Some considerations on conceptualization of time in Nyungwe (Bantu N43, Mozambique)

Valentin Ivanov

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Faculdade de Letras da Universidade do Porto

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Valentin Ivanov

Membros do Júri

Professor Doutor José Maciel Honrado Morais Santos
Faculdade de Letras - Universidade do Porto

Professor Doutor Manuel João Ramos
Faculdade de Letras - Universidade de Lisboa

Professora Doutora Isabel Maria Galhano Rodrigues
Faculdade de Letras - Universidade do Porto

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Valentin Ivanov

Abstract

This thesis investigates linguistic means for time conceptualization in Nyungwe, a minor under-studied Bantu language spoken in the province of Tete, northern Mozambique. This project implies the analysis of data, collected with the help of informants, native Nyungwe speakers living in Portugal, who were submitted to interviews and elicitation sessions. Written texts in Nyungwe were also considered. For better understanding and contextualization of Nyungwe language and culture, relevant studies on ethnographic, historic, and geographical background were taken in account. Existent grammars and academic works about this language support the elaboration of a grammatical sketch. The theoretical background used for the data interpretation consists of anthropological and linguistic studies related to conceptualization of time in Bantu languages. The present research is focused on three linguistic domains: (i) time representations (vocabulary of temporal terms); (ii) conceptual metaphor and time in terms of space; and (iii) classification of semantic functions of temporal devices (temporal adverbials, temporal clauses, independent clauses, etc). The linguistic analysis of these elements provides some insights on the anthropology of time in Nyungwe. The traditional concept of time in Nyungwe corresponds in many ways to the temporal concepts found in other African cultures: time is organic, cyclical, past-oriented, and event-related. These beliefs turn to be reflected in the language in one degree or another.

Keywords: Bantu concept of time, time and space, spatial metaphor of time, temporal devices, Nyungwe

Resumo

Com vista à compreensão da conceptualização do tempo em Nyungwe, uma língua minoritária falada na província de Tete, no Norte de Moçambique, e ainda relativamente pouco descrita, foram estudados os dispositivos linguísticos usados para a referência a várias facetas desta dimensão abstrata. Este projeto implicou uma recolha de dados através do recurso tanto a falantes nativos de Nyungwe residentes em Portugal, que se submeteram a entrevistas e a sessões de elicitação, como a textos escritos nesta língua. Para uma melhor compreensão e contextualização da língua e cultura Nyungwe, recorreu-se a obras sobre os aspetos geográfico, histórico e linguístico dos falantes de Nyungwe. Gramáticas e trabalhos académicos sobre a língua sustentaram uma apresentação resumida das bases gramaticais de Nyungwe. Os fundamentos teóricos que sustentaram a análise dos dados recolhidos consistiram em estudos antropológicos e linguísticos sobre a conceptualização do tempo nas línguas bantas da África Subsariana. Esta análise centra-se em três domínios linguísticos principais: (i) as representações do tempo (vocabulário); (ii) a metáfora conceptual e o tratamento do tempo em termos de espaço; e (iii) a classificação das funções semânticas de dispositivos linguísticos relacionados com várias formas de referência temporal. A análise linguística destes elementos contribui para o conhecimento da antropologia do tempo em Nyungwe. O conceito tradicional de tempo em Nyungwe corresponde de várias formas aos conceitos temporais encontrados noutras culturas africanas: o tempo é orgânico, cíclico, orientado para o passado e relacionado com os eventos. Naturalmente, estas crenças refletem-se na língua, de forma mais ou menos marcada.

Palavras-chave: conceito de tempo Bantu, tempo e espaço, metáfora espacial de tempo, dispositivos temporais, Nyungwe

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List of abbreviations

CMT	Conceptual Metaphor Theory
FoR	Frame of reference
NP	Noun phrase
PB	Proto-Bantu
RP	Reference point
SD	Sequential durative function
SeqL	Sequential location function
sFoR	Spatial frame of reference
SL	Simultaneous location function
ST	Singulare tantum
TA	Temporal adverbial
TD	Temporal device
TDi	Temporal distance
TE	Time of event
TEx	Temporal extent function
TI	Temporal interval
tFoR	Temporal frame of reference

Glossing abreviations

APPL	Applicative
ATT	Attributive
ASS	Associative marker
CL	Class
GEN	Genitive
EMP	Emphatic
FV	Final vowel
HAB	Habitual
IMM	Marker of immediacy and accomplishment
IMP	Imperative
INF	Infinitive
INST	Instrumental
LOC	Locative
MOV	Movement marker
MPAS	Mediopassive
OM	Object marker
NAR	Narrative marker
NEG	Negation
NOM	Nominative

PASS	Passive
P.IMP	Past imperfect
PL	Plural
POSS	Possessive-attributive particle
P.PRF	Past Perfect
PRON	Pronoun
PRS	Present
REC	Recent past tense
SIM	Verbal marker of simultaneousness
SIT	Situative
SUBST	Substantivizer
SUPL	Superlative
Q	Interrogative
SG	Singular
SM	Subject marker

List of mentioned Bantu languages with their classification indexes

The language names are given without the class prefixes, *e.g.* Chewa (= Chichewa), Nyakyusa (= Kinyakusa). The classification indexes are based on Guthrie 1971, Maho 2009.

Barwe	N45
Bemba	M42
Chewa	N31
Chuwabo	P34
Copi	S61
Kunda	N42
Luba-Katanga	L33
Luganda	JE15
Makhuwa	P31
Makonde	P23
Manyika	S13
Mbugwe	F30
Nata	E45
Ndau	S15
Nsenga	N41
Nyakyusa	M31
Nyarwanda	JD60
Nyungwe	N43
Podzo	N46
Sena	N44
Shona	S10
Sukwa	M202
Swahili	G41-43
Takwane	P31C
Tonga	M64
Totela	K41
Tumbuka	N20
Yao	P21/22
Yeyi	R41
Zulu	S42

Introduction

Time is a central category of human experience. Events happen with the course of time, and people become aware about the world and their own existence also by virtue of time. Despite the fact that the notion of time is presented in all the cultures, people in different corners of the world perceive and structure time, reason and communicate about it in different, and sometimes opposed ways. Cross-linguistic data demonstrate large variety of possible conceptualizations of time.

The main objective of this work is to investigate how speakers of Nyungwe, the language spoken in the province of Tete in the northern Mozambique, conceptualize time. From an anthropological point of view, we suppose that Nyungwe shares some traditional beliefs about time which were observed in some other Bantu societies: time is organic and people live in harmony with natural cycles (Adjaye 1994, Mazrui and Mphande 1994, Keletso 1994), and time also may be represented as cyclical (Adjaye 1994, Kokole 1994), past-oriented (Andreev 2008, Mbiti 1969, Dahl 1995) and event-related (Kagame 1976).

One of the ways to verify if these parameters suit the Nyungwe concept of time, is to go deeper into the language. This study attempts to answer anthropological questions from a linguistic approach, supported by the Conceptual Metaphor Theory (Lakoff and Johnson 1980; Moore 2000, 2006, etc.), the classification of semantic functions of temporal adverbials (Haspelmath 1997) and the classification of core temporal concepts (Núñez and Cooperrider 2013). We highly rely on the premise that time, being an abstract dimension unavailable for direct sensorial perception, is conceptualized in terms of space and motion, a fact that has already been stated in many cross-linguistic studies (Clark 1973; Traugott 1975, 1978; Yu 1996; Moore 2000, 2006; Boroditsky and Gaby 2010, etc.). We will apply this assumption to Nyungwe.

Analyzing the conceptualization of time, we deliberately do not consider the tense-aspect-mood system (TAM), because, in the field of Bantu languages, including those that are closely related to Nyungwe, this topic has been widely examined by a considerable number of scholars (e.g. Nurse 2007; Nurse et al. 2016; Dahl 1985; Rieger 2011; Kiso 2012; Lusekelo 2007; Lindfors 2003; etc.). In contrast, there is a variety of linguistic forms for time conceptualization, which received little attention within Bantu languages research, for instance, the vocabulary of temporal units, temporal adverbials, and metaphoric expressions. Other linguistic means associated with the expression of

time, like the grammatical category *Aktionsart*, or the modalities of prosody and gesture as well as the phenomenon of reduplication were not included in this work, due to the limits imposed by the scope of this investigation.

The choice of Nyungwe as a research object was conditioned by my personal interest in this language. Nyungwe is a minor language of Mozambique which does not have an official status. It is insufficiently documented, although there are several grammar sketches and vocabulary lists compiled by missionaries (Courtois 1900; Ferrão 1970; Martins 1991). There are also two PhD dissertations dedicated to Nyungwe (Rego 2012, Langa 2018).

In the beginning of the project, the initial idea was to investigate time in Nyungwe from the cultural anthropological perspective. The most advantageous way to do it is to collect data on the field, among native speakers in their natural environment. Unfortunately, there was no opportunity a field work in Tete. But after making some contacts in Portugal, we were able to find native Nyungwe speakers who supplied with essential data for the concretization of this study. The interviews and elicitation sessions provided the linguistic data and some insights on a variety of cultural facets of the community in Tete. Further data was taken from published sources, such as booklets with folklore and stories written by native speakers.

This thesis is divided into three main chapters. The first chapter provides a review of the state of the art on time conceptualization from anthropological and linguistic perspectives. It includes the review of the methodological framework chosen for the present study. The second chapter contextualizes Nyungwe language and culture, it supplies with a description of the object from anthropological, historical and socio-linguistic points of view. The third part, which is the core of this paper, explores the way how time is conceptualized in Nyungwe. This chapter is composed of three sub-chapters which examine: (i) temporal representations, i.e. the vocabulary of temporal terms; (ii) the spatial and non-spatial metaphor of time; and (iii) temporal devices (*e.g.* temporal adverbs, noun-phrases, prepositional phrases, dependent clauses, independent clauses) surveyed in the context of their semantic functions. Finally, a brief synthesis of the results of this research will be presented.

With this thesis we hope to contribute to the study of Nyungwe, providing some insights for further, more extensive and intensive research on time conceptualization, not only in Nyungwe, but also in other Bantu languages, considering then the aspects which were omitted here.

Chapter 1. Theoretical and methodological framework

1.1. The study of time in anthropology

Time is a fundamental category expanding over culture, language and cognition. It is a crucial concept of human existence: everything in the universe encounters the passage of time, its contiguity, irreversibility and infinity. Time is an underlying aspect of people's individual and collective life. The notion of time emerges in all societies around the world, but despite this universality, our temporal behavior — the way we perceive, interpret, structure and use time — shows immense cross-cultural difference. The aim of this chapter is to examine this diversity from the anthropological point of view.

1.1.1. Pre-anthropological conceptions of time

Religion, philosophy, and science have always attempted to explain the nature of time, but the first conceptions of time are rooted even deeper in history and associated with ancient mythological beliefs.

Intuitive comprehension of life and death invariably establishes the significance of time for a man. That's why the cult of time existed and exists in many cultures. Ancient Egyptians worshipped the god Huh who was a personification of eternity (Remler 2010: 78). In Iranian mythology, the god of time and space was Zurvan (Zaehner 1972: 219). Ancient Greeks associated linear time with the god Chronos, and the infinite character of time was personified by the deity Aion (Aeternitas, in Roman religion). Kaal, from the ancient Hindu mythology, governs the cyclic time, makes it severe and ruthless, and is closely associated with death (O'Flaherty 1976: 212).

A cyclical perception of time was typical for the earliest belief systems. For instance, tracing back to the sixteenth century BC, in the Vedas, the earliest texts on Indian philosophy, we find that the universe exists through an infinite repetition of creation, evolution, destruction, and rebirth (Rocher 2004: 109). Actually, for ancient man it was natural to live in cyclical time which implies return after death.

The ancient Maya Indians of Central America also accepted that the same pattern of events called *katun* repeats every 260 years and forms The Short Count (Farriss 1995: 110). In addition, in Mayan believes, all the history repeats in a bigger scale throughout The Long Count which takes 5,200 years, and even larger cycles are added into this temporal model expanding the bounds of infinity (*ibid*.: 119).

Ancient people were not aware of the "terror of history" (which implies the unavoidable end of things) until early Christian writers began "violently oppose" the idea of eternal repetition (Eliade 1971: 142-143). Christianity conceives time as linear, moving from past to future from the the Creation of the World towards the Second Rising (Greenhouse 1989: 1634). Time's arrow is established as a principal Western metaphor of time (Goldfajn 1998: 35), and actually the Judaic doctrine, which served as a basis for Christianity, was even considered as "a religion of time aiming at the satisfaction of time" (Heschel 1951: 8). In early Chrisitianity and in biblical Judaism, the symbol for time was line, and the expectation of the coming Kingdom of God reflects the idea of time as a progressing process:

> "The New Testament's favourite expression of 'filfillment', of the completion of time... faithfully represents the rectilinear conception of time and history" (Cullmann 1962: 54)[1].

The concept of Christian linear time diffused around the world and replaced many traditional believes on time as cyclical.

Until the twentieth century, scholars from different fields of study approached the question of time. Newton's *Philosophiae Naturalis Principia Mathematica* (1686) introduces the idea that physical time is an infinite and absolute category, independent of space. The main assumption is that time is homogeneous and universal around the world:

> "Absolute, true, and mathematical time, in and of itself and of its own nature, without reference to anything external, flows uniformly and by another name is called duration. Relative, apparent, and common time is any sensible and external measure (precise or imprecise) of duration by means of motion; such a measure—for example, an hour, a day, a month, a year—is commonly used instead of true time." (Newton 1686/1803: 6)

The crucial step in understanding of nature of time was taken by Immanuel Kant. In *Critique of Pure Reason* (1781/1999), he understands space as a form of outer sensibility, and time as a form of inner sensibility. Together, space and time are primary contemplations, 'intuitions of mind', preceding any experience and determining it. In other words, time and space are not objects of perception, but the modes of perceiving objects.

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[1] However, this belief may imply the notion of cyclical time insofar as, after Judgment Day, eternity begins (*e.g.* Jn 5:29, Dn12:2, etc.), but this is a subject for theological enquiry.

Einstein's Special Theory of Relativity (Einstein 1905, 1920) revolutionized our understanding of the nature of time. Time nevermore was considered as absolute and homogeneous, but rather relative and unequal in different inertial frames of reference. Time and space are perceived differently depending on an object's speed. The idea of relative time-space influenced not only mathematics, physics and natural sciences, but also sociology, psychology, anthropology and linguistics.

1.1.2. Conceptions of time in anthropology

This chapter analyzes time in sociocultural context. During the twentieth century, scholars from social sciences and humanities attempted to find diversity and universals in time conceptualization across the world. They wondered how the notion of time was reflected in a particular society and in the behavior of its members. How did perception, estimation, representation and conceptualization of time within different cultures (as well as among particular individuals) relate with environmental, cultural, social and psychological matters?

Durkheim (1915) addresses these questions, claiming that time is a socially constructed category. People perform a number of social activities (agriculture, hunting, public ceremonies, religious feasts) which require regularity and which are organized periodically. Therefore, collective life creates the importance of time measurement and orientation. According to Durkheim, people conceptualize time as the "succession of years, months, weeks, days and hours" and this differentiation is possible because of the rhythm of collective activities (Durkheim 1915: 10). This point of view explains metaphysics of time through sociological perspective, and it was extensively criticized later (*e.g.* Gell 1992).

However, the idea of social origin of time was continued by Evans-Pritchard in his *Nuer Time Reckoning* (Evans-Pritchard 1939). Based on the field work carried among the people of Nuer in South Sudan, he distinguishes between ecological and structural time, both are manifestations of social time. Ecological time is determined by environmental processes and the way how the society adapts to natural processes. The notion of ecological time is implemented through diurnal and annual cycles. For example, many terms for the parts of the day emerge as a result of pastoral activities that govern the Nuer lifestyle, and Evans-Pritchard even introduces a label 'the cattle clock':

> "Usually Nuer use these points of activity, rather than concrete points in the movement of the sun across the heavens, to coordinate events. Thus, a Nuer

says 'I will return at (the time of) milking', 'I will start off (at the time) when the calves come home', 'They fought (at the time) when we were churning', and so on" (Evans-Pritchard 1939: 207).

The environmental changes during the year oblige the Nuer people to make notion of seasons and months. Each year corresponds to one span of ecological time, hence, ecological time is observable and appears to be more concrete for people. The time units are designated according to the natural phenomena, *e.g.* the approximate period from May to August is 'scarcity of food'. In contrast, structural time is more abstract and progresses entirely through generations. Structural time divides long, 'cosmic' history into the intervals between generations. The Nuer social structure is static because there are always six generations between a founder and contemporaries, *i.e.* in any moment of time, the distance between the beginning of the world and the present moment remains the same. Therefore, structural time appears to be motionless and unchangeable, in contrast to ecological time.

The matter of time conceptualization was later raised in the works of Leach (1971). He highlights that English word 'time' refers to two basically distinct notions: natural time, which consists of annual and diurnal cycles repeating infinitely, and 'human-based' time, which corresponds to the process of individual life inevitably completing with death. Leach accentuates if it was not the religious (*e.g.* Christian, Islamic, etc.) character of social organization, the notion of time would not appear in its secondary sense. In other words, it was religion that determined the vision of time as linear and bounded. Prehistorical people up until ancient Greeks and Romans viewed time as flapping between reversals: dry season *vs.* rainy season, winter *vs.* summer, day *vs.* night, young *vs.* old. In a certain degree, some communities preserved the traditional vision of time until the present days. Leach introduces the notion of pendual time model: the sequence of alterations, a "discontinuity of repeated contrasts" (Leach 1971: 134).

For Lévi-Strauss (1966), time conceptualization was not a principal field of research, but the question of historicity in human societies was. Concerning the manifestations of historicity in different cultures, Lévi-Strauss distinguishes between 'hot' and 'cold' societies. Yet, this dichotomical categorization appears to be quite ideological and eurocentric, it still seems interesting to present it here in order to demonstrate that different cultures treat differently their historicity. 'Hot' societies, like the European or American, tend to internalize their own history in order to construct a gear for further development, both revolutionary and evolutionary. In opposition, 'cold'

societies (which have neither written nor archived history) try to revoke or reduce the impact of historical events on balance and continuity of these civilizations, *i.e.* any historical accidents falling outside the tradition can not be regarded as precedents (Lévi-Strauss 1966: 234). History, in the 'mind of savage', never causes any changes, it rather makes members of the society to hold the track already paved by ancestors. Lévi-Strauss gives a number of evidences from indigenous societies, a member of which refuses to accept any technologies or new ways of living, following, stubbornly, the lesson taught by his ancestors, who lived in the origin of the world.

In 'cold' societies, according to Lévi-Strauss, the maintenance of the idea of time as flowing uninterruptedly, creating a link between past and present is achieved through ritual. There are three types of rituals contributing to this task: a) *rites of control*, which aim to "increase or restrict species or totemic phenomena" establishing an historical balance between spiritual powers and totemic centers; b) *historical rites*, which "recreate the atmosphere of mythical times, or dream age", *i.e.* they project past onto present; and c) *mourning rites*, which "assure the conversion of men who are no longer living into ancestors", *i.e.* they provide a movement from present to past (Lévi-Strauss 1966: 236).

The further observation of anthropological ideas concerning time leads us to Geertz's (1973) postulation about 'detemporalised time' among Balinese people. But first, Geertz introduces the notion of 'deindividualisation of person'. A person in Bali can be designated in six or more different symbolic ways, depending on particular individual, discursive, and other circumstances. One can be addressed with various names, titles and taxonomic markers, as well as be associated with another members of society, with ancestors, with unborn people, with gods, with imagined personage. Playing numerous roles allows individuals to feel as a part of history and to be an inseparable member of the community:

> "In this way, the Balinese blunt, though of course they cannot efface, three of the most important sources of a sense of temporality: the apprehension of one's comrades (and thus oneself with them) as perpetually perishing; the awareness of the heaviness with which the completed lives of the dead weigh upon the uncompleted lives of the living; and the appreciation of the potential impact upon the unborn of actions just now being undertaken" (Geertz 1973: 390).

As a result, Balinese people lack the notion of a unique path from life to death. Each life is not an individual performance in time, it is rather a repetition and/or combination of already played histories. Deindividualised personhood in Bali leads to the concept of

detemporalised time: "a motionless present, a vectorless now", in Geertz terms (1973: 404). The paradox is that Balinese society ends up with three calendars: Gregorian, luni-solar, and 'permutational'. The last one is the most important because it fully represents the concept of time in Balinese community. It consists of ten repeated cycles of different duration (from one to ten days), and each day of 'real' time corresponds to one of the days taken from one of these cycles. Different cycles can establish binominal or trinominal groups, and if happens that 'today' is the day when all of the cycles of the given, say, trinominal group occur to begin, it means that 'today' it is a holiday or any other special event takes place: market, commemoration ceremony, temple celebrations, etc. Time turns up to be divided into innumerous segments of various durations, and each particular combination of these segments marks the day of an event:

> "The Balinese calendar cuts time up into bounded units not in order to count and total them but to describe and characterize them, formulate their differential social, intellectual, and religious significance" (*ibid*.: 391).

The state of the art in anthropology of time is extensive, but restrictions of this study do not allow to expand this topic excessively. Before we start to review studies of time in Bantu cultures, we just conclude with the general statement that temporal concepts in preindustrial societies are product of blending environmental processes and cultural requirements, while capitalistic societies conceive time as intellectual capacity, as an important facility for the most of activities. In the following chapter, we will find more evidences for this point of view.

1.1.2. Traditional view of time among Bantu people

Mbiti was the first who raised the question of 'traditional African view of time'. In his *African Religions and Philosophy* (1969), he shows that the time model among Bantu people, namely the Akamba and the Gikuyu in Kenya, radically differs from the Western model of temporal conceptualizations. Based on linguistic observations (*ibid.:* 17-18), he states that an indigenous African does not have a notion of linear time passing from the past, through the present and towards the future. Time is not a range of temporal units (hours, minutes or weeks) and it cannot be reckoned in the way it takes place in the technological societies. Traditional Africans, according to Mbiti, have no notion of abstract time:

> "Time is simply a composition of events which have occurred, those which are taking place now and those which are immediately to occur. What has not taken place or what has no likelihood of an immediate occurrence falls in the category of 'No-time'. What is certain to occur, or what falls within the rhythm of natural phenomena, is in the category of inevitable or potential time" (Mbiti 1969: 17).

Actual time is made up of the concrete events from past, present and short observable future. An event must be directly experienced in order to fall into category of actual time. In contrast, distant future is not directly experienced, it is rather imaginable, so it constitutes the dimension of *potential time* (or *no-time*).

Traditional representation of actual time is tightly inweaved into believes about life and death. For an individual, actual time appears in two facets, which Mbiti designates using the terms from Swahili: *Sasa* (lit. 'now') and *Zamani* (lit. 'ago') (*ibid.*: 22). Sasa is the dimension associated with immediate experience of people and it covers the present, the nearest predictable future and the period of past which an individual is aware of. In other words, the longer a person lives, the longer is his/her period of Sasa. Personal Sasa expands from the moment when a person becomes conscious about his/her own existence, to beyond the moment of his/her death: according to traditional believes, a physically dead person continues his existence in the dimension of Sasa until the very last individual, who used to personally remember him, passes away as well. Thus, across African cultures, high number of children and grandchildren in a family is very important, and individuals without offspring are considered to be cursed or not endorsed by ancestors.

After Sasa, the spirit of a dead person enters the second dimension of actual time called Zamani. Zamani is the universe of ancestors' spirits, and it exists concurrently with Sasa. Mbiti indicates, that Zamani overlaps Sasa and they are not separable:

> "Sasa feeds and disappears into Zamani. But before events become incorporated into the Zamani, they have to become realized or actualized within the Sasa dimension. When this has taken place, then the events 'move' backwards from the Sasa into the Zamani. So Zamani becomes the period beyond which nothing can go. Zamani is the graveyard of time, the period of termination, the dimension in which everything finds its haulting point" (*ibid.*: 23).

This vision of time, Mbiti argues, is recorded in the grammars of the languages Kikamba and Gikuyu. For example, there is no way to speak about distant future events (more than two years since the present moment), because no tense marker exists to provide such notion: "the future is virtually absent" (*ibid.*: 17). Another grammatical

reflection of this temporal paradigm is that people continue to speak about physically dead persons using tense markers from the domain of Sasa (present, recent past, etc.), as if the dead person was still alive and present.

The time conception suggested by Mbiti can be relevant for the societies of the Akamba and the Gikuyu people, but it cannot be inductively generalized and applied to the whole Bantu world, which includes several hundreds of ethnic groups. This was the primary critical concern among numerous authors (Kagame 1976; Ayaode 1979; Masolo 1994). Kagame, however, supports Mbiti's opinion about the absence of future in traditional African temporal models:

> The 'future' cannot be marked by actual events and therefore cannot be regarded as knowable time. A man who projects his mind into the future is not even sure of being there on the morrow. As a Rwandese proverb has it: *iby'ejo bibara ab'ejo* 'the things of tomorrow occupy the conversations of the people of tomorrow'. In other words, 'if I am there tomorrow, I shall see about it" (Kagame 1976: 101).

In his *Jembe Calls for the Initiates* (2008), Andreev, after forty years of fieldwork conducted in 15 African societies, provides several generalizations about the African concept of time. According to Andreev, the past never disappears, and furthermore, present and past influence each other mutually. People must perform all the rituals, sometimes including sacrifice, in order to ensure peace and well-being of ancestors' spirits. In turn, spirits from the past bring wealth and success to the community, but they can equally cause diseases and misfortunes to the descendants living in present[2]. The borderline between past and present is tenuous and even transparent (Andreev 2008: 31).

Furthermore, says the study, traditional Bantu people exhibit no strong tendency to concretize future. Definitely, they are aware of natural cycles, for instance, that after the rainy season always comes the drought. But it does not mean that individuals can and need to predict events, which, in fact, may occur and may not occur. Future, as we will see from the following passage, is really of little concern for African:

> "Tardiness in few hours or several days as quite normal. People find it forgivable, and meet latecomer with kindly smile. The one who is late or even missed an event, always has an explanation, which can appear quite surprising for a European but pretty convincing for an African. For example, 'my baby fell asleep in my arms, so I could not put her on 'inanimate' bed', or 'I accidently drifted off reading the papers before the meeting' " (*ibid.*: 32).

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[2] People of Nyungwe also consider diseases and bad luck as spiritual in nature (Martins: MS 2018)

Uncertainty of future can be justified by fear of change. According to Andreev, an African values fixed order of things, social and political 'homeostasis', *status quo* which helps to preserve primordial equilibrium between human and nature, between past and present. A member of traditional community respects ancestors' lifestyle and always follows secure route established by ancient sages. An indigenous person avoids innovativeness due to unpredictability of results (*ibid.*: 42). Americans or Europeans, while greeting someone, may frequently ask: "What's new?", whereas Africans are more likely to ask "Is everything the same?" (*ibid.*: 40)

The mechanistic concept of time appears to be strange to an African. Andreev mentions it is unacceptable and unpleasant to offer a watch as a gift in Tropical African societies where a common practice is the ostensive refusal to wear a watch (*ibid.*: 47). However, the contact with capitalistic civilization, accompanied by urbanization and globalization changed traditional frames of time reference, so that Africans divide their personal time into two parts: "…traditional, ritualistic, concrete, process-oriented time and westernized, astronomic, symbolic, result-oriented time are getting combined together" (*ibid.*: 35).

Andreev concludes, that time in Africa is not considered as a resource which may be gained or lost. The assumption that Africans are idle and that they lose their time sitting under the tree and chatting is simply a stereotype. Traditional people have effortless attitudes towards "time which can be just taken as much as needed. Time is always at hands" (*ibid.*: 49).

Of course, these generalizations should be applied carefully, taking into account the variegated nature of the realm of Bantu. Each case is specific despite the array of similarities. For instance, Kongo people of West Central Africa clearly distinguish between four concepts of time: cosmic, natural, vital, social — and each facet has its own designation in the language (Fu-Kiau 1994: 19). All four models represent time as cyclical substance which is composed out of a series of events, or 'dams of the flow of time'.

The notion of cosmic time allows people of Kongo to construct a dense cosmogonical system and explain the genesis of various phenomena including celestial objects. Cosmic time is eternal and active; it is in constant movement. The concept of natural time explains natural cycles and permits to make certain predictions in terms of agriculture or trading. Social time determines social, political, and religious activities, while the notion of vital time incorporates knowledge about life and death. In Kongo tradition,

> "[d]ying is not the end: *tufwanga mu soba* 'we die in order to undergo change'. Dying is not only a process but also a 'dam of time'. As a dam of time, it has its own landmark on the time line path, and as a process, it permits life to flow and regenerate (*dikitisa*) its power/energy (*ngolo*) to create a new state of being or undergo transformation capable of rejoining the body of the universal 'body-energy'" (*ibid*: 27).

These levels of time conceptualization co-exist in the mind of an individual. In addition, time is represented through the concrete and perceivable events, 'dams' or landmarks of time, which all together in a sequence provide sensation of time passage. Fu-Kiau emphasizes that "time itself is worthless, but its dams are not", thereby, for example, among the Kongo, nobody is late because "one must learn to be patient" (*ibid*.: 31). The individual path in time is a movement from one dam to another, unforeseen collisions on this track are inescapable, and, if there is no dam, time does not move.

The event-based quality of time was also observed among Malagasy people of Madagascar (Dahl 1995). Time, on the island, is not associated with fixed moments or periods, *i.e.* an event happens without attachment to schedule. For example, a bus only leaves when it is full, no particular hour for departure is established. A gas station dealer, while being aware that tanks are almost empty, does not call for supplies until the last drop is sold. A merchant in a store only orders goods when he gets rid of the last item on the shelves. Reasoning in advance is not typical feature of this society: the problems must be solved after they are directly faced (*ibid*.: 203). As Dahl states:

> "Duration is often unspecified. Time is not fixed at the beginning nor at the end of an act... With this concept in mind, planning for the future is difficult if not illusory, and deadlines become meaningless, because "who knows, something might happen" that will make it impossible to complete a project before a prefixed limit. Counting birthdays or other yearly cycles becomes unimportant as well" (*ibid*.: 204)

Malagasy model of time is cyclical, as in many other African societies (recall, that Malagasy people are Austroneasean in origin). Which is really fascinating is that time is conceptualized as moving from future to past, while the observer faces past. Metaphorically, future flows into the back of the head, and hence it is invisible and unpredictable. Past, instead, is known and visible. Future events are marked with attributives 'after' and 'behind' while events in the past attach adjectives which mean 'in front of the eyes' (*ibid*.: 198). Accordingly, Malagasy culture is past-oriented: people are very well aware about history and can pave the genealogical track back for generations.

Future, in turn, "is not seen as a variety of alternatives, but as a repetition of the past" (*ibid.*: 202).

Kokole (1994), while analyzing oral tradition among Eastern Bantu, provides linguistic evidences for the cyclic vision of time in some communities under observation. The data from Kiswahili, Liganda, and Lingala shows that some languages tend not to distinguish terminologically the notion of 'yesterday' and 'tomorrow' or 'the day before yesterday' and 'the day after tomorrow'. For instance, in Luganda *dda* means both 'yesterday' and 'tomorrow'. Through the number of similar examples, Kokole concludes that "the seeming equation of the past with the future suggests a cyclical conception of time" (Kokole 1994: 51).

Reflecting about temporal behavior in precapitalistic societies of Kenya and Malawi, Mazrui and Mphande (1994) introduce the notion of 'organic time'. They argue, that in traditional manner of living, rhythms of labor and leisure corresponded to regularities of natural phenomena:

> "Man was not a slave of time. The idea of time as a linear object that could be gained, saved, or lost was alien to the relational universe of these societies… People took as much time as they needed. Although hard work was valued, freedom from work was an equally important objective" (Mazrui and Mphande 1994: 100).

When the capitalistic system comes, it destroys traditional vision of time. The Edison's lamp now enables to work after sunset, or during night. Workers are obliged to obey the tick of the clock, and no longer the natural rhythms. New economic organization, namely mining industry in Kenia, Malawi, Mozambique, South Africa, etc., forced African workers to change their time orientation towards future. Furthermore, the 'time is money' metaphor (Lakoff and Johnson 1980: 8-9) emerges in traditional cultural universe due to intense industrialization.

Even though, some societies (*e.g.* Natal Zulus) succeeded to combine traditional and capitalistic vision of time. The course of labor was periodically interfered with traditional festivals and ceremonies. During the harvest season, employees could just disappear from the work places for several days or weeks to carry their agricultural activities. Moreover, in summer time, school attendance regularly dropped because children were engaged in number of outdoor activities, specifically, helping their families on the field or on the market (Keletso 1994: 134-135).

Concluding the chapter, let's withdraw some general considerations about traditional time conceptualizations which emerge in African cultures south of the Sahara:

— time is organic; people work and take rest in agreement with natural diurnal and annual cycles;

— time is cyclical and past-oriented; mythological depictions blur the border between past and present; future is vaguely represented;

— time is event-related, *i.e.* it is constructed out of the concrete events, and not of the abstract temporal units;

— although industrial culture, urbanization and technologies undermined traditional notion of time among Africans, individuals were able to integrate different concepts of time.

1.2. Time in linguistic perspective

Language, culture and cognition are three interwoven realms which determine man's existence in society. Emerged in social interaction, language reflects cultural practices and values, as well as forms of perceiving, interpreting and structuring reality. In other words, culture is mapped onto language, and different languages actualize different cultural and social necessities (Humboldt 1836; Sapir 1921; Whorf 1954). This applies for the conceptualization of time. The most prospective way to analyze how a certain ethnic group conceptualizes such an abstract dimension as time is to investigate deeper into the language. However, here we should be careful with some sort of assumptions. Language reflects some cultural and cognitive aspects, but not all of them. Some concepts, as Bloch (1998) states, are not verbalized, and may appear in non-verbal form:

> "Different types of knowledge are organised in different ways, each with its own specific relation to language and action. Normally, the most profound type of knowledge is not spoken of at all" (Bloch 1998: 46)

Numerous studies demonstrated close connection between temporal and spatial domains in language. In recent decades, the predisposition of human languages to express and conceptualize time in terms of spatial experience has been persistently examined and acknowledged as an almost universal cognitive feature (Clark 1973; Bennet 1975; Lakoff & Johnson 1980; Yu 1998; Haspelmath 1997; Moore 2000, 2014). Whereas the spatialisation of time was attested across a wide range of languages unrelated to each

other, such as such as English (Lakoff & Johnson 1980), Chinese (Yu 1998), Yélî Dnye (Papuan, Papua New Guinea; Levinson and Wilkins 2006), Tzeltal (Mayan, Mexico; Brown 2012), Kavalan (Austronesian, Taiwan; Lee 2016), Wolof (Niger-Congo, Senegal; Moore 2000), etc., there is still little scientific attention to cognitive and lexical aspects of temporal conceptualization, and specifically in the field of Bantu languages (Alverson 1994).

The apparatus that speakers of different languages employ to speak about time includes: the TAM system, lexical representations, metaphoric expressions, temporal adverbs, particles and noun phrases, prepositions with temporal-locative meanings, various morphological devices (*i.e.* reduplication), prosody, and gestures. I will provide the review of leading studies dedicated to the issues of temporal representation and conceptualization. The TAM system is deliberately omitted from this discussion. This grammatical domain, as I said, is quite well investigated in the field of Bantu linguistics[3].

1.2.1. Contrasting time and space

Time and space are two great conceptual domains interrelated within human cognition. But what is the character of these relations? Does one domain affect its counterpart to a greater extent, or do they influence each other reciprocally, in equal measure? And is it possible to contrast time and space in one way or another? These questions have been a broad field of investigation within philosophical, psychological and neurological studies (*e.g.*, Locke 1689/1995; Mach 1886/1897; Piaget 1927/1969; Price-Williams 1954, Church & Meck 1984; Walsh 2003; Clark 1973; etc.).

