular/plural marker.' This suffix is sometimes used to indicate one of objects usually found in groups. It is also sometimes diminutive (tugo-lo 'short', sala-lo 'little'.)

Examples: sǒgo-lo 'small stick'

baga-lo 'pick-axe (baga 'to implant, to dig')

kpàla-lo 'little drum'

pɛtɛ-lo 'pot'

sala-lo 'finger'

yàla-lo 'baby bird, fledgling'

palá-lò 'the second one' (pala 'two')

sísì-lo 'locust'

In all of these examples, -lo has been suffixed to words whose final vowel was low or mid-low. When suffixed to high or mid-high vowels

it is realized as lu (lù) 'singular', lo (lò) or la (là) 'plural.'

Examples: molo-lu	'little granary'
kutu-lu	'little basket'
gbège-lu	'puppy' ( <u>gbège</u> 'dog')
mùmù-lù	'star'
fàlè-lù	'stirring stick'
mo-lu	'thirst'
yìbé-lù	'fan to use with cooking fires'

This suffix may also suggest the idea of a circle or roundness. Many of the words formed by using this suffix are round--basket, granary, pot, star, stick finger, etc. This suffix can also be added to several verbs to produce the idea of roundness:

bale-lu	'to roll in balls'
zamalè-lu	'to encircle, dance in circles'

f. -mā 'nominalizer and noun plural marker.' This may be suffixed to a noun to indicate plural and to a verb to make it a noun.

Examples: nīš 'to marry'	nīā-mā 'marriage'
fujūnū 'knee'	fujūnū-mā 'knees'
zā 'to eat'	zā-mā 'act of eating'
nīnī 'oil'	nīnī-mā 'oils'
sanō 'gold'	sanō-mā 'plural of gold'
sō 'to cultivate'	sā-mā 'cultivation, farming'

g. nš 'singular marker.' This suffix expresses the idea of singularity, or oneness. It marks single items of things usually found in groups. It also expresses the idea of 'child of' or 'fruit of', and also concreteness. It is usually suffixed to nouns, and occasionally to verbs or adjectives.

Examples: pɛrɛ 'to tie'                      pɛrɛ-nɔ̃ 'a cord, rope'  
 bânã 'tired'                                      bânã-nɔ̃ 'fatigue'  
 zɛ-nɔ̃ 'fish'  
 mĩŋĩ-nɔ̃ 'yam'  
 yɛgɛ-nɔ̃ 'bee'  
 wɔ-nɔ̃ 'bone'  
 sògò-nɔ̃ 'a piece of straw'  
 demɛ-nɔ̃ 'bedbug'  
 debè-nɔ̃ 'cloud'  
 sĩsĩ-nɔ̃ 'a fly'  
 sɔ-nɔ̃ 'a tree'

In certain noun compounds, this suffix is realized as nɔ̃:

sɔ-nɛ̃mɛ̃-nɔ̃ 'wood borer'  
 sɛ̀gɛ̀-pɛ̀rɛ̀-nɔ̃ 'goat leash' (goat-tying cord)

h. -rè 'plural marker.' Like the previous suffix, -rè may be suffixed to both nouns and verbs. Suffixed to nouns, it indicates plurality, while suffixed to verbs it indicates agent and plurality, equivalent to English -ers.

Examples: yoro 'to dance'    yoro-rè 'dancers'  
 kɔ̃-tɔ̃gɔ̃-rè 'house builders' (tɔ̃gɔ̃ 'to build')  
 pàrè 'sick'    pàrè-rè 'those who are sick'  
 ka-rè 'Griots'  
 vɔ-rè 'older siblings of the same sex'  
 vòrò-rè 'parents' (vòrò 'to beget, give birth:')

Immediately adjacent to nasal vowels, -rè has an allomorph -nɛ̃.

Examples: mɛ̃ 'to beg'    mɛ̃-nɛ̃ 'beggars'  
 tĩŋã-nɛ̃ 'co-wives'

báŋǎ-ně 'husbands'

kwí-měñě-ně 'wine-drinkers' (měñě 'to drink')

so-kíě-ně 'wood choppers'

i. -nǎ 'nominalizing suffix.' This is not identical to suffix number g, although it is homophonous with it in many constructions. This is a suffix added only to verbs to indicate the idea of 'manner' or the technique of doing an action.

Examples: tère-nǎ 'how to prepare millet'

fige-nǎ 'manner of treating or acting'

te-nǎ 'manner of doing, savoir-faire'

nǎnǎ-nǎ 'how to swim'

j. -ró 'nominalizing suffix.' Added to numbers and certain noun compounds, it conveys the idea of concreteness and specificity.

Examples: sǎǎ 'three'      sǎǎ-ró 'the third'

kòò 'five'      kòò-ró 'the fifth'

zòlò 'hundred'      zòlò-ró 'the hundredth'

nǎ-hǎ-dia-ró 'joy' (sweetness in the spirit)

dà-kwíe-ró 'a discussion'

k. -ru 'nominalizing suffix', usually suffixed to verbs:

Examples: yoro 'to dance'      yoro-ru 'a dance'

zí 'to laugh'      zi-ru 'laughter'

ya 'to go'      yu-ru 'act of going'

dàdebe-ru 'body scars'

fugu-ru 'dew'

zàbe-ru 'a joke or trick'

l. -tǎ 'singular agentive suffix,' the singular form of -rè, nǎ. This suffix is added to verbs or to compound

words whose last constituent is a verb. It indicates agent or actor.

Examples: bara-ts-tà 'worker, one who does work'  
 koro-wara-tà 'boatman'  
 kòko-tà 'player'  
 ñǎǎǎ-nē-tà 'cow-herder, one who raises cows'

m. -tigi 'master, head or chief.' This suffix was probably borrowed from Bambara.

Examples: kǎ-tigi 'head of the house'  
 dùgù-tigi 'head of the village, chief'  
 mā-tigi yesù 'The Lord Jesus'

n. -yá 'nominalizing suffix.' This suffix may be affixed to verbs, adjectives and nouns.

Examples: kenē 'well, healthy' kenē-yá 'health'  
 lamōgō 'lineage relative'  
 lamōgō-yá 'lineage, kinship, brotherhood'  
 bē 'to vomit' bī-yá 'matter which is vomited'

o. -yí (singular) yé (plural) 'nominalizing suffix'. When suffixed to verbs it functions as a nominalizer:

ya 'to go' ya-yí 'act of going'  
 sirì 'to die' sirì-yí 'death'

This suffix also forms the comparative and superlative forms of adjectives and verbs where this is semantically possible.

Examples: tugo-lo-yí 'shorter'  
 yire-yí 'biggest, bigger'  
 sala-lo-yí 'smaller, smallest'  
 penē-yí 'redder, or the red one'

ńĩ dia-yí nē mǎ. 'To sleep is most pleasing to me'

sǎ ńǎǎ-yí mē mǎ. 'Someone lazier than I'

nē siè-rì nǎ pàrà-yé. 'The older sisters of my  
mother'

à nē tà fàrà-yí yá sàmǎrè mǎ. 'He treats me better  
than his donkey'

mǎ mǎnǎ dǎǎ-yí bō mǎ. 'I was smaller than that'

p. -bárià 'lack of'. This is a verbal suffix.

Examples: kòkò-bárià 'lack of playing'

zǎ-bárià 'lack of eating'

à tá nǎ-mǎnǎ gū-bárià 'her childlessness'

zǎ-fàrè gū-bárià 'famine' (literally food-finding-  
lack)

q. -dúru 'lack of'. This suffix has the same meaning as p.  
above, but is suffixed to nouns.

Examples: sègè-dúru 'lack of goats'

zǎ-fàrè-dúru 'lack of food'

kǎ-è-dúru-kǎmǎ 'people without feet'

bègè-fàrè-dúru-tè 'one who lacks fine clothes'

gbànǎ-dúru 'lack of money'

It is entirely possible that many other suffixes than those discussed above or in the section on noun plurals exist in Bobo, or at least they did exist in the past. I feel that much evidence indicates that in the past there were more suffixes in Bobo than those which remain. Some have merged with the root so that even native speakers don't realize that they were originally suffixes. Some have left only phonological evidence (vowel and tone changes, tone glides and short vowels, etc.) of their past existence. It

may some day be provable that most, if not all, CVCV noun roots were at one time root plus class marker suffix.

Proto-Mandé existed about 3600 years ago. Mandé was independent before any other branch of Niger-Kordofanian (Niger-Congo) began its separate existence. It is believed that Bobo was the first Mandé language to separate from the rest of the Mandé stock. Therefore, Bobo might be expected to retain certain similarities to the Niger-Kordofanian family that have been lost in other more recently separated Mandé languages. No modern Mandé language except possibly Bobo shows any evidence at all of any kind of a noun class system. The only way to divide nouns is into a two-way classification of alienable and inalienable possession. Finding remnants of a class system would add considerable evidence toward proving Bobo to be a link between Mandé and other branches of Niger-Kordofanian.

