

**A THEORETICAL MODEL FOR A
YIPUNU-ENGLISH-FRENCH
EXPLANATORY DICTIONARY
OF
MEDICAL TERMS**

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(Lexicography)
at the University of Stellenbosch**

Promoter: Prof. R.H. GOUWS

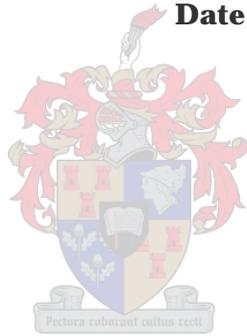
April 2006

DECLARATION

I, the undersigned, hereby declare that the work contained in this dissertation is my own original work and had not previously in its entirety or in part been submitted at any other university for a degree.

.....
Signature

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Date



DEDICATION

Tata Kondi- Mihindou, Yilumbu I ma rugha Diweru di matola mu vhegha yirondu na yisungu ombu fumu

MUGHURI, dub du kiri. Ghirighanu, Kala asa mafu na mbagha, mutu tsinga asa mafu na mitanguni.

I dedicate this work to my late father KONDI-MIHIDOU DANIEL (MUGHURI), as I say Diboti di neni tata, mu malongi motsu, la yiraa! mwana yaloolu.

This Dedication is also for you MWA DIGHABI-DI- MUNDUNGA, my grand mother. For you taught me that duya mulong tsambi omulong, uvhiol mutsi mulund mutsi.



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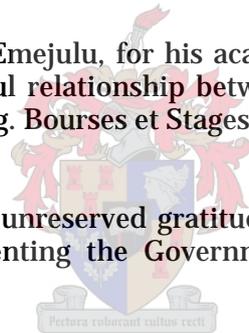
To my wife, Piekielele “Piks” Mihindou, my sincerest appreciation, for the unshakable faith in the completion of this work, the unreserved support, the help and encouragements I received from her, when facing the utmost uncertainties.

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SUMMARY

The dissertation proposes a theoretical model of a dictionary which will include three languages, namely French, Yipunu and English in a specific field of medicine.

The decision to compile such a dictionary was motivated by the desire of the Gabonese government to promote local languages. The necessity also exists for Gabon, like other African countries, to build a constant and total awareness among the communities on issues relating to health as a process for self education in an attempt to reduce the spreading of diseases of which medication is costly for the government.

The compilation of the dictionary demands not only a dictionary plan but also a sound theoretical knowledge in lexicography as the discipline regarding dictionary compilation.

The title of the dissertation alone requires that notions like theory, model, explanation, dictionary, medicine and terminology need to be explained in detail; this is done in Chapter 1.

Chapter 2 focuses on the medical background in Gabon with specific attention to the medical infrastructures of the country. As AIDS and malaria are the most deadly pandemics in Gabon, special attention is given to them as well as the notion of health in both western and African ways.

Chapter 3 discusses various theoretical issues of the lexicographic process, from data acquisition to its distribution, with particular attention to the interdisciplinary environment prevailing in Gabon.

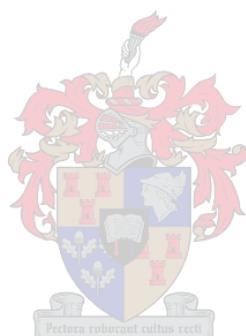
Chapter 4, the frame structure, contains metalexigraphic structural components of the dictionary and their classification, where the central list as principal part of the dictionary is no longer the only venue for data accommodation within the dictionary but is complemented by a variety of outer texts.

Attention is also given to the role of various functions such as the knowledge-orientated function and the communication-orientated function.

Chapter 5 presents both the macro- and the microstructure as the core structures of the dictionary. It introduces a hybrid type of macrostructure with a thematic arrangement mingled with a straight alphabetical macrostructure. The different

themes to be included in the FYEDMT are arranged alphabetically as topic of themes section. The lemmata included in each topic as article stretch are also alphabetically organized. The microstructure introduces a new type of article: the amalgamated dictionary article, in which three individual articles are combined. This new type of article gives the user three distinctive search areas with French being the language of lemmatisation and Yipunu the first target language and English the second.

Chapter 6 develops the guide structure constituted by the access structure (to help the user by presenting various devices and different venues of data for better consultation), the addressing structure (help the user by means of data coordination) and the mediostructure (direct the user to specific slots of the dictionary).



OPSOMMING

Die proefskrif bied 'n teoretiese model van 'n woordeboek in 'n spesifieke veld van die medisyne wat in drie tale aangebied word, naamlik Frans, Yipunu en Engels.

Die besluit vir die opstel van so 'n woordeboek is gemotiveer deur die wens van die Gaboenese regering om plaaslike tale te bevorder. Die noodsaaklikheid bestaan vir Gaboen, soos ook ander Afrikalande, om 'n konstante en totale bewustheid oor gesondheid tussen die gemeenskappe te vestig as 'n proses van selfopvoeding in 'n poging om die verspreiding van siektes wat die regering baie geld kos, te verminder.

Die samestelling van die woordeboek vereis nie slegs 'n woordeboekplan nie maar ook 'n deeglike teoretiese kennis van leksikografie as die dissipline gerig op die samestelling van woordeboeke.

Die titel van die proefskrif vereis reeds 'n presiese bekendstelling van begrippe soos teorie, modelle, verduidelikings, woordeboeke, medisyne en terminologie; dit is die doel van hoofstuk 1.

Hoofstuk 2 fokus op die mediese agtergrond in Gaboen met spesiale aandag aan die mediese infrastrukture in die land. Aangesien MIV/VIGS en malaria dodelike pandemies in Gaboen is, word spesiale aandag hieraan gewy, asook aan gesondheidsgebruike in die Weste en Afrika.

Hoofstuk 3 bespreek verskeie teoretiese aspekte van die leksikografiese proses, vanaf data-insameling tot dataverspreiding, met besondere aandag aan die interdissiplinêre omgewing wat tans in Gaboen bestaan.

Hoofstuk 4, die raamstruktuur, bevat metaleksikografiese struktuur-komponente en die klassifikasie van die woordeboek, waar die sentrale lys die belangrikste deel van die woordeboek is maar nie langer die enigste plek vir die data-aanbod nie maar wat aangevul word deur 'n verskeidenheid buitetekste.

Aandag is ook gegee aan die rol van verskeie funksies, byvoorbeeld die kennis- en kommunikasie-gerigte funksie.

Hoofstuk 5 bied beide die makro- en mikrostruktuur as die kernstrukture van die woordeboek. Dit stel 'n hibriede tipe makrostruktuur bekend met 'n tematiese ordening gemeng met 'n alfabetiese makrostruktuur. Die verskillende temas wat ingesluit word in die 'FYEDMT' word gerangskik volgens die opskrifte van die

lemmas. Die lemmas in elke onderwerp is ook alfabeties. Die mikrostruktuur stel in nuwe tipe artikel bekend: die geamalgameerde woordeboekartikel met 'n kombinasie van drie individuele artikels. Hierdie nuwe tipe artikel gee die gebruiker drie duidelike soek-gebiede met die lemmas in Frans, Yipunu die eerste doeltaal en Engels die tweede doeltaal.

Hoofstuk 6 ontwikkel die gidsstruktuur wat deur die toegangstruktuur gekonstitueer is (om die gebruiker te help deur verskeie middele en verskillende gebiede van data aan te bied vir beter konsultasie), die adresseringstruktuur (help die gebruiker met data-koördinasie) en die mediostruktuur (lei die gebruiker na spesifieke plekke in die woordeboek).

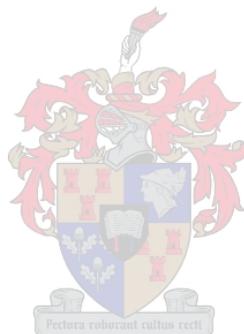


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Chapter 1

INTRODUCTION

1.1 Background

The agreement initiated by the Bureau of the WAT (*Woordeboek van die Afrikaanse Taal*) of Stellenbosch, on the one hand, and the GRELACO (*Groupe de Recherche en Langues et Cultures Orales*) of Libreville, on the other hand, resulted in a convention according to which some doctoral students have to acquire theoretical skills on how to compile dictionaries and reference texts books. The training was theoretically orientated. Dr Van Schalkwyk (2001:xii) comments in the preface of the *Eléments de Lexicographie Gabonaise* that "the Bureau of the WAT gave [the Gabonese students] an orientation with regard to general lexicography, computer skills and the planning of lexicographical projects". The envisaged project, a dictionary for medical terms in three languages, also needs a theoretical basis. Therefore, the title of this dissertation, *A Model for a Yipunu-English-French Explanatory Dictionary of Medical Terms*, reflects the need for an underlying theory.

1.2 Problem statement and focus

In most socio-political programmes in the world matters relating to health are constant topics of discussion. They are also crucial in the planning of new projects. As a result the United Nations¹ (UN) organization recommended the following items in the section relating to the prevention and treatment of HIV:

- Access to treatment is integral to effective prevention programmes. Without access to medicine, there is little motivation to get tested. With reduced viral burdens, HIV positive individuals are less infectious. Access to anti-HIV medications can dramatically reduce mother-to-child transmission of HIV.
- Funds should be available for the purchase and distribution of treatments for HIV and AIDS. These treatments include antiretroviral medications, drugs

¹ These recommendations labeled DP/FPA/GAB/3 of 9 February 1998 were done by the Executive Board of the United Nations Development Programme and of the United Nations Population Fund. They were entered in the spirit of Item 4 of the provisional agenda UNFPA, in their second regular session 1998 held in New York, from 20-24 April 1998. As a result, projects and programs were set up to offer assistance to the government of Gabon.

for prophylaxis and treatment of opportunistic infections, tuberculosis, sexually transmitted diseases (STDs) and supportive and palliative care.

- Funds should be granted to prevention services, including the distribution of barrier methods to HIV transmission, methods to screen blood for HIV, and other pathogens, voluntary testing and counselling (VCT) and prevention of mother-to-child transmission (MTCT). The Fund should subsidise the bulk purchase and distribution of safe and effective HIV vaccines and microbicides as soon as such products are available.
- HIV vaccine and microbicide research should be supported by wealthy countries.

African governments spend a lot of money on medication in order to reduce the occurrence of certain diseases and epidemics like cholera, kwashiorkor, malaria, AIDS, etc.

Basic research and new medical products developed by Western researchers are very costly and can often not be afforded by African countries. Many of these African countries ask for aid and support from international communities. For instance, the World Bank promised a US \$500 million package to fund AIDS programmes in Africa. Consequently, many African governments, such as Gabon, prefer to direct their attempts at the prevention of diseases. These attempts can only be successful if a well-planned awareness campaign is launched. In Gabon, media coverage on radio and television has been used to make their people aware of these kinds of diseases. Such a campaign requires extensive communication and necessitates the use of the mother tongue of any given speech community to convey the relevant information to them. In Gabon this is a major problem. French is the only official language in this multilingual country. Kwenzi-Mikala (1988, 1990, 1997, 1998) has, however, listed sixty-two speech communities grouped in ten language units that are currently in use.

In an attempt to reach as many people as possible, the awareness campaign has been conducted in all these Gabonese languages. However, the lack of standardized medical terminology in these languages has been detrimental to these government efforts. The necessary medical terminology has to be established and conveyed to the members of the different speech communities. This realizes a desperate need for dictionaries in local languages dealing with medical terminology as a language for special purposes and assisting with the standardization of this terminology. These dictionaries should be compiled in such a way that the majority of a given speech community can have access to the data contained in the dictionary. This will ensure

that persons from all these communities can interpret and understand the information given by the government as part of the awareness campaign.

The aim of this study is to formulate a model for such a dictionary in the form of a French-Yipunu-English dictionary of medical terms which contains Yipunu equivalents for French and English medical terms. In the last decade much attention has been devoted to dictionaries in languages for special purposes, e.g. terminological dictionaries. The existing research products have, however, primarily focused on the terminological dictionaries aimed at communication between expert and expert, or expert and semi-expert. The proposed model will have to make provision for communication between experts/semi-experts and laypersons. Such a dictionary will have to be directed at the reference skills of the average member of the Yipunu speech community. This group does not have a culture of dictionary use. Existing theories will have to be adapted to render a model that can lead to the compilation of a dictionary with a functional use in the Yipunu speech community.

1.3 Hypotheses

The Gabonese government realizes the need for these kinds of dictionaries and is eager to assist in the publication of dictionaries, especially where these dictionaries can be used as aids in the medical awareness campaign. It is a well known fact that no dictionary project can be undertaken without a thorough analysis of the target users, their needs and reference skills. Each dictionary needs a well considered dictionary plan to guide the lexicographic process. Due to the lack of lexicographic expertise in Gabon the proposed model will have to provide explicit guidance to ensure the eventual formulation of a viable dictionary plan.

The typological nature of the proposed dictionary will have to be determined very carefully. This dictionary will have to include brief paraphrases of meaning in addition to offering Yipunu translation equivalents. Especially in the treatment of medical terms where Yipunu has its own informal equivalent, which deviates from the standard western term, this is very important. A typological hybrid has to be created to fulfil the need for this combination of a translation and an explanatory function. The nature of such a hybrid model will have to be worked out in detail. What is imperative here is that there will be an equal treatment in French, English and Yipunu, although the primary access will be through French because French will be taken as a language of lemmatization in the dictionary.

The general theory of lexicography as formulated by Wiegand and other metalexigraphers will be used as a theoretical framework for this research.

Wiegand's concept of the data distribution structure of dictionaries dealing with languages for special purposes will be tested, applied and expanded to make provision for the formulation of a model suitable for the needs of this target user group.

These theories will then be used to formulate a model that makes provision for a dictionary which can be seen as a carrier of text types. Thus, the focus in the proposed model will not only be on the central list of the dictionary but also on a variety of integrated and unintegrated outer texts. A suggested frame structure will enhance a functional use of outer texts to increase the scope of the data distribution structure.

In accordance with the latest research in metalexigraphy the central text will include both single and synopsis articles. The structure of these synopsis articles will be devised in such a way that the lexicographer has the opportunity to include additional data, e.g. a discussion of culture-specific medical terminology, in the central list. Outer text registers will be used to guide the users to these synopsis articles.

The proposed model will also include a section in which a data collection policy is formulated. Suggestions will be made for various ways to obtain data from both written and oral sources to ensure that the standardization includes both new Yipunu translation equivalents and existing medical terminology.

1.4 Methodology and approach

As indicated earlier, this research is directed at the formulation of a theoretical model for a specific dictionary. This model will be formulated according to the methodological criteria presented by Wiegand's general theory of lexicography. The formulation of the model is guided by the theoretical points of departure included in the previously mentioned hypotheses, but these will be complemented by the results of empirical research on the data that will form the object of the proposed dictionary. In this regard the formulation of guidelines for the compilation of a database of medical terminology is very important.

Wiegand (1983:116, note 29) and Smit (1996:142) suggest that there are many aspects of the general theory of lexicography relevant to dictionary typology. Thus, it is important to look at these aspects (Wiegand 1983:104) not only in terms of the purposes of dictionaries, but also to take cognisance of the criterion based on language usage in dictionaries. The first aspect will focus on the typological choice and the specific structure of the dictionary. The second aspect deals with the nature

of the language used in a dictionary. Here the type of language to be used in the dictionary will be determined by the needs of the potential user, since the dictionary aims to fulfil these needs. Wiegand (1983:111) speaks about the theory of lexicographical language description and focuses on the set of questions from the potential users that the lexicographer wants to answer in the dictionary. These answers aimed at the potential users will, therefore, play an important role in the determination of the type of dictionary.

In the same vein, a special-field dictionary will be a dictionary dealing with a specific field and the potential user of this type of dictionary will ask particular questions or will express specific needs that will guide the lexicographer when compiling the dictionary. Once the potential users have been targeted, their needs will not only influence the lexicographer, but also the dictionary typology. The choice of a proper title for the dictionary already indicates which kind of field and part of knowledge the text is covering, especially the nature of the materials he is going to put in his work such as the data, the type of lemmata, the structure of lexical items in the dictionary, etc.

The approach to be followed in this research project will have to make provision for the diverse nature of the topic. Three complementary aspects have to be dealt with, namely:

- The linguistic and metalexigraphic aspect which constitutes the most important part of the model of any dictionary, since it has to form the basis for the eventual dictionary plan.
- The medical aspect which is necessitated by the nature of the research topic. Thus, although the focus will be on the metalexigraphic aspects of terminological dictionaries, the proposed project will include extensive research in the field of medical terminology.
- The anthropological aspect forms a central part of the research. The model has to accommodate the treatment of western medical terminology but should also focus on traditional, culturally based Yipunu terminology.

The present work, "A theoretical model for a Yipunu-English-French explanatory dictionary of medical terms", requires that attention should be paid to the contents, especially in terms of the scope of the future dictionary. The aim of this chapter is to present the theoretical foundations introduced in the title. There are obviously many existing theories in the world of scientific knowledge and they are distinguished from

each other by their models, objects, and applicability. The current work focuses on the following concepts: theory, model, dictionary, explanation, medicine and terminology. These six concepts constitute the core of the present dissertation and deal with three distinct cultures and worldviews represented by three different languages: French, Yipunu and English. In Chapter 1 the main focus will be on these concepts.

1.5 Theory

A theory can be seen as the fruit of a methodical conception. It is thoroughly thought, systematically organized and relies on its stance on certain decisions or scientific conventions which do not belong to the common meaning² to popularise it. Generally a theory is an intellectual conception by which a number of rules are attached to a principle. The ultimate aim of a theory is to classify and make a synthesis of the result and to offer a rational presentation of the theory permitting both the interpretation of what is known and the prediction of what is unknown. In scientific terms it is, therefore, a logical system of giving explanations that intelligibly combines all facts and laws belonging to the same field of knowledge. A theory can also be regarded as an ensemble of rules, principles, laws and axioms organized as a hypothetical system which offers an explanation of a specific phenomenon.³

In this dissertation, Wiegand's (1984) theory will mostly be used. It can be summarized in four major parts. "A" is the first theory identified in the general section and includes the purpose of dictionaries, the relation of lexicography to other theories and the lexicographical history. "B" represents the second component; this part of the theory puts the emphasis on planning, mostly the conceptualising and organisation of reference work matter. "C" focuses on data as raw material which needs to be collected and on a database as a computer tool-programme. At this stage Wiegand's approach to lexicography shows its methodology; whether it is inductive, deductive or both. Lastly "D" is responsible for all lexicographical descriptions and paves the way for different typologies present in lexicographical work. Thus, any theory commands and implies the construction of indispensable complements which form a model.

² Notes from a seminar given by Dr Mba Nkoghe in 1998 in Libreville.

³ Nkoghe (1998)

1.6 Model

Models are hypothetically relatively autonomous but compatible with a theory of restricted application (Granger 1967:6-11). For instance, a general theory offers the existence of a certain phenomenon in reference works, but the model can determine the precise conditions of this existence.

Thus, a general theory will make a statement such as, for example, "all dictionaries present in their structure, two major components: so-called outer texts and inner texts". The purpose of the model will be to specify precisely in which conditions this statement is applicable and will remain valid. As a result, the role and purpose of the model is the formulation of different criteria capable of precisely describing the specificity of a Language for Specific Purposes Dictionary (LSPD) and the ways of distinguishing it from a general dictionary. In the same way, a dictionary like a French-Yipunu-English dictionary of medical terms⁴ (FYEDMT) cannot be compiled without a model in mind. This implies the explanatory lexicographical activities involved in the very same project.

Thus, with terms such as theory and model, the epistemology of lexicography, metalexicography as the scientific discourse about dictionary making, come to play an important role. The status of lexicography as the science of the compilation of dictionaries with its own proper object, method and terminology from a certain domain or field of knowledge is thereby revealed. Therefore, the object of lexicography is dictionaries, in the same sense of what a dictionary is for metalexicography, what the human body is for medicine, what society is for sociology and language is for linguistics.

In order for it to be relevant, a model should be simple, but this simplicity should not ignore the question of why the model is being constructed. Since a model is always a simplification of something, the simplification must be done in accordance with the intended use of the model. (A formulator of models, failing to keep this in mind, could continue modelling indefinitely without proper aims or objectives.) This is particularly true in the definition given by Pidd (2003:10). He suggests that a model is a representation of reality that is intended for some definite purpose. This definition of a model suits the dictionary project, the FYEDMT, since it implies that a model is constructed with specific uses in mind and that it should thus be focused on fulfilling the needs of the user.

⁴ The name of the proposed dictionary (FYEDMT) slightly differs from the title of the present dissertation.

In the present case the metalexigraphic theory of Herbert Ernst Wiegand needs to be modelled and adjusted to the purpose of an LSPD of medical terms. This implies that the lexicographer should already have a certain type or category of users in mind. Pidd (2003:12) comments that it is important to understand the limitation of model-building and model use, because it will always be a simplification and an approximate representation of some aspect of reality. It is also essential to bear in mind that models do not need to be exact to be used.

1.7 Practical and theoretical lexicography: practice vs. academic discipline

Historically Hartmann (1999:156) concedes that there has always been reflection on academic and commercial dictionaries especially by some lexicographers involved in scholarly dictionary projects. Certain names like Hulbert, Zgusta, Burchfield, Landau, Rey and Wahrig are attached to this kind of reflection by their writing of informative textbooks. However, Hartmann (1999:156) justifies the *raison d'être* of Wiegand's theory to be that genuine progress towards a scientific approach of lexicography can only be achieved if more academics such as Wiegand devote themselves seriously to the theoretical foundations by training a new generation in the principles underlying the practice. Thus, this implies that dictionary research, cf. Hartmann, becomes a scientific metafield and lexicography becomes the empirical object of dictionary research.

With regards to lexicographic practice Wiegand explains in his theory what lexicography is *not*: a science, a craft, part of linguistics, applied lexicology. Then he explains what it *is*: a calculable, analysable, checkable, manageable, testable and teachable practical process aimed at producing dictionaries to satisfy the reference needs of their users (Hartmann 1999:156).

1.8 Epistemology in lexicography

The philosopher Karl Popper (1985:37), who has clarified much of scientific thought, alleges that the advance of knowledge mainly consists of the modification of earlier knowledge. This assertion finds a favourable echo in the domain of dictionary making, especially in metalexigraphy.

Like other disciplines lexicography does not originate from nowhere. Most lexicographers have a linguistic background and this has probably influenced lexicography since its start. Over time, lexicography has developed its autonomy by

openly describing its object and defining its methodology. Zgusta (1980:22) concedes that:

we consider lexicography as a whole, as a coherent field of activity, we cannot fail to notice that in the last several years, work on single projects has been at least as vigorous as always; in addition to this, we can perceive, however, an increased awareness of the generality of some lexicographic issues and increased awareness in lexicography theory.

In the same vein Burkhanov (1998:7) corroborates with Zgusta in saying that:

it [is] fair to say that lexicography has ceased to be a step-daughter of the study of language or its poor relative that can hardly find an appropriate place within the family of linguistic disciplines. It is becoming a respectable subject field of not only a linguistic nature an independent, or at least semi-independent, discipline that has to lay down the foundations of its own theory and methodology.

So according to Burkhanov (1998:7) the names of Hausmann, Reichmann, Wiegand and Zgusta cannot be separated from the development of lexicography especially after the publication of *The International Encyclopaedia of lexicography*. This was an important landmark and not a turning point in the development of this subject field. For him the most important thing in metalexicography is to specify its concepts and standardize its terminology, i.e. it is not so much about defining lexicographic terminology, but about formulating the basic notions of the field, and then considering the terminological lexical items which seem to be the most appropriate to denote certain concepts.

It is also important to specify the concepts, which have been borrowed from other linguistic and non-linguistic fields and note the modifications which these notions have undergone within the framework of lexicographic description. Burkhanov believes in providing enough information about the basic lexicographic categories in such a way that these publications could be efficiently used as a tool in the training of future lexicographers. This is what Wiegand's theory is all about. Indeed, initially written in German, and then translated into English, Maria Smit (1996, 2001 and 2002) presents Wiegand's theory in its essential points along lexicographical history. Wiegand (1996) and (1998) alleges that lexicography as scientific discipline poses its own terminology called "language lexicography" with its proper domain or metadomain known as "special-field lexicography". Wiegand (1998:62) emphasises his thoughts on terminology as follows:

Language lexicography can either be a self-taught, non scientific cultural practice, or an independent cultural and scientific practice, consisting of a more or less clearly demarcated self-reflecting component, which can only be mastered, because of its multilayered comprehensiveness, by academically trained staff. Language lexicography is a calculable, analysable, checkable, manageable, testable and teachable practical process, which draws on various results and methods from different disciplines. It forms the central part of the pre-theoretical empirical subject domain out of which the various scientific objects for the different research fields of dictionary research can be extrapolated.

As far as the lexicographical domain is concerned, Wiegand (1998:64-71) uses the term "metalexigraphy" to denote the total metadomain. This total metadomain's study consists of (i) dictionary research, (ii) lexicon research and (iii) the research of encyclopaedic dictionaries. Thus, the method of lexicography seems to be inductive. With reference to the lexicographical process, five main phases can be identified which summarize the philosophical thought of lexicography:

- I: the preparation phase, which consists of subdivisions such as conceptualising a dictionary programme, and drawing up a dictionary plan;
- II: the phase of collecting the material;
- III: the phase of preparing the material;
- IV: the phase of exploiting the material; and
- V: the phase of preparing the manuscript for publishing.

These different phases of lexicographical preparation are developed in *Chapter 3* entitled *The Lexicographic Process*. Before ending this point, it is important to keep in mind that "the criterion of the scientific status of a theory is its falsifiability, or refutability, or testability" (Popper 1985:37). Wiegand's metalexigraphy accommodates refutability or falsifiability, especially in the words of Smit (2001: note 6) when she says: "Once, towards the end of the volume, Wiegand (1998:930, note 78) admits that he changed his mind because of the work done by other scholars, when he speaks about the concept of congruence".

One of Wiegand's favourite approaches is to construct his arguments by looking critically at the work of other scholars, using their citations from their work, in many cases to refute or correct their arguments. The evidence of falsifiability in Wiegand's theory, the metalexigraphy, is once more given by Smit (2002:292). She finds that,

out of the critical approaches he has towards other scholars' works, Wiegand usually engages complicated reasoning, finds solutions and makes suggestions on which he can build his comprehensive theory of lexicography.

Many questions are asked about lexicography as a scientific discipline, and thus some concepts will need to be clarified. The most important among all seems to be the concept or the terminology of lexicography itself. Some authors are using the term lexicography insensitively and sometimes inappropriately. As a result it becomes rather confusing to know whether the term is used to designate the theory, a professional activity, a science or an academic subject taught at universities, etc. Wiegand (1984:11) for instance, presents lexicography "as scientific practice and as the subject of a general theory of lexicography" in his development, while Sinclair (1984:3) develops lexicography "as an academic subject". For Sinclair (1984:5) lexicography contains some weaknesses despite the high overall standard it presents:

First of all the lack of external standards of evaluation narrows the range of possible work done as lexicography, [and] causes it to be introspective and conservative. Its security lies essentially in repeating successful practice, and it is highly resistant to innovation, experiment or even discussion outside the small group of established practitioners.

As a result, Sinclair thinks that the consequence of this impermeable attitude leads to what he calls the lack of flexibility which breeds an unchanging environment within lexicography and gives no guarantee of adaptability and relevance in the future.

The second weak point Sinclair is looking at is the way to acquire lexicographical knowledge. He states: "The only proper way to learn lexicography is to do it", cf. Sinclair (1984:5). He deplores the fact that, for instance, the practice of lexicography stockpiles and monopolizes all factors involved in the compilation. This does not leave space for many possibilities for speculation; even the passing of experience from one lexicographer to another is restricted to the circumstances of the job in hand.

Another objection that Sinclair (1984:5) points out is the concept of generality used in lexicography. He concedes that:

Each project is special, and has a range of needs needing special treatment. With such variety, there is little to be said that holds good in all circumstances. That may be so, but it does not stop lexicographers from enunciating general principles, and it does not differentiate lexicography from any other applied academic study.

The most important criticism against lexicography is based on the training and the recognition of the profession of lexicographers:

Most lexicography is done on short-term contract, and most practitioners are insecure in their employment. This inhibits the establishment of courses, and makes it difficult for people to finance themselves through training. In turn the absence of accepted qualifications denies prestige and status to the discipline (Sinclair 1984:6).

Conclusively, as it has been mentioned, lexicography is not a pure science but an applied science or craft. For Sinclair (1984:6) lexicography "relies for a theoretical framework on external discipline". He, therefore, describes lexicography as an academic subject as it is represented in the following graphs (Fig. 101 and 102).

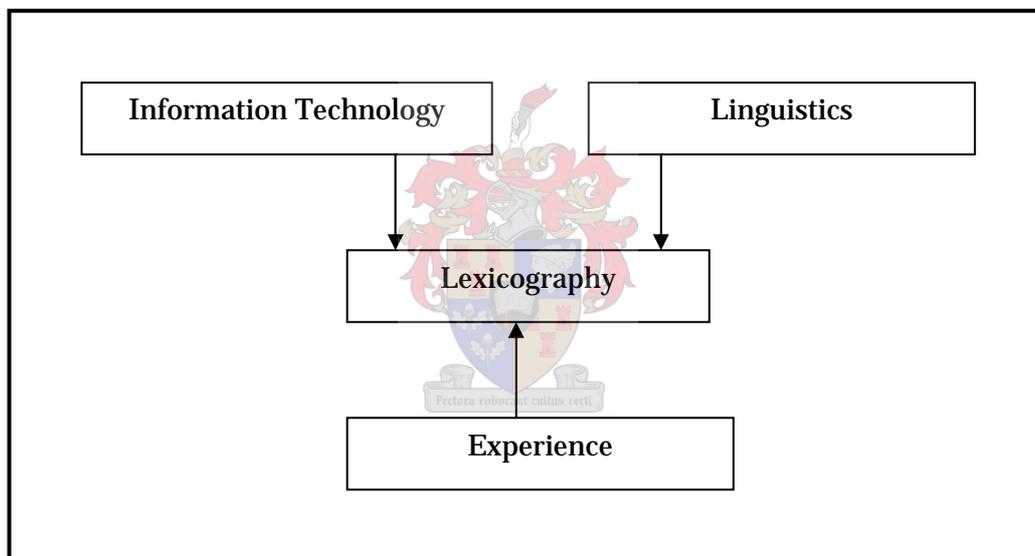


Figure 1.1

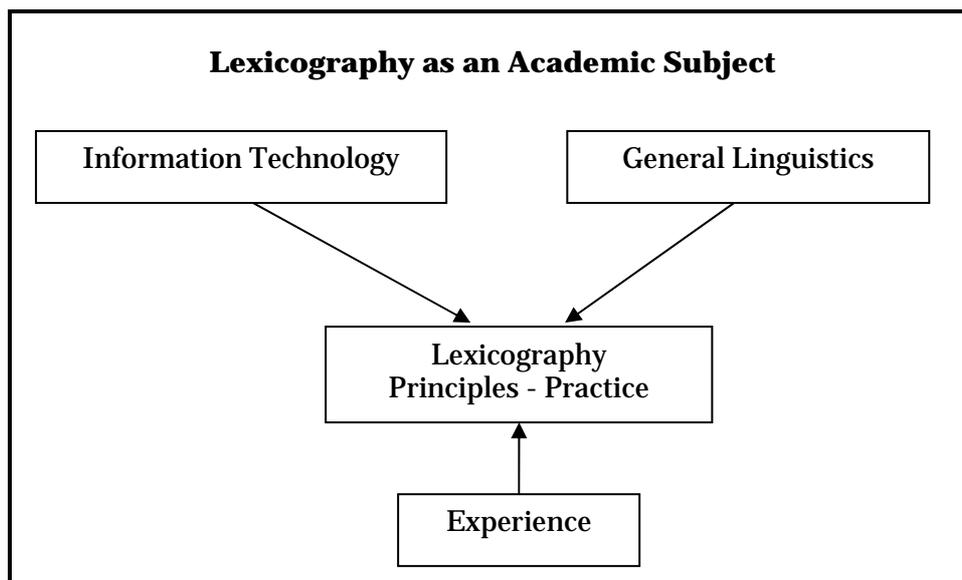


Figure 1.2

On the point that lexicography is not a pure science Sinclair (1984:6) agrees with Wiegand (1984:13) who affirms that:

Lexicography was never a science, is not a science and it will probably not become a science. Scientific activities he says, as a whole are aimed at producing theories, and precisely this is not true of lexicographical activities.

Even if both researchers seem to be in accord about lexicography not being a science, this agreement is just in appearance. They don't give the same content to the term lexicography. Sinclair denies any scientific character to lexicography for the reasons mentioned above: the lack of external standards of evaluation, introspectiveness and conservativeness of lexicography, the absence of accepted qualifications which denies prestige and status to the discipline, the high resistance to innovation, etc. Wiegand asserts that lexicography is not a science. Thus, he is looking at this discipline from a different perspective. He (Wiegand 1984:13) concedes that "we must bear in mind that writing on lexicography is a part of meta-lexicography and that the theory of lexicography is not part of lexicography". Therefore, it is clear that they are not within the same paradigm when they describe lexicographical theory.

Sinclair (1984:8) positions lexicography as an academic subject between information technology and general linguistics. He proposes that lexicography may come to be regarded as a special variety of computational linguistics – that is to say an application of linguistics with regard to information technology. Wiegand (1984:13), on the other hand, declares that lexicography is not a branch of so-called applied linguistics, lexicography is more than the application of linguistic theories and methods or the utilisation of linguistic and philological findings. Thus, in Sinclair's

mind lexicography is for linguistics what statistics are for mathematics, while Wiegand (1984:13) sees it as a scientific practice and as the subject of a general theory of lexicography. According to Wiegand (1984:15) this general theory of lexicography as a component falls under a main theory: the so-called metalexicography.

The concept of metalexicography is understood as an ensemble of distinct theories of lexicography that have been developed and in which certain aspects of metalexicography, dealing with a range of subjects, disciplines and some theoretical matter, have been categorized (Smit 2002:293).

1.9 Dictionary

As it has been mentioned, the purpose of this study is to compile a theoretical model for a dictionary in medical terminology which suits both specialists and non-specialists, including laypersons, as target users. The main aim of the future dictionary is to present data from a special field (in this case, medicine). This constitutes that lexicographers will deal with special vocabulary and special language, according to the purposes of the text, based on the user's needs. Moreover, the classification of this kind of reference work fits in with the so-called language for specific purposes dictionaries (LSPD) with an accent on two distinct forms of medicine: western and southern medicine with regard to modern versus traditional medicine. Thus, the term "explanatory dictionary" is introduced to designate linguistic dictionaries that provide explications of the lexical meaning of lemmata and sometimes *valence* in their definitions irrespective of the number of languages involved. This distinction enables the metalexicographer to distinguish monolingual and plurilingual reference works (Burkhanov 1998:83).

1.10 Explanations

Users expect to retrieve information from dictionaries. Definitions constitute one of the useful tools in a dictionary article to efficiently satisfy the readers' needs for an explanation of meaning. In bilingual dictionaries, for instance, the translation equivalent plays a significant role in the treatment of lexical items. It is interesting to note that in classical multilingual dictionaries the explanation in terms of definitions is not often expected and also not supposed to be included in the dictionary. But the specificity of the dictionary concerned, the FYEDMT, requires that it accommodates French, English and Yipunu terminology. In this case certain terms from traditional medicine may even need some additional explanation for better understanding, since the concept may not exist in western medicine. A controversial lexical item such as a *witch doctor* needs a thorough explanation to be able to avoid unnecessary confusion

with the herbalist or so-called traditional therapist for example. For this reason and the fact that the FYEDMT allows both expert and semi experts, including laypersons, as target users in one dictionary, the typology of this kind of dictionary is and should be hybrid.

The nature of the explanations is that this dictionary will focus on the first meaning of lexical items, that is denotation, which will have a cultural interest that will satisfy Gabonese traditional healers. Also, the particularity of this dictionary is that the data representing western culture and African culture will be treated equally.

1.11 Medicine

In the history of mankind healing has always played an important role. It, together with medicine, seems to be a powerful tool for communities' development. Porter (1997:7) acknowledges that medicine is moving from strength to strength. Indeed, from the first antibiotics and the first heart transplant to the first test-tube baby, medical science and clinical practice are literally "performing miracles". As a result the life expectancy of people is increasing, especially in western countries.

It should, however, be mentioned that besides these miracles of so-called western medicines, other forms of healing do exist.

Only the blindest and most bigoted high-tech doctors would now claim that all these traditions have nothing to teach western physicians and western patients. Ordinary people have been finding out for themselves, flocking in increasing numbers to practitioners of acupuncture, shiatsu and Zen alongside more western alternative therapies like aromatherapy, Alexander technique, homeopathy, iridology and herbalism (Porter 1997:7).

The proposed dictionary is part of the acknowledgement of terminology from the last category of healing (herbalism) which predominantly prevails in Africa. Some researchers prefer the terminology of traditional medicine. However, certain terminology needs to be standardized for the purpose of better understanding in this realm of healing as far as medical terminology is concerned. Hence, translation equivalents between Western and African concepts will make it easier to understand the input of Africa regarding medicine. This will make this dictionary more successful.

- **Ethnobotany and bio prospecting**

Contributions from scientific specialists as far as botanists, ethnobotanists, bioprospectors etc. show the necessity of genuine partnership in the traditional

healing arena as well as the input of traditional therapists in modern medicine. It also represents how far the collaboration between modern and traditional medicine has advanced.

An ethnobotanist works with local people to teach them about the local plants and their medicinal uses. Traditional therapists or healers possess knowledge of botanical cures for almost any ailment. However, the ethnobotanist who does not speak the local language needs help in gaining knowledge from and transferring knowledge to the local people. S/he will need to work with a translator if s/he does not speak the language. S/he then needs to negotiate with the local government to secure the cooperation and the permission of the local people to work in the area. The ethnobotanist will then take samples of plants which the natives will identify as a cure or medication for some or other pain or illness. The ethnobotanist will determine the plants and the chemical composition of the medicine, and check whether they contain pharmaceutical components such as drugs as ingredients.

Bioprospecting (also called biodiversity prospecting), on the other hand, is a pronounced application of what an ethnobotanists does. Often working with a drug company to extract natural substances that may form the basis of new pharmaceutical drugs, the bioprospector explores the medicinal and nutritional uses not only of local plants in a given area but of microbes and marine organisms as well.

Gabon, for instance, has both tropical forests and marine habitats, creating a high potential for exploitation by bioprospectors. However, money from bioprospecting efforts can flow back into habitat protection and management and in doing so generate employment and income for local communities.

1.12 Terminology

The FYEDMT will certainly present new data for the medical field. It will therefore require a specialized vocabulary or specific terminology for its compilation that characterises the type of dictionary involved. In this regard three lexicographical notions need to be considered in the FYEDMT: terminology, specialized vocabulary and lastly specialized lexicography.

Specialised vocabulary is needed because the proposed dictionary will contain specific data in which specialised terms pertaining to the medicinal and healing arena will predominantly be used rather than the terms belonging to the everyday use. Moreover the medical “jargon” contained in the proposed dictionary is indeed used for a specialised target group of people, familiar with this type of vocabulary.

In lexicography the distinction between some dictionaries containing data used for general purpose and dictionaries presenting data for specialised purposes leads to classify the FYEDMT in the second category, the dictionaries displaying a language for special purposes, with particular attention to the expressions and linguistic usages pertaining to the language of medical activities. As a result compiling a dictionary of medical terms as the FYEDMT, is also dealing with specialised lexicographic issues.

Terminology is often defined as an interdisciplinary subject field concerned with activities intended at the systematisation and representation of scientific, technical, and other kinds of expert concepts (Burkhanov 1998:241). Medical terminology consists of terms or words that are related to the medical science. Such words describe the human body, its functions, its normal state, its abnormal state, the diseases and injuries that affect it, and the various means, agents, and procedures employed to prevent, minimize, or cure the effects of disease or injury (Brady 1970).

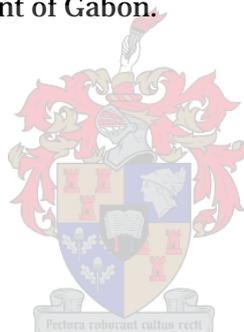
When one projects the compilation of a lexicographical work such as the FYEDMT, one must bear in mind that terminology has to play a key role in the involvement of specialists and experts to give the proposed dictionary a certain weight and scientific consistency. As Smit (2001:300), quoting Wiegand (1998:248-256), affirms regarding the discussion of scientific lexicography and its relationship to other academic disciplines:

"It is clear that greater lexicographical projects can nowadays only be undertaken in teams, in most cases also involving experts from other disciplines".

Terminology will be useful not only as a tool for medical purposes but also for the understanding of lexicographical mechanisms. These mechanisms are important for the compilation process of the dictionary and the communication between the lexicographer and the user by means of the data. Because, as Smit (2001:302) asserts, many terms are used to determine the exact nature of different user actions, for example, "external and internal access actions". External access actions are performed when a user, for example, consults the outer texts and/or register(s) of the dictionary, cf. Wiegand (1998:394), whereas internal access actions occur when a user consults dictionary articles in order to obtain the needed lexicographical data, cf. Wiegand (1998:404). These external and internal access actions are also subdivided into "actions following cross-references" and "consultation actions motivated by cross-references".

1.13 Conclusion

The initiative around a dictionary project such as the French Yipunu English Dictionary of medical terms deserves a sound lexicographical knowledge in order to negotiate properly the issues surrounding the theory and the techniques of dictionary compilation. The envisaged project, “*A Theoretical Model for a Yipunu-English-French Explanatory Dictionary of Medical Terms*”, therefore needs a theoretical basis from which notions of theory, model, explanation, dictionary, medicine, and terminology had to be discussed. The understanding of these notions was important for both the compilers and the clarity of the dictionary planning. The compilation of the dictionary or the dictionary plan encompasses certain considerations that should not be eclipsed away from reality. In this sense the envisaged dictionary is to be compiled to satisfy medical needs in Gabon as efforts deployed by the Gabonese government for whom the medicinal research and medication seem to be costly. This dictionary project happens to be a contribution to the medical preventive awareness initiative taken by the Government of Gabon.



Chapter 2

ASPECTS OF MEDICAL AND YIPUNU SITUATION IN GABON

2.1 Introduction

The socio-political aspects of Gabon as a country play an important role because socio-political programs in world matters relating to health are constant topics of discussions, and they are central in the planning of new projects. A brief overview of Gabon is thus given, because it is important to understand the background of the country, if you intend compiling a dictionary. The aim of this chapter is to justify why the dictionary should be compiled because the compilation of a dictionary is to address the specific needs of the target user. Target users of this dictionary are Gabonese exposed to Western as well as African medicine. Even if people are going to hospitals, they still make use of traditional healers. In addition, there is now a tendency of Western doctors to turn to traditional healers because of the progress made in curing diseases by these traditional doctors.