Recent researches (Clark 1973, Lakoff and Johnson 1999, Boroditsky 2000, Casasanto 2008, 2009, Casasanto et. al. 2010) reaffirm the asymmetry of space-time relations. The spatial domain impacts and determines the temporal one to a certain extent:

> "It appears that spatial schemas are useful, but not necessary to think about time. Further, information sharing between these two domains appears to be asymmetric; people can use spatial information when thinking about time, but not temporal information when thinking about space" (Boroditsky 2000:16)

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[3] **In general:** Dahl 1985; Bybee and Dahl 1989; Nurse 2006, 2007; Nurse, Rose and Hewson 2016. **In particular:** in Swahili (Lusekelo 2016; Rieger 2011; Beaudoin-Lietz, 1999; Hewson, Nurse and Muzale, 2000; Lindfors 2003); in Kinyakyusa (Lusekelo 2013); in Ekinata (del Campo 2014); in Sukwa (Kershner 2002). **In the languages closely related to Nyungwe**: Sena (Kiso 2012), Shona (Toews 2009), Xopi (Nhantumbo 2014), Chiyao (Mapanje 1983), Chichewa (Kiso 2012, Mapanje 1983, Mtenje 1987), Totela (Crane 2011), Tumbuka (Vail 1972, Kiso 2012), etc.

It is cross-linguistically documented that most of the human languages exhibit impossibility to speak about time without using spatial terms (relevant data will be given in the section 1.2.4). English speakers refer to, say, a conference or a concert, as *long* or *short*, as well as Russian speakers also use the adjectives *длинный* ('long') and *короткий* ('short') to talk about temporal events (although, spatial expressions are not the only way to manifest this temporal meaning), or verbs like *коротать время* ('to spend time being bored', lit. 'to make time shorter') or *продлевать* ('to increase a period of/for something', lit. 'to make longer'). Portuguese speakers while negotiating time of an appointment, use the same prepositions as they would speak about space: compare *na sexta-feira, em Março* ('on Friday, in March') and *na tua casa, no quarto dele* ('in your house, in his room'). Although sometimes we can speak and reason about space employing temporal units of measure (*Where do you live? — Three minutes from the school*, or *Two days of walking from here*), the spatial interference on temporal thinking is significantly larger (Casasanto and Boroditsky 2007: 589).

Clark (1973) demonstrated that the spatial terms, in contrast to the temporal ones, are easier and faster to be understood and applied by children during language acquisition. It is documented, in particular that:

> "[T]he use of *where* questions before *when* questions. *There* and *here,* of course, appear before *then* and *now,* their temporal counterparts" (Clark 1973:61)

Primacy of spatial patterns and constructions, as well as their systematic and intensive interference in the field of temporal terms, seem to be even a stronger argument when linguists report about examples of children misinterpreting a *when* question as if it was a *where* question, like in this example: *When did the boy jump the fence? — There* or *Right there* (*ibid*.: 59).

Scholars have argued that space has a significant influence on other cognitive domains besides time: kinship (Enfield 2005), intimacy (Williams and Bargh 2008) social dominance (Schubert 2005), similarity (Casasanto 2008), preference (Casasanto 2009) and several others. Expansion of spatial domain gives rise to orientational metaphors (more details about conceptual metaphor theory will be given in Section 1.2.4):

> "[S]ince most of them have to do with spatial orientation: up-down, in-out, front- back, on-off, deep-shallow, central-peripheral" (Lakoff and Johnson, 1980:15)

Taking into account such a deep interrelationship between space and time in human cognition, let's move to the question whether there is a possibility to contrast time and space as such, and what parameters should be used to make this comparison. Galton (2011) provides a framework for this purpose: *quantity*, *linearity* and *directedness*. In his *Language and Time*, Evans (2013) closely considers these properties and makes some suggestions.

Quantity. Evans applies the term 'magnitude' to refer to quantity, and

> "The parameter of magnitude relates to the quantiability of a given substrate – the stuff that makes up the domain. The substrate that makes up space is *matter*, of which two broad types can be distinguished: discrete entities (e.g., objects) and mass entities (e.g., fluids)" (Evans 2013:63)

Cross-linguistic data unveils that language tends to encode this binary opposition employing particular grammar repertory, such as countable and uncountable nouns (*i.e.* quantifiable discrete objects and non-quantifiable fluids, masses). In English, this property is expressed by choosing a specific adverb of quantity: *many years* vs *much time*, or *very few books* vs *very little sugar*. In Spanish, as well as in English, restriction of nominal quantifiability determines its concordance with an article. For instance, Spanish unquantifiable noun are not determined by an article, except for the cases of metonymy: *A mi me gusta *el cafe/*un café* versus *Un[-a taza de] café, por favor*.

Evans makes a parallel between the property of matter to experience extension (in space) and the property of action to experience duration (in time). Table 1 outlines the comparison of time and space:

Domain	Space	Time
Substrate	Matter	Action
Property of substrate	Extension	Duration
Distinction	Discrete vs mass	Bounded vs unbounded

Table 1. *Comparing the parameter magnitude for space and time* (Evans 2013:64).

Linearity. Evans uses the term 'dimensionality' to describe this parameter. Dimensionality is capability of matter to me measured in an extent of particular kind. Space possesses three dimensions, thus objects within space could be measured (counted, moved, extended, compressed, etc.) along three axes: transversal (left/right), sagittal (front/back) and vertical (up/down) (*ibid.*: 64).

Time also possesses the parameter of dimensionality, but in contrast with space, there is only one dimension represented, and "the constituent structure of action involves *succession*" (*ibid.*: 65) which means that humans experience dimensionality of time while tracking, or observing sequential character of connections between the components of action.

Directedness. This parameter indicates the difference between time and space in terms of their symmetric or asymmetric organization. Therefore, speaking in general physical terms, space is a symmetric system where all the points and directions are equal, and there are no highlighted points (i.e., substrate is isotopic). Inequality of possible directions could occur in the context planet's gravitational field, determining the preference of up-down movement rather than down-up (and this environmental particularity is displayed by our language and cognition). But nevertheless, in the scales of the whole universe, space seems to have a symmetric structure.

Time, in contrast, is asymmetrically organized. Movement along the single temporal axis is unidirectional, time flies from past through present to future. Indeed, another models of temporal organization exist across various cultures (more discussion in Chapter 1.1), but contemporary physicists interpret the passage of time as unidirectional towards the future. However, time is inherently homogeneous system that has no point to be chosen as a reference point (*ibid.*: 65).

Transience. This is a temporal property which is not inherent to space. Interpreting Galton, Evans gives the following definition of transience:

> "Transience is subjectively felt *experience* of (temporal) passage […which] arises from events of various sorts. These include when we engage in particular kinds of activities, when we perceive or experience an event, or experience, or are conscious of a specific state" (Evans 2013:66).

Developing his theory, the author comes to the conclusion that transience constitutes three possible types of temporal experience felt by humans: duration, succession and anisotropicity. Transience, as a whole, is a parameter for further comparison of experiences undergone, which are known as change, frequency and synchronicity. Evans (2013:68) argues, that transience is a crucial basis for temporal framing. Transience types supply various schemes to construct temporal frames of reference (Section 1.2.3).

1.2.2. Spatial frames of reference

Before moving to temporal modeling in human language and cognition, it seems important to review some studies on spatial framing across the world. All existing classifications of spatial frames of reference (hereafter s-FoRs) are basically similar, although different scientific traditions offer their terms for the necessary designation:

(i) 'relative' vs. 'absolute' (Newton 1686/1934; Kant 1781; Majid et al. 2014; Bender et al. 2014; Gaby 2014, etc.);

(ii) 'deictic' vs. 'intrinsic' (Fillmore 1971, Clark 1973; Moore 2006);

(iii) 'viewer-centered' vs. 'object-centered' (Walsh et. al. 1998; Ziemke et. al. 2007);

(iv) 'ego-centric' vs. 'allocentric' (Tolman 1948; Stein 1992; Paillard 199l);

(v) 'orientation-bound' vs. 'orientation-free' (Wodlok 2007);

(vi) 'ground-based' vs. 'ones that involve secondary reference object (field-based, guide-post-based, and projector based)' (Evans 2007); etc.

Bender et. al. (2012) provide a definition of spatial frame of reference as "a coordinate system required to describe the relation between objects from a given perspective" (Bender et. al. 2012:30). This is based on the argument contended in *Space in Language and Cognition* (Levinson 2003b) that "distinctions between frames of reference are essentially distinctions between underlying coordinate systems and not, for example, between objects that may invoke them" (*ibid.*: 24). In his study, Levinson provides most elaborated classification of s-FoRs highlighting the following possible types: absolute, intrinsic, and relative. Cross-linguistic investigations show that languages expose different spatial framing across the world, and even familiar to Europeans 'right-left' and 'front-back' orientation (relative FoR) seems to be absent in about a third of linguistic samples (*ibid.*: 35).

Let us stop briefly on Levinson's classification of spatial FoRs. His proposal can be represented in the Figure 1.

INTRINSIC

"He's in front of the house."
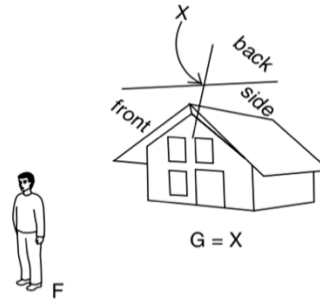
RELATIVE

"He's to the left of the house."
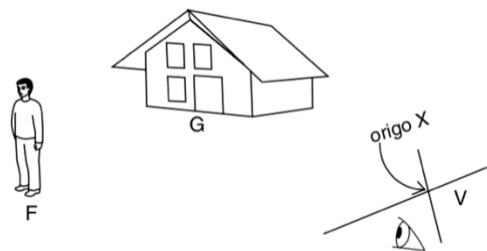
ABSOLUTE

"He's north of the house."
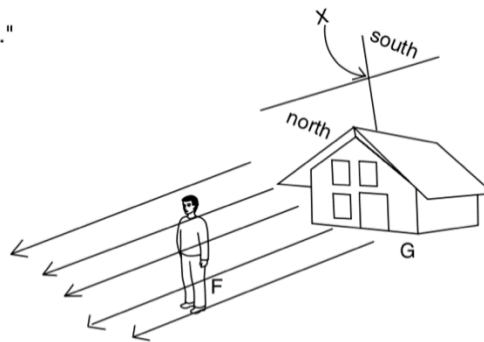
Figure 1.
Underlying elements in the three frames of reference (Levinson 2003b:40)

Intrinsic frame of reference. The center of this coordinate system is an object, and the coordinates are shaped by the object's intrinsic properties. For example, the phrases such as Portuguese *à frente do carro* ('in front of the car') or Russian *сбоку от стола* ('besides the table') demonstrate that the object has its front, its back, and its sides. These features are referred to the embodied knowledge about that human beings and animals have their front side associated with face or head, which could be the primary starting point to designate other sides and directions. However, as Levinson (2003b: 42) states,

some languages do not follow this 'front-back' opposition: occurrence of front does not suppose occurrence of back.

Relative frame of reference. In literature, this FoR sometimes is referred to as 'viewer-centered', a term that Levinson considers as misleading, since, in many cases, we do not rely on visual perception while reasoning about position of objects. Relative FoR is familiar to the most of Indo-European languages speakers: we are habituated to utter about positions of things in our environment, while looking at them from our inner point of view. Confusion caused by employing this FoR could be demonstrated with the following example: *Move to the left!* In certain circumstances, there is a necessity to clarify whose *left*: the speaker's or the addressee's?

According to Levinson, some languages lack of the terms 'front', 'back', 'left' and 'right'. Even if the reverse is true, it can not ensure the implementation of relative spatial framing. In this case, these designations could be used for intrinsic orientation (Levinson 2003b: 45). For instance, the speakers of Mayan language Tzeltal use words 'left' and 'right' to label parts of the body, but do not apply these terms for the orientational purposes. *I have pain in my left hand* in Tzeltal is an appropriate expression, but *The tree is to the left of the house* is not (Brown 2012; Levinson and Brown 2012).

Absolute frame of reference. This is the most discussed frame of reference within cognitive, linguistic and psychological studies (Levinson 2003b; Tenbrink and Kuhn 2011; Majid et. al 2014; Boroditsky and Gaby 2010; Le Guen 2011; Le Guen and Pool Balam 2012; Bender et. al 2014; Núñez and Cornejo 2012; etc.). The absolute spatial framing requires "fixed directions which define the coordinate system and which are independent of figure, ground or perciever" (Fedden and Boroditsky 2014:49). It refers to a coordinate system where the orientational axes are conditioned either by natural predeterminations, such as the position of the sun in the sky, i.e. the locations of sunrise and sunset indicate east and west respectively (cardinal system), or by other natural signs such as river bends, mountain slopes, coastlines, etc. (landmark system). Orientation based on environmental tokens is crucial for linguistic delineating of space in about a third of the world languages in Nepal, Australia, New Guinea and Mesoamerica.

The study shows that speakers of such languages as Tzeltal can point a cardinal direction with high percentage of accuracy, even within their non-natural conditions such as in a city, or inside a room in a building. Through examining spontaneous gestures produced by speakers of different languages, it has been proved that absolute speakers pointed in geographical directions much more precisely than the relative ones (Levinson

2003a:39). The same has been revealed through experimental data. Speakers of Dutch and Tzeltal languages were asked to look at the stimulus, an arrow on the table indicating to their left, or south. Then, these test subjects were turned 180 degrees and asked to look at another table with two arrows pointing contrasting directions and to choose the one which is identical to the previously seen one. Dutch speakers choose the arrow pointing to their left (northern direction), whereas Tzeltal speakers preferred the arrow pointing to their right, i.e. to the south. In Dutch, the relative (egocentric) coordinates are dominant even in non-linguistic thinking, whilst in Tzeltal, the absolute (geocentric) system is the principal (Levinson 1996: 113-114).

Landmark system is also presented in a set of languages. For example, Mian (Trans-New Guinean family) while experiencing a lack of lexems to indicate cardinal directions, employs, instead, the system of terms anchored to the geographilcal particularities of the region where Mian comminity resides: the area bounded by two rivers and a mountain range. This reality determines the following system of locatives in horizontal dimension: *met* 'upriver', *tab* 'downriver', *tām* 'sideways of the river'; and in vertical dimension: *ut* 'up(wards)', *daak* 'down(wards)', *wāt* 'across' (Fedden and Boroditsky 2014: 50-51).

The use of absolute frame of reference in Tzeltal (Mayan family) is also attached to the landmark indications: in this case, it is a mountain slope (Brown 2014: 71). In both small and large scales, Tzeltal speakers, while speaking about space, apply an idealised inclined surface with a central 'downhill-uphill' axis. Here, 'downhillwards' and 'uphillwards' nearly correspond to southern and northern directions respectievly. Objects are palced and moved along or across this axis:

waxal		*ta*	*y-ajk'ol*	*xila*	*te*	*limite*
stand-of-vertical-cylinder		PREP	its-uphill	chair	the	bottle

'The bottle is standing uphill (i.e. south) of the chair' (Levinson 2003b: 148)

Languages tend to combine different spatial framings. Tamil, Yukatec, Tiriyó, Ewe, and Kilivila employ absolute, relative and intrinsic FoRs. Warrwa, Arrernte, Jaminjung, Yélî Dnye, and Tzeltal employ absolute and intrinsic FoRs. Relative and intrinsic FoRs are more common in Indo-European languages and Japanese (Levinson and Wilkins 2006: 542)

In English we normally speak about space in terms of relative and insintric FoR. If a speaker and his addressee are facing each other, they need to find a balance between FoR, discussing spatial situation. In this case, the sentences *The chair is to the right [of me]* (relative FoR) and *The chair is on your left* (intrinsic FoR) have the same meaning.

While indicating positions and directions on a bigger scale such as in the city or in the whole planet, we apply the absolute system.

Mian langauge employs all three frames of spatial reference. There are terms *kweital* for 'right hand' (also means 'correct', 'first-born of twins') and *afan* for 'left hand' (also means 'strange, wierd', 'second-born of twins'), and also lexemes like *abuksin* 'back(side)' and *kibikibasin* 'front(side)', but their use is very restricted within relative framing. However, intrinsically, these nominals are generally applied. In other words, it is possible to say *You are standing at the back of the tree* (the side leaning toward the ground), but *You are standing behind the tree* is not appropriate (Fedden and Boroditsky 2014: 50).

1.2.3. Temporal frames of reference

The dispute about spatial framing leads us to the question of temporal FoR. The complexity of this topic is conditioned by the ambiguous character of space-time relationships. In contrast to the three-dimensional and multidirectional space, time has only one dimension and one direction which is not reversible. Nevertheless, this structural simplicity does not facilitate either our comprehension of the nature of temporal reference, or the definition of the set of criteria needed for its classification. Another problem is of terminological nature: depending on the chosen criteria, scholars use terms like 'temporal reference frame, 'time model', or 'types of time' to refer, basically, to the same idea of temporal frame of reference. We will adapt Bender's et al. (2012: 30) definition of spatial FoR to designate **temporal frame of reference** as a coordinate system required to describe the relation between temporal events from a given perspective.

Proceeding from different approaches, scholars provided various classifications of temporal FoR (or time models). Significant findings in this filed derive from the philosophical ideas from the beginning of the 20th century (McTaggart 1908) and, in more recent years, numerous frameworks were elaborated in the fields of psychology and cognitive linguistic (Clark 1973; Moore 2000, 2006; Núñez 2006; Núñez and Sweetser 2006; Evans 2003; Bender 2010; Zinken 2010; Tenbrink 2011; etc.). In this section, a review of some related approaches will be presented.

The first classification of different "types of time" was proposed at the beginning of the 20th century by the philosopher John McTaggart (1908). He makes a distinction

between two models of possible event arrangement along the timeline, referring to them as to 'A-series' and 'B-series':

> "We never observe time except as forming both these series. We perceive events in time as being present, and those are the only events which we perceive directly. And all other events in time which, by memory or inference, we believe to be real, are regarded as past or future — those earlier than the present being past, and those later than the present being future. Thus the events of time, as observed by us, form an A-series as well as a B-series" (McTaggart 1908: 458).

To put this idea briefly, **A-series** is a notion of time dependent on the moment of utterance. While speaking about past and future, we certainly need a moment to be considered as present. Sentences like *Tomorrow I'm going to the theatre* and *Last Sunday I went for Lisbon* make sense for an addressee only when the moment of now is known, and since then, time calculating towards past or future can be accomplished. In more recent studies, this model refers to 'tensed time', 'deictic time', or 'D-time' (Núñez and Cooperrider 2013: 221).

B-series is a model which describes the relation between events on timeline that are independent from the moment of speech. In the sentence *The party started after I finished my work*, two events are linked with each other, even with no regard to a moment of speech. Future and past as such do not fit this model as long as earlier-than and later-than relationships are employed. Here, contemporary linguistics applies the terms 'tenseless time', 'sequence time', or 'S-time' (*ibid.*)

Later, while speaking about the emergence of metaphors in language, Clark (1973) provided his observation of two further key distinctions of the ways time can be perceived and, consequently, conceptualized. Two possible scenarios are: (1) a speaker as an observer is moving along the timeline, and (2) the time is moving and passing the speaker, which correspond, respectively, to the **moving-ego** and the **moving-time** metaphors (Clark 1973: 50). Utterances like *We are approaching Halloween* and *I passed the worst day of my life* are typical examples of moving-ego model (ME), while *Sunday rushed by* and *Time crawls like a turtle* represent the moving-time model (MT). (This framework based on a perspectival distinction leads us to the Conceptual Metaphor Theory, which will be discussed to a greater extent in section 1.2.4).

The next step on the way to comprehend the nature of temporal frame of reference was done by Moore (2000). While exploring temporal metaphors in Wolof, he employed Talmy's (1975) theoretical assumptions on figure-ground relations, and introduced the

notion of **reference point** (Moore 2000: 31). The researcher, however, does not provide an explicit definition of what reference point (RP) is. But using Talmy's terminology, he outlines RP as a Ground in relation to which the event (Figure) can be positioned (*ibid.*: 31). Reference points can be classified in the following way: (1) ego-based RP and (2) time-based RP (adopting from Núñez and Sweetser 2006: 9).

Ego-based RP is the reference point attached to the ego as a deictic center. Actually, moving-time and moving-ego models are the two ways of how ego-based RP can be expressed. Sentences such as (1) *Christmas will be here in one month* and (2) *Yesterday we entered to the New Year* definitely express moving-time and moving-ego models, respectively. Both of them also demonstrate a deictic anchoring to the position of ego: the sentence (1) makes sense, only if it is anchored to the moment of 'now', *i.e. Christmas will be here in one month counting from now to the future.* A similar case can be found in the sentence (2): *yesterday* means *the day in past right before today.* Examples (1) and (2) are evidences for future/past relations, with the reference points co-located with the ego (*now, today, present*).

Time-based RP is the reference point attached to any event except for the moment of 'now'. The time-based (or event-based) RP necessarily causes the emergence of another model of time, which is **temporal sequence (TS)**. It comes from the postulation that future must be differentiated from posteriority ('afterness', later-than relation), and past must be differentiated from anteriority ('beforeness', earlier-than relation) (Moore 2000; Núñez 1999; Núñez and Sweetser 2006). While future refers to a moment that happens later than 'now' (being 'now' the moment of speech), a posterior event happens later than any other non-deictic event. Analogously, past refers to any event that happened before the moment of speech, and it does not obligatorily include anteriority. Anteriority, in turn, links any two events in a sequence, where the first event precedes the second one. The general idea is that "future and past are inherently deictic semantic categories" (Núñez and Sweetser 2006: 4): we need to know the position of ego (which is the RP) in order to evaluate time in both future and past directions. This assumption is true for moving-time and moving-ego models. In turn, the case of the temporal sequence model, deicticity is excluded, because the RP is outside of the speaker's 'here' and 'now'. In other words, in the sentence *Chestnuts should be picked before rains will start*, the RP is the moment when rainy season starts, while harvesting chestnuts is considered as an event locating on the timeline with some relation to the RP. As we can clearly see, the RP is not co-located with the moment of speech, but with another event on the timeline. Here, we

can see the *earlier-than* relation. The example *After celebrating Thanksgiving Day we are up to enjoy Halloween* demonstrates the analogous situation: independence on the position of ego, sequential character of events ('afterness') connected with *later-than* relation.

This proposal can be summarized in the following scheme (figure 2) adapted from Evans and Green (2006: 84).
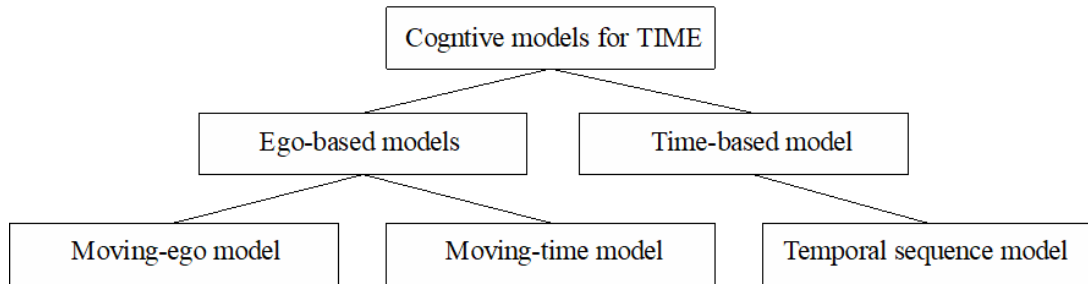
Figure 2. Taxonomy of cognitive models for time

However, more recently, this approach to categorize temporal frames of reference was criticized for its disrespect for interference of the spatial framing into the domain of time (Zinken 2010: 21-23). In other words, the system of spatial frames of reference must be taken into account while theorizing about temporal reference frames. Consider a classical example, *Let's move our Wednesday meeting two days forward*. As soon as the speaker is facing future, moving an event forward means moving it more to the future, for Friday. Ambiguity emerges, when we look at the situation from the perspective of moving time which is 'creeping upon' the speaker from future and facing past. Moving forward, from this perspective, means moving an event from the later moment to the earlier one, *i.e.* for Monday (Boroditsky 2000: 7).

This gives rise to the question of spatial nature of temporal frames of reference, and, consequently, to the numerous classifications based on this idea (Bender et al. 2010; Rothe-Wulf et al. 2015; Tenbrink 2011; etc.). The main objective of this kind of taxonomies is the elaboration of an universal approach to delineate reference frames in both spatial and temporal domains. For example, Bender, Beller and Bernardo (2010) attempted to expand Levinson's (2003a) classification of spatial FoR through mapping it onto the temporal domain. This framework arises from the claim that any event has an intrinsic beginning and end. This is correct, even for the single moment events such as a crash or a gunshot, which are considered to have a direction in which the state A is being

changed into the state B. Imagine, time is a river going towards an ocean. Everything which is passed by this steam is considered to be in past or intrinsically situated at the back of the event, while the events that lie ahead, or in front of the moving time, are considered to happen in the future (Figure 2). Now, let's take a perspective of a fish moving up the river and observing water flowing. From this perspective, everything that is ahead, is in the future, while passed events falls into the category of past, or something behind, or in the back (Bender et al. 2010: 222). Consequently, the same event can lie either ahead/in front, or back/behind, depending on the point of observation.

Therefore, a moving-forward situation can be understood only when the FRONT of the moving entity is specified both in time and space. Identification of FRONT depends on the adopted reference frame (Bender et al. 2014: 31). Taking this claim into account, and basing on Levinson's taxonomy of spatial FoRs, the following classification of temporal FoRs was elaborated:
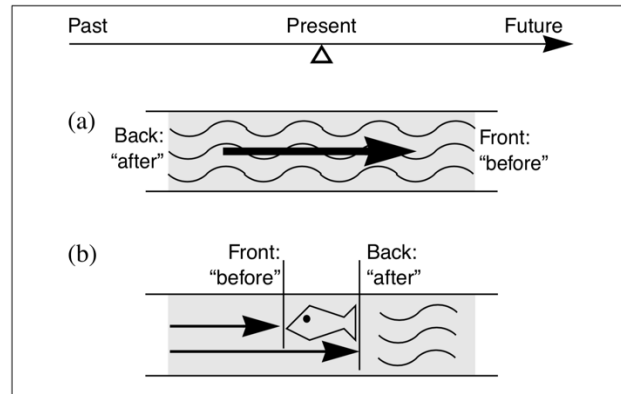
Figure 3. 'Water perspective' and 'fish perspective' of time (Bender et al. 2010: 222)

(i) absolute: in this FoR, the ground object is represented by the arrow of time. The front of this arrow corresponds to the direction of movement forward. So, moving forward, in this FoR, will indicate moving towards the future.

(ii) intrinsic: in this FoR, the ground object is an event moving along the timeline, and its beginning is associated with its front. Logically, as soon as the beginning of the event happens earlier than its end, moving forward in this situation corresponds to moving towards the past.

(iii) relative translation: in this FoR, the ground object is 'now', and any moving-forward situation means moving away from 'now'. If we speak about events in the past, movement forward means moving more to the past, and equally, in the case of future

event, movement forward means moving more to the future. Compare the examples: (1) *Last week, we moved our Wednesday class two days forward*, and (2) *Next week, we will move our Wednesday class two days forward*. Applying this frame of reference, we can understand that the Wednesday class was moved to Monday in (1) and to Friday in (2).

(iv) relative reflection: in this FoR, 'now' is again a ground object, but moving-forward indicates moving-towards-now direction. So, moving forward in past means moving towards now, i.e. towards the future. And analogously with the future events: moving toward is moving towards the past. The implementation of this frame of reference conveys the following interpretations: the Wednesday class was moved to Friday in (1) and it will be moved to Monday in (2) (Bender et al. 2014: 33).

The considered classification intends to be universal, however, it does not cover the cases of Aymara, Malagasy, and Toba languages in regard to absolute temporal framing: in these cultures, the time arrow is directed towards past. Moreover, many cultures, as it has been mentioned in section 1.1, do not represent time as an arrow, and even do not manifest the notion of time as passage, therefore, the universality of Bender's classification is questionable.

Continuing the attempts to universalize the system of temporal framings, more profound taxonomies were proposed. Tenbrink (2011) makes a distinction between 19 spatial frames of reference differentiating absolute/relative/intrinsic dimensions, static/dynamic character of objects, and external/internal property of relationships between entities. However, in correspondence to temporal domain, this classification was simplified until it had ten elements. Let's briefly consider one example: *Good time lies before me* (Tenbrink 2011: 716). According to this classification, it is an intrinsic FoR in its temporal static variant. In other words, the reference point, the ego and the event located in time are static and do not move in relation to each other.

Evans in his *Language and Time* (2013) criticizes the approaches chosen by Bender et al. (2014) and Tenbrink (2011), arguing that contrasting between absolute, intrinsic and relative temporal FoRs, as a basis for the taxonomy, not only made an overshadowed distinction between sequential and deictic reference, but also rendered the frontier between them vague. The second problem is that "… [it] is still missing is the essence of what makes temporal reference temporal" (Evans 2013: 73). Taking into consideration, that the temporal domain does not borrow the whole set of spatial tools, and instead, that it has a particular characteristic of *transience* which is lacking in the domain of space, Evans proposed his theoretical framework to classify temporal FoRs. He distinguishes

three types of temporal framing: **deictic, sequential, extrinsic**. The deictic FoR is mapped in language as an egocentric system of coordinates that reflects the future/past relations. Sequential FoR displays earlier/later relations in an allocentric coordinate system the with event-based reference strategy. In contrast, extrinsic FoR, while following an allocentric coordinate system, uses a reference strategy based on the principle of periodicity.

Generalizing and unifying all the about-mentioned approaches, Núñez and Cooperrider (2013) have designed the **classification of time concepts** which can be expanded to classify the temporal frames of reference. The key elements of this classification are deictic time (D-time), sequence time (S-time) and temporal span (T-span).

D-time model adopts the moment of 'now' as the reference point that gives origin to the categories of past and future. This temporal model can be expressed through its internal and external dimension. In the case of internal D-time, ego has internal perspective on the series of events and deictic center is co-located with ego (Núñez and Cooperrider 2013: 222). The prevalent pattern is presented around the whole set of languages such as English, Russian, Arabic, Wolof, etc. Speakers of these languages metaphorically represent past as behind, future as in front, and now as here (Miles 2010; Ulrich et al. 2008; Casasanto and Jasmin 2012) (More details on conceptual metaphor theory will be provided in section 1.2.4). Other internal D-time patterns are presented in a small set of minor languages such as Aymara (Bolivia, Peru, Chili) whose speakers represent the future as behind and the past as in front (Núñez and Sweetser 2006), or Yupno (Papua New Guinea) and Tzeltal (Mexico) where future is uphill, and past is downhill (Núñez and Sweetser 2006; Núñez 2012; Brown and Levinson 1993; Brown 2014).

From the other hand, the concept of D-time can be also expressed externally. In other words, the speaker (ego) observes the passage of a series of events from the external viewpoint, while deictic center turns out to be displaced. For many languages, this temporal pattern is conditioned by writing direction. Consequently, timeline can pass: (i) from left to right as in English (Tversky 1991; Weger and Pratt 2008) and Spanish (Santiago 2007); (ii) from right to left as in Hebrew (Fuhrman and Boroditsky 2010); (iii) and from top to bottom as in Mandarin (Bergen and Chan Lau 2014).

S-time model does not concern with the future/past relations, but it covers the cases of later-than and earlier-than relations. It excludes a deictic center, and the observation of

the events' sequence is going through an external viewpoint. In the case of the following sentences: '*Mary will arrive after the sunset*' (later-than) or '*The thesis was submitted until summer vacations*' (earlier-than), there is no necessity to anchor the sequence of happenings to the moment of utterance.

In different languages, the S-time model can be realized through several patterns resulting from the preferred writing direction. Russian, Portuguese or English speaker, while visualizing a timeline (i.e. drawing a time arrow), normally places earlier events more to to left side, and later events to the right side (Furhman et al. 2011; Weger and Pratt 2008; Miles 2011). In contrast, Hebrew speakers tend to put earlier events more to the right side of the imaginary timeline, both in linguistic and in non-linguistic tasks (Tversky et al. 1991; Fuhrman and Boroditsky 2010).

The S-time model is also found in a range of minor languages such as Kuuk Thaayorre spoken in Australia. The language employs the absolute spatial frame of reference and transfers it onto the temporal domain. The position of the sun in the sky is crucial, not only for spatial orientation, but also for representations of temporal relations. Linguistic and gestural data demonstrates that in Kuuk Thaayorre language, earlier events are metaphorically associated with the east, and later events are associated with the west (Boroditsky and Gaby 2010; Gaby 2014).

The third way of manifestation of temporal relations is the **temporal span (T-span) model** which refers "to ordered series of events or landmarks that are themselves temporal entities" (Núñez and Cooperrider 2013: 223). T-span model covers durational characteristics of events, and can be verbalized through expressions such as 'the entire year', 'several days', 'ten hours' and etc.

This **classification of time concepts** provides a general approach to understanding of temporal frame of reference and takes into account the whole range of known linguistic cases. For the methodological purposes, we will employ this classification as the main theoretical framework for the present thesis.

1.2.4. Conceptual metaphor theory and time in terms of space

One of the most fundamental assumptions maintained by cognitive science is that human mind constructs complex abstract concepts applying terms from more concrete domains associated with embodied experience and physical world. In other words, general cognitive experience constructs the meaning expressed by language (Sweetser 1990).

Phenomena like space, motion through space, vertical elevation, temperature, force, physical proximity, etc. are detectable by human perceptual system, hence cognitive system employs these basic domains (source domains) to build fuzzy or generalized ideas such as morality, thought, relation, cause, change, time, etc. "Target domains are abstract, diffuse and lack clear delineation; as the result they 'cry out' for metaphorical conceptualization" (Kövecses 2002: 20). **Conceptual metaphor** is this cognitive and linguistic apparatus that provides systematical mapping of elements from the source domain to the target domain (Clark 1973; Lakoff and Johnson 1980; Moore 2000, 2006, 2014).

Cognitive linguistics insists that conceptual metaphor is a central particularity of any culture, and metaphorical thinking is universal. In English, for example, good and bad can be understood in terms of physical elevation (GOOD IS UP, BAD IS DOWN, e.g. *These news are going to cheer you up*), change can be understood in terms of motion (CHANGE IS MOTION metaphor, e.g. *Things have shifted since we were here last time*), love can be understood in terms of travel (LOVE IS JOURNEY metaphor, e.g. *We are at crossroads; Look how far we've come*) (Lakoff and Johnson 1980: 45).

Metaphorical mapping is a unidirectional process, *i.e.* the source domain structures the target one but not vice versa. The following semantic domains frequently occur as the source domains for metaphorical mapping: HUMAN BODY (the head of the community), ANIMALS (there are plenty more fish in the sea), PLANTS (fruits of our work), and FORCES (to squeeze money out of taxpayers). The most universal target domains are EMOTION (I'm on the top of the world), HUMAN RELATIONSHIPS (We are close friends), THOUGHT (TV shows constitute ground for his reasoning), MORALITY (she is true-hearted) and, of course, TIME (Evans and Green 2006: 297).

Time is a fundamental semantic domain with high level of abstractedness. Unlike space, time cannot be perceived with our sensory system: we neither see time nor touch it. Hence, language and thought employ spatial and motional terminology to organize and structure temporal meanings and relations:

> "We have a rich and complex notion of time [...] Time is not conceptualized on its own terms, but rather is conceptualized in significant part metaphorically and metonymically [...] Very little of our understanding of time is purely temporal. Most of our understanding of time is a metaphorical understanding of motion in space" (Lakoff and Johnson 1999: 137,139).

Probably, the dependence of the temporal domain on the spatial one could be explained by their similarities: time and space have dimensions that can be measured, divided, extended, something can be moved along these dimensions, etc.; they are very frequent around discourse and both are highly grammaticalised through the tense-aspect system, numerous locatives, cases, special deictic means, such as demonstrative pronouns, etc. Hence, the spatial domain maps the components of its internal structure onto the temporal domain (Croft and Cruse 2004: 70-73).