For example, it was stated earlier that /r g l n m/ are the consonants most frequently found as C<sub>2</sub> in a sample of 809 two-syllable morphemes of a CVCV pattern. If this sample were restricted to the 501 morphemes which were nouns, 93% of the C<sub>2</sub> consonants would be /g l n/. It has already been shown above that there are several common noun suffixes beginning with l and n (-ló, -lú, -lá, nè, nǎ, etc.) There is considerable evidence to indicate that CVgV nouns (where g is V<sub>2</sub>) were historically CV plus class marker suffix:

ve 'to ask pardon'    vege 'nominal form'  
 kògo (singular)    kòba (plural) 'large calabash'  
 so-kogo (singular)    so-kuba (plural) 'bush'

sara 'to sweep' saga 'broom'  
 wogò 'antelope' warè (alternative form)  
                   wsrà (plural)  
 fo ~ fogo 'act of boiling'

Certain words with g as C<sub>2</sub> have short (or combination) forms in which the second syllable is dropped:

sògo 'road' sòga 'roads'  
           sò-fórò 'the right road'  
           sò-mě̀gè 'a path'  
 zògò 'cloth' zògà 'clothes'  
           zò-we 'act of washing clothes'  
 ñǎ̀gǎ̀ 'cow' ñǎ̀gǎ̀nè 'cows'  
           ñǎ̀-ńíngí 'cow's milk' (the ŋ in ñǎ̀gǎ̀ may  
           have been a g historically)

Evidence from other dialects of Bobo also backs up this theory. The singular form of 'rabbit' in the Tounouma dialect is mũ. The plural is mǎ-gà. In Balavé the singular of 'rabbit' is muqu. Tounouma yòqó 'millet mush' is ńǎ̀ǎ̀ in Balavé.

Evidence derived from comparing the singular and plural forms of nouns also indicates the previous existence of gV suffixes:

wù (singular) wò-gò (plural) 'hunger'  
 lú (singular) lé-gé (plural) 'courtyard, concession'  
 lɔ (singular) la-ga (plural) 'field'  
 ku (singular) ka-ga (plural) 'land turtle'

In the case of lɔ 'field', the singular was probably once lɔgɔ. In this position, /g/ would be realized as the weaker allophone [ɣ] and would finally drop out:

lɔgɔ > lɔɣɔ > lɔɔ > lɔ



Interestingly, one informant insisted that the g in lg was long and wrote the word as lɔɔ, even though the vowel sounded short to me.

There are also several verbs with two forms, the longer of which has g as C<sub>2</sub>:

ya	yaga	'dirty'
pi	pogo	'to cover'
de	dege	'to separate'
ve	vege	'to shave'
fu	fugo	'blind'
le	laga	'to hunt'
ba		'to hurt' (wò-tàlà-bágá 'headaches')

These words also seem to offer phonological substantiation to the theory that the noun/verb dichotomy, while valid at the present time, is a recent historical development. Originally, nouns, verbs and adjectives were one large word class.

Finally, no CVCV noun with g as C<sub>2</sub> in either its singular or plural form means any human being, human occupation, relative or any kind of person. This seems to indicate that -gV (probably -gg) was a class marker for some kind of impersonal nouns.

## 5.2 Replacives.

The following kinds of replacives are found in Bobo:

- a. Tone only. Replacive morphemes of tone are very productive morphologically and syntactically.
- b. Vowel only.
- c. Vowel + tone.
- d. Replacives involving consonants (rare).

Replacive morphemes are used mainly to distinguish the singular and plural forms of nouns and to distinguish different word classes (parts of speech.)

a. Tone only. The syntactic functions of tonal replacives will not be discussed here. Morphologically, tonal replacives are utilized four ways in Bobo:

1. To form the past tense of some verbs:

ba 'to climb' (present tense)

bà 'climbed' (past tense)

2. To distinguish word classes:

wúnú 'odor' (noun)

wúnù 'to smell' (verb, transitive and intransitive)

3. To distinguish the singular and plural forms of nouns:

<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
dɛmɛ̃	dɛmɛ̀	'bat'
dugure	dugurɛ̀	'species of snake'
gbɛɲɛ̃	gbɛɲɛ̀	'porcupine'
níní	nínì	'idiot'

4. To indicate the vocative form of the noun:

ná 'mother'                      nã (High-Mid glide)

'Mother!'

fɛ̀ɲɛ̀mɛ̀ (girl's name)              fɛ̀ɲɛ̀mɛ̀ (vocative form)

zèzúmà (man's name)              zèzúmã (vocative form)

b. Vowel only. Morphemes of vowel replacement have two functions in Bobo:

1. To change word class membership:

siri 'to die' (verb)

sòró 'corpse' (noun)

sara 'dead' (adjective)

2. Noun singular and plural forms. This will be discussed in greater detail in Chapter 6.

One, two, three or more vowels in one word may be involved in Bobo vowel replacement:

1. One vowel:

bàgà (sing.)      bàgè (plu.)      'poison'

poro (sing.)      pori (plu.)      'sack'

kù (sing.)      kò (plu.)      'debt, obligation'

2. Two vowels:

bièro (sing.)      biàra (plu.)      'flying termite'

tòrò (sing.)      tòrè (plu.)      'nére beans'

vùlù (sing.)      vèlè (plu.)      'chicken's crop'

3. Three or more vowels (undoubtedly due to assimilation):

kekélé-lù (sing.)      kaká-là (plu.)      'salamander'

tìnrì (sing.)      tànàra (plu.)      'butterfly'

mùmùlù (sing.)      màmàlè (plu.)      'star'

c. Vowel and tone replacives:

sāmēnē (sing.)      sāmānā (plu.)      'sleeping mat'

kíebe (sing.)      kíebè (plu.)      'cockroach'

dàsamā (sing.)      dàsēmē (plu.)      'thunder'

zúgú (sing.)      zúgì (plu.)      'enemy'

d. Replacives involving consonants:

kíká (sing.)      kègé (plu.)      'meat'

dìbì-nǎ (sing.)      dǎgè (plu.)      'stone, rock'



The function of this reduplication is to indicate repeated action, aimless or purposeless action, or action directed over a wider area. Siri means 'to die', but sìrì-sìrì means 'to die all over like on a battlefield or during an epidemic.'

2. Reduplication of the first CV of the stem:

bè-bere 'to pour or empty'

kà-kaye 'to whittle'

sě-sěñě 'to sift'

kò-koro 'to tremble'

perε 'to grapple' pe-perε 'to shake vigorously'

zĩ-zĩnĩ 'to cuddle'

3. Reduplication of the final CV of the stem:

volo-lo 'to crawl'

koro-ro 'to clean'

mānā-nā 'to gnaw, chew'

molo-lo 'to make smooth'

muru-ru 'to be round and smooth'

kpěls-le 'to cry'

b. Nominal (noun formation.)

1. Complete reduplication of stem  $\frac{1}{2}$  V and C changes:

nĩnĩ-nĩnĩ 'chameleon'

kpile-kpile-sě 'species of snake'

fogo-fógó (sing.) foga-fógá (plu.) 'lungs'

kúlú-kúlù 'whooping cough'

pānē-panē 'sisal'

yulu-yulu 'stream formed by rain water'

tege-nēge 'conical straw hat'

kwi-kwi 'species of termite'

kì-kí 'eyelash'

tìṣ-tìṣ 'species of fish'

dà-dǎ 'hunter'

dè-dě 'type of small drum'

2. Reduplication of first CV of the stem. These forms almost certainly reflect reduplication because of the rarity of /t k s d and kp/ in morpheme medial position:

kè-kε-lo 'a swallow'

fù-fugu 'fallow field'

kpa-kpa-lo 'elbow'

ka-ka-lo 'backs' (plural form of ku 'back')

ke-ke-rè 'bucks'

kε-kεge-lo 'old person' (kεge 'old')

tù-tugù 'mushrooms'

bà-ba-la 'bats'

kò-kórò 'rooster'

sú-sùgo 'eagle'

dò-dógò 'basket'

wora-tulu ~ wora tu-túlù 'heart'

c. Intensification or modification of nouns and verbs:

kuro 'tall' kuro-kuro 'very tall or long'

yale 'soft' bere yale-yale 'to whisper'

sè para-para hálí nǎ 'the trees were very old'

nǎngǎ-nǎngǎ 'in little pieces'

kibe-kibé 'wide open' (kibe 'open')

ti-tiri 'more, again'

yó-yó 'like this'  
 tèně-ṛěně 'a little bit'  
 tele-le 'really'  
 yere-re 'slowly'  
 zè-zé 'separately'

## d. Number phrases:

sàà 'three'      sàà sàà 'three by three'  
 nàà 'four'      nàà nàà 'four by four'  
 zogo 'little'    zògò zogo 'little by little'

## e. Time phrases:

li mà 'evening'    li mà li mà 'every evening'  
 dò 'year'          dò dò 'every year'  
 kì-kí mà 'morning'    kì-kí mà kì-kí mà 'every morning'

## f. Miscellaneous:

dùṅù 'black'      dùṅù dùṅù 'black mixed with another color'  
 peně 'red'      peně peně 'measles spots.'