There is a kind of self-renaissance among traditional healers in Gabon to gather themselves under one association of traditional healers. The intention is to harmonise and standardise their work, and to offer a different approach to Western medicine. In that, the objective is to achieve cooperation between the Western and African system of medicine, and to find a platform in terms of terminology.

The previous health policy of Gabon was to provide social care to all of its citizens, taking maximum care of them. However, due to the recent economic crisis, and most diseases being difficult to be eradicated, it is becoming costly for the government to continue with its health policy. Hence, the government is now turning its attention to prevention and therefore awareness.

It is at this point that this chapter finds its relevance because compilation of the proposed dictionary, the FYEDMT, will help to standardise the terminology between the Western and African medicine.

2.2 Brief overview

In 1910 Gabon became part of the *Afrique Equatoriale Française* (AEF) (Federation of French Equatorial Africa). This Federation disseminated in later years and in 1960 Gabon gained its independence. The Republic of Gabon is situated in Central Africa, astride the Equator, and covers an area of 267 by 667 square kilometres. Its neighbouring countries are Equatorial Guinea (350 km) to the north, Cameroon (298 km) to the south, Congo (1 903 km) to the east and the Atlantic Ocean (885 km) to the west. Gabon is a tranquil world of lush virgin tropical rainforest covering more than three quarters of the country and is only dissected by a network of broad rivers. Savanna is found in some parts, and mangrove forests thrive at estuaries on the Atlantic seaboard. The climate is equatorial, being hot and humid, and the average temperature is 28°C throughout the year. There are, however, four seasons: June to October which is cool, often cloudy and fairly dry; November to mid-December is the short rainy season; mid-December to early February is the short dry season; February to mid-May is hot, with the most rainfall occurring during this period. The Gabonese time is according to GMT.

Gabon has approximately 1 200 000 inhabitants of whom two-thirds live in Libreville, the capital. Gabon is one of the least densely populated countries in Africa. In 2000, for instance, the *Direction de l'Informatique et des Statistiques* (Head service of statistics and information) published the result of the population density in Gabon as represented province by province in the table below:

Gabon's population density province by province

Provinces	Area (Km²)	Population	Density (Habitant / km²)
ESTUAIRE	20740	668276	32,2
HAUT-OGOOUE	36547	122523	3,4
MOYEN-OGOOUE	18535	43889	2,5
NGOUNIE	37750	74977	1,9
NYANGA	21285	39858	1,9
OGOOUE-IVINDO	46075	51622	1,1
OGOOUE-LOLO	25380	45141	1,8
OGOOUE-MARITIME	22890	114149	4,9
WOLEU-NTEM	38465	101304	2,6
TOTAL GABON	267667	1177061	4,4

Figure 2.1

(Direction general de l'Informatique .et de .Statistiques, December 2000: p46)

According to the statistical address list of 1999 published by the *Direction de l'Informatique et des Statistiques*, the national rate of demographical growth is about 2.5%. If this growth is sustained, the population will reach the total of 1 544 406 habitants by 2010 and 2 million by the year 2021. The rate of growth fluctuates for example, from 6.30% in the Estuaire province to -0.61% in the Ngounié province. Gabon's population is relatively young, more specifically the males. As far as the average age is concerned, Gabon has the following statistics, 33% of the population are between 0 and 14 years with a more or less equal percentage of males and females, 61% of the population are between the ages of 15 and 64 and only 6% are older than 65, with more females than males represented in this category. Foreigners represent 15% of the population. The rural-urban exodus has contributed to the high rate of urbanization, and today Gabon is one of the most urbanized countries in Africa with 73% of the population living in urban areas in 1993 in comparison with 39% in 1980.

2.3 Medical and health situation in Gabon

According to estimations made in 2000 Gabon presents certain health indicators that are not so different from the rest of the continent. For example, they also have a relatively high infant mortality rate which is about 96,3 deaths per thousand live births, and maternal mortality, estimated at close to 200 deaths for every 100 000 live births. Maternal mortality is due mainly to haemorrhaging and infectious complications after deliveries and abortions. Life expectancy at birth places the average age of the total population at more or less 50.08; 48.94 years for males, and 51.26 years for females. The total fertility rate (5.2 children per woman) is lower than the sub regional average but is steadily increasing each year.

According to propositions made by The United Nations Population Fund (UNFPA) in 1998 to support a population programme for the period 1998-2001, some financial help has been suggested to assist the Government of Gabon in achieving its population and development objectives. The UNFPA promised to fund the programme to the amount of \$1,7 million, of which \$1,2 million would come from the UNFPA's regular resources.

The goal of the proposed programme was to improve the reproductive health of the Gabonese people. Its purpose was to contribute to the Government's efforts in defining the national framework for reproductive health activities. This would improve the quality and increase the accessibility of reproductive health information and services in some selected provinces. It would foster support from policy makers,

parliamentarians and civil society for the utilization of reproductive health information and services, especially by the youth and adolescents. Lastly it would also help to develop a national population policy. The UNFPA's assistance will focus on reproductive health, including family planning and sexual health. Advocacy and IEC components will also contribute to achieving the purposes of this programme.

The health infrastructure coverage is very good in Gabon, with more than 90% of the population having access to a health facility. The health facilities and their equipment, however, are badly maintained despite the resources allocated by the Government for health activities being quite high (\$170 per capita per year). There is a shortage of qualified personnel in rural health facilities. With the exception of the big cities, 40% of dispensaries are non-operational. Of medical staff working for the public sector, 76% are concentrated in the two principal cities of Libreville and Franceville. The public health system offers a limited range of reproductive health services such as pre- and postnatal care, growth monitoring, vaccination, health education and natural family planning methods.

The number of persons infected with HIV was estimated at almost 20 000 in 1996, and the number of declared AIDS cases was 1 627 in 1997. The prevalence of HIV infection in Libreville increased from 1,88% in 1986 to 2,8% in 1991 and it was estimated that it would reach 3,7% in the year 2000 if the current trends of that time were to be maintained. Infertility, which is a major problem in the central African subregion, has been significantly reduced over the last three decades - from 31,9% in 1960 to 17,2% in 1993 [<http://www.countrywatch>].

Malaria¹, tuberculosis², polio³, leprosy, and other such diseases are taking a high toll on this central African country. The government, however, has just signed an agreement with drug companies to import commonly used medications. With the help of various donor agencies, it is also trying to improve coordination within the health system.

In a bid to improve primary health care, the government is also funding the International Centre for Medical Research in Franceville (CIRMF)⁴ to study sexually

¹Malaria: an infectious disease characterized by cycles of chills, fever and sweating, caused by a parasite transmitted by a host mosquito.

² TB (tuberculosis): an infectious disease often caused by a single pathogen that usually spreads due to poor living conditions, malnutrition and overcrowding.

³ Polio (poliomyelitis): an acute viral disease that attacks the brain and the spinal chord.

⁴ Inaugurated in 1979 CIRMF is a very good research centre and comparable to any facility in the West. It is equipped and staffed to the highest standards and has one of the most remarkable primate research centers in the world. It is part of a development project, aimed at ameliorating the health and welfare of people stricken by parasitological diseases (including

transmitted diseases and resistance to anti-malarial drugs. Malaria remains the largest problem of the tropical region and the most deadly disease in Africa, with high direct and indirect mortality rates and a general morbidity that affects the overall performance of the population. Thus, the fight against malaria is an important priority. The Ministry of Health and Population has announced its goal to halve malaria-related deaths by the year 2010 and to reduce the toll with another 30% by 2015 and 20% by 2020. Worldwide, malaria kills between two and three million people every year.

The tsetse fly, which carries a dormant sickness or trypanosomiasis, continues to breed in villages and towns near lakes and in areas where people mainly earn a living from logging. This dormant sickness affects the nervous system and has become endemic especially in the Lambaréné region in central Gabon, where authorities counted 286 cases of the ailment in 1998 and 418 in 2000 among a rural population of 23 590 principally earning a living from logging. Without medical care, the dormant sickness is fatal. It affects 500 000 people in subSaharan Africa at present, according to the World Health Organization (WHO). Approximately 60 million people in 36 countries are exposed to the disease, the agency says.

The government recently opened four new health centres specializing in tuberculosis treatment in a bid to comply with the WHO's guidelines, which call for at least one health centre per 100 000 people. Nevertheless, UN officials say they fear that the number of cases of tuberculosis will double in the next ten years, mainly because of an increase in the number of AIDS cases and insufficient funding for the fight against tuberculosis. According to the health ministry, Gabon's hospitals treat 3500 tuberculosis cases each year. According to WHO, the disease kills more women than all other infectious diseases combined. In Africa, more than 40% of all AIDS patients eventually die of tuberculosis.

AIDS is ravaging several African countries with South Africa being the closest example. According to the LoveLife Study (2001: 6), "it is estimated that around 4 million South Africans are currently HIV infected". This number is expected to continue to rise over the next 10 years unless a major behavioural change occurs in people around the world. Only this will have the power to significantly alter the course of the epidemic. Gabon is no exception to this rule. The most recent estimates, issued in April 2001, are that 6% of the sexually active Gabonese population are HIV

malaria) and a low fecundity rate. Since its establishment, the goals of CIRMF has been realigned to tackle the emerging problems of the region, and the original emphasis on increasing the birthrate has been shifted to improving infant survival and welfare.

positive, a jump from 2,2% in 1989. In Libreville alone, the numbers are even higher: 7,8%, according to the government.

The number of serious cases of malnutrition seen in health clinics is also on the rise. This adds to officials' concern about the spread of disease. Nationwide, 10% of children under the age of five are malnourished. Some 50 out of every 1 000 babies die before reaching the age of one with low birth weight being the predominant contributing factor. In addition, the UN Children's Fund says that basic health expenses have risen steadily. They jumped from 9 481 billion CFA francs (one US dollar is worth approximately 700 CFA francs) in 1990 to 16 228 billion CFA francs in 1995. They again jumped from 19 244 billion CFA francs in 1997 to almost 40 billion CFA francs in 2000.

Research results released in November 2000 by the Libreville Medical Centre revealed that, in addition to all the previously mentioned health issues, Gabon also faces a growing crisis of male impotence. According to the report, 25% of all adult men are now impotent in Gabon. While the report fails to identify the direct causes, it does note that high levels of alcohol and tobacco use, common in Gabon, are aggravating factors. The report concludes that the rise in divorce can be directly linked to this increase in impotence with grave social and economic consequences.

Viral and retroviral diseases feature increasingly as public health problems; yellow fever and ebola hemorrhagic disease are re-emerging, and HIV and HTLV are spreading throughout urban and rural areas. AIDS in Gabon is a rapidly growing crisis. In 1998 the U.N. World Health Organization estimated 24 000 people in Gabon were being infected with HIV each year. The 1999 figures, however, estimate that the number had risen to 30 000. In a February 2001 report by the Gabonese Ministry of Public Health and Population, one Gabonese citizen is infected with HIV every three hours. The disease has reached catastrophic proportions, because in 1998 1,8% of sexually active people from the age of 18 to 45 were infected and at the end of 2000 7,6% of the same group were infected, [<http://www.countrywatch.com>. June 2003].

As the HIV/AIDS epidemic enters its second decade, the magnitude and impact of the costs of the illness remains a question of continuing concern to policymakers. Any illness imposes economic costs on both society as a whole and on various groups and individuals within society. Tracing the impact of these costs is always challenging, but this is particularly true for HIV/AIDS, where many of the factors influencing these costs are changing rapidly over

time and where the current state of knowledge about these factors may be sketchy in some areas. Estimates of the costs of HIV/AIDS are needed for several types of public policy decisions. Estimates of the costs to society as a whole are required for the economic evaluation of various HIV prevention and treatment strategies and for comparing HIV interventions with other public sector investments. Some of these illness costs will be saved by society if HIV/AIDS interventions are effective in preventing infections or delaying the onset of disease symptoms

In Gabon there has been an eruption of new pathologies which are considered to be modern pathologies due to the change of lifestyle in cities and the general changes in the average person's diet: vascular heart diseases, the diabetic disease, trauma due to accidents on the roads and the so-called secondary pathologies due to alcohol, tobacco, etc.

Finally, as far as the state of health is concerned, Gabon has more or less the same indicators as other African countries. The domain of health especially in the public sector includes a lot of aspects, even some which do not have any immediate connection with the field of medicine. For instance, issues such as habitat, lifestyle and finance are playing an important role to improve life. They also have an impact on the well being of people and constitute some indicators in the public health sector. Therefore it is difficult to appreciate public health in a country like Gabon without paying attention to other social, economic and cultural aspects of the country such as education, medical infrastructure, mortality, fecundity, etc.

2.3.1 Gabonese women

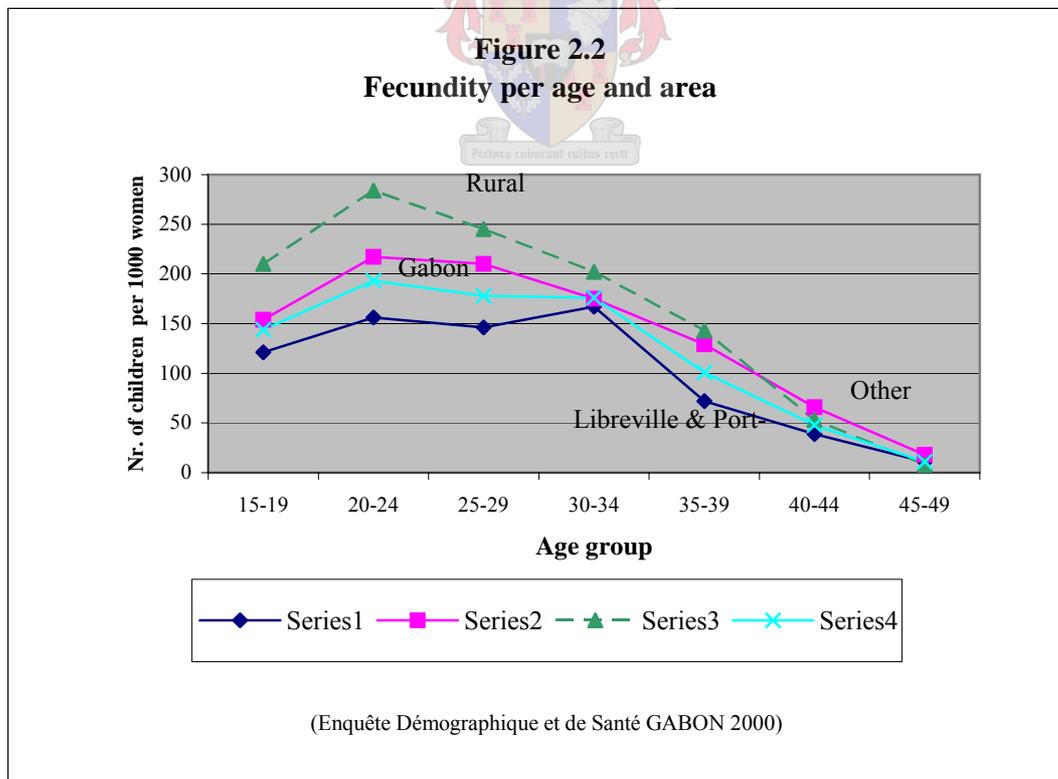
Women play a very important role in the socio-economic development of Gabon. While they represent 50,5% of the population, they also constitute more than 66% of the agricultural workforce. Because of migration and urbanization, about 30% of women are now the heads of households. The Gabonese Constitution proclaims equality between men and women in all spheres of political, economic, social and cultural sectors. A 1997 study on the social and legal status of Gabonese women supported by the United Nations Population Fund (UNFPA) has, however, identified a list of laws and traditions that are discriminatory or unfavourable to women. Gabon has limited statistics, but the 1993 population census estimated the illiteracy rate to be 20.6% for men and 34.3% for women.

Gabon has yet to formulate a population policy and there is a strong current of pro-natalist opinion in the country. Due to the existence of legal barriers against family

planning, modern contraceptive methods are available only in private pharmacies and are consequently accessible to only a small number of women from the elite society. As a result, abortion is often the answer in the case of unwanted pregnancies, especially among adolescents and young women. By the age of 18 years, 32% of Gabonese women have at least been pregnant twice. According to a survey conducted in 1995 with UNFPA support in the Estuaire province, the country's most populous province, 50,5% of the women that formed part of the survey had had at least two abortions. Repeated abortions increase the likelihood of secondary sterility and contribute to the high level of maternal mortality, as indicated above. Given these health problems, official attitudes towards population and reproductive health issues are changing. The Government has now requested the UNFPA's technical assistance in the compiling of a national population policy.

2.3.2 Fecundity

Between 1998-2000 the research provides some fecundity indicators such as young Gabonese women present a high rate of fecundity 144 for 1000 between the age of 15-19 and it reaches its maximum at the age of 20-24 before it starts to fall down as with the adult age (Figure. 2.2).



This graph in fig. 2.2 shows that for Gabonese women between the ages of 25 and 29, the fecundity rate remains steady until the age of 30-34. Usually more births occur

between the ages of 24 and 29 than in any other age group. Specialists think that, with the current level of fertility, chances are good that Gabonese women will end up having 4,3 children after their fecundity period (MPPDAT 2000:10).

The knowledge of contraception is quite good amongst women living in Gabon. Out of the 6183 women researched, 96% knew of at least one contraceptive method and 95% knew about one or more modern contraceptive methods. This can be the cause of the sudden slump in the fecundity rate. After the 1993 census the fecundity rate was about 5.2 children per woman. Currently it is down to 4.3 children per woman. The research done by the *General Direction of Statistics and Economic studies*⁵ in Gabon shows that 54% of the women in the research group are living with a partner. Only 33% of these women are single. During this study it was also established that there are more single men (39%) than single women in Gabon.

2.4 Governmental health policy

There is an existing programme called *Health and Population* which emphasises the improvement of services, the reinforcing of the existing structures and personnel training, the improving of the distribution of medication and light equipment and the increase of access to health care. The government has decided to promote the accessibility to primary health care while at the same time it emphasizes their campaign to raise funds for health care. The Gabonese government is also constantly combating against predominant diseases such as malaria, bad nutrition, AIDS, diarrheic diseases, breathing diseases, etc. The Gabonese national system of health consists of three levels:

- 1 The first level constitutes the cabinet of the Ministry of Health which consists of the general direction of Health and other central directions.
- 2 The second level is called the intermediary level and consists of nine or ten provincial directions.
- 3 The third one is the periphery level or local level and consists of 44 health department directions.

As mentioned above, Gabonese policy is focused on certain priorities such as the rationalization of management resources by revising the initial curriculum,

⁵ This is a department within the *Ministère de la Planification, de la Programmation du Développement et de l'Aménagement du territoire* (Ministry of Planning, Development and Home Affairs).

developing a continuous training process, by improving the effectiveness of personnel, by stimulating the personnel and by planning the recruitment.

2.5 Dominant diseases in Gabon

According to the record made public by the Ministry of Public Health in Gabon, many diseases occur but they do not all have the same impact on the population. Some are more severe than others. Malaria and other diseases associated with it seem to be most prominent and recurrent infections among all. Figure 2.3 shows that malaria represents approximately 10% of all diseases in Gabon.

Figure 2.3 Ten principal diseases from all age groups

Diseases	Number of cases	% compare to all pathologies
Probable malaria (with no GE manifested)	47647	10,4%
Fever (without other indications)	25239	5,5%
Acute respiratory infections	24625	5,4%
Rhinitis, rhinopharyngitis (postnasal drip), angina	21841	4,8%
Flu	20457	4,5%
Severe diarrhea, GE	19635	4,3%
Confirmed malaria (GE positive)	18785	4,1%
Contusions, wounds, lesions (with no fracture)	18530	4,1%
Eczema, itchiness	17157	3,8%
Other forms of morbidity	14645	3,2%
Declared case number for the ten maladies	228561	50,1%
Total Number of declared pathologies	456466	100,0%

(Annuaire de Statistique 1999: 266)

2.5.1 Malaria

Malaria constitutes a major health problem in the tropics and subtropics, affecting millions of people world-wide and it can be defined as an infective disease, caused by protozoan parasites that are transmitted through the bite of an infected *Anopheles* mosquito; marked by paroxysms of chills and fever. According to Dirckx, (1997) malaria is a disease caused by the presence of the protozoan *Plasmodium* in human or other vertebrate red blood cells, usually transmitted to humans by the bite of an infected female mosquito of the genus *Anopheles* that previously sucked the blood from a person with malaria. Human infection begins with the exoerythrocytic cycle in liver parenchyma cells, followed by a series of erythrocytic schizogenous cycles repeated at regular intervals; with production of gametocytes in other red cells that provides future gametes for another mosquito infection; and characterized by episodic severe chills and high fever, prostration, occasionally fatal termination.

After 9-16 days they return to the blood and penetrate the red cells, where they multiply again, progressively breaking down the red cells. This induces short periods

of fever and anaemia in the infected individual. In cerebral malaria, the infected red cells obstruct the blood vessels in the brain. Other vital organs can also be damaged often leading to the death of the patient.

2.5.1.1 Malaria diagnosis and treatment

Malaria is diagnosed by the clinical symptoms and microscopic examination of the blood. Anti-malaria drugs can normally cure it. The symptoms fever, shivering, pain in the joints and headache, quickly disappear once the parasite is killed. In certain regions, however, the parasites have developed resistance to certain anti-malarial drugs, particularly chloroquine. Patients in these areas require treatment with other more expensive drugs. Cases of severe disease including cerebral malaria require hospital care. In endemic regions such as Gabon, where transmission is high, people are continuously infected so that they gradually develop immunity to the disease. Until they have acquired such immunity, children remain highly vulnerable. Pregnant women are also highly susceptible since the natural defence mechanisms are reduced during pregnancy.

The significance of malaria as a health problem is increasing in many parts of the world. Epidemics are even occurring around traditionally endemic zones in areas where transmission have been eliminated. These outbreaks are generally associated with deteriorating social and economic conditions, and the main victims are underprivileged rural populations. Demographic, economic and political pressures compel entire populations (seasonal workers, nomadic tribes and farmers migrating to newly-developed urban areas or new agricultural and economic developments) to leave malaria free areas and move into endemic zones. People non-immune are at high risk of severe disease. Unfortunately, these population movements and the intensive urbanization are not always accompanied by adequate development of sanitation and health care. In many areas conflict, economic crises and administrative disorganization can result in the disruption of health services. The absence of adequate health services frequently results in a recourse to self-administration of drugs often with incomplete treatment. This is a major factor in the increase in **resistance** of the parasites to previously effective drugs.

In all situations, control programmes should be based on five objectives:

- Provision of early diagnosis and prompt treatment to all people at risk;
- Selective application of sustainable preventive measures, including vector control adapted to the local situations;

- An immediate, vigorous and wide-scale response to epidemics;
- The development of reliable information on infection risk, living conditions of concerned populations, and vectors;
- Large awareness supported by genuine lexicographical literature based on prevention which necessitates a real answer to some pragmatic needs of the population.

2.5.1.2 Preventative measures for malaria control

Preventions against malaria has been intensively discussed at conferences and health related gatherings, and they are central in the planning of new projects such as rolling malaria back, aiming the eradication of malaria or at least its reduction, cf. Africa Focus Bulletin⁶ (2005). Such projects focus primarily on the search of a vaccine; that may neutralise the vector in order to prevent its spread throughout the endemic zones. This approach requires considerable funds, which African countries like Gabon do not have.

The other approach is the vector control that aims to reduce contact between mosquitoes and humans. Some vector control measures (destruction of larval breeding sites, insecticide spraying inside houses) require organized teams (for example, from the Ministry of Health) and resources that are not always available. The alternative approach is the use of insecticide-treated bed nets (ITNs) which combines vector control and personal protection. This intervention can often be conducted by the communities themselves and has become a major intervention in malaria control in Gabon.

The latter will demand an explicative campaign on how to use the ITNs for example so that an established cooperation between the health policy makers (the department of health) and the beneficiaries (communities) would lead to the Health education, also called Information-Education-Communication (IEC). This kind of palliative solutions therefore pave a way to lexicographical work such as the French Yipunu English Dictionary for Medical Terms in which a dictionary as a carrier of text types and a container of knowledge may serve the purpose of the IEC between the

⁶ According to Africa Focus Bulletin, May 4, 2005 (050504) a new comprehensive report was released by the World Health Organization and UNICEF, clearly lays out the strategies needed to fight malaria, which kills at least one million people a year. But despite claiming progress in more widespread adoption of these strategies, the report also acknowledges that these measures are only beginning to have an effect. More sceptical observers, such as the medical journal The Lancet in an April 25 2005 editorial, say that lack of resources and lack of capacity for implementation have in fact crippled the war against malaria.

government of Gabon and the communities. A lexicographic tool is also relevant for supporting the training and the supervision of health workers, to ensure that they carry out their task correctly.

2.5.2 HIV/AIDS

The acquired immune deficiency syndrome (AIDS), was defined as a condition “affecting persons under sixty years of age who had no other illness and were not undergoing any treatment that might depress their immune system” (Montagnier, 2000: 45). It manifested itself by “the presence of one or more so-called opportunistic infections [infections occurring only when the immune system is very weak], or by the onset of *Kaposi's Sarcoma*” (Montagnier, 2000:45). By 1983, the etiological agent, the human immunodeficiency virus (HIV), had been identified. By the mid-1980's, it became clear that the virus had spread, largely unnoticed, throughout most of the world. The HIV/AIDS pandemic consists of many separate epidemics. Each epidemic has its own distinct origin, in terms of geography and specific populations affected, and involve different types and frequencies of risk behaviors and practices, for example, unprotected sex with multiple partners or sharing drug injection equipment. Countries affected by HIV/AIDS may be categorized into three states: generalized, concentrated and low⁷.

- **Low**

Principle: Although HIV infection may have existed for many years, it has never spread to significant levels in any sub-population. Recorded infection is largely confined to individuals with higher risk behaviour: e.g. sex workers, drug injectors, men having sex with other men. This epidemic state suggests that networks of risk are rather diffuse (with low levels of partner exchange or sharing of drug injecting equipment), or that the virus has been introduced only very recently.

Numerical proxy: HIV prevalence has not consistently exceeded 5% in any defined subpopulation.

- **Concentrated**

Principle: HIV has spread rapidly in a defined sub-population, but is not well-established in the general population. This epidemic state suggests active networks of risk within the subpopulation. The future course of the epidemic is determined by the

⁷ This subdivision on low, concentrated, and general is suggested by the Workshop on HIV/AIDS and Adult Mortality in Developing Countries (UN/POP/MORT/2003/2).

frequency and nature of links between highly infected sub-populations and the general population.

Numeric proxy: HIV prevalence consistently over 5% in at least one sub-population at highest risk, and prevalence below 1% in the general adult population (age 15-49 years) in urban areas.

- **Generalized**

Principle: In generalized epidemics, HIV is firmly established in the general population. Although sub-populations at high risk may continue to contribute disproportionately to the spread of HIV, sexual networking in the general population is sufficient to sustain an epidemic independent of sub-populations at higher risk of infection.

Numeric proxy: HIV prevalence consistently over 1% in pregnant women.

2.5.2.1 HIV/AIDS in sub-Saharan Africa

Most of existent and available epidemiological data show the extensive spread of HIV in sub-Saharan Africa. By the early 1980s, HIV traces were found in a geographic band stretching from West Africa across to the Indian Ocean, the countries north of the Sahara and those in the southern cone of the continent remained apparently untouched. By 1987, the epidemic began gradually to move south. Some of the most explosive epidemics busted up in Southern Africa. South Africa has the largest number of people living with HIV/AIDS in the world, 4 million. Botswana and Swaziland have the highest prevalence levels, 38% and 33% respectively. West Africa has been relatively less affected by HIV infection than other regions of sub-Saharan Africa. Uganda and Senegal represent two success stories. Uganda has brought estimated prevalence rate down to 5% by the end of 2001 from an estimated peak of close to 14% in the early 1990s with strong prevention campaigns. HIV prevalence has stabilized in Senegal at a relatively low level.⁸

2.5.2.2 HIV/AIDS in Gabon

The first case of AIDS in Gabon occurred in 1986. But it is only in 1987 that the fight against this pandemic did really start by the governmental decision which lead to several programmes *plan à court terme (PCT)*, short term goal plan, covering the period of 1987-1988, and two different plans for middle term goal called *Premier plan à Moyen Term (PMT1)* covering the period of 1989-1993, and *Deuxième plan à*

⁸Source:

http://www.un.org/esa/population/publications/adultmort/UNAIDS_WHOPaper2

moyen term (PMT2) for the period of 1997-1999 (Mombo⁹, 2001). These programmes were basically focused on awareness and counselling. The creation of: *Comité National de lutte Contre le SIDA et les maladies sexuellement transmissibles (CNLS/MST)*, the National Committee of fight against AIDS and Sexually Transmitted Diseases in June 1993 was imperative, according to the government. Delphine Mimbalé¹⁰ (2001: 3) concedes that if the epidemiological situation of AIDS in Gabon has long time been stable with low level of AIDS prevalence, the data analysis shows that the reality has drastically changed compared to the past. Gabon has officially declared 4 991 HIV/AIDS cases to the United Nations AIDS (UNAIDS) and WHO.

2.5.2.3 Preventative measures for AIDS/HIV

If the incidence/prevalence of the STIs is high in a country, then there is the possibility of high rates of sexual transmission of HIV. Monitoring trends in STIs provides valuable insight into the likelihood of the importance of sexual transmission of HIV within a country, and is part of second-generation surveillance. These trends also assist in assessing the impact of behavioural interventions, such as delaying sexual debut, reducing the number of sex partners and promoting condom use.

In the case of Gabon, the sexually transmitted infections mostly diagnosed are in a large scale responsible for the hypo-fecundity observable in the country and constitute a serious problem of public health. The idea of medical lexicography used for prevention purposes with regard to the awareness on STIs and STDs cure is advisable. This awareness should result in a well-planned campaign, supported by a proper “medical literacy” and adapted for both the neophytes and the experts on how to convey the message of infections, their symptoms, treatments and their incidence in human health. As a result, it may help to reduce the impact and the consequences of speed in which Sexually Transmitted Diseases/infections has been spread in Gabon and ultimately HIV as well.

2.5.2.4 Health service, prevention and care indicators

HIV prevention strategies depend on the double efforts of care and support for those living with HIV or AIDS, and targeted prevention for all people at risk or vulnerable

Cf. Workshop on HIV/AIDS and Adult Mortality in Developing Countries; New York 8-13 September 2003, United Nations Secretariat.

⁹ Mombo, J. H. 2001. Le PNLS/MST: Son Rôle, Ses Missions, in *Echos SIDA No001June 2001, Libreville*.

¹⁰ Mimbalé, D. 2001. Pourquoi une Antenne Mobile d'Information sur le SIDA.(AMIS), *Echos SIDA No2* Semptember-October, Libreville.

to the infection. It is difficult to capture such a large range of activities with one or just a few indicators. However, a set of well-established health care indicators may help to identify general strengths and weaknesses of health systems. Specific indicators, such as access to testing and blood screening for HIV, help to measure the capacity of health services to respond to HIV/AIDS-related issues. Male and female condoms are the only technology available that can prevent sexual transmission of HIV and other STIs. People exposing themselves to the risk of sexual transmission of HIV should have consistent access to high quality condoms.

2.5.2.5 Knowledge and behaviour

In most countries, the HIV epidemic is driven by behaviours (e.g. multiple sexual partners, injecting drug use) that expose individuals to the risk of infection.¹¹ Information on knowledge and on the level and intensity of risk behaviour related to HIV/AIDS is essential in identifying populations most at risk for HIV infection and in better understanding the dynamics of the epidemic. It is also critical information in assessing changes over time as a result of prevention efforts. One of the main goals of the 2nd generation HIV surveillance systems is the promotion of a standard set of indicators defined in the National Guide (Source: National AIDS Programmes, A Guide to Monitoring and Evaluation, UNAIDS/00.17) and regular behavioural surveys in order to monitor trends in behaviours and to target interventions.

The indicators on knowledge and misconceptions are an important prerequisite for prevention programmes to focus on increasing people's knowledge about sexual transmission, and to overcome the misconceptions that act as a disincentive to behaviour change. Indicators on sexual behaviour and the promotion of safer sexual behaviour are at the core of AIDS programmes, particularly with young people who are not yet sexually active or are embarking on their sexual lives, and who are more amenable to behavioural change than adults are. Finally, higher risk male-male sex reports on unprotected anal intercourse, the highest risk behaviour for HIV among men who have sex with men.

Negative health which is concerned about ill-health is not as straight as many would have assumed. It comprises more complex notions such as disease, injury, illness, disability, handicap disorder, deformity, abnormality, etc. and the distinction between these concepts are not always clear. It should be mentioned that the dichotomy between the western and African view of health is mostly pronounced

¹¹National AIDS Programmes, A Guide to Monitoring and Evaluation, UNAIDS/00.17

when it comes to negative health, especially in the etiological route to find the causal agent of disease as well as the techniques used to reach the appropriate remedy.

2.6 African approach of diseases

The African perspective of disease is found in the homeopathy of which the aim is to cure an illness or disorder by treating the whole person rather than merely concentrating on a set of symptoms. The African approach is based on the fact or the presumption that illness is a sign of disorder or imbalance within the body and remedy must be suitable both for the symptoms and the characteristic of the patient. As a result two patients presenting the same type of illness may be given different medication according to their individual personalities.

There is also the semiotic approach consisting of seeing a cause behind every illness. Consequently what may appear to a westernised person as illness with no significance may be just an iceberg. The typical example is when some one presents a low level of well-being with no evidence of ill-health.

2.7 Traditional medicine and western medicine

The perception of traditional medicine is often tarnished by two sets of factors: the endogens factors and the exogenous factors and these factors give an apparent ascending of western medicine over the traditional medicine. As a result the traditional medicine as used in Africa is always been associated to witchcraft, underdevelopment, etc. Yet the overwhelming products (mostly synthetic drugs) from western medicine did not come to the point where Africans could stop to rely on traditional medicine.

2.8 Yipunu situation in Gabon

2.8.1 Background

According to Mihindou (1998:2), Gabon under French domination was ruled and linguistic policy imposed from Paris by means of two strict ordinances throughout the French colonies. The ordinance of Cotterêt (1539) for instance was preventing the use of African languages in all official tasks and legislation in Gabon, whereas the ordinance of February 1922 was establishing French as the sole language of Education.

Yipunu is spoken in central Africa particularly in Gabon, The Republic of Congo (Congo-Brazzaville), the Democratic Republic of Congo "DRC" (Congo Kinshasa), Angola specifically in the Cabinda region, and in Sao Tome & Principe. In Gabon,

Mihindou (1998:4) situates Yipunu in the south of Gabon particularly in Ngounie Province (Mouila) and Nyanga province (Tchibanga and Mayumba). cf, fig.2.4



Figure 2.4

2.8.2 Classification and structure of Yipunu

Yipunu is a Bantu language classified by Guthrie (1940:59) as belonging to the B40 group. Conventionally Yipunu is indicated as “B43”; this group in Gabon is also known as Shira punu Group which encompasses the following Languages:

- Sira (Ghisira), Gabon B41
- Sangu (Isangu), Gabon B42
- Punu (Yipunu), Congo-Brazzaville, Gabon, B43
- Lumbu (Yilumbu), Congo-Brazzaville, B44

The most prominent grammatical characteristic of Yipunu is the extensive use of affixes,¹² which include prefixes, roots/stem, and suffixes. Mihindou (1999:25) for instance, gives a list of some verbal prefixes, e.g.:

¹² Affixes are generally arranged by class, they represent the morphemes that are attached to the base morpheme or to the stem in order to form a verb, an adjective, etc.

Class	Steam
1	a-
2	ba-
3	gu-
4	mi-
5	di-
6	ma-
7	yi-
8	bi-
9	ji-
10	tsi-
11	du-
14	bu-
16	va-
15	u-
17	gu-
18	Mu-

Figure 2.5

Like other Bantu languages of this classification (B40) Yipunu is a tonal language. According to Kwenzi-Mikala (1980:7), Yipunu presents five distinctive types of tones:

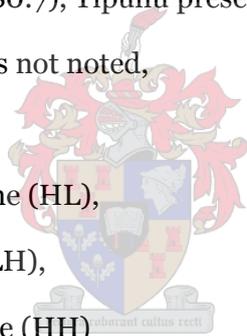
-a the Low tone (L) which often is not noted,

á *ton haut* High tone (H),

â *ton descendant*, descending tone (HL),

ã *ton montant*, ascending tone (LH),

ú *ton supra-haut*, supra high tone (HH)



Yipunu words are typically made up of open syllables of the type CV (consonant-vowel) and can sometimes tolerate a derivational structure as in Moussirou Mouyama (1982).

In his work, Kwenzi Mikala (1980:7) also presents five basic vocalic sounds in the Yipunu system: /i/, /e /, /a /, /o /, et / u /.

This set of vowels has been identified from the following examples:

Usíka ‘caler’ to support /to block

Ulíla ‘pleurer’ to cry

Ubê :la ‘être *malade*’ to be sick

Uléba ‘se *promener*’ to have a walk

Ubála ‘*éclaircir*’ to clear

Udöka ‘se *moquer*’ to mock

usúka ‘être *fini*’ to finish, or terminate

ulëla *'bercer'* to soothe
ubála *'montré'* to clear,
ulóba *'pêcher'* to Fish,
uböla *'pourrir'* to rot,
udüka *'suivre'* to Follow

2.9 Conclusion

A presentation of the medical situation in Gabon has been explained in this chapter. The medical and health aspects play an important role in the study, therefore an overview of these issues have been discussed at length in this chapter. Among many diseases that have an impact on Gabonese health system, malaria and AIDS/HIV have been analysed as dominant diseases that pose a threat to the country. The preventative means for their control, and health, services and care indicators have also been explained. From a cultural point of view, there are different approaches on how people look at diseases and how they affect them. To this end, the theoretical model for a Yipunu-English-French explanatory dictionary of medical terms will make it easier for readers to refer to. It is a source that explains the meaning of terms, presenting a lexicographical treatment. Also, it can play a vital role in the government's awareness campaign as much attention has been given to.

A brief presentation of some aspects of Yipunu was also given to get an idea of its linguistic structure and geographical localization.

Chapter 3

LEXICOGRAPHIC PROCESS

3.1 Introduction

The lexicographic process, which includes the data distribution programme, includes the comprehensive process as well as the dictionary plan. Generally it starts with the idea or notion of writing a reference textbook to be considered and used as a well-planned social product. The lexicographic process constitutes every aspect, from the initial idea to the publication. It therefore encompasses the planning of the type of dictionary in advance with reference to the category of users, and the different features the dictionary will contain, including the techniques used and the specialists involved in this lexicographic process.

Each dictionary requires that the specific planning be adapted according to the users' needs and the purposes of the dictionary. The compilation of a French monolingual dictionary, for instance, will require a focus on the French language and culture. This type of dictionary will differ from a bilingual one, for example, French–Afrikaans, in which two languages and cultures have to be considered separately. Monolingual and bilingual dictionaries will require different criteria for their compilation, since they will not only be providing different kinds of data for users with different needs, but they will also be fulfilling different functions.

A lexicographic work, such as the *French-Yipunu-English Dictionary of Medical Terms* (FYEDMT), demands a certain preparation and planning to precede its compilation. All the data collected is, however, not always used in the dictionary. Besides the criteria of the language, there are many other steps, such as the choice of the appropriate corpus, that need to be considered before any plan or structure can be established. The focus of this chapter will therefore be on four of the major components that constitute the core of a lexicographic process, i.e. the database (which includes different types of data), the corpus (which includes the data collection policy and the data distribution structure), the dictionary plan and, lastly, the instruction book (as well as the broad composition).

3.2 Database, corpus and data collection policy

Hartmann and James (1998:34) define data as the raw material collected for the purpose of compiling a reference work. Data is collected and presented in corpora compiled especially for the purposes of the reference work concerned. Corpora represent a systematic collection of texts that document the usage features of a language or language variety. James et al. (1994:4) admit that the term “corpus” is quite often confused with the term “text database”. They argue that “text database” refers not to the product, but to the process, which means the methods of storing the collected material. According to Hartmann and James (1998:34), it becomes a facility for the electronic storing and manipulation of linguistic and other data.

The concepts of data and database often have a different denotation for different metalexigraphers. Data in the South African milieu, for instance, seems to include both the corpus as raw material and the electronic version of the same corpus. But the database refers to the electronic programmes used as computer software in dealing with the treatment of corpora¹ cf. Gouws, Tarp and Bergenholtz (2002). Data is therefore the entirety of raw material collected for the purpose of compiling a reference work (Hartmann & James 1998:34). According to this perception, it includes the corpus as the number of texts, which can be supplemented by fieldwork interviews. Thus, Hartmann and James (1998), make a distinction between data as raw material for empirical research and a database (also called a databank) as a facility for the electronic storing and manipulation of linguistic and other data.

This facility is such an important tool in lexicography that no modern dictionary can be compiled without it. As a result, it gives rise to a certain terminology concerning data such as data-capture or data collection dealing with some strategies, often computer-based, aimed at collecting data for the compilation of reference works. These strategies include techniques for gathering primary data. There is also another important term, namely data processing, which deals with the collection of data, its manipulation and its presentation.

3.2.1 Data capture

A corpus is a body of texts assembled according to explicit design criteria for a specific purpose, and therefore the great variety of corpora reflects the diversity of

¹ Definition from the workshop held in Stellenbosch with Proff. Gouws, Tarp and Bergenholtz in 2002

their designers' objectives (Atkins & Clear 1992:5). Most sources in the Gabonese languages are oral and the FYEDMT has to deal with this reality. There are, however, some written sources in Yipunu² such as the Bible, sentences from books like *Rapidolangu*e and various periodicals. For this project, many different sources have been taken into account.

3.2.2.1 Primary data

The term "primary data" in this section refers to data collected from primary sources. Gouws (2001b:68) defines "primary sources" as all the written material reflecting typical communication situations. Although primary sources will usually be texts, the dictionary basis³ of a dictionary, compiled for a language with a strong oral tradition, can also use recordings of orature as primary sources. This is particularly true in the case of Yipunu, for which the majority of corpora available at CICIBA⁴, the National Museum, the National Archives, the National Library, LUTO, GRELACO, etc. are mostly oral texts gathered for specific uses or written texts with a pronounced orality that has been transcribed from oral communication situations.

When a dictionary like the FYEDMT is compiled in the Gabonese context, corpora will therefore be divided into corpora from oral and written sources and from published and unpublished sources.