The result of mapping is this parallelism between the spatial and temporal expressions, as we can see in the following examples: *We are approaching Paris* vs. *We are approaching the deadline*, or *My friend is coming* vs. *Monday is coming*, or *Grandma has gone* vs. *Summer has gone* (Moore: 2014: 6). These are the common precedents of the so called TIME PASSING IS MOTION metaphor, which employs spatial motional verbs (to go, to come, to arrive, to get, to reach, etc.) to convey the meaning of temporal motion (Lakoff 1993).

However, the distinction between various spatial-temporal metaphors is much deeper as it is based on the different temporal models used by the speakers of different languages. A fundamental distinction is between Moving Time and Moving Ego temporal models, which cause the emergence of the TIME PASSING IS MOTION OF AN OBJECT, and of the TIME PASSING IS MOTION OVER A LANDSCAPE metaphors, respectively (Clark 1973; Lakoff 1993; Lakoff and Johnson 1980).

For example, let's consider the parallelism between the sentences *The car is approaching* and *Halloween is approaching*. The similarity of the sentence structures is conditioned by the metaphorical extension of the spatial domain onto the temporal one. The components of spatial motion (*here*, *near* (*close*), *coming*) will find their counterpart in temporal expressions (*now, soon, happening*), in other words, time is conceptualized in terms of motion of an object through the space. It's necessary to note that this metaphorical model is based on the ego-centered orientation. The components of the TIME PASSING IS MOTION OF AN OBJECT metaphor are presented in the table 2 (Moore 2014:13).

Source domain	=> Target domain
Here	=> Now
Proximity	=> Immediacy
An entity moving toward ego	=> A time in the future
Change in degree of proximity	=> Change in degree of immediacy
Arrival of the entity at ego's location	=> Occurrence of a time
An entity moving away from ego	=> A time in the past

Now let's compare another examples: *We entered the room* and *We entered the New Year*. The spatial meaning is being transferred onto temporal field through the TIME PASSING IS MOTION OVER A LANDSCAPE metaphor. This metaphor fixes the timeline as motionless while the ego, or the moving observer navigates along this timeline. The elements of this metaphor are presented in the table 3 (Moore 2014:9)

Source domain	=> Target domain
Here	=> Now
Proximity	=> Immediacy
Space ahead of ego	=> The future
Change in degree of proximity	=> Change in degree of immediacy
Ego's arrival at a place	=> Occurrence of a time
Space behind ego	=> The past

These two types of metaphor are only sufficient to describe the dynamic character of time with a definite deictic point. Doubtlessly, we need to discern the position of moment of 'now' in order to understand where the future and past are, within both the moving-ego and the moving-time models. However, as it was pointed out more recently, "not all spatial language for time is dynamic" (Núñez and Sweetser 2006: 6), and even when it is dynamic, it may not be anchored to the deictic point.

As discussed in the previous chapter, there is a type of temporal frame of reference (B-series, or S-time model) which has no attachment to the deictic point and conveys the idea of temporal sequence of events connected by the earlier/later relations, in contrast to the past/future relations. This temporal model generates the conceptual metaphor SEQUENCE IS RELATIVE POSITION ON PATH (Núñez and Sweetser 2006: 7). In the sentences such as *The car comes before the truck* and *Monday comes before Tuesday,* the location of ego is not obligatory, and the sentences have meaning even without any attachment either to the location 'here' or to the moment 'now'. Another notable component which this metaphor takes into account is the front-back orientation of the event. In the case of spatial expression, *after the car comes* (i.e. after its backside finishes the process of coming) *the truck can come* (i.e. the frontside of the truck starts the process of coming). The parallel situation is being observed in the case of the temporal expression: first comes the end of Monday (or its backside), then the beginning of Tuesday (its frontside). In general, earlier events are in front, or ahead, of later events. This orientation is crucial for the comprehension of the events' movements relatively to each other. The elements of the conceptual metaphor SEQUENCE IS RELATIVE POSITION ON PATH are presented in the following table (Núñez and Sweetser 2006: 7):

Source domain	=> Target domain
Objects	=> Times
Sequence of objects	=> Chronological order of times
Objects in the sequence oriented in terms of front-back relationships (usually given by their direction of motion)	=> Times oriented in terms of "front–back" relationships (usually given by their direction of "motion")
An object *A* located in front/behind an object *B*	=> Time *A* occurs earlier/later than time *B*
Movement of the entire sequence in one direction (usually horizontally)	=> Passing of time

More recent researches on conceptual metaphor ascertained another way to express motion from earlier events to later ones (Moore 2014; Lakoff and Johnson 1999). One of these models is NOW IS A MOVER metaphor which is structurally similar to TIME PASSING IS MOTION OF AN OBJECT METAPHOR with the only difference: the observer is excluded from this model. The perspective of the metaphor NOW IS A MOVER is taken from the position of the moment of speech which is in movement along the timeline. Have a look at the following examples from spatial and temporal domains: *The car is getting close to the town* and *It's getting close to Christmas*. The parallelism here is not so obvious as in the above given examples of the metaphor based on moving-ego model, but it will be more apparent if we consider the moving car as the car driving us to town. Analogously, the abstract *it* which is getting close to Christmas is actually the moment of 'now' which is moving along the timeline, and we move together with this 'now'. In both examples the ego is excluded or, rather, not exhibited overtly, but the ego's position is implied to be associated with the moment of 'now'. The following table provides the mapping of the NOW IS A MOVER metaphor (Moore 2014: 44)

Source domain	=> Target domain
A moving entity	=> Now
A region ahead of the moving entity	=> The future
A region behind the moving entity	=> The past

Another type of metaphor which can be expressed by language is A SITUATION IS A MOVER. It brings together the cases with a continuative situation (event or state) that extends along the timeline, as in the examples *Rain fell through the morning all the way to noon* (Moore 2014: 45) or *I have been staying in Paris since January until March*. In the languages across the world, this metaphor tends to express both temporal location and

duration. The table below schematically represents the way how this metaphor works (Moore 2014: 45):

Source domain	=> Target domain
A mover	=> The evolving temporal profile of a situation
The path traversed	=> The time during which a situation continues
Source	=> An earlier time
Goal	=> A later time

The final metaphor which will be discussed in this section is the PURPOSEFUL ACTIVITY metaphor. It could be considered as a type of moving-ego metaphor with the exception that in this case the passage of time is being conceptualized through representing of purposeful activity which makes progress during some time span. The example could be the following statements from Russian:

1a.   *Ты еще долго будешь играть это произведение?*
      Ty esche dolgo budesh igrat eto proizvedenie?
      'For how long are you going to play this (musical) piece?'
      lit. 'Will you play this piece a long time?'

1b.   *Я не дошел еще и до половины*
      Ya ne doshel esche i do poloviny
      'I have not even done a half'
      lit. 'I have not reached the half yet'

The mappings of PURPOSEFUL ACTIVITY are presented in the table below (Moore 2014: 48):

Source domain	=> Target domain
A mover	=> Agent
Destinations	=> Purposes
Arriving at a destination	=> Completing a purposeful action
Moving forward	=> Progressing

Time in terms of space is a well-studied field with cross-linguistic data of considerable size from all the continents. What about languages of Africa, the most elaborated case of conceptual metaphor is found in Wolof, the language spoken in Senegal (Moore 2000, 2006, 2014). Conceptual Metaphor Theory, in one form or another, was applied also in researches related to Chagga, a Bantu language spoken in Northern Tanzania (Emanatian 1992). Metaphors and metaphorical speech were investigated in Shona (Zimbabwe; Mberi 2003) and Swahili (Tanzania; Vierke 2012; Tramutoli 2015).

Metaphors of time in Bantu languages still remain under-studied. In this study, the Conceptual Metaphor Theory will be applied to the Nyungwe language.

1.2.5. Time and space: universals and diversity in cross-linguistic perspective

Within linguistic studies, Whorf (1954) was the first scholar who attempted to impugn the universal and absolute character of time. He found out that the Hopi people, an American Indian community of Arizona, did not conceptualize time as a linear flow passing from the past to the future: Hopi language lacks:

> "[The] general notion or intuition of time as a smooth flowing continuum in which everything in the universe proceeds at an equal rate, out of a future, through a present, into a past" (Whorf 1954: 27).

The so-called "principle of linguistic relativity" introduced by Whorf was, however, challenged multiply (just to mention Pinker 1994; Devitt and Sterelny 1987) but its general conception was recently transformed into the following claims:

(i) space-time metaphors across languages is not a universal phenomenon (Le Guen et al. 2014; Sinha et al. 2012; Levinson et al. 2014);

(ii) event-based time is cross-culturally universal, while an abstract notion of "time as such" (or "matrix time", cf. Evans 2014; another term is "metric time") is not presented in all the languages, due to sociocultural and historical motives (Sinha et al. 2012; Sinha and Gärdenfors 2014).

In this section, we will consider these claims in detail, but firstly, we will turn our attention to the diversity of temporal metaphors across the world.

Scholars found out that languages employ diverse perspectives to undertake a linkage between space and time. In other words, for Russian (1), Portuguese (2), or English (3) speakers, it is quite obvious to think about past events or past periods of life as something which lies behind (EARLIER IS BEHIND metaphor); accordingly, future is represented as something that is located in front or ahead (LATER IS IN FRONT metaphor). In contrast, Chinese represents time using metaphors like EARLIER IS UP, LATER IS DOWN (more details in Section 1.2.2), according to which time moves in an up-down direction (4a-d).:

(1)   *Пора экзаменов осталась позади, а впереди — мечты и устремленья*
        'The examinations remained behind, dreams and aspirations are ahead'

(2) *O Benfica tem um futuro pela frente que será positivo*
     lit.: 'Benfica [the football team] has the future in front which will be favorable'

(3) *There are far better things ahead than anything we left behind*

(4a) *shang yi   miao*   (4b) *shang yi   nian*
     up   one   second   up   one   month
     'last second'   'last month'

(4c) *xia   yi   miao*   (4d) *xia   yi   nian*
     down   one   second   down   one   month
     'next second'   'next month' (Lai et al. 2014: 22)

As mentioned before, the Aymara people, living in Bolivia and Peru, employ another perspective for mapping spatial experience onto timeline. Firstly, the category of evidentiality is primordial for Aymara language, and source of information (whether a speaker witnessed an event personally or not) is grammatically marked. Secondly, the Aymara speakers represent themselves as static observers experiencing the passage of moving time. As long as past events are experienced, or witnessed, and seen by eyes, the observer conceptualizes himself as stationary on the timeline with the past located in front. Future, in turn, remains invisible for the eyes. For this reason, Ayamara speakers conceive future as something behind them, at the observer's backside[4]. Here, the metaphor KNOWN IS IN FRONT OF EGO and UNKNOWN IS IN BACK OF EGO is being applied (Núñez and Sweetser 2006:39):

(5a) *nayra   mara*   (5b) *qhipa   mara -na*
     eye/front   year   back/behind   year in/on/at
     'last year'   'in the next [immediately future] year'
     (Núñez and Sweetser 2006:15-16)

The similar cognitive peculiarity was investigated for Malagasy language in Madagascar, where time seems to inflood into the back of the head (Dahl 1995). Aymara and Malagasy cases disproved the universality of timeline vector associated with natural human walking facing towards the front, from past-behind to future-ahead (Clark 1973; Traugott 1975, 1978). It challenges the further research and classification of temporal frames of reference (more details are in Section 1.2.3).

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[4] This mental representation of time is embodied in speaker's gestural behavior. The Aymara speakers point to their back when referring to some event which supposed to happen in the future, and point to the front when refer to the past (Núñez and Sweetser 2006: 23-37)

The space-time relationship, found ubiquitously in language (involving speech and gesture), is also displayed at other levels of human cognition. Experiments demonstrated that people embody culturally specific spatial representations (*i.e.* the writing directions), while performing a task that obliges them to reason about time, even when language is not required (Casasanto and Boroditsky 2008; Fuhrman and Boroditsky 2010). Cross-linguistic investigations among English, Mandarin and Hebrew speakers, gave evidence that human mind addresses to spatial domain automatically, unconsciously, while analyzing and estimating information about time. However, there are linguistic evidences challenging a universal character of space-time mapping. Theoretically, these claims go back to and support the idea that not all attributes of space can be metaphorically transferred to the temporal domain, and that some languages can be deficient in associating spatial and temporal concepts (Galton 2011).

A considerable example is Yucatec Maya language (Mayan family) spoken in Yucatán Peninsula in Mexico. The gestural data submits the evidence that speakers of Yucatec Maya do not conceptualize time as a linear flow passing from future to past; but they are aware of time as a cyclic system. Time, in a certain degree, is expressed through space, but these metaphors differ significantly from another linguistic cases around the world. For instance, deictic time does not manifest an opposition between past and future (as we see in all European languages): both categories are fused into a category of remote time. In turn, remote time is contrasted with current time. Gesturally, Yucatec Maya speaker represents current time, or present, pointing down with his/her hand, whereas gesturing up is associated with remote time (Le Guen and Pool Balam 2014: 91).

Another example which disproves the universality of space-time metaphorical mapping is the Amondawa language (Tupi Kawahib family) spoken in Brazilian Amazonia. Amondawa speakers do not use their relatively abundant spatial vocabulary to refer to temporal meanings and relations. Typical spatial motion verbs (e.g. 'come', 'approach') are not recruited to convey meaning of temporal motion in Amondawa, as well as the locative terms transmitting spatial representations (e.g. 'in', 'at') are not employed by this language to indicate location in time (Sinha et. al. 2011:158).

It was also argued that Yélî Dnye language (Papuan family), despite its extensive inventory of spatial terms, restrains systematic metaphorical structuring of temporal expressions deriving from the spatial language. Instead, in Yélî Dnye, there is a rich lexical and grammatical apparatus related to the temporal domain. In particular, there is a well-elaborated set of lexemes indicating each of twenty days towards past and future

from today, as well as a complex tense and aspect system intended to specify temporal relation between two or more events and the moment of speech (Levinson and Majid 2014: 67).

Remarkably, both Amondawa and Yélî Dnye speakers have no material objects for reckoning and measuring time, and this fact leads to the hypothesis, that the absence of space-time transfer in language may be due to the lack of cultural physical artefacts representing time (*ibid*: 67).

1.2.6. Classification of semantic functions of NP-based adverbials

While the TAM system is quite well investigated (see the introduction for the Chapter 2 for the references), the grammar apparatus for time encoding beyond the verbal structure requires deeper examination. Haspelmath states:

> "While probably all grammars have something to say on tense, aspect and
> spatial adverbial markers, many grammars are very incomplete with respect
> to NP-based temporal adverbials" (Haspelmath 1997: 5).

Scholars contributed to the study of temporal adverbials in several ways. In cross-linguistic perspective, different peculiarities of conveying temporal functions by adverbials were investigated. For instance, the Korean speaker can choose between two variations of *now* depending on the reference frame he/she undertakes (Lee and Jeongmi 2009). In Panyjima (Pama-Nyungan, Australia), the temporal particle *-rru* demonstrates functional extension while modifying the tense within the utterance. Depending on the context, this particle can be translated either 'now' or 'then' (Ritz, Dench and Caudal 2012). An interesting example is found in Russian language where the temporal location can, among others, be expressed by the noun's instrumental case which performs grammatical function of a temporal adverbial. Consider the following examples: *leto* ('summer', NOM) vs. *letom* ('in the summer', INST), or *eta nedelya* ('this week', NOM) vs. *nedeley ranshe* (one week before, INST).

In his cross-linguistic study, Haspelmath (1997) introduces the notion of 'NP-based adverbials' (TAs), which covers all the range of temporal expressions, in the forms of noun phrases, prepositional phrases, adverbial phrases and various temporal particles:

> "The notion of 'NP-based adverbials' has the advantages of being non-
> disjunctive and simultaneously avoiding the artificial issue of distinguishing
> between oblique NPs and PPs" (Haspelmath 1997: 8).

Haspelmath suggests to analise NP-based TAs according to their semantic sub-types, *i.e.* the character of relationship between the reference point (RP) and the time of event (TE) encoded by the TA. This framework brings together Conceptual Metaphor Theory approach and recent investigations on temporal frames of reference which have already been discussed in the previous sections. Analyzing data from 53 languages across 18 families (plus one language isolate), Haspelmath distinguishes the following predominant groups of TAs:

I. Location in time

1. Simultaneous location refers to those cases in which the situation and the reference point are simultaneous. 'Location', in this context, is not only attached to a single, distinct moment, it rather can be extended in certain degree, up to the so-called **canonical time periods,** referring to the "major cyclic events of the human natural environment" (Haspelmath 1997: 25). The scholar argues that some temporal units, common for the 'westerners', such as *week*, *decade*, *century*, however, could not be presented in other cultural contexts. The canonical time periods are the following: hour (**at** five o'clock); part of the day (**in** the morning, **at** the night); day (**on** Tuesday, **on** the first day); month (**in** February, **Ø** next month); season (in summer, **Ø** last fall); year (in 1962, **Ø** this year); festival (**at** Christmas, **at** Easter, **at** Passover) (*ibid*.: 25).

All these temporal units represent the same semantic function: the event X is at the certain point of time. Thus, it is not quite clear why, for example, English employs four different grammatical forms to designate temporal location: *on*, *in*, *at*, and zero preposition. Hungarian uses five different suffixes to express location in time, while Japanese uses only a suffix -*ni*. Finally, Russian, in addition to the prepositions, uses the instrumental case of the noun to refer to the temporal location. With regard to Bantu languages, Haspelmath also mentions an example from Nkore-Kiga, spoken in Uganda (JE13/14). This language has two prepositions to indicate simultaneous location: *aha* to refer to hours, days of the week and parts of the year; and *omu* to refer to parts of the day, months and years (*ibid.*: 108).

2. Sequential location refers to those cases in which time localization precedes or follows the reference point (ibid.: 35):

(i) Anterior (***before*** the meal; *cf.* Russian: ***pered*** *edoy* 'in front of the meal').

(ii) Posterior (***after*** the war; Portuguese: ***depois*** *das aulas* 'after the classes')

An outstanding example is found in the Nkore-Kiga language. It encodes the sequential location through a temporal clause like in the following sentence: *Nkaba ndi aha orw'okubanza rutakaizire* 'I was here before Monday' which literally means 'I was here <u>when Monday had not yet come'</u> (Taylor 1985: 121). Later, we will see that Nyungwe also uses this paraphrase to indicate sequential location.

3. Sequential-durative refers to those cases when the durative (not discrete) situation precedes or follows the reference point, and overlaps it (Haspelmath 1997: 35, 69, 71):

(i) Anterior-durative (***till*** *midnight*; Portuguese: *ate amanhã* 'until tomorrow').

(ii) Posterior-durative (***since*** *Monday*; French: *à partir de* 'leaving, starting from'; Russian: *nachinaya s* 'starting from').

4. Temporal distance refers to those cases when it is necessary to designate a distance between the reference point and a moment in the future or in the past (*ibid.*: 38, 83, 84, 90):

(i) Distance-future (*I will return **in** three weeks*; Bulgarian: ***sled*** *dva dni* 'after/in two days'; Spanish: ***dentro de*** *dois dias* 'in/inside two days').

(ii) Distance-past (*two hours **ago***; Hungarian: *három hét **elött*** 'three weeks before'; French: ***Il y a*** *une semaine que je suis venue* 'There is one week [ago] when I came').

II. Temporal extent is a semantic function which differs from the location in time. Going back to the classification of the core temporal concepts (Núñez and Cooperrider 2013), location in time can be associated with D-time and S-time, while temporal extent relates to T-span. This semantic function concerns with encoding of durativity of the situation through time (Haspelmath 1997: 42, 127, 133):

(i) Atelic extent (***for*** *two months*; Italian: ***per*** *sette anni* 'for seven years').

(ii) Telic extent (*I wrote the letter **in** two hours*, cf. Portuguese: ***em*** *duas horas*).

(iii) Distance-posterior (German: ***seit*** *drei Jahren* 'since three years'; Swahili: ***tangu*** *siku nyingi* 'since/for many days').

Haspelmath's classification doesn't pretend to be universally applicable, it rather generalizes common patterns of how temporal relations could be expressed through the

temporal adverbials. We will use this scheme for classification of temporal devices according to their semantic functions in Nyungwe.

In Nyungwe, the semantic functions which are typically encoded by temporal adverbials may also be encoded by the independent clause, so, we believe that the term 'temporal adverbial' is narrow for the description of the corresponding phenomena in the Chapter 3. Instead, we use the term 'temporal device' (TD), which will be further explained in the methodological section.

1.3. Methodology

1.3.1. Data sources

While analyzing linguistic devices for time conceptualization in Nyungwe, spoken and written texts were of crucial relevance. The collected data consists of:

Oral data. Definitely, the research of this type should be conducted on the basis of data elicited from the spontaneous speech of native speakers in their natural environment. Although it has not been possible to study Nyungwe right in the field, I managed to find some native speakers living in Portugal: Leila Ferreira (80 y.o.), Inês Miguel (44 y.o.), and Lenard Newman Smith (83 y.o.). Portuguese missionary, Father Manuel Martins, who lived in the province of Tete during 25 years and studied intensievely Nyungwe language and culture, also participated in this research as a consultant. A further informant was professor Sóstenes Rego, who obtained PhD degree in linguistics with a dissertation about Nyungwe (Rego 2012) at the Faculdade de Letras of the University of Lisbon.

My conversations with the informants were both structured and unstructured interviews, with Portuguese used as a metalanguage. The informants gave their oral consent for the recording of these interviews by the researcher, as well as for their analysis and archiving. The data was recorded with an iPhone 7Plus and inserted in the archive of the Centro de Linguística of the University of Porto.

A further large and reliable source of oral data consisted in the speech events collected by Rego in the province of Tete, which were then transcribed and included in the annex of his PhD dissertation (2012). This corpus comprises speech events of different

types: radio programs, liturgies, school lessons, phone calls, quotidian conversations in different settings, such as on the street, at the workplace, on the market, at the shop, etc.

Written data. This type of data provided substantial information for the present study. The written corpus in Nyungwe includes both original and translated texts.

i) Original texts. This category contains seven booklets with a total volume of 84 pages (A5 format) published in 2010 by the Summer Institute of Linguistics (SIL) in cooperation with the LIDEMO (Língas de Moçambique) association. Another important source is Martins' anthology of traditional fairy-tales, riddles and proverbs, which he collected during his missionary work conducted in Tete (Martins 2014).

ii) Translated texts. Evangelical texts, namely Gospel according to St. Mark and Gospel according to St. Luke, are found in this group. Translated texts, especially of religious character, must be considered with accuracy, because they incorporate many cultural concepts alien to autochthonous cultures like Nyungwe. Nevertheless, with regard to time representations, extracts from these books turn out to be very reliable.

1.3.2. Methodological framework

The elicitation of data about temporal expressions followed the **Time in Space Questionnaire** elaborated by a group of scholars from the Max Plank Institute of Psycholinguistics (Levinson et al. 2008: 44-47). The authors provide precise instructions about a method to elicit temporal data from the speakers, how to bring them to perform utterances from which it is possible to interpret the way they conceptualize time. In other words, the elicited information reveals how they express the central temporal concepts and relations, if they are mapped in semantic domains as deictic diurnal units, calendrical units, temporal demonstratives, spatial adpositions and cases. This method also allows to detect the temporal frames of reference used by speakers.

The **Questionnaire on Time and Space Language Inventory** (Boroditsky, Gaby and Levinson 2008: 61-67) is another tool created to investigate the correlation between spatial and temporal domains and the encoding of temporal information, this time directed to get information about cultural / anthropological matters. In other words, the elicited information is supposed to provide an insight about the cultural artefacts (clocks, calendar, etc.) used to represent time, about cultural beliefs and knowledge regarding the

size and shape of the earth, and other interstellar objects (for instance, what does make the sun to rise every day, why does the moon move, etc.).

The data interpretation of data was sustained by an "eclectic" theoretical framework, which was explained in the chapter 1.2. Two theoretical principles will be pointed out, due to their crucial role in the present analysis:

The **Conceptual Metaphor Theory** (Clark 1973; Lakoff and Johnson 1980, 1999; Moore 2000, 2006, 2014) which enables to interpret metaphorical extensions from the spatial domain onto the temporal one. This interpretation is achieved through decomposition of the main elements of some metaphor, which reveals how the space-time relation is represented in a given language.

As presented before — and inevitable to remember again in the methodological section, — **the classification of semantic functions of the NP-based temporal adverbials** (Haspelmath 1997) and **the classification of core temporal models** (Núñez and Cooperrider 2013) will be blended in the present study in order to provide a consistent analysis of the temporal elements found in Nyungwe. As we want to apply Haspelmath's classification to other forms of temporal reference (not only temporal adverbials), we use the term 'temporal device'. This term covers a broader range of time encoding means: independent and dependent clauses, phenomena like reduplication, and elements of other modalities such as prosody and gesture (although, the last two modalities will not be considered in this study).

With regard to the lexical representations of temporal concepts, the central methodological techniques involved are the **etymological** and **comparative analysis**. We use Bantu Lexical Reconstructions database accessible on the Africa Museum (Tervuren, Belgium) website. For comparative analysis, data from more than ten Bantu languages is used.

The methodological approaches for data analysis are displayed in the following diagram:
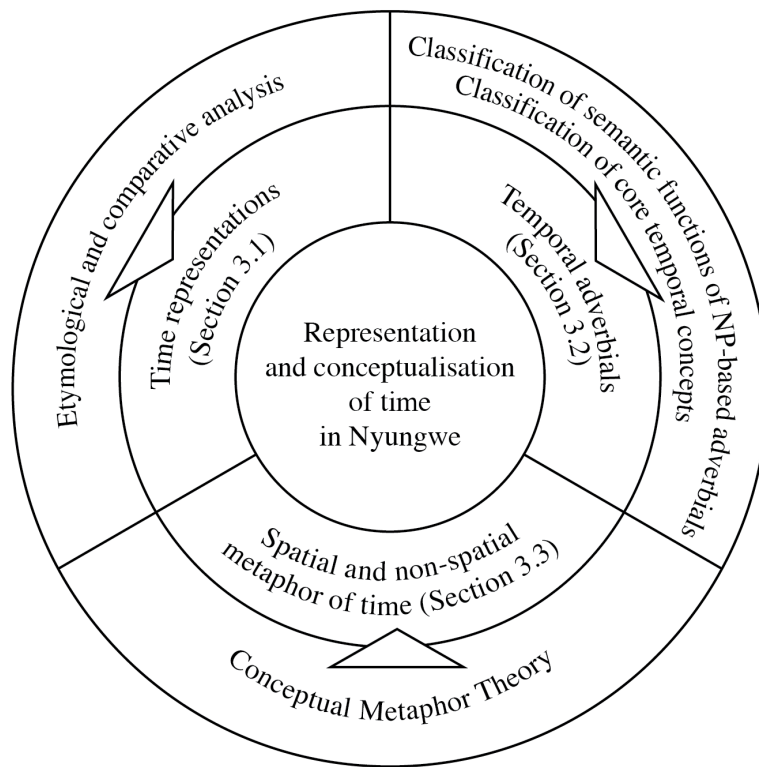
Figure 4. The methodological framework

Chapter 2. Nyungwe people and their language

2.1. Nyungwe people: brief ethnographic and cultural account

2.1.1. General perspective

Nyungwe is spoken by people of Nyungwe (with the auto-ethnonym *Manyungwe* (plural) or *Anyungwe* (singular), an ethnic group residing Mozambican province of Tete, in the Lower Zambezi basin.

Nyungwe people belong to the Senga-Sena ethnic cluster, indexed as N40 in Gutrie's areal classification of Bantu languages (Guthrie 1971, Maho 2009). Senga-Sena people inhabit along the lower Zambezi valley, which begins in Zumbo, a town on the border with Zambia, and unfolds down to the Indian Ocean, passing the Cahora Basa lake where the biggest African hydroelectric power station is located. The part of the river after passing the Cahora Bassa dam, is known as the lower Zambezi stream, which heads from north-west to south-east. The dominant towns of this region, Tete and Sena, grew on the river banks.

On the eastern side, the Nyungwe neighbor with the Sena people which are the predominant ethnic and linguistic community of this area. On the south they make frontier with another sub-group of the Sena, the minor ethnicities Barwe and Tewe. Up the river, starting from the lake of Cahora Bassa and moving west towards the Zambia-Zimbabwean border, the minor communities of the Kunda and Nsenga people live, their languages also belong to the N40 group. It has been also reported about other small ethnic groups in the region of Zambezi valley: Demas, Dandes, Pimbas, Govas (Gouvas), Chuwabos and Zimbas (Rita-Ferreira 1982: 258; Isaacman 1972: 3).

On the north, the Nyungwe have frontier with the Nyanja (Chewa) people, who speak dialects of the Chewa-Nyanja group (N30) (Maho 2009). This is a relatively big and influential community with about 12 million people. (My Nyungwe informants reported about cultural and linguistic similarities between Nyungwe and Nyanja people).

The south-western side of the Nyungwe speaking area is shared with the Shona people, who speak languages of Shona group (S10), including Shona (11 million speakers), the predominant language of this zone. The relatively minor societies of this ethnic group speak Manyika and Kore-Kore (including Tavara/Tawara) languages.
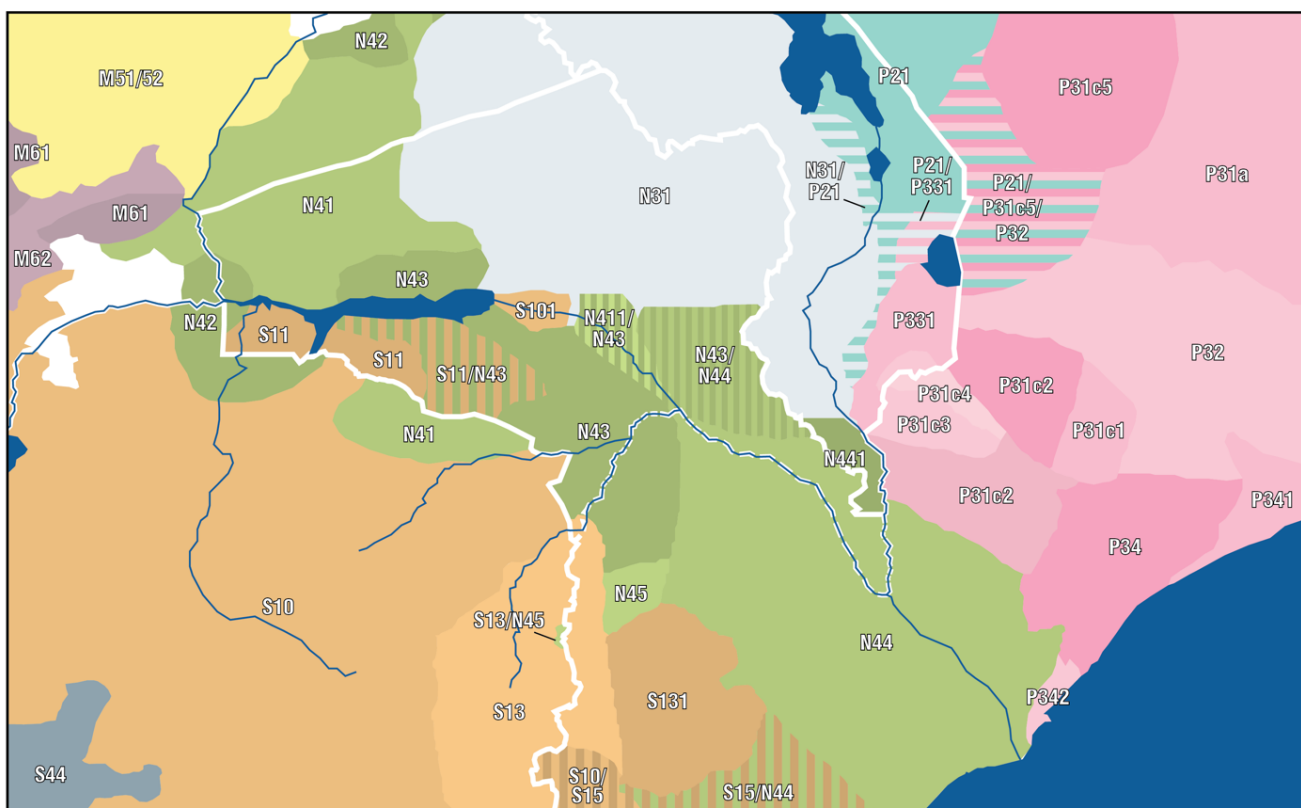
Languages of the Lower Zambezi Valley and in the neighbourhoods

M50: Lala-Bisa-Lamba Group
M50/51 — leb — Lala-Bisa

M60: Lenje-Tonga Group
M61 — leh — Lenje/Ciina Mukuni
M62 — sby — Soli

N30: Chewa-Nyanja Group
N31 — nya — Nyanja/Chewa/Chichewa

N40: Senga-Sena Group
N41 — nse — Nsenga/Cinsenga/Senga
N411 — phm — Phimbi
N42 — kdn — Kunda/Cikunda
N43 — nyu — Nyungwe/Nhungue
　　　　　　　 Chinhungue/Tete
N44 — seh — Sena
N441 — swk — Sena-Malawi
N45 — bwg — Barwe

P20: Yao Group
P21 — yao — Yao/Ciyao

P30: Makhuwa Group
P31a — vmw — Central Makhuwa
P31c1 — mny — Manyawa
P31c2 — tke — Takwane
P31c3 — llb — Lolo
P31c4 — vmr — Marenje
P31c5 — vmk — Chirima/Shirima
P32 — ngl — Lomwe/West Makhuwa
P34 — chw — Chuwabu/Echuwabo
P341 — mhm — Makhuwa-Moniga
P342 —　cwb — Maindo

S10: Shona Group
S10 — sna — Shona/Chishona
S101 — dmx — Dema
S11 — twl — Tawara
S13 — mxc — Manyika
S131 — twx — Tewe/Citewe
S15 — ndc — Ndau

S40: Nguni Group
S44 — nde — Ndebele of Zimbabwe/
　　　　　　　 Sindebele

Daily life of the Nyungwe people is associated, to a greater extent, with agriculture, fishing, breeding and shepherding, coal production and brick manufacture. In the areas with a limited access to water, people also practice hunting (Maia 2015: 309). Traditionally, Nyungwe live in small family-based clusters, frequently in semi-nomadic conditions, because, from time to time, they need to look for more fertile lands (to cultivate mainly sorghum) or richer pastures for cows and sheep (Martins, MS 2018: 3).

Lobato (1962), in his account on people of Zambezian valley, describes them:

> "Os povos eram negros de boa estatura, robustos, fortes, mais pregiçosos, bêbedos, lascivos e ladrões. Viviam de milho, caça bichezas do mato, quem comem podres, e as tripas dos animais sem serem lavadas" (Lobato 1962: 118).

He reports, they dressed lathers of domestic and wild animals, and some cotton cloths (*huns panos),* as well as clothes bought from the Portuguese; they liked *pombe* (a traditional beverage made of corn), and women especially adored the beads.

Speaking about their way of food production, Lobato accentuates:

> "A agricultura, muito rudimentar, fazia-se com uma enxada de palmo, cavando à flor da terra «e não se alargão a mais do que aquilo lhes parece ser bastante para o seu annual sustento que sempre lhes falta»" (*ibid.*: 119).

The people of Nyungwe are organized into clans, which organization implies emergence of taboos (such as the prohibition to kill animals of one's own clan and consume its meat), and social rules (as forbidding marriages between members of the same clan). The kinship system is patrilineal, and polygamy is accepted and seen as a symbol of richness and power (Martins, MS 2018: 4,7).