Triple reduplication occurs only on two intensifiers and one verb:

tígí tígí tígí 'really and truly'  
 kpà kpà kpà 'really and truly'  
 kpěě ṛwěě ṛwěě 'to turn a half circle'

There is evidence that partial reduplication of a morpheme results from loss of the complete reduplication. For example, kpa-kpa-nó 'louse' in Tounouma is kwàná-kwànó in the Balavé dialect to the north. And in Tounouma, vũ-vàṅà 'mason wasp' alternates with the longer form vũṅũ-vàṅà.

#### 5.4 Compounding or Nominal Association.

This process of forming compounds is limited to forming nominals in Bobo. Verb phrases and serial verbs are considered part of syntax and are not included in the present paper.

The following word classes may be involved in compounding:

a. Nouns. Nouns may be either simple (non-derived), derived, or compound. The word zò-fá 'food', itself a compound, may be a constituent of the compound zò-fa-sí 'certain kind of food.' Every compound must contain at least one noun. None contain more than four. If there is a plural (generic) form of the noun, this form is used in compounding.

b. Verbs. Verbs are optional in compounds. If there is an intransitive (generic) or nominal form of the verb, this form will be used.

c. Postpositions (optional).

d. Adverbial or time word (optional).

e. Tone change (interpreted as a tonal morpheme.) This is obligatory unless the suffix -rè or the suffix -tà are the final syllables in the compound.

f. Adjective (optional).

The obligatory elements are certain tone changes (excluding the presence of two suffixes,) a noun, and at least one other word. A demonstrative or possessive pronoun may modify a noun compound, but it is not interpreted as part of the compound because it does not conform to the tonal pattern of the compound.

Noun compounds are interpreted as polymorphemic words rather than phrases because of lack of any juncture phenomena,



unique tone patterns and impressions of the native speakers.

Examples:

a. Noun + Noun.

bàlo 'iron' + gbaṅǎ 'stick' > bàlo-gbáṅǎ 'iron rod'

vàgàkǎ 'corn' + la-ga 'fields' > vǎgàka-lá-gà 'corn-  
fields'

bùgú 'corn husk' + zò-pálá 'sack' > bùgu-zó-pàlà 'husk  
bag'

b. Noun + Verb.

zò- 'cloth, comb. form' + nĕ 'to weave' > zò-nĕ 'cloth-  
weaving'

zio 'water' + sinĩ 'to be bitter' > zio-sinĩ 'vinegar'  
(the sentence 'the water is bitter' would  
be simply zio sinĩ.)

nǎ- 'chicken, comb. form' + nĕmĕ 'intransitive form of  
numa, 'to eat' > nǎ-nĕmĕ 'act of eating  
chicken'

kwĩ 'millet beer' + zǎ 'to brew' > kwĩ-zó 'beer-brewing'

zò- 'cloth, comb. form' + wĕ 'to wash, intransitive' >  
zò-wĕ 'act of washing clothes'

sĕgĕ- 'goats, comb. form' + ye 'to kill, nominative form' >  
sĕgĕ-yĕ 'goat-butchering'

c. Noun + Verb + Noun.

vǎgàka-tigĕ-dó 'corn crib' (lit. corn-putting-place)

yĕ-gĕ-siri-gbǎnà 'monthly salary' (lit. moons-dying-  
money)

mĩri-terĕ-gbǎnà 'money to buy rice'

kwĩ-zo-yá 'breweress' (kwĩ 'beer' + zo 'to brew' +  
yá 'woman')

d. Noun + Postposition + Noun.

zòlò 'jar' + hò 'inside of' + zio 'water' > zòlò-hò-zío  
'jar-water'

ńíná 'eyes' + hò 'inside of' + tógó 'fire' >  
ńíná-hò-tógó 'strife'

sí 'sun' + hò 'in' + zǐ-fá 'food' (lit. 'eating thing') >  
sí-hò-zǐ-fà 'noon meal'

e. Verb + Noun.

pi 'to cover' + zògò 'cloth' > pi-zògò 'blanket'

kanǎnē 'to roast' + zε 'fish' > kanǎnē-zé 'roast fish'

lugo 'to lean' + gbaǎ 'stick' > lugo-gbaǎ 'cane'

f. Time Word + Verb + Noun.

dúgú 'yesterday' + kia 'to look for' + zàkúmǎ 'cat' >  
dugu-kia-zàkúmǎ 'the cat I looked for yester-  
day'

g. Noun + Postposition + Verb + Noun.

sàmǎrá 'strangers' + mǎ 'to' + pere 'to give' + kwĩ  
'millet beer' > sàmǎra-mǎ-pere-kwĩ 'wine to  
give to strangers'

ńíná 'eyes' + mǎ 'on' + de 'to put' + dàbàlǎ 'mirror' >  
ńíná-mǎ-de-dàbàlǎ 'eye-glasses'

h. Noun + Noun + Postposition + Verb + Noun.

siò 'horse' + do 'mouth' + hò 'in' + kie 'to put, intrans.'  
> siò-do-hò-kie-fà 'thing' > siò-do-hò-kie-fà 'bridle'

wurò + kǎ 'house' + hǎ 'in' + ya 'to go' + zògà  
 'clothes' > wurò-kǎ-hǎ-ya-zògà 'church-  
 going clothes'

i. Noun + Adjective.

tògò-síébé 'real name'

nǐmǐ-sala-lo-nǐnǐ 'foolish boy'

The tone pattern of noun compounds. The last word of a noun compound is always a noun or the nominal or intransitive (generic) form of a verb. This final word is also the topic (main idea) of the compound. The first word of the compound retains its lexical tone except all high tones become mid tones. All subsequent words preceding the topic become mid tones. The first tone of the topic word is always high (or a High-Low fall in the case of a few monosyllabic words) and subsequent tones are either High, Low or a High-Low glide.

Note constructions like:

nǐ nǎ zòló 'oil jar'

nǐ nǎ bàló 'salt box'

zòló nǎ kwǐ 'beer contained in a jar'

These are noun phrases (associative), not compounds, and retain lexical tone throughout.

zò-páíá hǎ vǎgàkǎ 'the corn which is in the bag' is an associative noun phrase, while lògò-kíε-zò-páíá 'peanut-sack' is a compound, as is vǎgàkǎ-kíε-mòlò 'corn bin.' εε-kàló 'branch of a tree still on the tree' is a noun phrase, while εε-kàló 'dead tree branch used for firewood' is a compound.

Finally, kǎ hǎ kò (all lexical tones) is a noun phrase meaning 'a termite which is in the house,' but kǎ-hǎ-kò 'house-termite' is a compound. Words in noun compounds are more closely fused or semantically bonded than those in phrases.

The only noun compounds which do not conform to these tone patterns are those formed by suffixing -tè (sing.) and -rè/ně (plural) to the final word. These suffixes may be added to single stems, both nouns and verbs:

Noun + -rè/ně indicates plurality or indefiniteness (personal)

Verb + -tè, -rè/ně indicates agentive, those who perform the action of the verb.

Examples: vó 'chief' vó-rè 'chiefs'

kiε 'mother's brother' ka-rè 'mother's brothers'

pù 'younger sibling' pià-rè 'younger siblings'

kpǎ 'to fear' kpǎ-tà 'coward'

sara 'to sell' sara-tà 'seller'

sǎ 'to sing' sǎ-ně 'singers'

These suffixes may be affixed also to a noun + verb stem to form a type of noun compound.

Examples: ségè-tεrε-tà 'goat buyer'

zò-nǐě-tà 'weaver'

zò-duŋŋ-be-rè 'those who blacken clothes'

They may also be suffixed to a noun + postposition + verb stem:

nǐnǎ-mǎ-lɔ-tà 'wise man'

tũ-hǎ-ya-tà 'market-goer'

In this type of construction, the topic does not have obligatory high tone on the first syllable as it does with all other noun

compounds.

These suffixes may also be affixed to associative noun phrases with lexical tone appearing throughout:

mě nǎ sítára-tà 'our burier' (the one who buries us)

be nǎ vùrò-tà 'your hitter' (the one who hit you)

ně nǎ vòrò-rè 'my parents'

CHAPTER VI  
WORD CLASSES

Where possible, word classes in Bobo are defined by features of internal structure (such as permissible lexical tone patterns, permitted affixes, etc.) rather than by distributional or semantic criteria.

### 6.1 Nouns.

Nouns are words which may occur with a variety of affixes which indicate singular (specific, definite) and plural (generic, indefinite.)

Nouns may also occur with the following suffixes previously described in Section 5.1:

- bé (abstract nominalizer)
- tè, kàmâ (indicates ownership or proprietorship)
- dúru (indicates lack of)
- lo, -'u, la and their allomorphs (indicating diminutive, roundness and/or singularity)
- tígí (master, lord)
- yá (abstract nominalizer)

The composition of nouns may be the following:

Simple:	root only	sóǵè 'panther'
		do 'mouth'
		séǵé 'goat'
Derived:	root plus suffix	
		sǒ-bé 'humanity'
		mǎ-gà 'rabbits'
		so-nǒ 'tree'

root + suffix + suffix

zɛ-nɔ̄-nɛ̄ 'fishermen'

mã-rè-bé 'friendship'

su-tè-bé 'ownership of a fetish'

Compound: (see previous section for permitted compounds)

There are also a few nouns composed of partially or completely reduplicated roots + suffix: kè-ké-lò 'locust'.