- **The oral corpus**



For many metalexigraphers the lexicographic corpus should consist of two sources: written and oral (Nzang-Bié 2002). But in reality the emphasis is usually on corpora from written sources. This is especially acknowledged by Kennedy (1998:7) who asserts that in the case of corpus-based research, the evidence is directly derived from texts. This assertion is corroborated by the WAT (1999:4), quoted by Nzang-Bié (2002) as commenting that the most common source of language material is the written text. Since words are found in their full context, the texts are readily accessible and can be utilised immediately. Written sources include the following: published sources such as books, journals, magazines, newspapers, reports and

² Language spoken in Gabon and classified by Guthrie (1953) as B43.

³ A detailed explanation of "the dictionary basis" (as part of Wiegand's general theory of lexicography in its constituent theory B) is given in Wiegand (1986:123) and Smit (1996:111-113).

⁴ CICIBA is the abbreviation for *Centre International de Civilisation Bantu* (International Centre of Bantu Civilisation) based in Libreville, Gabon.

proceedings; and unpublished sources (ephemera) such as advertising material, financial reports, pamphlets, minutes and letters.

The remarks of Nzang-Bié (2002), about the difficulties Gabonese languages (in general and Fang in particular) are facing in the data collection process, also apply to Yipunu. The possibility of capturing the oral corpus, as computerized data is a way to fill the gap between spoken and written corpora. However, using recording techniques to capture spoken texts is an enormous task. Summer (1993:184), cited by Prinsloo (2001:3), agrees that the value of the spoken language can hardly be overestimated, since the study of oral data can pinpoint words which tend to be used more frequently in oral than written communication. But he accentuates the fact that, unlike with written material, the logistical problems of capturing a sufficiently large body of speech electronically are very real.

Oral data is an absolute necessity for dictionary compilation in the African languages. There are, however, huge practical, technical, financial and ethical problems associated with the acquisition of spoken data. Because printed and electronic data have some limitations, Prinsloo (2001:4) believes that there is no way around it: A large variety of spoken language from as many different genres or subject fields as possible has to be recorded. The recordings will then have to be transcribed on the word processor using the available or created orthography, and saved in computer files.



Atkins and Clear (1992:2), however, say that the difficulty and high cost of recording and transcribing natural speech events, force the corpus linguist to adopt a more open strategy in collecting spoken language. Practical considerations may make it easier for the corpus builder to capture fragments of speech than fragments of writing. A lengthy dialogue or speech can form a kind of text, rather than a fragment, if one of the following conditions apply:

- The speech unit starts when the participants come together and ends when they part, as, for example, in a telephone conversation; or
- The speech has an obvious opening and closing, e.g. like a lecture.

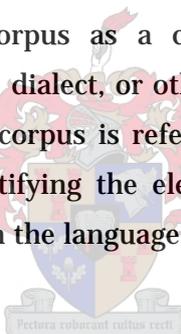
Some examples of units of speech that might be considered to be texts are: informal face-to-face conversations, telephone conversations, lectures, meetings, interviews and debates.

As far as computerized capturing is concerned, Yipunu will need this kind of computer tool for the optimal use of its language resources. In the meantime the FYEDMT project can, however, use the existing Yipunu written corpus as database.

- **The written corpus**

When researching subject fields such as linguistics and lexicography, the compilation of a corpus is the first step. This kind of research needs the backing of a solid and powerful source of information. According to Nzang-Bié (2002), some researchers consider a corpus as a block of written or transcribed texts with the description and the analysis of a given language as the main purpose. Dubois, Charlier (1997:312) sees in the corpus “*une base de données textuelles réunissant des textes écrits et oraux de provenances variées et de registre divers: livres, journaux, débats etc.*” (a textual database, gathering oral and written texts from various sources and different registers: books, newspapers, debates etc.).

Francis (1992:17) defines the corpus as a collection of texts assumed to be representative of a given language, dialect, or other subset of the language that is to be used for linguistic analysis. A corpus is referred to by Kennedy (1998:4) as an empirical basis not only for identifying the elements and the structural patterns which make up the systems used in the language, but also for mapping out the use of these systems.



The lexicographic corpus only differs slightly from the linguistic corpus⁵. According to Nzang-Bié (2002), it is extremely comprehensive, which is not the case in linguistic descriptions where corpora questionnaires⁶ are considered sufficient.

- **Sources of the written corpus**

Where languages like French and English are concerned, the compilers of the FYEDMT project will not have a problem in obtaining written corpora, either in printed form or in electronic form. There is extensive scientific literature in French

⁵ Basically the Corpus is neutral in the sense that it contains terms or expressions describing the day-to-day language activities. The corpus will be called “linguistic corpus” or “lexicographic corpus” according to the use and/or the purpose the compiler has in mind. The linguistic corpus will then be used for linguistic purposes whereas the lexicographic corpus is for dictionary needs.

⁶ For Nzang-Bié the corpus questionnaires are the lists of questions prepared beforehand, for the analysis of phonological, morphological, and syntactical systems. These are linguistic questionnaires based on the work done by J. Greenberg and W.E. Welmer, as translated by J. Doneux (1967).

and English dealing with medical terminology. This literature is also not difficult to obtain. The many and varied medical publications from Europe alone are enough to form a solid source of primary data. Medical journals, magazines dealing with the health sciences, books focusing on natural or herbal healing, and the internet, which contains reliable primary and secondary data, prove that access to written sources will not be a major obstacle for the compilation of the FYEDMT project database.

In Yipunu, the situation is quite different. There are existing written sources available, but they deal with almost all aspects of life. Excerpts will need to be extracted from these general corpora in order to adapt them into a specific and orientated medical terminological corpus. Work carried out in Yipunu, for instance by the Rev. Bonneau, Prof. Kwenzi-Mikala, Bishop Raponda Walker, and many more, include some information on healing and medical matters as well as other aspects of life.

- **Corpus and user**

Any corpus introduced by the lexicographer or any other specialist is intended to satisfy user needs. The problem with which the compiler is frequently confronted is the identification of the specific needs of the user. Even if users are homogenous, the lexicographer has to constantly bear in mind that users do not have the same reasons, intentions or interests when it comes to corpus matters.

Atkins and Clear (1992:13) argue that texts appear as specimens and that users will be interested in what they show about the class represented, not in any of the particular information the text was created to convey. This makes corpus users rather unique among the vast number of people interested in consulting computer files. In fact, corpus users can be divided into three types: those interested in the language of the texts, those interested in the content of the texts (as representative of a larger collection), and those interested in the texts themselves as convenient bodies of text material for electronic media.

- **Some corpus sampling issues**

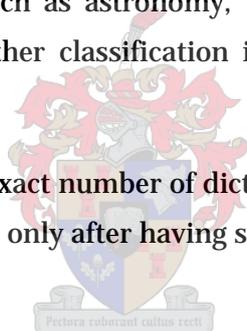
Dealing with corpus sampling often leads to the consideration of the validity of corpora and this eventually leads to their categorisation. The question, however, arises about what size a corpus should be to demand enough credibility. The mechanisms for sampling a corpus in a certain language provide an objective interpretation of the language. The relationship between the sample and the potential

target user becomes very important when the sample has to deal with specialized terminology. According to Atkins and Clear (1992:5), the more highly specialized the language to be sampled in the corpus is, the fewer the problems in defining the texts to be sampled. This is true in the case of French and English that already have a sound background in the techniques of specialized corpora. But this is not necessarily the case with Yipunu as far as the FYEDMT is concerned.

3.2.2.2 Secondary data

The secondary data will consist of different corpora from secondary sources, for example, all the available dictionaries in a specific language. Smit (1996) considers secondary sources as a set of all language dictionaries consulted during the compilation. Wiegand (1986:123) considers these secondary sources as a great number of dictionaries that are listed alphabetically and consulted for compilation purposes. He also suggests that the data be stored in an alphabetical card catalogue arranged according to labels such as astronomy, botany, and economics Wiegand (1986). This then leads to another classification in these dictionaries: a thematic classification.

Smit (1996:111) argues that the exact number of dictionaries to be included as a set of secondary sources becomes clear only after having started with the compilation of the dictionary.



As far as the FYEDMT project is concerned, secondary sources, classified according to theme, may target and simplify the number of dictionaries to be consulted during the lexicographic process. This will in turn also minimise the number of secondary data entries.

3.2.2.3 Published and unpublished data

As has been shown, data can be divided into primary data (which includes written and spoken corpora) and secondary data (which consists of other dictionaries consulted during the compilation process). This classification is the most commonly used in dictionary projects with regard to African languages such as Yipunu.

There is, however, another possible classification based on published and unpublished data. Published data, for instance, is more suitable for the Western environment where the degree of technological expertise is quite high and where government agencies have great influence on languages such as French and English.

Very often in these agencies, a large number of corpora have already been treated, analysed and published as such. These kinds of corporate bodies are extremely reliable and accurate and thus perfect for using as part of a database for the compilation of a dictionary. It is in the interest of any compiler, whether s/he is busy dealing with collecting the data, performing a statistical analysis on the data or simply reviewing the results of such an analysis, that the reliability and the accuracy of the data depend on the method of collection. The use of published data is often preferred, since it is convenient, relatively cheap and reliable (assuming that it has been collected by a reputable organisation).

A large amount of published data is produced by government agencies and private organisations. These are usually available in printed form, on data tapes and disks and increasingly on the Internet. As a result, **primary data** will be the data published by the same organisation that collected them and **secondary data** will refer to data published by an organisation different from the one that originally collected and published the data (Keller & Warrack 2000).

In the French context, an example of primary data would be the data published by the *Academie Française*, since it is the board protecting the French language norm and also a terminology organisation.

If relevant data is not available from published sources, however, it may be necessary to generate the data by conducting a study. This will especially be the case when data is needed concerning a specific project. In cases like these, a survey will be the most appropriate method of collecting primary data. A survey has the merit of soliciting information from people⁷ concerning matters such as the concept of death, health, the difference between sorcerer and traditional doctor, etc. in the Yipunu culture. Despite the use of a survey, sampling can also be used in the data collection process. Sampling is very useful in cases dealing with variation and standardisation. As a method of data collection, it has the advantage of minimizing the costs.

3.2.3 Data collection policy

As mentioned in the introduction, a data collection policy should be formulated to describe ways of obtaining the relevant oral and written sources. The FYEDMT

⁷ So far a type of corpus collection of oral recordings has been started in Gabon, based on the first fieldwork from January to February 2002. Between October and December 2003 a second fieldwork project was done in Libreville, with the collaboration of some Gabonese students studying at the University of Stellenbosch in South Africa.

project primarily requires oral sources, since no dictionary has yet been compiled in this domain, and since the material for the compilation of such a dictionary is still in the process of being collected. Another reason why this data collection should predominantly be from oral sources, is that the majority of people in Gabon who have a direct knowledge of African medicine – such as old informants living in rural areas, traditional healers, etc. – are illiterate. Their contribution to the process of building a good database for compilation purposes is vital and the best way to obtain the information they can provide is by recording personal interviews with them.

Some written sources are, however, available and they should be utilized and considered as part of the data collection policy. The compilers of the FYEDMT project must bear in mind that a successful policy depends solely on the quality of its formulation and presentation.

3.2.3.1 Data collection and interdisciplinary

As far as data collection is concerned, a policy should necessarily be formulated to describe ways of obtaining the relevant oral and written sources. *The Actes du Séminaire interdisciplinaire sur les Méthodes de collecte des Données* (Acts of the Interdisciplinary Seminar on data collection methods), organized in Libreville, Gabon, by LUTO, *Laboratoire Universitaires des traditions orales* (University Laboratory of Oral Traditions), from 4-12 April 1997 and published in the *Revue Gabonaise des Sciences de L'homme* (4) in December 1997, lays a good foundation for establishing a data collection policy. It takes most social and political factors and scientific fields and procedures into consideration.

These Acts of the Interdisciplinary Seminar propose a kind of forum or platform where diverse specialists can gather to discuss and explain in detail their ways of approaching the problem of data collection. This will also give them an opportunity to make suggestions on ways of complementing each other's fields of research in order to form a multidisciplinary group. At that time, five institutions were represented, namely:

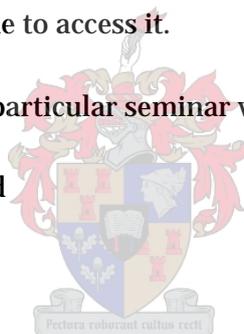
- ***Bibliothèque nationale et Archives Nationales (BN&AN)*** (National Library and National Archives)

- **CENAREST**: *Centre National de Recherche Scientifiques et Technologique* (National Centre of Scientific Research and Technology)
- **CERGP**⁸: *Politiques et Développement des Esapaces et Sociétés De l'Afrique Subsaharienne* (Centre of Research and Studies in Politics and Development of Spaces and African sub-Saharan Societies)
- **GRELACO**⁹: *Groupe de Recherche en Langues et Cultures orales* (Research Group on Language and Oral Cultures)
- **LUTO**¹⁰: *Laboratoire Universitaie des Traditions Orales* (University Laboratory of Oral Traditions)

Similarly, the aim of the data bank, established by LUTO (called LUTOBASE) is to collect data from many disciplines, store it and then distribute this data to various institutions countrywide. As a result, any researcher or scholar, interested in whatever information, will be able to access it.

The topics for discussion at this particular seminar were directed at:

1. The object of the specific field
2. The research milieu
3. The data collection procedures
4. The data collection typology



⁸ CERGP was established on 14 May 1993. Within CERGP there are three main thematic research groups, namely:

- a) GRELIGA (*Groupe de Recherche sur le Littoral du Gabon*) focuses on Gabonese littoral research.
- b) GERI (*Groupe de Recherche en Géopolitique et Relations Internationales*) has its focus on research in the fields of geopolitics and international relations.
- c) GERS (*Groupe d'Etudes et de Recherche Sociologique*) focuses on Gabonese sociological studies and research.

⁹ GRELACO was established in 1994 (Zang-Bié 2001:20) and was, at that time, headed by Prof Kwenzi Mikala. It is a multidisciplinary research group of the Omar Bongo University in Libreville, Gabon. The main focus of GRELACO is the description of African languages, with special emphasis on Gabonese languages. It also works on the creation of literacy materials for African languages, on translation, and, in general, on the development of African languages for use in education and literacy.

¹⁰ LUTO was established in 1985 and was, at that time, headed by Prof M. Alhianga. The main focus of this institute is the development of research in the human sciences, in societies with oral traditions. Among the publications of LUTO is the first *Gabonese Scientific Alphabet* for use by the Gabonese scientific community (Nzang-Bié 2001:20).

5. Profiles of the scientific personnel
6. Characteristics of equipment
7. Specific means

3.2.3.2 Contributions grouped according to their research field

In the Acts of the Interdisciplinary Seminar contributions are grouped according to the research fields and the interdisciplinary connections of the participants.

Group A, contains seven contributions from the fields of anthropology, history, literature and musicology.

Group B (the ethno- and life sciences), consists of seven contributions: ethno-pharmacology and biochemistry, ethno-medicine, botany, ethno-botany, ethno-zoology, environmental sciences and pedology.

Group C, the three contributions on documentary sciences deal with copyrights and documentary activities, data collection and archives, and documentary research.

Group D, sociology and psychology contains five contributions.

Group E, linguistics and sociolinguistics have two contributions.

Group F, geography and demography consists of two contributions.

If a data collection policy has to be formulated, it will certainly take into account the work done by Lucienne NZE EKEKANG (1997)¹¹ on Data Collection in Ethno-pharmacology, Blandine AKENDENGUE (1977),¹² on Data Collection in Ethno-medicine, Hortense MOUNZEO (1997),¹³ on Ichtyo-toxic Plants of the Bapunu (Yipunu-speaking people) of Gabon, and BOUROBOU-BOUROBOU (1997), on Collection in Ethno-botany: Collection of medicinal plants in Gabon.

¹¹ Nze Ekekang is a member of the *Institute of Pharmacology and Traditional Medicine* in Gabon.

¹² Akendengue is a specialist in biochemistry at the Faculty of Medicine and Health Sciences.

¹³ Mounzeo is a specialist in biology at the Department of Biology and Vegetal Physiology of the *Masuku University of Science and Technology* in Gabon.

3.2.3.3 Data collection and ethnopharmacology procedure

Nze Ekekang's report describes the sphere of interest of ethnopharmacology and gives details about the collection of field data. Ethnopharmacology, says Nze Ekekang (1997:93), is the study of traditional medicines and pharmacopoeia. It brings about new knowledge and throws new light on Gabonese medicine and pharmacopoeia. Therefore, the first task of ethnopharmacopoeia in Gabon was to identify research expertise in both the human sciences and the pure sciences with the purpose of understanding each other's field and introducing traditional healers' knowledge¹⁴ into the scientific world. This implies the accomplishment of two major tasks:

- 1) Actualising the empirical knowledge of traditional healers; and
- 2) Interpreting this knowledge according to scientific knowledge.

Nze Ekekang (1997:94) proposes three different steps for data collection in the Gabonese ethnopharmacology:

1) Contact with traditional healers or therapists

The first step consists of making contact with therapists, also called "*pisteurs*" or "pathmen". It is a crucial and imperative step, since they have the empirical knowledge about the virtues and locations of plants. This facilitates the work done by scientific experts in botany, pharmacopoeia, medicine and anyone else interested in these specific fields.

2) Description of the field

This step consists of describing, with the support of photographs, the samples as well as the area where the collection was done. This gives a better identification of the species.

3) Scientific collection

The collection is conducted according to scientific methods. It is the most important step, since it will be the basis of all information on the species and it will be made

¹⁴ It should be remembered that traditional healers are not students who are expected to learn systematically from the so-called scientific world. They are medical experts in their own right who have a particular knowledge (of traditional medicine) to share with other experts involved in a different kind of medicine.

available in the library. At this stage, traditional healers have to be consulted once more on which plants to use and how to use them.

3.2.3.4 Remark

In this procedure of data collection proposed by Nze Ekekang, the problem frequently occurring is the unwillingness of the “*pisteurs/pathmen*” to cooperate with these specialists (Scientific experts in botany, pharmacopea, medicine etc.) The explanation for this attitude might be found in the way traditional healers/theraputists have been perceived in the past. Because of the fact that they do not have any academic credentials, specialists saw traditional healers only as very good informants. They did not have any qualification or official status that could be utilized in a proper manner. Luckily this perception has changed:

Nous-nous servons de la posologie que nous transmettent les tradipraticiens ... nous pratiquons l'éclairage de la médecine empirique par les données actuelles scientifiques, mais c'est toujours à partir et grâce à leur données que nos travaux s'effectuent. On ne peut pas faire de médecine traditionnelle sans ces savoir-faire. (We practice the enlightening of empirical medicine from the modern scientific data, but it is always from traditional therapeutics data and with their help that our work is done. There is no other way to do traditional medicine without traditional healers' expertise.) (Nze Ekekang 1997: 95).

The situation is currently that all traditional medicine relies on the traditional healers' knowledge and therefore, not a single data analysis can be done without their contribution. And yet, despite this fact, they have still been regarded as “*pisteurs*”, guiding the well-qualified scientists to scientific discovery. It is in the interest of traditional medicine that a well-planned policy is formulated that will result in regulations being set up by a proper and formal institution to legally protect the contribution of therapeutists or traditional healers.

Nze Ekekang (1997:95) gives another reason for the formulation of such a policy:

La flore du Gabon est extrêmement riche. On estime aujourd'hui qu'elle comporte entre 6 000 et 10 000 espèces parmi lesquelles seules 2 à 3 000 espèces sont connues. Il y a encore beaucoup de travail à fournir. Les personnes qui ont la plus grande connaissance actuellement de ces plantes sont les tradipraticiens. La collecte de leur témoignages présente maintenant

un caractère d'urgence sinon ils vont mourir avec leur savoir. (Gabonese flora is extremely rich. It is estimated that it contains between 6 000 and 10 000 species of which only 2 to 3 000 are known. There is still a lot of work to be done. The people who have the greatest actual knowledge of these plants are traditional healers. The collection of their testimonies is now of an urgent nature, since they will otherwise die with their knowledge.)

3.2.3.5 Data collection and ethnomedicine

For Akendengue (1997:97) ethnomedicine and ethnopharmacopoeia involve specific methods of collection. She suggests four major components in her approach: the collection procedure, the analysis of data, the scientific personnel involved in the collection and lastly the equipment.

- **The collection procedure**

The procedure is divided into three steps: the pre-collection, the area of collection and the typology of the collected data.

- Pre-collection** consists of the different choices to be made before the work begins. Choices such as the area in which the collection will take place, the decision of which ethnic group will be the target group and finally, the bibliographical research for facilitating the task and enlightening the researcher on what has already been accomplished in a particular field.
- The data collection area** deals with knowledge of the milieu. The interviewer should plan ahead, acquiring a sound knowledge of the environment with which s/he is dealing. The success of any data collection relies on this knowledge. It is true that the techniques applicable in urban areas will not necessarily be relevant in rural areas. It is also true that the conduct towards a traditional healer for data collection purposes will not be the same as that towards a qualified medical doctor of western medicine. Similarly, as far as the particular ecosystem is concerned, data collection undertaken in the savannah region, for instance, will require a different approach from one done in the coastal region.
- Typology of the collected data.** The reliability of the collected data necessitates diligent recordings of informants and/or translators. This includes the following:

- Identification of the informant (therapist or some other person).
- Domain of specialization of the traditional healer (initiation, teaching or dreams).
- Repertoire of the treated diseases (which terms include the designation of these diseases in the local language).
- Listing of the traditional remedies.
- Names of the plants used (with a grammatical indication such as singular or plural).
- Parts of the plants used.
- Mode of the preparation of the remedies and the way of prescription.
- Secondary effects and eventual prohibitions.
- Names of the rites used in the healing process of the so-called unnatural diseases.
- Collection of botanical samples of plants with flowers and fruits. A number should be given to each species.
- Photographs of the plants. The film should be numbered.
- Recording of the vernacular names of the plants and diseases as linguistically supported.

- **Data analysis**

Data analysis or data exploitation consists of several stages of treatment. These are:

- Collection of samples and forming a herbarium;
- Scientific identification of the species;
- Plant classification according to the botanical families;
- Scientific publications; and
- Construction of a database.

- **Scientific personnel**

For this particular data collection, various specialists whose expertise was necessary, were involved. They were:

-Botanist: his/her contribution was to identify and recognize plants in order to classify them according to families, species, etc. as well as to complete their description.

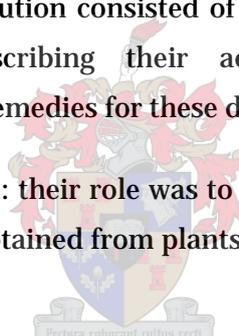
-Ethnologist: his/her concern was a scientific approach to the societies and cultures; also dealing with the vernacular concepts about health, diseases, remedies, symptoms and the recovery from diseases.

-Historian: s/he worked on the ancient knowledge about the population and how to treat their culture and customs.

-Physician: his/her contribution consisted of offering the correct names of the diseases as well as describing their aetiology, their symptoms, the physiopathology of and the remedies for these diseases.

-Pharmacist and chemist: their role was to determine the ingredients of each remedy, particularly when obtained from plants.

- **The equipment**



Usually the equipment in any collection or research work is of less importance and often there is no need to mention it. However, the feasibility of the collection or research also depends on the equipment used. Cost of the equipment will therefore somehow influence the method and the result of the work: the more precise and efficient the equipment is, the more accurate the results will probably be.

3.2.3.6 Remarks

Compared to Nze Ekekang, Akendengue allows only a small role for traditional healers or therapists. Apart from the possibility of being potential informants, it is a question whether traditional healers have any other role to play in data collection and in the entire ethnomedicine.

Akendengue does not make a clear distinction between a traditional healer and a sorcerer. She even quotes Hughes (1968) for a definition of ethnomedicine: "(T)hose

beliefs and practices relating to diseases which are the products of indigenous cultural development and are not explicitly derived from the conceptual framework of modern medicine.” This definition of Hughes suggests that ethnomedicine is a vague concept that may be neither “scientific” nor “modern”. The vagueness and the misleadingness of this definition is also implied by the use of terms such as “beliefs”, “indigenous culture” and “not explicitly”. Thus, the question arises: to whom is Hughes referring when using the word “indigenous”¹⁵? If it refers to a “native to a region or belonging naturally to a place” as suggested by the *Illustrated Oxford Dictionary* (1998, s.v. ‘indigenous’), then the question still remains. But if Hughes uses it as a synonym of “aboriginal, primitive, primeval etc.” as explained by the *New Oxford Thesaurus of English* (2000, s.v. ‘indigenous’)), his definition is derogatory.

Instead of being ethnocentric, knowledge about ethnomedicine can be defined as the information specific to a given culture, allowing its members to diagnose and categorize illness and trauma, explain their onset or cause and seek appropriate therapies for the recuperation or salvation of the critically ill patient (Logan, 1996:436). If ethnomedicine is seen as described in this definition, then the old perception that ethnomedicine refers to any system whose theory and practice fall outside the western biomedical model, should be obsolete. It can therefore be agreed with Rubel and Hass (1990) that the growing awareness of an ethnocentric bias has led to the realization that western biomedical science is simply the “ethnomedicine” of western physicians.

Akendengue (1997:97), however, adheres to the opinion that “*l’ethnomédecine englobe la dimension ésotérique de la médecine traditionnelle et l’ethnopharmacopée*” (ethnomedicine embraces the esoteric dimension of traditional medicine and pharmacopoeia).

It is precisely this kind of opinion that the *Association des Tradipraticiens du Gabon* (Association of Traditional Theraputists of Gabon) has to deal with. It is the intention of this association that its members should work towards giving the public either well-formulated explanations or a sound definition in order to offer a better understanding of who the traditional therapist is. In this regard, it will clarify unnecessary confusion as far as terminology is concerned and thus help to identify

¹⁵ According to the *Encyclopaedia of Cultural Anthropology* (1996: 635) the term “is a polite label replacing tribes, aborigines, and similar terms which carry, for many, connotations of primitives, primeval, stone age, and other unwarranted and negative attributes”.

and classify all differences between the “specialists” involved in the art of healing to a certain extent.

3.2.3.7 Data collection and itchio-plants procedure

The work done by Mounzeo (1997) consists of the description and methodology of a collection of evidence, and the collection of botanical samples. She used poisonous plants¹⁶, utilised by the Bapunu¹⁷ for fishing, as starting-point for her research.

Mounzeo (1997) classifies her perception of data collection in seven major points, namely: fishing poisons, data collection area, collection procedure, typology, scientific personnel profile, equipment, and questionnaires. Since fishing poisons¹⁸ are irrelevant for the present discussion, the first point will be disregarded.

-Data collection area: As far as the area is concerned, the collection was carried out in five different sites. Three villages were targeted in the Estuary province¹⁹ (Meba in Cocobeach, Agricole, 68 km from Libreville and Oyane) and two in the Nyanga province²⁰ (Rina Nzale in Moabi and Digundu, 30 km from Tchibanga).

-Collection procedure: The procedure is described as follows: the conditions under which the collection was carried out, the difficulties encountered during the collection process and, lastly, the collected samples which consist of leaves, fruit, bark, or entire plants. These samples are then subjected to a detailed description according to the features of each species which includes, for instance, the colours of its elements, etc.

-Typology: The typology is concerned with the results obtained and their classification according to the part of the plant used. Some dosages, in terms of posology, were also done. Mounzeo (1997:105) gives a list of the 20 species of

¹⁶ Due to their numerous virtues, some poisonous plants known by the Bapunu people are used in various ways of life such as healing, fishing, hunting, etc. Raponda-Walker and Sillan (1961:226) give detailed usages and scientific as well as local names for this category of plants.

¹⁷ Yipunu-speaking people.

¹⁸ According to Mounzeo (1997:103), fishing poisons are used by women in rural areas to catch fish in streams, watercourses, etc. in the dry season period when the water starts to dry up. However, before they start fishing women make two dams across the river, one upstream and one downstream, then crush and spread the poisonous mixture in the water. Leaves, bark, fruit and sometimes the entire plant are the ingredients of these poisons.

¹⁹ In these three villages the predominantly language is Fang. However, Yipunu is also spoken as a minority language.

²⁰ The two selected villages in the Nyanga province form the entire Yipunu-speaking area.

ichtyotoxic plants discovered. This list includes the scientific names as well as the Yipunu names of the plants and/or the relevant parts of the plant.

-Scientific personnel profile: The people involved in this research work are biologists and plant and animal physiologists from the USTM or the *Université des Sciences et Techniques de Masuku* (University of Sciences and Technologies of Masuku) in Franceville, Gabon, and the IRET or the *Institut de Recherche en Ecologie Tropicale* (Research Institute for Tropical Ecology) in Libreville, Gabon.

-Equipment: Vehicles, cameras, films, pencils, pens, note books, tape recorders, tapes, paper, plastic bags, video cameras, computers, floppy disks.

-Questionnaire: The issues related to the questionnaire will be treated at a later stage.

3.2.3.8 Data collection in ethnobotany

Bourobou-Bourobou (1997:109) gives an example of the collaboration between traditional practitioners and researchers for the collection of medicinal plants during fieldwork. His research experience is based on one special event in March 1995, when he was asked to do research on some medicinal plants for *Pro-Natura International*, a non-governmental organisation based in Paris, France. Having a list of the scientific names of plants did not help him much in collecting samples in the field. Traditional healers, on the other hand, could not assist him without having the vernacular names of the plants. The lexicographic work of Raponda Walker (1961), the *Plantes Utiles du Gabon*²¹ was the only available information he had to fill the gap between the traditional healer and the researcher. Therefore he identified the scientific names of the species needed and their vernacular equivalents in Fang, Yipunu, Ghisir, Isangu, and Inzabi; all the languages native to Gabon.

As a result, plants were systematically classified according to the range of diseases or infections they could cure.

²¹ Raponda Walker's *Plantes Utiles du Gabon* is a lexicographic work on medicinal plants in Gabon. It contains encyclopaedic data on different species, their features, habitat, denominations and pharmacological virtues in the Gabonese languages and other cultural usages such as the making of fabric, furniture, etc.

Since Bourobou-Bourobou's procedure in data collection is similar to those presented above, more attention will be paid to the protocol he followed.

Before any attempt at collection was made, they first went to speak to the head of the village through whose assistance two women were assigned to them as informants: one Yipunu-speaking and the other Fang-speaking.

The informants were asked whether the people of the village knew the plants listed by the research team. When the answer was positive, the next step was to find the means of collecting the plants. The collection was done with the expertise of traditional healers who were documented as members of the research team.

3.2.3.9 Remarks

This work, done by scientific experts in a range of specialized fields, constitutes the starting-point for a fruitful cooperation between traditional and modern practitioners, on the one hand, and phytomedicine specialists, on the other. The situation in which Bourobou-Bourobou cooperated with traditional practitioners sets a precedent for a future data collection policy. The nomenclature and the terminological description of each illness and their plant remedies contained in some lexicographical and medicinal works such as *Les Plantes Utiles du Gabon* (Useful Plants of Gabon) of Raponda Walker (1961) and *Aspects des médecines traditionnelles du Gabon* (Aspects of the Traditional Medicines of Gabon) of Wagner (1986), can be used to obtain a standard document which includes both the local and scientific names.

This kind of document will certainly prevent the confusion, often caused by the exclusive use of common names. The only names of plants or illnesses known by laypeople are common names. These common names are usually simple, descriptive and easy to pronounce and remember. However, there are some disadvantages in using common names alone; especially when it is intended for the sharing of data, since common names can differ from linguistic group to linguistic group and from country to country.

3.2.3.10 Concluding remarks

As far as the compilation of a policy focusing on data collection for the FYEDMT is concerned, the compilers should constantly bear in mind the importance of data and its different sources as well as the way this data will be utilized. Strategies and well-

planned structures must be part of this work, since the validity of the results of an analysis clearly depends on the reliability and accuracy of the data used. Data, in turn, depends on the reliability of its sources. In the case of Gabon, both oral and written sources will be utilized as much as possible.

The written sources can be divided into three categories:

- The Gabonese literature on medicine and medicinal plants and their characteristics.
- Western medical publications
- Medical dictionaries, encyclopaedias and other lexicographic works about African and Western medicine.

The oral sources will consist of the following:

- First-hand oral sources (informants, cultural beliefs, myths, facts, oral transmission of traditional knowledge, etc.);
- Second-hand oral sources (informants, literature on traditional medicine, data collected by missionaries, colonial administrators, etc.);
- Data collected by Gabonese medical doctors; and
- Data gathered by the traditional practitioners' association.

As far as database techniques are concerned, the data processing of the FYEDMT will be enhanced by technical and electronic support, such as audio, visual, or audiovisual equipment; especially in the case of the microstructural treatment of certain items with difficult terminology as well as in the absence of equivalent lexical items.

3.2.3.11 Choices and methodology in collecting data

The methodology of collecting data is empirical. Research done in order to obtain dictionary material should produce some guidelines about the compilation of a database for medical terminology.

The use of a linguistic data collection approach, which consists of combining the "free corpus" method and the use of questionnaires as suggested by Andeme Allogo (1997:243), will be helpful in the compilation of a lexicographic corpus. The free

corpus method allows for the collection of data reflecting language as spoken by the community.

It is during the processing of lexicographic data collection that the lexicographer should work hand in hand with the linguist in order to obtain optimal results. S/he has to keep in mind that linguists in Gabon, for instance, often use several alphabets, such as the alphabet of the *International African Institute* (IAI), the *Alphabet Scientifique des langues du Gabon* (ASLG) as well as the *International Phonetics Alphabet* (IPA), to portray the Gabonese languages in their written form.

The IAI alphabet was conceived in order to describe African languages scientifically (Andeme Allogho 1997:244). The ALSG came into existence to ensure that the specific needs of the Gabonese languages were more successfully fulfilled by the more general IPA and the IAI alphabet.

The FYEDMT project will take into account the work of Gabonese linguists as far as Yipunu is concerned. The ALSG will play an important role on the microstructural level when dealing with phonetic data or pronunciation. The *Orthographe des langues gabonaises* (orthography of Gabonese languages), the OLG, will be utilized at both macro- and microstructural level regarding matters such as the lemmata and the writing of entire dictionary articles.

Interdisciplinarity is central to any lexicographic work, also to the FYEDMT project. Therefore there are particular points guiding the entire work. These points deal with the most important fields the lexicographer has to take into consideration.

- **Linguistics and metalexigraphy,**

Choices have to be made with regard to the nature of the FYEDMT project, since it deals with more than one research field. Different linguistic contributions to the Yipunu language ensure a solid corpus, which gives relevant support to the way the metalexigrapher has to “design” the dictionary project. The corpus of Blanchon,²² for instance, consists of a list of about 7 000 Yipunu “types”, thus containing words that only occur once in the corpus.

This work gives some guidance on how to transcribe Yipunu words phonetically or phonologically, with their plural forms as well as their morphological forms and

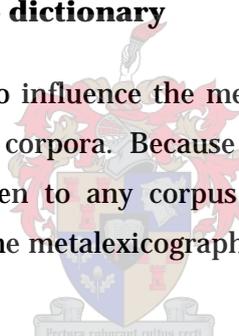
²² Blanchon’s work, *Liste pour servir à l’enregistrement du Dictionnaire Pounou-Français*, is an unpublished corpus compiled for a Yipunu dictionary project.

French equivalents. The Blanchon list is monodirectional (from Yipunu to French) and presents an unusual alphabetical ordering: The first letter of the stem indicates the alphabetical positioning of a word. The work done by Kwenzi-Mikala (1997) in Mumbwanga offers a full narrative text written in Yipunu in the ASLG alphabet which reflects the language as the Bapunu people use it daily, thereby reflecting their world-view.

This work is linguistically based and gives all kinds of phonological and morphological diacritics. As tones are extensively used in the context of natural communication, and the text is conceptualised in such a way that the Yipunu language seems more alive and dynamic than when the tones are ignored. The lexicographer has the liberty to make use of all or some of the material collected by linguists in order to achieve the genuine purpose of the dictionary: the compilation of a dictionary that successfully meets the needs of the target user of the dictionary.

- **Medical aspects of the dictionary**

This part of the work is likely to influence the metalexigrapher's decision on the choice and the content of the corpora. Because it deals with a specific field of knowledge, priority will be given to any corpus containing items related to the medical domain. In this sense, the metalexigrapher needs to be selective in his/her approach.



- **Anthropological considerations included in the dictionary project**

The compilers of the proposed dictionary will not only focus on anthropological consideration but sociolinguistic issues will also be regarded. Introducing notions such as world-view, medical societies and beliefs, as well as integrating parallel healing perspectives, cultural interpretations of diseases, the histories of both traditional African and modern Western medicine etc., will contribute to enhancing dictionary definitions and presenting a better understanding of the cultures involved in the dictionary plan.

3.3 Data distribution structure

According to Gouws (2002:55) a dictionary as a big text or text compound, deals with various categories of texts and their positioning within the body of the dictionary. In a textual approach to lexicography, it is therefore in the interest of a given dictionary to focus on the need for an unambiguous identification of the function and the nature

of the different texts in the dictionary. These different texts and their positions and relations in the dictionary, play an important role regarding the structure of the dictionary.

For Bergenholtz and Tarp (1995:188) dictionary structures refer to the interrelationship of dictionary components. This structured interrelationship of dictionary components includes what they call the distribution structure.

The distribution structure is “the structure of linguistic and encyclopaedic data distributed across or occurring in different places in the dictionary” (Bergenholtz & Tarp 1995:188).

Gouws (2002:55) indicates that the data distribution structure of a dictionary determines the way in which data types are presented and different texts are positioned within the dictionary. He argues that, despite the fact that the central list remains an important and compulsory text, data can also be presented in the outer texts. This implies that the central list is no longer the only venue for the presentation of data or for the occurrence of lexicographic texts.

In a given dictionary, three categories can be distinguished as far as distribution structures are concerned. Burkhanov (1998) speaks of data storage in three places within the dictionary, namely “individual articles, framed articles, and outside matter”. Tarp (1999), however, prefers to use the concept of “elements inside the dictionary”, namely “function-related elements, use-related elements, and extra-lexicographic elements” in his classification.

3.2.1 Data categories

The view expressed by Burkhanov (1998) on individual articles and the so-called framed articles and the approach taken by Tarp (1998) on the data distribution structure, represent different perspectives on the issue of data and the role of data within the (dictionary article) DA. In this section the term data category will refer to the type of data and the term function of data, will be used to refer to the role it plays in the DA.

a) Data categorisation

As far as the categorisation of data is concerned, data reflecting the contents found in the typical dictionary classification, such as monolingual, bilingual, multilingual,

hybrid, etc., will be expected in a given dictionary. For instance, in monolingual dictionaries there are specific monolingual approaches that are usually directed at the presentation of monolingual data. The lexicographer, in this case, will not need to pay attention to whether a lemma sign should be labelled L1 or L2 with regard to the translation equivalent, since this kind of labelling is meant for data to be included in a bilingual or multilingual dictionary.

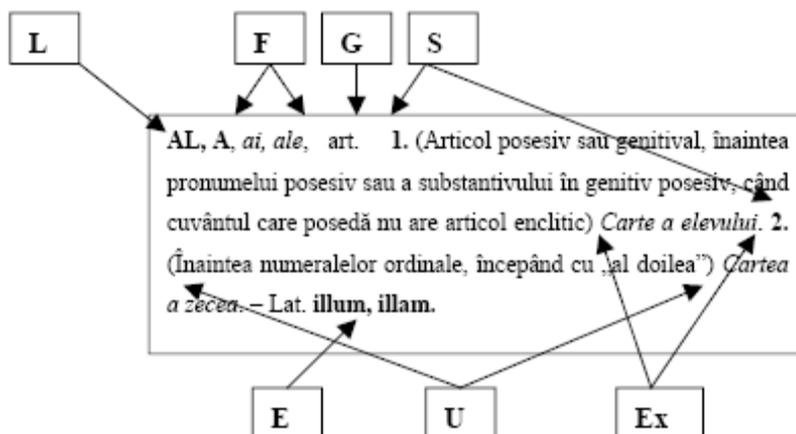
Burkhanov (1998:26), who is more concerned with the positioning of data within the dictionary, uses the term “individual article” as a synonym for a dictionary “article” in the Wiegand terminology, since it refers to “the smallest subdivision of an alphabetical dictionary that is headed by a lemma and contains information about a particular lexical item”. “Framed²³ articles” is another term used by Burkhanov (1998:26) to indicate usage notes providing extra information; from the restrictions on the use of lexical items in certain morphological forms and valence to the specific features of their lexical meanings.

The FYEDMT project will conform itself to the classical article terminology as used by Wiegand. This comprises the presence of two types of components in a dictionary article: the comment on form and the comment on semantics. Comment on form refers to all the data directed at the form of the lemma sign – this includes the spelling form, the orthography, the form of lemma sign as such, the pronunciation (phonetic form of lemma sign), the grammatical form, and the part of speech.

Thus, the comment on form will deal with those items commenting on the form of the lemma. The comment on semantics, on the other hand, refers to all the entries directed at the meaning of the lemma as well as the associated entries, i.e. the pragmatic information, and examples of usage. The comment on semantics is literally about every aspect regarding meaning, the explanation of meaning and, in a bilingual dictionary, the translation equivalents, the co-text entries and the context entries. Hausmann and Wiegand (1989) give a detailed explanation of the comment on semantics and comment on form. In the case of the comment on form, information associated with the lemma sign, for instance in the FYEDMT, will determine the structuring and the typographical conventions as instructed by the editorial team. Each single entry has significance and needs to be defined in order to maintain the

²³ The use of the adjective “framed” as in “framed article” (cf. Burkhanov), should not be confused with “frame” as in “frame structure” (cf. Wiegand). A framed article in Burkhanov’s context refers to data specific search zone in the dictionary article (central list), whereas frame structure in Wiegand’s terminology refers to the structure of the text compound with front and back matter texts framing the central list. This is also called outer texts.

homogenous cohesion of the dictionary. This illustration is not directed only at comment on form but also at comment on semantics. The example is from the layout of the *Explanatory Dictionary of Romanian*:



L - lemma (head-word); F - inflected forms; G - grammatical information; H - homographs; S - sense; Ss - secondary sense; D - definition; V - variants; E - etymology; Ex - examples; U - phrasal unit I - usage information

Figure 3.1
 (Tufis et al. 1999)

The order of different classes of data in the example of this article layout contains:

1. The lemma sign
2. Inflected forms when the inflected forms have specific grammatical information, this is specified together with the corresponding inflected form. If the inflected form is associated with a specific sense of the lemma, then the inflected form is accompanied by a reference to the specific sense
3. Grammatical information
4. The explanation(s) of the meaning of the lemma-sign

They are either direct definitions (grouped on various senses) or indirect definitions (specified as references to other lemmas or, in case of functional words, by explaining their usage)

5. Information on the pronunciation, variants, irregular inflectional paradigms
6. Etymological information

The comment on semantics will then focus on issues such as translation equivalents, and the meanings of the source language items between languages, (Yipunu and English). As far as the comment on semantics is concerned, one must make provision for monosemous lexical items. These are the lexical items or lemmata that have only one meaning and which, in the bilingual or multilingual dictionaries, lead to the one-to-one translation equivalence, which represents a relation of congruence. A relation of divergence applies in situations where more than one translation equivalent is presented.