A detailed account on traditional Nyungwe beliefs is provided by Martins in his unpublished manuscript titled *Usos and costumes dos Nyungwes*. This study (Martins, MS 2018) summarizes observations about spiritual life of the people, namely their convictions about the life cycle, death, and after-death, as well as about nature of diseases and ways of treatment. Martins also describes traditional festivities and commemorations practiced in this society. Regarding to the concept of time, which is the concern of this thesis, the author states that, among the Nyungwe, time is perceived as cyclical, so that death is not the end of a person's life:

> "… as vezes a propria pessoa se despede dos seus familiars, ao sentir chegar o fim dos seus dias. Aqules que choram o defunto, facilmente acusam este ou aquele de serem os provocadores da morte; mas não se deve ligar ao que

dizem, porque geralmente é só uma maneira de desabafar a dor. Porém há casos em que uma desavença, seguida de doença e de morte pode produzir um rancor que dura por muito tempo e ao qual serão atribuídas, com ou sem razão, outras doenças e outras mortes" (*ibid*.: 8).

Dead people are closely connected to those who are alive and influence their existence. The ancestor who was forgotten or was not respected enough by his descents can provoke diseases, misfortunes, losses and even deaths. Past and present interact on the spiritual level.

There is no generalized ethnographic account on Nyungwe people except for Martins' manuscript. However, some of the following studies must be interesting to those who are looking for more historical and anthropological data:

(i) J. R. dos Santos jun. (1944), *Contribuição para o estudo da antropologia de Moçambique. Algumas tribos do distrito de Tete* — a detailed physical anthropological study of three communities (Nyungwe, Kunda (Cikunda) and Nsenga living in the area of Tete. The author offers extensive data on the physical features of the inhabitants of the Zambezi river valley.

(ii) J. N. dos Santos jun. (1958), *O "Marombo" ou "Malombo"* — a description of rituals associated with *marombo*, a religious practice to prevent diseases, mostly among women;

(iii) M. da C. Rodrigues (2010), *A presença portuguesa no vale do Zambeze — Zumbo e Cachomba — Província de Tete* — a series of reports on recent archaeological findings conducted in the village of Zumbo and at the Cachomba fortress in the province of Tete. It provides archaeological and historical analysis concerning the Portuguese presence and their contacts with indigenous people around this region.

2.1.2. Historical perspective

The centuries of colonization, external invasions, and succeeding urbanization transformed many aspects of traditional Nyungwe life: social structure, kinship system, traditional forms of agriculture, crafts and medicine, and, of course, language. Anthropologists report that the local people themselves affirm that certain things (e.g. rituals, dances, songs, etc.) do not exist anymore, and only few old people living in remote villages still remember ancient cultural practices (Maia 2015: 22). This section aims (i) to review the historical processes that entailed those social, cultural and linguistic changes

among the Nyungwe people, and (ii) to build a map of people's historical movements in the region of predominant usage of Nyungwe and its dialects.

The valley of Zambezi river has been being a region of constant intercultural contacts. The river provides connection between Zambia, Zimbabwe and Malawi, and also allows these countries to get access to Indian ocean across Mozambique. It should be noted, that the first states appeared on the territory of Lower Zambezi long before the Portuguese colonists arrived (Huffman 1972).

During the precolonial period, the most influential tribal power around this area was hold by the Shona people, who had founded their state known as the Kingdom of Zimbabwe with its capital located in Great Zimbabwe, considered as the most powerful and rich city of the region. The state spread around the territory which now is occupied by Zimbabwe. Therefore, it can be assumed that the ancient Nyungwes used to have contact with the Zimbabweans (Huffman 1972). In that time (from the 13th century until the middle 15th century), the Kingdom of Zimbabwe engaged with Arabian merchants for gold and ivory trading. There are also evidences, that people from these lands used to extract copper, iron, and coal.

The power of the Kingdom of Zimbabwe decreased in the 15th century when another dominant state appeared in this expanse. That was the Kingdom of Mutapa (also called Monomotapa, Mwanamutapa or Munhumutapa), situated on the northern edge of the Zimbabwe plateau. Before around 1750, the main state was located in triangle between Zumbo, Tete and Harare (Beach 1997: 248) The economic system of this state was based on agriculture, pastoralism, iron smelting and gold mining (Schmidt 1997: 432) The territory of the Kingdom of Mutapa while spreading around these lands also had evidently touched the Nyungwe people.

The lands of Monomotapa lied to the south from the Zambezi river valley, *i.e.* in the south of Nyungwes' territories. From the northern side, Nyungwe-speaking communities were surrounded by the Kingdom of Maravi, controlled by the Nyanja/Chewa people (Pélissier 1987: 77). The Maravian folks were dominating in ceramics and metallurgies in this region, however, they had no intentions of invading or conquering the lands of Nyungwes. Maravians achieved the greatest territorial extent around 1650, maintaining intensive trading relationships with Portuguese colonists (Maia 2015: 58).

It should be noted that, in precolonial period, Bantu people inhabiting the territories along the Lower Zambezi river used to interact with Arabian, Indian and Swahili traders

(West 1997: 200), who took advantage of the river and made it a principal commercial route, connecting inner lands with ports at the Indian ocean, as Sofala, Inhambade, the Island of Mozambique. These locations were also searched by Arabian traders (Capela 2002: 235)

In 1505, the first Portuguese explorers arrived to Sofala which, at that time, was controlled by the Kingdom of Monomotapa. In the beginning, the intention of Portugal was to start a profitable business, buying the cheap Zimbabwean gold. Later, "their aims have changed and it became insufficient to only buy gold. Besides controlling the whole bunch of trading flows, it was fundamental to dominate the access to the goldmines" (Maia 2015: 47). In Sofala, the Portuguese established their outpost and started settling in the Zambezi Valley, because Zambezi was the perfect path, that led them directly into the inner lands. Very soon the Portuguese started to build commercial and stock centers, among which Tete and Sena were the most influential (Issacman 1979: 1). The implementation of catholic religion in the Kingdom of Monomotapa was, however, not successful: Arabian traders, to whom the Portuguese presence in the region was a potential threat, instigated the Monomotapa regnant Negomo against Christian missionaries (Maia 2015: 49).

The establishment of a colonial regime in the Zambezi river valley is associated with the imposition of the system of *prazos*, which functioned during three centuries: from 1550 until 1850 (Isaacman 1976: 1). *Prazos* is one of the methods which the Portuguese Crown employed to ensure its presence in Northern Mozambique, particularly around in the Lower Zambezi valley. The Empire leased these territories to the settlers (mostly Indians and Portuguese) and provided them with exhaustive power to control and defend the lands. The purpose of this system was not only territorial dominance but also a guaranteed access to the sources of gold, ivory, and coil, and a possibility of enslavement of the local population. The colonists, or *prazeiros*, had almost unlimited power over the local people, and even Portuguese governmental officials could not control them totally (Serra 2000: 250-253). The local people were obligated to work for their *dono de prazo*: men hunted elephants in order to extract ivory, women and children were forced to obtain precious metal on the gold fields, and mainly everybody participated in food production to supply the whole system of *prazos* (Maia 2015: 68). Prazeiros also "made alliances with local families through the negotiation of marriages", and this, therefore, provided ground for ethnic homogeneity and balance (West 1997:

200). It is noteworthy that colonialists absorbed certain local practices, such as agricultural technologies, polygamy, and the belief in witchcraft.

The most devastating impact on social and cultural life of Nyungwes (as well as on the neighboring tribes) was caused by the intensive slave trade:

> "… Com o tráfico humano para os navios negreiros, irreparavelmente, toda a estrutura social (parentesco, religião tradicional), o sistema político (autoridades tradicionais), econômica dos povos do vale do Zambeze sofreu mudanças drásticas e profundas" (Maia 2015: 50)

Human trafficking caused demographical dislocation and desolation of the fields which led to agricultural crisis and increasing rural poverty in the valley of Zambezi (Issacman 1976: 35). Until 1850, the principal market of Zambesian slaves were Cuba, Madagascar, Zanzibar and Persian Gulf (Maia 2015: 75). The system of *prazos* was abolished in two steps through the royal decrees of 1832 and 1854, and then, trade of humans from the Zambezi valley had ceased.

Around 1830, the territories of Nyungwes were occupied by Nguni invaders, the Bantu people from the Southern African lands, speaking predominately Zulu and Ndebele languages. That was a massive *mfecane* movement of Zulu regiments, spreading from the KwaZulu-Natal region all around Southern Africa. Nguni tribes also trekked to the north, passed the Zambezi valley and stopped on the Nyassa lake (now Malawi lake). Their influx into Nyungwe territories brought certain cultural practices, such as dances, songs and masks, as well as linguistic changes and emergence of several metaphors and proverbs (Maia 2015: 91-92). This invasion, however, was short and did not intervene in the political and administrative processes of the region.

1860, Delfim José de Oliveira, Portuguese official on these lands, reports in his diary about the economical and military situation in the province of Tete. He writes, that at that time, ivory export was the primary trade in Tete (Oliveira 1860: 199), describes different ways of hunting, as well as the system of quarry share. He points out:

> "Quando escassear o morfim, ha de necessariamente começar uma vida nova, que não podera ser senão o desinvolvimento da agricultura e industria. Se Deus não mandar o contrario, cuidar-se-ha então da lavra das minas, da construcção de fabricas e engenhos; da cultura do café, canna e algodão; do fabrica do assucar, aguardente, tabaco, polvora, anil, etc." (*ibid.*: 202).

Oliveira argues that this could not be possible without proper security, so, these lands need to be protected by military forces.

Since the Berlin conference in 1884—1885, Portugal had strengthened its presence in the Zambezi river valley. Two dominant mining companies were established during that period: the Mozambique Company in 1888 and the Zambezi Company in 1892 (Maia 2015: 80). This led to the intensive industrialization of the region and draining of its natural and manpower resources without, however, any attempt to develop the region socially or culturally. Persisting practice of forced labor, together with law salaries and unbridled exploitation of human resources became a reason for several rebellions against the capitalist regime in the beginning of 20th century (*ibid*.: 81,84). The construction of the Cahora Bassa dam from 1969 to 1974 on the Zambezi river was of a great environmental and social impact: thousands of hectares of lands were flooded, the river navigation routes were cut, and 40,000 people were forced to leave their fertile lands and stay in reservations outside the Zambezi valley (*ibid*.: 114, 120).

The next crucial steps in the history of the Nyungwe people were the Mozambican War of Independence (1964—1974) and the succeeding civil war (1977—1992). As long as Cahora Bassa was of a strategically capitalist interest (primarily from South Africa and South Rhodesia), the military presence in Tete region was specifically strong. Here we are not intending to go deeply into historical details, we will just highlight several consequences of that 20-years period. The level of human losses during civil war in Mozambique reached 1 million people, 1.7 million people escaped to the foreign countries, 4.3 million people were dislocated within the country. And on top of all, many objects of social and industrial infrastructure, schools, hospitals, railroads, postal systems, irrigational systems, water wells, warehouses and official buildings were destructed or became out of order, or abandoned.

The system of *prazos* and intensive slave trade, thorough industrialization and concurrent Christianization, human exploitation and territorial expropriation, protracted armed conflicts, periods of devastation and hunger, external invasions and numerous emigration — all this led to irreversible political, social and cultural changes which influenced, in the strongest way, the systems of traditional beliefs. Of course, permanent tribal movements, together with exhaustive "portugalisation" of the region had a great impact on all the local languages, influencing the contemporary linguistic geographic situation of the region.

The historical geographical data relating to the Nyungwe habitat is summarized in the following map.
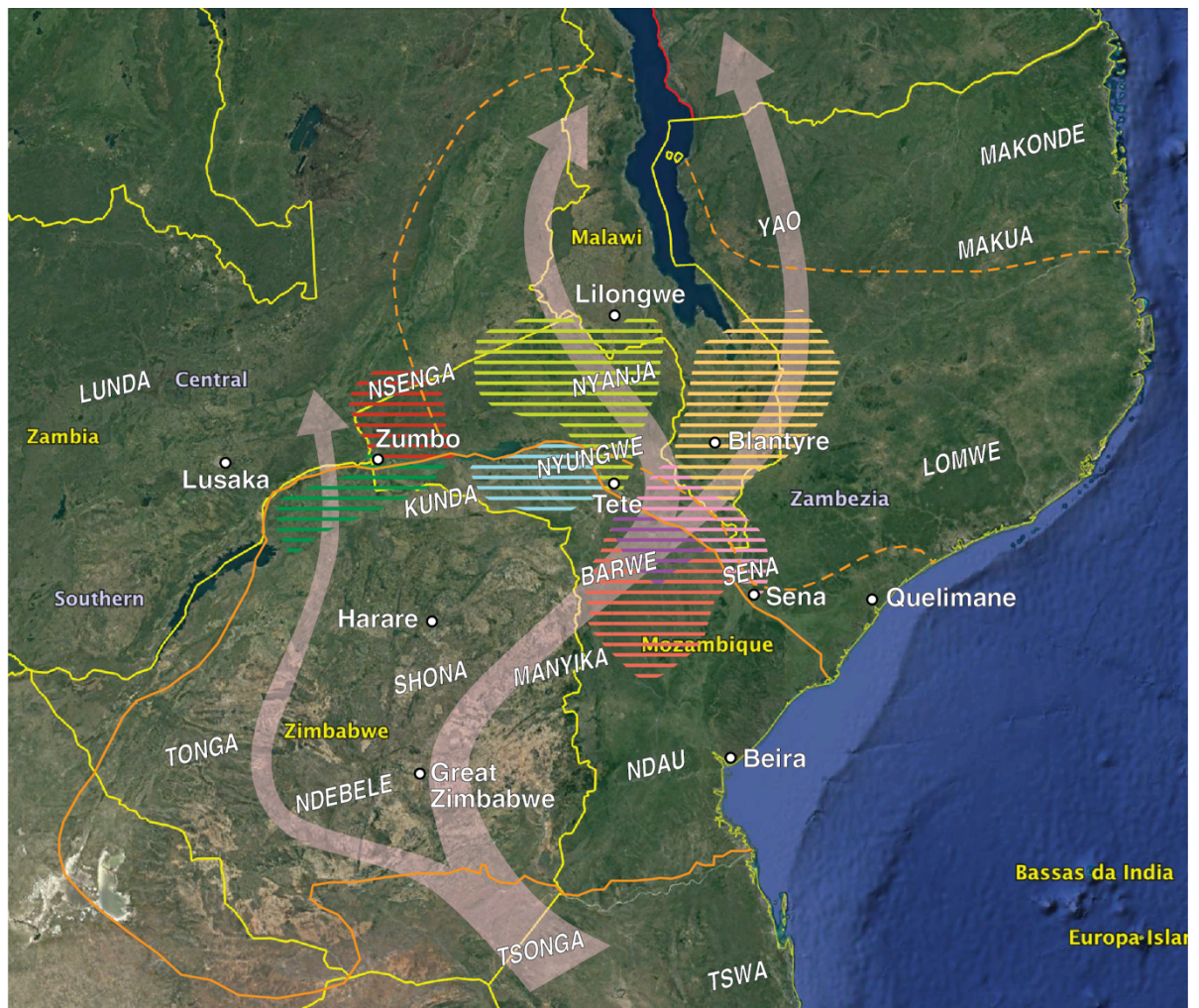
Historical states and ethnic movements in the Lower Zambezi valley and in the neighbourhoods

— Present-day state borders
— The Kingdom of Mutapa, XV century
----- The Kingdom of Maravi, c. 1650

Secondary states
Makolo
Massingire
Massangano
Gorongosa
Carazimamba
Makanga
Matakenya
Kanyemba

The *Mfecane* migrations of Jere/Ngoni people

SENA Major ethnic groups

Sources:
Pélissier 1987: 42; Maia 2015: 42—59;
McEvedy 1996: 98—99; Curtin 1978: 307;
Isaacman 1976: xv—xix;
Rita-Ferreira 1975: inserted map;
Google Earth 3D.

2.2. Nyungwe language: sociolinguistic and cultural perspective

Nyungwe is a language spoken by Nyungwe people mainly in the province of Tete, in the districts Moatize, Cahora Bassa, Changara, partially in Moravia and Manica (Ngunga and Faquir 2012: 108; Ngunga and Bavo 2011: 14). It is also reported that Nyungwe speaking communities actually exist in Malawi, Zimbabwe and Zambia (Ndapassoa 2015: 124).

The estimated number of Nyungwe speakers varies from 262,000 (Simons 2018) until 457.290 (which is about 2.9% of country population) (Instituto Nacional de Estatistica de Moçambique 2010). Another source provides slightly different data: throughout Tete and Manica districts there are about 406,200 Nyungwe speakers (Rego 2000: 52-53). The considerable difference in data can be explained by the existing ambiguity in the delineation of languages and dialects of Mozambique: there are evidences that sometimes Nyungwe speakers refer to themselves as Sena or Nyanja (Chichewa) speakers.

Nyungwe people use word *Cinyungwe* to refer to their own language. Alternative names of this language are the following: Tete, Teta, Yungwe, Nyungwa, Chinyungwi, Nyongwe, Nyúngue, Chinyúngue. The last two terms are those which appeared due to Portuguese orthography rules.

The Ethnologue (2015) provides the following genealogical classification of Nyungwe: Niger-Congo => Atlantic-Congo => Volta-Congo => Benue-Congo => Bantoid => Southern Bantoid => Narrow Bantu => Central => Zone N (Senga-Sena group). The members of this group are Nsenga, including Phimbi (N41), Kunda (N42), Nyungwe itself (N43), and Sena (N44) which is the major representative of this zone and is spoken by 1,370 thousand of people (Guthrie 1967/1971; Maho 2009: 82). All these language communities are distributed around the territories along the Zambezi river.

Within the Nyungwe language, there are no distinguishable dialectical groups (Ndapassoa 2015: 124). However, due to the great linguistic diversity in the area of Tete, the Nyungwe people demonstrate ability to speak and understand a range of neighboring languages. There is a considerable community of Nyunja (Cinyanja, Chewa, N31) speakers that includes speakers of Nguni dialect. Another neighboring community in the area is the Sena people. Nyungwe and Sena are mutually intelligible languages, before they were considered as a dialect continuum, but according to contemporary classifications, as we could see, these languages are independent of each other. Another geographical neighbors of Nyungwe are Shona, Phimbi, Barwe (Rue), Manyika, Kunda,

and Tawara languages (SIL International 2015). We suppose that direct linguistic contact exists between all these communities.

Obviously, in nowadays, Portuguese being an official language in Mozambique influences Nyungwe in the greatest extent. About 45,000 inhabitants of Tete province speaks Portuguese (Ngunga and Bavo 2011: 16). Portuguese vocabulary penetrates to all the levels of conversational practices in Tete, it fills up the conceptual lacunas or substitutes the already existing lexemes. Not only verbal and nominal lexicon suffers this interference, but also prepositions and numerals. It is broadly known that, in their daily speech, the Nyunwge people (especially those who live out of the villages, and those who live in Brasil and Portugal) tend to blend both languages easily, and switch constantly from one code to another:

> "… [H]ouve ali uma influência mútua, na interação entre portugueses e os nyungwe, assim como com outros grupos da região. Tal influência se reflete nos emprestimos linguisticos. O Nyungwe não tem problemas em fazer um shift linguistico do português para lingua Nyungwe e desta para o português. Esta habilidade não é apenas caracteristica dos nyungwe, gozam da mesma, duma forma mais abarangente, todos os grupos etnicos ali do Vale do Zambeze" (Maia 2015: 22

In the meanwhile, it was reported that in province of Tete, Portuguese is "still very little spoken": it serves as L1 only for 3% of local population, whilst 4% use it as lingua franca (Gadelii 2001: 10). There are no recent studies revealing this issue, but our informant Leila Ferreira told that most of young people now refuse to speak Nyungwe giving preference to Portuguese, as a language of prestige, and they even mock on elderly people while listening to them speaking a native tongue". The same was said by Rego: "The young urban generation of the Nyungwes only uses Nyungwe to talk to their grandparents, or while pretending jocosely caricature the situation or imitate the elders"

In Mozambique, only Portuguese is considered as an official language. The indigenous languages are recognized as cultural and educational heritage, and the state is bound to "promote their development and increasing use" (Constitution of Republic of Mozambique, articles 9 and 10). Based on the 13-grades intergenerational disruption scale, the Ethnologue estimates the status of Nyungwe as "3 — wider communication" which means that "the language is used in work and mass media without official status to transcend language differences across a region" (Ethnologue 2015).

The usage of Nyungwe in primary education still remains quite limited. All the Mozambican schools use Portuguese as a language of instruction[5]. Only three schools implement bilingual pedagogical programs in Nyungwe (Patel 2008)

Nyungwe has its entrenched orthography, the last modification was adopted in 2012 (Ngunga and Faquir 2012). The corpus of texts written in Nyungwe is relatively small and mostly, these are the episodes or full versions of several texts of the New Testament translated from Portuguese (Courtois 1987; Simon 1907; Rodrigues 1949; Ferrão 1967a, 1967b, 1971a, 1971b, 1984). However, the first book ever written exclusively in Nyungwe was not of religious character, but a collection of the Nyungwe tales called *Bzidapi na Bzindzano Bzachisendzi* (Courtois 1890). In 2014, Martins publishes his collection of Nyungwe fairy-tales, proverbs and riddles titled *Natisunge Cuma Cathu*.

In nowadays, SIL Mozambique in collaboration with the LIDEMO (Linguas de Moçambique) continue to record local folklore, and have already published several brochures for reading containing fairytales, narrations about local history and culture, riddles, puzzles, etc. (SIL and LIDEMO 2010). These two organizations also issued a variety of Bible chapters translated into Nyungwe. All these texts are available online under an open access: everyone can unrestrictedly download, copy and distribute these brochures.

There are no mass media in Nyungwe, except for the local radio in the city of Tete, which broadcasts in the native tongue.

2.3. Previous studies on Nyungwe

Nyungwe, as well as a huge number of other African languages, continues to be an under-documented: all existing grammars and dictionaries are compiled by non-professional linguists, whereas many aspects of Nyungwe still require investigation.

Bleek's (1856) comparative study provides the first overview of linguistic diversity in Mozambique and contains vocabularies of various dialects, mostly from northern and central Mozambique, including Nyungwe.

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[5] The first bilingual schools in Mozambique, as an experiment, appeared in the provinces of Tete and Gaza in 1993, and since that moment several mother-tongue based multilingual (/bilingual) education (MTB-MLE) programs were applied in 75 primary schools around the country (Patel et al. 2008). This number is still very small, taking into account that the total number of primary schools in Mozambique is more than 11 thousand (INDE 2006). MTB-MLE is "education which begins in the language which the learner speaks more fluently, and then gradually introduces other languages" (Wisbey 2016: 2)

The first attempt to elaborate grammar description of the Nyungwe language was made by the French missionary V.J. Courtois (1888). In his 166-pages work called *Elementos de Grammatica Tetense, Lingua Chi-Nyuai ou Chi-Nyungwe, Idioma Fallado no Districto de Tete*, the author provides his own orthographical system, briefly explains the phonetic aspects of Nyungwe, and dedicates much attention to morphological and syntactical issues. It should be noted that by the end of 19th century, the linguists and missionaries, who investigated Bantu languages, did not have a consensual approach to such problems as organization of nominal classes, or straight delineation between the preposition and the conjunction (e.g. Courtois 1899: 134, 136, 165), as well as between the preposition and the nominal prefix (Courtois 1888: 89, 91-94), conjunctions and adverbials (eg. Courtois 1888: 111-110; Courtois 1899: 136-137). Courtois does not delineate singular and plural classes and does not mention locatives as a part of the class paradigm, so his version of Nyungwe class system has 10 classes instead of 18 (Courtois 1888: 22; Courtois 1899: 25-26). This book also contains one chapter dedicated to the methods of grammar analysis in Nyungwe and also a short conversation guide. It also includes several sample texts of various genres: from epistolary correspondence until song lyrics, anthems, and simple poetry. In 1899, this book was reedited and supplemented with more grammar details, as well as with more texts of conversational, epistolary and literary types (Courtois 1899).

At that time, Courtois also produces two separated bilingual dictionaries:

(i) Portuguese-Nyungwe (original name is *Diccionario Portuguez-Cafre-Tetense*, 1899) with about 80 000 entries, including the Portuguese words which are no more represented in the contemporary dictionaries;

(ii) Nyungwe-Portuguese (original name is *Diccionario Cafre-Tetense-Portugues*, 1900) with approximately 11 000 entries.

Also in 1900, these two dictionaries were issued under the same cover. There is one available exemplar of this edition in Portuguese National Library in Lisboa.

In 1904, Mohl prepares a brief grammar description of Nyungwe called *Praktische Grammatik der Bantu-Sprache von Tete, einem Dialekt des Unter-Sambesi mit Varianten der Sena-Sprache*. Later, Simon compiles another Nyungwe grammar sketch (1908) and translates catechism for this language (1907). In 1970, Ferrão writes a book of Nyungwe grammar and a manual for progressive study of the languages. However, both pieces were not published. The most contemporary, but not exhaustive grammar, was composed by Martins (1991) together with Nyungwe-Portuguese-Nyungwe dictionary. For this

moment, this is the most accessible grammar of Nyunwge language throught Portuguese and Mozambican libraries.

In order to standardize orthography in Nyungwe (as well as in another Mozambican languages) three sequential proposals were provided (Filmão and Heins 1989; Sitoe and Ngunga 2000; Ngunga and Faquir 2012). The 2012 proposal is widely accepted around linguists and speakers of Nyungwe.

In 2000, Rego makes a study about borrowed words in Nyungwe. His work includes a glossary of loanwords with around 1500 entries. In 2012, he defends his PhD dissertation dedicated to the systemic-functional description of mood in Nyungwe. In 2018, Crisofia Langa, in her PhD project, applies a minimalist theoretical framework to the study of verbal extensions in Nyungwe.

2.4. Some elements of Nyungwe grammar

Here we will present a brief Nyungwe grammar sketch. We are not going deeply into details, because our purpose is only to provide necessary information for the interpretation of the glosses in the examples in the Chapter 3. Further details can be consulted in *Elementos da língua Nyungwe* by Martins (1991).

Syllable structure

From the phonetic perspective, Nyungwe demonstrates the following possible structures of syllable: CV[6] as in *kaluma* 'hot'; NCV as in *mbiti* 'otter'; NGV as in *mwana* 'son'; NCGV as in *mbwaya* 'dog'; GV as in *kuyamba* 'to begin'. Nyungwe is not a tonal language, tone does not serve for meaning distinction. However, Martins reports that for few words, prosody can change meaning (*ibid.*: 25).

Word classes

One of the most fundamental characteristics of Bantu languages is the system of word classes. It was examined in numerous studies across many languages of this family (Bleek 1869; Meinhof 1906; Guthrie 1967; etc.). Various languages can have 10 to 20 word classes.

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[6] C – consonant, V – vowel, G – glide, N – nasal.

Nyungwe has 14 classes (7 singular classes and corresponding to them 7 plural ones), one class of imperative, and three locative classes, or circumstantial, according to Martins' (1991: 27) terminology. Nouns are organized in classes according to their prefixes and/or agreement patterns. Prefixes can obtain allomorphic forms or even be expressed with zero marking, so in this case we identify the class affiliation through the determiners which necessarily exhibit class agreement.

The system of word classes can be summarized in the following table (adopted from Martins 1991: 28):

Cl.	Prefix	Example	Cl.	Prefix	Example
Nominal classes					
1	mu-	*munthu mkulu-wense mubodzi* 'one very old person'	2	wa-	*wanthu wakulu-zense wawiri* 'two very old persons'
3	u-	*muti ufupi ubodzi* 'one low tree'	4	mi-	*miti mifupi miwiri* 'two low trees'
5	i-	*ømbwaya ikali ibodzi* 'one wild dog'	6	zi-	*ømbwaya zikali ziwiri* 'two wild dogs'
7	ci-	*cinthu cikulu cibodzi* 'one big thing'	8	bzi-	*bzinthu bzikulu bziwiri* 'two big things'
9	li-	*lirime linesi libodzi* 'one difficult language'	10	ma-	*malirime manesi mawiri* 'two difficult languages'
11	bu-	*uswa buwisi bunghono* 'little of green grass'	12	ma-	*mauswa mazisi mazinji* 'much of green grasses'
13	ka-	*katiyo kanghono kabodzi* 'one little chick'	14	tu-	*tutiyo tunghono tuwiri* 'two chicks'
Class of infinitives					
15	ku-	*kufamba* 'to walk			
Locative classes					
16	pa-	*pa mpando pace* 'in his throne'			
17	ku-	*ku mui kwangu* 'at my home'			
18	mu-	*mu nyumba muno* 'inside this house'			

Noun distribution within classes 1—14 is based on their key semantic characteristics. For instance, the class 1 is compiled of the nouns with general meaning 'person', so kinship terms, professions, human qualities are gathered under this class: *muyeruzi* 'adviser', *muledzeri* 'drunk', and *mulimi* 'farmer'. Respectively, the plural forms are as the following: *wayeruzi*, *waledzeri*, *walimi* — and they fall into the class 2.

Let's consider the classes 11 and 12 *bu-/ma-* which are are composed of the words with general meaning of 'abstract entity' or 'multiple homogeneous things'. In English these are typically uncountable nouns, and in Nyunwge most of them are *singulare*

tantum: **u**swa/**ma**uswa 'grass/grasses', **u**lendo 'travel' (ST), **u**xamwali 'friendship' (ST), **bozo** 'pulp of baobab fruit' (ST), etc.

Prefixes in Nyungwe frequently appear as allomorphs. Compare the words within the class 1: **mu**nthu 'person, **m**tsikana 'girl', **ø**nyuambzimbwa 'suspicious'; or within the class 9: **li**kole 'veranda', **di**so 'eye', **da**si 'the beginning of the process of food getting bad', **ø**tsamba 'letter, leave':

It is possible to derive new nouns through alternating class prefixes preserving the same root (sometimes may be with additional affixes). Compare: **ku**<u>lima</u> 'cultivate fields' (class 15), **mu**<u>limi</u> 'farmer' (class 1), **ø**nyaku<u>lima</u> 'the one who cultivates the fields, agricultor', **u**<u>limi</u> 'agriculture' (class 11), **ca**ku<u>limi</u>ra 'agricultural instrument' (class 7), **ma**<u>limi</u>dwe 'the certain way of cultivation' (class 10), **ci**<u>rimo</u> 'time to prepare the fileds' (class 7) (*ibid.*: 107).

Agreement

Agreement is an essential part of Nyungwe grammar: personal, demonstrative, possessive, indefinite, and relative pronouns, cardinal and ordinal numerals, as well as subject and object markers in verbs must concord with a given noun class through the class prefixes:

Katiyo kano kabwino ni ka mulimu.
ka-tiyo	**ka**-no	**ka**-bwino	ni	**ka**	**mu**-limu
CL13-chick	CL13-this	CL13-good	COP	CL13.POSS(of)	CL1-farmer

'This good chick is of (the) farmer'.

Nyoka zinomwe zikulu zipswipa zikhali apo
ø-nyoka	**zi**-nomwe	**zi**-kulu	**zi**-pswipa	**zi**-khal-i	apo
CL6-snake	CL6-seven	CL6-big	CL6-black	SM.CL6-live-IND	there

'Seven big black snakes live there'.

Wanthu waliwentse wa dziko wanifamba ku Nyungwe.
wa-nthu	**wali**-wentse	**wa**-nzeru	**wa**	**ø**-dziko	**wa**-wereng-a
CL1-man	CL1-all	CL1-intelligent	CL1.POSS(of)	CL9-land	SM.CL1-read-IND

'All the smart people of (the) land (are able to) read'.

Table 9 summaries the data on class agreement in Nyungwe.

Agreement in Nyungwe (adopting Martins 1991, Courtois 1900)

Number	Person	Class	Example of a noun	Personal pronoun	SM	OM	Number ('one'/'two')	Adjective ('good')	Possession ('... of the king')	PSSD	PSSR	this here	this	that here	that far
Singular	1	—	—	ine	ndi-	-ndi-	—	—	—	—	-ngu	—	—	—	—
	2	—	—	iwe	u-	-u-	—	—	—	—	-ko	—	—	—	—
	3	mu	munthu	iye	a-	-mu-	m'bodzi	wabwino	wa mambo	wa-	-ce	uno	uyu	uyo	ule
		u	muti	iwo	u-	-u-	ubodzi	wabwino	wa mambo	wa-	-yene	uno	uyu	uyo	ule
		i	nyumba	iyo	i-	-i-	ibodzi	yabwino	ya mambo	ya-	-yene	ino	iyi	iyo	ire
		ci	cinthu	ico	ci-	-ci-	cibodzi	cabwino	ca mambo	ca-	-cene	cino	ici	ico	cire
		li	lirime	iro	li-	-li-	libodzi	labwino	la mambo	la-	-lene	lino	iri	iro	lire
		bu	uswa	ibo	bu-	-bu-	bubodzi	bwabwino	bwa mambo	bwa-	-bwene	buno	ubu	ubo	bule
		ka	katiyo	iko	ka-	-ka-	kabodzi	kabwino	ka mambo	ka-	-kene	kano	aka	ako	kale
Plural	1	—	—	ife	ti-	-ti-	—	—	—	—	-thu	—	—	—	—
	2	—	—	imwe	mu-	-mu-	—	—	—	—	-nu	—	—	—	—
	3	wa	wanthu	iwo	wa-	-wa-	wawiri	wabwino	wa mambo	wa-	-wo	wano	awa	awo	wale
		mi	miti	iyo	i-	-i-	miwiri	yabwino	ya mambo	ya-	-yene	ino	iyi	iyo	ire
		zi	nyumba	izi	zi-	-zi-	ziwiri	zabwino	za mambo	za-	-zene	zino	izi	izo	zire
		bzi	bzinthu	ibi	bzi-	-bzi-	bziwiri	bzabwino	bza mambo	bza-	-bzene	nzino	ibzi	ibzo	bzire
		ma	malirime	iyo	ya-	-ya-	mawiri	yabwino	ya mambo	ya-	-yene	yano	aya	ayo	yale
		tu	tutiyo	ito	tu-	-tu-	tawiri	twabwino	twa mambo	twa-	-twene	tuno	utu	uto	tule
		ma	matiyo	iyo	ya-	-ya-	mawiri	yabwino	ya mambo	ya-	-yene	yano	aya	ayo	yale
Locative	pa	pa	pa nyumba ('near [the] house')	ipo ('near/next to him/her/it')	pa-	pa-	pabodzi/pawiri	pabwino	pa mambo	pa-	-pene	pano	apa	apo	pale
	ku	ku	ku dzulo ('[far] in the sky, on the top')	iko ('far from him/her/it')	ku-	ku-	kubodzi/kuwiri	kwabwino	kwa mambo	kwa-	-kwene	kunu	uku	uko	kule
	mu	mu	mu nyumba ('inside [the] house')	imo ('in/inside him/her/it')	mu-	mu-	mubodzi/muwiri	mwabwino	mwa mambo	mwa-	-mwene	muno	umu	umo	mule

Locative classes

Locative classes is a distinctive feature of the Bantu grammars. In Nyungwe, locative prefixes *pa-*, *ku-* and *mu-* correspond to the classes 16, 17, 18 respectively. They are originated from PB roots *pa-*, *ku-*, *mu-*. These markers serve to construct prepositional phrases, covering a wide range of semantic relations such as location and movement in space and time, purpose, origin, receiving, etc.

Class 16 usually indicates an adessive relation, close relative proximity, or contact. It can be used to mark specific or general locations: *pa nyumba* 'at home', *pa mpando* 'on the chair', *pa nyengo ya* 'at the time of…', *pa kutca* 'during harvest', etc.

Class 17 is semantically less specific, it signals relations of larger distances and amplitudes, and it is applicable both to location and motion in space. Context is always required in order to define the proper meaning: *ku xikola* 'from school' or 'to school', *kwangu* 'at my place', *kudzulu* 'on the sky' or 'from the sky' or 'to the sky', etc.