Nouns in Bobo are subject also to a different kind of dichotomy:

- a. Dependent (inalienable)
- b. Independent (alienable)

Dependent nouns in Mandé languages usually include words for body parts, human traits and characteristics (soul, name, reputation, character, shadow, etc.), most relatives and kinship terms, etc. Traditionally, these two types of nouns have been referred to as alienable and inalienable, but I prefer to use Welmers' terms--free (independent) and dependent.<sup>17</sup>

Some Mandé languages can not use dependent nouns in isolation without citing the possessor with them. I have gathered word lists in such Mandé languages as Samogo-Gouan and Samogo-Iri where an informant could not say a word such as a body part without making it 'my head', 'my eye', etc. However, this is not the case in Ebo, where the main morphological difference between these two types of nouns is apparent when put into a

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<sup>17</sup> William E. Welmers, "The Morphology of Kpelle Nominals," Journal of African Languages VIII, part 2, 1969.

phrase or construction with a possessor. Alienable possession is formed by juxtaposition of the possessor and the possessed, or by using the possessive particle tà.

Examples: nǎ yà 'my wife'  
à tá yà 'his wife'

Inalienable possession employs a different set of possessive pronouns accompanied by tone change in the possessed noun.

Examples: wúnú 'smell' ně wúnú 'my smell'

Some dependent nouns function as postpositions. For example, ně zǐ means both 'my face' and 'in front of me.'

The nominal form of verbs. All verbs have a nominal form which enables them to function syntactically as verbs. These nominal forms are marked by vowel changes, tone changes, affixation, loss of affix, or a combination of these. The nominal form of verbs is similar phonologically and semantically to the plural form of the noun and conveys the idea of generic and indefinite, rather than plurality alone.

Syntactically, nouns are easily distinguished from verbs by the following frame:

mǎ kia \_\_\_\_\_ nà 'I want..(noun)'  
mǎ kia ǒ \_\_\_\_\_ 'I want to...(verb)'

The nominal form of verbs would fill the slot in the first frame, while the regular form of verbs would be used in the second frame.

Examples of the formation of the nominal form of verbs:

a. Tone change alone:

měǎ	'to rain'	méně	'rain, act of raining'
bèrè	'to fall'	bèré	'act of falling'



kòko 'to play'	kàkó 'playing'
ńí 'to sleep'	ńǐ 'sleeping'

## b. Vowel change alone:

bě 'to vomit'	bǐǎ 'vomiting'
mogo 'to cry'	mǒgo 'crying'
píri 'to be ashamed'	pere 'shame'

## c. Vowel + tone change:

taba 'to cut up'	tábé 'cutting up'
nũmǎ 'to eat'	němě 'eating'
fuga 'to catch'	fígé 'catching'
dəge 'to separate'	dəgè 'separating'

## d. Suffixation ± vowel change:

zi 'to laugh'	zí-rù 'laughing'
ya 'to go'	yú-rú 'act of going'
zǐ 'to eat'	zá-mǎ 'act of eating'
sǐ 'to cultivate'	sá-mǎ 'act of cultivating'

## e. Loss of suffix:

vəge 'to shave'	vɛ 'shaving'
laga 'to hunt'	lɛ 'hunting'
sàgǎ 'to defecate'	sũ 'defecating, excreta'

As mentioned above, phonologically the nominal form of verbs is very similar to the plural (generic) form of nouns, which are also formed by suffixes, vowel replacements, tonal replacements and combinations of these. Both noun plurals and nominal verbs convey the idea of generic or indefinite. I interpret this as further evidence that Bobo nouns and verbs are historically one large word class.

Short (combination) form of nouns. In addition to plurals, some nouns have a short or combination form used only when they are constituents of noun compounds. In other words, these short forms are bound forms and never occur in isolation:

Examples:

<u>Singular</u>	<u>Plural</u>	<u>Short Form</u>	<u>Gloss</u>
dà-ló	dà-lá	dā-	'girl'
nā-nǎ	nā-nǎ	nā-	'hen'
--	pere	pe-/pe-	'palm'
ńǎńǎ	ńǎńǎ-nǎ	ńǎ-	'cow'
démǎ-nǎ	démǎ	dǎ-	'bean'
zògò	zògà	zò-	'cloth'
sògò	sògà	sò-	'road'

Examples of the short form in noun compounds:

dǎ-fórò 'a good girl' (dà-ló fóro 'the girl is good')

nā-wéré 'chicken eggs'

nā-dú 'chicken coop'

ńǎ-ńǎńǎ 'cow's milk'

sò-gbágá 'a large road'

zò-soro 'sleeve' (lit. arm of the cloth)

pe-kwí 'palm wine'

dǎ-yógò 'bean mush'

The plural form of nouns. While the terms 'singular' and 'plural' are used for simplicity and convenience, the meaning here is much more than just number. The singular form of a noun also indicates the idea of particular, specific or one-ness. The plural form

also includes the idea of generic or indefinite. For example, the word 'friendship' is formed by suffixing -bé to the plural form (mǎ-rè.) This suffix is always added to the plural form of a noun (where one exists) even though the plurality of number is not part of the meaning. In noun compounds like the following, the plural form of the noun is consistently used:

sègè-kíkà	'goat meat'	(ségé 'goat')
nīnā-bágá	'eye pains'	(nīnā 'eye')
tá-rò-sǒ	'song-singing'	(túrú 'song')
mǒga-hǒ-pere-fá	'collar'	(mǒgò 'neck')
kire-dá-ló	'a village girl'	(kuru 'village')

Bobo noun plurals are formed in a variety of ways, many of which seem to reflect a very old, widespread system of noun classes marked by singular and plural suffixes. Evidence for this theory is seen especially in the section on replatives. Many of the original suffixes have either merged with the stem (often leaving phonological remnants) or dropped out.

The following are examples of the more frequent type of noun pluralization:

a. Plural only marked by a suffix:

<u>Suffix</u>	<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
-rV	mǎ	mǎ-rè	'friend'
-rV	yè	yè-rì	'affinal'
-rV	yà	yà-rà	'woman'
-rV	dógó	dógó-rì	'age grade'
-lV	wéle	wéle-lì	'penis'
-mǎ	fuyūnū	fuyūnū-mǎ	'knee'
-nǐ	sǐ	sǐ-nǐ	'male, man'

-ṅǎ	dǎ-dǎ	dǎ-dǎ-ṅǎ	'hunter'
-nĕ	nǎṅǎ	nǎṅǎ-nĕ	'cow'
-nĕ	bǎṅǎ	bǎṅǎ-nĕ	'husband'

All of the above plural suffixes are possibly allomorphs of one morpheme.

The following vowel suffixed plural markers are all front vowels and may have originally been yV:

<u>Suffix</u>	<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
-ε	kwí	kwí-ε	'dove'
-i	gbesé	gbesé-i	'toothbrush'
-i	lè	lè-i	'kind of fruit'
-ĕ	dɔṅṅ	dɔṅṅ-ĕ	'type of sauce'
-ĕ	kǎ	kǎ-ĕ	'foot'
-e	vù	vù-e	'fruit of vine'
-e	gbá	gbá-e	'sheep'

b. Singular only marked by suffix:

-nǎ	nǎnǎ-nǎ	nǎnǎ	'tooth'
-nǎ	so-nǎ	so	'tree'
-nǎ	gbala-nǎ	gbala	'grasshopper'
-nǎ	ko-nǎ	ko	'termite'
-nǎ	wie-nǎ	wie	'type of pea'
-nǎ	dùṅṅ-nǎ	dùṅṅ	'charcoal'

-nǎ marks the singular or individual form of words normally found in numbers larger than one. One other singular prefix is also found:

-o	ta-o	ta	'kind of tree'
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## c. Singular and plural both marked by suffixes:

<u>Suffix</u>	<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
-lo/-la	dà-ló	dà-lá	'girl'
"	lá-lò	lá-là	'chick'
"	yà-lo	yà-la	'bird'
"	sìsà-lo	sìsà-la	'locust'
"	págá-lò	págá-là	'forked stick'
-la/-le	kùbà-la	kùbà-le	'calabash'
-lo/-lɔ	dó-lò	dó-lò	'brazier'
-lu/-lɔ	da-tugo-lù	da-tugo-lò	'chin'
-lu/-le	yìbe-lù	yìbe-lè	'fan'
-lu/-la	fàle-lù	fàle-là	'stir stick'
-lo/-lɛ	kùŋwùlɛ-lò	kùŋwùlɛ-lè	'lizard'
"	kìè-kìɛ-lò	kìè-kìɛ-lè	'swallow'
-lo/-li	da-lako-lò	da-lako-lì	'liar'
-lo/-lɔ	sògò-lò	sògò-lò	'stick'
-lo/-lɛ	sé-lò	sé-lè	'pickaxe'
"	kíé-ló	kíé-lé	'cheek'
-nɔ́/-nɔ́mǎ	ǎí-nɔ́	ǎí-nɔ́mǎ	'grease-ball'
"	ya-nɔ́	ya-nɔ́mǎ	'side of body'
"	da-nɔ́	da-nɔ́mǎ	'lip'
"	sɔnɔ́-nɔ́	sɔnɔ́-nɔ́mǎ	'pestle'
-nɔ́/ -nɔ́mǎnɛ̀	kàso-nɔ́	kàso-nɔ́mǎnɛ̀	'prisoner'
"	sɔ-nɔ́	sɔ-nɔ́mǎnɛ̀	'fruit'
"	yegɛ-nɔ́	yegɛ-nɔ́mǎnɛ̀	'bee'
"	dɔgɔlɔ-nɔ́	dɔgɔlɔ-nɔ́mǎnɛ̀	'gravel'