- **The congruence concept:**

Where an equivalent relation of congruence (one to one relation) applies, there is one source language item and one target language item, as it is represented in the figure (Fig. 3.2).

French	Yipunu	English
abcès	ivhan	abscess
cécité	bidung	blindness
froid	Yiotsi	cold
la toux	yikotsulu	cough
cramps	bibaasi	cramps
fièvre	dibaghu	fever

Figure 3.2

- **Equivalence on lexical and semantic level**

-The divergence concept:



Divergence is an equivalent relation where there is a one to more than one relation, and a distinction should be made between two types of divergence, i.e. lexical divergence and semantic divergence.

-Lexical divergence:

There is divergence when, for instance, a monosemous lexical item has a translation equivalent and this target language item has one or more than one synonym. Thus, there are synonyms in the target language and these synonyms represent the same sense. For the word “weekend” in French, one can have either the expression *fin de semaine* or the word *week-end* as translation equivalent, with *fin de semaine* and *weekend* conveying exactly the same meaning. In the same way, the word for “aeroplane” in French is *avion*. The Yipunu translation equivalents for *avion* (aeroplane) are *lavhi*, *dikumbi* and *dukuji*, all representing

the same meaning and illustrating the typical example of a relation of divergence between source and target language.

-Semantic divergence:

There is semantic divergence when a polysemous lexical item has different translation equivalents to represent the different polysemous senses.

In some dictionaries for instance, lexicographers prefer to use a marking system which gives guidance to the dictionary users to distinguish between lexical and semantic divergence. One may find that commas separate target language synonyms and that a semicolon indicates that different equivalents are presented for different polysemous senses of the lemma.

In other cases, especially in monolingual dictionaries, the use of numbering as marking system to structure data is used. The first number (1) in a polysemous context is typically used for the sense with the highest usage frequency. The typical example is given in the figure below, taken from the *Oxford Dictionary of Current English* (2001).



. Treatment of lemma sign “blood” and its derived forms.

blood •n. 1 the red liquid that circulates in the arteries and veins, carrying oxygen and carbon dioxide. **2** family background: *she must have Irish blood.* **3** passionate temperament. •v. initiate in activity.
- PHRASES **first blood** **1** the first shedding of blood in a fight. **2** the first advantage gained in a contest. **have blood on one's hands** be responsible for someone's death. **in one's blood** fundamental to one's character. **make someone's blood boil** informal make someone very angry. **new** (or **fresh**) **blood** new members admitted to a group.
- ORIGIN Old English.
- WORDBUILDER *components of blood*: corpuscle, haemoglobin, plasma, platelet, rheus factor, serum.

bloodbath •n. an event in which many people are killed violently.
blood brother •n. a man who has sworn to treat another as a brother.
blood count •n. a calculation of the number of corpuscles in a particular quantity of blood.
blood – curdling •adj. horrifying.
blood group •n. any of the various types into which human blood is classified.
bloodhound. •n. a large hound with a very keen sense of smell, used in the tracking.
bloodless •adj. 1 without violence or killing: a *bloodless coup.* **2** (of the skin) drained of colour: **3** lacking in vitality; feeble.
bloodletting •n. 1 hist. the surgical removal of some of a patient's blood. **2** violence during a war conflict.
bloodline •n. a pedigree or set of ancestors.
blood money •n. 1 money paid to compensate the family of someone who has been killed. **2** money paid to a hired killer.
blood poisoning •n. a disease state that results when harmful micro-organisms infected the blood.
blood pressure •n. the pressure of the blood in the circulatory system.
blood relation (also **blood relative**) •n. a person who is related to another by birth.
bloodshed •n. the killing or wounding of the people.
bloodshot •adj. (of the eyes) inflamed or tinged with blood.
blood sport •n. a sport involving the hunting wounding, or killing of animals.

Figure No.3.3
Soanes, C. (2001)

In this example, a numbering system clearly indicates the senses by means of polysemous markers : the 1, 2 and 3.

In bilingual or multilingual dictionaries, besides the marking of polysemous senses, the lexicographer also needs to include another classification within the dictionary article structure. The comment on semantics is subsequently constructed by means of different sub-comments on semantics (SCS), with each sub-comment on semantics representing a different polysemous sense which is introduced by a polysemic marker (PM) of the source language item. Thus, each SCS has a translation equivalent which is related to the lemma. As a result, the user is guided and able to see that the target language items are structured and are not displayed arbitrarily.

When dealing with a multilingual dimensional dictionary, one of the concerns will be the risk of confusion or ambiguity resulting from the translations. Lexicographers

should always keep in mind that the only way to avoid such a problem is to rely on the competence of the editorial team. They will make sure that what is given within the sub-comment on semantics represents a polysemic sense and not merely different synonyms of the target language.

Another problem that may demand the full attention of the lexicographers in the FYEDMT processing is the constraint of space resulting in textual condensation. Due to the large amount of information to be used in the dictionary, textual condensation will consequently lead to the compression of some entries and therefore the use of abbreviations or shortened forms. According to Tufis et. al (1999), the saving of space is usually done in two ways: by using abbreviations throughout the dictionary and by using the shortened forms of phrases (definitions, examples, collocations, etc.).

b) Data functionality

As far as the functionality or characterisation of data is concerned, there are two types of elements involved: the function-related elements and the use-related elements. The function-related elements, which are included in the word list and integrated and non-integrated supplements, are according to Tarp (1999:199), elements incorporated in the dictionary in order to satisfy the function(s) of the dictionary that was determined by its genuine purpose. Tarp (1999:199) affirms that “the function-related elements are always present in any dictionary and make up the bulk of all elements included in a given dictionary”. The use-related elements are seen by Tarp (1999:199) as all the elements incorporated in a dictionary with the intention of helping the potential user to choose the right dictionary and to then use it in the correct way. These different data categories, as suggested by Tarp and other lexicographers, will be detailed later as part of the frame structure – see Chapter 4.

3.3.2 Positioning of data

Data is often positioned within the dictionary in two major locations: the central list and the outer texts also called the outside matter. Despite their diverse terminology, metalexigraphers agree on what should be considered as compulsory and what are optional components in a given dictionary. The compulsory components are things such as the central list, front matter (user guide, table of content, dictionary title, etc). The optional components may be list of contributors, dedication pages and the acknowledgement for assistance.

3.3.3 Data in the outside matter

Burkhanov (1998:168) gives the following definition of outside matter:

A part of lexicographic data which, according to the distribution structure accepted in the particular dictionary, is not placed in the main body of the dictionary, but is presented in the preface, introduction, accompanying tables and appendices of various kinds, and other subdivisions of the lexicographic publication containing extra or auxiliary information.

In his description, Burkhanov includes front matter texts and back matter texts as parts of the outside matter subdivision. For Tarp (1999:120) and Boye (1999), dictionaries sometimes contain elements with less relevance to both the function and the use of the dictionary. These kinds of elements, cf. Tarp (1998), can therefore be incorporated in the dictionary according to the usual practice in books, such as dedications, or for commercial reasons.

All these elements constitute what Tarp calls “extra-lexicographic elements”, since all texts in the front and back matter are not necessarily functional ones. Although some texts in the outer texts are not functional according to Tarp, their presence in the dictionary might enhance either the authority of the dictionary, e.g. the names and titles of the editorial team, or play an important role in the marketing purposes of the dictionary. This data in the outer text may also be extremely important for the specific dictionary.

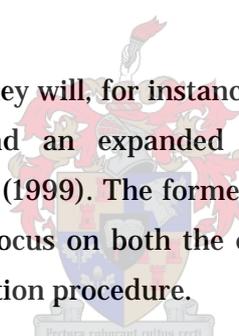
Kammerer and Wiegand (1998) as quoted by Gouws (2002:55) are in favour of the idea that the dictionary as a big text or compound should contain two major components: the central list, and the outer texts constituted by the front matter texts and back matter texts. The front matter text section consists of all texts in the dictionary preceding the central list, and the back matter texts section is constituted by texts following the central list. A dictionary with a frame structure, cf. Gouws (2002:55), therefore has a central list accompanied or framed by outer texts presented in both front matter and back matter sections.

The function²⁴ of the outer texts has always been to complement the central list (Gouws 2004:67). As far as dictionary components are concerned, the issues related to a transtextual approach dealing with a variety of texts present in the dictionary, will be treated and detailed in the next chapter concerning the frame structure.

Tarp (1999:120), however, concedes that the function-related, the use-related and the extra lexicographic elements which are usually arranged as separate homogeneous component parts of the dictionary, can sometimes be mixed into what he calls a “hybrid component part”.

In adherence to the definitions of distribution structures suggested above by Burkhanov and Tarp as well as that developed by Kammerer and Wiegand (1998) and their different classifications on how data is allocated within the dictionary, the compilers of the FYEDMT project should be aware of the implications contained in these sets of data categories. They should try to find ways that best suit their target users.

According to the user’s needs, they will, for instance, have a choice between a simple data distribution structure and an expanded data distribution structure, cf. Bergenholtz, Tarp and Wiegand (1999). The former will focus only on the articles in the central list. The latter will focus on both the central list and the outer texts as target and as core of the distribution procedure.



3.3.4 Cultural data in the distribution process

Apart from a terminological approach of distributing technical data, some other considerations on a cultural basis need to be taken into account. Since Gabon is a multicultural and multilingual country, the FYEDMT will need to include certain matters in its distribution structure which will reflect the multilingual environment and cultural data.

In an environment like that of Gabon where Language for Specific Purposes Dictionaries (LSPD) are rare, a dictionary such as the FYEDMT will not only play the role of a container of linguistic knowledge, cf. McArthur (1986), but also of a source of pragmatic and cultural data, cf. Gouws (2002), for future or further lexicographic work. Moreover, it is essential that the compilers of the FYEDMT consider the use of

²⁴ Gouws (2002:55) admits that the notion of front and back matter texts is not new, and that the functional value of the frame structure has led to a renewed interest in the inclusion of texts which were not traditionally regarded as part of a dictionary.

the central list as a block presented with heterogeneous article structures, cf. Gouws (2002), together with alphabetical registers in the back matter to ensure poly-accessibility for the users as far as cultural data is concerned. Gouws (2002) gives a detailed explanation of the importance of using cultural data in a data distribution structure.

3.3.5. Dictionary functions and typological features

The FYEDMT is planned as an LSP dictionary, focusing on two major lexicographic functional approaches: the knowledge-orientated function, and the communication-orientated function.²⁵

The knowledge-orientated function refers to the fact that the aim of this work is primarily to provide medical knowledge to the users who are expected to consult the dictionary more as a source of learning or studying in the field of medicine. In this case, for instance, the target users are students and/or any person interested in medical studies.

As far as the communication-orientated function is concerned, the emphasis is on the fact that this work will provide room for facilitating communication between experts, which means traditional therapists on the one hand, and western practitioners on the other hand. It also provides the possibility of text production in French, English and Yipunu within the same amalgamated dictionary article.

The influence of the LSP communication-orientated function within the dictionary as developed by Bergenholtz and Tarp (1995:22-27), leads to dictionary features based on some of the user's competence considerations. These features include text production and text reception functions as well as encyclopaedic features.

3.3.5.1. Text Production

Bergenholtz and Tarp (1995:22) distinguish within the function of text production, the so-called native-language text production (NLTP) from the foreign language text production (FLTP). According to Bergenholtz and Tarp (1995:22), for a dictionary to be a useful tool in native-language text production by experts and laypeople alike, a number of data items will be required in the dictionary. Items such as orthography,

²⁵ Cf. also Tarp (1995:200) for further investigation in the modern theory of lexicographic functions.

gender, pronunciation, regular and irregular patterns of inflection, typical word combinations (collocations) as well as usage in a wider sense, like style and frequency will be required in varying degrees. In the case of foreign-language text production, besides the information required in the NLTP, the users with a low level of foreign-language competence, cf. Bergenholtz and Tarp (1995: 23), are most likely to base foreign language text production on native language sources. For such reasons Bergenholtz and Tarp (1995:23) recommend that information should be placed in the L1-L2 logic.

3.3.5.2 Text reception

As in the case of text production, text reception is divided into native-language text reception²⁶ (NLTR) and foreign-language text reception (FLTR), cf. Bergenholtz and Tarp (1995). In the NLTR user requirements vary in their degree of encyclopaedic knowledge, i.e. the expert who masters his/her particular subject area does not require any encyclopaedic information to comprehend an LSP text. But a layperson, irrespective of his/her level of competence, will necessarily need such information in order to retrieve the appropriate information regarding the lemma.

The FLTR, in adherence to considerations concerning grammatical information as described in NLTR, differs from native-language text reception only at the meaning level. Bergenholtz and Tarp (1995:23) with regard to FLTR, affirm that the expert only requires a native-language equivalent to understand a foreign-language text. The layperson, however, requires additional encyclopaedic information as in the case of the NLTR.

Traditionally, in many dictionaries, it is common to use either one type of lexicographic function or another. The combination of both knowledge-orientated and communication-orientated functions in one dictionary entails the so-called polyfunctional dictionary. The polyfunctionality of such a dictionary is reinforced by the cultural input into the dictionary; the possibility for both western practitioners and traditional therapists to learn new concepts from one another. As Nielsen (1999:99) concedes, a culture-dependent dictionary generally contains concepts unfamiliar to the user. Thus, one of the principal tasks of such a dictionary is to familiarise the user with these foreign concepts.

²⁶ Bergenholtz and Tarp (1995:22) advocate the idea that encyclopaedic information addressed as individual lemmata is an important help in fulfilling the function of text

3.3.5.3 Typological features

The FYEDMT presents a combination of some typological features that will result in it being classified as a hybrid dictionary. The hybrid level of the FYEDMT is evident in the following ways:

a) The dictionary is neither totally bilingual nor fully multilingual.

Most of western medicinal knowledge and practice have been intensively studied in and harmonized between French and English. The large amount of lexicographic work in the field of medicine in both English and French seems to make the compilation of a purely bilingual dictionary French-English/English-French in the Gabonese context redundant and irrelevant. It will also be naive to try and compile a dictionary in which notions of western medicine are treated with the same comprehension in Yipunu as is the case with French and English dictionaries.

It is therefore advisable that the FYEDMT be regarded as a bilingual dictionary with three dimensions, cf. Bergenholtz and Tarp,²⁷ in which French will be the language of lemmatisation and will present translation equivalents with explanations of meaning. Yipunu will present its translation equivalents and the paraphrase of meaning as well as English with complete treatment which includes paraphrases of meaning.

Thus, in the FYEDMT there will be three types of lemmata: the lemmata indicating the French form, the lemmata indicating the English form, and the lemmata indicating a Yipunu form. This implies that the FYEDMT will have a mixed macrostructure, also called hybrid macrostructure, of French, English and Yipunu forms functioning in one at the “topic of themes”²⁸ level. Each theme will, however, be organised alphabetically with one type of article stretch²⁹. The target languages will be Yipunu, and English, whereas French will be the primary source language with regard to western medicine, since western medical terminology is already well established in both French and English.

There will, however, be cases when Yipunu will be the source language and French and English the target languages. These will be cases where traditional medicine

reception, but grammatical information, for instance on word class, gender, pronunciation, irregularities, etc., may also be needed to enable the user to find the right lemma.

²⁷ Concept from personal communication held at Stellenbosch University .

²⁸ The topic of themes is the first level of macrostructure in the FYEDMT, where the macrostructure is presented by themes and arranged thematically cf. Chapter 5.

²⁹ Notes from personal discussion with Prof. Gouws.

prevails; especially where there is a clear intention of promoting traditional medicine or when the traditional healer masters a specific domain in his/her practice that is still unknown to the western world. The typical example is from the domain of opportunist diseases and also from the so-called psychosomatic diseases. In this particular case, a specific slot in the back matter text needs to be set aside in advance for introducing the front matter texts as a special venue for this kind of scenario.

b) Both translation equivalents and explanations/paraphrases of meaning will be dealt with in the same dictionary.

Usually it is either one or the other in a given dictionary. Moreover, the term “translation equivalent” is usually used with regard to the dictionary dealing with two or more languages. The term “explanation of meaning or paraphrase of meaning” on the contrary, is usually used with regard to dictionaries dealing with one language. According to Wiegand (1986), a hybrid dictionary is a lexicographic work containing characteristics of both monolingual and bilingual dictionaries.

3.4 Dictionary plan

According to Wiegand (1998:151), the dictionary conceptualisation plan is divisible into five major phases: the general preparation phase, the material acquisition phase, the material preparation phase, the material processing phase, and the publishing preparation phase. This section will provide a brief overview of these phases. All the aspects of a dictionary will not be treated because some aspects like the microstructural programme and the macrostructure are discussed in detail in chapter 5.

3.4.1 The general preparation phase

The general preparation phase of the conceptualisation plan lays the foundation for the skeleton of the final product of the dictionary. This includes the compilation of the so-called instruction book, cf. Gouws (2001: 76) also known as the style guide, cf. Bergenhotz (1990). The microstructural programme, as well as the dictionary basis, cf. Gouws (2001), which is described by Wiegand (1998:139) as the totality of the source language material for the specific lexicographic process, are also included. In other words, the general preparation phase of the dictionary conceptualisation plan is the arrangement in which data as raw material is treated in order to give a shape to the dictionary.

3.4.2 The material acquisition phase

The material acquisition phase entails the gathering and the selection of oral and/or written data with the purpose of allocating data according to the categories, stages and sizes the dictionary intends to have. Gouws (2001: 69) affirms that in modern-day lexicography the material acquisition phase will inevitably lead to a corpus. No modern dictionary can be representative if it is not based on a reliable corpus. The consequence of such an assertion puts the corpus at the centre of a lexicographic process – a kind of corner stone without which the process might collapse. Thus, Gouws (2001:69) recommends that the compilation of corpora has to be regarded as a highly skilled activity and dictionary units have to make ample provision in their planning for this important aspect of their lexicographic endeavour.

3.4.3 The material preparation phase

The material preparation phase consists of the practical and pragmatic collection and gathering of data by means of devices in order to obtain corpora that will be usable as well as preparing it for inclusion in the corpus and for use in the dictionary.

3.4.4 The material processing phase

According to Gouws (2001:70), the material processing phase comprises the application of the data distribution structure and the writing of the dictionary text. This is the stage where data is really analysed in detail. It is also the step that allows the lexicographer to perform a distribution of data within the dictionary. According to Bergenholtz, Tarp and Wiegand (1999), the data distribution structure determines the specific position of each data type in the dictionary as a so-called carrier of text types.

3.4.5 The publishing preparation phase

The publishing preparation phase is the step in which the editorial team plays an important role as far as reading and proofreading are concerned. Gouws (2001:72) believes that, at this stage, the dictionary plan has to make provision for a rapid and functional execution of this part of the lexicographic process. Some aspects related to the instruction book, such as coherence in the style guide, data categories as well as formal and microstructural aspects within the style guide, will be discussed in the light of the general preparation phase, since it encompasses all the other phases of the dictionary plan.

3.4.6 The instruction book

The instruction book, also called the lexicographic style guide, cf. Gouws (2001) and Bergenholtz (1990), is compulsory for the lexicographer before any attempt at dictionary compilation can begin. According to Gouws (2001), it gives a detailed description which guides editorial staff members. It presents an enhanced lexicographic treatment and systematic presentation of the compilation process. The absence or defectiveness of such a guide can seriously hamper the compilation process. This is particularly true in cases like LSP dictionary projects such as the FYEDMT in which many experts will be involved and in which several compilers will be responsible for the lexicographic treatment.

The importance of developing a style guide is vital, although time-consuming, cf. Kavanagh (2002). This guide is necessary for both the editing team and the publisher in order to maintain consistency and coherence in the dictionary text during the compilation process. For Kavanagh (2002:267) the style guide is primarily for the benefit of lexicographers and intended to answer their queries during the editing process. Therefore, it needs to be clear, comprehensive and well indexed. It also needs to include instructions about formatting on the screen as well as ordering and phrasing of the text.

3.4.6.1. Formal aspects in the instruction book

Gouws (2001), adhering to the propositions made by Bergenholtz (1990) about the typical matters to be dealt with in an instruction book, mentions some important issues which may also concern the FYEDMT project and which include: the lemmatisation process (lemmata, lemma signs, sublemmas, etc), the language of lemmatisation, the arrangement of lemmas, etc.

- The lemmatisation process

The issue of the lemmatisation process will involve the selection of lemmata and the presentation of the lemma as the main entry of the dictionary article with the compiler having a choice whether to present the lemma sign in bold and/or in small or capital letters. Very often existing dictionaries combine bold and capital letters as is the case in the “Nouveau Petit Larousse” (1971), e.g.:

ABAISSE-LANGUE *n.f. inv. Instrument qu'on emploie en médecine pour abaisser la langue et appercevoir l'arrière gorge.*

They also combine bold and small capital letters as in the Dictionnaire Fang-

Français/Français-Fang (1964), e.g. :

ABA (h) n.4, pl. meba (dialecte atsi). Corps de garde où se tiennent les hommes. syn. : abeñy(h).

Besides the lemmatisation issue, the lexicographer will also define and determine the goals with reference to typology and target, structural profile, etc., in the instruction book. The structural profile deals with microstructural considerations.

3.4.6.2 Discussion of entry types and their presentation

In a dictionary project such as the FYEDMT, it is important for the compilers always to bear in mind that sound microstructural aspects greatly contribute to the clarity of the style guide with regard to the positioning of data, the chronology and the grading of components within the dictionary. As a result, a good style guide will effect consistency and confidence in the work done by the lexicographer. It will prevent deviation and bring about trust on the part of the user.

In the case of an African language such as Yipunu, dealing with European languages like French and English, the burden should be on Bapunu speakers and the traditional therapists to provide enough data. They will have a more acute perception of what will suit the future dictionary and permit, for instance, the discussion of the different kinds of definitions and when they are to be used, synonymy and semantic opposition, polysemy and homonymy, the ordering of senses, and the treatment of gender or derogatory items as well as different translation equivalents, typology and lexical items which require euphemistic or courteous treatment.

The microstructural programme should also take into account certain issues such as the style of writing within a dictionary. This aspect of the lexicographic product does not always have the same importance from dictionary to dictionary or from compiler to compiler, but does play a major role in the user's retrieval of information and access to the dictionary. This implies that the style guide should be flexible enough to allow for the compilation of:

- a typological and publishing profile;
- general editorial principles;

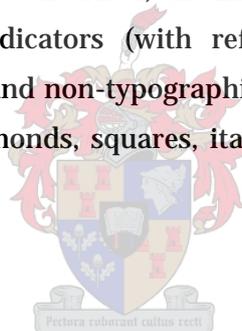
- some sample articles;
- a rough style guide according to the data categories abstracted from sample entries; and
- a selection of sample articles and a style guide to reflect changes.

The editorial team working with the style guide also has to consider issues such as:

- the use of typographical markers in the articles;
- the marking of different senses of a lemma;
- the use of abbreviations in the metalanguage of the dictionary; and
- the positioning and marking of new search zones in the article.

As far as the access structure is concerned, the instruction book will certainly take both typographic structural indicators (with reference to the use of commas, semicolons and full stops, etc.) and non-typographic structural indicators (the use of geometrical figures such as diamonds, squares, italics and other kinds of diacritics) into account.

3.4.6.3 The style guide



The FYEDMT style guide will certainly include the spelling conventions established by the LUTO and the *Convention de l'orthographe des langues Gabonaises* as well as parts of speech, cross-references, a list of labels, a list of editorial abbreviations, examples of definitions and translation equivalents, information on the treatment of sensitive lexical items, and cultural data and many more.

As far as data location is concerned, the items can be grouped into three major dictionary components, namely the front matter texts, the central list and the back matter texts. It will, for example, be likely that some items in the list of labels and list of editorial abbreviations would be part of the front matter texts while definitions, translation equivalents, the treatment of sensitive lexical items and cultural data will preferably be allocated to the central list. Cross-references, on the other hand, will belong to both the central list and the back matter texts.

3.4.6.4 Coherence in the style guide

A dictionary base is described by Wiegand (1998:139) and presented by Gouws (2001:68) as the total source language material for the specific lexicographic process. This implies, cf. Gouws (2001), that all possible sources, which contain such material, are included. These sources will include the informants and mother-tongue speakers of the language who can assist the editorial staff in the forming of a material collection.

In a dictionary project like the FYEDMT, where an editorial team will probably be involved, the team members will need to learn one style and be able to reproduce and maintain it for the sake of consistency. For a dictionary, a detailed examination of both the macro- and microstructure will be indispensable, since particular attention will need to be paid to matters such as derivative forms, phrases and phrasal verbs in Yipunu and how to present them in separate paragraphs within an article. Defining the approach to the ordering of elements, the use of labels, the analysis of sense divisions and the composition of the dictionary articles should also not be neglected. At this stage it is necessary to know what to include and what to exclude from the dictionary. It is important to know whether specific medical terms, especially in Yipunu, deserve to be treated with their etymology and what length and format should be given to them.

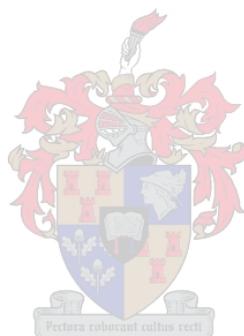


Because of the type of target users, the FYEDMT will have to be a well-balanced lexicographic work with regard to the type of data expected in this specialised dictionary. Correctness is the key concept in such a work. As Kavanagh (2002:270) rightly comments, dictionaries may well be taken to be authoritative, even if it is not always the lexicographer's intention. The dictionary is expected to be a model of correctness. Some users become upset when finding words of which they disapprove. However, lexicographers need to record the language as it is used and cover it unemotionally. An early identification of the dictionary basis, says Gouws (2001:69), enables the lexicographers to apply a well-directed material collection policy, which in turn allows a more rapid macrostructural selection. This is especially important for projects for the African languages.

3.5 Conclusion

A lexicographic process allows the lexicographers to make choices in the midst of various possibilities, since a dictionary cannot be everything to every one. A plan is necessary in order to structure, stratify and justify decision-making, in other words, to justify why certain choices were made to the detriment of others.

In this chapter the notion of data was the key point of discussion. The FYEDMT project takes written corpora as well as oral corpora into account. This justifies the importance of a data policy with regard to a user-friendly orientation that will result in a data distribution structure – the way data should be presented in the dictionary project. The lexicographic process, through the positioning of the data in the dictionary, facilitates and shapes the dictionary plan. For these reasons its functions are optimally fulfilled.



Chapter 4

THE FRAME STRUCTURE

4.1 Introduction

The FYEDMT as an LSPD project intends to satisfy users that do not judge a dictionary by its cover. According to Gouws (2004:4) the success of a dictionary is not determined primarily by its scope or its shape, the layout or the quality of the printing, but rather by the success the user has in retrieving the kind of information s/he needs and has been looking for in the dictionary.

The compilation of a dictionary is only part of the overall lexicographic process and is preceded by the planning phase during which the dictionary conceptualisation plan is formulated and a sound theoretical basis is established. The genuine purpose of a dictionary also relies on the type of dictionary the lexicographer intends to compile. A dictionary typology needs to be clearly identified and its functions well explained.

This chapter on the frame structure of a technical dictionary focuses on the central list, as the main structure of a dictionary and the structure of the outer texts in the front and back matter section.

4.2 Theoretical foundations

The term frame structure is used by Kammerer and Wiegand (1998) to refer to the central list or main text, framed by the texts in the periphery. The FYEDMT project will certainly present two major parts: the central list, in which the core of the dictionary is explored and the outer texts. The central list should include both single and synopsis dictionary articles. The outer text is generally composed of front matter texts and back matter texts, but it may also include the so-called middle matter texts. However, before these different texts are discussed, some preliminary explanation will be given about the nature and the type of lexicographic work the FYEDMT intends to be.

4.2.1 The nature of the FYEDMT

As a specialized dictionary the FYEDMT will have to cover a relatively restricted set of phenomena. The characteristic type of specialized dictionary is referred to in English as a technical dictionary and in German as a *Fachwörterbuch*.

According to Bergenholtz and Tarp (1995) and Nielsen (1990a and 1994), specialized dictionaries can be classified in various ways. They distinguish a dictionary that covers more than one subject field, called a multi-field dictionary, from one that covers one subject field, namely a single-field dictionary and a dictionary that covers a limited part of a subject field is called a sub-field dictionary. A specialized dictionary that attempts to cover as much of the relevant terminology as possible is called a maximizing dictionary¹ and the dictionary that only attempts to cover a limited part of the relevant terminology is called a minimizing dictionary².

Considering the environment in which the FYEDMT will be compiled as specialized lexicographic work and being a potential source of future work, it has to embrace as much terminology as possible. It is therefore only fair that the FYEDMT project be classified as a maximizing dictionary, among the LSPD, specialized, technical dictionaries.

In the process of planning and compiling a LSPD project, it is wise to have a good point of departure. Nielsen (2002) is in favour of placing the dictionary in the context of a typological framework as point of departure. For Bergenholtz and Kauffmann (1997:98-99) the point of departure has to contain two elements, which together constitute a whole.

The first element: the basic functional needs of the user are determined on the basis of a dichotomy between text-dependent and text-independent functions. Text-dependent functions include the reception of texts in the user's own language or in a foreign language, the production of texts in the user's own language or in a foreign language and the translation of a text into the user's own language or a foreign language. Text-independent functions include the acquisition of encyclopaedic and/or linguistic knowledge. This dichotomy enables the lexicographers to compile multifunctional dictionaries that are intended to fulfil a plurality of functions (Bergenholtz & Kaufmann 1997: 98-99).

¹ A dictionary is maximizing if it attempts to include as many words as possible from a particular speech community. An example of a maximising dictionary is the *Oxford English Dictionary*, as it attempts to lemmatise (i.e. show as entry words) as many words as possible. Based on the number of entry words they contain, is one way in which to classify dictionaries and give information about, i.e. their coverage (Nielsen 1990).

² The distinction between a maximising dictionary and a minimising dictionary is also important in connection with specialized dictionaries. A law dictionary that contains more than 20000 entry words is a maximising dictionary, since it attempts to include nearly all legal terms. This should be contrasted with a law dictionary that contains 2000 words, which is a minimising in, because it cannot reasonably claim to cover more than a limited number of legal terms (Nielsen 1990).

The user-driven approach is also expressed by Prinsloo and Gouws (2000:138-139), and they are in favour of the idea of implementing the dictionary plan with a sound theoretical basis (Gouws 2000b). According to Prinsloo and Gouws (2000), the recent development of lexicography as indicated by various publications such as Hartmann (1989), Gouws (1989), Wiegand (1998), Van der Merwe-Fouché (1999) and many more, shows that it is based on the emphasis on the approach according to which the compilation of dictionaries is guided by the user's perspective. Thus, a user-orientated dictionary should lead to enhanced information retrieval procedures.

In the approach suggested by Nielsen (2002:2) and Bergenholtz and Kaufmann (1997: 98-99) the overall picture is that the dictionary is compiled to help for instance, Bapunu traditional healers/therapists to make their medicinal information more readily available in French/English. The dictionary will primarily be text-dependent in order to have a workable basis or point of departure. It will also necessitate specified functions of the dictionary and give them different weight.

The second element: is consequently characterised by the notion of competence, in which the intended user group plays a vital role as a constituent of the following three functions:

1. The primary function: the translation between Yipunu, French and English.
2. The secondary function: the production and the reception of French/English texts.
3. The tertiary function: the production and reception of Yipunu texts.

In any case, the lexicographers involved in the FYEDMT project should keep in mind that the nature of this kind of lexicographic work is not as such much different from other LSPD work. It has to maintain, to a certain extent, the prototypal features common to any dictionary irrespective of its category (general or specialized). As proposed by Nielsen (2003), a dictionary has three significant features. The underlying feature is that the dictionary has been compiled to fulfil one or more functions, secondly, the dictionary contains data supporting the function(s), and thirdly, the dictionary contains lexicographic structures that link and combine the data in such a way that it can fulfil its function(s) optimally.

As a result, it is essential that the three features must interact: the function(s) is a discrete feature; the data is dependent on the function(s); and the lexicographic structures depend on the data and the function(s), (Nielsen 2003).

As a LSPD, the FYEDMT should deal with specialized vocabulary. This will lead it into the restrictive field of the terminological arena. By nature the FYEDMT should be more concerned about the correctness of the language in order to satisfy its target users, i.e. medical and medicinal experts. It should also concern itself with the use of appropriate words in the correct co-text and context. As conceded by Prinsloo and Gouws (2000:139), dictionaries should primarily be directed at the communicative needs of the members of the relevant communities and should endeavour to equip the target users with the necessary communicative skills to function successfully in a multilingual and multicultural environment. Thus, the lexicographic process may include no haphazard procedures or an arbitrary choice and presentation of data categories.

Thus, this dictionary project will be prescriptive. However, Gläser (2000:87) raises the question of to what extent a specialist dictionary should reflect the social stratification of a LSP in such a way that it also includes words and phrases from the lower stylistic levels (students or laypersons).

According to Gläser (2000:87) the answer to this question depends on a variety of alternatives that the lexicographer has to consider. The options are for example: whether technical vocabulary is limited to terminology and nomenclature as lexical items of written communication that have a clear-cut meaning and are stylistically neutral, or whether technical vocabulary is extended to words and phrases of spoken discourse in which they occur as professional jargon and occupational slang, as popular names for items of nomenclature and also as trade names. Furthermore, it will be fair to ask whether a Yipunu word that does not have any equivalent in modern medicine can be retained as technical.

Gläser (2000) who is in favour of the idea of including technical jargon and slang in order to ease the work of translators, interpreters and other users, assesses the factors that may influence the LSPD:

1. the composition of word-stock in a particular domain;
2. the intention of the LSP dictionary: whether it will describe and explain current usage or prescribe and stipulate preferable vocabulary;
3. the target group of the prospective dictionary users, which may range from specialists on a high theoretical, academic level to technicians, laboratory staff, factory workers and people in the broadest sense of the applied field;
4. the level of abstraction (and cognition) which determines the meaning of technical terms;

5. the degree of the communicative partner's expertise; and
6. the character of work done by those people who work in a special domain, ranging from research and development, to designing and planning and finally to the sphere of production and distribution.

4.2.3 The concept of a frame structure

According to Kammerer and Wiegand (1998), a dictionary with a central text as well as front and back matter texts, constitutes a frame structure. This implies, as suggested by Gouws (2004), that the use of a frame structure gives the lexicographer a much wider range of possibilities with regard to the distribution of data to be included in the dictionary. It also implies the enhancement of the user's access to a more comprehensive data selection. Once more the user's satisfaction in this context plays a key role and influences the content of the frame structure of the texts presented in the dictionary.

4.2.4 Frame structure and its components

The dictionary as a big text and carrier of text types, cf. Gouws (2004), is in fact regarded as a text compound grouping the central list and the outer texts. Basically, the front and the back matter texts are the best known and recurrent parts of the outer texts. Their role is crucial and their function important, since Hausmann and Wiegand (1989:330) concede that front matter as a whole is not a functional part of a dictionary, but rather an arbitrary set of functional text parts.

Thus, Kammerer and Wiegand (1998:228) stipulate that the front and back matter are textual parts, but not textual constituents, because textual constituents should always be functional textual parts. To illustrate this statement, Gouws (2004:69) takes the example of the user's guide by stating that the user's guide text included in the front matter of a dictionary is not a user's guide to the front matter, but a user's guide to the dictionary as a whole. It is a functional component of the dictionary and not of the front matter; therefore it is a textual constituent.

Due to recent metalexigraphic research, Gouws (2004:68) suggests that the attention has been deviated from the central list towards a more inclusive structural approach with the assumption that the central list can be complemented by front and/or back matter texts functioning as outer texts.

A dictionary can contain a number of texts beside those included in the central list. This point of view is also expressed by Gouws (2004) when he introduces the notion of extended outer texts.

In adherence to the above-mentioned, Gouws (2004:69-72) explains the frame structure by first distinguishing terms such as extended outer texts, partially extended texts, completely extended texts, complex outer text, extended complex outer texts, integrated outer texts, unintegrated outer texts, primary frame structure and secondary frame structure.

4.2.4.1 Partially extended texts

In a dictionary the central list as well as any text occurring in the front or back matter can be extended and this extension can be complete or partial (Gouws 2004:69). In the case of partial extension, a given text should be complemented by either front matter texts or back matter texts. When the central list is only complemented by the front matter texts, this dictionary presents left partially extended texts. Right partially extended texts are when the central list is complemented by back matter texts only (see Fig. 4.1).



Figure 4.1

A typical example of left extended text is in the *Oxford Concise Dictionary of Linguistics* compiled by P.H. Matthews (1997). This dictionary presents a front matter text which contains the title, the name of the chief editor, a short bibliography, the year of publication, the name of the publishing house (*Oxford University Press* in this case), the imprints, the contents, the introduction, the acknowledgements and the directory of symbols used in the dictionary. In this lexicographical work there is no evidence of back matter texts.

4.2.4.2 Completely extended texts

The combination of left extended texts and right extended texts is referred to by Gouws (2004:69) as the completely extended texts. It is the basic structure of a dictionary and constitutes a frame structure, cf. Kammerer and Wiegand (1998). Modern dictionaries are often compiled with this kind of skeleton: the central list as main text is framed from left to right by front matter texts and back matter texts (see Fig. 4.2).

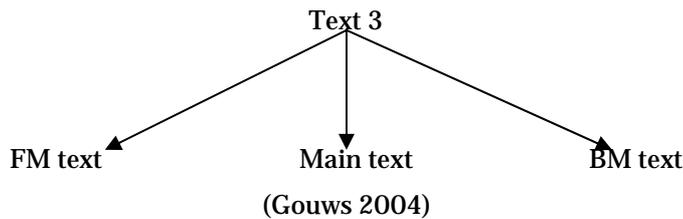


Figure 4.2

The Larousse (2001), bilingual, biscopal *Concise Dictionary French/English – English/French* constitutes a typical case of a completely extended text with front matter texts and back matter texts framing the main text, the central list. It is also the case with the bi-directional *Fang-Français et Français-Fang* (Fang/French Dictionary) of Samuel Galley (1964) where the outer texts are compiled in order to complement the central list and therefore to assist the user in his/her search for information. The back matter, for instance, suggests a detailed treatment of Fang grammar.

From the above skeleton, and considering the fact that the central list is no longer the only place for lexicographic treatment, the frame structure as suggested by Gouws (2004), with regard to a transtextual functional approach, offers the possibility for the outer texts to present their real utility in the dictionary.

Front matter and back matter texts as outer texts are not used, as in the past, to just be good enough to cover omissions by lexicographers during the compilation process or to introduce some texts which could not fit into the central list. They now fulfil similar functions to the central list. Hausmann and Wiegand (1989) as reported by Gouws (2004:69), argue that the front matter as a whole is not a functional part of a dictionary but rather an arbitrary set of functional text parts.

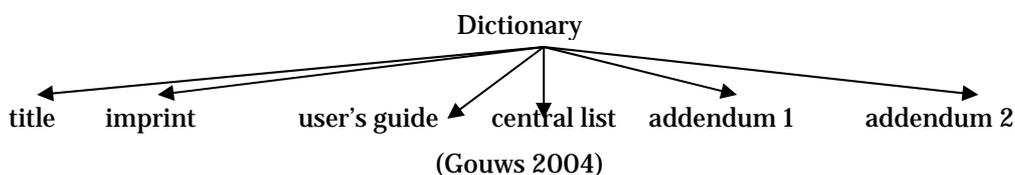


Figure 4.3

From the Figure 4.3 it is clear that the Title, Imprint, and User's guide represent the outer texts included as front matter texts and that addendum 1 as well as 2 constitute the back matter texts. This schema describes a perfect situation where the outer texts play a role of completing the central list. A typical example of this is the *Reader's Digest English-Afrikaans Dictionary*. Apart from the title and the imprint, the user's guide of the dictionary contains texts focusing on the central list: "How to use this

dictionary” is a set of texts (samples) taken from the central list in order to explain to the user the way items are treated in the dictionary. The user guide is directed at the main text, supplementary text and the list of abbreviations used in the dictionary.

The main text contains dictionary articles that have previously been treated, with their explanations and the examples used to support different meanings. In these explanations each single entry has a role and a function to play in the structure of the article. It is about giving useful details on the system of the dictionary, such as the purpose of the headword followed by full stops, the position of the verb and the role of related words, entries, etc. – see Fig. 4.4:

Main text
 The following sample entries illustrate the use of the main text:

Explanations	Examples
<p>headword (the noun tik) followed, after full stops, by the verb tik and related word entries (derivatives and compounds), all in bold roman type – boxed in this example / ~ in compounds represents the word tik, which is stressed unless otherwise indicated: ~blok = tik'blok / ~-tak-tol = tik-tak-tol / ~(werk) = tik'(werk), etc. / derivatives are printed in full (tik'ker, tik'kery, tik'kie, etc.)</p> <p>word entries may be followed by phrases, in italic type and separated by semicolons – <u>underlined</u> in this example / ~ in phrases represent the word under which the phrase is found, e.g. under the word tik'kie: 'n ~ humor = 'n tikkie humor / under ~skrif: <i>in ~</i> = <i>in tikskrif</i></p>	<p>tik -<i>ke</i>, <i>n</i>. pat, tap, touch, rap, flick; tick (<i>of watch</i>); beat; click. tik-<i>ge</i>: click; pat, tap, touch, rap, flick; percuss; chuck (<i>under the chin</i>); tick (<i>of watch</i>); type; <i>die bal</i> ~ tap the ball; 'n brief laat ~ have a letter typed; <i>iem. op die skouer</i> ~ tap (touch) s.o. on the shoulder; <i>iem. op die vingers</i> ~ give s.o. a rap over the knuckles (<i>lit. & fig.</i>); (<i>van lotjie</i>) <i>ge</i> ~ wees have a screw loose, be off one's nut; <i>ge</i> ~ wees be tipsy. bal: patball. ~blok: typewriting pad. ~tout: typing error. ~hou snick (<i>cr.</i>), chip (<i>golf</i>). ~kamer: typing room. ~kantoor: typing office, typists' room. tik <i>ker</i>-<i>s</i>: ticker; typist; (<i>coll.</i>) pace-maker (<i>med.</i>). tik <i>kery</i>: typing, typewriting. tik <i>kie</i>-<i>s</i>: tick; pat, tap; tinge, touch, dab, spark, dash; hint, shade, trace, touch, wee bit, trifle; 'n ~ beter a taste better; 'n ~ humor a dash (streak) of humour; 'n ~ vinniger a little (a thought) faster. ~masjien: typewriter. ~masjienmat: typewriter pad. ~rol platen. tik <i>seel</i>-<i>s</i>: typescript. tik <i>seeltjie</i>-<i>s</i>, <i>vid.</i> titseltjie. ~skopple-<i>s</i>: tap kick (<i>rugby</i>). ~skrif: typing; typescript; <i>in</i> ~ typed. ~skryfblok <i>vid.</i> tikblok. tik <i>ster</i>-<i>s</i>: typist(e). tik <i>sterskamer</i>: typists' room; typists' pool. tik <i>sterstoel</i>: typists' chair. ~tak: tick-tick (<i>of watch</i>); tick-tack, tick-tock (<i>of clock</i>). ~tak-tol: tick-tack-toe, noughts and crosses. ~(werk): typing, typewriting; typescript.</p>

(Reader's Digest English-Afrikaans dictionary)

Figure 4.4

The *raison d'être* of the supplementary text is the better comprehension of both Afrikaans and English with regard to retranslation and pronunciation. Retranslation deals with the context in which a lexical item should be used, especially in cases where choices between words have to be made to indicate to the user the contextual use of a given word. The user's guide gives an indication of the localisation of

phonetic data entries. After each translation, the pronunciation is given in brackets using English sounds for Afrikaans words and Afrikaans sounds for English words.