Class 18 bears an innesive meaning and expresses placement of an object within 'container', or interiority: *mu nyumba* 'in(side) the house', *m'munda* 'on/around the field'.

Locative prefixes in Nyungwe can merge with demonstrative particles to produce demonstrative pronouns and some adverbials of place and time, for example:

pano 'here' = *pa* 'locative' + *no* 'demonstrative, proximity';

pale 'there' = *pa* 'locative' + *le* 'demonstrative, distance';

kule 'towards there', 'from there', etc. = *ku* 'locative' + *le* 'demonstrative, distance' (*ibid.*: 48).

Elements of verbal morphology

Nyungwe is an agglutinative language, and this feature clearly appears in the verb structure. The verb attaches a number of affixes to its stem in the following order: subject marker + TAM + object marker + verb stem + extensions. Subject marker must concord with the matching noun class, for example: ***mu**ti **u**dagwa* 'a tree has fallen' (class 3), ***mw**ana **a**dagwa* 'a child has fallen' (class 1), ***bzi**nthu **bzi**dagwa* 'the things have fallen' (class 8).

The object marker also must concord with the class of the object, for example: *ndida**mu**thandiza* 'I helped **him**', *tin'**pa**funa pano* 'we like **this** place/**here**' (*ibid.*: 39, 42).

Tense and aspect

Here is the list of tense-aspect markers in Nyungwe (adopted from *ibid*.: 68-73):

TA marker	Temporal semantics	Aspectual semantics	Example
-ni-	present	cursive	*ndi**ni**famba* 'I walk'
-li ku-	present	progressive	*ndi**li ku**famba* 'I am walking'
-nku-	present	progressive	*ndi**nku**famba* 'I'm walking'
-a-	past recent	perfective	*nd**a**famba* 'I walked now'
-da-	past	perfective	*ndi**da**famba* 'I have walked'
-kha-	past	imperfective	*ndi**kha**famba* 'I was walking'
-khada-	past	pluperfect	*ndi**khada**famba* 'I was walking'
-ata-		sequential	*nd**ata**famba* 'after I walked'
-nidza-	future		*ndi**nidza**famba* 'I will walk'
-kada-	past	continuative	*ndi**kada**famba* 'I'm still walking'
-ci-		sequential	*ndi**ci**famba* 'then I walked'
-ka-		simultaneous	*ndi**ka**famba* 'while I walk'
-nga-		simultaneous	*ndi**nga**famba* 'while I walk'
-mba-		habitual	*ndi**mba**famba* 'usually I walk'
-baka-		simultaneous	*ndi**baka**famba* 'when I walk'

Verbal extensions

Verbal extensions serve to modify primary meaning of the verb or to produce new verbal forms (adopted from *ibid*.: 94-98):

Extension	Meaning	Example
-na	reciprocate	*kufuna**na** 'to love mutually'
-edwa/-idwa	passive	*kutenth**edwa** 'to be burnt'
-eka/-ika	mediopassive	*kufung**ika** 'to close by itslef'
-era/-ira	relative	*ndamudy**era** 'I eat from him'
-erera/ -irira	continuative	*adalemw**erera** 'he continued to get worse'
-eratu/ -iratu	completely, immediately	*adathaw**iratu** 'he ran away immediately'
-esa/-isa	causative or intensive	*ndathamang**isa** 'I ran a lot'
-mbo	also	*ndabwera**mbo** 'I also came'
-di/-bve	truly	*ndabonera**di** 'I suffered really'

Word order

The basic word order in Nyungwe is subject—verb—object.

Chapter 3. Representation and conceptualization and of time in Nyungwe

3.1. Time representations in Nyungwe

As we discussed in Chapter 1, time is a universal category of human thinking and cognition. Cross-culturally, this dimension can be conceptualized in many different ways due to the different qualities of temporal experience. Despite the diversity of temporal models, all the people are aware of the change between day and night, or between winter and summer. These natural changes, as well as the rhythms of cultural activities, constitute the experience of flowing time. The landmarks of time — parts of the day, seasons, years, etc. — must be somehow classified and labeled, so languages build the vocabulary of temporal terms and expressions, *i.e.* the lexical representations that belong to the domain of time.

Soga (2006) while analyzing representations of time among Gabra Miigo pastoralists in Southern Ethiopia classifies them in three groups: (i) based on natural changes, such as terms for the parts of the day and seasons, (ii) based on cultural symbols, and (iii) based on social matters. In this chapter, we will examine how these three types of time representations are realized in Nyungwe.

3.1.1. Representation of temporal events based on natural changes

Across human languages, a significant part of temporal vocabulary consists of the words and expressions required to designate events based on natural changes. Earth's rotation around its axis brings the delineation between the bright and dark parts of the day, and spinning around the Sun determines the occurrence of seasons. These facts of reality are mapped in language. Nyungwe has extensive terminology to refer to the parts of the day, seasons, and months.

3.1.1.1. How to say 'time' in Nyungwe

First of all, let's observe how the general notion of time is lexicalized in Nyungwe. There are four words which can be translated as 'time' into English:

<u>Nyengo</u>

This noun of the class 5 means 'time', 'occasion', 'event', 'period', 'season'. *Nyengo* is a common resource to produce temporal terminology: *nyengo ya nkhuya* 'season of figs', *nyengo ya mphepo* 'cold time, winter', *nyengo ya mainza* 'rainy season, cold season, winter', *nyengo yense* 'always' (lit. 'all the times'), *bzinyengo* 'a lot of time' (lit. 'the times, the periods'), *nyengoletu* 'temporal', etc. Consider the following expression where *nyengo* is used in its primary meaning:

(1.1)   *Sindinidziwa nanyu kupinza nyengo* (Courtois 1900: 201)
    Si-ndi-ni-dziw-a   *na-nyu*   *ku-pit-is-a*   *ø-nyengo*
    NEG-SM.1SG-PRS-know-IND   with-what   INF-pass-PASS-FV   CL5-time
    lit. 'I don't know with what (= what to dress) to make time to pass'

(1.2)   *Ndinigawa nyengo* (Courtois 1900: 202)
    ndi-ni-gaw-a   *ø-nyengo*
    SM.1SG-PRS-split-IND   cl5-time
    'I divide (my) time'

Nyungwe frequently uses the term *nyengo* to introduce the notion of seasons and months. It will be spoken more specifically about this cases in the Section 3.1.1.3.

<u>Nthawe</u>

This noun also belongs to the class 5 and means 'time', 'season', 'period', 'epoch'. Some informants highlighted that this is not an original Nyungwe word and that it comes from Shona or Nyanja. In fact, we can find the lexeme *nthawi* 'time' in both of these languages. In Nyungwe, a number of expressions include this term in an extensive scope of its meanings:

(2.2)   *nthawe itali kwene-kwene* (Luka 20:47)
    very long time

(2.3)   *nthawe ibodzi-bodziyo*
    once (lit. 'time one-one exactly')

(2.4)   *panthawe imweyo*
    at those times

(2.5)   *nthawe yakubvuna yakwana*
    harvest time (season) arrived

(2.6)   *nthawe ya mapita-nkhuku*
    late afternoon, evening (lit. 'hour of passing-chicken')

(2.7)   ***Panthawe ibodzi-bodziyo*** *mapere yace yadamala* (Maliko 1:42)
        Immediately (in that very moment) the leprosy left him.

Nthawe is also used to indicate the notion of 'hour' in Nyungwe. In fact, the concept of hour emerged in his culture with the process of colonization when the local population was forced to work a certain amount of time which is measured in hours. The Portuguese borrowing *ora* (< 'hora') became quite widespread around the languages of Mozambique, but despite this fact, Nyungwe also actively uses *nthawe* to refer to the same concept. This will be considered in detail in the Section 3.1.2.1.

Nsiku

This noun (class 5) has at least three meanings: a) a period of twenty-four hours as a unit of time; b) the time between sunrise and sunset, as opposed to night, daylight; and c) an event, occasion, or period experienced in a particular way, 'some days', 'times' in general. The point of our interest is the third meaning. In many languages, the word for 'day' can also refer to 'time period, times, epoch' or 'time' in general. But this usage is very restricted. For example, one can say 'time is over' but 'days are over' does not mean the same. Now consider the example from Nyungwe:

(3.1)   *Nsiku zimbuluka* (LS, 2018-07-27)
        ø-nsiku   zi-mbuluk-a
        CL6-day   SM.CL6-fly-IND
        'Time flies' (lit. 'days fly').

(3.2)   *Nsiku zakamala* (LF, 2017-12-27)
        ø-nsiku   za-ka-mal-a
        CL6-day   SM.CL6-MOV-finish-IND
        'Time is over' (lit. 'days have finished').

(3.3)   *Ikapita nsiku nkhani yathu in'khala bwino-bwino* (LF, 2018-04-22)

        i-ka-pit-a   *ø-nsiku*
        SM.CL5-MOV-pass-IND   CL5-day
        ø-nkhani   *ya-thu*   *i-n'-khal-a*   *bwino-bwino*
        CL5-conversation   CL5-POSS.our   SM.CL5-PRS-be-IND   good-good

        'Over time, our conversation becomes more interesting'
        (lit. 'day is passing, our talking is good-good')

It does not seem typical for Bantu languages to use the derivatives of **cíkù* (from which *nsiku* is derived) to indicate the notion of general, abstract time: across the family,

derivatives of *cíkù* are used to refer to day or night (see the Section 3.1.1.2). In contrast, in Nyungwe the word *nsiku* also embraces the notion of time as the indefinite continued progress of existence and events, as well as time as allotted, available, or used:

(3.4)   *Palibe nsiku* (LF, 2017-12-27)
        'There is no time' (lit. 'there are no days').

(3.5)   *Iye ambacita lini nsiku yabwino* (LF, 2017-12-27)
        'He doesn't use his time well' (port. 'Ele não aproveita o seu tempo')
        (lit. 'he does not make (the) days well')

(3.6)   *Tina nsiku zinghono-ngono*
        'I have little time' (lit. 'I have few days')

In Nyungwe, *nsiku* is the only appropriate term to count days, both within and without the calendar. In this sense, *nsiku* is used with the locative prefix *pa-* (this is a typical case of temporal location marking, its implementation will be discussed in the Section 3.3.1):

(3.6)   *Pansiku 21 za mwezi wacitanthatu gole 2001*
        'On the day 21st of June, 2001'

The word *nsiku*, as a term referring to the bright part of the day, will be discussed with more details in the Section 3.1.1.2.

Tempo
        This is a borrowed word from Portuguese which some speakers use because it can better represent the general notion of time as an abstract category, and it can be frequent in the contexts where time is considered as commodity (4.1). The idea of time as 'paradigm of living, the way of life, fashion', time as something deciduous, always changing, can be preferably expressed in Nyungwe through the word *tempo* (4.2):

(4.1)   *Ndiri kuperderi tempo* (LF, 2017-12-27).
        'I am loosing time' (Port. 'estou a perder tempo').

(4.2)   *Babangu ali ku mbuyo ya tempo* (IM, 2018-02-22).
        My father doesn't keep up with the times.

3.1.1.2. Parts of the day

<u>Expressions with *dzuwa*</u>

Historically, many indigenous societies did not have the time reckoning tools typical for the western culture, therefore, Sun movement and its position on the sky played an important role for orientation in time. The word for 'Sun' in Nyunwge is *dzuwa*. In PB dictionary it can be found as **júbà*[7], a noun of 9 class, derivations of which appeared in many contemporary Bantu languages in quite similar forms: *jua*[8] (Swahili), *dyuba* (Ciluba), *juwa* (Sena). In Shona, the language which historically influenced Nyungwe in a greater degree, the same lexical unit (*zuva*) refers to a wide range of similar phenomena: 'daylight', 'period between sunrise and sunset', 'light', 'sun', 'time', etc. A range of languages employs derivatives of **júbà* to convey notion of day and daylight, but within this research, no examples of this usage of *dzuwa* in Nyungwe was found. The primary meaning remains to be 'sun':

(1.1)   *Dzuwa likhatenthesa phula*
        The sun thawed wax

(1.2)   *Dzuwa liri kucoka*
        On the sunrise (lit. 'the sun is coming out' but also can be interpreted as 'the light is coming out')

The position of the sun is determinant for temporal orientation. Nyungwe has an extensive vocabulary of temporal expressions with *dzuwa*. Syntactically, these expressions are independent clauses in which the word *dzuwa* has a function of a subject that can be combined with various predicates, which are expressed either by a verb or by an ideophone. Let's first consider the clauses with the verb (1.3—1.10):

(1.3)   *dzuwa lacoka* 'the sun appeared', 'the sun came out'

(1.4)   *dzuwa lapsa* 'it is already hot', lit. 'the sun has burnt'

(1.5)   *dzuwa lakwira* 'the sun is overhead', lit. 'the sun has climbed'

(1.6)   *dzuwa lapepa* 'the sun has become softer'

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[7] Hereafter, the PB roots will be taken from the Bantu Lexical Reconstruction database accessible on the website of the Africa Museum (Tervuren, Belgium) http://www.africamuseum.be/en/research/discover/human_sciences/culture_society/blr/any_lexicon_dictionary

[8] Hereafter, the translations for the Bantu languages will be taken from the corresponding dictionaries mentioned in the references.

(1.7)   *dzuwa layenda* 'the sun has left'

(1.8)   *dzuwa lathetha* 'the sun slowed down'

(1.9)   *dzuwa lamira* 'the sun disappeared' (lit. 'the sun has dived')

(1.10) *dzuwa ladoka* 'the sun disappeared' (lit. 'the sun has made darkness')

In all these examples, the verb appears in the recent past tense. The phonological feature of this tense is that the subject marker of the class 9 *li-* merges with the temporal prefix *-a-*, so we have *lacoka* and *lamira* instead of **liacoka* and **liamira*. The recent past tense refers to the action finished right before or relatively recently with regard to the moment of speech. It differs from the past perfect tense (prefix *-da-*) which also denotes the completed action, but with no deictic anchoring to the moment of speech:

(1.11) *Pomwe dzuwa lidakwira, [mbeu] idapsa iciuma…* (Maliko 4:6)
        But when the sun came up, the plants were scorched
        lit. 'when the sun has climbed, the seed burnt and dried'

Another way to provide temporal marking with *dzuwa* is by using present continuous form of the verb: the auxiliary verb *kuli* 'to be' concords with the subject and accompanies the main verb in infinitive. This pattern appears in the range of expressions, e.g. *dzuwa liri kudoka* 'the sun is making darkness' or *duzwa liri kumira* 'the sun is diving' (1.12).

(1.12) *dzuwa liri kumira* (LS, 2018-08-15)
        ø-dzuwa   *li-ri*   *ku-mir-a*
        CL9-sun   SM.CL9-aux.be   INF-dive-FV
        'the sun is disappearing'

As follows from (1.13), the temporal expression behaves as an independent clause, hence, two actions: *wadayenda kuthenje* 'they went to the cemetery' and *dzuwa liri kucoka* 'sun us coming out' — appear as a sequence of events. We will see further, especially in the section dedicated to the semantic function of sequential location (3.3.2), that in contrast to English or Portuguese, where the temporal adverbial serves as a verb's compliment, Nyungwe tends to leave the temporal marker out of the main clause. The example in (1.14) is even more illustrative: the sentence is constructed of two clauses — the first one describes an action, the second one encodes temporal indication:

(1.13) *Macibese-bese pa ntsiku ya mdzinga, wadayenda kuthenje, **dzuwa liri kucoka***

(Maliko 16: 2)
 'Very early on the first day of the week, just after sunrise, they were on their way to the tomb' (lit. 'Early in the morning, on the seventh day, they went to the cemetery, **sun is coming out'**)

(1.14) *Tinifika ku Bompona, **dzuwa ladoka*** (Courtois 1890: 187)
 'We arrived to Massangano **on the sunset**' (lit. 'we arrived, sun made darkness')

As it was mentioned before, in Nyungwe, *dzuwa* can also combine with the predicate expressed by an ideophone. The subject complement can be linked either with the verb *kuli* 'to be' (1.15, 1.16) or with no copula or verb at all (1.17).

(1.15) *dzuwa liri bvaa*
 'the sun is appearing too strongly' (lit. 'the sun is *bvaa*')

(1.16) *dzuwa liri pswi*
 'the sun is disappearing' (lit. 'the sun is *pswi*')

(1.17) *dzuwa psu*
 'the sun is red on the horizon'

Ideophones phonetically, in a vivid manner, encapsulate certain notion about perceptions and sensations, so, they are difficult to be translated word by word. The above itemized ideophones bear the following meanings: *bvaa* 'the way of the sun appearance with too much light, instantly, with power', *pswi* 'something black appears; everything disappears'; *psu* 'something red appears'. Further we will examine more ideophones that assume the function of temporal marking.

<u>Day</u>

The term *nsiku* (class 3), as it was mentioned before, designates 'day' in both meanings: '24-hours period' and 'time from sunrise until sunset'. This lexeme originates from PB root **cíkù* or **tíkù* which historically meant both 'day of 24 hours' and 'night'. Supposedly, ancient bantu people, in order to orientate in time, counted nights instead of days. The widespread usage of **júbà* as a term referring to the bright part of the day in other languages indirectly confirms this suggetion, but this requires more profound research.

Anyway, it happened that in Nyungwe **tíkù* developed into terms for day and night: *nsiku* and *usiku*. The following examples give some idea on the usage of the word *nsiku*:

(2.1)   *nsiku iri kuyamba*
    'the day is starting'

(2.2)   *nsiku inango, pa nsiku inango*
    'once' (lit. '(in) some day')

(2.3)   *nsiku ya cinai*
    '(on) the forth day' (sometimes is translated as 'Thursday')

(2.4)   *nsiku ya kupuma*
    'day of rest, holiday'

Nyungwe uses the term *nsiku* to create a massive range of temporal expressions referring to culturally or socially constructed concepts such as the names of the weekdays and the names for the holidays (this will be observed in the Section 3.1.2). Moreover, the same term serves to generate adverbials of frequency degree, for example, expressions such as *nsiku-nsiku*, *nsiku zinango*, and *nsikuzo*[9] which convey the meaning of 'seldom', and *nsiku zense* which signifies 'always'.

Night

As it was already raised up, Nyungwe term for night is *usiku*, and it also arises from the PB root **tíkù*. It is the case of many Central and Eastern Bantu languages when the terms for 'day' and 'night' arise from the same root. Consider the following examples:

(3.1)   *Bukhali usiku*
    'It was night'

(3.2)   *Ifepano kuphata basa usiku bwense* (Luka 5:5)
    'We have been working all the night'

Within Bantu languages, one of the mechanisms to derive new meanings from the already existing roots is the lexical reduplication. With regard to the domain of time, Nyungwe applies reduplication, however very randomly, to indicate the intensity of the temporal event. So, if *usiku* is 'night', *usiku-siku* means 'deep night'. Below we will consider another example of reduplication: *macibese* 'morning' and *macibese-bese* 'dawn, daybreak'.

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[9] Hereafter, the translations from Nyungwe will be taken from Martins 1991 and Courtois 1990.

The term for 'midnight' is *kati ya usiku* which literally means 'half of the night'. In the context, one can find this term in adjunction with the locative prefix *pa-*, thus the expression 'at the midnight' can be glossed as 'at-half at night':

(3.3)   *Adabwera **pakati pa usiku*** (SIL, 2010e: 10)
        '(He) arrived **at the midnight**'.

Sunrise and morning

Macibese is the most common term to nominate the part of the day between sunset and noon, the morning. This word gives rise to a range of related terms such as *macibese-bese* which is used to indicate the early morning as well as to greet an interlocutor during the first half of the day. As we can see, reduplication in this expression operates to intensify the meaning of the main root. Let's consider several examples with these lexemes:

(4.1)   *Tidamenyana lero **macibese*** (Ngunga et al. 2012:113)
        'We fight today in the **morning**'.

(4.2)   *Mamangu ambalamuka **macibese-bese*** (IM, 2018-02-22)
        'My mother wakes up **early**'.

(4.3)   *Kwa imwe mwentse tirikuti **macibese ya bwino*** (Rego 2012: 222)
        'To all of you we wish **good morning**'

The root *-bese* also serves to produce verbs carrying the meaning 'to wake up/get up early' (Port. 'madrugar'): *kubesera*[10] and *kubesereka* (4.4). The element *bese* also appears in Nyungwe as an ideophone, and it holds the similar meaning 'to wake up early', 'to be at dawn', 'to be early' (3.5):

(4.4)   *Dzulo **adabesera** ku basa*
        'Yesterday he **woke up** with the sunrise to go to work' (Martins 1991: 146)

(4.5)   *Iye wadya **bese*** (Martins 1991: 146)
        'He wakes up **early**' (lit. 'he eats *bese*')

There are other ways in Nyungwe to refer to the time of sunrise, for example through the root *-cena* meaning 'white'. This component can be manifested through the various grammatical categories. Let's have a look at the following expressions:

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[10] Martins (1991: 145) also mentions another meaning of *kubesera* which is 'to offer presents in order to get favor at the trail'.

(4.6) *ku-cen-a*
       INF-white-FV
       lit. 'to get/become white'

(4.8) *ku-pa-cen-a*
       INF-CL16.LOC-white-FV
        lit. 'to be located in white'

(4.7) *ku-wa-cen-a*
       CL17-POSS-white-FV
       LIT. 'near white'

(4.9) *kwa-cen-era-tu*
       CL16.LOC-white-IMM
       lit. 'at getting white immediately, instantly'

All these expressions are synonymous and can be mutually substituted. In the phrases (4.10-11), the temporal marker in infinitive *kucena* can be replaced by one of the locative constructions: *kwacena, kupacena, kuwacena* — while the syntactic form of the sentence continues to be the same.

(4.10) *Kukayamba kucena congwe ambalira* (LF, 2017-12-15)
        ku-ka-yamba   *ku-cen-a*   *ø-congwe*   *a-mba-lir-a*
        INF-SIM.while-start   INF-white-FW   CL1-rooster   SM.CL1-HAB-sing-FW
        'On the sunrise, the rooster sings'

(4.11) *Kucena Zuze adayamba kuphata basa*
        'At the sunrise Jose started to work'.

Speakers do not recognize any semantic differences between (4.6-4.9) in this set of expressions. However, the word *kwaceneratu* makes a particular interest because it carries an additional meaning of immediate, completed action manifested through the verbal suffix *-eratu*. Basically, the expression *kwaceneratu* can be translated 'it is already light', in other words, the time of sunrise is represented not as a process, but as a completed action.

Many languages possess expressions sort of 'rooster crows' to refer to the daybreak. Some expressions of this type were found in Nyungwe: *congwe m'bodzi* ('one rooster'), *(pa) kuphata congwe* (lit. 'at to-grab rooster'), *pa kulira kwa congwe* (lit. 'at to-sing of rooster'), *congwe wakuyamba* (lit. 'rooster begins'), *kokoriko* ('cook-a-doodle-doo').

(4.12) *penu ni maulo, penu ni pakati pausiku, penu **ni congwe wakuyamba**,*
        ayai madandakweca (Maliko 13:35)

'at even, or at midnight, or at the cockcrowing (lit. 'it is a rooster starts'), or in the morning'

Another word to say 'morning' in Nyungwe is *madandakweca*. In contrast with more common term *macibese*, this one can attach a locative prefix as in (4.13).

(4.13) *Iwo adayenda kuthenje **kumadandakweca*** (Luka 24:22)
They went to the cemetery **with the sunrise** (lit. 'near sunrise').

Expression *muli kungwerera* also serves to convey the idea 'it's dawn' or 'it becomes bright' in the case when, say, somebody opens a window or a door, and light enters the room. The core of this temporal marker is the root *-ngwerera*, which may be partly reduplicated as *-ngwerewera* 'to become bright', or may be complemented with a causative suffix to get *-ngwerewesa*, or it simply can occur as an ideophone: *ngwe*, *ngwere*, *ngwerewere* 'it's getting bright/light'. Coming back to *muli kungwerera*, this phrase can better be interpreted as a verb in present continuous form. *Kungwerera* performs an infinitive form bearing the semantic function, while the word *muli* acts as an auxiliary verb (*kuli* 'to be') which contains information about subject of the action and, if necessary, temporal and aspectual specifiers. In this case, there is only the subject marker attached to the root. An interesting Nyungwe particularity occurs here: the subject marker refers to a locative class 18 (*mu-*), hence, it does not indicate a person or an object (both can be expressed as nouns), but rather a state of being inside or within. In other words, *muli kungwerera* can be decoded as 'there is something inside the process of getting bright':

(4.14) *muli kungwerera*
mu-li   *ku-ngw-erer-a*
CL18.LOC-be   INF-to.become.bright-CONT-FV
'it's dawn'

Among other temporal makers, Courtois (1900) mentions words *mukanganyama* 'morning', *nthanda* 'morning star/morning', and *manyika* 'morning star, sunrise' but I could not find any example of these words in context.

Noon

The term for 'noon' in Nyungwe is *masikati.* Rego in personal conversation pointed out that this term is derived from the Shona expression *masiku ya kati* 'days of half'. The terms for 'midday' presented in the languages neighboring with Nyungwe have

significantly varying origins. However, in Sena there is also a word *masikati*, and in Swahili in some context *jua kati* 'half of the Sun; half-day' can be used.

Masikati as a temporal adverbial adjoining to a verb does not require any locative preposition (4.1). However, this expression can be paraphrased as *pakati pa nsiku* 'in the middle of the day' (4.2). In this prepositional phrase, locative *pa-* appears both before the head noun *kati* 'half' and governed noun *nsiku* 'day', so gloss by gloss, the expression is interpreted as:

(5.1)   *Kodi ni basa lanyi lomwe anyungwe ambaphata **masikati**?* (SIL 2010b: 11)
         After all, is there any work which a Nyungwe person do at noon?

(5.2)   *Tin'fika **pakati pa nsiku*** (LS, 2018-07-27)
         We will arrive at noon.

The expression 'day and night' in Nyungwe can be designed using the word *masikati*, so the cliché *usiku na masikati* literally means 'night and mid-day':

(5.3)   *Omwe ambandogona usiku na masikati* (Maliko 4:27).
         Which sleeps night and day (lit. 'night and noon').

(5.4)   *...akhakhala acimbapemba na kubzimana kudya usiku na masikati* (Luka 2:37).
         She never left the temple but worshiped night and day, fasting and praying
         (lit. 'she was praying and rejected food (at) night and mid-day')

The following forms are employed to emphasize and specify the notion 'exactly at the midday; right at noon' (Martins 1991: 236): *masikati-kati* (lit. 'midday-half'), *masikati caiyo* (lit. 'proper midday'), *masikati-makulu* (lit. 'big/great midday'). *Masikati* serves also as a common greeting phrase meaning 'Good afternoon!'

Afternoon and evening

Afternoon is referred in Nyungwe as *maulo*. Attached marker *-letu* supplies the main noun with the connotation 'very', 'extremely', so, the derivative *mauloletu* means 'late afternoon'. By means of reduplication, *maulo* can be transformed to *maulo-ulo* which refers to the first hour after sunset, the time when a family gets ready for a dinner.

Syntactically, *maulo* can be adjoined to the verb without prepositions (5.1) but there is an example when the prepositional phrase is formed (6.2). This particular case is interesting, because the locative marker *ku-* appears here twice: in *kumaulo* (= *ku maulo*) it serves as a head of the prepositional phrase, while in *kuno* it serves to provide agreement

between *-no* (the root indicating proximity) and the prepositional phrase. Literally, *kumaulo kuno* means 'at-evening at-this'.

(6.1) *Ine-pano ndaakuyenda ndinibwerera **maulo***
       'I (here) am going, and I will arrive in the **evening**'

(6.2) *Yambwera **kumaulo kuno*** (Rego 2013: 210)
       'This will arrive during **this evening**'

Maulo happens to establish relations of government with other nouns, so we have the expressions such *maulo wa dzulo* 'eve, day before' (lit. 'evening of yesterday'), *maulo wa mangwana* 'tomorrow in the night' (lit. 'evening of tomorrow'). *Maulo* is a typical greeting during the second half of the day, it better corresponds to English 'Good afternoon!'

Kweru is a lexeme referring to early afternoon hours. It can also be reduplicated as *kweru-kweru* in order to intensify the initial meaning.

(6.3) *Umbagona kweru*? (Rego 2012: 231)
       'Are you accustomed to sleep at early afternoon?'

(6.4) *Kukwali kweru* (LS, 2018-08-15)
       'It is already day'

Sunset

The most universal way to refer to the time of sunset in Nyungwe is through the verb *kudoka* 'to darken', 'to get dark', 'to become night', 'to make night'. In (7.1) the temporal notion is carried out through the present continuous form of the verb, while in (7.2) *kudoka* as the main verb follows the finite verb *kukhayamba* which stays in the remote past imperfect tense (prefix *-kha-*):

(7.1) *dzuwa liri kudoka*
       'the sun is making night'

(7.2) *... **pomwe kukhayamba kudoka**, mwadiya ule ukhali pakati nakati ya nyadza, Jezu akhali yekha kunja* (Maliko 6:47).
       … Later that night (lit. '**when it started to get dark**'), the boat was in the middle of the lake, and he was alone on land.

The reference to the sunset can also be made through the ideophones *bi, pswi, do,* all mean 'to get dark' or 'something dark appears'.

(7.3)   *Inde ndamudikhira, tsono ndawona **do*** (Martins 1991: 176)
         I was waiting for him until it **became dark** (lit. 'then I saw *do'*).

Dictionaries also mention the following terms which can refer to 'sunset': *cidodo* 'twilight', 'it's getting night'; *mundima* '(in) darkness'; *m'nthunzi* 'smoke', 'cloud', 'plume', 'shadow', but no examples of temporal usage of these lexemes was found.

Lexical domain of the day parts in Nyungwe is visualized in Figure 7:
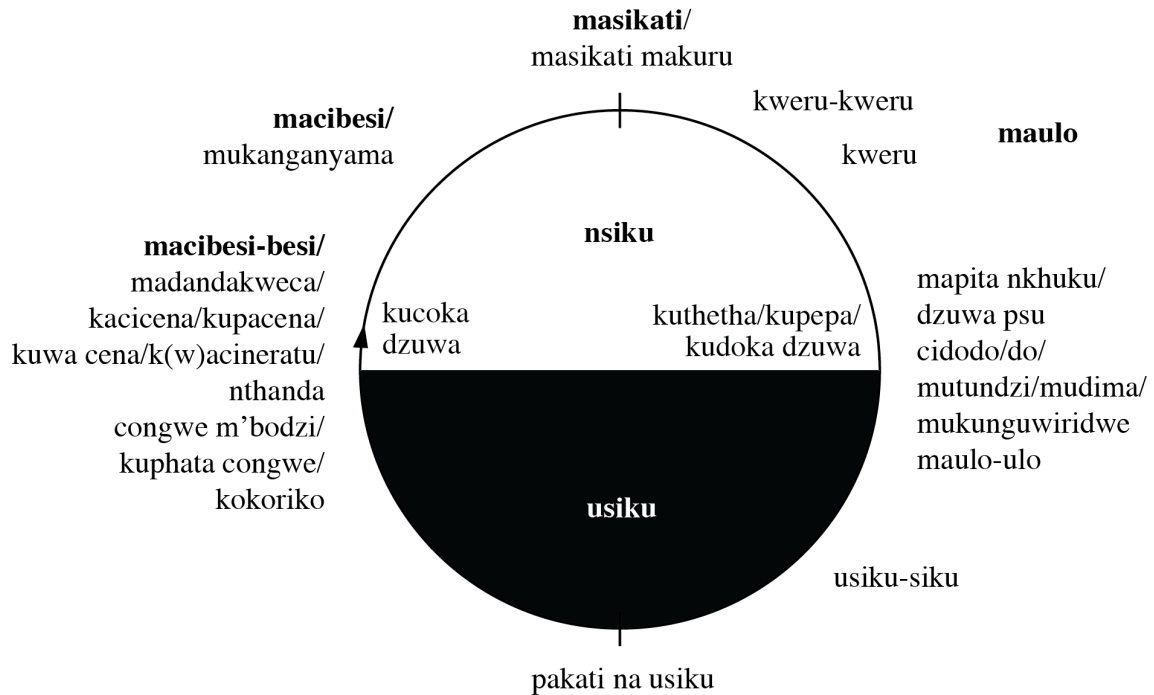
Figure 7: Parts of the day in Nyungwe

3.1.1.3. Parts of the year, seasons and months

<u>Year</u>

Traditional lifestyle of African societies with its repeatability and binding to the natural changes requires notion of such basic temporal categories as 'year', 'season' and 'moon period'. Most of Eastern, Northern and Central Bantu languages employ derivative forms coming from PB root **jákà*, consider the following: *mwaka* (Tonga, Swahili, Luba-Katanga), *vyaka* (Tumbuka), *yaaka* (Etakwani), *myaka* (Tonga and Kinyarwanda), *piaka* (Sena). Probably, Nyungwe also used to have a cognate term to represent 'year', but it was substituted by *gole* (class 9) borrowed from Shona (*gore*).

Nyungwe does not require any preposition to locate the event within the time span of 'year' (1.1). This noun can also be accompanied by demonstrative pronouns (*gole lino* 'this year'), ordinal and cardinal numbers (*gole libodzi* 'one year', *gole lacipfemba* 'the ninth year'). The plural form is *magole* (class 10).

(1.1)   *Ndidamanga nyumba zitatu **gole lino*** (LF, 2017-12-15)
         'I build three houses during **this year**'

(1.2)   *Pomwe iye akhana magole khumi na mawiri* (Luka 2:42)
         'When he was 12 years old'

(1.3)   *M'ndondondo wa minyezi **ya gole*** (Maya 2015: 322)
         lit. 'calendar of (the) months **of (the) year**'

<u>Moons and months</u>

The concept of month in Nyungwe is tightly associated with the moon cycles, hence, the word *mwezi* means both 'moon' and 'month'. This word emerges from the PB root **jédì* ('moon', 'moonlight') which in turn was derived from **jéd* ('shine', 'be clear') — the root which is present across the entire Bantu area. In the neighboring languages, we can find *mwezi* (Sena, Nyanja, Swahili, Tumbuka, Tonga) and *mweshi* (Bemba).

Nyungwe has indigenous terms for moon cycles which correspond to agricultural activities and climate conditions. Their correlation with months from the Gregorian calendar is quite vague. Depending on the context, speakers use either an original Bantu term or the label borrowed from Portuguese. Let's appraise the following word list:

(mwezi ya) tsakulo, lit. 'hoe', ≈ January

(mwezi ya) kambzombzo, lit. 'time of hunger before first harvest', ≈ February

(mwezi ya) nkakata, ≈ March

(mwezi ya) m'bvuno, lit. 'harvest', ≈ April

(mwezi ya) m'phepo, lit. 'cold, wind, fresh time', ≈ May

(mwezi ya) zawe, lit. 'freeze, frost', ≈ June

(mwezi ya) mpepedza, lit. 'wind', ≈ July

(mwezi ya) cirino (cirimo), lit. 'dry time to prepare the fields', ≈ August

(mwezi ya) tsosa, ≈ September

(mwezi ya) phumphuli, lit. 'first rain', ≈ October

(mwezi ya) m'bzwalo, ≈ November

(mwezi ya) mainza, lit. 'rainy season' ≈ December

There are various ways of how the month's name appears in the context: (i) headed by the expression *mwezi ya* 'month of' + the original term (2.1); (ii) headed by the expression *mwezi wa* 'month of' + the borrowed term (2.2); (iii) attributed with an ordinal numeral (2.3, 2.4). In some contexts, *mwezi* requires a locative preposition *pa-* in order to situate the event along the timeline (2.4):

(2.1)   *Bzwentsebzwi bzwatifikira kuphampha ntsiku ya lerolino, ntsiku ya cipiri, khumi na ziwiri, **mwezi wa mphepo*** (Rego 2012: 209)
'Everything goes to the end of this day, Tuesday, the 12th of the **month of May**'

(2.2)   ***Mwezi** zense **wa fevreiro** iwo ambabzala mathanga* (LF, 2017-12-15)
'All the months of February they seed pumpkins'

(2.3)   *Ntsiku zisere za **mwezi wa cixanu*** (Rego 2012: 228)
'(On the) eight day of the fifth month'

(2.4)   *Mpaka **pamwezi wacikhumi na wa ciwiri** wa gole lino* (Rego 2012: 2013)
'Until (the place of) the twelfth month of this year'

As in many languages across the world, in Nyungwe the term for month is included into expressions referring to women's menstrual cycles:

(2.5)   *ali pa mwezi* (Martins 1991: 270)
a-li   pa   mwezi
SM.CL1-be   CL15.LOC   moon
'she has periods (now)'

(2.6)   *akhaduwala matenda ya kumwezi* (Luka 9:43)
a-kha-duwal-a   ma-tenda   ya   ku-mwezi
SM.CL1-P.IMP-be.sick-FV   sickness   CL10/12   CL17.LOC-moon
'she had sickness of periods' (lit. 'she was sick of being in the moon')

Seasons

In tropical and equatorial climate zones, there are two major seasons: rainy and dry. Mozambique has the same weather pattern as other African territories south from equator. The period of abundant rains is December — March. April and May are transition months before the dry season, which in turn takes approximately from July/August to November.