<u>Suffix</u>	<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
-nǎ/-nǎ	pà-nǎ	pà-nǎ	'thief'
"	nǎ-nǎ	nǎ-nǎ	'hen'
"	kpa-nǎ	kpa-nǎ	'calf of leg'

## d. Plural suffix marker + vowel change:

-gV	pɛ̃	pà-ga	'small stick'
"	ku	ka-ga	'land turtle'
"	mũ	mǎ-gà	'rabbit'
"	dò	dò-ga	'year'
"	lú	lé-gé	'courtyard'
"	bu	ba-ga	'illness'
"	tú	tá-gá	'heat'
"	zǐ	zé-gé	'face'
"	yú	yé-gé	'moon, month'
"	la	la-ga	'field'
-rV	nǎ	nè-rè	'species of tree'
"	kie	ka-re	'mother's brother'
"	pù	pía-rè	'younger sibling'
"	fà	fà-rè	'thing'

The following suffixed vowels were probably originally y + vowel:

-a	tàbà-su	tàbà-si-a	'pipe'
-a	lù	lí-à	'cold'
-a	tu	ti-a	'cajcedra tree'
-a	pũ	pí-a	'fromager tree'
-o	su	si-o	'medicine'

<u>Suffix</u>	<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
-o	zu	zi-o	'water'
-e	so-du	so-di-e	'tree trunk'
-mǎ	dǎ	dǔ-mǎ	'glue'
"	kǎ	kǎ-mǎ	'house'
"	sǎ	sǎ-mǎ	'person'
-ŋǎ	dǔ	dǎ-ŋǎ	'hut'
"	sǔ	sǎ-ŋǎ	'excreta'
-mǎ	zǎ	zǎ-mǎ	'terrace'
"	tǎ	tǎ-mǎ	'father'
"	sǎkǎ	sǎkǎ-mǎ	'funeral'
-mǐ	sǐ	sǐ-mǐ	'species'
"	tǔ	tǐ-mǐ	'market, week'
-ŋǎ	nǐ	nǎ-ŋǎ	'salt'
-ŋǎ	nǎtǔ	nǎtǎ-ŋǎ	'potash'
-nǎ	zǎ	zǎ-nǎ	'roof'

e. Noun plural formed by replacives:<sup>18</sup>

<u>Replacive</u>	<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
i>ǎ	pǐ	pǎ	'head cushion'
e>ɛ	kǎre	kǎre	'beaver'
o>a	do	da	'mouth'
i>e	kǔ-mǐrǐ	kǔ-mǐre	'owl'
o>a	woro	wora	'heart, liver'

<sup>18</sup> Further analysis may reverse the direction of the replacive. Comparisons with cognate languages seem to indicate that the plural form of the noun is the base form and the singular form the derived form.

<u>Replacive</u>	<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
ǎǎ	gwǎǎ	gwǎǎ	'stick'
ɔ	kù	kò	'debt'
"	bùgu	bùgo	'hut'
ǎǎ	fǎǎ	fǎǎ	'flesh'
ɔ	kòrò	kòrè	'elephant'
ɔ	sògò	sògè	'panther'
ɔ	sègè	sègè	'large basket'
ǎǎ	bàgà	bàgè	'poison'
ɔ	kpàrè	kpàrà	'stool'
ɔ	poro	pori	'sack, bag'
ɔ	wùrú	wùrà	'hole'

The following are replacives of the final two vowels:

e-ɔ-ɔ	sèrè	sèrè	'remains'
e-ɔ-u-a	kèbè	kùbà	'rind, skin'
o-ɔ-o	tòrò	tòrò	'ball of black beans'
u-ɔ-a-a	vulu	vala	'hen's crop'
o-ɔ-a-a	sòró	sàrà	'corpse'
e-ɔ-a-a	dèbè	dàbà	'cloud'
o-ɔ-u-a	dòlo	dùla	'hunchback'
o-ɔ-a-a	soro	sara	'hand, arm'
i-i-u-o	figi	fugo	'flower'
u-ɔ-a-a	sà-suru	sà-sara	'fetishist'
u-ɔ-a-o	tùrù	tàrò	'song'
u-ɔ-o-o	kulu	kòlo	'wall'
a-ǎǎ-ǎǎ	fànà	fènǎ	'monkey'
u-ɔ-i-e	kuru	kire	'village'



<u>Replacive</u>	<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
ɔ̄-ɔ̄>i-ā	n̄ɔ̄n̄ɔ̄	n̄íná	'eye'
e-ɔ̄>a-a	bīero	bīara	'flying termite'
i-i>a-a	pīrí	pārá	'side of face'
a-a>e-e	sārá	sēré	'tobacco powder'
u-ā>ɛ-ē	būnā	bēnē	'tomb'
i-a>e-e	kīlá	kēlè	'thorn'
u-a>e-e	zūbà	zēbè	'pocket'

Replacives of three or more vowels:

<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
ke-kéle-lù	ka-ká-là-là	'salamander'
mū-mūlù	ma-má-là	'star'
tíniri	tànāra	'butterfly'
kí-kiri	kà-kara	'kind of sauce'
n̄ú-n̄ú-n̄ú	n̄ā-n̄ā-n̄ā	'ant'

Replacives of two vowels + consonant (might be interpreted as suppletion):

díbí	dógó	'hearthstone'
kíka	kège	'meat'

Tone replacives only:

<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>	<u>Number of Occurrences</u>
kpàre	kpàrè	'spider'	3
pege	pegè	'tail'	11
n̄íní	n̄ínì	'idiot, fool'	8

## Tone + vowel replacives:

<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
zúgú	zúgì	'enemy'
kiele	kielè	'hawk'
təgɛ-něgɛ	təgɛ-něgè	'straw hat'

In addition, there are 72 examples of simple nouns with no overt singular or plural markers.

No other Mandé language has such an intricate and varied system for forming noun plurals. Some Mandé languages have no pluralization at all, others use suffixes, ranging in number from one to four. Frequently, the third person plural pronoun is suffixed to the noun, as in Bambara (-u).

In most cases in Bobo the plural form is not predictable from the singular, or vice versa. For example, there are five nouns in Bobo consisting of the segmental phonemes ku plus a tone. These five nouns all have different plurals:

<u>Singular</u>	<u>Plural</u>	<u>Gloss</u>
kú	ká	'armpit'
ku	ka-ga	'land turtle'
kū	ko-ko-lò	'back'
kù	kò	'debt'
kǔ	ǰ	'Volta River'

The canonical shape of nouns.

a. Simple (mono-morphemic) nouns consist of one, two, three and possibly four syllables. However, all four-syllable nouns are foreign loan words. Since all the morphological problems of

Bobo are not yet solved, it may well turn out that nouns interpreted now as mono-morphemic are really root + suffix.

In a sample of 523 simple nouns, the following forms appeared:

<u>Form</u>	<u>Example</u>	<u>Gloss</u>	<u>Number of Occurrences</u>
CV	gbá	'sheep'	129
CVV	píí	'spring'	38
CVCV	kòrò	'elephant'	296
CVVCV	kiúrù	'lizard'	14
CVCVV	yalió	'youth'	3
CVCVCV	tòkoro	'partridge'	38
CVCVCVCV	dàmayira	'flute'	5
	gbàlajwoli	'bamboo'	

25% of the nouns were mono-syllabic, 61% were di-syllabic and 14% were tri-syllabic or more.