The English-Afrikaans section is followed by more than one addendum, presented as part of the back matter texts of the dictionary as a whole. These texts complement the main text in order to give a more comprehensive lexicographic presentation. These texts are: different kinds of letters used in correspondence, a list of prototypes of addresses, a list of place names, a list of people's names with pronunciation of Afrikaans names (included in the central list) using English sounds and vice versa, the human body treatment (including parts of the body), a nomenclature of pieces of furniture used in the office or any work place, the designation of different elements contained in a house, etc. This back matter text has a polythematic structure involving several fields that vary from geography to administration, anatomy, as well as mechanics.

4.2.4.3 Complex outer text

The notion of complex outer texts derived from the idea that a given dictionary can have a central list framed or complemented by an outer text³. It also makes provision for an outer text with its own outer text(s). This leads to the situation of a complex structure of outer texts, where the extended outer text includes its own logic by authorizing within its front or back matter a new structure, namely a table of contents. Gouws (2004) calls it a secondary outer text⁴. According to Gouws (2004) the main aim of this new outer text is the enhancement of the access to the different subtexts, since it comprises a number of subtexts representing different words included in the central list that refer to specific semantic fields, i.e. man, environment, artefacts, religion, time, etc. – see Fig. 4.5:

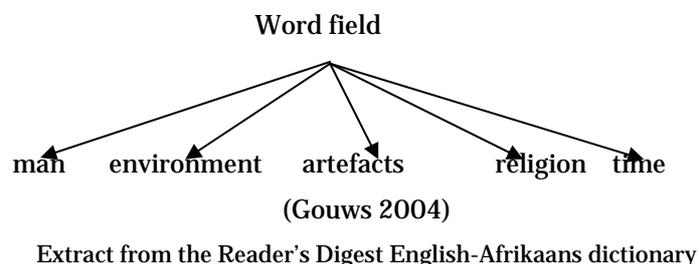


Figure 4.5

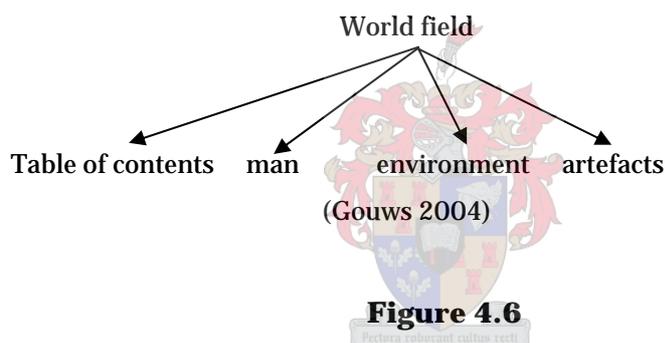
³ According to Gouws (2004) a complex outer text consists, of a number of subtexts.

⁴ Gouws (2004) calls primary outer text e.g. the table of contents included in the front matter, which includes references to the different texts in the dictionary as a whole.

Some dictionaries present a similar outer text structure in order to ensure rapid access to the different subtexts. As a result, it becomes extended and displays its own table of contents. Gouws (2004:70) calls this kind of text a functional textual constituent directed at a single outer text.

4.2.4.4 Extended complex outer text

According to Gouws (2004:70) a text, which is partially extended, only constitutes a partial frame, where a complete extension results in a text being the core of a frame structure with its own front and back matter texts. From the extended complex outer text⁵ as partial frame, Gouws (2001:527) isolates the existence of a primary and a secondary frame structure. Since outer texts function as functional constituents of the dictionary as a text compound, i.e. those texts framing the central list of the dictionary, they constitute the frame structure from the primary outer texts in combination with the central list (Gouws 2004:70) – see Fig. 4.6:



The above schema can be applied to the *Reader's Digest English Afrikaans Dictionary* (1988), since its back matter texts can be arranged in a similar way since the above figure comes from a specific dictionary.

4.2.4.5 Primary frame structure

Primary frame structure supposes the presence of front as well as back matter texts. It is the classical situation in which the central list has been framed. Most dictionaries have used it, simply because it is the basic structure of any given dictionary – see Fig. 4.7:

⁵ There is a complex extended outer text when the back matter section present its own frame structure.

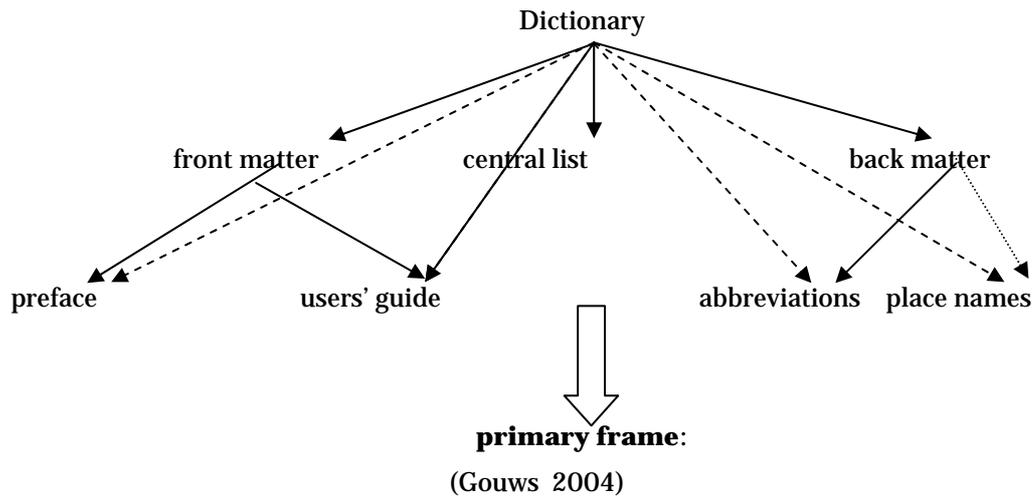
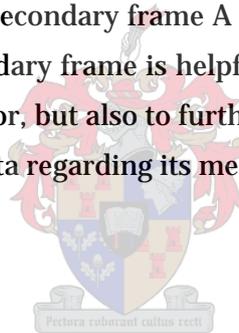


Figure 4.7

4.2.4.6 Secondary frame structure

Secondary frame structure can come from the back matter text as it is illustrated in the Fig. 4.8 below. In this case, secondary frame A is derived directly from one of the back matter texts. Thus, a secondary frame is helpful to the user, not only to retrieve the information s/he is looking for, but also to further the treatment of a given lemma in order to provide additional data regarding its meaning.



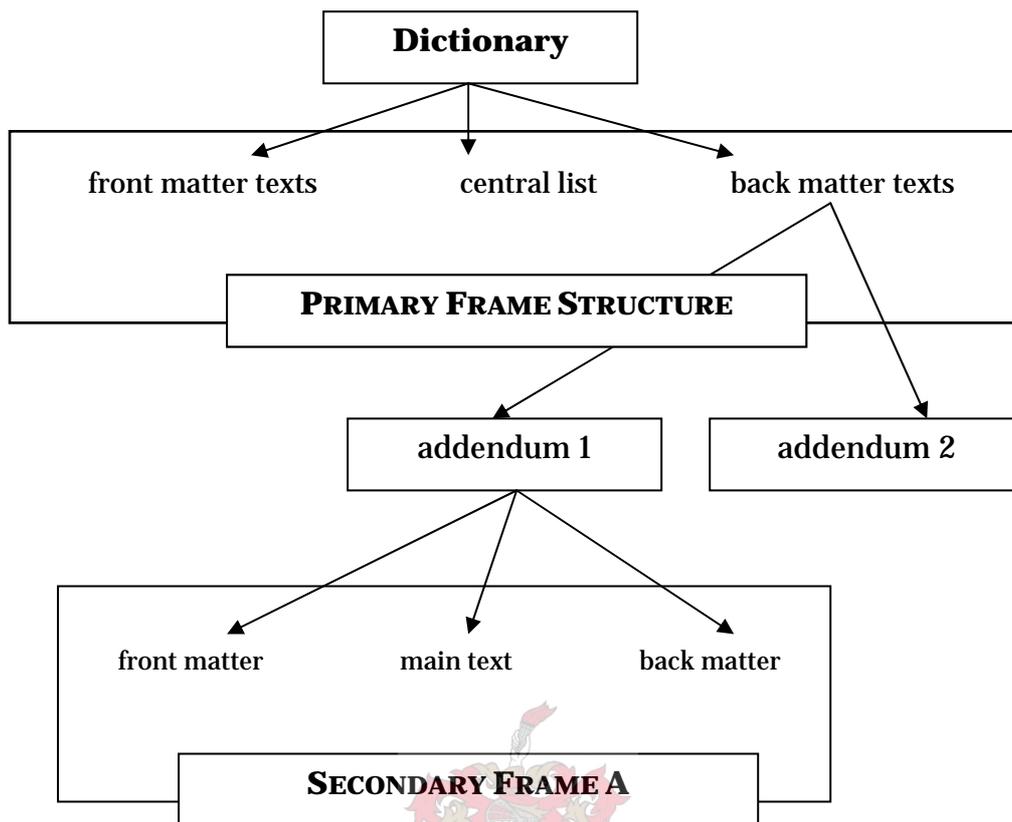
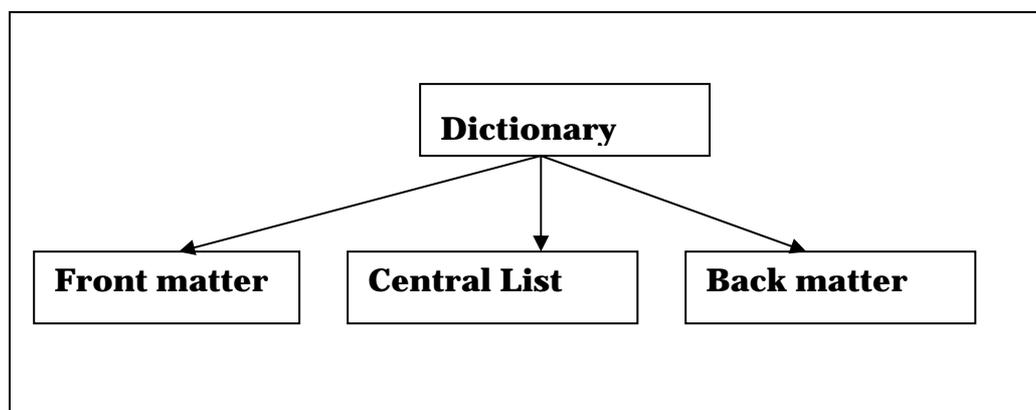


Figure 4.8

The back matter text of the *Psigologie-Woordeboek* of Plug et al. (1986) can constitute an example of a secondary frame A, with the “Engels-Afrikaans woordelys” page constituting the front matter text and “bylae 1” (addedum1) is the back matter text. The main text, in this case, is the word list (organized in alphabetic order from A - Z).



Secondary frame structure can also come from the central list as is illustrated in Fig. 409 below. In bilingual dictionaries with biscopal character, cf. Hausmann and

Werner (1991) for instance, the central list can be split into two distinct word lists. Each word list presents its own frame structure in this dictionary. Gouws (2004:72) argues that the final text in the bilingual dictionary is a back matter text, although not necessarily a primary back matter text; it could rather be directed at the last member of the word list series. Consequently, the bilingual dictionary could be an example of a dictionary with a secondary frame structure but without a primary frame structure.

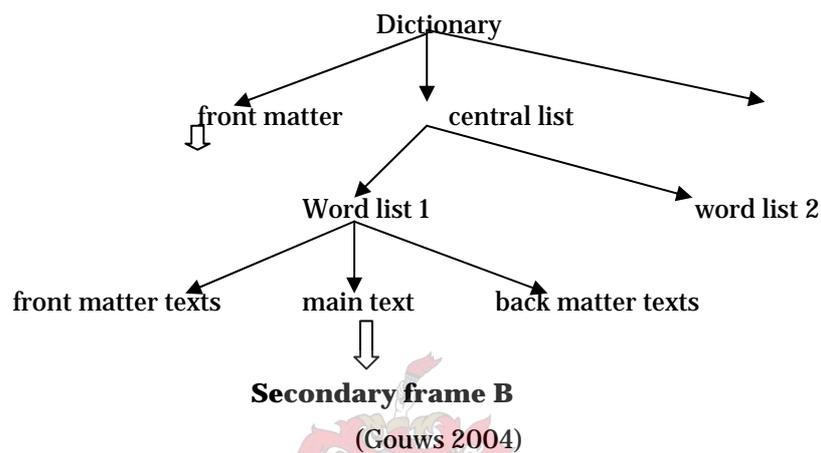


Figure 4.9

4.2.4.7 The FYEDMT frame structure

The Yipunu English French Explanatory Dictionary for Medical Terms (FYEDMT) project with regard to the concept of frame structure as developed by Gouws (2004) will offer a frame structure similar to the one presented in figure 4.8 with particular attention given the amalgamation in the central list. Since metalexigraphy, as promoted by Wiegand and other scholars, values the user-friendliness concept, both linguistic and anthropologic considerations will not only influence the nature of the dictionary but also the structure. Therefore lexicographers must bear in mind that this kind of dictionary will require a skeleton, which will primarily offer the possibility of accommodating integrated as well as unintegrated outer texts, in its frame structure. The terminology in integrated and unintegrated outer texts originates from the distinction made by Bergenholtz, Tarp and Wiegand (1999). It is based on the relation between an outer text and the genuine purpose of a specific dictionary. The choice of adopting an integrated outer text approach in the FYEDMT project is strengthened by the idea that a data distribution programme should be worked out with meticulous care to ensure a functional data distribution structure.

- **Integrated outer texts**

According to Bergenholtz, Tarp and Wiegand (1999) integrated outer texts function in co-ordination with the central list to accomplish the genuine purpose of the dictionary.

- **Unintegrated outer texts**

Unintegrated outer texts, on the other hand, are texts complementing the central list. They are, however, not needed to retrieve the information presented in the articles of the central list or to add any value to the treatment of the subject matter of the dictionary. Gouws (2004:72) illustrates an unintegrated outer text by saying that the front matter of a dictionary could contain a text in which the lexicographer expresses his/her gratitude to people or institutions for their assistance with the dictionary project. Although this text is important, it does not play a pivotal role in conveying data regarding the treatment of units or the subject matter of the dictionary to its potential users.

4.3 The data distribution process and the outer texts

In the process of distributing data, lexicographers need to ensure that items with strong cultural denotations and/or connotations, such as idioms, will receive special treatment in the FYEDMT. Idioms and proverbs are so peculiar to African languages that they convey the deepest thought a human language can allow, and therefore bear much more meaning than is usually admitted in dictionaries.

The encoding and decoding of lexical items are essential to comprehend the profound fullness of the message and the wisdom hidden in these idioms. To ensure the best access, lexicographers may then choose to exclude all idioms or proverbs related to illness and diseases for instance, from the articles in the central list and faze them out to a separate outer text in the back matter of the FYEDMT, for instance. In this sense Gouws (2004:73) asserts that the treatment of these idioms has to be regarded as an integrated outer text, since it falls within the scope of the lexicographic presentation a user expects from the given dictionary and also since the idioms or proverbs are likely to be included as treatment units and their treatment will constitute part of the overall lexicographic treatment given as part of the lexicographer's assignment with regard to the user.

In their structures dictionaries might present several approaches on how to tackle the problem of data distribution and the accessibility to their components, but the fact is that lexicographers cannot argue away the importance of the outer texts and the way

they are used or implemented. The outer texts are vital in the dictionary plan, especially when it comes to the acquisition of a well-balanced dictionary. This idea is also shared by Gouws (2004:73) that the planning and selection of outer texts in any dictionary should not be done in a random way but it should be determined by the typological nature of the dictionary, the user and usage situation and the consequent functions of the dictionary.

The data distribution structure must determine the way in which outer texts function, as either integrated or unintegrated outer texts, and the nature and extent of the data to be accommodated in these texts. The frame structure is not only a means to describe the distribution of texts in the dictionary, but it is primarily an instrument to assist the lexicographer in a comprehensive use of the dictionary, as carrier of different text types and to ensure the user's access to the data in the dictionary. Lexicographers and dictionary users should be made aware of the fact that an outer text is not only an ornamental part of a dictionary or a text included as a page-filler – outer texts are functional textual constituents and they need to be utilised as such.

Many outer texts are included in dictionaries with valid intentions, but do not play a major role in complementing the content of the central list. Neither do they assist the users with regard to locating the information they are looking for. Usually they describe important issues for the language, but these issues are neither relevant for the type of dictionary nor appropriate for the type of data treated in a given dictionary. In this sense the lexicographer must be aware of and make a clear distinction between presenting data quantity and data quality in the outer texts. Otherwise, these texts will be seen, as conceded by Gouws (2004:73), only as ornamental parts of the dictionary.

As an illustration, the set of prefaces written by the editor and the list of acknowledgements given in *A Dictionary of Literary Terms and Literary Theory* of Cuddon (1998), do not add any value to the central list. Although well written with noble intention, these texts are unfortunately not helpful to the users of this dictionary with regard to the genuine purpose of the dictionary. These are unintegrated outer texts.

The typical example of texts used as ornamental parts of the dictionary is given by the section "More Oxford Paperbacks" included in the back matter texts of the *Oxford Concise Colour Medical Dictionary* compiled by Elizabeth and Martin (1994). These texts contain lists of comments about other lexicographic works published by *Oxford*

University Press such as *Oxford Paperback Reference*, *The Oxford Dictionary of Philosophy*, etc.

A typical example of a good use of integrated and unintegrated outer texts can be taken from *Stedman's Medical Dictionary* of Williams and Wilkins (1989) that offers more than 122 pages of texts related to the use of the dictionary and the content of the central list. The back matter also gives some important indications about the comparative temperature scales, temperature equivalents, weights and measures, laboratory reference range values and lastly, data concerning blood groups.

In adherence to the examples mentioned above, Gouws (2004:75) makes the following remarks:

When one looks at the outer texts given in some existing dictionaries it is hard to see how they contribute to the functions and the genuine purpose of the dictionary. This remark does not imply that unintegrated outer texts, on account of the fact that they are not integrated into the genuine purpose of the dictionary, do not contribute to achieving the functions of the dictionary. A carefully selected and well-constructed outer text, although not integrated into the genuine purpose of a dictionary, could still form part of the functions allocated to the specific dictionary. Unfortunately, although outer texts have been used in many dictionaries, for many years one has the impression that the selection of these texts had often been done in an arbitrary way without negotiating the genuine purpose or the function of the specific dictionary or the needs of the intended target user.

As for the FYEDMT being part of the LSPD family, the outer texts have to be primarily integrated due to the nature of the data they should convey within the dictionary. The users also being experts or semi-experts, reinforce the idea in favour of the integrated outer texts structure.

When it comes to surgeons or surgery in general, one may want to know how the Bapunu practiced this activity before they discovered western techniques of surgery. The treatment of such items will not be included in the dictionary article of the central list, but rather in the outer text and preferably in the back matter texts as a result of a cross-referencing text.

It is arguable that the treatment of *Ngangë-Upasë* (the surgeon), in Bapunu culture is of high interest with regard to the medical anthropology and the history and the evolution of medicine in Gabon. However, it remains difficult to indicate whether these types of items should be classified as components that contribute to the genuine

purpose of this dictionary or not. It is clear that medical anthropology is not the aim of the FYEDMT. Nevertheless, items containing such encyclopaedic and cultural background may interest users. The point is that there is no clear indication or criteria on what should be considered as integrated and what as non-integrated domain.

The Collins Cobuild New Student's Dictionary (1997), where the front matter shows the evolution of each letter in the dictionary with indications on how much space each letter took in terms of percentage, is an accurate indication of which alphabetic letter was used the most frequently during the compilation of the dictionary. This kind of information is totally insignificant to the target user, but very relevant for the lexicographer or any other specialist in databases design.

The quest for a well-balanced dictionary and the importance of the user's accessibility leads the lexicographer not only to achieve accurate planning of the dictionary, but also to putting the compulsory character of the outer texts into perspective. It is then up to the metalexigrapher to meticulously describe the type of outer text appropriate for the dictionary project. Gouws (2004) thinks that, in considering the use of outer texts during the planning phase of any dictionary, a lexicographer should work with the suggestion made by Hausmann and Wiegand (1989) that a dictionary should include two compulsory texts, i.e. the central list and a text, usually presented in the front matter, which includes the guidelines for the user to ensure the successful use of the dictionary. Besides this compulsory outer text, a dictionary would typically also have front matter texts like the title page and the imprint. Another front matter text that is frequently used, but often not to its full potential, is the table of contents.

4.4 Dictionary functions and outer texts

The functions of the dictionary have been explained in Chapter 3, dealing with the lexicographic process. Depending on the data and the type of dictionary the lexicographer wants to compile, the outer texts have to comply with the same functions chosen accordingly for the optimal use of the dictionary. In Chapter 3 it was retained that the FYEDMT will use the communication- orientated approach as well as some features of the knowledge-orientated approach. As detailed in the previous chapter, the importance of the distinction made by Bergenholtz and Tarp (2003), as cited by Gouws (2004:75), concerning both the knowledge-orientated and the communication-orientated functions, is primarily based on user-friendliness and can be summarised as follows:

The knowledge-orientated functions assist the user by providing:

- a) general cultural and encyclopaedic data;
- b) special data about the subject field; and
- c) data about the language.

The communication-orientated functions assist the user to solve problems related to:

- a) text production in the native language;
- b) text production in the foreign language;
- c) text reception in the native language;
- d) text reception in the foreign language;
- e) translation of texts from the foreign to the native language; and
- f) translation of texts from the native to the foreign language.

4.4.1 Outer texts with a knowledge-orientated function

From its front matter to its back matter texts, including the central list *Mosby's Medical, Nursing & Allied Health Dictionary* (2002) presents data with very strong knowledge-orientated functions. The back matter texts, for instance, apart from the "Illustration Credits" consisting of more than 150 reference works dealing with the subjects treated in the dictionary, offer an impressive and complex list of 18 appendixes covering 282 pages of back matter texts. These texts comprise several themes from the medicinal field:

1. "Units of Measurements", p. 1857;
2. "Symbols and Abbreviations", p. 1867;
3. "Medical Terminology", p. 1874;
4. "Tabular Atlas of Human Anatomy and Physiology", p. 1887;
5. "Language Translation Guide: Spanish-French-English Equivalents of Commonly Used Medical Terms and Phrases", p. 1917;
6. "American Sign Language and Manual Communication", p. 1928;
7. "Assessment Guide", p. 1929;
8. "Normal Reference Values", p. 1936;
9. "Health Promotion", p. 1948;
10. "Nutrition", p. 1958;

11. "Complementary and Alternative Medicine", p. 1970;
12. "Herbs and Natural Supplements", p. 1980;
13. "Pharmacology and Clinical Calculations", p. 1991;
14. "Infection Control", p.2001;
15. "Health Organisations and Resources", p.2011;
16. "Diagnosis-Related Groups", p.2048;
17. "Nursing Diagnoses", p.2057;
18. "Nursing Interventions Classification", p.2127;
19. "Nursing Outcomes Classification", p.2131;
20. "Omaha Classification System", p.2133; and
21. "2003-2004 Nursing Diagnosis Supplement", p.2135.

The inclusion of these themes in the back matter texts consolidates the idea of full interaction and interconnection between the central list and the back matter. The insertion of texts such as Appendix 7: Assessment Guide, dealing with health history in sub-categories like adult health assessment, paediatric assessment, geriatric functional and health assessment, family assessment, and environmental assessment illustrate not only the multidisciplinary of the Douglas Anderson's (2002) dictionary, but also gives a clear understanding of the motivation behind the inclusion of these back matter texts in the dictionary.

The treatment of the stems, roots, prefixes and suffixes of medical terms given in Appendix 3: Medical Terminology can be seen as the continuation of the central list within the back matter. The way these terms are treated facilitates and furthers the comprehension of the lemmata presented in the central list as is illustrated in Fig. 4.10 below:

Example of back matter texts

From	Meaning	Example (s)
a-, an-	Without, lack of, not	Aphasia (without speech) Anaemia (lack of blood)
Ab-	Away from	Abductor (leading away from) Aboral (away from mouth)
Abdomen/o	abdomen	Abdominoplasty (plastic repair of the abdomen)
-ac, al	Pertaining to, relating to	Cardiac (pertaining to the heart) Neural (pertaining to nerves)
Andr/o	male	Androgen (hormone that increases male characteristic)
Balan/o-	Glans penis or glans clitoris	balanoposthis
Bil/i	bile	Biluria (presence of bile in the urine)
Carcin/o	cancer	Carcinogen (cancer causing agent)
-centesis	Surgical puncture to remove fluid	Paracentesis (removal of fluid from body cavity) Thoracentesis (removal of fluid from the chest cavity)
-drome	Run, running	Syndrome (group of symptoms that run or occur together)
Dynam/o-	Power or strength	Dynamometer (a device to measure the strength of muscle contractions)
Oss/eo, oss/I, ost/eo	Bone or bones	Osteoanagenis
-penia	Deficiency of, lack of	Glycopenia (sugar in tissues) Leukopenia (white blood cells)
-phagia -phagy	Eating, devouring	Geophagia (eating dirt or clay) Aerophagy (swallowing air)
Phag/o	eating	Phagomania (food craving) Phagophobia (fear of eating)
Uvul/o	uvula	Uvulectomy (surgical removal of the uvula)
Xer/o-	dry	Xerochilia (dry lips); Xerostomia (dry mouth)

(Anderson 2002: 1874-1886)

Figure 4.10

Another example of back matter texts sharing a knowledge-orientated function with the central list, is in “Appendix 4: Tabular Atlas of Human Anatomy and Physiology”, in which sections 2-4 deal with the skeletal system. According to this description, the skeletal system comprises the appendicular skeleton with 126 bones (containing the upper extremities with 64 bones and the lower extremities 62 bones), the axial skeleton 80 bones (containing the skull with 28 bones), the sternum and ribs with 25 bones and the vertebral column with 26 bones. This section concerning bones details the skeleton according to the parts of the body, the number of bones, the name of the bone and the identification as well as the function of the bone in the body. Such precision could not have been achieved if the user and the lexicographer both relied on the central list alone.

The use of “Language Translation Guide: Spanish-French-English Equivalents of Commonly used Medical Terms and Phrases” in Appendix 5 introduces the

importance of dictionary data dealing with multifunctional and multicultural environments. This also implies the difference between the semantic equivalence and the communicative equivalence usually present in bilingual or multilingual dictionaries as it will be detailed in the next chapter on macro-and microstructure. Besides, Appendix 5, dealing with English, Spanish and French, is a microcosm representation of a multilingual and multicultural environment with regard to the text production and text reception of these three languages. It also makes room for some general cultural and encyclopaedic data and therefore displays both knowledge-orientated functions and communication-orientated functions.

Very often users rely on such a work, especially in the bilingual or multilingual context. Gouws (2004:76) rightly indicates that the typical treatment presented in bilingual dictionaries focuses on the presentation of translation equivalents, sometimes accompanied by co-text and context entries, to assist the user in choosing the proper target language for a given source language item. This illustrates a typical communication-orientated function.

The example given in Fig. 4.11 corroborates the viewpoint expressed by Gouws (2004:76) that in an environment where multilingual dictionaries represent the default approach, bilingual dictionaries are directed not only at the source and the target languages but also at the needs of at least two user groups. These users often have different native languages and different cultures. In this case, the treatment allocated to the lemmata in the central list once again represents a communication-orientated function. However, the back matter contains a number of outer texts with both communication- and knowledge-orientated functions.

English-Spanish-French equivalents of commonly used medical terms and phrases

English	Spanish	French
General		
What is your name?	¿Cómo te llamas? (Cuál es tu nombre?)	Comment vous appelez-vous?
Where do you work?	¿Dónde trabaja? (Cuál es su profesión o trabajo?) (¿Qué hace usted?)	Où travaillez-vous?
You will need blood and urine tests.	Usted va a necesitar pruebas de sangre y de orina.	Vous avez besoin d'une analyse de sang et d'urine.
You will be admitted to a hospital.	Usted sera ingresado al hospital.	Vous allez être admis à un hôpital.
May I help you?	¿Puedo ayudarle?	Puis-je vous aider?
How are you feeling? Where does it hurt?	¿Cómo se siente? ¿Dónde le duele?	Comment vous-sentez-vous? Où avez-vous mal?
I need to change your dressing.	Necesito cambiar su vendaje.	Je dois changer votre pansement.
What medication are you taking now?	¿Qué medicamentos está tomando ahora?	Quels médicaments prenez-vous actuellement?
Common medical problems		
abortion	el aborto	l'avortement
abscess	el absceso	l'abcès
appendicitis	la appendicitis	l'appendicite
arthritis	la artritis	l'arthrie
asthma	el asma	l'asthme
backache	el dolor de espalda	la lombalgie
blindness	la ceguera	la cécité
General hospital equipment and supplies		
bandage	la venda	le bandage
bathub	la tina	la baignoire
bed	la cama	le lit
bedpan	la chata	le bassin hygiénique
blanket	cobija	la couverture
Medications and related supplies		
alcohol	alcohol	l'alcool
barbiturate	barbitúrico	le barbiturique
cough syrup	jarabe para la tos	le sirop pour la toux
aspirin (for children)	aspirina (para niños)	l'aspirine (pour enfants)
Medication instructions		
Tablespoon full	cucharada	La cuillerée à soupe
Teaspoon full	Cucharadita	La cuillerée à thé
One-half teaspoon full	Mediacucharadita	Une demi-cuillerée à thé
BID (twice a day)	Dos veces al día	Deux fois par jour
TID (three times a day)	Tres veces al día	Trois fois par jour
QID (four times a day)	Cuatro veces al día	Quatre fois par jour
Let it dissolve in your mouth.	Que se le disuelva en la boca.	Laisser dissoudre dans la bouche.
Chew	mastique	mastiquer
Mix	mezcle	mélanger
Tests and Procedures		
allergy test	prueba para alergias	Le bilan allergologique
blood transfusion	la transfusion de sangre	la transfusion sanguine
medical check-up	reconocimiento (chequeo) medico	l'examen médical complet
enema	la enema	le lavement
injection	la inyección	l'injection

Figure 4.11

This table taken from back matter texts has a communication as well as a knowledge-orientated function and approach. It presents three languages interacting with each other in a communicative way. It implies that this type of back matter text permits a poly-accessibility (Gouws 2004). The user may have access to the same data through the central list or by means of consulting the back matter texts.

The themes such as “General, Common medical problems”, “General hospital equipment and supplies”, “Medications and related supplies”, “Medication instructions” and “Tests and Procedures” will probably satisfy the target users with knowledge-orientated needs. Data such as “Tablespoon full”, “cucharadita” and “la Cuillerée à soupe” address the issues of the user with communication-orientated needs between English-Spanish and French.

4.4.2 Outer texts with communication-orientated functions

According to Gouws (2004:85), the users want to find a target language equivalent for a given source language item in a bilingual dictionary, but they also want to know how and where to use that item. Not only text reception, but also text production, is at the core of the communication-orientated functions of a bilingual dictionary.

All of this falls into place with the texts presented as back matter texts in the *Mosby's Medical, Nursing, & Allied Health Dictionary* (MMNAHD). The majority of texts presented in the back matter represent the importance of the interactive relationship between the central list and the outer texts by means of both integrated outer texts (i.e. Appendix 3: Medical Terminology) and unintegrated outer texts (Appendix 6: American Sign Language) in this dictionary.

4.4.2.1 Example from Appendix 7: Assessment guides

Appendix 7: Assessment Guides is a very complex back matter text with some illustrative texts indicating how to obtain the historical background of a patient in order to offer the best medical assistance possible and an optimal panoramic description of the infection or disease. It is divided into five assessment components of texts, i.e. “Adult Health A”, “Paediatric A”, “Geriatric functional and health A”, “Family A”, and “Environment A”. Appendix 7 contains several texts focusing on patient information and varying according to sub-medical disciplines such as paediatric assessment, the neurological system, the cardiovascular system, the pulmonary system, the gastrointestinal system, the haematological system, the endocrine system, etc.

These texts convey a communication-orientated function in the sense that some prototypes of medical problems that the patients, family members or caregivers might be confronted with are featured. Further, suggestions regarding the professional handling of some of these medical issues are provided.

In the illustration of paediatric assessment, for example, the information on health history is inclusive. It may be elicited from the caregiver or other family members or may be obtained from medical records. This assessment includes:

- Chief complaint or reason for visit (in client or caregiver's words)
- Profile of illness, using PQRST approach or mnemonic with:
 - P-prodromal, precipitating factors
 - Q-quantitative, quantitative factors
 - R-region, radiation
 - S-severity (on a scale of 1 to 10)
 - T-timing (date, onset, manner)
- Progression of illness and effect of therapy

The history of paediatric assessment also includes:

- Perinatal history consisting of the consideration of the mother's health before pregnancy, the maternal age, the length of the pregnancy, the complications relating to the pregnancy, the blood type, the medications used and previously prescribed, the duration and the infant's status and health at birth.
- Developmental history with regard to the age, the height, the weight, the dentition, the performance of age-related development tasks and the observed and recounted periods of delayed or accelerated growth.
- Activity/performance history; containing aspects such as the general disposition, the personality, the temperament the rituals, the behaviours, the responses to discipline or frustration and the eating patterns.
- Childhood diseases: type, age, severity, complications, sequelae.
- Immunisations, with the type date, the dosage, the booster, the unusual reactions and the presence of written records.
- Medications: over-the-counter, prescribed or borrowed, home remedies, types, condition being treated, dose, frequency and medication label.
- Allergies describing the hypersensitivity to foods, drugs, animals, insects, plants, hay fever, asthma, allergic rhinitis, eczema and urticaria.

- Serious illnesses including injuries, accidents, family prevalence, patterns, recurrences, complications, sequaele, surgeries, dates and descriptions of hospitalisation as well as results of special procedures.
- Family medical history with family illnesses, conditions, anomalies such as cardiovascular diseases, hypertension, cerebrovascular accidents or any condition currently suspected or diagnosed in the patient
- Psychological history including the family structure, the roles and functions, the cohesiveness, the family expectation, the outlook, the bonding behaviours, the language spoken at home, the communication patterns and the lifestyle and beliefs.

4.4.2.2 Examples from the front matter texts

Gouws (2002: 473) affirms the existence of two kinds of outer texts: the help texts, which assist the user to achieve a more successful dictionary consultation procedure, and those outer texts containing a part of the lexicographic data to be presented to the user.

The front matter texts in the MMNAHD belong to both the help texts and the so-called guide texts. The text “Contents”, for instance, is a primary outer text (Gouws 2004), because it guides the user to both the word list in the central list and the different texts included in the front and the back matter sections. According to Gouws (2004) this kind of text belongs to “the rapid outer access structure of the dictionary”, cf. Hausmann and Wiegand (1989: 333).

It becomes an integrated outer text because it assists the user in realising the genuine purpose of the dictionary by presenting an early highlight on the external search route. This helps the user in the proper use of the dictionary and gives the access needed to the different functional textual constituents (Gouws 2004: 79).

Besides, the text “Colour Atlas of Human Anatomy” plays the role of sub-content by guiding the user to 11 other texts with colour-annotated schemas containing a part of the lexicographic data. This category of texts is also an integrated outer text, since it has direct links with the central list by helping the user to identify the location of a given item in the body of the skeleton. It is also a rapid access structure in the sense that quick information about a concept and its constituents or its sub-divisions has been given in a pictorial and therefore more explicit way. As an example, the “Endocrine system” (see Fig. 4.12) and the “Lymphatic system” (see Fig. 4.13) enhance the data presentation by giving a pictorial illustration of different organs

according to the human body system concerned. This enables the user to better comprehend certain lexical items.

ENDOCRINE SYSTEM

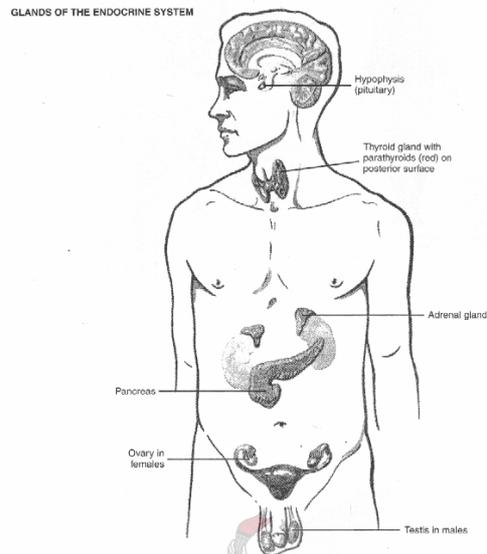


Figure 4.12

LYMPHATIC SYSTEM

ORGANS OF THE LYMPHATIC SYSTEM

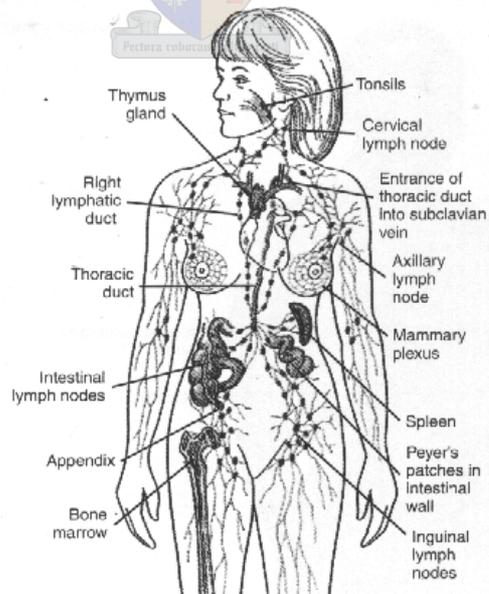


Figure 4.13

4.4.3 Remarks

As mentioned earlier, there is in the MMNAHD, a smooth relationship between the central list and the outer texts in both integrated and unintegrated ways. It is also true that, from a data distribution perspective, it would have been difficult to present the data proposed by these outer texts by means of the central list alone. However, data related to Appendix 12: Herbs and Natural Supplements, for instance, in which some items are treated with detail in the back matter texts, could have been marked in the central list as part of Appendix 12 and cross referred to the appropriate back matter texts.

It is noticeable that the ordering in the central list is alphabetical and differs from the one proposed in the outer text where the appendixes are presented in thematic ordering with an alphabetical tone, e.g. Appendix 7, 8 and 11 respectively represent the following themes:

- “Assessment guides”;
- “Normal reference values”; and
- “Complementary and alternative medicine”.

In the example of Appendix 11, the theme “Complementary and Alternative Medicine” is divided into sub-themes such as “Mind-body interventions”, “Bio electromagnetic Applications”, “Manual Healing Methods”, “Other Diagnostic and Treatment Methods”, “Alternative Systems of Medical Practice”, “Pharmacology and Body Treatments”, etc. These sub-themes are also organized alphabetically as indicated in Fig. 4.14:

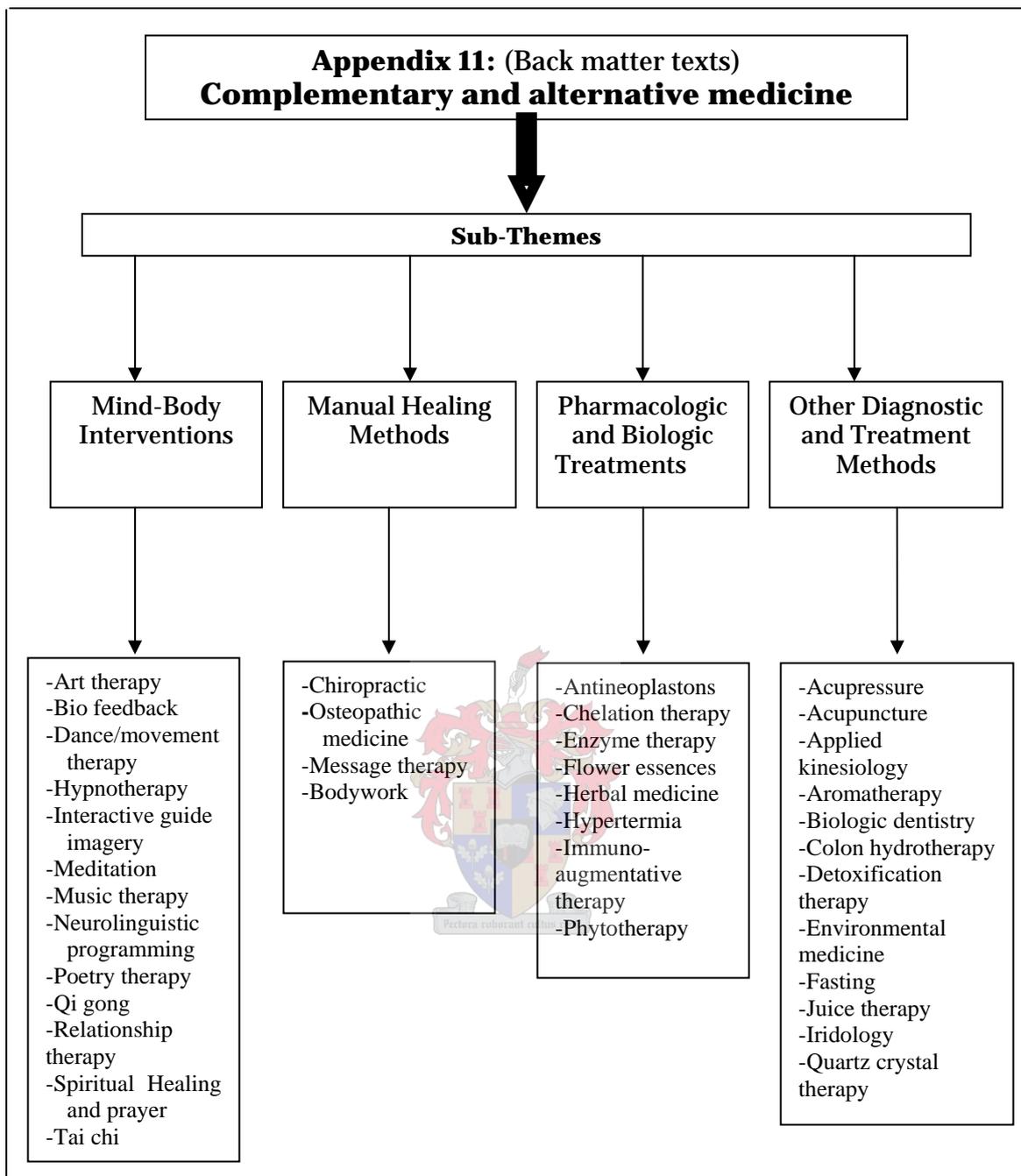


Figure 4.14

The MMNAHD, although identified as a monolingual dictionary, presents a multilingual dimension throughout its abundant back matter texts with French and Spanish as target languages with regard to common medical usages. This implies that the MMNAHD is multifunctional and presents both communication-orientated and knowledge-orientated functions with provision for text production as well as text reception.