In Nyungwe, the expression used to refer to 'rainy season' is *(nyengo pa) mainza*, Before, we've seen that *mainza* (class 10/12) serves to refer to the month of December, but actually, the whole rainy season is also designated with this term. Worthy to note, that

Nyungwe applies *nvula* to refer to 'rain' or 'rainfall', but the same word does not construct expressions to refer to the time span of 'rainy season'.

In Nyungwe, the term *cirimo* (class 7) refers both to the month of August (approximately) and to the whole dry season in general. *Cirimo* is a hot season between August and November, a time to prepare fields. The etymology of this word is quite explicit, the PB root *dìm* 'cultivate' appears in the languages across all the Bantu region[11]. Another way to refer to hot season is by means of an expression *nyengo ya dzuwa* 'time of sun'.

Both *mainza* and *cirimo* can serve as temporal adverbials and operate as components attached to the verb by means of prepositional phrase with the locative *pa-* (3.1, 3.2). However, as Nyungwe tolerates syntactical variations, a prepositional phrase with *pa-* may even appear as a subject of the sentence while requiring the verb to agree with the locative class prefix (3.3). In this case, the gloss-by-gloss interpretation can sound as 'at-rainy-season has a lot of work'.

(3.1)   ***Pacirimo*** *tiniyenda kugwata-gwata zense* (LF, 2017-12-15)
‘On the dry season we will clear away all the brush’.

(3.2)   *Tenepa **pa cirimo** na **pa mainza*** (Courtois 1900: 202)
‘In summer, as well as in winter’.

(3.3)   ***Pamainza pana*** *basa kwene-kwene* (LF, 2017-12-15)
pa-mainza	*pa-na*	*ø-basa*	*kwene-kwene*
CL16.LOC-rainy.season	CL16.LOC-have	CL9-work	much/very

‘In the rainy season we have a lot of work’.

Terms *mainza* and *cirimo* may be incorrectly used to refer to as 'winter' and 'summer' respectively. My informants mentioned, on several occasions, that there is neither winter nor summer in Mozambique. Although, some translations do not aim to be terminologically precise. For example, Courtois comprehends *mainza* as 'winter', and *cirimo* as 'summer' (3.2, 3.4). Meanwhile, the Bible text in (3.5) exhibits an opposite perspective: 'summer' is *mainza*. Perhaps, the latter viewpoint corresponds more to the reality, if we consider that summer season manifests higher temperatures and large raining. Still, it seems more reasonable to use the terms 'rainy season' and 'dry season' in order to avoid ambiguity.

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[11] A number of Nyungwe words is derived from this root: *kulima* 'cultivate fields', *nyakulima* 'agricultor', *mulimi* 'agricultor', *cakulimira* 'agricultural instrument', *ulimi* 'the knowledge of agriculture'. (Martins 1991: 107).

(3.4)   *Anidzara pa **mainza**, pa **cirimo** anisara mathaware okha* (Courtois 1900: 195)
        'It's full only in the **winter**, in the **summer** it's only swamps'

(3.5)   *Nyang'anani mtowe na miti yentse. Nakuti ikayamba kufundira masamba mumbadziwa kuti **mainza** yafika* (Luka 21:29-30)
        'Look at the fig tree and all the trees. When they sprout leaves, you can see for yourselves and know that the **summer** is near'.

3.1.2 Representation of temporal events based on cultural symbols and social matters

3.1.2.1. Hours and minutes

24-hour division of the day was adopted by the Nyungwe people due to their contact with the Portuguese. There are two ways to say 'hour': the indigenous term *nthawe* (class 5) and the loanword *ora* (< Port. 'hora') which does not have a stable class affiliation. The choice between the terms is conditioned by a number of sociolinguistic and contextual factors: for example, presenters of radio in Tete and Bible translators choose *nthawe*, while Nyungwe speakers, who live in Portugal and speak every day Portuguese prefer to use *ora*.

There are also different preferences in the choice of numerals: both indigenous and borrowed terms can be employed by speakers. Sometimes, the whole complement encoding temporal information may be borrowed from Portuguese (1.2).

(1.1)   *mpaka nthawe zitatu za kumaulo* (Luka 23:44)
        'until three o'clock in the afternoon'

(1.2)   *Seis da tarde tiniyenda kakudya* (LF, 2017-12-15)
        'At six in the evening we will eat' (*cf.* Port. 'as seis da tarde')

Portuguese also brought the concept of minute into Nyungwe. Both loanword *minuti* (< Port. *minuto*) and indigenous term *mphindi* (class 5) designate this time unit. Actually, the initial meaning of *mphindi* is 'a small period of time', 'moment', 'instance' but the term become suitable to express the idea of 'minute'. *Nthawe* and *mphindi* are interesting examples of how an indigenous term undergoes meaning extension for covering a foreign concept.

Nthawe and *mphindi* have zero prefixation both in singular and plural. This is a typical feature of the nouns of classes 5/6. Any ambiguity can be resolved with help of

attributives which agree with the noun class and obtain the necessary prefix: *i-* for singular and *zi-* for plural.

(1.3)   *Yambwera kumawulo kuno, kuyambira pa nthawe zinay na mphindi makumi manay na zixanu mpaka nthawe zitanthatu na mphindi makumaxanu na zinay* (Rego 2012: 210)
'It will appear this evening, starting at 4:45 (four hours and forty-five minutes), until 6:54 (six hours and fifty-four minutes)'

3.1.2.2. Temporal concepts emerged due to the contact with Christianity

<u>Week and days of week</u>

Delineation of a seven-day period as a single time unit was introduced into the Bantu cultures due to Christian influence. In some societies, it is argued that the notion of week, as well as the names for some weekdays, arose from the contact with Islamic civilization (Kokole 1994: 45). Around the ethnic groups neighboring with Nyungwe, the indigenous notion of week was found among Kongo people, and their week traditionally includes four days (Adjaye 1994: 28).

Let's consider the names for the week days in Nyungwe:

(nsiku ya) ciposi 'Monday'
(nsiku ya) cipiri 'Tuesday'
(nsiku ya) citatu 'Wednesday'
(nsiku ya) cinai 'Thursday'
(nsiku ya) cixanu 'Friday
(nsiku ya) malinkhuma 'Saturday'
m'dzinga 'Sunday'

The names for the days Monday—Friday are based on the cardinal numerals from one to five *posi*, *piri*, *tatu*, *nai*, *xana*. These numerals' roots are Bantu in origin, and they appear in the vocabularies of many languages, including the domains of weekdays. Combined with the class 7 prefix *ci-*, these roots produce terminology for the weekdays as well as cardinal numbers, e.g. *cipiri* 'second', *cinai* 'forth'. Consequently, the nominal phrase *nsiku ya ciposi* in (2.1) can be expressed as 'day of the first' or 'day of Monday':

(2.1)   *Lero ni **ntsiku ya ciposi** ntsiku yomwe azindji ankudikira kuti…* (Rego 2012: 212)
'Today is **(the day of) Monday**, the day when everyone is waiting for…'

Syntactically, the weekday terms in Nyungwe behave as ordinal numerals, we can see it in the sentences in (2.2-3). The interrogative pronoun *-ngasi* 'how many, how much' when attaches the prefix *ci-* implies the question 'which in order' and leads to the answer 'the fourth in order'.

(2.2)   *Udabwera pa cingasi?* (Martins 1991: 57).
        u-da-bwer-a   pa   ci-ngasi
        SM.2SG-P.PRF-come-FV   CL16.LOC   CL7-Q.how.many
        'When did you come?'

(2.3)   *Ndidabwera pa (nsiku ya) cinai* (Martins 1991: 57).
        ndi-da-bwer-a   pa   (ø-nsiku   ya)   cinai
        SM.1SG-P.PRF-come-FV   CL16.LOC   CL5-day   CL5.POSS   CL7-four
        'I came on Thursday'

The names for Saturday and Monday are based on the deictic terms (which will be examined in the Section 3.1.3): *malinkhuma* (class 10/12), originally, referred to 'in five days, on the sixth day since now', while *mdzinga* (class 3) referred to 'in six days, on the seventh day since now'. These deictic terms turned out to be successful in meaning extension and in covering the borrowed concepts of Saturday and Monday. Moreover, *mdzinga* can refer to 'week', and, as soon as it is a countable time unit, it obtains a plural form *muzinga* (class 4) 'weeks', e.g. *muzinga muwiri* 'two weeks'. Another way to refer to Sunday is with the expression *nsiku ya mulungu* 'the day of god' which emerged in Nyungwe due to impact of Christian church (2.6).

In the following examples, we can observe that the verb attaches a modifier expressed by a prepositional phrase containing a weekday term. Both the locative marker (2.4, 2.5) and the zero marker (2.6) can be used:

(2.4)   **Pacixanu** *tiniyenda pa taundi* (LF, 2017-12-15)
        On Friday I'm going to the town.

(2.5)   *… liti lidzayimbe **pantsiku malikhuma** kokhakokhako* (Rego 2012: 212)
        … that on Suturday he will sing alone.

(2.6)   *Nin'bwera **ntsiku ina Mulungu*** (Rego 2012: 210)
        I will arrive on Sunday ('day of god').

In Nyungwe, the concept of week may be expressed by a loanword *sumana* (< Port. 'semana'). The borrowed expression *fim de semana* is used to refer to 'weekend'.

3.1.3. Representation of deictically bounded temporal concepts

In the sections 3.1.1 and 3.1.2, the multiplicity of the non-deictic temporal representations in Nyungwe was examined. However, Nyungwe has a bunch of temporal terms of deictic nature. The words sort of 'now', 'yesterday', 'next week' are anchored to the experiencer's perspective, hence, the applied temporal frame of reference is the relative one.

<u>Now</u>

The word to say 'now' in Nyungwe is *tsapano*. The exact etymology of this temporal adverb is not investigated (in contrast to English, Latin, or Russian), but there is an intriguing fact that *tsapano* includes the component -*pano,* which by accident is similar to the locative adverb *pano* 'here'. The root -*pano*- frequently occurs attached to the demonstrative and personal pronouns, and also can be found as a part of the copula: *inepano* 'I here, emphatically' (*ine* 'I' + *pano* 'here'), *ifepanombo* 'we here also' (*ife* 'we' + *pano* 'here' + *mbo* 'also'), *n'pamwepano* 'which is here, that is here' (*n(di)* COP + *pa* 'proximity' + *(o)mwe* 'that, which' + *pano* 'here'). *Pano*, in turn, is composed of the locative prefix *pa*- and the component -*no* which means proximity to the speaker, and motivates the derivation of a range of demonstrative pronouns with the universal meaning 'this/these/this here/in here'. In some related to Nyungwe languages, the item -*no* occurs within the words denoting 'now': *pano* (Luba-Katanga), *eno/ino/lino* (Tonga), *sono* (Tumbuka), *tsopano* (Chichewa). This leads us to the suggestion about the spatial origin of the temporal term for 'now', but this still needs stronger evidences.

The primary meaning of *tsapano* is 'at the present time or moment', but in Nyungwe, as in many other languages, the word for 'now' widens its meaning to refer to 'nowadays', 'present time', 'these days'. As a result, the verbs, attaching *tsapano* as a temporal adjunct, can mark various tense-aspect relations: present continuous (1.1 and 1.2), recent past (1.3), and habitual (1.4).

(1.1)   ***Tsapano*** *bzinthu bzizinji bziri kusandulika kwene-kwene* (SIL 2010b: 10)
         'Nowadays, many things are changing a lot'

(1.2)   ***Tsapano*** *nkuphika bwadwa* (SIL 2010c: 12)
         'Now he is making beer'

(1.3) *Ndacoka m'comboio **tsapano*** (Rego 2012: 205).
'I just get off the train'

(1.4) *Wanthu **tsapano** ambacezera* (SIL 2010b: 10)
'These days, people get used to talk to each other'

Nyungwe also employs reduplication to indicate the immediate and instantaneous character of the action, consider *tsapano-pano, tsapanopa* (1.5), *tsapanopapa* (1.6) which all mean 'right now', 'suddenly'. In addition, the adverb *tsapano* can act as a noun of the class 9 (*li-*) while attaching the demonstrative pronoun *lino* 'this', so, *tsapano lino* which literally means 'this now' is another way to locate the action or state at the present moment (1.7). This expression also can be used to refer to the adjective 'present/current' as in (1.8): *wanthu wa tsapano lino* literally means 'people of this now', or 'this generation'.

(1.5) ***Tsapanopapa** ndamunembera mensagem* (Rego 2012: 206).
'Right now I just finished to send him a message'

(1.6) *Nifuna kuti **tsapanopa** mundipase msolo wa Juwau M'batizi mphande* (Maliko 6: 25).
'I want you to give me right now the head of John the Baptist on a platter'

(1.7) *Wakusimbidwa ndimwe omwe muna njala **tsapano lino** (Luka 6:21).*
'Blessed are you who hunger now'

(1.8) *Thangwe ranyi **wanthu wa tsapano lino** wambafuna kuwona cizindikiro cakudabwisa?* (Maliko 6:12)
'Why does **this generation** ask for a sign?'

<u>Today</u>

The term for 'today' in Nyunwge is *lero*. It derives from the common PB root **dèèdó* and appears in a whole bunch of Bantu languages (except the southern ones) including those which are related to Nyungwe: *lelo* (Bemba), *dyalelo* (Luba-Katanga), *leo* (Swahili), *elelo* (Makhuwa), *lero* (Chichewa), *lero* (Sena). In context, this word can be found as *lero lero* and *lero lino*, both signify 'this very day, now itself'. In the latter expression, as we can see, the adverb *lero* while attaching a demonstrative pronoun funcrions as a noun of the class 9. The exact meaning of *lero lino* is 'this today' (2.7). There is also a compound form *nsiku ya lero lino* which means 'day of this today'.

Within the sentence, *lero* can be adjacent to the verbs manifesting the following tense-aspect features: present simple (2.1), recent past (2.2), past imperfect (2.3) and

pluperfect (2.4). It shows that *lero* is applied to a wide range of events in the near past, present and near future, but in contrast to some European languages, the lexeme with the meaning 'today' can not be used to refer to habitual actions or states (compare to an English sentence: 'Today people (are used to) consume a lot'). In addition, *lero* or *lero lino* can serve as a subject of the sentence, but only in the case when the predicate is attached by a copula (2.6). I could not find any example of *lero* as a subject governing a verb.

(2.1)   *Ndinidya nyama yangu lero* (SIL 2010e: 7).
        'Today I eat (or 'I'm going to eat') my meat'.

(2.2)   *Lero taona malengwa* (Luka 5:26).
        'Today we have seen remarkable things'.

(2.3)   *Lero macibesi ndikhana basa kwene-kwene ku nyumba* (LF, 2017-12-15).
        'Today in the morning I had a lot of work around the house'.

(2.4)   *Lero akhadabwera* (Rego 2012: 200).
        'Today he had arrived'.

(2.5)   *Bzwentsebzwi bzwatifikira kuphampha ntsiku ya lero lino* (Rego 2012: 209)
        'This (many these things) will arrive until the end of the day of today'.

(2.6)   *Lero lino ni ntsiku yomwe…* (Rego 2012: 212)
        'Today is the day when/which…'

Yesterday and before

Nyungwe's term for yesterday *dzulo* (class 9) comes from the PB root **gʊdò* (meaning both 'yesterday' and 'evening') which emerges throughout other related languages as *zuro* (Ndau), *(i)jilo* (Tonga), *malilo* (Bemba) *ndilo* (Takwane), *dzulo* (Chichewa). In the neighboring Shona, *zuro* ended up signifying 'in old times, anciently'. In Bemba, the same root is transformed into *mailo* 'tomorrow'.

Taking into account, that the shared vocabulary (including temporal representations) between Nyungwe and Southern Bantu is inferior than the one shared between Nyungwe and the languages of Eastern and Northern zones, the appearance of *izolo* 'yesterday' in Zulu (S42) can indicate that the notion of yesterday encoded by **gʊdò* was frequent among ancient Bantu.

Martins (1991: 180) also provides a derivative form *dzuloli* which means 'just yesterday', 'in the past', and Courtois (1989: 154) gives *maulo wa dzulo* 'day before, night before, eve' (lit. 'evening of yesterday'), but no example of such expressions in the

context was found. *Dzulo* can be adjacent to the verb in the recent past (3.1) and in the past perfect (3.2).

(3.1)   *Dzulo atsikana wadera* (Langa 2018: 184).
        'Yesterday (the) girls pounded'

(3.2)   *Cimanga cidamira dzulo* (Langa 2018: 133)
        'Corn sprouted yesterday'

The word to refer to 'the day before yesterday' in Nyungwe is *dzana*, this form takes its origin from the PB root **jàná*. The reconstructed meaning of this lexeme is very vast: 'yesterday; tomorrow; the day before yesterday; the day after tomorrow'. We have already seen in Chapter 1.1 that some African languages do not make lexical distinction between 'yesterday' and 'tomorrow', as well as between 'the day before yesterday' and 'the day after tomorrow': in Kinyarwanda, a word *ejo* refers both to 'yesterday' and 'tomorrow'[12], and the word *jjo* does the same in Luganda. With regard to **jàná*, this root can be found in a wide range of Bantu languages: *jana* 'yesterday' in Swahili, *n'zana* 'the day before yesterday' in Echuwabo, *izono* 'the day before yesterday' and 'the day after tomorrow' in Tonga, *macedzana* 'the year before; a long time ago' in Chichewa.

Dzana promotes derivation of other temporal adverbials. The term *dzanali* 'right on the day before yesterday; anciently' emerges through attaching the class marker — this is a typical way of emphasizing the meaning of the original word. *Dzana* also appears with demonstrative pronouns which, in turn, concord with the main word according to its class (the 9th in this case). Hence, we have *dzana lire* 'the day before before yesterday, two days ago' and *dzana iro* 'some days ago'. Demonstrative pronouns are indispensable resources to mark proximity/distance in space: both *lire* and *iro* can be translated as 'that' but *lire* must be applied to the objects distant for both speaker and hearer, while *iro* marks only the distance from the speaker. Therefore, *dzana lire/iro* can be literally translated as 'that/distant day before yesterday'. Employment of spatial demonstrative pronouns in this kind of temporal expressions is a strong evidence for space-time metaphorical conceptualization in Nyungwe (see Chapter 3.2).

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[12] The Kinyarwanda lexeme *ejo* descends from another PB root **dó* 'sleep' which, furthermore, enriched the Nyungwe vocabulary with the noun *tulo* (class 14) 'the state of being ready to sleep; sleeping', the verb *kuloto* 'to dream' (through the PB **dóot* 'dream'), and supposedly the ideophone *do* 'to darken'.

<u>Tomorrow and further</u>

In contrast to most of European languages, Bantu languages have specific terms to refer not only to tomorrow, but also to the day after tomorrow and further, up until the seventh day since today (a deictic center). This lexical precision was a necessary tool in those times when the occidental calendar was not yet introduced, but the near future must be somehow categorized. Nyungwe applies purely indigenous lexemes for this purpose:

a) *mangwana* (class 10/12) 'tomorrow, on the second day since now',

b) *mkuca* (class 3) 'the day after tomorrow, on the third day since now'

c) *mtondo* 'the day after after tomorrow, on the fourth day since now',

d) *ico* 'in four days, on the fifth day since now',

e) *malinkhuma* (class 10/12) 'in five days, on the sixth day since now',

f) *mdzinga* (class 3) 'in six days, on the seventh day since now'.

These terms are Bantu in origin, some of them have corresponding lexemes in closely related languages, for example *mkuca* (Sena), *mkucha* (Chichewa), and *mtondo* (Swahili, Chichewa), *ntondo* (Makonde, Sena). With regard to *mangwana*, we can suppose that this word was introduced to Nyungwe (and to other N40 group languages, *e.g.* Sena, Barwe) from Shona. It can be explained by the fact that *mangwana* systematically repeats in the languages of Shona group such as Manyika, Tewe and Ndau. This lexeme also appears in Xopi and Echuwabo.

All these terms are deictically oriented, in other words, the day which today is considered as *mtondo*, tomorrow will be referred to as *mkuca*. It is inaccurate to translate these terms as they were the names for the weekdays, as soon as the latter are the non-deictic terms, in any language. However, due to historical and cultural motives, the lexemes *malinkhuma* and *mdzinga* obtained additional meanings: 'Saturday' and 'Sunday' respectively (see 3.1.2.2).

It is worthy to note, that the above listed adverbials are particular representations of temporal notions within the relative frame of reference. Yet, *mangwana* 'tomorrow' and *mkuca* when combined with possessive pronouns — *yace* (class 10/12) and *wace* (class 3) respectively — can construct non-deictic meanings within an intrinsic frame of reference. The expression *mangwana yace* can be interpreted as 'next day', 'its tomorrow', *i.e.* 'tomorrow regarding to the day when the event happened'. In this case, the event's position in time serves as a reference point of temporal expression. Hence, this frame of reference also can be called as event-oriented. The similar happens with *mkuca wace* which refers to 'its day-after-tomorrow', or to the third day since the day

when a given event happened. Again, the event's perspective point remains to be unattached to the moment of utterance. While the sample is (4.1) only makes sense when the speaker's temporal position is known (relative FoR), the sample in (4.2) makes sense when a preceding temporal event (*e.g.* day) is contextualized (intrinsic FoR).

(4.1)   *Mangwana macibesi-besi ndikapasa kudya para nkhumba* (LF, 2017-12-15)
        '**Tomorrow** in the morning I will feed the pigs'

(4.2)   *Mangwana yace, pomwe iwo akhacoka kuBetaniya, Jezu adabva njala*
        (Maliko 11:12)
        '**Next day** ('the tomorrow of the already mentioned day') as they were leaving Bethany, Jesus was hungry'.

(4.3)   *Na tenepo ndiri kuphata njira **lero**, **mangwana** na **mkuca*** (Luka 13:33).
        Nevertheless, I must journey on **today** and **tomorrow** and **the next day**.

An important assumption which also follows from the (4.1-3), as well as from other examples presented in this section, is that the above considered deictic temporal adverbials, while serving as complements to verbs, are systematically used without any locative marking.

Last — this — next

In the relative frame of reference, many temporal units, such as 'year', 'week', 'day', etc. can be attributed with markers of sequential location 'this/present', 'last', and 'next'. These are deictically dependent terms, so, in discourse, the position of ego determines whether the event is assigned to be located in the past ('last'), present ('this') or future ('next'). Nyungwe broadly expresses these meanings through conceptual metaphor, particularly TIME PASSING IS THE MOTION OF AN OBJECT metaphor (Moore 2014: 13) which allows to map properties of an object moving across space onto an event moving across time (more details in Chapter 3.2.1).

The temporal unit occurring simultaneously with the moment of the utterance can be attributed with a demonstrative pronoun 'this'. The exact form of the demonstrative pronoun must agree with the noun's class: *nsiku **ino*** 'this day, today' (class 5), *mdzinga **uno*** 'this week' (class 3), *mwezi **uno*** 'this month' (class 3), *usiku **buno*** 'this night (class 11), *gole **rino*** 'this year' (class 9).

With respect to the terms 'last' and 'next', it is quite doubtful that in Nyungwe they can be expressed through the adjectives, as it happens in European languages. Bantu languages display a significantly small number of 'pure' adjective roots, and most of them

refer to a narrow scope of meanings and relationships, such as basic physical shapes, size, color, age, and some human qualities (e.g. 'good', 'bad', 'beautiful'). Nyungwe employs verbal roots *-pita* 'to pass' and *-mala* 'to finish' to express the notion of 'last/previous/preceding', and *-bwera* 'to come' to encode the idea of 'next/following/coming'.

Those utterances which in English or Portuguese would be encoded by a nominal or prepositional phrase ('last week' or 'on the next day'), in Nyungwe are rather expressed by means of the independent clause with a noun (which refers to a certain time unit) and a verb which bears the class prefix and the tense-aspect marker (5.3-5):

(5.3)   ***Sumana lidapita*** *ndikhana nsiku kwene-kwene* (LS, 2018-07-27)
          '**Last week** I had a lot of time'
          (lit. 'The week had passed, I had many-many days')

(5.4)   ***Semana zamala*** *tidacita nyumba* (LF, 2017-12-27)
          '**Last week** we built the house' (lit. 'The week had finished, we made the house')

(5.5)   *Ndinikhira kubwera ku Nyungwe **gole linidza** basi*
          'I will try to go to Tete **next year**' (lit. 'year comes')

(5.6)   ***Semana kubwera*** *tindzayamba kumanga nyumba* (LF, 2017-12-27)
          'Next week we will start to build (the) house'

A temporal unit combined with the term *mangwana* with the associative marker (concords with the noun class, e.g. *ya*, *ra*, etc.) can build the meaning of 'next': *nsiku ya mangwana* 'day of tomorrow' = 'next day', *gole ra mangwana* 'year of tomorrow' = 'next year'.

(5.7)   *Bzin'funika kuti **gole ra mangwana** udzapfunze* (Martins 1991: 76)
          'It's necessary that you will study **next year**'

With regard to 'last', there are few more ways to express this notion. For example, through the distant demonstrative pronoun, *e.g., gole lire* 'that year', or through the relative clause, *e.g. gole lomwe lidafa* which literally means 'year that died'

Past — present — future

Present, past and future are indispensable components of deictic time. It may not be a universal phenomenon, as we discussed. Yet, it is not true for all the languages. As it was discussed earlier, Yucatec language distinguishes two time categories: present and

past-future (see 1.2.3). Some cultures around North Eastern Bantu zones mark the opposition between *sasa* — recent past, present and predictable future (real time) — and *zamani* — far past and far future (potential time) (Mbiti 1969). Lingala, Luganda and Swahili do not make sharp delineation between past, present and future (Kokole 1994).

With regard to Nyungwe, the available data does not answer the question what are the basic categories of deictic time in the given language. It is quite typical that Bantu lack sharp differentiation between past, present and future. Nyungwe has a temporal adverbial *kale*, which covers a range of meanings referring to the past: 'old', 'before', 'already', 'time ago', 'anciently'. The reduplicated variant *kale-kale* conveys a more intensified meaning, *i.e.* it increases the distance in past and means 'very anciently'. The remarkable thing is that future events can also be attributed with *kale* and *kale-kale* (Martins 1991: 197), *i.e.* two contrary temporal concepts have the same lexical representation in the language. In a conversation, Martins clarified that this is applicable to the events taking place in very distant past or future. This assumption may even be an evidence for the cyclical conception of time in Nyungwe, but still no systematic patterning among other temporal adverbials was found.

There are two suppositions regarding to the etymology of *kale*. It may arise from the PB root **kàdé* 'olden times' which emerges across another Bantu languages, *e.g.* Swahili, Tumbuka, Chichewa, Sena, where it typically means 'olden times' and/or 'already'. But *kale* may also be originated from **dàí* 'long ago' (spreads around zones J, M, N, S) which, in turn, is a variant of reconstructed etymon **dàí* meaning 'long'.

Kale may bear a function of a noun of the class 9 (prefix *li-*), so it builds a nominal phrase with the distant demonstrative pronoun *liro*. The variations *kale liro*, *kalero*, *kalero-kalero* implement quite the same notion: 'long time ago'.

'Past' in its most abstract sense of 'the time before the moment of speaking', can also be indicate as *nyengo yakale* 'olden times', *magole yakale* 'olden years' or *nyengo yakupita* 'time which has passed'. A mono-root term *bzapita* which can be interpreted as '(things which had) past':

(6.1)   ***Bzapita** ni kumbuyo kwangu* (LS, 2018-07-27).
        '**Past** is behind me'.

Concerning the present, the most appropriate term to represent this notion are *tsapano* 'now' and *lero* 'today'. These lexemes were analyzed in the beginning of this

section. The concept of more general present, *e.g.* 'present days', 'ongoing time', is expressed periphrastically: *nyengo ino* 'this time' and *nyengo yatsapano* 'time of now'.

As for future, Nyungwe have a large set of lexical tools to refer to this temporal category. Terms *nyengo yakudza* 'time which is coming', *magwa akudza* 'events/happenings which are coming', *kudawa kukhala* 'with a passage of time', *nsiku za mangwana* 'days of tomorrow'. The word *kutsogolo(-ko)* or *patsogolo*, which in spatial sense means 'in front of', 'ahead of' or 'forwards', expands its meaning onto the temporal domain and can refer to 'future' as well.

(6.2)   ***Kudawa kukhala***, *uti udzabziwone* (Martins 1991: 214-215)
         '**In the future** you will suffer the consequences'

(6.3)   *Ndataza kunganyana* ***nsiku za mangwana***
         'I can not face the **future**' (lit. 'I fail to find days of tomorrow').

(6.4)   *Adatonga kuti* ***kutsogolo*** *wentse wadzaphate basa* (Martins 1991: 76)
         'He/she ordered that **in the future** ('ahead') everybody will work'

(6.5)   ***Nsiku za mangwana*** *iri kutsogolo kwangu* (LS, 2018-07-27)
         '**Future** is in front of me'.

3.1.4. Chapter's resume

Lexical representations of time are the most important source for temporal conceptualization in any language. Temporal vocabulary consists of three general groups of expressions based on natural changes, cultural symbols and social matters.

In Nyungwe, time representations based on natural changes is a well-elaborated stratum of the lexical system. We saw that this language possesses numerous lexical units referring to the parts of the day. There are especially a lot of expressions with *dzuwa* 'sun', because the Sun is the most apparent indicator of time around the cultures which lack the Western tools for time reckoning (*e.g.* watch, calendar, etc.). With respect to designations for seasons and months, Nyungwe conceptualizes these notions with its own cluster of words. All of these terms are Bantu in origin; etymologically some of them may even be traced back to Proto-Bantu. However, loanwords from Portuguese may also be used to designate, for example, months and some parts of the day.

The core of time representations based on cultural symbols and natural matters are mostly the expressions of the borrowed concepts: notion of hours, minutes and a seven-

days week emerged alongside with colonization, christianization, and succeeding interference of capitalistic time concepts.

Significant part of Nyungwe temporal vocabulary is compound of the deictic lexical elements. Of particular interest is the fact that Nyungwe has adverbs to refer to the succeeding days up until the sixth day departing from the moment of speech. This arrangement is typical for a culture which traditionally lacks the notion of week.

3.2. Conceptualization of time in Nyungwe through the metaphor

Metaphorization is a universal feature of human cognition. Abstract and complex categories such as time, cause, feelings, attitudes and relationships, in order to be proceeded my mind, are expressed through the terminology of more concrete, physically 'touched' domains. Conceptual metaphor provides frame-based mapping from directly perceivable domains (such as objects in space or motion in space) onto the domain of time. Space-time metaphor is one of the most researched topics in psychology and cognitive linguistics (*e.g.* Lakoff & Johnson 1980; Moore 2000, 2006, 2014; Núñez and Sweetser 2006; Haspelmath 1997; etc.).

Even though, application of these theories in the field of Bantu languages is still scarce. With regard to Nyungwe, both spatial and non-spatial metaphors for time can be found. We will consider both types more profoundly in this section. For more detailed theoretical background on conceptual metaphor, see the Chapter 1.2.4.

3.2.1. Spatial metaphors of time

3.2.1.1. The time passing is motion of an object metaphor

This metaphor conceptualizes time as a motion of an object through space (Moore 2014: 13). This applies the observer-based perspective, so, the location of ego in space corresponds to the moment of now. Temporal situations are bounded objects separated from the time canvas, or ground, in Talmy's (1975: 419) terminology. These objects move towards and away with respect to the stationary ego. For the most languages, ego faces the temporal object approaching from the future, hence, its back is turned to the object moving away, into the past. This conceptualization of time is not universal, because there are languages, such as Aymara and Malagasy, where past events are mapped onto spatial location in front of observer, and future events are mapped onto locations behind him. Nyungwe belongs to the first group: speakers of Nyungwe conceive time as an entity moving from the future towards the front of the observer's body, which, in turn, remains in a static position. The moving objects/situations are frontally oriented in the direction of their motion. The following examples shall explain the similarity between the notion of a concrete object approaching ego in space, and the notion of an abstract entity approaching in time:

(1.1)   *babace ali kufika*
         ø-baba-ce   *a-li*   *ku-fik-a*
         CL1-father-POSS.3SG   SM.CL1-be   INF-arrive-FV
         'His/her father is arriving'

(1.2)   *cirimo ciri kufika*
         ci-rimo   *ci-ri*   *ku-fik-a*
         CL7-dry.season   SM.CL9-be   INF-arrive-FV
         'Dry season is coming'

In (1.1), there is a 'father' which moves across the space towards the deictic center and increases the degree of proximity. Likewise, in (1.2) there is a 'dry season', which is a temporal entity, approaches the point 'now', *i.e.* it changes the degree of immediacy. Arrival of an object to the ego's location in space corresponds to the occurrence of the temporal situation in time.

The TIME PASSING IS MOTION OF AN OBJECT metaphor is also suitable for the situations describing the time passed, *i.e.* in which the temporal entity is moving away from the ego's location. Compare (1.3) and (1.4):

(1.3)   *munthuyo adapita pano*
         mu-ntu-yo   *a-da-pit-a*   *pa-no*
         CL1-person-DEM.that   SM.CL1-P.PRF-pass-IND   CL16.LOC-DEM.here
         'That man passed (= went through) here'.

(1.4)   *nsiku ya mtsonkhano yadapita*
         ø-nsikuya   *m-tsonkhano*   *ya-da-pit-a*
         CL5-day   ASS.CL5   CL3-meeting   SM.CL5-PST-pass-IND
         'The meeting day had passed'

In (1.3), the object accomplished its movement through the deictic center, *i.e.* it moved towards and then away from the point of 'here'. In (1.4), the structure of the spatial situation was projected onto time to describe corresponding temporal experience where the event passes and moves away from the moment of now, *i.e.* it increases the degree of remoteness while moving towards the past.

Verbs are the primary lexical tools framing the idea of motion. The most common motion verbs in Nyungwe, used both in spatial and temporal domains, are the following: *kufika, kubwera, kupita, kuyenda, kudza* and *kukwana*.

The semantic particularity of *kufika* 'to arrive' is that, in the temporal dimension, this verb means only motion towards the ego's position, while in the context of space, *kufika* can mean approaching the ego's position, as well as to another point of space: *ali*

kufika ku Maputo 'he is arriving to Maputo'. *Kubwera* 'to come' is quite similar term marking approximation, but it is a deictically conditioned term, *i.e.* it is used to indicate motion towards ego: *sumana kubwera* 'the coming week'.