2. Derived nouns (consisting of one or more roots + one or more suffixes) consist of one to six syllables:

<u>Form</u>	<u>Example</u>	<u>Gloss</u>	<u>Number of Occurrences</u>
CVV	fù-é	'blind men'	18
CVCV	mà-rè	'friends'	279
CVCVV	gɔŋɔ-è	'cans'	11
CVVCV	wie-nó	'pea'	9
CVCVCV	zɛ-nɔ-tà	'fisherman'	88
	dá-là-lá	'little girls'	
CVCVCVCV	da-tugo-lù	'chin'	50
CVCVCVCVCV	kaso-nɔ-mánè	'prisoners'	8
CVCVCVCVCVCV	kapɔnɔ-nɔ-mánè	'red peppers'	6

The following lexical tone patterns are permitted on simple  
(mono-morphemic) nouns:

<u>Syllable Type</u>	<u>Base Tone</u>	<u>Example</u>	<u>Gloss</u>	<u>Number of Occurrences</u>
CV	High	yí	'honey'	29
CV	Mid	yu	'moon'	38
CV	Low	yà	'woman'	48
CV	Low-Mid	kǎ	'house'	18
CV	Low-High	kǎ́	'voice'	17
CV	Mid-Low	yǎ	'soul'	9
CVV	Low-High	fíǎ	'fetish'	17
CVV	Low-Mid	tíǎ	'truth'	9
CVV	Low-Low	síò	'horse'	10
CVV	Mid-Mid	kwie	'caterpillar'	7
CVV	High-High	píǎ	'spring'	11
*CVCV	High-High	kóró	'stomach'	41
CVCV	Mid-Mid	koro	'canoe'	30
CVCV	Low-Low	sámǎ	'frog'	44
CVCV	High-Low	kíní	'light'	38
CVCV	Low-Mid	kíka	'meat'	37
CVCV	Low-High	wúró	'hole'	42
CVCV	Mid-Low	wogò	'antelope'	19
CVCV	Mid-High	gbesé	'toothpick'	11

\* It is interesting to note that almost identical tone patterns are found on CV and CVCV words. Low-High on a two-syllable word (CVV or CVCV) equals a Low-High glide on a one-syllable (CV) word. There are no High-Mid combinations in either group. High-Low does not occur in CV words, but occurs 38 times in CVCV words, but many of these are borrowings or words suspected of being root + suffix.

<u>Syllable Type</u>	<u>Base Tone</u>	<u>Example</u>	<u>Gloss</u>	<u>Number of Occurrences</u>
CVCVCV	High-High-Low	tígél`	'pea'	7
CVVCV	High-Low-Low	wiàgà`	'elf'	4
CVCVCV	Mid-Mid-Mid	baramã	'pot'	13
CVCVCV	Low-Mid-Mid	tòkoro	'partridge'	9
CVCVCV	Low-High-High	tìnírí	'butterfly'	8
CVCVCV	Low-Low-High	vàgàka	'corn'	7
CVCVCV	Mid-Low-Low	lamàrà`	'kind of tree'	2
CVCVCV	Low-Low-Low	sàmàrà`	'donkey'	10
CVCVCV	High-High-Mid	ńónómã	'camel'	1
CVCVCV	Low-High-Low	sàmórò`	'stranger'	8
CVCVCV	Mid-Mid-Low	kinĩnĩ̀	'balaphone'	3
CVCVCV	Mid-High-High	patárá`	'scarf'	3
CVCVCV	Low-Low-Mid	wòrónĩ̀	'ape'	6
CVCVCV	Mid-Mid-High	kulotũ̀	'hedgehog'	2
CVCVCV	Low-Mid-Low	sísagè`	'eggplant'	4

In most morphological and syntactic construction, nouns retain their lexical tone patterns. However, they may be subject to changes in tone in the following circumstances:

- a. When possessed inalienably

zí 'face'      nẽ zí 'my face'

b. When they are constituents of a noun compound or certain types of noun-verb and noun-adjective constructions.

c. When they are used as the first constituent of several types of subordinate clauses.

- d. In a negative clause or sentence.

## 6.2 Verbs.

A verb is a word which may occur with the following suffixes:

- kie 'over, too much' à zǎ-be 'he overeats'
- bé (causative) à zǎ-bé 'he causes to eat, feeds'
- rú (nominalizer) ya 'to go' yú-rú 'act of going'
- mǎ (nominalizer) sǎ 'to farm' sǎ-mǎ 'farming'
- nǎ (nominalizer) 'manner of' zǎ-nǎ 'manner of eating'
- yá, -lu, -bé (nominalizers)
- tà (sing.) -rè, -nè (plurals) (agentive)
  - bara-te-tà 'worker'
  - kǎ-togǎ-rè 'masons'
  - la-ga-sǎ-nè 'farmers'
- bǎrèà 'lack of' kòko-bǎrèà 'lack of playing'

There may also be a suffixed morpheme of vowel length in several verbal constructions, such as after the immediate past tense marker dǎ:

- mǎ dǎ zǎ-ǎ 'I just ate'
- à dǎ siri-i 'he just died'

Many verbs have an intransitive or generic form which is frequently used in noun compounds:

- ka 'to put' kie (intransitive form)
  - zǎgǎ-kie-sǎǎ 'time to get dressed (literally, clothes-put-time)
- fuga 'to trap, catch' figǎ (intransitive form)
  - gbègi-figǎ-pérè-nǎ 'dog leash' (literally, dogs-catch, trap-rope)

nũmã 'to eat' nẽmẽ (intransitive form)

sĩ-hõ-nẽmẽ-kíkà 'meat to eat at noon, for lunch'

(literally, sun-in-eat-meat)

This form of the verb is also used in passive constructions:

wa 'to remove' we (intransitive form)

be we miã sõ-bé hõ 'you are removed from among our people.'

If a verb which is usually transitive is used intransitively, the generic form is used:

kuba 'to open' kibe (intransitive form)

mã do kùbà 'I opened the door'

so-nõ kibe 'the tree opened (unfolded its branches)'

zà 'to see' zè (intransitive form)

mã sã zà 'I saw the person'

sõ mã ze titiri-ga 'the person was never seen again.'

The intransitive form of the verb is morphologically similar to the combination (short) and plural (generic) form of nouns.

The following is a list of Bobo verbs which have a separate intransitive (generic, passive) form:

<u>Regular</u>	<u>Intransitive</u>	<u>Gloss</u>
kuba	kibe	'to open'
wa	we	'to remove'
wúnã	wenẽ	'to burn'
fuga	fige	'to trap, catch'
kanãnã	kãnãnẽ	'to roast'
nũmã	nẽmẽ	'to eat (meat)'
wà	wè	'to wash'
sà	siè	'to stop'

<u>Regular</u>	<u>Intransitive</u>	<u>Gloss</u>
zà	zè	'to see'
ta	te	'to make, do'
laga	le	'to hunt'
ka	kie	'to put'
wara	ware	'to plug up'
yogo	yoge	'to mix'
māra	māre	'to grind'

All other verbs have only one form which is used transitively, intransitively, active or passive.

There is another small sub-class of verbs which is never used as a constituent of a direct object-verb construction. This construction is normally:

subject (tense marker) direct object verb

For example:

mā mǎnĕ dà-ló zà I saw the girl'

mā nǎ dà-ló zǎ 'I will see the girl'

be gbàge vèrò 'you hit the dog'

Some verbs, however, require the presence of a postposition when used with direct objects:

subject (tense marker) verb direct object post-position

For example:

mā mǎnĕ te yà mā 'I helped the woman'

be bare dà-ló nǎ 'you greeted the girl'

à nǎ yà tà 'he married the woman'

The following is a list of this sub-class of verbs and the post-position with which they normally occur:



<u>Verb</u>	<u>Postposition</u>	<u>Gloss</u>
kpau	mǎ̀	'to protect'
te	mǎ̀	'to help'
mǔ̀la	mǎ̀	'to wish'
waro	nǎ̀	'to finish'
pi	mǎ̀	'to cover'
mǎ̀ga	hǔ̀	'to refuse (noun)'
mǎ̀ga	nǎ̀	'to refuse (verb)'
la	nǎ̀	'to believe'
to	nǎ̀	'to know'
bare	nǎ̀	'to greet'
le	mǎ̀	'to touch'
mǔ̀ro	mǎ̀	'to increase'
nǐ̀	tǎ̀	'to marry'
kpǎ̀	nǎ̀	'to fear'
kpa	mǎ̀	'to support'
kǎ̀ro	nǎ̀	'to habitually practice'
dugu	nǎ̀	'to miss'
panǎ̀	nǎ̀	'to lack'
kia	nǎ̀	'to want (noun)'

Some regular verbs which may take direct objects can be used with postpositions to express some special or idiomatic meaning:

sa 'to leave, go out'

sa...nǎ̀ 'to take care of'

sa...mǎ̀ 'to find'

sa...tǎ̀ 'to resemble'

sa...hǎ 'to result from'

The canonical form of verbs. The inherent tone patterns of verbs are fairly distinct from those of nouns. No verb has a high tone in its lexical tone pattern. Tonal glides on short verbs are rare. The tones of most verbs are level throughout.

The following shows the permitted base tone patterns of a sample of 282 verbs:

<u>Tone</u>	<u>Verb</u>	<u>Gloss</u>	<u>Percentage</u>
Mid	s5	'to cultivate'	19
	wa	'to remove'	
Low	sǎ	'to sing'	24
	wà	'to wash'	
Mid-Mid	wiri	'to call'	29
	wia	'to pluck'	
Low-Low	wírí	'to arrive'	24
	sùrù	'to pull'	
Low-Mid	mǔla	'to wish'	1
Low-Mid-Mid	kánānǎ	'to roast'	1
	tètèrè	'to prepare'	
Low-Low-Low	sǒyàgà	'to dream'	1
Mid-Mid-Mid	fogoro	'to breathe'	<u>1</u>
			100%

The following chart shows the CV patterns and frequencies of verbs:

<u>Pattern</u>	<u>Verb</u>	<u>Gloss</u>	<u>Percentage</u>
CV	ya	'to go'	40
CVV	lio	'to lick'	3
CVCV	zòlò	'to hang'	53
*CVCVCV	siriri	'to slide'	4
	mùlùkù	'to roll up'	
	kpèlèlè	'to cry'	
			100 %

Several longer verbs clearly involve reduplication:

bàgà-baga	'to menace'
wara-wara	'to stir'
voro-voro	'to be hurried'

### 6.3 Adjectives.

The morphological evidence for listing adjectives as a separate word class in Bobo is slight. They take most of the suffixes which may be affixed to verbs and syntactically, most of them function as verbs, at least in many usages. Morphologically, the major way to distinguish verbs from adjectives is the fact that adjectives can not occur with the suffix -kie 'over, too much.' You can say zǎ-kie 'overeat' and ńí-kie 'oversleep' and bara-té-kie 'to work too much, overwork', but you can not employ this suffix with words like dùṅù 'black', fora 'nice,' yira 'big,' sege 'hard', etc. Elsewhere, however, these words function as verbs:

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\* Three-syllable verbs are quite rare and usually involve reduplication or derivation of some sort.