4.4.4 Which outer texts for the FYEDMT?

The examples given above of outer texts indicate the multiple possibilities the lexicographer has to take into account when deciding what will best help the users of the dictionary to find what they are looking for. The FYEDMT project, as a potential LSP dictionary, needs to be constructed with a solid conceptual understanding of the subject field under study. In the present case, medicine will be the subject field. The outer texts the FYEDMT is likely to present will necessarily have the shape of primary frame structure with one main front matter texts and one main back matter text. Because of the intense solicitude of the back matter with regard to the insertion of alphabetical list in its BB, as well as the cross-referencing of cultural items from the central list to a specific zone in the back matter texts, for example, the FYEDMT will also present a level of secondary frame structure “A” cf. figure 4.8.

This conceptual understanding will then have the merit of presenting the data as a systematic listings of the specialized terminology, since it is always advisable to have a clear comprehension of the concept, especially in a given terminological structure, before any attempt at definition or description.

4.5 The central list categorisation

The central list is the most frequently consulted part of the dictionary, irrespective of the type and the nature of a dictionary. The user, driven by his or her quest for information retrieval, is tempted to read the central list as main text first and only later moving on to the other texts. This pattern is so recurrent in dictionary users' consultation habits that the lexicographer is obliged to group and stratify the data, provided in any given dictionary, accordingly. From what is happening in the field and practice of lexicography, dictionaries mainly contain the following lexicographical data categories

1. spelling;
2. pronunciation;
3. stress;
4. hyphenation;
5. part of speech categorisation;
6. morphological data;
7. etymology;
8. lexical meaning;

9. valency patterns;
10. pragmatic or usage data;
11. collocation;
12. taxonomy;
13. expert and common-sense knowledge; and
14. extra-linguistic or encyclopaedic data.

These different types of data categories, introduced in the word list, occur in the central list with a certain sequence, determined well in advance by the editorial team responsible for the compilation of the project. The above-mentioned data categories are headed by a headword called “lemma.”

4.5.1 Ordering structure

An LSP dictionary project such as the FYEDMT dictionary project, the compilers can present, within its lemmatisation structure, an ordering of lemmata according to two main existing macrostructural traditions in lexicography: the onomasiological and the semasiological approach. Gouws (2003: 39) asserts that the application of the first approach (onomasiological) leads to a thematic ordering of the lemmata in the dictionary. This ordering prevails in thesauri and sometimes also in dictionaries dealing with languages for special purposes.

The application of the second approach (semasiological) leads to an alphabetic ordering. This typically prevails in general monolingual and bilingual dictionaries as well as in the majority of LSP dictionaries. The FYEDMT will mostly opt for an onomasiological macrostructural ordering due to the thematic orientation of this project.

4.5.1.1 Onomasiological ordering structure

Although strict alphabetic ordering presents numerous advantages with regard to simple alphabetical ordering in (Louw 1989), strict alphabetical ordering and straight alphabetical ordering (Gouws 2003) will not be treated in this section due to the onomasiological ordering preference of the FYEDMT.

However, it is important to notice that the user, in his or her quest for information retrieval, needs a very strong pragmatic approach from the lexicographer in order to meet his or her desires. The thematic approach is one among many ordering systems that the lexicographer may consider especially in the context of users dealing with medical terminology. The onomasiological approach in a given dictionary promotes a

system that consists of grouping the lemmata according to their semantic field and conceptual relationship.

4.5.1.2 Users and onomasiological ordering

According to Sierra and Mc Naught (2000), many studies such as Barnhart (1975), Béjoint (1981), Hartmann (1983a), Hatherall (1984) and Kipfer (1987) are based on the observation that identifies user needs and how dictionary users can be assisted to carry out various activities. The only problem with this kind of study is that it promotes the presumed user's preferences among the information available in the dictionary (meaning, spelling, usage notes) to the detriment of those promoting what the users might really want to find.

This remark is of utmost importance when it comes to a situation where a user wants to find a word s/he is thinking of, but for which s/he does not know what form to use. Other than providing a set of possible synonyms or other related words, traditional dictionaries are not very helpful. Thus, in order to satisfy or help users who begin from an idea and want to find the right word, Sierra (2000) suggests a concept-orientated approach.

4.5.1.3 Semantic and conceptual ordering

According to Sager (1990:28), terminology uses a schematic classification and systematic structure for the presentation of concepts. A user expresses a concept by means of a set of properties, but each one usually refers to other concepts and even that concept can designate a diverse and manifold set of terms. From a structural perspective of rapid access, it is essential to capitalise on the presentation of conceptual relationships between notions, instead of merely presenting a single list of terms ranked by frequency of occurrence. This permits the user to easily identify a term related to several semantic fields.

This idea, shared by Sierra (1997), suggests that in order to organise the concepts and identify their properties in a systematic way and therefore to construct the paradigms, terms should be grouped in semantic fields using the definitions from the corpus. This approach will particularly be useful in the compiling of the FYEDMT, when the Yipunu medical terminology does not have a smooth and immediate translation mechanism with French, which is similar to that which French medical terminology has developed with English. The compilers of the FYEDMT will agree to a certain extent with Sierra (1997) who presents a procedure that indicates a uniform set of properties for each semantic field. An illustrative example is given in Fig. 4.15 for a

set of eleven terms in the semantic field of measuring instruments, where the keywords respond to four queries: “What?”, “Where?”, “What is it?” and “What does it do?”.

TERM	WHAT IS IT?	WHAT DOES IT DO?	WHAT?	WHERE?
barometer	device	measure	pressure	air
barograph	device	record	pressure	air
aneroid barometer	device	measure	pressure	air
mercury barometer	instrument	show	pressure	atmospheric
altimeter	aneroid barometer	measure	altitude	airplanes
hygrometer	instrument	measure	humidity	atmospheric
weatherglass	instrument	indicate	pressure	atmospheric
evaporometer	instrument	measure	evaporation	water
pitot tube	instrument	measure	flow	fluid
static tube	instrument	measure	pressure	fluid/stream
thermometer	instrument	measure	temperature	

Figure 4.15
Identification of properties for measuring instruments
(Sierra 1997)

4.5.1.4 The FYEDMT in the onomasiologic classification

An onomasiological dictionary classification comprises several types of dictionaries all unique in their approach but sharing some features or criteria. Sierra (1997) proposes an onomasiological classification of some dictionaries based on three types of criteria. The suggestion made by Sierra (1997) varies, but can be applied to the following: an ideological dictionary (Shcherba 1995), a semantic dictionary (Malkiel 1975), a conceptual dictionary (Rey 1977), a speaker-oriented lexicon (Mallinson 1979), a thematic wordbook (McArthur 1986) and nomenclature (Riggs 1989).

As for the criteria, the first one is based on the distinction established between special purposes dictionaries (SPD) and general language dictionaries (GLD), (Whittaker 1966; Svensén 1993 and Mihindou 2004). It is a well known fact that SPD are more frequently used than GLD (Sierra 1997). This can be seen in the wide range and endless number of special purposes dictionaries covering multiple topics such as etymology, pronunciation, idioms, rhyming, phrases, etc. The second criterion concerns the ordering structure. A separation is made between entries in alphabetical vs. non-alphabetical order (McArthur 1986). The non-alphabetic ordering structure contains another set of arrangement. Entries sorted according to the non-alphabetic order can be systematically, thematically, logically, taxonomically or classificatorily structured.

It should be pointed out that the non-alphabetical character is not absolute because in certain cases like the concept-orientated dictionaries, which belong to the category of non-alphabetical ordering the entries are structured in alphabetical ways. This enables the FYEDMT to present its hybridness even in this circumstance. The last criterion refers to the semantic point of view, cf. Baldinger (1980). It takes user needs into account and thus distinguishes dictionaries that serve as aids in encoding from those that help with decoding.

The best-known dictionaries of this type allow users to find the meaning of a word they already know. Such dictionaries are semasiological: they associate meanings with expressions/words, i.e. within articles users will move from word to meaning. The second kind of dictionary helps those users who have an idea to convey and want to find a word to designate it. Such dictionaries are onomasiological: they connect names to concepts. Thus, within articles users move from meaning or concept to name or word.

4.6 Conclusion

The frame structure which gives account of the technical subdivision of a given dictionary structure encompasses two levels of dictionary structure: the primary frame structure and the secondary frame structure. As seen in section 4.2.4.5, the primary frame structure implies the presence of the front matter text as well as the back matter texts both framing the central list of the dictionary. It is the classical case in any dictionary that these compulsory structural components should precede (front matter texts) and follow (back matter texts) the central list. The second frame structure cf. section 4.2.4.6, results from the primary frame structure and is subdivided into secondary frame "A" and Secondary frame "B".

When in a given dictionary the primary structure contains two or more word lists the dictionary is likely to present a secondary frame structure type "B". Whereas in the case like the FYEDMT, with one word list and offering an extensive use of cross-referencing into the back matter this kind of dictionary is likely to present a secondary frame structure type "A".

Chapter 5

LEXICOGRAPHIC CORE STRUCTURES

5.1 Introduction

Lexicographers often define a dictionary as a reference book containing a number of words and lexical items that are arranged in a systematic way with information related to these lexical items, cf. Bergenholtz and Mugdan (1985:9), Landau (1984:5), Mugdan (1989:125), Robinson (1984:175-176) and Schaefer (1987:23-24). According to Nielsen (1990a:49) one has to select a dictionary at random and browse through it in order to realise that the traditional definition of a dictionary is insufficient; it refers to one part of the work.

Each dictionary consists of three major structural components: the macrostructure, the mediostructure and the microstructure. The viewpoint expressed by Nielsen (1990a:49) by giving the mediostructure and microstructure the same weight for example, does not fit in with the spirit of the proposed project and will therefore not be followed in this contribution. Mediostructure, although presenting some relationship with the macro- and the microstructure, is together with the access structure the subject of discussion in Chapter 6 that focuses on guide structures. As it will appear later, Nielsen's contributions will be helpful in certain cases, but in others it will be preferable not to adhere to his "theory" of macrostructure.

The term "core structure", as used in this dissertation, will refer to the macrostructure as well as the microstructure, for they constitute the main structures within the dictionary. Indeed, it is impossible to think about a dictionary without these two central structures.

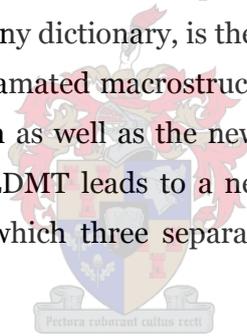
The aim of this chapter is to suggest some prototype dictionary article structures following from the LSP metalexigraphic framework analysis with special attention to the macro- and microstructure. These suggestions may possibly lead to a model for LSP dictionary article structures that might be used in the envisaged FYEDMT. The macrostructure will embrace concepts such as the lemma and its possible subdivisions, the problems of ordering and the presentation of a hybrid macrostructure. The microstructure, on the other hand, constitutes the second part of

the chapter. This part will focus on the amalgamated article the main types of sequences present in a given LSP dictionary, and the role and the function of each item a LSP dictionary might contain, with special attention to the medical field. Lastly, it will present the most probable relationship the core structure of the central list develops with other components of the dictionary such as the front matter texts, the middle matter texts, and the back matter texts.

5.2 The macrostructure

The macrostructure is perceived as one of the leading structures within a dictionary, along with the microstructure. In this section some theoretical foundations as well as various concepts of the macrostructure suggest that the macrostructure can be divided into at least two distinct levels. The first level consists of the outer texts and the second level focuses on the central list. This section will concern itself with this second level.

The point of departure for any structural attempt with regard to the macrostructure as well as the microstructure of any dictionary, is the dictionary article. The proposed project requires a type of amalgamated macrostructure that has some consequences with regard to the article stretch as well as the new macrostructural selection. The amalgamated nature of the FYEDMT leads to a new article stretch and a different dictionary article approach in which three separate levels of lemmata have to be included.



5.2.1. Theoretical foundations

According to Bowker (2003:157), the term macrostructure essentially refers to the way in which the articles are arranged within the dictionary. LGP's often use the alphabetic order as a means of presenting lexical items, whereas specialized dictionaries prefer a presentation that is more systematic. According to Bergenholtz and Tarp (1995:198), the most important decision taken by a specialized lexicographer is the choice of macrostructure. The lexicographer has the responsibility to judge what macrostructure is suitable for which LSP dictionary and has to choose between the alphabetic ordering and the systematic organisation¹. In the case of the proposed dictionary, the FYEDMT, the choice of macrostructure will

¹ System that promotes the idea of the ordering of words, not alphabetically but according to the ideas they express.

probably be in favour of the systematic ordering structure² due to it being an LSP bilingual dictionary with three dimensions in the specific field of medicine, cf. section 4.2.1 (the Nature of FYEDMT).

It will be advantageous for the FYEDMT to present a macrostructure based on a thematic ordering structure, since it will be helpful to the users who want to gain an understanding of the subject field of medicine. Since this dictionary will be systematically organised, concepts will be arranged according to the relations they have with one another. As a result, users can get the overall depiction of the subject field of medicine presented in the dictionary.

As a point of illustration, Bowker (2003: 157-158) states that:

... in a systematically organised dictionary such as The British Computer Society's *Glossary of Computing terms* (1995), the entry for *optical disk* is grouped with the entries for *magnetic disk* and *magnetic tape* because each of these is a type of storage medium. In contrast, in an alphabetically ordered dictionary such as Prentice Hall's *Illustrated Dictionary of Computing* (1995), the entry for *optical disk* appears between the entries *optimal character reader* (a type of input device) and *optical laser unit* (a part of a laser printer), to which it has no direct conceptual relations. From a conceptual point of view, an alphabetic arrangement results in an 'arbitrary' order which presents concepts out of context and does not allow conceptual relations to be coherently expressed.

Another reason for which the FYEDMT should be systematically ordered is that the problem of lemma status, given to certain items in an alphabetic ordering, generates confusion between lexical items, with a transparent or self-explanatory meaning, and other words that are carriers of meaning. In Yipunu, for instance, the use of prefixes, stems, roots or suffixes in an alphabetic macrostructure would have been a concern, since some affixes, with no meaning of their own in Yipunu, stand a chance to acquire lemma status. In a thematic order, however, this problem is not likely to occur, since meaning and semantic relations constitute the key to the lemmatisation.

² Presenting a systematic macrostructure, the FYEDMT may be considered as a systematic dictionary. This implies that words are brought together on the basis of their meaning under one and the same concept that is part of a layered umbrella system of concepts.

5.2.2. Other metalexigraphic views on the Macrostructure

The dictionary as a whole is made up of different and separate individual components, which can be studied and analysed. The breaking down of these components into separate parts, their rearranging and their organising result in the process that Nielsen (1990:49) calls the macrostructure of the dictionary. Thus, in other words, the macrostructure of any dictionary is the way of arrangement of separate components, which collectively make up the entire dictionary. Nielsen (1990:50) concedes³ that almost all definitions found in the existing metalexigraphic literature describe the macrostructure of general purpose dictionaries (GPL). However, these definitions constitute the same point of departure as the LSP definition of macrostructure.

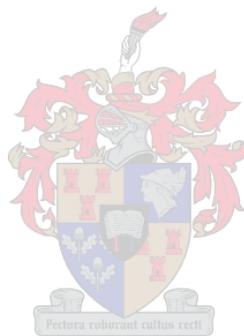
Nielsen (1990) chooses several definitions from different scholars as a point of departure in order to establish his view of the macrostructure. The first definition is from Hartmann (1983a:225) who defines macrostructure as “the total number of entries in the dictionary”. The concern expressed by Nielsen (1990:50) is that the definition of macrostructure, proposed by Hartmann (1983b: 70), leads to another concept: the lemma stock, also developed in Wiegand (1983: 431, 451). Consequently, Nielsen (1990) rejects this first definition. The second definition of macrostructure is taken from the work of Hausmann (1977: 3): “... *eine geordnete Folge von Wörtern; man spricht von ‘Wörterbuch-einträgen’ oder ‘Lemmata’ [...], zu denen das Wörterbuch etwas sagt.*” Whereas, the work of Svensén (1985:215) suggests the third definition: “*det sätt på vilket de olika ordboksartiklarna placeras i förhållande till varandra.*” Nielsen (1990:51) concedes that the definitions given by Svensén (1985:215) and Hausmann (1977:3) are important, because the arrangement and the organisation of dictionary articles are emphasised by both definitions.

As a result, Nielsen (1990:51) in his attempt at a lexicographic macrostructural definition, with special attention to the LSP lexicographic macrostructure, uses the above definitions as points of departure. The use of the term “macrostructure” seems to be a synonym of “macrocosm”, cf. Nielsen (1990: 52). The macrostructure of a given dictionary may be compared to the macrocosm in the same way as the term “macrocosm” can be applied to the world or the universe as a whole. Thus,

³ In attempting to define the macrostructure of any given dictionary with particular reference to special-purpose dictionaries, we shall have recourse to a number of the existing definitions found in the metalexigraphic literature, (Nielsen 1990).

“macrostructure” should be seen at the level of the entire dictionary and not only as merely the arrangement of lemmata.

From Nielsen’s approach to macrostructure, the FYEDMT will have to present two levels of macrostructure, which should be clearly distinguished⁴. The first level should be the ordinary level of macrostructure, within the central list and as usually employed by the majority of metalexigraphers, consisting of the arrangement and the organisation of the lemmata in the article stretches. The second level will then be the one that includes the front matter, back matter and the middle matter texts. Iso (1990) and Svensén (1993) call this type of macrostructure a “megastructure”.



⁴ The two levels of macrostructure presented above should not be confused with the ones of Nielsen. The ordinary macrostructure and the megastructure are different from the “simple macrostructure” and the “complex macrostructure” as developed by Nielsen (1990). The simple macrostructure is defined by Nielsen (1990:52) as a lexicographic macrostructure which is composed of only two macrostructural components. In other words, a simple macrostructure is typically made up of a preface and the (alphabetical) arrangement of the lemmata. A complex macrostructure, on the other hand, is defined by Nielsen (1990: 53) as a lexicographic macrostructure which is composed of more than two macrostructural components. From this definition Nielsen (1990: 53) is of the opinion that it may be gathered that a typical complex macrostructure is composed of the preface, the (alphabetical) arrangement of lemmata, and at least one additional macrostructural component (for instance an appendix).

The need for a clear distinction between the terminology used in this chapter and the one of Nielsen is motivated by two reasons:

- 1-Nielsen’s approach of macrostructure gives the preface, the list of contents and the central list the same weight with regard to the macrostructural arrangement;
- 2-The macrostructure of Nielsen is applicable to western dictionaries and only to those with an alphabetic ordering. Thematic dictionaries do not have any room in its definition of the macrostructure.

As a result, Nielsen’s conception of macrostructure may lead to some confusion with regard to the use of some terminology which might seem identical but which does not have the same theoretical content. In Nielsen’s approach, the term “dictionary components”, for instance, will refer to any type of text (preface, table of contents, etc.), whereas, in this contribution it is used for specific types of categories like front matter and back matter.

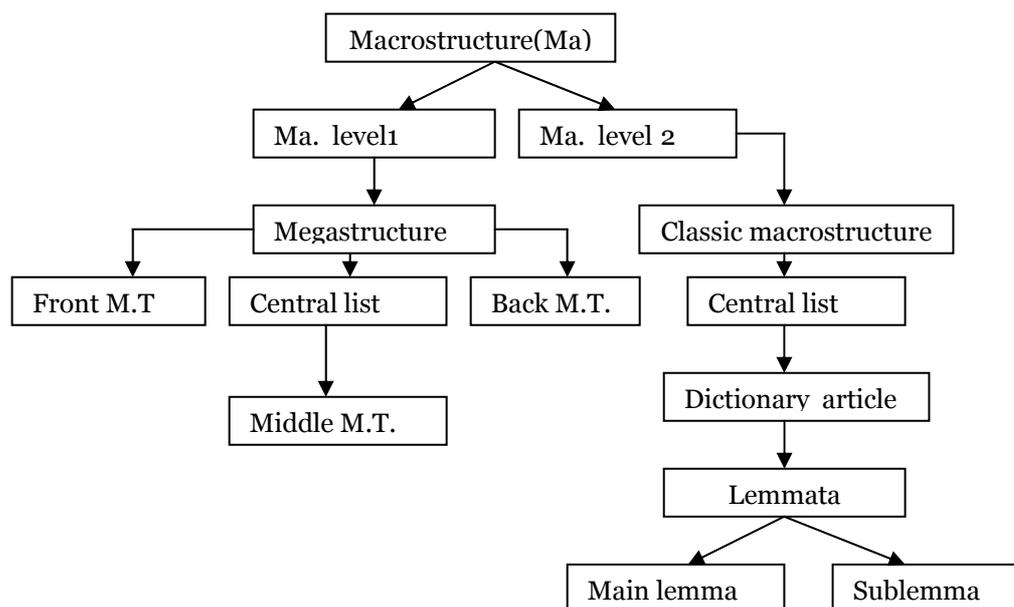


Figure 5.1.

The macrostructure can apply to the lemma list in both the central list and the outer texts. In the present contribution, the term “macrostructure” will refer to the arrangement and organisation within the central list at the level of the dictionary article, i.e. the second level macrostructure of Fig. 5.1

5.2.3 Fundamental procedures before lemmatization in the FYEDMT

The FYEDMT, as a LSP dictionary, will necessarily be processed according to certain common conventions in specialized dictionaries irrespective of its specificity.⁵

Before the lexicographer selects some lexical items such as main lemmata, some preliminary steps have to be followed in order to have a full picture and clear understanding of the criteria that will establish what should be introduced into the dictionary and what should be left aside. The first step should be the type of corpus

⁵ Fundamentally, according to Bowker (2003:160), specialized lexicography is the discipline concerned with collection, description, processing and presentation of LSP terms irrespective of the nature of the dictionary (monolingual, bilingual or multilingual). In the case of a multilingual project like the FYEDMT, the work is carried out separately in each language, and interlingual equivalences are only established at a later stage.

The production of a dictionary of terminology in a specialized subject field such as medicine, demands from the specialized lexicographer to understand the conceptual structure of the medical field and to describe all the concept-term units that fall within it. For more detailed descriptions of issues relating to specialized lexicography, see Cabré (1999), Bergenholtz and Tarp (1995), Sager (1990), and Wright and Budin (1997/2001).

in Yipunu, French and English. The lexicographer makes an informed selection in order to reach an optimal balance. The second step will then be the mode of the data acquisition and the outcome of the data analysis.

5.2.4 Corpus selection (dedicated corpus)

In Gabon there are existing written and oral data collected and compiled by missionaries, colonial administrators and some Gabonese scholars (linguists, anthropologists, scientists etc.), cf. Chapter 3. It focuses on themes describing day-to-day life and presents broad aspects of life with a general vocabulary orientation.

This data, however, is too general and therefore not helpful enough for the type of dictionary the FYEDMT project intends to produce, since this dictionary is specifically confined to a particular subject field, namely medicine. The compilers of this dictionary should focus on compiling a dedicated corpus for a medical vocabulary. The point of departure should, however, be the existing corpus. The editorial team can add to what has already been established and attested.

5.2.5 Data acquisition

Despite what has been discussed in Chapter 3, the data acquisition has to be conducted in such a way that the corpus can be accessed electronically. The editorial team, according to the means available for the compilation, will explore ways of doing this, which consist of typing in corpus material from oral sources as well as the unscripted written documents or the scanning of written sources that are not electronically available. The analysis of data becomes important for both the macrostructure, with regard to the lemmatization, and the microstructure where the focus is on the explanatory nature of the definitions, the defining of terms and the establishing of interlingual equivalence, cf. Bowker (2003).

5.2.5.1 Typed in format

The database that is collected and then typed in is more time consuming but remains the most reliable with regard to the analysis and computing query systems. It is advantageous for the FYEDMT to have at least the Yipunu corpus in electronic form, since some concepts described by missionaries will most likely need to be updated in

certain cases. Moreover, from a linguistic point of view, many changes⁶ have been introduced in the Yipunu system as far as the orthography is concerned. Typing would alleviate the burden of checking almost every sentence in order to have an updated corpus.

5.2.5.2 Scanning of material

In modern society, like the one in which the FYEDMT will be compiled, technology has a tendency of replacing human efforts with machine commands. Thus, to save time, the scanner can be used, especially since the FYEDMT might be the first medical database provider in Yipunu. When working with paper corpora, such as the existing Yipunu corpora, compiled by Kwenzi-Mikala (1997), (1980), Blanchon (1980a), (1980b), cf. section 3.2.3.11., Puech (1980), Fontaney (1980), Rittaud-Hutinet (1980), and Nsuka-Nkutsi (1980), the scanning has to be carried out manually in order for the lexicographer to master both the scanning process and the end data. Usually some characters are not recognised by the machine and give unknown forms. The manual approach will allow adjustments to be made in order that only the present correct term is available. According to Bowker (2003:162), when working with electronic corpora, computer tools⁷ can be used to assist with the scanning process.

5.2.5.3 Data analysis

Data analysis of the FYEDMT corpus will permit a sound segmentation and classification of lexical items, according to the semantic weight they may carry. This will ensure that the process of establishing which lexical item should play the principal role as main lemma and which among other should come in second position as possible sub-lemma, is easier and faster. Bowker (2003) affirms that specialized lexicographers should carefully analyse the various contexts in which the terms have

⁶ Gabonese scholars have adopted new forms of phonetic and phonological transcriptions, cf. section 3.1.3.11 (Choice and methodology in collecting data). The changes went from the IPA (International Phonetics Alphabet) to the ASLG (*Alphabet Scientifique des langues du Gabon*). More recently the OLG (*Orthographe des langues du Gabon*) (Orthography of Gabonese Languages) was established as the sole orthographic system to write and read Gabonese languages.

⁷ These tools range from automatic extraction tools, that use linguistic and statistical techniques to identify candidate terms (Cabr e et al. 2001), to computer-assisted corpus analysis tools such as word frequency lists and concordances (Bowker & Pearson 2002). Word frequency lists can help specialized lexicographers to establish which terms are common in a given field and concordances allow specialized lexicographers to search for all the occurrences of a given term in an electronic corpus and to display them in context. As they scan documents, specialized lexicographers inevitably learn more about the subject field and are able to fill in any gaps that were present in the initial sketch of the concept system (Bowker 2003:162).

been found in order to identify the characteristics of each concept. Therefore, before the compilation of a dictionary article, the delimitation of concepts within the field of medicine is important, because it helps to foresee whether a given lemma will need extra comments such as a label or not or whether it is self-meaningful or not. It is also due to data analysis that the disjunctive or conjunctive forms can play such a significant role in the morphological presentation of the lemma candidate.

5.2.6 Lemma candidacy criterion

The choice of lemma candidates to be taken up in the dictionary depends partially on the type of user the dictionary is compiled for, partially on the type of corpus the compilers have to deal with and partially on the role played by the metalexigrapher as “mediator between theoretical linguistics and the everyday language user,” cf. Prinsloo and Gouws (1996:103). The FYEDMT project has to do with this reality, since choosing a lexical item for lemmatization purposes is not always without pain for the lexicographer.

Yipunu, like any other African language, presents some challenges with regard to complex grammatical systems such as tones, nouns and the morphological system of classes, verbs and their various derivative forms, etc. This will affect the macrostructural procedures for selecting lemmata candidates. The suitable approach for the FYEDMT towards these types of challenges should be a systematic search for a simplicity approach, leading to a certain compromise between user-friendliness,⁸ cf. Gouws and Prinsloo (1998), Hartmann and James (1998), Prinsloo and De Schryver (1999), Gouws (2000), and the socio-linguistic constraints dictated by the language itself.

The problem of lemmatization in African languages is well known and experienced in many dictionaries compiled for Bantu languages. As a result, within the alphabetic macrostructure ordering context, the lack of clear conventions and coherence in lemmatization influence, for instance, the chronological sequence of lemmata in the dictionary article and may lead to access difficulties, cf. Gouws and Prinsloo (2005), in the outer access structure. This implies that the lexicographer should know exactly what to lemmatize and what not to. In the case of Yipunu, where (in traditional therapy) the medical standardised terminology is not yet established, the success of

⁸ About user-friendliness, Stark (2001), quoted by Gouws and Prinsloo (2005:26), considers that a typical characteristic of a user-friendly dictionary is a well-developed access structure, which offers the user a clear and unambiguous search route to reach the desired data.

“good” lemmatization will depend on the ability of the lexicographer to find short term solutions⁹ which can then be improved in later editions.

5.2.7. Lemmatization and article structure

Before the compilation of the dictionary commences, the lexicographer has the responsibility to draw up a dictionary plan, cf. Chapter 3, which will lead to a set of criteria for the selection of lexical items to be included and treated in the dictionary as lemmata.¹⁰ Gouws (2003) affirms that these items are entered into the macrostructure as lemma signs and that they become the guiding elements of the dictionary article. Therefore, the macrostructure of any LSP dictionary has to reflect that section of the lexicon of the language which is relevant to the scope of the dictionary. This implies that all the types of lexical items prevailing in that section of the lexicon have to be included in the macrostructure. Lexical items selected for inclusion as lemmata can be entered either as main lemmata¹¹ or as sublemmata,¹² Gouws (2003:38).

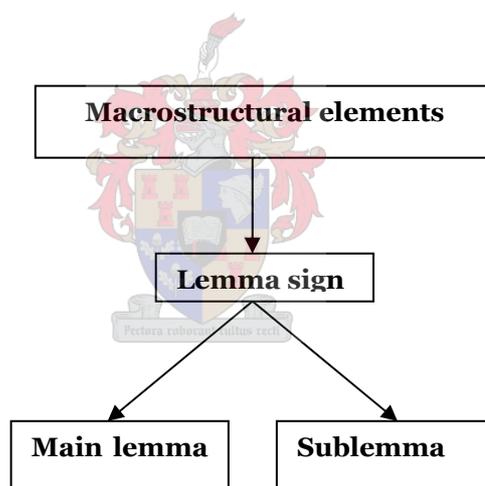


Figure 5.2

⁹ Among others there are borrowed words from western medicine, the use of two or more concurrent words in the same D.A, and the use of analogical forms as partial solutions while the standardization is taking place.

¹⁰ In this contribution the term “lemma” will be used as the singular form whereas “lemmata” will represent the plural form of “lemma”. However, in some literature, lexicographers prefer to use “lemmas” as plural form, cf. Hartmann and James (1998).

¹¹ The relationships of the lemma with other elements of the dictionary are two-ways: Within the overall (e.g. alphabetical) macrostructure it constitutes the point of access where the compiler can place and the user can find the information listed; within the microstructure it establishes the “topic” on which the rest of the article is a comment, e.g. definition. cf. Hartmann and James (1998).

¹² According to Gouws (2003:39) a main lemma is the only guiding element in a specific text block, whereas a sublemma is one of a collection of at least one or infinitely more guiding elements presented in a single text block.

5.2.8. Remark

The view point expressed by Gouws (2003:39) and Wiegand (1989a) about the distinction made between main lemma and sublemma, cf. footnotes and Fig. 5.3, does have consequences for the structure of dictionary articles. There are possibilities such as either presenting an article with a main lemma or presenting an article with a sublemma. As Gouws (2003:36) rightly remarks that a lemma does not only function as the guiding element of an article, but it also functions as the primary treatment unit. Articles arranged in a vertical ordering structure typically contain main lemmata. Articles arranged in a horizontal ordering structure typically contain sublemmata. As a result, articles with a main lemma as guiding element display a more comprehensive lexicographic treatment and articles with sublemmata display a more restricted treatment, cf. Gouws (2003).

The combination of main and sublemmata may breed some complexities and disturbance with regard to the consistency in the way of handling the macrostructure in alphabetic ordering. The FYEDMT, however, will not present a “strict” alphabetic ordering, but rather a thematic ordering which allows some alphabetic arrangements. Thus, the FYEDMT’s macrostructure may have to combine both main and sublemmata as in Fig. 5.3

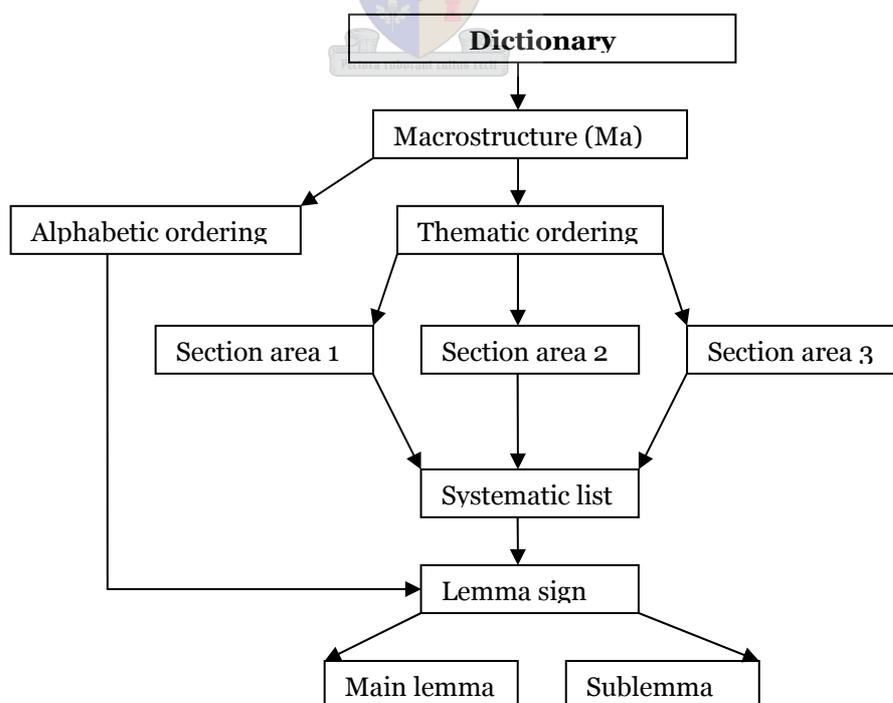


Figure 5.3

5.2.9 The lemma sign and the macrostructural ordering

The lemma sign presupposes that the lexicographer went through the corpus, that the criteria on which the lemma candidate list is based have been applied and that the final lemma prototype form has been established. As indicated earlier, the FYEDMT will be structured on the basis of a systematic classification with a thematic grouping system of sections which correspond to specific concepts within the field of medicine, cf. Fig.5.4. However, since both the alphabetical ordering and the thematic ordering present both weak and strong points, it will be advantageous to capitalise on their respective strengths. Thus, the FYEDMT, although presented as a systematic dictionary, will also require a type of alphabetic ordering.

5.2.9.1 The need for using both alphabetic and systematic ordering

According to Bergenholtz and Tarp (1995:198-199), the systematic processing of comprehensive subject areas and their corresponding terminologies are both a time-consuming and resource-demanding process, which will involve a lexicographical team consisting of both experts and terminologists. This is necessary from the user's perspective to give an overview of the subject field which can be useful for both translation and comprehension purposes.

Alphabetic arrangement, unless the word list is prepared and based on a systematic classification of the subject field of medicine, does not ensure full coverage of the subject field. The systematic ordering gives full coverage of the subject field, but without any alphabetical guidance. Therefore the combination of both is needed.

5.2.9.2 Advantages of using both systematic and alphabetic ordering

A systematic word list as well as alphabetic ordering present a number of interesting advantages to the user. The advantages of the latter, the alphabetic ordering, are obvious: This system of ordering is practical, fast and familiar to the user. According to Bergenholtz and Tarp (1995), one consultation is enough if the user knows what s/he is looking for. The macrostructure in dictionaries that are ordered systematically provides her/him with an overview of the subject area, as related terms follow and the relationship between terms becomes clearer.

In this case, the macrostructure helps the non-professional translator to acquire some encyclopaedic knowledge. This must be considered as a prerequisite for the translation of LSP texts. In the systematic word list the user will find the term that s/he has looked up in the alphabetic index in its encyclopaedic context. With only

one consultation, s/he may find a solution to more than one translation problem, since a number of terms, relevant to his/her own text, may occur in the surrounding context.

5.2.10 Language of lemmatization in the FYEDMT

The FYEDMT will be a dictionary directed at the medical field and, considering the fact that the most advanced and established practices in medicine come from the western countries, the terminology of this kind of dictionary should certainly be expressed in one of the western languages involved in the dictionary: French or English, but preferably French due to certain socio-linguistic considerations. Despite its established status in the world, especially in the scientific world, English remains unknown to some African herbalists or traditional therapists. This is particularly true in Gabon where English is hardly spoken in the day-to day life. These kinds of socio-linguistic factors will have a direct influence on the compilation of the FYEDMT.

The difficulty for Yipunu to acquire a well-established and standardized medical terminology is another factor that the compilers will have to consider when choosing the language of lemmatization for the FYEDMT. The only western language that the Gabonese population are familiar with is French, even though some do not have access to it due to a lack of education. Thus, the status of French being the sole official, spoken and written language of Gabon, leads to French being the preferred language of lemmatization in the FYEDMT. Yipunu becomes the second language and the primary target language for translation.

5.2.11 Macrostructural arrangement of the FYEDMT: The choice of themes and their order

One may choose to randomly organise the themes appearing in the dictionary. However, this is not the appropriate procedure, since the user will have more difficulty to retrieve information in a dictionary with such an arrangement.

Another possibility is to choose themes according to some medical convention. In fact, some medical practitioners suggest first considering a disease free state of health and then the disorder of health. This approach seems to be too simplified and may not render the complex character of medicine appropriately.

In the medical world there is a great emphasis on scientific research and discovery; either for new remedies or for new techniques of e.g. virus isolation and/or cure. This implies that the FYEDMT might be organised thematically according to the most successful medical disciplines. The advantage of this approach is that this

classification will carry the approval of all experts and professionals. However, the layperson may not be satisfied with this approach.

Since the aim of the FYEDMT is to present a dictionary that may be friendly for both the expert and the layperson, the presentation of themes should take this reality into account. The average user of this dictionary will be satisfied by both the chosen themes and their organisation, and this should allow the layperson to access the dictionary with no difficulty.

Very often in medical dictionaries the emphasis falls on the anatomy of the human body as one of the most attractive and fascinating discoveries that the users are familiar with. This gives the compiler the option of considering the popular themes, e.g. the anatomy of the external body and the internal parts of the body, first. This can then be followed by the items for which the most records appear in the corpus, starting from the simplest to the more complex and complicated.

5.2.12 Alphabetic macrostructural ordering in the FYEDMT

Despite its preference for the thematic ordering, the FYEDMT will still have a certain degree of alphabetic arrangement at the macrostructural level of the dictionary as well as other levels such as the different fields of medicine, i.e. anatomy, neurology, pathology, etc.

The macrostructural level of the FYEDMT consists of arranging themes, which are included in the dictionary in an alphabetic order. It is important that the users must not guess at the order of themes in the dictionary. The way in which the users retrieve themes such as parts of the body, diseases, medical instruments, etc. should be the result of a logic route, well planned by the lexicographer. This demands a clear determination of the criteria that will be used to select themes and decide how to arrange them.

5.2.13 Alphabetical dimensions in the FYEDMT

The first dimension consists of the alphabetically ordered thematic organisation of the dictionary at the macrostructural level. The second dimension or level is concerned with the ordinary organisation of lemmata in the dictionary.

5.2.14 A hybrid macrostructure

The “topic of the fields” macrostructure is a level of macrostructure that contains the main topics, i.e. thematic fields to be included in the dictionary as a whole. The “topic of the fields” macrostructure may present a strict alphabetic arrangement or a

thematic-alphabetic arrangement, as in the case of the FYEDMT. The typical macrostructural arrangement, in which the thematic and the alphabetic ordering is combined, as in the case of the FYEDMT, is called the hybrid macrostructure.

The obligatory macrostructure is the second level of the macrostructure. This refers to the level of the lemma sign. The obligatory macrostructure has to be alphabetical in order to be efficient and provide the best user-friendly retrieval of information in the dictionary.