The verb *kuyenda* bears a general notion of movement in space and it is translated as 'to go' or 'to move'. In time, it rather refers to the motion either through the deictic center ('to pass') or to the motion away of the deictic center ('to leave', 'to go away'):

(1.5)   *Tsapano tiri kuyenda kuJeruzalema*
        Now we are going to Jerusalem

(1.6)   *Nsiku ziri kuyenda kankulumize*
        'Time (lit. 'days') passes very fast'

Kupita also corresponds to the verb 'to pass', 'to go through' as in (1.3, 1.4), but another seme implemented by *kupita* is 'to move out', 'to go away', thus, the examples in (1.4) can be read as 'the meeting day had gone away / moved out'.

Quite interesting is a verb *kudza* 'to come' (*i.e.* 'to move toward the ego's location'). This verb became highly grammaticalized in Nyungwe, so, the the root *-dza-* appears in three basic manifestations: as prefix of movement towards ego (1.7); as a prefix of sequentiality (1.8); or as a future tense prefix (1.9).

(1.7)   *An'bwera kudzaphata basa* (Martins 1991: 72)
        a-n'-bwer-a   *ku-dza-phat-a*   *ø-basa*
        SM.CL1-PRS-come-IND   INF-MVT.come-make-IND   CL9-work
        'He comes to work'

(1.8)   *Ndidadzafamba* (*ibid.*: 72)
        ndi-da-dza-famb-a
        SM.1SG-PST-SEQ.come-walk-IND
        'finally (after all) I had walked'

(1.9)   *Mangwana ndinidzaphata basa* (*ibid.*: 69)
        mangwana   *ndi-nidza-phat-a*   *ø-basa*
        tomorrow   SM.1SG-FUT-make-IND   CL9-work

The usage of *-dza-* as in (1.7) is quite common in Nyungwe. In this case, the movement prefix increases the explicit meaning of the verb with an additional connotation of motion: *kuphata basa* 'to make the work' > *kudzaphata basa* 'to go-make work'. Note, that the component *-dza-* is only applied to a dependent verb of the verbal phrase. Actually, the notion of movement also continues to be expressed through the head

verb of the verbal phrase, so the literal interpretation of the sample in (1.7) may be 'he comes to go-make work'.

In the case of (1.8), the prefix *-dza-* exhibits another semantic function. It is employed to mark a posterior, or sequential, character of activity. This prefix can be translated into English as 'finally', 'eventually', 'after all previous events'. The confusion which may occur is that the component *-dza-*, from the aspectual point of view, has a perfective meaning whereas it is not true due to the fact that the whole verbal structure with *-dza-* may often include the specialized prefix which marks tense-aspectual characteristics.

The case in (1.9) demonstrates another way of grammaticalization of the verb *kudza*. It has evolved into the future tense marker, and appears as the prefix *-nidza-* or, with the omitted vowel, *-n'dza-*. In the same way, it was grammaticalized in Shona and Chichewa, and, perhaps, in the bunch of other related languages. One can notice the similar particularity in English where the motion verb 'to go' is grammaticalized in the form of a future marker: 'I will sing' *vs.* 'I'm going to sing' *vs.* 'I'm gonna sing'.

The examples (1.7, 1.8, 1.9) display the usage of *-dza-* as a bound morpheme. However, *kudza* can function as an independent verb, it means 'to come' in both spatial and temporal expressions. In the context such as in (1.10-1.12) *kudza* semantically is equal to *kubwera*.

(1.10) *Iye anidza lero*
      iye   *a-ni-dz-a*   *lero*
      CL1.PN   SM.CL1-PRS-come-IND   today
      'He comes today'

(1.11) *Gole lipsa linidza*
      ø-gole   *li-psa*   *li-ni-dz-a*
      CL9-year   CL9-new   SM.CL9-PRS-come-IND
      'The New Year is coming'

Another verb which deserves closer consideration is *kukwana*. This verb arises from the common Central Bantu root **kʊman* which means 'be many', 'be enough'. In Nyungwe, *kukwana* mainly refers to the notion of being sufficient, or being able to fit in something, or having enough capacity to receive/accommodate something:

(1.13) *Madzi yan'kwana lini m'combo* (Martins 1991: 218)
        'Water doesn't fit in the container'

(1.14) *Bzinthu bziribe kukwana* (*ibid.*)
        'The things were not sufficient'

Besides the fact that *kukwana* communicates the notion of filling or repletion of any spatial container, the verb's meaning can be metaphorically mapped onto the domain of time. In phrases (1.15-1.17), *kukwana* represents a notion of 'filling up' a temporal interval, as if it was a physical recipient. Literal reading of (1.15) is 'time will be enough'. In (1.16), the expression means that an abstract temporal interval became full with some entity, namely with 'time'. The same is in (1.17):

(1.15) *Nthawe in'dzakwana*
        ø-nthawe   i-n'dza-kwan-a
        CL5-time   SM.CL5-FUT-be.sufficient-IND
        'Time will come' (lit. 'time will be enough/sufficient')

(1.16) *Yakwana nthawe yakuyenda ku mui* (Martins1991: 218)
        y-a-kwan-a   ø-nthawe   ya-ku-yenda   ku   mu-i
        SM.CL5-REC-be.sufficient-IND   CL5-time   CL5.ATT-INF-go   LOC   CL3-house
        'It's time to go home'

(1.17) *Nthawe yakubvuna yakwana*
        ø-nthawe   ya-ku-bvun-a   ya-kwan-a
        CL5-time   CL5.POSS-INF-harvest-FV   SM.CL5-be.sufficient-IND
        'Harvest time had come'

Motion of a temporal event towards deictic center can be metaphorically expressed through the predicate. In (1.18), the predicate is represented by a verb *iri kutali* 'is far away' which, in turn, includes a locative phrase with a root *-tali* bearing, primarily, a meaning of 'long'. So, the adjective for spatial evaluation of length is assigned to produce the notion of temporal distance. The same is in (1.19).

(1.18) *Gole ipsa iri kutali* (LS, 2018-07-27)
        ø-gole   li-psa   li-ri   ku-tali
        CL9-year   CL9-new   SM.CL9-be   CL16.LOC-far
        'The New Year is far (away)'

(1.19) *Natali iri pafupi-fupi pano* (LS, 2018-07-27)
        natali   i-ri   pa-fupi-fupi   pano
        christmas   SM.CL5-be   CL16.LOC-near-near   here
        'Christmas is very close'

3.2.1.2. The TIMES ARE LOCATIONS metaphor

Cross-linguistically, the TIMES ARE LOCATIONS metaphor (Moore 2014: 215) is of frequent occurrence[13]. This metaphor emerges as "an experiential correlation between the times when events occur (or states obtain) and the locations where they occur (or obtain)" (*ibid.*: 218). In other words, people tend to conceptualize the position of a situation in time as if it was the location of an object in space, *e.g.* 'in the room' and 'in February'.

In comparison to Nyungwe, English possesses quite extensive locativization terminology. The most common spatial locatives are the prepositions sort of 'at', 'in', 'on', 'under', 'above', 'within', 'between', 'inside', etc. The range of the spatial prepositions in Nyungwe looks much less impressive, it includes only three locatives *pa*, *ku*, *mu*, but the scope of meanings of each one is quite vast. The locative *pa* (class 16) expresses the general notion of spatial location, and also indicates restriction, proximity or contact corresponding to 'on', 'above', 'within', 'at' in English. *Ku* (class 17) refers to the relations concerning larger distances and amplitudes, it is applicable both to location and motion in space. *Mu* (class 18) describes placement of an object within 'container.

Let's consider the possible usages of these markers in the domain of space:

(2.1) **pa** *nyumba*
       'at home'

(2.2) **pa** *dziko*
       'in/around country'

(2.3) **pa***nsi* **pa***no*
       'down (in) here'

(2.4) **ku***basa* **kwa***ngu*
       'from my work'

(2.5) **ku** *Maputo*
       'to Maputo'

(2.6) **kwa***thu*
       'at our place'

(2.7) **mu** *nyumba muno*
       'in this house'

(2.8) **mu** *njira*
       'on the way'

(2.9) **m'***munda*
       'on/around the field'

As we see, the semantic structure of each marker is quite vast. One locative can be used to refer both to the motion and to the static location as in (2.7) and (2.8). In (2.4) and (2.5), the element *ku* may designate both source and goal relationships, and the differentiation is obtained by means of verbal suffixation or through contextual situation.

The question arising is how do these numerous meanings, expressing both location and motion in the three-dimensional domain, undergo metaphorical mapping onto the domain of time which is one-dimensional. Let's examine the following examples:

(2.10) **pa** *nsiku ya*
       'on the day of'

(2.11) **pa** *mainza*
       'during rainy season'

(2.12) **pa** *nyengo* **pa***le*
       'in that time(s)

---

[13] More examples of this metaphor will be given in the section 3.3.1.

(2.13) **pa** *nthawe yomweyo*
'at that moment'/'then'

(2.14) **m'***magole ya*
'in the years of

(2.15) **ku***yamba* **kwa** *sumana*
'in the beginning of the week'

(2.16) **ku***tsogolo* **kwace**
'in the future' (lit. 'in its front')

In the domain of time, a multiplicity of spatial locative meanings becomes significantly restricted. The markers *pa*, *ku*, *mu* only express static location of a temporal object in time. Both a moment (2.13, 2.15) and a time span (2.11, 2.12, 2.14) can act as the temporal object. In temporal expressions, the most prevalent locative marker is *pa*. This marker has general ability to construct the notion of a bounded object located within a 'container'. In the case of time, there is bounded situation, *i.e.* separated from the 'fabric of time', which is being located on this 'fabric' with the particle *pa*.

Note, that this metaphor does not exhibit deictic dependence: the utterances such as *pa mainza* 'at the dry season' or *kuyamba kwa sumana* 'in the beginning of the week' always preserve the original meaning without regard to the moment of speaking which, obviously, changes with the passage of time.

The TIMES ARE LOCATIONS metaphor is tightly associated with the adverbial's semantic function of simultaneous location, this will be considered in detail in Chapter 3.3.1.

3.2.1.3. The EVENTS ARE LOCATIONS and EVENTS ARE CONTAINERS metaphors

These two metaphors structurally and functionally are very related to the TIMES ARE LOCATIONS metaphor. In the domain of time, events are frequently conceptualized as if they were bounded locations in time (time spans). As Lakoff and Johnson (1980: 32) claim, "activities in general are viewed as SUBSTANCES and therefore as CONTAINERS", therefore, the usage of locative markers in Nyungwe within the EVENTS ARE LOCATIONS and EVENTS ARE CONTAINERS metaphors seems to be obvious.

The EVENTS ARE LOCATION metaphor mostly employs the semantic attributes of the marker *pa-*. The proper event may be designated by the verbal infinitive, hence, in this metaphor, the verb which expresses an action or a movement acquires the function of a noun with the meaning of a bounded object. The phrase in (3.1) can be literally translated as 'in to-start the work', and in (3.2) it is 'in to-hear this' or 'while hearing':

(3.1) *Pakuyamba basa*
       pa-ku-yamb-a   *ø-basa*

CL16.LOC-INF-start-IND   CL9-work
'In (=inside) the beginning of the work'

(3.2) *Pakubva bzimwebzi*
   pa-ku-bv-a   *bzi-mwe-bzi*
   LOC-INF-hear/feel-IND CL8-this-EMP.CL8
   'While hearing all these things'

The EVENTS ARE CONTAINERS metaphor is better illustrated by the expression in (3.3). In this case, *ulendo* 'trip' as a noun referring to a particular event, is considered as a container which holds an action or activity inside itself: so, the activity of singing is being contained within the event of travel:

(3.3) *pakati pa ulendo ndinidzaimba kwene-kwene*
   pa-kati *pa* *u-lendo*   *ndi-nidza-imb-a*   *kwene-kwene*
   LOC-half LOC CL11-trip/travel SM.1SG-FUT-sing-IND a lot
   'during the travel, I will sing a lot'

3.2.1.4. The SEQUENCE IS RELATIVE POSITION ON PATH metaphor

This metaphor conceptualizes earlier-than and later-than relationships between the events ordered in a sequence along the timeline. The metaphor represents events/situations as objects arranged in a line. The direction of the line motion determines front-back orientation of the objects, so, the object's face typically corresponds to the direction of motion. The same is for the motion of ordered events in time. Taking into account that the observer faces the impending sequence of events, (s)he specifies that one event comes earlier than another, *i.e.* one event is in front of another.

This metaphor is tightly associated with the adverbial's semantic function of sequential location. In Nyungwe, sequential location can be encoded by dint of various lexical elements and grammatical constructions, such as independent temporal clauses, locativisation of verbal phrases, etc. (see 3.3.2), and the SEQUENCE IS RELATIVE POSITION ON PATH metaphor is one of these means.

Let's consider how the notion of sequentiality occurs in spatial (4.1) and temporal (4.2) contexts:

(4.1) *Mwamuna an'pita m'mbuyo mwa nkazi*
   mwa-muna *a-n'-pit-a*   *m'-mbuyo* *mwa* *nkazi*
   CL1-male   SM.CL1-PRS-enter-IND LOC-back LOC CL1-female
   'A man enters behind/after a woman'

(4.2) *Abril in'bwera m'mbuyo mwa marso*
      ø-abril   *i-n'-bwer-a*   *m'-mbuyo*   *mwa*   *ø-marso*
      CL5-april   SM.CL5-PRS-come-IND   cl.18LOC-back   cl18.LOC   CL5-march
      'April comes after March'

This metaphor allows to describe deictic independent situations, *i.e.* the moment of utterance may happen in any month, either in the past or in the future, but April always follows March. Note that this pattern was copied from the analogous spatial situation in (4.1): a man always enters after a woman independently on the observer's position, whether the situation is observed from the north or from the west, or whatsoever, the sequence of the things remains the same.

Which is really crucial here is awareness about the reference point. In (4.1), the figure of woman is a reference point, and the position of the man is assigned with regard to the woman's position. The same happens in the temporal situation: without introducing March as a reference point, it is not possible to determine April's position.

3.1.1.5. The TIME IS A MOVING OBJECT metaphor

This metaphor (Lakoff and Johnson 1980: 43) is semantically very close to the TIME PASSING IS THE MOTION OF AN OBJECT metaphor (in 3.2.1.1). But in this case, time is conceptualized as a moving object without either a deictic anchoring or any reference point. Consequently, Talmy's notions of a Ground and a Figure are excluded because time in this metaphor is both a Figure and a Ground.

Let's have a look at the following examples of usages:

(5.1) *Nsiku zithamanga kwene-kwene* (LF, 2017-12-15)
      'Time runs very fast'

(5.2) *Nsiku zimbaluka* (LS, 2018-07-27)   *cf. mbalame zimbaluka*
      'Time flies'   'the birds fly'

(5.3) *Nsiku zaima* (LS, 2018-07-27)   *cf. mwana waima*
      'Time stopped'   'a child has stopped'

(5.4) *Nsiku zim'pita lini cedwa* (IM, 2018-02-22)
      'Time never passes' = 'Time never ends'

(5.5) *Nsiku limberera lini ku mbuyo* (LS, 2018-07-27)
      'Time never goes back'

The TIME IS A MOVING OBJECT metaphor conceptualizes time as an animate object able to move and stop, it can be fast as in (5.1) or slow (5.4). The metaphor provides the necessary inventory to transfer the features of the visible physical object to introduce the notion of the moving temporal entity.

Note, that in the expressions (5.1-5.5) the most appropriate Nyungwe term for 'time' is *nsiku* 'days'. However, as we discussed in the section 3.1.1.1, Nyungwe also has words *nyengo* or *nthawe* that refer not only to the general, abstract notion of time, but also to a time span both with definite and indefinite limits. After all, why do Nyungwe speakers prefer to use *nsiku* to *nyengo* and *nthawe* in the expressions above? I suppose, it is because *nsiku* is a countable word, which has both singular and plural form (while *nyengo* and *nthawe* are singular only). *Nsiku* denotes the concrete period of time with definite borders, so it can be successfully isolated from the colossal 'fabric of time'. While being a bounded object in time, *nsiku* adopts characteristics of a bounded spatial object.

3.2.2. Non-spatial metaphors of time

As Lakoff and Johnson (1980) highlight: "many of our activities (arguing, solving problems, budgeting time, etc.) are metaphorical in nature. The metaphorical concepts that characterize those activities structure our present reality" (Lakoff and Johnson 1980: 8). A new reality requires new metaphors and vice versa, new metaphors create a new reality, and they even can replace traditional ways of conceptualization. Lakoff and Johnson argue, that long domination of western civilization over the indigenous societies around the globe led to the emergence of some metaphors which were not characteristic for many of these cultures (*ibid.*: 9-10).

For example, the metaphors kind of TIME IS MONEY, or TIME IS A LIMITED RESOURSE, or TIME IS A VALUABLE COMMODITY are typical for industrialized cultures, but may not be the same for traditional societies. As it was discussed before (see chapter 1.1), before colonization, African cultures lacked the notion of measured linear time. Controlling, wasting, saving, gaining, loosing time was simply beyond traditional epistemology and ontology (different approaches on the problem are in Mbiti 1969; Adjaye 1994; Koné 1994; Keletso 1994).

With regard to Nyungwe, there is no reason to assert that metaphors such as TIME IS A LIMITED RESOURSE are inherent for this culture. However, the expressions 'I'm losing my time' or 'I don't have time' can be said in Nyungwe. Examples below demonstrate,

that some speakers use Portuguese loanwords to express the notion of loosing or saving time: *kuperderi* and *kupupari*, respectively (6.2, 6.4). But indigenous Nyungwe terms also can be used (6.1, 6.3):

(6.1)   *Ndiri kudzonga nthawe* (SR, 2017-12-27)
        'I'm loosing (lit. 'spoiling') my time'

(6.2)   *Ndiri kuperderi tempo* (LF, 2017-12-15)
        'I'm loosing my time' (*cf.* Port. 'estou a perder tempo')

(6.3)   *Ici cinkukoyesa nthawe* (SR, 2017-12-27)
        'This helps to save (lit. 'makes to preserve') time'

(6.4)   *Ibzi bzikucita kupupari nsiku* (LF, 2017-12-15)
        'This helps (lit. 'makes') to save time' (*kupupari* < Port. 'poupar')

Time in these expressions is conceived as a material resource, or money, or commodity, and time is needed for some purposes, so it must be saved and cannot be lost. Here are a few more examples of the possible usages of the TIME IS A LIMITED RESOURSE metaphor:

(6.5)   *Nim'phata tsapanopa* (LS, 2018-07-27)
        'I catch/grab the right moment'

(6.6)   *Ndataya nsiku* (LS, 2018-07-27)
        'I lost time'

3.2.3. Summary of the chapter

We analyzed two types of conceptual metaphor of time in Nyungwe: spatial and non-spatial.

Space-time metaphors are very common in this language, they provide an inventory to express the notion of time, an abstract category undetectable by human's sensory faculty, in terms of space, a domain which is directly perceived and easily analyzed by our mind. As we saw in this chapter, Nyungwe always appeals to spatial terminology in order to indicate the passage of time, the event's location in time, or the sequence of events. The most frequent is the TIME PASSING IS MOTION OF AN OBJECT metaphor. Meanwhile, for the TIME PASSING IS MOTION OVER A LANDSCAPE metaphor no data were found. In other words, 'New Year is coming' is an appropriate phrase in Nyungwe, while the expression 'We are entering New Year' does not exist (in contrast to English). It may

be an evidence for the fact that Nyungwe speakers do not conceptualize time as a dimension where one can consciously move around and perform conscious activities.

With regard to non-spatial metaphors of time, such as TIME IS MONEY, or TIME IS A LIMITED RESOURSE, or TIME IS A VALUABLE COMMODITY, their usage is quite restricted Perhaps, they were borrowed from Portuguese during colonization (including force labor and slavery), which provoked decrease of the prestige of native languages and traditional values.

3.3. Temporal devices

Based on Haspelmath's (1997) classification, we will distinguish the TDs according to their semantic functions of simultaneous location, sequential location, sequential durative location, temporal distance and temporal extent in Nyungwe (see paragraph 1.2.6 for theoretical framework). In Nyungwe, these functions can be implemented not only through the temporal adverbials (adverbs, noun phrases, prepositional phrases), but also through the dependent (temporal) and independent clauses. Although the objectives of this study do not include the analysis of tense and aspect, the relevant explanation of these categories will be provided whenever necessary, for instance, when any particular case of compatibility or incompatibility between a verb and a temporal adverbial emerges.

3.3.1. Simultaneous location

Temporal devices with the semantic function of simultaneous location (SL) encode the notion of the event located simultaneously with the reference point (TE = RP). Nyungwe employs the following types of temporal devices of SL: zero marking, prepositional phrases with locatives *pa-*, *ku-*, *mu-*, relative clause, and independent clause. In the present chapter, we will consider these grammatical forms.

Zero marking with certain modifiers

Haspelmath (1997: 102) mentions three languages from his sample, Lithuanian, Swahili and Abkhaz, which "do not use spatial markers in any of the simultaneous functions", but do employ zero marking to indicate simultaneous location. As Swahili, Nyungwe also tends to use zero marking to express temporal location. Primarily, this emerges in noun phrases containing deictic temporal terms such as *lero* 'today', *dzulo* 'yesterday', *mangwana* 'tomorrow', etc.:

(1)   *Mangwana ndin'yenda kagula bzinthu* (IM, 2018-03-04)

> *ø-mangwana   ndi-n'-yend-a   ku-gul-a   bzi-nthu*
> tomorrow   SM.1SG-PRS-go-IND   INF-buy   CL6-things
> 'Tomorrow I go for shopping' ('I go to buy things')

Zero marking predominates in the expressions of SL with day-part terms and with most of the temporal units such as 'day', 'week', 'month' and 'year', as in (2-3). The locative markers *pa-* and *mu-* (will be considered further) may be applied in these expressions in order to emphasize the positioning of the event within a certain temporal interval. In the context, when it is necessary to specify several temporal units, for example 'on the day X, hour Y, minute Z', zero marking also seems to be suitable, as in (3).

(2)   *Iye aniyenda kuMaputo nsiku ya Natali* (LF, 2017-12-15)
       iye   a-ni-yend-a   ku-Maputo   ø-nsiku   ya   natali
       3SG.PRON   SM.CL1-PRS-go-IND   LOC-maputo   CL5.DAY   CL5.POSS   christmas
       'On the day of Christmas he goes to Maputo'.

(3)   *bzwentsebzwi bzwatifikira kuphampha nsiku ya lerolino, nsiku ya cipiri, khumi na ziwiri, mwezi wa mphepo, gole la bzwulu bzwiri na mapfemba* (Rego 2012: 209)
       'All these things reached their end today, on the day of Tuesday, 12th of May, 2009'.
       (lit. 'day of this today, day of Tuesday, twelve, month of wind, year 2009')

       bzw-entse-bzwi   bzw-a-ti-fik-ir-a   ku-phampha
       CL8-all-CL8.EMP   SM.CL8-REC-OM-arrive-APPL-IND   LOC-end
       'all these things reached their end…

       ø-nsiku ya   ø-lero   li-no   ø-nsiku   ya   ci-piri
       CL5-day CL5.POSS CL9-today CL9-DEM.this CL5-day CL5.POSS CL7-two(tuesday)
       …on the day of today, day of Tuesday…

       khumi   na   ziwiri   ø-mwezi   ya   ø-mphepo
       ten   with   CL6-two   CL5-month   CL5.POSS   CL5-wind
       … twelve, month of wind (= May) …

       ø-gole   la   bz-wulu   bz-wiri   na   mapfemba
       CL9-year   CL9.POSS   CL.8-thousand   CL8-two   with   CL10-nine
       … year of two thousand and nine'.

<u>Prepositional phrase with locative markers</u>

In addition to zero marking, locatives also construct temporal expressions with the SL function implemented. Most of the sample languages from Haspelmath's (1997: 102) research demonstrate the tendency to express temporal SL employing spatial makers,

likely, prepositions which is a typical case of the TIMES ARE LOCATIONS metaphor[14] (see 3.2.1.2). Nyungwe uses spatial locative markers *pa-*, *ku-*, *mu-* to implement the function of SL. The most common is *pa-* which encompasses the general notion of temporal location, *i.e.* an event occupies location within or around a certain time period. For example, the expression 'in this/that time (of)' in Nyungwe always includes *pa-* as in examples (1-3):

(1)   *pa nyengo pale*
       pa   *ø-neyengo*   *pa-le*
       CL16.LOC   CL5-time   CL16.LOC-DEM.that
       'in that time' or 'in those times'

(2)   *pa nsiku pano*
       pa   *ø-nsiku*   *pa-no*
       CL16.LOC   CL6-days   CL16.LOC-DEM.this
       'In this time', 'nowadays' (lit. 'in these days')

(3)   *pa nthawe ya mpolofita Eriya* (Luka 4:25)
       pa   *ø-nthawe*   *ya*   *m-polofita Eriya*
       CL16.LOC   CL5-time   CL5.POSS   CL1-prophet.Elijah
       'In the time of the prophet Elijah'

In the expressions referring to hour or day, not only zero marking, but also the locative *pa-* is suitable, as in (4-5). But when it is referred to a season (*mainza* or *cirimo*), *pa-* is always obligatory, as in (6).

(4)   *pa nthawe ziwiri*
       pa   *ø-nthawe*   *zi-wiri*
       CL16.LOC   CL6-times/hours   CL6-two
       'at two o'clock'

(5)   *pa (nsiku ya) cinai*
       pa   *ø-nsiku*   *ya*   *ci-nai*
       CL16.LOC   CL6-day   CL6.POSS   CL7-four
       'on Thursday'

(6)   *Anidzara pa mainza, pa cirimo anisara mathaware okha* (Courtois 1900: 195)
       a-ni-dzal-a   *pa*   *ma-inza*
       SM.CL1-PRS-be.full-IND   CL16.LOC   CL10/12-rainy.season
       pa   *ci-rimo*   *a-ni-sar-a*   *ma-thaware*   *okha*
       CL16.LOC   CL7-dry.season   CL1-PRS-appear-IND   CL10/12-lake   only
       'It's full only in the rainy season, in the dry season it's only swamps'

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[14] In English, for example, one can say **at** *the school*, **on** *the table*, **in** *the box*, as well as **at** *seven p.m.*, **on** *Sunday*, **in** *March*. Compare Russian: **na** *polu* — **na** *sleduyuschey nedele* ('on the floor' — 'on the next week'), **v** *korobke* — **v** *chetverg* ('in the box' — 'in Thursday').

(7)   *Pa mainza tinabasa kwene-kwene* (LF, 2018-04-26)
       pa   *ma-inza*   *ti-na*   *basa*   *kwene-kwene*
       CL16.LOC   CL10/12-rainy season   SM.1PL-have   work   a lot
       'In the rainy season we have a lot of work'

In the corpus, an expression *pa mwezi* was found. Here the temporal unit is also merged with the locative, but *pa* does not concern the function of SL, it rather marks frequency and can be translated as 'monthly'. However, due to the fact that *mwezi* has the same form for singular and plural, *pa mwezi* may be read as 'in months', and in this way, the expression may mark multiple SL. Yet, no context was found for this interpretation.

With regard to 'year', the marker *mu-* is required. Recall that the locative *mu-* encodes the situation where an object occupies space within a bounded container, or, speaking temporally, positioning of an event inside the temporal span, in this case, a year, as in (8). In (9) we find an interesting case of the noun *gole* 'year' omitted from the noun phrase, so, basically, this expression can be read as 'hunger of (something which was) in 1983':

(8)   *mu gole ya 1983*
       mu   *ø-gole*   *ya*   *1983*
       CL18.LOC   CL.9-year   CL9.POSS   1983
       'in 1983' ('in the year of 1983')

(9)   *njala ya mu 1983*
       ø-njala   *ya*   *mu*   *1983*
       CL5-hunger   CL5.POSS   CL18.LOC   1983
       'hunger of (the year) 1983'

The locative marker *ku-* also undergoes metaphorical mapping from the spatial to the temporal domain. In the spatial context, *ku-* labels motion, or precisely, changing the degree of proximity in relation to a given object. Essentially, *ku-* does not refer to a stable location, but to a process of motion, and corresponds to the English prepositions of movement or direction. Despite its infrequency as a SL marker, *ku-* appears to emphasize the beginning of a temporal unit, so that an event takes place near the moment given by the specification of the temporal unit, or from its beginning until its end through the moment when a given temporal unit begins. There are two possible readings of the example in (10): the event of 'arriving' may either overlap the beginning of morning or be juxtaposed to it. In its second reading, the NP *kumacibese* corresponds better to the Russian expression *k utru* 'to/towards morning' or 'attaching morning', or English 'by

morning'. In the expression (11), the locative *ku-* also marks overlapping between an event 'cutting trees' and RP 'beginning of the week'. Here, the notion of SL is additionally provided by a verbal prefix *-ka-* in *ndikagwata* (which in different phonetic contexts can emerge as an allomorph *-nga-*) which marks that the action expressed by the verb occurs simultaneously with the event indicated by the RP. The expression in (11) can be paraphrased with the locative marker *pa-* attached to the infinitive form of the verb as in (12), so that the whole temporal construction reflects the typical structure of a prepositional phase and can be interpreted as 'at to-begin':

(10)   *Anidzabwera kumacibese*
         a-nidza-bwer-a   *ku-macibese*
         SM.CL1-FUT-arrive-IND   CL17.LOC-morning
         '(s)he will arrive by the morning (= around beginning of the morning)'

(11)   *Kuyamba kwa sumana ndikagwata muti zinji* (LF, 2017-12-15)
         ku-yamba   *kwa*   *sumana ndi-ka-gwat-a*   *mu-ti*   *mi-zinji*
         CL17.LOC-begin LOC.POSS week   SM.1SG-SIM-cut-FV CL4-trees CL4-all
         'In the beginning of the (next) week I will cut a lot of trees'
         (lit. 'near-beginning of-near week')

(12)   *Pakuyamba sumana*
         pa-ku-yamb-a   *sumana*
         CL16.LOC-INF-begin-FV   week
         'In the beginning of the week'

The temporal phrase with *pa-* as in (12) activates the EVENTS ARE LOCATIONS metaphor, where an activity — starting to work in (13), and rooster's singing in (14), — rather than a temporal unit, is used to create the reference point:

(13)   *pakuyamba basa langu ndikhana kesedwa kwene-kwene* (LF, 2017-12-15)
         pa-ku-yamb-a   *ø-basa*   *la-ngu*   *ndi-kha-na*   *kesedwa*
         CL16.LOC-INF-start-FV CL9-work CL9-my   SM.1SG-P.IMP-have difficulties
         'In the beginning of my work I had a lot of difficulties'.

(14)   *pakulira kwa congwe*
         pa-ku-lir-a   *kwa*   *congwe*
         CL16.LOC-INF-sing-FV   LOC.POSS   CL1-rooster
         'When rooster sings' (lit. 'at rooster's singing')

Dependent clause with *(p-)omwe* 'where'/'when'

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A reference point for an event in time can also be constructed by a dependent clause which describes another co-occurrent event . *Pomwe* 'where'/'when' is a locative form of a relative pronoun *omwe* 'which', 'that'. *Pomwe* introduces the subordinated clause ('eight days had passed') which bears a RF and attaches to the main clause ('they came').

(15) *Pomwe zidapita nsiku zisere wanthu adabwera* (Luka 1:59)
     p-omwe zi-da-pita   ø-nsiku   zi-sere
     CL16.LOC-which.REL CL6-PRF-pass CL6-day   CL6-eight
     'on the eighth day they came'

Independent clause

The reference point for SL encoded within an independent clause is a typical phenomenon for the Nyungwe grammar. The clause that provides the notion of SL, contains the verb with the marker of simultaneousness *-ka-/-nga-,* so that the events encoded in both clauses happen at the same time. In this way, the example in (16) can be paraphrased as 'you finish the month and simultaneously we will speak', and in (17) the possible reading is 'The year of 2018 arrives and simultaneously I want to go to Mozambique':

(16) *Ukamala mwezi, tin'dzaceza* (LF, 2017-12-08)
     u-ka-mal-a   ø-mwezi   ti-n'dza-cez-a
     SM.2SG-SIM-finish-IND   CL5-month   SM.1PL-FUT-talk-FV
     'In the end of the month we will speak'

(17) *Likafika 2018 ndin'funa kwenda kuMozambik* (LF, 2017-12-15)
     li-ka-fik-a   2018   ndi-n'-fun-a   kw-end-a   ku Mozambik
     SM.CL9-SIM-arrive-FV 2018   SM.1SG-PRS-want-IND INF-go-FV LOC.mozambique
     'In 2018 I want to go to Mozambique'

3.3.2. Sequential location

The semantic function of sequential location (SeqL) aims to represent earlier-than and later-than relations between two events in time, thus, one event precedes the other, for example *He brushes his teeth after dinner*. Here, the event 'dinner' is the reference point, and the event 'brush teeth' is oriented by this RP, particularly, dinner occurs later than brushing teeth. This semantic relation corresponds to the sequence-time model, in Núñez and Cooperrider's classification (2013), *i.e.* brushing teeth always happens after the dinner, with no regard to whether situation occurs in past or present or future. From the perspective of temporal devices, the most common way to encode SeqL, in familiar

to us European languages, is through the prepositional phrase containing temporal marker such as 'before' and 'after' in English, or 'antes' and 'depois' in Portuguese.

Nyungwe's repertory for SeqL includes markers that directly correspond to 'before' and 'after', and, in addition, clauses that indicate location in time. We will consider these devices in this section.

3.3.2.1. Front/back orientation of event in sequential location

In a number of languages, the characteristics of the spatial markers 'in front' and 'behind' are metaphorically transferred onto the temporal domain to construct the meaning of anteriority ('before') and posteriority ('after').

Thus, the spatial situation 'the object X is located in front/ahead of the object Y' corresponds to the temporal situation 'the event X happens before/earlier than the event Y'; and the spatial 'behind' is equivalent to the temporal 'after'. Hill (1978) asserted that "in most languages the lexical resources used to represent the orientation along the front/back axis in horizontal space are also used for temporal orientation" (Hill, 1978: 524, cited in Haspelmath, 1997: 57), so that 'before' and 'in front' are represented by the same term (*pered* in Russian, *ante* in Latin, *vor* in German), as well as 'after' and 'behind' are also designated equally (*posle* in Russian, *post* in Latin).

While in relation to animate objects we can define the front and back side (associated, for example, with face and spine respectively), how can we specify 'front' and 'back' for inanimate objects, or even for events? As it was presented in the sections 1.2.2. and 1.2.3, languages demonstrate different preferences for specification of front and back sides, *i.e.*, by choosing frames of reference. In Nyungwe this matter seems quite ambiguous, as we will see further.

Patsogolo, kutsogolo, m'tsogolo

The root *-tsogol-* basically means 'front'/'precede', but, combined with different affixes, it may cover more concepts. This root is not associated with any "frontal" body part such as face, head, forehead or eyes, as it can be seen in Spanish (*frente* 'forehead' and *a frente* 'in front') or Aymara (*nayra* 'eye, sight' and *nayra* 'in front'). To refer to any of these body parts, Nyunwge has other terms which are not identified with *-tsogol-*.