à ya 'he goes', à ñĩ 'he sleeps', à z̄s̄ 'he eats'  
 à d̄uḡũ 'it's black', à yire 'he's big', à foro 'he's  
 nice'

Syntactically, it would be better to include adjectives as a sub-class of verbs, but for the purposes of this present paper adjectives are defined as words morphologically similar to verbs in all ways except that they can not occur with the suffix -kie.

Some adjectives (as well as nouns and verbs) have a separate form which indicates the idea of indefiniteness, plurality, or generic.

<u>Regular form</u>	<u>Plural</u>	<u>Gloss</u>
foro	fore	'nice, good'
furu	faro	'white'
biri	bire	'old'
kuru	kuro	'long, tall'
sala-lo	sala-la	'little'

Some adjectives have what seems to be the equivalent of the short (combination) form of nouns, which also indicates the idea of generic or indefiniteness and is used in noun compounds:

yaga	ya	'spoiled'
kuru	ku	'tall, long'
yire	yu	'big, large'
tuba	tu	'hot'

In many ways, nouns, verbs and adjectives share many phonological and morphological similarities and could be considered one large part of speech with overlapping sub-classes.

Some adjectives and some verbs (but not nouns) may have a

suffixed morpheme of vowel length when used syntactically as a predicate adjective:

ná pere-zógò soro kù-ú 'my dress sleeve is long'  
 à fɛ̀ŋǎ-ǎ 'she's thin'  
 à mǎnǎ túba-a 'he was hot'  
 à sɛ̀la-lo-o 'he's little'  
 yè kwic-ɛ 'they're dry'  
 à dǎ-ǎ 'he's dirty'  
 à penǎ-ǎ 'it's red'

However, some adjectives (and verbs) do not take this suffix:

à kiní 'he's clean'  
 à kɛ̀gɛ 'she's old'  
 à foro 'he's nice, good'  
 à dǔŋǔ 'it's black'  
 à kakaba 'he's crazy'

Some verbs may occur with a suffixed morpheme of vowel length:

à níǎà pí-i 'her eyes were closed'  
 mǎ mǎnǎ taŋǎ-ǎ 'I was seated'  
 à pére-ɛ 'it's tied, attached'

Other verbs do not:

mǎ mǎnǎ pǎrè 'I was sick'  
 mǎ mǎnǎ síǎ 'I was lying down'  
 à mǎnǎ ní 'he was sleeping'

I am sure that in the final analysis of Bobo morphology, verbs and adjectives will be included in one large word class with overlapping sub-classes, since the presence or absence of one suffix is insufficient for the definition of a separate part

of speech. Internally, adjectives and verbs share many features in common. The main reasons for keeping them separate are syntactic and are not dealt with in this paper.

#### 6.4 Numerals.

The cardinal numbers in Bobo are the following:

1. tálà (tèlè)
2. pala
3. sàà
4. nǎǎ
5. kòò
6. kò-nǎla (5 + 1)
7. kò-para (5 + 2)
8. kòro-sǎǎ (5 + 3)
9. koro-nǎǎ (5 + 4)
10. fú
11. fú-nǎla (10 + 1)
12. fú-pala (10 + 2)
13. fú-sàà (10 + 3)
14. fú-nǎǎ (10 + 4)
15. fú-kòò (10 + 5)
16. fú-kò-nǎla (10 + 5 + 1)
17. fú-kò-para (10 + 5 + 2)
18. fú-kòro-sǎǎ (10 + 5 + 3)
19. fú-kòro-nǎǎ (10 + 5 + 4)
20. kíoró
21. kíoró nǎ nǎ (20 + 1 unit)
22. kíoró nǎ nǎ-mǎ pala (20 + 2 units)

23. kiòró ně nǎ-mǎ sàa (20 + 3 units)  
etc.
30. kie-fǔ (20 + 10)
31. kie-fǔ ně nǎ (20 + 10 + 1 unit)
32. kie-fǔ ne nǎ-mǎ pala (20 + 10 + 2 units)  
etc.
40. kiè-pala (20 X 2)
41. kiè-pala ně nǎ (20 x 2 + 1 unit)
50. kiè-pala-fǔ (20 X 2 + 10)
60. kie-sàa (20 X 3)
70. kie-sàa-fǔ (20 x 3 + 10)
80. kie-nǎǎ (20 X 4)
90. kie-nǎǎ-fǔ (20 X 4 + 10)
100. zò-ló
110. zò-ló ně fǔ (100 + 10)
120. kiè-kò-nǎla (20 X 6)
130. kiè-kò-nǎla-fǔ (20 X 6 + 10)
140. kiè-ko-para (20 X 7)
150. kiè-kò-para-fǔ (20 X 7 + 10)
160. kiè-kòro-sǎǎ (20 X 8)
170. kiè-kòro-sǎǎ ně fǔ (20 X 8 + 10)
180. kiè-kòro-nǎǎ (20 X 9)
190. kiè-kòro-nǎǎ ně fǔ (20 X 9 + 10)
200. zò-pala (100 X 2)
300. zò-sàa (100 X 3)
1000. zò-fǔ (100 X 10) or  
sanǎ 'thousand'

The ordinal form of numbers is formed by suffixing -ro or one of its allomorphs to the cardinal number:

first - no form  
 second - pálá-lo  
 third - sàà-ro  
 fourth - nǎǎ-nǎ  
 fifth - kòò-ro  
 sixth - kè-nàlá-lo  
 seventh - kò-pàrà-ro  
 eighth - kòrò-sòò-ro  
 ninth - kòro-nòò-nǎ  
 tenth - fǔ-nǎ  
 eleventh - fǔ-tàlá-lo  
 twelfth - fǔ-pàlá-lo  
 twentieth - kíò-rò-ro  
 thirtieth - kie-fǔ-nǎ  
 fortieth - kiè-pala-lo  
 fiftieth - kiè-pala-fǔ-nǎ  
 sixtieth - kiè-sàà-ro  
 seventieth - kiè-sàà-fǔ-nǎ  
 eightieth - kiè-nǎǎ-nǎ  
 ninetieth - kiè-nǎǎ-fǔ-nǎ  
 one hundredth - zò-lo-lo  
 one thousandth - sanǎ-nǎ  
                     zò-fǔ-nǎ



## 6.5 Deictic words and demonstratives.

The following sets of pronouns are found in Bobo:

Subject Pronouns (when subject of an independent clause)

<u>Person</u>	<u>Singular</u>	<u>Plural</u>
1st	mā	mě̃ (exclusive)
		kè (inclusive)
2nd	be	ka
3rd	à	yè

Subject Pronouns (when subject of a dependent clause)

1st	mā	mě̃ (exclusive)
		kè (inclusive)
2nd	be	ka
3rd	yí	yí

Direct Object Pronouns

1st	ně̃	mě̃ (exclusive)
		kè (inclusive)
2nd	be	ka
3rd	à, nǎ, nǎ́	yè, ně̃, ně́

The same pronouns are used when functioning as the object of a postposition, except third person singular is expressed by a high tone on the preceding verb:

fà ka ně̃ mǎ́ 'put the thing on me'

fà ka yè mǎ́ 'put the thing on them'

fà ká mǎ́ 'put the thing on him'

Reflexive Pronouns

mǎ nǎ nǎ̀nǎ̀	'I'm in a hurry' (I hurry myself)
bé bǎ nǎ̀nǎ̀	'you (sing.) are in a hurry.
à ye nǎ̀nǎ̀	'he, she, it is in a hurry'
mǎ mǎ nǎ̀nǎ̀	'we (exclusive) are in a hurry'
kè kè nǎ̀nǎ̀	'we (inclusive) are in a hurry'
ka ká nǎ̀nǎ̀	'you (plural) are in a hurry'
yè ye nǎ̀nǎ̀	'they are in a hurry'

Possessive Pronouns--Alienable

In this construction there are no tone changes in the possessed noun:

1st person singular:	mǎǎ, nǎ	'my'
2nd person singular:	bǎǎ	'your'
3rd person singular:	à tá	'his' (not subject)
3rd person singular	yá	'his' (subject)

Examples: à da yá yà sǐrǐ 'he said his (own) wife died'

à da à tá yà sǐrǐ 'he said his (some-one else) wife died.