5.2.16 Hybrid macrostructural skeleton of FYEDMT

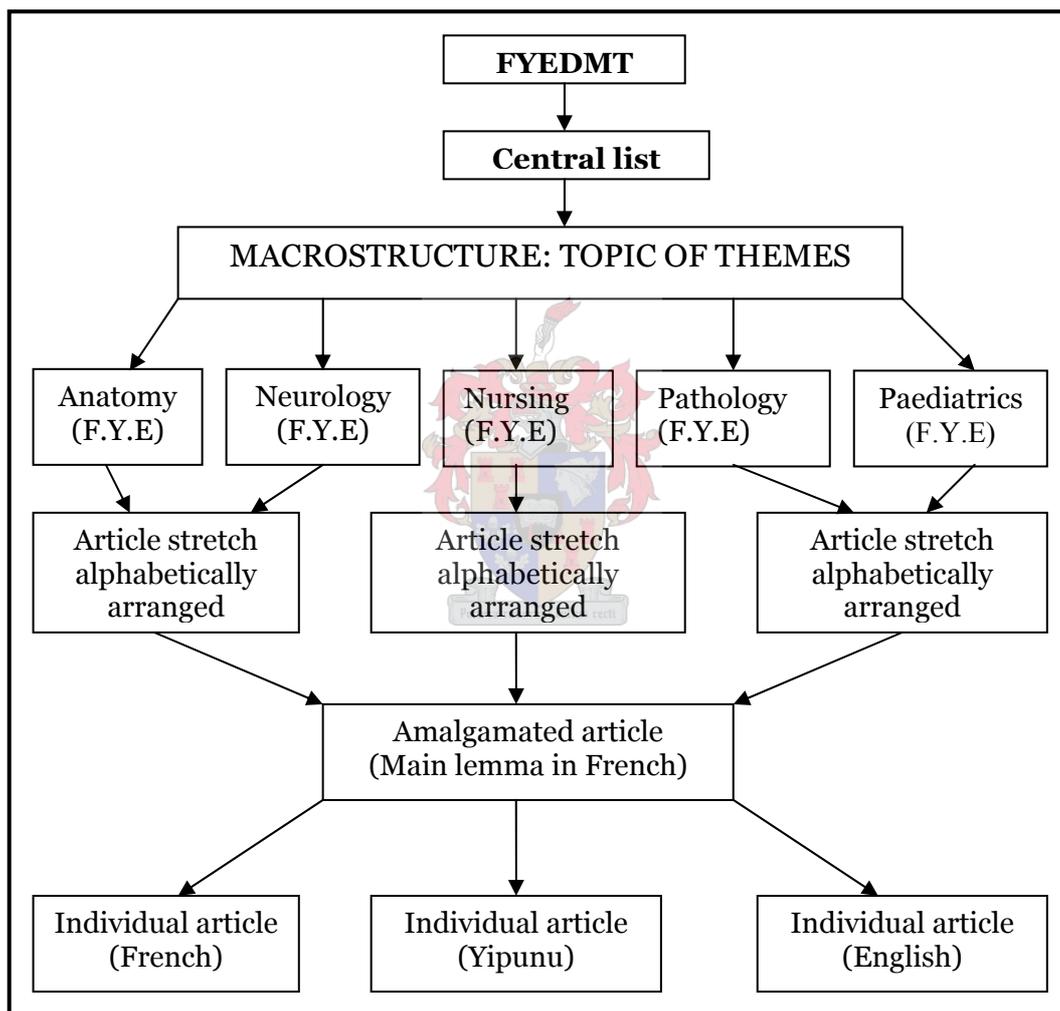


Figure 5.4

The FYEDMT macrostructural skeleton given above, cf. figure 5.4, displays a prototype of a hybrid dictionary which includes several distinct levels of macrostructure. The first level, “Topic of Themes”, encompasses all the possible themes included in the dictionary. Each theme arranged alphabetically gives an

indication of the type of sub-medical discipline and therefore the type of data related to a specific theme the dictionary will contain.

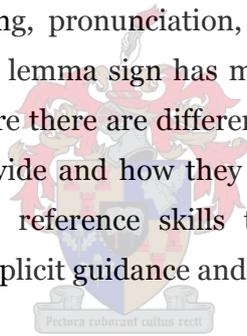
The second level is introduced by the presence of the alphabetical stretch arrangement of lemmata in each theme. This leads the reader into a hybrid macrostructure and a microstructural amalgamation

The model is original in the sense that it offers a global view or spectrum of different treatments of a given lexical item in French, Yipunu and English within the “amalgamated article”

5.3 Microstructure

5.3.1 Theoretical foundation

The microstructure is, according to Hartmann & James (1998), the internal design of the reference unit. In contrast to the overall word-list (macrostructure), the microstructure provides detailed data about the lemma, with comments on its formal and semantic properties (spelling, pronunciation, grammar, definition, usage and etymology). In cases where the lemma sign has more than one sense, the data for each sense is given in cases where there are differences. Dictionaries vary according to the amount of data they provide and how they present it in the text of the DA. Users may not have sufficient reference skills to follow the intricacies of the microstructure, and may need explicit guidance and/or instruction to find and extract the details required.



5.3.2. Dictionary article structure

The dictionary article (DA) may be divided into two major parts: the lemma as macrostructural component and the microstructural entries provided as treatment of the lemma. The dictionary article can be seen as consisting of the comment on form (CF) and the comment on semantics (CS). The CF contains the parts of speech (verb, noun, classes, preposition, etc), pronunciation, grammar and spelling. The CS contains the paraphrases of meaning, synonyms, translation equivalents, polysemy, etc.

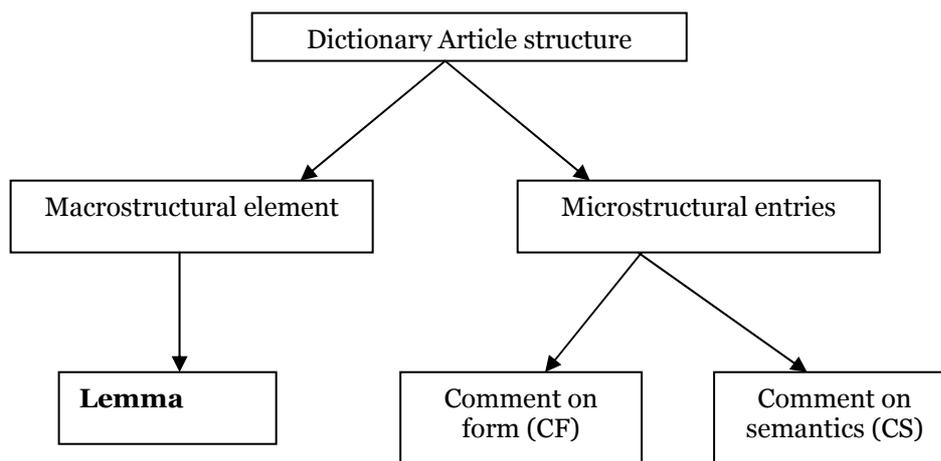


Figure 5.5

5.3.3 Distribution structure in the dictionary article

The lexicographer has to define the overall limits of the dictionary article in order to maximize the ease of dictionary access for the user. This is not always as clear as it can be, since some items or components play a double role within the dictionary article. The distribution of data in the dictionary article is presented in two components: the macrostructural component that consists of the lemma, cf. Fig. 5.5, and the microstructural treatment of which the other entries form part.

The viewpoint developed by Wiegand (1989a: 427) and Gouws (2003) corroborate the first classification in the sense that Gouws (2003:35) proposes that within an article, the items can be classified in terms of their function in conveying data regarding the treatment unit. This classification has a direct influence on the structure of the article. Each article can be divided into two main components, which are determined by the type of comment different items give with regard to the treatment unit.

A typical dictionary article consists of the comment on form and a comment on semantics as its two major components, Gouws (2003:35). Items reflecting, for example, the orthography, pronunciation and morphology of the lemma, can be grouped together as part of the comment on form of the article. Items giving a paraphrase of meaning of the lemma or indicating the typical co-text or context are grouped together in what is known as the comment on semantics of the article.

Wiegand (1988) takes the development further by saying that a typical dictionary article displays a hierarchical structure with regard to the influence it has on the

order and arrangement of the items included in the article. Various structural markers indicate this hierarchical relationship between different items.

In Wiegand (1989a: 427) entries presented in an article can be divided into two distinct categories, i.e. items and structural indicators. The distinction between these two different categories can be motivated in terms of their respective genuine purpose. Thus, the genuine purpose of an item, as a functional entry in a dictionary article, is to enable the user to retrieve lexicographic information regarding the treatment unit, typically the lemma. Typical items would be entries representing e.g. grammatical, pronunciation, orthography, semantic or etymological data. They are those entries traditionally regarded as the different data categories in an article.

The genuine purpose of a structural indicator as a functional entry in a dictionary article is to assist the user in identifying and distinguishing the different items and in finding them as quickly as possible. These entries can be divided into two subtypes, i.e. typographical and non-typographical structural indicators. The main distinction one can make between items and indicators is that items carry the data while the indicators mark the data. It should also be mentioned that both the items and indicators will be treated in Chapter 6 (The guide structures).

5.3.3.1 Typographical structural indicators

Typographical structural indicators are formed by using different graphical aids, such as different font types and sizes, italics, bold print, capital and small capital letters, etc. In the FYEDMT, for example, the small capital letters will present the translation equivalents in order that a distinction can be made between the main lemma and its translation equivalents.

5.3.3.2 Non-typographical structural indicators

Non-typographical structural indicators are signs like the asterisk, parenthesis or punctuation marks used to find, identify and interpret items. As far as clarity is concerned, Louw (1998) indicates that any system of contextual and semantic guidance should interact with structural markers to form unique references in such a way that the user is not confused. Moreover, typographical structural indicators should be used in addition to the non-typographical structural markers in order to aid fast and effective identification of a specific data type, e.g. semantic contextual guidance. This will ensure sense discrimination as well as equivalent discrimination.

5.3.4 Micro-architecture

Two major kinds of text blocks are used as part of the formal presentation of texts within the dictionary: the ordinary text block and the inserted text or text box.

The micro-architecture concerns the physical presentation of the dictionary article as a whole. In this case, it is linked with the access structure. Let us take the example of the presentation of the dictionary article in the central list. The dictionary article itself can be presented in two different systems. As homogeneous blocks of texts grouped together, it will be called ordinary or classic text presentation. This system is used in many dictionaries and offers a coherent dictionary article text. All the components of the dictionary article, including diacritic signs, examples, illustrations and citations, are combined in one compact visible set of blocks. According to the user-friendly perspective, this kind of presentation helps the user to easily distinguish between the beginning and the end of each text and enhances the mechanism of information retrieval, especially with regard to the rapid access structure, cf. Fig. 5.6 representing a dictionary article from the *Psigologie Woordeboek*.

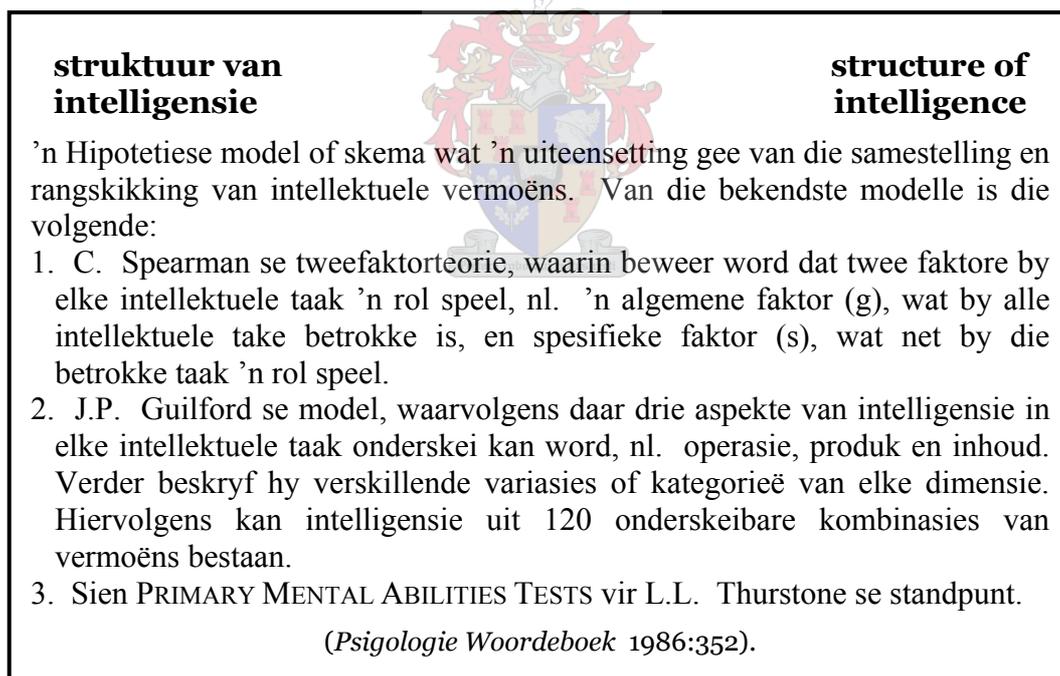


Figure 5.6

5.3.4.1 The presentation of the text box

The dictionary article (DA) might also be presented as distinctive search zones of texts which also includes a text box inserted in the dictionary. When the lexicographer wants for one reason or another, to include some data or new contextual entries dealing with, for instance, cultural issues he or she will prefer to separate them from the rest of the text in his/her dictionary article. Thus, in this

particular case, the inserted text box emphasises a specific meaning that needs to be treated separately for further interpretation of the lexical item, see Fig. 5.7 which represents the treatment of the lemma sign *francophonie*, from the Larousse dictionary (2001).

f francophonie [frãkofoni] *nf*: **la** ~ French-speaking nations (*pl*).

FRANCOPHONIE

This is a wide-ranging cultural and political concept involving the promotion of French-speaking communities around the world, with a view to creating a 'French Commonwealth' with a strong identity.

(Larousse's *Dictionnaire Compact* [Concise Dictionary] 2001:231)

Figure 5.7

5.3.4.2 Contextual presentation of text block structure

The contexts in which the lexicographer may separate or split a particular article vary due to numerous reasons. History and/or culture can be one of them. From a cultural or historical point of view the lexicographer may feel that it is important to introduce some additional data, treated separately from the main lemma. This treatment may be presented in the back matter texts (as part of addendums) or can be presented within the dictionary article as a separated text, cf. Fig. 5.8

thanksgiving [θæŋks, giviŋ] *n* action *f* de grace.
◇ **Thanksgiving (Day)** *n* fête nationale américaine commémorant l'installation des premiers colons en Amérique.

THANKSGIVING

« Thanksgiving » commémore, le 4^e jeudi de novembre, l'installation des premiers colons en Amérique; le dîner en famille qui a généralement lieu à cette occasion est traditionnellement composé d'une dinde aux aîlles acompagnée de patates douces, avec, comme dessert, une tarte au potiron.

Larousse's *Dictionnaire Compact* (Concise Dictionary) 2001:560

Figure 5.8

Another situation that can justify the introduction of data in an isolated search zone such as the separate text box, is when recorded evidence strengthening a given scientific phenomena is needed for illustrative purposes, especially in cases of high concern such as the “Glasgow Coma Scale”. The report, based on some specific medical evidence, is completely detached from the main lemma and highlighted in blue as in the following example, cf. Fig. 5.9.

Glasgow Coma Scale, a quick, practical standardized system for assessing the degree of conscious impairment in the critically ill and for predicting the duration and ultimate outcome of a coma, primarily in patients with head injuries. The system involves three determinants, eye opening, verbal response, and motor response, all of which are evaluated independently according to a rank order that indicates the level of consciousness and the degree of dysfunction. The degree of consciousness may vary from determinant to determinant and is assessed numerically by the best response. The results may be plotted on a graph to provide a visual representation of the improvement, stability, or deterioration of the patient’s level of consciousness, which is crucial to predicting the eventual outcome of the coma. The sum of the numeric values for each parameter can also be used as an overall objective measurement, with 14 indicative of no impairment, 3 compatible with brain death, and 7 usually accepted as a state of coma. The test score can also function as an indicator for certain diagnostic tests or treatments, such as the need for a computed tomography scan, intracranial pressure monitoring, and intubation. The scale has a high degree of consistency even when used by staff with varied experience.

Eyes open

- 4 Spontaneously
- 3 On request
- 2 To pain stimuli (supraorbital or digital)
- 1 No opening

Best verbal response

- 5 Orientated to time, place, person
- 4 Engages in conversation, confused in content
- 3 Words spoken but conversation not sustained
- 2 Groans evoked by pain
- 1 No response

Best motor response

- 5 Obeys a command (“Hold out three fingers”)
- 4 Localises a painful stimulus
- 3 Flexes either arm
- 2 Extends arm to painful stimulus
- 1 No response

From Philipps W.J., Sands J.K., Marek J.E.: *Medical-surgical nursing: concept and clinical practice*, 6th ed. , St Louis, 1999, Mosby.

(*Mosby’s Medical, Nursing, & Allied Health Dictionary 2002:742*)

Figure 5.9

5.3.5 Comment on Form

5.3.5.1. Comment on form and access structure

A user, consulting a lexicographic work, will have more pleasure and satisfaction if s/he has a dictionary culture or if s/he is familiar with the system of a given dictionary. A user, dealing with a dictionary of which s/he does not have any understanding, however, will have more difficulty and frustration in retrieving information s/he is looking for. To avoid unpleasant situations occurring, the lexicographer must make sure that when the entries are all put together, they offer the best text design possible. This text codification is part of the microstructural process and also forms part of the access structure.

5.3.5.2 Multilingualism and data within an LSP dictionary

According to Bowker (2003:158), the microstructure of a specialized dictionary is often affected by whether the dictionary is monolingual or multilingual. Monolingual specialized dictionaries tend to be primarily concerned with meaning. Therefore they generally provide at least a definition and/or some encyclopaedic data. In certain cases, a monolingual specialized dictionary may present some similarities or share some features with general monolingual dictionaries: grammatical data, pronunciation, examples of usage, synonyms, illustrations, etc. But in principle, cf. Bowker (2003), the more specialized the dictionary, the less general data it contains, since its aim is to satisfy users who already have expertise in the subject field. However, the more general the dictionary, the more general data it contains because such a dictionary usually targets non-expert users.

As for multilingual specialized dictionaries, the focus is on the usage of terms, cf. Bowker (2003), and these dictionaries usually do not provide explanations of meaning (i.e. a definition). They focus on the basics, sometimes only presenting a list of terms and their equivalents in one or more foreign languages. The problem with this type of approach is that it can lead to dictionaries not being anything more than word lists. The proposed dictionary can therefore not only present a flat word list with no further treatment.

The FYEDMT is going to be a hybrid dictionary and will therefore need to combine the explanation of meaning and the presentation of translation equivalents. Because of the general character of the FYEDMT, the need for labelling will be crucial with regard to some translation challenges that the lexicographer may meet during the

compilation process. One of these challenges is expressed as follows in Bowker (2003:159):

For example, imagine a translator who is translating a text on human anatomy and who consults a multilingual science dictionary to find the French equivalent for the English term *sole*. A dictionary entry that listed the possible French equivalents *plante* and *sole* without subject labels would be of little assistance. The translator needs to know that *plante* is used to describe the bottom of the foot (hence a subject label such as *anat* could be used); while *sole* is used to refer to a type of fish (hence a subject label such as *zool* could be used).

5.3.5.3 Orthography

Once the issue of which words should be included as lemma signs has been established, the next logical step is to know how to spell these items. Thus, a standardised spelling system is needed. The spelling system to be used in the FYEDMT is the one recently adopted by the *Orthographe des langues du Gabon* (OLG) (Gabonese languages orthography), which seems to be a compromise between the missionaries' system and the one proposed by the scientific committee held by linguistic academics.

In the FYEDMT, orthography will be treated from the lemma sign perspective. In Yipunu, for instance, the lemma sign will represent the orthography guidance. If there is any variant spelling for a lemma sign in the individual article it will be indicated.

5.3.5.4 Pronunciation

In many dictionaries, including the LSP dictionaries, pronunciation, when it is given, is either in phonetic transcription form or in phonological form. Concerning the Yipunu entries, with a stronger oral orientation, it is in the interest of the FYEDMT primarily to provide the pronunciation data in the form of a phonetic transcription. It will then bring French and English users on one common ground with Yipunu speakers, who are already familiar with the technical jargon.

Bergenholtz and Tarp (1995:134) assert that it can hardly come as a surprise that very few specialized mono-, bi-, or multilingual dictionaries provide pronunciation either in the form of phonetic transcription or by indication of stress patterns. They then distinguish the following five approaches to pronunciation:

- phonetic transcription is provided for all lemmata and or/equivalents;

- phonetic transcription is limited to some lemmata and/or equivalents;
- instead of phonetic transcription, the stress is indicated for all lemmata and/or equivalents having two or more syllables;
- the stress is indicated for some lemmata and /or equivalents; or
- no information on pronunciation.

Bergenholtz and Tarp (1995:134) affirm that the model, indicated above, reflects standard practice in most specialized dictionaries. Where dictionaries are referred to for help in connection with the production, reception or translation of written LSP communication, there is no immediate need for data on pronunciation. Nevertheless, pronunciation may be useful, as knowledge of the pronunciation of the word may have a certain mnemonic value. Besides that, many dictionary users do not use specialized language in everyday oral communication. Therefore, there is an immediate need for data on pronunciation.

In the case of the FYEDMT the approach indicated in the second position (phonetic transcription) is the most suitable, for it will provide phonetic information only in the Yipunu section. The Bapunu users may have access to one of the western languages, especially French. In other words only lemma signs in Yipunu, will be immediately followed by phonetic transcription, given between brackets.¹³ The French and English section will indicate pronunciation by means of phonetic transcription only if it is necessary, because French medical terms are quite established and are familiar to the users. In the same way the English “section”, like the French, may present a pattern consisting of lemma signs followed by pronunciation indicated by means of the transcription, only if necessary or relevant.

5.3.5.5 Transcriptions

According to Booij (2003:252) primary phonological information on each lexical item has to be provided by the dictionary in the phonetic form of the word as spoken in isolation, in careful speech. The way phonetic transcriptions should be presented in the FYEDMT dictionary project is according to the *International Phonetic Alphabet* for English and/or French and the *Alphabet Scientifique des Langue du Gabon* (ALSG) for Yipunu.

¹³ In linguistics, the use of brackets indicates that the item framed in brackets belongs to phonetics or should be pronounced phonetically.

The phonological contribution within the dictionary is situated at two different levels: the segmental level, which consists of simple lexical items, informing the dictionary user on how to interpret or cope with phonological variation such as allomorphs¹⁴, and the suprasegmental level which focuses on phonological and prosodic diacritics topping the lexical items. The introduction of tones in the dictionary plays a vital role with regard to the acceptance of the language by the experts and the collaboration between the metalexigraphers and the phonologists. Besides, tones in Yipunu, as in other African languages, need to be treated with circumspect in order to avoid unnecessary emotional debates.

Two types of opposing scenarios are often found: some scholars will prefer to see every lexical item to be written with tones as is the case in Venda¹⁵ lexicography, cf. Van Warmelo (1989) and others favour to ignore tones, e.g. in Zulu lexicography, cf. *English-Zulu, Zulu-English Dictionary* (1990). The missionaries mostly practiced the isiZulu lexicographic approach while other academics went for the Venda lexicographic approach.

The FYEDMT will prefer to use a combination of these approaches, according to which tones are only included in the pronunciation slot, immediately after the lemma sign.

5.3.5.6 Tonology and vocalic issues

The system of orthography should be clear enough for both the compiler and the user. The Yipunu orthography system presents certain particularities, which may need some attention. One of them is the importance of tones. Linguists are mostly concerned about the role played by tones in Gabonese languages in general and Yipunu in particular. The mute vowel issue should be added to the tone issue, in the sense that the vowel “a” remains the phoneme “a” in all positions except in the final position, where it is known to be a mute vowel. The use of phonetic transcription in the FYEDMT in the article slot reserved for the pronunciation, paves a way for tones marked only in isolation.

¹⁴ The phonetic variants of a morpheme.

¹⁵ The Tshivenda has five characters that contain diacritics. These characters do not appear on a standard keyboard. The fonts that come with Windows also do not support these characters. However, these characters are present in the Unicode character set, and thus can be entered on Unicode-enabled operating systems, such as Windows 2000/XP, Linux, and Mac OS. (Unicode is an international character set standard that supports most world languages). By simply installing a font that includes these characters, these characters can be entered into a computer, and can also be displayed on a web page. Major word processing applications such as Open Office and Microsoft Word do support the entering of Unicode characters (<http://africanlanguages.com/venda/#dia> November 2005).

The Yipunu system of tones contains two categories of tones: the basic tones and the modulated tones. Basic tones consist of one low tone (L) and one high tone (H), while the modulated tones are ascending tones (LH) and descending tones (HL).

5.3.5.7 Kwenzi-Mikala's Approach

Yipunu does present five brief vocalic phonemes in its system, i.e. /i/, /e /, /a /, /o / and / u /, cf. Kwenzi-Mikala (1980a:7). These vocalic phonemes have been established from the following examples.

YIPUNU	FRENCH	ENGLISH	YIPUNU	FRENCH	ENGLISH
Usíka	caler	to support	usúka	être fini	to finish
Ulíla	pleurer	to cry	ulěla	bercer	to sooth
Ubê:la	être malade	beign sick	ubála	montre' (soleil)	clearing
Uléba	se promener	to refresh	ulóba	pêcher	to fish
Ubála	éclaircir	clearing	ubóla	pourrir	to rot
Udōka	se moquer	to mock	udūka	suivre	to follow

(Kwenzi-Mikala 1980:7)

Figure 5.10

According to Kwenzi-Mikala (1980b) low tones are generally not marked. However, for other types of tones, the conventional system stipulates the following notations: *â ton haut* (high tone), *â ton descendant* (descending tone HL), *ton montant* (ascending tone LH), *ű ton supra haut* (supra- high tone).

5.3.5.8 Puech's approach

The work undertaken by Puech (1980: 19-21) shows some varieties in the Yipunu tone system, especially regarding the association of some specific morphemes such as *na* (and/with). This justifies why the FYEDMT project has to take only into account the structure of tones in isolation.

In Fig. 512 Puech (1980) illustrates the typical superficial tone "behaviour" in the context in which the morpheme of procession is either before or after the lexical item in question. This assertion is corroborated by Fontaney (1980:77), who says that tones vary according to the "formative," morpheme indicating tense, and according to the syntactic environment of the verb.

CODE	SCHEME (TONE)				EXAMPLES	GLOSS
	Pref.	Root.	Pre-final.	Fin.		
D	H	L	H	L	yíkotsúlu	Toux (<i>cough</i>)
B'	L	H	L	L	Dibámbila	Lézard (<i>Lezard</i>)
D'	H	L	L	L	Múkakala	colonne vertébrale (<i>vertebral column</i>)

Figure 5.11

If a lexical item is preceded by the associative morpheme *na* (and/with) it obtains the following configuration:

CODE	SCHEME (TONE)				EXAMPLES	GLOSS
	Pref. Fin.	Root.	Pre-final.			
D	H	L	H	L	na yíkotsúlu	avec la toux (<i>with cough</i>)
D'	H	L	L	L	na múkakala	et la colonne vertébrale (<i>and the vertebral column</i>)

CODE	SCHEME (TONE)			EXAMPLES	GLOSS	SCHEME (TONE)			EXAMPLES
	<u>Pref.</u> <u>Fin.</u>	<u>Root.</u>				<u>na.</u> <u>Root.</u>	<u>Pref.</u> <u>Fin.</u>		
1	L	LH	L	dibělu	la cuisse (<i>thigh</i>)	L	L	HH	na dibělu
2	L	HL	L	bagētu	les femmes (<i>women</i>)	L	H	HH	na bágétu
3	L	HL	L	dibâga	le couteau (<i>knife</i>)	L	H	L	na díbaga
4	L	S	L	yibűji	le rat (<i>rat</i>)	L	L	S	na yibűji
5	H	LH	L	ditě:ngu	le fantôme (<i>ghost</i>)	L	H	LH	na ditě:ngu
6	H	L	L	díkaka	la main (<i>hand</i>)	L	H	L	na díkaka

(Puech 1980)

Figure 5.12

5.3.5.9 The mute vowel in Yipunu / a/ or [↔]

In Yipunu the vowel is phonologically noted /a/, in the final position. In this position it is also considered as a mute vowel with a low tone. The OLG recommends that a note of the mute vowel be made by means of the symbol ↔, called the schwa. From a lexicographical point of view, the notation of the schwa (↔) to indicate the mute vowel /a/ in the final position may not be as simple as it seems due to some technical problems with computers¹⁶. In fact, this symbol is usually not available on computers. As a result, some lexicographical work, cf. Fig. 5.13, present characters and/or symbols which are difficult to decrypt once printed. The lexicographer, therefore, has to take a decisive decision in order to simplify the user information retrieval in the FYEDMT. The decision has to be objectively motivated and backed up by linguistic works, as in the case of Kwenzi Mikala's linguistic contribution in Yipunu, with regard to the mute vowel.

¹⁶ This constitutes a practical problem that can impede the success of the project.

Yipunu	Phonetic	French	English
Mwabi	[mwäbi/myäbi]	arbre à beurre/	@ name
dwaabi	[dwá:bi/ nyábi]	attache	attachment
maambu	[dyä:mbu/ mä:mbu]	affaire	affaire/speech/ @
mwaanzu	[mwă:nzu/ myă:nzu]	discourse dissuasive@	dissuasive speech @
mwaanzi	[mwâ:nzi/myâ:nzi]	nerve/	nerve/vein
yaasi	[yá:si/byá:si]	moitié	half
maatsi /gresə	[mâ:tsi]	huile/ corps gras	oil/fat
mwaanə	[mwâ:nə/bâ:nə]	enfant	child
mwangələ	[mwángələ]	douleur	pain/hurt
myangələ	[myángələ]	venin/brulure	venom/pain
maambə	[mâ:mbə]	eau/ liquide	water/liquid

Figure 5.13

5.3.5.10 Morphology

In some cases, morphological data needs to be specified in order to give more guidance to the user. The Yipunu morphology cannot be dealt with in any other way than the morphological system that agglutinates affixes and suffixes around the stems or roots. This has a direct implication for the macrostructural presentation of the lemma sign, e.g. regarding the issues of conjunctivism vs. disjunctivism.

There are two possible combinations as far as the lemma sign presentation is concerned. If the lexicographer, for example, decides to keep a given lexical item as one lemma, with no morphological subdivisions, the data in the dictionary will probably be unbalanced. In this regard, he will be offering the users an alphabetically unbalanced dictionary with most of the verbal items being treated under the letter U, i.e. *Ubqkh*, to kill; *Ubass*, to fill in/on; *Ubugh*, to heal/to cure; *Ukotsulh*, to cough; *Usunts*, to put down, *Unagulh*, to lift up; *Ulilh*, to cry; *Uburh*, to give birth, etc. Moreover, the user will perhaps never know how to separate the lexical item into morphemes in order to better deal with derived forms. On the other hand, the lexicographer may present the lexical item disjunctively. This implies that the lexical item will be divided into morphemes and/or into syllables. This kind of presentation forces the lexicographer to use some linguistic symbols such as dots, hyphens, and tildes, which may be confused with the non-typographic indicators.

Another possibility may be for the lexicographer to present only the stems as lemmata, since they represent the core morphemes of the word. This structure brings

equilibrium into the data distribution. However, this equilibrium is only relevant in the alphabetical macrostructure. It does not apply to the thematic ordering.

The FYEDMT will probably opt for the full lemma presentation system. The problem of morphemes will not be of much importance in a specialized dictionary where experts are expected to master the language of their field. However, this problem may arise for the non-experts, whose degree of expertise is not as high as that of the professionals. In this case, the lexicographer should make room for them in the comment on semantics by means of providing exemplified illustrations in the contextual use of a specific lexical item and its semantic relationship.

5.3.5.11 Disjunctive vs. conjunctive writing system

For the sake of clarity, the disjunctive method of writing will be followed in the proposed dictionary. It is important to keep in mind that the distinction between the disjunctive and the conjunctive writing system is in principle, only an orthographical convention, cf. Prinsloo and De Schryver (2002), and that no writing system should be regarded as superior to another, cf. Van Wyk (1995: 84). However, the lexicographer should keep in mind that the disjunctive writing system will need particular attention regarding the use of morphemes introducing tenses (formatives). Morphemes such as *-ma*, *-a*, *-ang*, etc. introduce the change of tenses in a sentence and should be clearly distinguished from the other ordinary morphemes, for instance:

1. *ma lungu ma batu ma ghenuinu* the human blood is not drinkable
2. *nyi ma rughila mu lotu* I am coming by car
3. *nyi ma rugh tumb usa maba* I came but you were not there

In example 1 *ma* is a noun and belongs to class 6 (of Bantu classification). Example 2 represents the morpheme *ma* and this introduces the present tense. In example 3, on the other hand, *ma* is used to indicate the past tense. The lexicographer taking cognisance of these morphological fluctuations, should develop some devices to address issues like these in order to avoid unnecessary confusion which may arise if these morphemes are not labelled properly, e.g. parts of speech, etc. The FYEDMT will not defer from other LSPD dictionaries as far as grammatical data is concerned. It will probably use most of grammatical data occurring in medical dictionaries.

5.3.6 Comment on semantics

The comment on semantics includes various elements, e.g. pragmatic labels, the paraphrases of meaning, the translation equivalents, the presentation and treatment of examples, pictorial illustrations, collocations and idioms. The comment on semantics also leads the lexicographer to pay particular attention to issues concerning the ordering of senses as well as semantic relations like synonymy. The comment on semantics contains data for which a dictionary is frequently consulted.

5.3.6.1 Labelling in the LSP dictionary

Labelling is defined by Bergenholtz and Tarp (1995) as information on deviations from the major part of the words described in the dictionary. Labelling is one of the domains that link lexicography to linguistics (and/or other scientific disciplines) by means of abbreviated forms paving the way to semantic classification of meaning in the dictionary. With regard to the issue such as the lack of space in the dictionary, labelling can be seen as a means of saving enough space and as a contribution towards more condensed data. A label then is, in the words of Verkuyl et al. (2003), simply an artefact of the traditional format of the dictionary.

Despite the saving of space, labelling also has the advantage of facilitating a standardised approach throughout the dictionary, especially in a project like the FYEDMT where terms for western medicine are standardised. The terms for traditional medicine will then need the labelling system as much as possible. Unlike in the general dictionaries where there is a plethora of labels, cf. Bergenholtz and Tarp (1995), the FYEDMT will only employ two kinds of labels, i.e. subject field labels and usage labels. However, since the FYEDMT is intended to be a dictionary which may also target non-professional and non-expert users, it has to introduce, when necessary, some of the labels normally found in general dictionaries. In Fig. 5.14 Bergenholtz and Tarp (1995:132) give a synoptic overview of possible LGD labels.

Types of labels in LGP dictionaries

Types labelling	of	Unmarked centre	Examples of unmarked periphery	Examples of labels
diachronous		contemporary	old	arch(aic)
			new	neo(logism)
diatopical		general language	regional	AmE
			dialectal	ScotE
diaintegrative		standard language	foreign	Ital(ian)
			loan	Germ(anism)
diamedial		neutral	spoken	colloq(uial)
			written	official(ese)
diastratic		neutral	children's language	sl(ang)
diaphatic		neutral	formal	fml (formal)
			informal	infl (informal)
diatextual		neutral	journalese	lit(erary)
			biblical	
diatechnical		general language	special language	bot(anical)
diafrequent		frequent	rare	rare
diaevaluative		neutral	loaded	humor(ous)
				joc(ular)
dianormative		correct	incorrect	err(oneous)

Figure 5.14

Bergenholtz and Tarp (1995:132)

Labels are used for many purposes and in the FYEDMT they will be used either as subject labels or as usage labels, irrespective of the possible linguistic interferences with regard to the level of users mastering the language or the technical jargon (expert vs. laypersons).

- **Subject labels**

Subject labels will be prefixed to show the field of knowledge to which the word/lexical item belongs anat., physio., hemat., etc. or *Bung* (traumatology), *pinfu*, (healing techniques), *upass* (chirurgical domain), etc. This way of labelling will include most of the sub-disciplines related to medicine, as well as main diseases such as AIDS, malaria, TB, meningitis, etc.

- **Linguistic labels**

Linguistic labels will be the exception to the rule. Because Yipunu medical terminology is not yet established, the lexicographer will have to make some compromises in order to include most users dealing with traditional medicine or other traditional knowledge related to the field of medicine. In this case linguistic labelling will make room for Yipunu spoken in Tchibanga vs. the form spoken in Mouila or the Gabonese version of Yipunu vs. the Congolese one, as regional/geographical. The geographical label means that the labelled word or

expression is used only or chiefly in the area indicated by the label. There are various linguistic labels but only one type of label will be treated here.

- **Position and arrangement of labels**

The positioning of labels in the dictionary article may vary according to the need for clarity or the need for simplicity or even both. The subject field labels for instance, will be at the beginning of the article. This is done to establish clarity, and their sequence will be in such a way that they have to be positioned before any relevant sublemma. The usage labels as well as linguistic labels will be positioned either before or after a relevant definition. The position of a label should always be determined by its scope. It could be addressed at the lemma or at any microstructural entry.

- **The use of labels**

Despite the provision for the explanation of meaning in the dictionary, a system of labels is also of great help for the user. In fact, labels are used in order to indicate that lexical items and phrases can only be used in a particular style of speaking or writing. In cases where the use of words are, for example, limited, a label will be used in such a way that the user be able to achieve an unambiguous retrieval of information.

5.3.6.2 Translation equivalence

According to Jarošová (2000: 13) the division of semantic space is not identical in any two languages. In other words, there are differences between the degrees of generality of meaning of different lexical items. The most frequent representation of equivalence on the word-sense level is characterized by Hausmann (1991: 2730) as “polyequivalence”.

The article structure with regard to the treatment of equivalence may raise the question of whether entries should be arranged according to the type and number of the target language equivalents, which would mean that the right hand-side could not be a reflection of the original source-language meaning structure as it is often presented in a monolingual dictionary. The concern around the concept of equivalence, even in the FYEDMT, will certainly lead the lexicographer to make some decisive choices, since Yipunu and French, for instance, do not have natural semantic links between the words *dikulu* and *pied* to designate the foot as body part. Thus, the lexicographer will have to be sensitive to certain translation principles.

5.3.6.3 Meaning structure and equivalent structure

The view expressed by Manley, et al. (1988: 296) suggests a possible dichotomy within the microstructural arrangement, between “meaning structure” and “equivalent structure”. Their position was expressed in the following statement: “(We) believe that meaning structure is a relic from the monolingual dictionary. The more we can approach equivalent structure the closer we will get to the ideal form of the bilingual dictionary” (Manley et al. 1988: 296).

In other words, they believe that the Danish word *dækning* for example, with its two senses can be treated in different structured entries:

- a) With one equivalent covering each sense of the lemma (the case of parallel polysemy);
- b) With two additional equivalents each covering one of the two senses.

The problems and challenges of presenting more than two languages in the dictionary are real. In the case of a pure bilingual dictionary, the scenario with regard to the language of lemmatization, as well as the language of the treatment of meaning is clear enough to support the structure as given in Fig. 5.15.

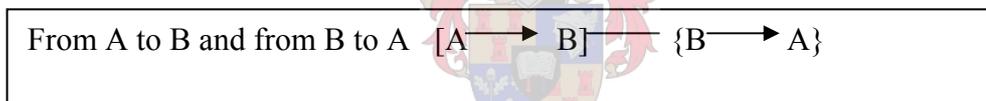


Figure 5.15

This prototype of a bilingual dictionary is simplified and could be useful if the FYEDMT was presenting only two languages, for example, Yipunu and French. However, the introduction of the third dimension in the dictionary pushes the lexicographer to find other microstructural scenarios in order to satisfy the user. Thus, the possible scenarios are based on the choice of one language as default language of lemmatization and semantic treatment throughout the dictionary article. This will imply the following structure:

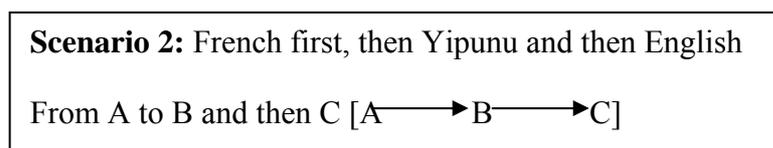


Figure 5.16

The scenario described in Fig. 5.16 may generate confusion, since the Yipunu and English users do not have a way to quickly retrieve the information they are looking

for. But to solve the problem the lexicographer only needs an alphabetical list of items in the back matter text.

On the other hand, a possible scenario is that the lexicographer may just opt for the systematic treatment of lexical items of the three languages within the same dictionary article. In such a situation, there will be one lexical item and its equivalents followed by the paraphrase of meaning. The presentation of the amalgamated article will comprise three individual articles with each of them, representing a specific language (French, Yipunu and English).

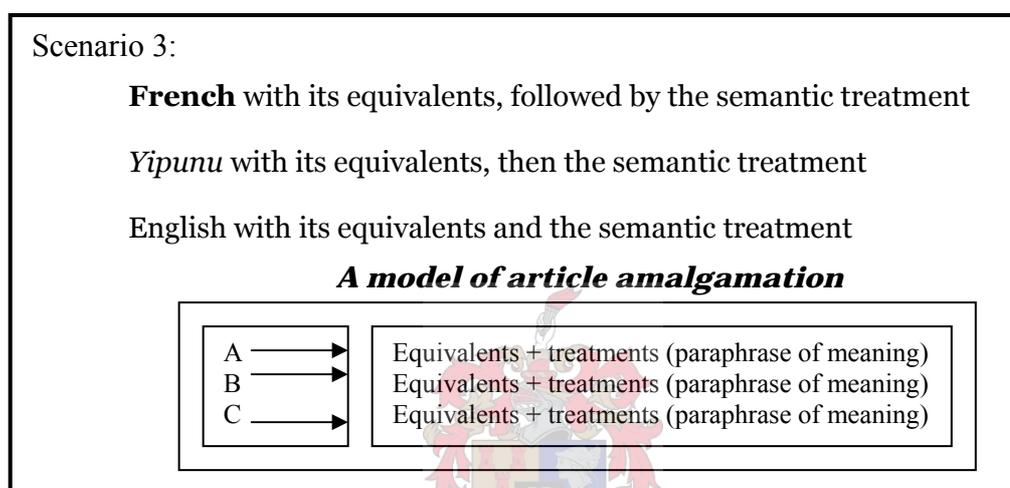


Figure 5.17

The model presented in scenario 3, cf. Fig. 5.17, suggests a laborious article stretch structure. Three individual articles will be provided in the same amalgamated article. The question that one could ask is whether the user will be able to differentiate the Yipunu treatment from the English one or to distinguish the lemma functioning as guiding elements of the amalgamated article. In response to the user's potential needs, the main lemma may be in bold to indicate the pre-eminence over other lexical items. It can also have a systematic labelling system indicating in which language the current lexical item is treated such as "Yip." for Yipunu, "Fr." for French and "Eng." for English or it can be labelled by means of superscripts as in the example below, cf. Fig. 5.18.

Langue n.f.; ^YDULIMI; ^FTONGUE@
Organe musculéux situé dans la bouche, siège du goût et instrument de la parole chez l'homme.

Dulimi [dulimi] n. cl5, ^Ftongue; ^Flangue; ilem yivhu o ghari munu, yi keluli bighudzi mu dziab mughangu no vhegh mbembu.

Tongue ^Ydulimi; ^Flangue **1.n.** soft movable part inside the mouth, used for tasting, licking, and speaking. See picture at human anatomy. **2. n.** A tongue is a language i.e. mother tongue @

Figure 5.18

In Fig. 5.18 the main lemma is in bold and in blue, the Yipunu translation equivalent is in italic and the English one is in roman caps.

Meaning can move from a particular object, e.g. *outil tel que le marteau* meaning tool as hammer, to a broader sense, i.e. *l'homme n'était plus qu'un outil au service du dictateur* meaning man had become no more than a tool in the hands of the dictator. It is the responsibility of the compiler not to lose focus of the type of data the dictionary is expected to produce. Otherwise, a dictionary with a particular attention to the restricted terminology such as the FYEDMT will become too open to the general data and will not be different from any LGP dictionary. This does not mean that the FYEDMT will not treat lexical items from the language for general purpose. The lexicographer will just be more careful when regarding the degree of generality included in the dictionary.