This root transfers the idea of preceding, leading or being the first. These meanings are integrated in the verbs *kutsogola,* 'to go in front, anticipate' and its derivative

kutsogoleri 'to precede', and in the nouns *e.g. nstsogoleri* 'chefe' (plural *atsogoleri*), and adjectives, *e.g. wakutsogola* 'first, previos'. Consider the following examples:

(1) *Iye watsogola kale kuyenda ku Galileya* (Maliko 16:7)
  iye   wa-tsogol-a   kale ku-yenda ku Galileya
  CL1.3SG.PRON SM.CL1-front-IND already INF-go CL17.LOC-galilee
  'he goes before you into Galilee'
  (lit. 'he already precedes you on going to Galilee')

(2) *Kuti adzatitsogolere mu njira ya ntendere* (Luka 1:79)
  kuti a-dza-ti-tsogol-er-e   mu ø-njira ya   ntendere
  that SM.CL1-MOV-OM.1PL-front-APPL-CONJ LOC CL5-way CL5.POSS peace
  'to guide our feet into the way of peace'
  (lit. 'that they lead us on road of peace')

(3) *ntsogoleri wa cigawo* (Ndapassoa 2015: 128)
  n-tsogol-er-i   wa   ci-gawo
  cl1-front-APPL-SUBST CL1.POSS CL7-division
  'governor' (lit. 'leader of division')

(4) *atsogoleri wa mzinda* (Ndapassoa 2015: 128)
  a-tsogol-er-i   wa   m-zinda
  CL2-front-APPL-SUBST CL2.POSS CL3-town
  'municipal council' (lit. 'leaders of town/settlement')

(5) wa-pa-tsogol-etu   (6) wa-ku-tsogol-a
  GEN-CL16.LOC-front-SUPL   GEN-INF-front-FV
  'anterior', 'the most ancient'   'first, previous'

In the domain of spatial motion, the root *-tsogol-* shows that an object X precedes an object Y, or, more precisely, occupies space in the front side of the object Y where front is associated with the direction of movement. This notion is provided through the range of compound prepositions which include *-tsogol-* as a lexical specifier of 'front', and prefixes *pa-*, *ku-*, *mu-* as grammatical markers of location, so we have the following forms: *patsogolo*, *kutsogolo*, and *m'tsogolo*:

(6) *iye adathamanga kutsogolo kwa wanthuwo* (Luka 19:4)
  iye   a-da-thamang-a ku-tsogolo kwa   wa-nthu-wo
  CL1.PRON SM.CL1-PRF-run-IND CL17.LOC-front CL17.LOC CL2-people-CL2.EMP
  'He ran ahead/in front of the people'

The SEQUENCE IS A RELATIVE POSITION ON PATH metaphor allows to apply the spatial preposition *kutsogolo* and other derived prepositions in the temporal domain of S-time. One should be careful examining temporal expressions with *kutsogolo,* because the

perception of front and back of the event is influenced by the chosen temporal model. For instance, the expression in (7) is a temporal reflection of the spatial expression 'in front of' in (6), so here the root *-tsogol-* indicates the front side of *abril*, *i.e.* the event (or temporal interval) is oriented with its front side towards direction of the movement of the sequence of events. This is a case of S-time model, according to Núñez and Cooperrider (2013). Consequently, in (7) *kutsogolo* is translated as 'before', and it exemplifies a case of an equal lexical representation of the concepts 'in front of' and 'before'.

(7)   *Marsu ni kutsogolo kwa abril* (LS, 2018-07-27)
        marsu   ni   ku-tsogolo   kwa   abril
        march   COP   CL17.LOC-front   CL17.LOC   april
        'March goes in front of April'

While in (7), the sequential character of relation between two time units excludes anchoring to a deictic point, in (8) and (9), *-tsogol-* necessarily implies deictic boundness. In this way, the model of internal D-time emerges (Núñez and Cooperrider 2013: 222), so that *-tsogol-* represents the frontal side of the ego, oriented towards future. In other words, if the locative in (7) marks posteriority, in (8) and (9) it marks futurity. It follows, that *-tsogolo-*based temporal RP, as in (8) and (9), do not bear the function of sequential location, they are likely to be used for simultaneous location, the function which was discussed in 3.3.1.

(8)   *mafala yomwe yan'dzatewezeka kutsogoloko* (Luka 1:20)
        ma-fala   y-omwe   ya-n'dza-tewezek-a   ku-tsogol-o-ko
        CL10-words   CL10-that   SM.CL10-FUT-acomplish-IND   CL17.LOC-front-FV-LOC.EMP
        'Words, which will come true at their appointed time' ('in future, in their season')

 (9)   *cabwino ciri kutsogolo kwangu* (IM, 2018-03-04)
        ca-bwino   ci-ri   ku-tsogolo   kwa-ngu
        CL7-good   SM.CL7-be   CL17.LOC-front   CL17.LOC-my
        'Good (*i.e.* 'better future') is in front of me'

Differentiation between temporal models of S-time and D-time is crucial in order to interpret the meaning of prepositions derived from *-tsogol-*, because the same ambiguity appears in the case of *mbuyo*, as we will consider next.

Mbuyo

This term means 'back', 'backside' (Port., 'atrás' 'parte de trás', 'traseiro/a') but etymologically it is not associated with any body part such as 'back', 'scapula' or

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'buttocks'. While Martins (1991: 258, 279) marks 'back' and 'spine' with *msana* (class 3), Rego, however, mentions that this body part may be designated with *mbuyo* (Rego 2012: 106), so, the question remains unsolved.

In spatial context, this component materializes as an adverb which means 'behind' or 'backwards'. It may appear either independently or bounded with one of the locatives, so three possible manifestations are *pambuyo*, *kumbuyo* and *m'mbuyo*:

(10) *Iye adayenda mbuyo mwa Jezu* (Luka 8:44)
      Iye   *a-da-yend-a*   *mbuyo*   *mwa*   *Jezu*
      3SG.PRON   SM.CL1-PRF-go-IND   back   CL18.LOC.POSS   Jesus
      'She came up behind Jesus' (lit. 'she went back at-of Jesus')

(11) *Pambuyo pace [munthu] adadzapitambo mSamaliya* (SIL 2010f: 3)
      pa-mbuyo   *pa-ce*   *a-da-dza-pita-mbo*   *m-Samaliya*
      CL16.LOC-back   LOC-POSS.CL1   SM.CL1-PRF-MOV-pass-also   CL1-samaritan
      'Behind (lit. 'in the back of him, a man'), the Samaritan also had passed'

(12) *Kambuzi ka m'mbuyo, kan'salira mitcamu* (Martins, 2001: 22)
      Ka-mbuzi   *ka*   *m'-mbuyo*   *ka-n'-sal-ir-a*   *mi-tcamu*
      CL13-goat   CL13.POSS   CL18.LOC-back   SM.CL13-PRS-stay-APPL-IND CL4-rod
   'The last baby-goat is the one who feels the rod'

These expressions display the notion of the sequence of objects moving in space. The structure of the SEQUENCE IS A RELATIVE POSITION ON PATH metaphor can be mapped onto the temporal domain and have an outcome as following:

(13) *pambuyo pa kufa kwa Lasana Comté* (Rego 2012: 212)
      pa-mbuyo   *pa*   *ku-fa*   *kwa*   *Lasana Comté*
      CL16.LOC-back   LOC.POSS   INF-die   LOC.POSS   Lasana Comté
      'after Lasana Comté died' (lit. 'in the back of death of Lasana Comté')

(14) *Pambuyo pace, Jezu adayenda ku mii ya mmphepete* (Maliko 6:6)
      pa-mbuyo   *pa-ce*   *Jezu*   *a-da-yend-a*   *ku*   *mi-i*
      CL16.LOC-back   LOC-POSS.3SG   Jesus   SM.1CL-PRF-go-IND   LOC   CL4-village
      'After that, Jesus went around the villages'

This is quite obvious, that Nyungwe applies the same word *mbuyo* to refer to 'back' and 'after', and as we saw, it is a case for many languages (Haspelmath 1997: 57). But this is true only when temporal *mbuyo* implements its function of posterior sequential location.

In the case of moving objects in space, if we associate the front side with the direction of movement, how can we distinguish between front and back of a given temporal interval? In familiar European languages, a front side of a TI is equivalent to its

beginning, therefore the end of TI, or the part of TI which occurs later in time, is the back side of the event. If an observer is located on the timeline and oriented towards future, the 'facet' of the TI which is going to occur earlier and which is located closer to the observer will be considered as front of the event. Consequently, the 'facet' of the TI which is going to occur later, and which is located more distantly is the back. So, in English or in Russian one can say: "April is coming after (=in the back of) March", as on the figure 8:

April is in the back of March = April is after March
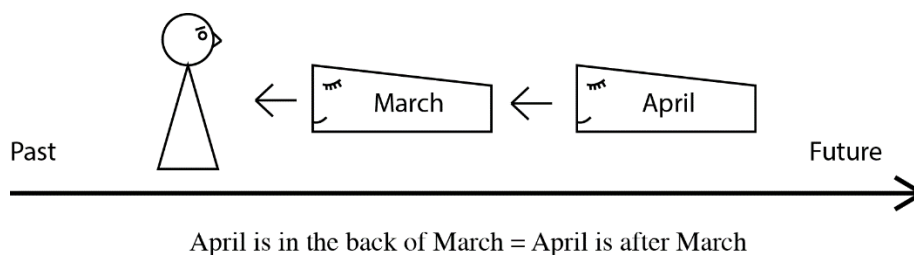
To indicate, that this interpretation of event's front/back orientation is not the only possible, let's consider the following examples elicited from two different speakers of Nyungwe:

(15) *Cipiri ciri ku mbuyo ca citatu* (LS, 2018-07-27)
     ci-piri   *ci-ri*   *ku*   *mbuyo* *ca*   *ci-tatu*
     CL7-two   SM.CL7-be   CL17.LOC   back   CL7.POSS CL7-three
     'Tuesday is in the back of Wednesday'

(16) *Marsu iri ku mbuyo ya abril* (IM, 2018-03-04)
     marsu   *i-ri*   *ku*   *mbuyo*   *ya*   *abril*
     march   sm.CL5-be   CL17.LOC   back   CL5.POSS abril
     'March is in the back of April (lit. 'in the back side of April')

Apparently, here *mbuyo* cannot be interpreted as 'after', but still refers to 'back'. The possible interpretation is that the stationary ego, located on the timeline, observes the past and conceptualizes the 'facet', which happened later, as a front side of the TI. The speaker is guided by a notion that the facet which is placed in a closer proximity is considered as the front, as in the following illustration:

March is in the back of April
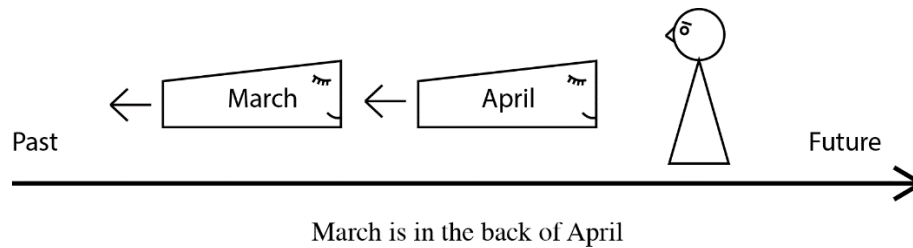
This visualization explicitly shows that the beginning of the event may not correlate with its front, as well as back of the TI is not always the part which occurs later. Consequently, in the example (15), where Tuesday is marked as being located at the back side of Wednesday, and in (16) where March is at the back of April, the term *mbuyo* can be translated as 'before'.

Concluding this section, we briefly sum up, that Nyungwe applies different temporal models, and depending on the model the markers *-tsogol-* and *mbuyo* reflect different types of temporal relations. We don't know if similar cases are frequent in the Bantu area, and we cannot be absolutely sure that this character of temporal modelling can be generalized for all the Nyungwe speakers. But what this examples demonstrate is that the orientation towards past as a widespread feature of Bantu time conceptualization (see the chapter 1.1), needs to be verified, obviously in a further intensive research, with more extensive and reliable data, collected in the field.

3.3.2.2. Anterior sequential location

The semantic function of anteriority SeqL indicates that an event happens earlier than a reference point in a sequence (TE < RP). The most typical temporal adverbial bearing this function is a prepositional phrase with 'before' which corresponds to Nyungwe's root *-tsogol-*, which has been considered in the previous chapter. Furthermore, this language disposes a variety of sources to construct a RP with anterior SeqL. These are the locative infinitives and the periphrastic expressions.

<u>Locative infinitives</u>

In Nyungwe, a locative prefix attached to a noun builds a prepositional phrase, and this is the way to convey the meaning of location in relation to an entity expressed by a noun. In temporal contexts, the verbal infinitive encoding an action can also be joint to a locative prefix, forming a structure that represents an activity as an entity in time. This is

a particular case of the EVENTS ARE LOCATIONS metaphor. The localized activity function as a reference point. With regard to the anterior SeqL, the most characteristic verbs to express this metaphor are those which meanings refer the beginning or end of the process of an activity (an inceptive or cessative kind of activity): *kuyamba* 'to start, *kutoma* 'to start, *kumala* 'to finish'. The locativisation of a verbal structure as in (17) implies the following reading 'at to-begin to-eat (= 'before eating') wash your hands'.

(17)   *pakuyamba kudya kutsuka manja* (LF, 2017-12-29)
     pa-ku-yamba   *ku-dya*   *ku-tsuk-a*   *ø-manja*
     CL16.LOC-INF-start   INF-eat   INF-wash-FV   CL10-hands
       'before eating, wash your hands'

     <u>Paraphrase</u>

The anterior SeqL may be accomplished through the RP expressed by an independent clause. As we will see further, in Nyungwe, not only a verbal modifier (*e.g.* an adverbial), but also a separate clause may bear temporal semantic functions. Compare how the following sentences can be interpreted: '**there was not-having war**, the world was in peace' in (18) and 'he will not dye, **he does-not-meet/reach to see Christ**' in (19). However, the reference point (in black) may also serve as a condition for the events 'world was in peace' and 'he will not dye'. We do not assume that there is a case of temporal or conditional subordinated clause because there is no marker of subordination between clauses, so in both examples, the temporal phrases are independent clauses:

(18)   ***pakhalibe nkhondo*** *pansi pakhatambalala* (LF, 2017-12-29)
     pa-kha-libe   *ø-nkhondo*   *pa-nsi*   *pa-kha-tambalala*
     SM.LOC-PST-not.have   CL5-war   LOC-down   SM.LOC-PST-be.in.piece
     'before the war, the world was in piece'

(19)   *iye an'dzafa lini* ***acisaya kuwona Kristu*** (Luka 2:26)
     iye   *a-n'dza-f-a*   *lini*   ***a-ci-say-a***   *ku-won-a*   *Kristu*
     3SG   SM.CL1-FUT-die-IND   NEG   SM.CL1-NAR-not.have-FV   INF-see-FV   Christ
     'he will not see death, before he had seen Christ'

     The similar situation is found in (20): the event 'you refuse me' rely on temporal RP encoded in a separate clause, so the whole sentence appears to be just a listing of occurrences: 'rooster does not sing twice, you refuse me':

(20)   *congwe akanati kulira kawiri, un'dzandilamba* (Maliko 14:30)
     congwe   *a-ka-na-ti*   *ku-lira ka-wiri,*   *u-n'dza-ndi-lamb-a*
     CL1.rooster SM.CL1-SIM-yet-do INF-sing CL13-two SM.2SG-FUT-OM.1SG-refuse-IND
      'before the rooster crows twice you yourself will disown me'

Nyungwe's tendency to encode temporal reference in an independent clause, while a speaker of a European language would prefer to use a prepositional phrase with 'before', may indicate that Nyungwe speakers conceptualize time as a sequence of events, and this event-related property of time conceptualization is mapped in the language.

3.3.2.3. Posterior sequential location

The semantic function of posterior SeqL shows that an event happens later than a reference point in a sequence (RP < TE) and frequently can be expressed through the adverbial clause with *mbuyo* or *-tsogol-*. Nyungwe also employs independent clauses to carry out this semantic function.

In the expression (21), the event of new year coming includes a verb *lin'bwera* which means 'arrives'. This verb does not attach any temporal adverbial, rather, the information about time of the event ('after Christmas') is provided in a separate clause *ikamala natali* 'Christmas finishes' which serves as a temporal anchor for the phrase *lin'bwera gole lipsa* 'new year comes':

(21) ***Ikamala natali*** *lin'bwera gole lipsa* (LF, 2017-12-29)
       i-ka-mal-a   *natali*   *li-n'bwer-a*   *gole*   *li-psa*
       SM.CL5-MOV-finish-IND Christmas SM.CL9-PRS-arive-IND CL9.year CL9-new
       'New Year comes after Christmas'

The clause which serves as a RP frequently contains verbs such as *kupita* 'to pass' and *kumala* 'to finish' to mark posterior SeqL. In English one can add a NP 'after eight days' or 'in eight days' or 'eight days later' to a verb, but, in Nyungwe, this temporal information is expressed in a separate clause, so that the RP is expressed by a subject+verb structure as in (22) *zidapita nsiku zisere* 'eight days had passed' (= in eight days):

(22) ***zidapita nsiku zisere*** *wanthu adabwera ku msinda* (Luka 1:59)
       zi-da-pit-a   *nsiku*   *zi-sere*   *wa-nthu*   *a-da-bwer-a*
       SM.CL6-PRF-pass-IND CL6.days CL6-eight CL2-people SM.CL2-PRF-arrive-IND
       'Eight days later, people came to the town'

The similar case is in (23) where an event *tin'sendzeka* 'we play' bears its RP in the independent clause, so the whole sentence can be interpreted as 'we finish school, we play'[15]:

(23)   *tamala sikola tin'sendzeka*
        t-a-mal-a   *sikola*   *ti-n'-sendzek-a*
        SM.1SG-REC-finish-IND   school   SM.1SG-PRS-play-IND
        'after school we play'

3.3.3. Sequential-durative

The sequential durative function (SD) is closely associated with the function of sequential location, and it is also presented by symmetrical counterparts: anterior and posterior SD. Anterior SD indicates the durative character of the located situation that started earlier than the RP, expands until the RP and overlaps it. In English, for example, this function is presented by a prepositional phrase with 'until'. Posterior SD is a mirror-image of anterior SD: this function marks the situation which takes place at the RP and, having a durative character, expands over time, encompassing moments which happen later in time. The typical marker for posterior SD is a preposition 'since'.

Haspelmath (1997: 68) generalizes that a large number of languages employ the spatial source and goal markers to deliver anterior and posterior SD meanings. This particularity is especially manifested in the beginning-to-end constructions ('since X until Y'), which results from a metaphorical space-time conceptualization. In Nyungwe, the spatial marker for source is equivalent to the temporal marker of posterior SD, and the same is true for the spatial goal marker and its correlative in the domain of time.

3.3.3.1. Anterior sequential-durative

In Nyungwe, the allative marker *mpaka* 'until' bears the function of anterior SD. The temporal expressions with *mpaka* are metaphorical in structure, so they arise from analogous spatial experience:

(1)   *kucokera kuSave mpaka kuNtsuwa* (SIL 2010c: 10)
       ku-cok-er-a   *ku-Save*   *mpaka*   *ku-Ntsuwa*
       CL17.LOC-go.out-APPL-FV   CL17.LOC-Save   until   CL17.LOC-Ntsuwa
       'from Save until Ntsuwa' (rivers in Mozambique)

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[15] When the function of sequential location is implemented by ordering events, we can not exclude the importance of prosody as the way of temporal marking.

The temporal *mpaka* can can establish a prepositional phrase ('until X') with various grammatical structures. In (2), there is a locative phrase meaning 'at day that/which', while in (3) there is a whole clause attached to *mpaka*.

(2)　　*un'dzalewa-lewa lini pomwe **mpaka pansiku** yomwe…* (Luka 1:20)
　　　　u-n'dza-lewa-lew-a　　lini　p-omwe　　mpaka pa-nsiku　　　y-omwe
　　　　SM.2SG-FUT-speak-IND　NEG　CL16.LOC-that　until　CL16.LOC-day　CL5-that
　　　　'You will not speak until the day when…'

(3)　　***mpaka** cikadzacitika cire ca-ico ca mu Umambo bwa Mulungu* (Luka 22:16)
　　　　mpaka　ci-ka-dza-cit-ik-a　　　　　ci-re　　　　ca-ico　　ca
　　　　until　SM.CL7-SIM-MOV-do-MPAS-IND　CL7-DEM.that　CL7-itslef　CL7.POSS
　　　　mu　　　Umambo　　　bwa　　　　Mulungu
　　　　CL18.LOC　CL11-kingdom　CL11.POSS　god
　　　　'until it finds fulfillment in the kingdom of God'

In speech, *mpaka* can be substituted by a Portuguese loanword 'até' which has the same anterior SD meaning:

(4)　　*Ndin'khala na iwe **ate** kumala nsiku zangu* (LF, 2017-12-29)
　　　　ndi-n'-khal-a　　　　na　　iwe　　ate　　ku-mala　ø-nsiku　　za-ngu
　　　　SM.1SG-PRS-stay-IND　with　2SG.PRON　until　INF-finish　CL6-days　CL6-my
　　　　'I will stay with you until the end of my days'

3.3.3.2. Posterior sequential-durative

The meaning expressed by the English posterior SD marker 'since' does not have a direct equivalent in Nyungwe. In this language, the semantic function of posterior SD is provided through the infinitive verbal form with an obligatory applicative marker, *e.g.* *kuyambira* and *kutomera* which both mean 'to begin from' or 'to start from'. The applicative *-ir-/-er-* increases verb's valency by one, so the whole structure implies necessity of an argument which can be expressed either by a temporal adverb as in (5) or by a locative structure, which itself incorporates information about an activity or an event as in (6).

(5)　　*kuyambira kalena kale, mpaka na lero lino* (Rego 2012: 226)
　　　　ku-yamb-ir-a　　　　kale na　　kale mpaka　lero　li-no
　　　　INF-start-APPL-FV　old　and　old　until　　today　CL9-DEM.this
　　　　'from ancient times until right now'

(6) *kutomera pa kuphedwa kwa Aberi* (Luka 11:51)
  ku-tom-er-a   pa   ku-ph-edw-a   kwa   Aberi
  INF-start-APPL-FV   CL16.LOC   INF-kill-PASS-FV   CL16.LOC.POSS   Abel
  'from the blood of Abel', lit. 'starting from at-killing of Abel'

A different way to conceptualize posterior SD is through the substantivized verb falling into the class 7. Recall, that Nyungwe class prefixes allow categorization of nouns into different semantic groups (however, with vague boundaries): humans, trees, animals, things, small things, etc. The class 7/8 *ci-/bzi-* consists of the words which refer to bounded inanimate objects. While *ci* is combined with a verbal root (together with different verbal extensions), a new derived lexeme may reflect a wide array of meanings: manner, instrument, etc. (Martins 1991: 105-106). In the case of (7) and (8), the structure with *ci-* forms a temporal adverbial which conveys the function of posterior SD: 'since birth' and 'since my arrival' respectively.

(7) ***cibadwiremo*** *cace iye ni mtenda* (MM, 2018-09-26)
  ci-badw-ire-mo   ca-ce   iye   ni   m-tenda
  CL7-birth-APPL-CL18.LOC   POSS-CL1   3SG.PRON   COP   CL3-illness
  'Since he was born, he has illness'

(8) ***cifikiro cangu*** *bzinthu bziri bwino* (MM, 2018-09-26)
  ci-fik-ir-o   ca-ngu   bzi-nthu   bzi-ri   bwino
  CL7-arrive-APPL-SUBST   CL7-my   CL8-things   SM.CL8-be   good
  'Since my arrival the things are going well'

3.3.4. Temporal distance

The function of temporal distance (TDi) is semantically closely related to the sequential location function: the time of event can be located before (anterior) or after (posterior) the reference point. Temporal distance between an event time and a RP can be measured and expressed by adverbials. There are two sub-types of TDi function: oriented either towards future ('in X temporal units') or towards past ('X temporal units ago'). As soon as this function implies measurement in some temporal units, such as day, week, month, etc., certain grammatical sources are required to construct temporal expression.

Nyungwe uses the following apparatus for the future TDi function: zero marking as in (1), locative *mu-* as in (2), locative *pa-* as in (3), independent clause containing a temporal unit as in (4) and (5).

(1) *Mwezi tiniyenda kupha nkhumba zizinji* (LF, 2018-04-22)
ø-*mwezi*   *ti-ni-yend-a*   *ku-ph-a*   ø-*nkhumba* *zi-zinji*
CL5-month   SM.1SG-PRS-go-IND   INF-kill-FV   CL6-pigs   CL6-all
'In one month we will slaughter all the pigs'

(2) *Munsiku zitatu ndin'dzamanga*
mu-nsiku   *zi-tatu*   *ndi-n'dza-mang-a*
CL18.LOC-day   CL6-three   SM.1SG-FUT-build-IND
'in three days I will build'

(3) *Ndin'yamba kuphata basa pafupi pa duas oras* (LS, 2018-07-27)
ndi-n'-yamb-a   *ku-phat-a*   *basa*   *pa-fupi*   *pa*   *duas oras*
SM.1SG-PRS-start-IND   INF-make-FV   work   CL16.LOC-near   CL16.LOC   two hours
'I will start to work in two hours'

(4) *Zikafika nsiku ziwiri tin'bvuna cimanga* (LF, 2017-12-29)
zi-ka-fik-a   ø-*nsiku*   *zi-wiri*   *ti-n'-bvun-a*   *ci-manga*
SM.CL6-SIM-arrive-IND   CL6-days   CL6-two   SM.1PL-PRS-harvest-IND   CL7-corn
'In two days we are going to harvest corn'

(5) *Mdzinga un'dzayu, ninkabzwala cimanga* (SR, 2018-08-20)
ø-*mdzinga*   *u-n'-dza-yu*   *ndi-n'-ka-bzwal-a*   *ci-manga*
CL3-week   SM.CL3-PRS-come-CL3.EMP   SM.1SG-PRS-MOV-seed-IND   CL7-corn
'In one week I'm going to seed corn'

While considering these expressions, we can notice that Nyungwe does not have any stable marker specifically for the future TDi. All these grammatical means were somehow used with other temporal functions. Zero marking as in (1), for example, can be used to express SL, but, in the given context, it shows temporal distance. In examples (2) and (3), locative phrases convey the notion of a temporal interval, bounded within a container, *i.e.* the phrases 'in three days' and 'in two hours' can be interpreted as 'inside an interval of three days' and 'inside n interval of two hours' respectively. In (4) and (5), the temporal information is taken out of the main clause (the one containing an event) to a separate clause, so that in (4) the possible literal reading is 'Two days pass, I harvest corn' and in (5) is 'Week comes, I go to seed corn'.

For the past TDi function, Nyungwe elaborated its proper marker *ku mbuyo* which corresponds to English 'ago'. *Ku mbuyo* is a locative phrase with the *ku-* marker which indicates movement in space (both for source and goal), so *ku mbuyo* gloss-by-gloss means 'to/towards back':

(6) *magole yatatu ku mbuyo*
ma-gole   *ya-tatu*   *ku*   *mbuyo*
CL6.PL-year   CL6-three   CL17.LOC   back

three years ago (= 'three years to back')

However, *ku mbuyo* can be incorporated in more complex temporal structure as we can see in (7). The meaning 'two hours ago' here is transmitted through *pakupita duas horas za kumbuyo* meaning 'at the passage of two hours to back'. A head component of this construction is the *pa-* marker which locates the event 'play with brother' in the moment that precedes two hours the moment of utterance:

(7) *Ndikhasenzeka na mbalu wangu pakupita duas horas za kumbuyo* (LF, 2017-12-29)
    ndi-kha-senzek-a   *na*   *mbalu*   *wa-ngu*
    SM.1SG-P.IMP-play-IND   with   brother   CL1-my
    pa-ku-pit-a   *duas*   *horas*   *za*   *ku-mbuyo*
    CL16.LOC-INF-pass-IND   two   hours   CL6.POSS   CL17.LOC-back
    'I was playing with my brother two hours ago'

The verb *kupita* 'to pass' (*i.e.* 'to move towards the object, across and then away') can be found in other expressions with the past TDi function. As in (8), the temporal utterance represents itself an independent clause, so the whole sentence may be interpreted as 'She lived in Maputo, three years have passed'.

(8)   *Iye adakhala ku Maputo magole matatu yapitaya* (IM, 2018-02-22)
    Iye   *a-da-khal-a (ku Maputo)* *ma-gole*   *ma-tatu*   *ya-pita-ya*
    3SG.PRON   SM.CL1-P.PRF-stay-IND   CL10-years   CL10-three   SM.CL10-pass-EMP
    'She lived in Maputo three years ago'.

We have already notices that in many cases of sequential location, and now in the case of the temporal distance function, Nyungwe do not frequently applies verb modifiers: familiar to Europeans temporal adverbial (*i.e.* verb modifiers) in Nyungwe are transformed into a separate clause, so that the relation between an event and a reference point has no dependency character, it is rather a succession of events which may or may not be connected semantically.

3.3.5. Temporal extent

The function of temporal extent (TEx) is similar to the TD function with regard to the fact that both intend to measure time. But unlike all above discussed adverbials, the structures of TEx "characterize a situation not by locating it in time, but by indicating its length. This means that only durative situations can be qualified by an extent adverbial" (Haspelmath 1997: 37). Expressions conveying the TEx function fall into a category of

T-span model, so they refer to "perceivable or quantifiable temporal magnitudes" (Núñez and Cooperrider 2013: 223).

The examples of TEx adverbials in English are 'for two hours' or 'during two hours' or 'over time'. Nyungwe does not possess specific inventory to provide the notion of durativity of event. There is even no word to say 'duration'. Therefore, two most typical ways to conceptualize this temporal function is with zero marking, as in (1-2), and through paraphrases as in (3).

(1)   *Ndidamanga nyumba zitatu **gole lino*** (LF, 2017-12-15)
        ndi-da-mang-a   *ø-nyumba*   *zi-tatu*   *ø-gole*   *lino*
        SM.1SG-PRF-build-IND   CL6-house   CL6-three   CL9-year   CL9-DEM.this
        'I built three houses (during) this year'

(2)   ***Ulendo buno**, adadya manduyi yokha basi* (SR, 2018-08-20)
        u-lendo   *bu-no*   *a-da-dy-a*   *manduyi*   *y-okha*   *basi*
        CL11-trip   CL11-DEM.this   SM.3SG-PRF-eat-IND   peanuts   CL10-alone   only
        '(During) this trip he ate only peanuts'

(3)   ***Ikapita nsiku** nkhani yathu in'khala bwino-bwino* (LF, 2018-04-22)
        i-ka-pit-a   *ø-nsiku*
        SM.CL5-MOV-pass-IND   CL5-day
        ø-nkhani   *ya-thu*   *i-n'-khal-a*   *bwino-bwino*
        CL5-conversation   CL5-POSS.our   SM.CL5-PRS-be-IND   good-good
        'Over time (=day is passing), our conversation becomes more interesting'

The temporal adverbials in (1) and (2) can be even considered as simultaneous location markers, so *gole lino*, instead of 'during this year', can be read as '(in) this year', and similarly *ulendo buno* 'during this trip' can be translated simply as '(in) this trip'. In (3), again the verb *kupita* 'to pass' is used to provide a temporal notion. The prepositional phrase 'over time' or 'with (the passage of) time' in Nyungwe is transformed into a paraphrased construction expressed by an independent clause, so the gloss-by-gloss reading of (3) is the following: 'Day is passing, our conversation is good-good'.

The absence of specific TE markers gives an evidence that the Nyungwe language, and hence its speakers, do not focus on the duration of an event and do not intentionally conceptualize time length. This fact reflects the traditional African models of time, where time management and measurement are out of necessity: there is always as much time as needed.

Conclusions

The main objective of this work was to investigate how time is conceptualized in Nyungwe language and culture. We hypothecized that Nyungwe, being a part of Bantu language family, shares some temporal models which occur in other Bantu cultures: in general, time is organic, cyclical, past-oriented, event-related and with no clear actualization of future. In order to find out whether these assumptions are applicable to Nyungwe, we appealed to methods and theoretical principles from cognitive linguistics and anthropological linguistics (Levinson 2003, Clark 1976, Lakoff and Johnson 1980, Haspelmath 1997, etc.). Methodological framework may seem moderately eclectic; this is due to the fact that the facets of time conceptualization which we consider are very distinct and can be expressed by the means which can be approached from different perspectives within semantics, lexis, and morphology.

The data, however, were not representative, especially due to the lack of oral data collected in the field. Nevertheless, based on the available corpus, and employing the methods of linguistic investigation, we were able to derive the following conclusions:

— Traditionally, time in Nyungwe is conceptualized as being organic and tightly interconnected with natural diurnal and annual cycles. Nyungwe has a well-developed vocabulary for temporal terminology, especially with respect to the lexical units which refer to the parts of the day or parts of the year (moon cycles and seasons).

— A representative segment of the socially and culturally constructed temporal concepts was borrowed from European Portuguese. The notion of hour, minute, and a seven-days week, as well as the designations of these notions, appeared in Nyungwe due to the contact with Europeans. What is interesting is that Nyungwe can use its original terms, *e.g. nthawe* 'time', *mphindi* 'instance', *mdzinga* 'in six days' to refer to the borrowed concepts: 'hour', 'minute' and 'week' respectively. It is a typical case of meaning extension in the domain of time representations. It is also interesting that the terms *malinkhuma* 'in five days' and *mdzinga* 'in six days', being purely deictic terms, also extend their meanings to cover non-deictic concepts which came from the European Portuguese language.

— Future in Nyungwe is manifested through the verbal tense prefixes, and it means that the language actualizes this category. However, as we already saw, there is an adverb *kale-kale* which means both 'anciently' and 'in the distant future'. This may support the claim pointed out by Mbiti (1969) and Kokole (1994) that, in general, Bantu concepts of

distant past and distant future are not separated, because they fall into a category of unknown, or uncertain time. In the case of Nyungwe, this claim seems to be very strong and requires more reliable evidences than only one adverb.

— Nyungwe tends to express time in terms of space, so it employs several space-time metaphors, among others there are the TIME PASSING IS MOTION OF AN OBJECT, TIMES ARE LOCATIONS, EVENTS ARE LOCATIONS and SEQUENCE IS RELATIVE POSITION ON PATH metaphor. We could not elicit any example of the TIME PASSING IS MOTION OVER A LANDSCAPE metaphor. This may be associated with the fact, that Nyungwe does <u>not</u> conceptualize time as motionless and ego as navigating along the timeline. In contrast, the observer always remains stationary and undergoes the passage of time. If this claim is true, we can conclude that in Nyungwe, as in many other Bantu cultures, a person is not proactive in moving around time and controlling it. The African attitude towards time is that one has as much time as (s)he needs, and there is no reason to rush for gaining or saving more time.

— The same temporal adverbial in Nyungwe may bear both posterior and anterior sequential location function, depending on the applied frame of reference. For example, the temporal adverbial with -*tsogolo* may be applied to say 'before' a well as 'in future', and the phrases with *mbuyo* refer both to the location 'after' and 'before'.

— When the semantic functions of sequential location, sequential durative location, temporal distance or temporal extent are implemented, a reference point frequently can be found in an independent clause, communicating information about another event: *tamala sikola tin'sendzeka* 'after school we play' (= we finish school, we play). The abundance of the similar examples may indicate that the Nyungwe concept of time is in fact event-based, as in other Bantu societies. Time, as we discussed in the anthropological part of Chapter 1, is constituted of events, hence, if there are no events, there is no time.

— The number of specific temporal devices to express particular semantic functions in Nyungwe is less than in, for instance, English or Portuguese. The same temporal marker may be used to express the wide range of notions, just to mention locatives *pa-*, *ku-*, *mu-* which, in different contexts, establish temporal phrases with simultaneous location, sequential location and temporal distance.

— Nyungwe does not have specific markers for the semantic functions of temporal distance and temporal extent. It may prove that the speakers of this language do not focus their attention on temporal duration. This correlates with the above discussed African

time models where control and measurement of time is not an imperative as it is in the Western technological societies.

Definitely, this thesis raises more questions than it provides answers. It serves as a starting point for more profound and intensive research, which must be conducted with native speakers in their natural environment in order to obtain more representative data. Fieldwork is a fundamental part of such kinds of investigation, especially when linguistic and anthropological methods are merged together. The further research on conceptualization of time in Nyungwe must encompass the study of tense and aspect, as well as study of verbal semantics (*Aktionsart*), prosody, gesture and reduplication.

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