1st person plural:	mǎǎ	'our' (exclusive)
1st person plural:	kiǎ	'our' (inclusive)
2nd person plural:	ká	'your'
3rd person plural:	yè tá, nǎ tá	'their'

Examples:

à nǎ ségé	'it is my goat'
à bǎǎ ségé	'it's your (sing.) goat'
à à tá ségé	'it's his, her goat'

à mǐǎ ségé	'it's our (exclusive) goat'
à kià ségé	'it's our (inclusive) goat'
à ká ségé	'it's your (plural) goat'
à yè tá ségé	'it's their goat'

### Possessive Pronouns --Inalienable

This set of pronouns is used with all body parts, personal traits and characteristics such as name, shadow, character, etc., and all kinship terms except daughter, younger sister and wife. This is undoubtedly because these women either originate from another village and lineage or will ultimately marry into one and leave their native village. Thus they can be 'given away' or 'disposed of' in a way other relatives can not.

1st person singular:	ně	'my'
2nd person singular:	be	'your'
3rd person singular:	à	'his' (not subject)
3rd person singular:	ye	'his' (subject)
1st person plural:	mě	'our' (exclusive)
1st person plural:	kè	'our' (inclusive)
2nd person plural:	ka	'your'
3rd person plural:	ye	'their'

Constructions involving inalienable possessive pronouns require tone changes on all possessed nouns except those involving third person singular and plural.

#### Examples:

káró 'stomach'	ně kàró	'my stomach'
	be kàró	'your stomach'
	à kóró	'his, her stomach'

	mě kòró, kè kòró	'our stomach'
	ka kòró	'your stomach'
	yè kòró	'their stomach'
zí, zé-gé		'face'
	ně zǐ	'my face'
	be zǐ	'your face'
	à zǐ	'his, her face'
	mě, kè zè-gé	'our faces'
	ka zè-gé	'your faces'
	yè zé-gé	'their faces'

Predicate Possessive Pronouns (formerly pronoun + -yi)

<u>Person</u>	<u>Gloss</u>	<u>Singular</u>	<u>Plural</u>
1 Sing.	mine	mǐ, nǐ	mǐ-yè, nǐ-yè
2 Sing.	yours	bi	bi-yè
3 Sing.	his, hers	nà-yí	à-yé, nà-yé
1 Plural	ours (excl.)	mǐ	mǐ-yè
1 Plural	ours (incl.)	kì	kì-yè
2 Plural	yours	ki, kǐ	ki-yè
3 Plural	theirs	ně-yí	yè-yé, ně-yé

Examples:	zí nǐ	'the terrace is mine'
	zí bi	'the terrace is yours'
	zí nà-yí	'the terrace is his, hers'
	zí mǐ	'the terrace is ours (excl.)'
	zí kǐ	'the terrace is ours (incl.)'
	zí ki	'the terrace is yours'
	zí ně-yí	'the terrace is theirs'

zio nǐ-yè	'the water (plural) is mine'
zio bi-yè	'the water is yours'
zio nǎ-yé	'the water is his, hers'
zio kǐ-yè	'the water is ours (incl.)'
zio mǐ-yè	'the water is ours (excl.)'
zio ki-yè	'the water is yours'
zio nǚ-yé	'the water is theirs'

### Emphatic Pronouns

à mǐ	'it is I!'
à bí	'it is you!'
à à-wè	'it is he, she!'
à mǐ	'it is we (excl.)!'
à kè	'it is we (incl.)!'
à kǐ	'it is you (plural)!'
à yè-wò	'it is they!'

### Expletives and Demonstratives

bó 'this'	bá 'these'
bǒ, bō 'some'	bǒ, bō 'some, other'
	(idea of indefinite)

wǒ 'that one just spoken of'

Example: mā wǐ-é yèrǎ, wǒ tà! 'What I just said,  
do it!!'

wǐ, wǐ 'that which'

wǐ-é 'those which'

Examples: wǐ sǎngǎ 'at which time'

wǐ sǎ ǒ ti 'that person which is...'

wǐ ti 'everyone'



1st person sing.:	ně má	'on me'
2nd person sing.:	be má	'on you'
3rd person sing.:	ǰ mā	'on him, her, it'
1st person plu.:	mě má	'on us' (exclusive)
1st person plu.:	kè má	'on us' (inclusive)
2nd person plu.:	ka má	'on you' (plural)
3rd person plu.:	yè mā	'on them'

Some words which are syntactically postpositions are really inalienably possessed nouns. For example, zǐ 'face' used as a postposition means 'in front of.' ně zǐ means both 'my face' and 'in front of me.' Before the nominal form of a verb, zǐ means 'before' (yú-rú zǐ 'before going'). Other body parts which can also function as postpositions are:

pírí 'side of the face'

tímǐ 'behind'

kège 'side'

kóró 'stomach'

Examples: ně tímǐ 'my behind, behind me'

à kege 'his side, beside him'

kuru kóró hě 'inside the village'

Postpositions can occur as a constituent of noun compounds:

nǐnǎ-mǎ-ló 'wisdom' (coolness in the eyes)

nǐ-hě-díá-rò 'joy' (sweetness in the spirit)

woro-mǎ-díá 'niceness' (sweetness in the heart)

sara-mǎ-kwíé 'greed' (dryness in the hands)

In some expressions the postposition seems to merge with the noun to form a fused unit:

ně kàró-hě kīnì 'I am honest' (my stomach-in is light)  
 bí kàró-hě tuba 'you are angry' (you stomach-in is hot)  
 bí-hě bugu 'the places increased (place-in increased)

This can also occur in place names such as pere-hě and lègè-mã,  
 both names of villages. This can also occur in time phrases:

lǐ-mà 'afternoon, early evening'  
 kíkí-mã 'morning'  
 sí-hě 'noon' (in the sun)  
 wuru-hě 'night'

Postpositions also form part of a verbal construction with a  
 subclass of verbs which do not take a direct object:

māga...nã 'to refuse (noun)'  
 māga...hě 'to refuse (verb).  
 nĩs...tà 'to marry'  
 mōro...mã 'to increase'

Sometimes a direct object + verb have one meaning, but a verb,  
 noun and postposition will have a different meaning:

dεε 'to choose'  
 dεε...nã 'to pity'

Finally, some postpositions function as associative or genitival  
 particles in some possessive and associative constructions:

à tá kãmà 'his people'  
 kóló ta kuru 'village of Griots)  
 yè tá gbège 'their dog'  
 ně bàgà tà yà zá 'my husband's other wife'

While the preceding are genitival constructions, the postposition  
nã is a constituent of associative constructions:





## 6.9 Time Words.

Days of the week are borrowed from Bambara and are originally from Arabic:

zèzumã	'Friday'
sibiri	'Saturday'
kàré	'Sunday'
tènĕ	'Monday'
tàràtà	'Tuesday'
àràbà	'Wednesday'
lámìsà	'Thursday'

These names are sometimes given to boys and girls born on those days.

The following are some other common time words and phrases:

bí-nùgù dò mà	'three days ago'
bi-nùgù	'the day before yesterday'
dúgú	'yesterday'
samã	'today'
sĕ	'tomorrow'
sĕ tinī	'the day after tomorrow'
sĕ tinī dò mà	'three days from now'

A Bobo week has seven days and coincides with the overlapping market cycle prevalent in this part of West Africa.

'week' and 'market' have the same name, tú (sing.) tí-mí (plu.).

A Bobo month is based on the lunar month. yú, yé-qé means both 'moon' and 'month'. The beginning of the month is when the 'moon is born' (yú vɔɔɔ) and the end of the month is when the 'moon dies' (yú siri). The seasons and times of the year are

based on the planting schedule as well as weather phenomena, such as heat, coolness, dryness and rain. (pia-hǎ 'rainy season', tá-gá-hǎ 'hot season', and liá-hǎ 'cool season' are the three most important seasons.) The rainy season is the time for farming and lasts from the first rains in April until the harvest in early November. The cool season is December and January and the hot season is February, March and the beginning of April.

The following times of day are recognized in Bobo:

kà kǐé	'daybreak'
kíkí-mǎ	'morning'
sí-hǎ	'noon'
lí-mǎ	'afternoon'
wuru-hǎ	'night'
bóró-mǎ	'midnight'

#### 6.10 Tense and aspect markers.

The Bobo verbal system includes tense (place in lineal time sequence), aspect (distribution through time) and mood (different degrees of reality, such as contrary to fact.) The verbal system is marked by tense, aspect and mood marking particles, tone ablaut, tonal morphemes, suffixed morphemes of vowel length and combinations of these. Some of the more frequently used tense and aspect markers are the following:

ǎ	indicates action complete before another act
tē	continuous aspect
mǎnǎ	past tense
nǎ	future tense
ti	present tense

ně incomplete aspect  
 d̀ immediate past tense (+ morpheme of vowel length)  
 m̃ contrary to fact condition

Some of these particles may be combined. For example ti  
 'present tense' + ně 'incomplete aspect' > ti-nĩ 'present  
 progressive tense'.

#### 6.11 Interjections:

Examples of these are the following:

õõ 'yes'

ái 'no'

m̃ãã term to acknowledge a greeting

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