The paraphrase of meaning in general dictionaries is often structured in such a way that the user can distinguish the denotation (the primary meaning) from the connotation (the contextual meaning). This dichotomy is also known as literal meaning vs. figurative meaning as in the case of *outils* (tools), where tool as a hammer represents the literal meaning and tool as used in "a tool in the hand of a dictator" is a typical figurative meaning.

The structure of meaning based on denotation vs. connotation, is helpful to the target users of a language for LGDs, but not for the target user group in LSPDs. The target user of a medical dictionary will be primarily concerned about the understanding of the phenomena described (paraphrased) in the individual article. The understanding of the contextual use of the lexical item will be of second importance. The meaning in LSPDs like the FYEDMT will therefore be structured according to the medical value

or medical emergency the lexicographer wants to communicate to the target user group of the dictionary, cf. Fig. 5.19.

Mubaaki [mùbá:ki].n. cl13, ^FTuberculose; ^ETUBERCULOSIS.

O Yipunu Benegili mubaki ikotsulu ayi ma ghangaa ba ngebi. Mubaki e bandili na mamba am tuiinu mamba a maana payi munge mubaaki (mutu a ghwi beli mubaki) amanu mu kop; Kop e dzina dziya mue nuinu na batu ba susu. Mu mba mutu mu susu aghu a ghe beeli mubaaki ikebo kop a dzina bak mu basili mabma aknu ilumbu nowenda dzia wandi o wak mubaki

Mubaki e bongu mamosi pa tadzi na ngundzi bama beel buali bu mubaaki, muwana o modzi avh e burulu ana ngudu uburu na mubaaki.

Mubaaki ikotsulu ibivh, mubaaki e tobi ba mbombu na bighari batu a be dizabi ayi benengili ba mbombu na bighari bo ghu tsingul.

Mubaaki buali bui vhayi ne yivhund yi mutu (tsi yik bangebi) pa ghu maghangu na buali bue bune Pa ugha dila ba nganga abo ghu bugha ufwilila mun, pa ugha dila, ugha dila pithali uk dila bilongu bi ngents ghu fwila mun. Kaboghu mubaki buali bu rang butsi tu bokaanga vha ghulu. Bakaagha betu na ba kaaghulil betu ba gha dila monyu dibandu buali bu mubaaki. Ghengil (*Muvhit na Mukaaki@*)

Figure 5.19

The example described in the individual article led by the lemma *Mubaaki*, cf. Fig. 5.19, represents the paraphrase of meaning in Yipunu where the meaning is structured as follows: *mubaaki*, tuberculosis, is first described according to the mode of transmission of the disease by using the same beverage container, *kop*, cup, cf. first paragraph, as well as mother-to child, cf. second paragraph.

The paraphrase of meaning of *mubaaki* (tuberculosis) is also given according to its symptoms, e.g. *mubaaki e tobi ba mbombu na bighari* (tuberculosis damages livers and intestines), cf. third paragraph.

Lastly, in the fourth paragraph, the lexicographer presents the consequences of the untreated disease *ghu fwila mun* (death will follow), and also suggests some solutions such as *nganga*, (doctor/therapist) as well as *pithali*, (hospital) in order to cure the disease.

The same way of stratifying the meaning according to the mode of transmission, the symptomatic diagnosis as well as the guidance for cure is given below, cf. Fig. 5.20, with only one exception, the causative agent is identified. The female mosquitos

(*bifuru bi baghetu*) are the cause of malaria. This is a fundamental difference between western and traditional medicine. The latter focuses more on the cure of the disease and the recommendations once the causative agent is identified. In its treatment of meaning the former goes beyond this and gives abundant and encyclopaedic data about the causative agent as in the “Filariasis, lymphatic”, cf. Fig. 5.21.

Palu/Dibaghu /palʋ/ [dibághu]. ^FPaludisme; ^EMALARIA,
Dibaaghu buali bui beyi yiotsi ghi neni, Nyuru tsiotsu tsik reghmaang ukughulu nyiuru ik nde ghudzi o kaangi.
Dibbaghu dik beyi muru ughomin, muru pa yi ghui ghomini ghu taasa yi ughomin ghu kuwam (dighuam = payi muru ghui ghomini puwel)
Dibaaghu dieni dik mua begha ikotsulu pa yi isti ghu ghang na ikotsulu, ghu tub balosi ghu tat nfwang mumba dibaaghu diin na ikotsulu pa bama sobn bighaari biotsu bik bangang ik nde bitabulu. Pa ghui kotsuli ghu tass yi na miisu, na mbasu, na bubodju yi biotsu biu pal. dibaaghu adina dibeyi na manyiuru ughaanyi, manyiuru buali
dibaghu diruughi dibandu bifuru bi baghetu be beyi dibaaghu e din.

Bifuru bie bin bi baghetu pa bima bursn mu mamba mba mamb memana amavhu nan ndaghu tsioghu kaboghu pa bama bursn bak fursn. tumb pa be ruyi mukolu muyi du tsuin malungu moghu ama bivha pa ma kot mu misonyi amieniu mi batu ik avh dibaaghu dieni dirughili. tumb batu be tu tsinguli yi bifuru abi balumi baghe beyi dibaaghu edin di rughili na bifuru abi baghet

Figure 5.20



FILARIASIS, LYMPHATIC: *BAFILERE*; LES FILAIRE ; A parasitic disease caused by microscopic, thread-like worms called filaria. The adult worms only live in the human lymph system. (The lymph system helps maintain the body's fluid balance and fights infections.)

Lymphatic filariasis affects over 120 million people in 73 countries throughout the tropics and sub-tropics of Asia, Africa, the Western Pacific, and parts of Central and South America. The disease spreads from person to person by mosquito bite. When a mosquito bites a person who has lymphatic filariasis, microscopic worms circulating in the person's blood enter and infect the mosquito. If the infected mosquito bites another person, they can then get lymphatic filariasis. The microscopic worms pass from the mosquito through the skin, and travel to the lymph vessels. In the lymph vessels they grow into adults. An adult worm lives for about 7 years. The adult worms mate and release millions of microscopic worms into the blood. Once a person has the worms in their blood, when a mosquito bites, the mosquito can transmit the disease to yet another person.

A person needs many mosquito bites over several months to years to get lymphatic filariasis. People living or staying for a long time in tropical or sub-tropical areas where the disease is common are at the greatest risk for infection. Short-term tourists have a very low risk. An infection will show up on a blood test.

At first, most people don't know they have lymphatic filariasis. They usually don't feel any symptoms until after the adult worms die. The disease usually is not life threatening, but it can permanently damage the lymph system and kidneys. Because the lymph system does not work right, fluid collects and causes swelling in the arms, breasts, legs, and, for men, the genital area. The name for this swelling is lymphedema. The entire leg, arm, or genital area may swell to several times its normal size. Also, the swelling and the decreased function of the lymph system make it difficult for the body to fight germs and infections. A person with the disease tends to have more bacterial infections in the skin and lymph system. This causes hardening and thickening of the skin, which is called elephantiasis.

Lymphatic filariasis is a leading cause of permanent and long-term disability worldwide. People with the disease can suffer pain, disfigurement, and sexual disability. Communities frequently shun women and men disfigured by the disease. Many women with visible signs of the disease will never marry, or their spouses and families will reject them. Affected people frequently are unable to work because of their disability. This hurts their families and their communities. Poor sanitation and rapid growth in tropical and subtropical areas of the world, where the disease is common, has created more places for mosquitoes to breed and has led to more people becoming infected.

http://www.medterms.com/script/main/AlphaIdx.asp?li=MNI&p=F_DICT

Figure 5.21

5.3.6.4 Partial equivalence

The lexicographer should be well aware of the different types of equivalence occurring within the dictionary, e.g. full, partial and zero equivalence. Kromann, Riiber and Rosbach (1991) and Jarošová (2000:14) investigate the question of article structure in the wider context of partial equivalence. The authors do not consider it appropriate to assign the term partial equivalence to cases where individual senses of

a lemmatized word have different equivalents. For example, the two senses of the Yipunu word *dironda* are translated by two different English words: bride and fiancée. They consider it necessary to limit the content of the term to cases where one individual sense of the lemmatized word has two or more equivalents, e.g. the English word “aunt” is a superordinate for the Danish word *moster* (“mother’s sister”) and *faster* (“father’s sister”) and the French word *adolescence* is superordinate for its English equivalents “girlhood” and “boyhood”.

This is particularly true with the differences between western perception and African views of family kinship. In hospital, western and westernised physicians usually prefer to deal with the immediate family, a brother, a sister or an uncle in order to obtain sensitive information from the family, to obtain further information from them or even to ask for a sample of blood. The same request may come from a traditional therapist. The point is that the relative that is spoken to by a traditional therapist be cousin, a family friend, a clan relative or a blood brother for the western world. Thus, equivalence should be treated with extra attention in a dictionary in which African values and conceptions of kinship, for instance, are involved.

The lemma “cousin” in French and in English does not have any equivalent in Yipunu, for instance. *Tate* which has *père* in French and “father” in English as translation equivalents, depending on the context, may carry the meaning of younger or older sister of the father, especially when it is used in the plural form *batate*. This expression may also include some other people from the mother’s clan or from the father’s clan. In cases like these, a cross reference will be necessary to specify, in a detailed exemplification, its treatment in the back matter text.

5.3.6.5 Ordering of senses

The ordering of senses often refers to the situation of general dictionaries where the senses are presented in dichotomy context i.e. denotation vs. connotation. Such dichotomy is irrelevant for the FYEDMT dictionary. The appropriate dichotomy is in the sense of scientific vs. non-scientific terms and standard vs. popular terms. However, in an equivalence context, Duval (1991: 2821) comments on a case of a denotative-connotative meaning dichotomy and gives the French example of the word *Hermine* and its two English counterparts “stoat” and “ermine”. He points out that the wider French concept is, under the influence of the target language, inadequately narrowed down in the equivalence-structure entry.

The ordering of senses goes together with the identification of polysemy although in the FYEDMT polysemy will be very rare, since the typical terminology that

constitutes the lemmata is based on an unambiguous structure consisting of one lexical item for one meaning.

Outils [uti], n. m., *MASUTI*, TOOLS

1. Objet qui sert à effectuer un travail manuel, instrument fabriqué par l'homme pour faire un travail manuel: une boîte à outil bien montée. Voir ustensil.

2. tout instruments de travail utilisés par l'ensemble du corps médical.

Exemple d'outils; *munongu masuti*; type of tools

O. à main; *masuti mosalil na makak*; hand tools

O. à moteur; *masuti ma masin*; power tool

O. coupant, o. de coupe, o. tréchant; *masuti ma ghu tabul, masuti ma mengu*; cutting tool, edge tool

Masuti [másiúti] n. cl6, ^ETOOLS; ^FOUTILS; **1.** *bima, bikogh, mutu e sundi mu salilang na bioni.* **2.** *yim yitsu nganga ebongi mu salilang mu kielu bibedu.*

Tools. n. 1. A tool is any instrument or simple piece of equipment, e.g. hammer or knife, that is held in hand and used to do a particular kind of work. **2** one can refer to anything that is usable as a particular type of **tool**. *The video has become an invaluable teaching tool.* See medical instruments

Figure 5.22

5.3.6.6 Illustrations as instruments to enhance the paraphrase of meaning

Examples play an important role in detailing information to the user with regard to the communication-orientated function. According to Bergenholtz and Tarp (1995:203) examples in dictionary articles are placed either before or after the collocation field. They are provided in both source language and target language. In the FYEDMT examples may be used as a linguistic illustrative tool in the form of citations.

As an LSP dictionary the FYEDMT, will need more graphical or pictorial illustrations, since it will involve scientific concepts or items that will require drawings in order to capture both the meaning and the mental image projected by the concept in question. Because of the scientific nature of data contained in the dictionary, these drawings will have the status of scientific illustrations.

Illustrations and paraphrases of meaning will work together to ensure that important language points and aspects of African culture (Yipunu) as well as western culture (French and English) are explained in the clearest possible way. The compilers of the FYEDMT may need to present illustrative data in different ways in order to achieve the genuine purpose of the dictionary. Some of them are, for instance, the use of

pictures showing items that are not easily explained in words such as shapes, complex actions or small differences between words which are similar but not quite the same.

Another reason why presenting illustrative data may ensure greater clarity is that it can illustrate group or related objects by showing the range of shapes and forms covered by a particular word. The illustration will be of a great help for the user by ensuring the grasping and expansion of the interpretation of the user, as is evident in Fig. 6.07 in the next chapter presenting different kinds of tools.

According to Gouws (1993:46), the lexicographical activity of the use of pictorial illustrations is unquestionable when these entries enhance the comprehension of the target user. The advantage of scientific illustrations is, in fact, that they are drawings of measured accuracy, depicting subtleties without ambiguities. Therefore, the function of these kinds of illustrations is to be an accurate work that is also pleasing to the eye in terms of the balance and artistic handling of the subject.

One should notice that when texts (words) and pictures are functioning well together, there is little doubt that they give the user better information than either one alone. Gouws (1994: 63) rightly asserts that, according to the user-perspective, the target user should determine the type of data to be included in the dictionary. When one considers how difficult it is to explain some concepts, pictorial illustrations become an important element of the dictionary, just like the example sentences or the definition. For example, where there are semantic differences between two languages, pictorial illustrations can contribute in bringing out the meaning.

Gouws (1994:61) argues that pictorial illustrations can be employed as a microstructural element to enhance semantic disambiguation. Their usage brings clarity in terms of a differentiation of senses, e.g. in equivalent relations of semantic divergence. It is also used extensively where a lemma has a low degree of translatability. The explicitness that can be achieved through the use of pictorial illustrations enhances the retrieval of information. In the same way, Al-Kasimi (1977) affirms that pictorial illustrations should be systematically and consistently employed in bilingual dictionaries as an essential lexicographical device.

The importance of illustrations can be seen or attested according to the function fulfilled within the dictionary articles, resulting from different situations and presented in different ways.

5.3.6.7 Self-sufficient

Usually in this case all the necessary information needed by the user is already provided within the illustration, in a way that any additional text may be redundant as in the example of “peas” (*mariku*) *petits poids*.



Figure 5.23

5.3.6.8 Text supporting

The illustration reinforces the description given by the text in order to elucidate one or more aspects of the text as it is in the item “egg” (*dikedzi/diaaki*) *oeuf*. The following picture would need some additional explanatory remarks to be completed and sufficient.



Figure 5.24

5.3.6.9 Text supported

The text plays the pre-eminent role in the sense that it helps to explain the illustration, i.e. “mushrooms” (*Booghu*) *champignon*.



Figure 5.25

5.3.6.10 Complementary

This type of illustration leads to a mingled situation where both the text and the illustration need one another for better comprehension of the meaning conveyed by the text and the picture, e.g. “female anatomy” (*Banda tsanda mughetu*) *anatomie feminine*.

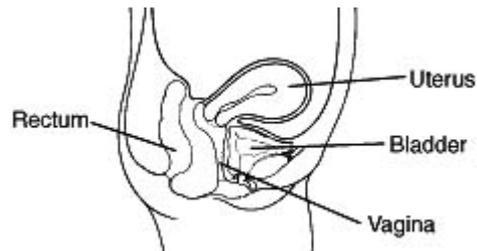


Figure 5.26

5.3.6.11 Redundant

This is usually the case in items which can be explained without illustration where the users do have the mental representation of the object with no support from the picture, e.g. “baby bottle” (*biberu*) *biberon*.



Figure 5.27

Any dictionary in which medicine is involved, as is the case in the FYEDMT, will necessarily require a lot of drawings, pictures or schemas to either support or better explain the item described in the dictionary article.

5.3.6.12 Illustration and cross-reference

In most cases, medical dictionaries cannot introduce all relevant illustrations in a single dictionary article, especially in the field of anatomy. Thus, the cross-reference will be an appropriate tool the lexicographer has to explore to guide the user to other articles in the central list or to check in the front and the back matter.

5.3.6.13 Systematic organisation of entries in the dictionary article

The systematic microstructure of the FYEDMT will be divided into two major components: the systematic listing of types of entries in the dictionary article, called by Gouws. & Prinsloo (2005) the obligatory microstructure, and, on the other hand, the list of potential entries which are non-systematic but may occur from time to time within the dictionary article. The latter is what Gouws & Prinsloo (2005) indicate as belonging to the extended obligatory microstructure. The way in which entries may appear in the dictionary article is important for the structure of the dictionary. Failure to perform this task satisfactorily may breed inconsistency which impedes successful dictionary consultation. An inconsistent macrostructure or microstructure is often a cause of obstruction regarding the rapid accessibility of the data.

5.3.6.14 Obligatory microstructure

The term obligatory microstructure, cf. Gouws & Prinsloo (2005), refer to the list of compulsory item classes, which are expected to appear systematically within each individual article. These entries are compulsory because they constitute the corner stones of the lexicographic treatment presented in the individual article. These entries will appear as follows in the FYEDMT: lemma sign, pronunciation (including tone realised in isolation), part of speech, translation equivalents, paraphrase of meaning, example. It should be mentioned that the three individual articles in the FYEDMT will not necessarily have the same obligatory microstructure.

- **Lemma sign**

The lemma should be distinguished from the other entries. The distinction between the lemma and the other items will be marked as follows: the lemma sign should be bold and in deep blue and the first letter of the lemma sign should be in capital character, while the sublemma, if it occurs, will simply be in bold preceded by a full diamond. The equivalents will all be in small caps, cf. Fig. 5.28

The FYEDMT will present its lemmas in such a way that the users discover the possibility of reading French as the default language of lemmatisation, then the Yipunu as the systematic first translation equivalent and, thereafter, English as the

second translation equivalent. However, the amalgamated article will present three individual articles in its structure. The first will give the French treatment followed by its translation equivalents and the paraphrase of meaning. The second individual article will be led by the Yipunu lemma followed by the pronunciation, classes, part of speech and its translation equivalents. The third individual article will be headed by the English lemma sign, followed by the part of speech, its translation equivalents, and the paraphrase of meaning.

Example of Amalgamated article structure

Pied n.; *DIKULU*; FOOT; Partie terminale du membre inférieur, articulée à la jambe par la cheville, terminée par cinq doigts et constituant, de par son aptitude à reposer à plat sur le sol, l'élément principal de la station debout et de la marche

- (*Pathol.*) **Pied d'athlète n.** *MAATSA*; ATHLETE FOOT. Affection du pied due à certaines variétés de [champignons parasites], observée d'abord dans les pays tropicaux, puis en Europe (surtout chez les sportifs et les militaires) (...). Elle est caractérisée par un épaississement de la couche cornée de la peau sur les faces latérales des orteils.
- (*Méd. Biol.*) **Pied égyptien.** Pied caractérisé par un gros orteil plus long que le second orteil, celui-ci étant à son tour plus long que le troisième

Dikul [dikùlù] n. cl5/6.FOOT; PIED. *ilem ayi banda a yivhu o masuksulu ma mupilingi na pandzi, yi ughwamusi utsiarila butamba na uretsma mateli. Itatambi, isongini, na milembu mi ranu, la bilem bimosi a bi dughusu dikulu.*

Foot n. *DIKULU*; PIEDS; **1.** The lower extremity of the vertebrate leg that is in direct contact with the ground when standing or walking.
2. A structure used for locomotion or attachment in an invertebrate animal, such as the muscular organ extending from the ventral side of a mollusk

- **foot-and-mouth disease n.** *BUALI BU BIBULU*; LA VACHE FOLLE. an infectious, viral disease of cattle and similar animals, causing puffy growths around the feet and mouth.
- **footrot n.** *BUALI BUBIRODI*; MALADIE DU SABOT an infection of the feet of sheep due to constant exposure to wet ground and causing inflammation and decay of toes which leads to lameness,

Figure 5.28

• Pronunciation

The pronunciation will be marked systematically in the case of Yipunu, as it has to be done according to the phonetic pronunciation with tones realised in isolation and within the square brackets as in the table below:

Yipunu	Phonetic	English	French
Mwabi	[mwǎbi/myǎbi]	@	arbre à beurre
dwaabi	[dwá:bi/ nyábi]	attachment	attache
maambu	[dyǎ:mbu/ mǎ:mbu]	affair/speech/ @	affaire
mwaanzu	[mwǎ:nzu/ myǎ:nzu]	special @	discours @
mwaanzi	[mwâ:nzi/myâ:nzi]	nerve/vein	nerf
yaasi	[yá:si/byá:si]	half	moitié
maatsi /gres□	[má:tsi]	oil/fat	huile/ corps gras
mwaan□	[mwâ:n□/bâ:n□]	child	enfant
mwang□l□	[mwáng□l□]	pain/hurt	douleur
myang□l□	[myáng□l□]	venom /pain	venin/brûlure
maamb□	[mâ:mb□]	water/liquid	eau/ liquide
mats□	[máts□]		champignons entre orteils
dibab□	[dibáb□/mabáb□]	dump person	le muet
bubab□	[bubáb□]		mutité
dubab□l□	[dubáb□l□]	stutter	bredouillement
dibaghu	[dibǎ:yu]	fever	fièvre
dibagh□	[dibáy□/mabay□]	knife	couteau
ubak□	[ubǎk□]		entailler/vacciner
dibak□	[dibǎk□/ mabǎk□]	mark/ vaccination	entaille/vaccination
mubaaki	[mubá:ki]	tuberculosis	tuberculose
ubaakugh□	[ubá:kùy□]	dyspnoea	haléter, râler
dibal□	[dibǎ:l□/ babǎ:l□]	man	homme
dibal□	[dibǎl□/mabǎl□]	kind of tree	parassolier (arbre)
ibalu	[ibǎlu/bibǎlu]	bulk	écorce
mubak□	[mubák□/mibák□]	jaw	mâchoire
uband□	[ubǎ:nd□]	to choose	choisir
uband□	[ubá:nd□]	to start	commencer
muband□	[mubá:nd□/mibá:nd□]	meal ball	boulette
ubanz□	[ubǎ:nz□]	to light	allumer
ubanz□	[ubǎnz□]	cut @	clairsemer /
dubaanzi	[dubâ:nzi/ mbâ:nzi]	rib/s	côte
dibaanzi	[dibá:zi/ mabá:nzi]	Mabanji temple	temple du Mabandji
banzi	[bánzi/ babánzi]	initiated person/@	un initié
mabanzi	[mabánzi]	Gabonese female rite	rite initiatique féminin du Gabon
idebu	[ibé:du/ bibédu]	patient/ sick	le malade/patient
dibelu	[dibělu/ mabělu]	thigh	cuisse

ubend□	[ubě:nd□]		germer
diberi	[diběri/ maběri]	drip/gout	goutte (liquide)
ukotis□	ukotos□	to introduce	faire entrer
dikotulu	dikotúlu/ makotúlu	entrance	entrée
dikotulu	dikôtúlu/ makôtúlu	knee	genou

Figure 5.29

The phonetic form is given here for both singular form and plural form but in the FYEDMT only the single form will be given in order to avoid confusion. However, the systematic classification for Bantu languages, used in the FYEDMT will provide data for the identification of the plural form, e.g. *díisu*, *dikulu*, *mbasu*, cf. Fig. 5.30.

<p>Díisu [díisu] n. cl5/6 (EIL); EYE. <i>mú dunyuru du mútu, vháji bilema bi bëji bénégili míisu. Pa! yiki yímóósi, wandi pi!ntsa , bakamunégila yí díisu.</i></p> <p>Dikul [dikùlù] n. cl5/6. (PIED), FOOT</p> <p>Mbasu [mbâsu] n. cl3/6 (NEZ); NOSE. <i>Ileme yivhu vha yintsi, na maluta</i></p>
--

Figure 5.30

- **Translation equivalents**

The language of lemmatisation is French, and Yipunu is the first default translation equivalent. English becomes the language of the second translation equivalent. Yipunu is the second language of lemmatisation in the sense that the FYEDMT will primarily target Yipunu speaking people. When there is a term or concept that does not exist in western medicine for both French and English, the term will be fully treated and explained in Yipunu with an emphasis on the cultural issues regarding traditional medicine. Translation and explanation in the western languages will be given respectively in French and English. When French and English share a particular lexical item, a specific term or concept, both French and English terms will be treated and their translation equivalents will also be given. The explanation of meaning will be given in both French and English as if they do not share any particular terminology.

If a medical term does exist in Yipunu, the linguistic borrowing system will be applied by means of either total/partial assimilation or by means of pure analogy as translation equivalents with systematic translations from French or English to Yipunu.

- **Explanation of meanings**

Unless each language has its own term to describe a particular concept, disease, etc., the explanation of meaning will come from the French definition. It will then be translated into both Yipunu and English, in order to maintain a certain cohesion with the explanation of meaning. When an item needs more attention, in terms of cultural connotations or idiomatic expression to enhance the paraphrase of meaning, a marking system such as @ will indicate to the user that this equivalent or explanation is not complete or will need some encyclopaedic information with some extra linguistic explanation, cf. the individual lemma “tongue” in Fig. 5.31. A cross-reference indicator, for instance, from the central list to the back matter texts will be necessary.

The explanation will be given into the three individual articles. First the French, secondly, the Yipunu and then the English. In other words, depending on the situation, there will be three levels of treatment within the dictionary article and each individual article will accommodate the relevant paraphrase meaning.

- **Example of the @ symbol as a cross-reference maker**

The lemma sign **Langue** (tongue), cf. Fig. 5.31, is the English translation equivalent that may receive further treatment indicated by means of cross-reference marker in the central list guiding the user to a specified zone area in the back matter text as in Fig. 5.31.



Tongue /tung/ [As, tunge], *DULIMI*; LA LANGUE: the principal organ of the sense of taste that also assists in the mastication and deglutination of food. It is located in the floor of the mouth within the curve of the mandible. Its root is connected to the hyoid bone posteriorly. It is also connected to the epiglottis, soft palate, and pharynx. The apex of the tongue rests anteriorly against the lingual surfaces of the lower incisors. The mucous membrane connecting the tongue to the mandible reflects over the floor of the mouth to the lingual surface of the gingiva and is raised into a vertical fold in the midline of the floor. The dorsum of the tongue is divided into symmetric halves by a median sulcus, which ends posteriorly in the foramen cecum. A shallow sulcus terminalis runs from this foramen laterally and forward on either side to the margin of the organ. From the sulcus the anterior two thirds of the tongue are covered with papillae. The posterior third is smoother and contains numerous mucous glands and lymph follicles. The use of the tongue as an organ of speech is not automatic but a secondary acquired characteristic. Also called **glossa, lingua**
(*Mosby's Dictionary 2002*)

Figure 5.31

5.3.6.15 Extended obligatory microstructure

The extended obligatory microstructure, cf. Gouws & Prinsloo (2005), on the contrary, refer to a selection of item classes which are not compulsory but may appear from time to time according to the items treated. This kind of entry is often introduced within the dictionary article to assist by adding more value to the definition and even some amplification. They also give more clarity to the paraphrase of meaning. Data on the morphology of the lemma sign, part of speech, information on syntax, cross-reference marks, illustrations, collocators or idiomatic expressions, constitute the obligatory microstructure.

5.3.7 Conclusion

The core structure comprising the macrostructure and the microstructure has been treated with special attention to the hybrid nature of the proposed dictionary, the FYEDMT. Some characteristics related to this hybridness, were discussed in detail in order to give more understanding to the reader and guidance to the compiler. It suggests a new type of dictionary in which three languages are involved respectively; French as language of the lemmatization, Yipunu and English as target languages. The specificity of this proposed dictionary is that it allows mixed a macrostructure from both thematic approach and alphabetical approach.

The microstructure also suggested in this chapter offers a mingled microstructure presentation of three distinctive articles called individual article, functioning in one amalgamated article, presenting a French lemma sign as the main lemma. Some examples of the future dictionary were proposed to indicate the shape that the future FYEDMT may have as far as the core structure is concerned.

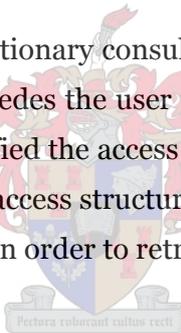
Chapter 6

THE GUIDE STRUCTURES

6.1 Introduction

In the preceding chapter concerning the core structures, the emphasis was on different structures with regard to the availability of data and the way in which it has been positioned in the dictionary in general and in the dictionary article in particular. Where the core structures (macro- and microstructure) are the primary structures, the guide structures represent a second level of structures. Their main purpose is to help the user in finding the data or in understanding the process of dictionary consultation by means of access structures, addressing structure, mediostructure i.e. the cross-reference structure.

Gouws (2001c:101) asserts that dictionary consultation procedures often fail because the structure of the dictionary impedes the user from gaining sufficient access to the data. Metalexigraphy has identified the access structure as an important structural component of the dictionary. The access structure determines the search route a user follows to locate the required data in order to retrieve the necessary information.



6.2 Access structures

6.2.1 Theoretical background

In Gouws (1999:42) the access structure is presented to determine the route followed by the user in order to reach a specific lemma-sign or any other entry. Gouws (2001b:83) makes a distinction between the outer (external) access structure and the inner (internal) access structure. The former is defined as: to determine the search route leading the user to the relevant lemma-sign. The latter is determined as the search route within the article that leads the user to the relevant microstructural data entry.

In the situation of a typical user, the interest of dictionary consultation starts with the choice of a given dictionary via the title of that dictionary as it is presented on the spine of the cover. From there, Gouws (2001b:88) concedes, the user proceeds to the inside of the dictionary and finally reaches the article. In this way, the procedure of accessing a dictionary and following a search route has to be devised as part of the dictionary plan in the dictionary specific lexicographic process. The distinction

between the outer access and the inner access structure is also supported by Hausmann and Wiegand (1989:337).

The outer access structure determines the part of the search route that leads the user from the entries on the cover of the dictionary to the lemma sign given as guiding element of a given article. In other words, the outer access structure includes all the entries on the cover indicating the title of the dictionary and its typological nature as well as certain front matter texts, such as the table of contents, which guide the user to the relevant article. Headers on the pages in the central list displaying key words that represent the first and the last lemma-sign on a specific page also contribute to the search route of the outer access structure, since they assist the user in finding a specific lemma within a given article stretch.

It is also important to keep in mind the importance of the macrostructure with regard to the accessibility of the dictionary. In fact, the macrostructure of a dictionary determines the position and the ordering of the lemma-signs. Where a given dictionary presents only one macrostructure, it coincides with the outer access structure, cf. Gouws (2001b:88).

The lemma sign is the final destination of the outer access structure and the starting point of the inner access structure. The inner access structure often employs lexicographical conventions to assist the user in following the search route. Typically, these conventions include the use of structural markers, which are divided into two main marking systems: the typographical structural markers and the non-typographical structural markers.

According to Gouws (2001b:89), typographical structural markers are the different typefaces, such as bold, italic, roman; the font size; and the use of capitals, small caps, superscript, subscript, etc. The main purpose of these markers is to indicate specific zones or data categories in order to reach them as quickly as possible. In a monolingual dictionary for example, one may find the lemma sign to be given in bold, while the paraphrase of meaning is in roman and illustrative examples in italics. If a user is primarily interested in finding examples, the italic mode highlights the illustrative examples so that the user can have rapid access to this article slot.

As for the non-typographical structural markers, Gouws (2001b:89) confirms that they represent all the symbols and signs used to mark a certain search zone or data category. Modern lexicography employs and promotes the use of non-typographical structural markers such as diamonds, figures like triangles and squares, brief headings, etc. The goal of this method is to increase the rapid and successful

accessibility of the consultation process by means of a clear article-internal search route. However, as Gouws (2001b:89) rightly points out, lexicographers have to be careful not to employ too many non-typographical structural markers because they can confuse the dictionary user.

6.2.2 Outer access structure in LSP dictionaries

The outer access structure in LSPDs does not differ much from that of general dictionaries. The distinction between the LSPD and the LGPD outer access structure may come from the field of knowledge a given dictionary intends to cover. In LSP dictionaries, the emphasis is more on precision and the quality of data with the intention of avoiding systematically any possible or potential confusion.

The common denominator between specialised and general dictionaries is that the outer access structure consists of various indicators directing the user from the cover to the lemma, while the inner access structure is the structure of the indicators directing the user to the required data inside the dictionary article (Bergenholtz & Tarp 1995).

According to Bergenholtz and Tarp (1995:219), the user about to consult a dictionary typically considers the titles before selecting a dictionary. A brief look at the colour or physical size of the dictionary is, however, often enough for the experienced dictionary user to recognise the needed dictionary.

6.2.2.1 The role of colour in the access structures

In the dictionary consultation process, the user of the dictionary will prefer colour to be used, since it is expressive as well as attractive. This gives the dictionary a high probability to be noticed and picked up from the bookshelf at first glance. The role of colours, even within the dictionary, is still important to distinguish different components such as the front matter texts, the central list and the back matter texts, cf. *Mosby's Medical, Nursing, & Allied Health Dictionary* (2002). In the situation where a user consults a dictionary that makes use of different colours, the chances are greater for this user to have access not only to the data s/he is looking for, but also to discover more information, stored in various places in the dictionary, than if these colour indicators were not used.

Apart from the outer texts, the central list can also allow the use of colour as a device to improve access to the dictionary.

For instance, in its central list, the “Glasgow coma scale” example given in Fig. 5.9, demonstrates the importance of colour matching with regard to the access structure.

The user will have quick access to different extra data dealing with the evaluation of a *coma*, the techniques used for the assessment, various responses and the range of the scale. This type of article offers the user a greater possibility of rapid inner access by means of colour matching at the bottom part of the dictionary article. This rapid inner access could not have been possible if the blue colour, the background, had not been added into the dictionary.

Colour also plays a role in differentiating within the dictionary article. For instance, the lemma of the initial individual article in an amalgamated article is differentiated from the lemmata of other individual articles, the sublemmata, for example in Fig. 5.19 “*outils*”, or the initial-individual lemma, for example “*pied*” in Fig. 5.25, by being bolded in deep blue. Moreover, in these examples, colour matching helps the user to establish a hierarchical relationship between the main lemma, the translation equivalents and the eventual sublemmata.

6.2.2.2 Detection of outside matter texts by means of matching colours

By means of colour matching, the user can also be helped to identify and locate the outside matter texts, usually positioned before the central list, cf. front matter texts, or after the central list, cf. the back matter texts. The code of colours can be used to play an important role in the identification of the main textual components of the dictionary. The use of such a codification is aimed at the user who first consults the front matter text in order to understand the system of the dictionary and therefore gains knowledge regarding the optimal usage of the dictionary, the overall motive for the compilation or the intended aim of the dictionary.

The *Mosby's Medical, Nursing, & Allied Health Dictionary* (MMNAHD) is an appropriate illustration of the back matter text identifiable by means of colour matching. In other dictionaries, especially LGPD, the colour matching is used for the identification of the middle matter texts¹. In the FYEDMT the detection of outer texts as main components is important, especially for the back matter texts in which the alphabetic equivalent list will be included in order to complete the cross-reference system. However, the most crucial need for colour matching can also be directed at

¹ Middle matter texts often contain additional integrated and unintegrated linguistic and cultural information. Thus, the use of colours may give the lexicographer the opportunity to present a rapid outer access structure in the dictionary. However, it is important to mention that, in the case of the proposed dictionary, the middle matter text will not be of great help and will therefore not be incorporated in the dictionary.

the central list, to clearly identify different themes included in the main text of the dictionary.

6.2.2.3 Other forms of external indicators

Apart from the use of colours, the lexicographer can also use other external indicators like running heads, cf. Bergenholtz and Tarp (1995), or a thumb index in order to guide the user to the information s/he is looking for.

The use of a thumb index is more advantageous in dictionaries with an alphabetic macrostructure. However, it can also be used in dictionaries presenting a thematic macrostructure. In these dictionaries it will give a clear indication of the thematic division of the dictionary components. Each component will then present an alphabetic ordering. The proposed dictionary is likely to follow this type of system. The lexicographer will have to make a choice: either to use the colour code approach (which may be cheaper) as external indicator device or to opt for the thumb index approach (which may be more costly).

Apart from the running head and the thumb index, there are other ways to help the user find the information s/he is looking for. One is the table of contents usually provided in the front matter texts, with a page numbering system in order to quickly retrieve the information. In medical dictionaries, the table of contents gives direction where to find schemas detailing, for instance, all the anatomy tables available in the entire dictionary, cf. Fig. 6.1 from MMNAHD (2002:V).

• **Example of table of contents**

Publisher's foreword, wii
Consultants, wiii
List of Illustrations xi
List of Boxes and Tables, xxii
Guide to the Dictionary, xxiii
Pronunciation Key, xxvi
Colour Atlas of Human Anatomy, A-1
Skeletal System, A-2
Muscular System, A-8
Circulatory System, A-12
Endocrine System, A-18
Lymphatic System, A-20
Nervous System, A-23
Respiratory System, A-28
Digestive System, A-32
Reproductive System, A-35
Urinary System, A39
Special Senses, A-42
Vocabulary, 1
Illustration Credits, 1852
Appendixes
1 Units of Measurements, 1857
2 Symbols and Abbreviations, 1867
3 Medical Terminology, 1874
4 Tabular Atlas of Human Anatomy and Physiology, 1887
5 Language Translation Guide: Spanish-French-English Equivalent of Commonly Used Medical Terms and Phrases, 1917
6 American Sign Language and Manual Communication, 1928
7 Assessment Guide, 1929
8 Normal Reference Values, 1936
9 Health Promotion, 1948
10 Nutrition, 1958
11 Complementary and Alternative Medicine, 1970
12 Herbs and Natural Supplements, 1980
13 Pharmacology and Clinical Calculations, 1991
14 Infection Control, 2001
15 Health Organization and Resources, 2011
16 Diagnosis-Related Groups, 2048
17 Nursing Diagnoses, 2057
18 Nursing Interventions Classification, 2127
19 Nursing Outcomes Classification, 2131
20 Omaha Classification System, 2133
21 2003-2004 Nursing Diagnoses Supplement, 2135
UK Appendixes (in UK edition only), UK-1

(MMNAHD 2002: V)

Figure 6.1

Fig. 6.1 represents a table of contents which is more than a simple list displaying a number of items included in the dictionary, in the sense that the lexicographer offers the user a very reliable tool of dictionary consultation in order to gain access to additional or peripheral data in a more rapid and successful manner. This particular table of contents gives a synoptic view of the dictionary and indicates the places

where specific data are located in the dictionary. The various categories of texts (major texts) are included in the outside matter texts.

- **List of main texts included in the front matter texts**

The elements presented in the list, incorporated in the front matter texts, can be divided into two principal categories: the integrated elements and the non-integrated elements, cf. Chapter 4: The frame structure.

- **-The integrated front matter texts**

This category includes all texts, such as drawings, charts, etc., included in the front matter section, with the purpose of giving the user another place in the dictionary, besides the central list, for the treatment of data. In fact, these texts prepare the informed user for the type of data to be dealt with in the central list. Their presence in the front matter section enhances the role of outer texts in the dictionary and demonstrates a progressive change of outer texts, which used to only be utilised as a simple section for texts that were not wanted in the central list. Today it is a section complementing the central list; a valid location in which data is treated in such a way that its insertion anywhere else in the dictionary would have been redundant. In the case of MMNAHD, the following elements represent texts that are directly linked or that are of interest to the central list of the dictionary:

- 1. Colour Atlas of Human Anatomy, A-1**

- Skeletal System, A-2
- Muscular System, A-8
- Circulatory System, A-12
- Endocrine System, A-18
- Lymphatic System, A-20
- Nervous System, A-23
- Respiratory System, A-28
- Digestive System, A-32
- Reproductive System, A-35
- Urinary System, A39
- Special Senses, A-42

- 2. Guide to the Dictionary, xxiii**

- 3. List of Illustration, xi**

They also help the user by means of addressing data in the right slot and enhancing the dictionary consultation procedures. As it is rightly suggested in the “Publisher’s Foreword”, cf. MMNAHD (2002: vii):

One of *Mosby’s Dictionary’s* most distinctive features is the inclusion of more than 2200 high-quality full-colour illustrations and photographs throughout the dictionary to enhance and clarify definitions of terms that cannot be adequately explained by words alone. *Mosby’s Dictionary* was the first English medical,

nursing or allied health dictionary to use full colour to show anatomy, disorders and essential equipment, giving new meaning to the adage *one picture is worth a thousand words*. A list of the illustrations appears on p. xi. In addition, the 43-pages *Colour Atlas of Human Anatomy* has been updated with numerous full-colour illustrations and is placed in the front of the dictionary for easy access (MMNAHD 2002: vii). This alone justifies the magnitude that the access should have from the user consultation perspective.

-The non-integrated texts present in the front matter section

The following texts can be classified as non-integrated to the central list:

Publisher's foreword, vii

Consultants, viii

The publisher's foreword, for instance, although important to comprehend and seize the ultimate intended purpose of this particular dictionary compilation, remains non-integrated because it does not serve the genuine purpose of the dictionary. It does not complement the central list and therefore it does not help the user to retrieve information stored in the dictionary. The same applies for the list of contributors and/or the list of consultants. Their *raison d'être* in this category of text is purely informative, honorific and/or for marketing purposes and this does not involve the content of data included in MMNAHD.

• List of texts inserted in the back matter section.

The texts inserted in the back matter, cf. Fig. 6.1, adheres to the same categorisation or classification previously made with regard to the front matter texts. Thus, the texts considered as integrated will then be the appendixes:

Appendixes

- 3 Medical Terminology, 1874
- 4 Tabular Atlas of Human Anatomy and Physiology, 1887
- 5 Language Translation Guide: Spanish-French-English Equivalent of Commonly Used Medical Terms and Phrases, 1917
- 9 Health Promotion, 1948
- 10 Nutrition, 1958
- 11 Complementary and Alternative Medicine, 1970
- 12 Herbs and Natural Supplements, 1980
- 13 Pharmacology and Clinical Calculations, 1991
- 14 Infection Control, 2001
- 15 Health Organization and Resources, 2011
- 16 Diagnosis-Related Groups, 2048
- 17 Nursing Diagnoses, 2057
- 18 Nursing Interventions Classification, 2127
- 19 Nursing Outcomes Classification, 2131
- 20 Omaha Classification System, 2133

-The non-integrated elements in the back matter

The non-integrated elements are those with no relation whatsoever to the central list:

Appendixes

- 1 Units of Measurement, 1857
- 7 Assessment Guide, 1929
- 8 Normal Reference Values, 1936

These texts are already listed in the table of content in the front matter text. It justifies therefore an access structure.

6.2.3 The monoaccessible vs. the polyaccessible outer access structure

Two levels of accessibility can be found in a given dictionary. Monoaccessibility is often found in dictionaries like the *Medical Dictionary* of Anderson et al. (2001), published by Geddes & Grosset, where there is only one access route by means of the alphabetical ordering in the word list. Dictionaries can also offer polyaccessibility in the sense that a dictionary may present additional access possibilities, i.e. an index permitting the user to have a broader view of the dictionary irrespective of the treatment given in the central list, cf. Hartmann and James (1998).

The typical example is from *Mosby's Medical, Nursing, & Allied Health Dictionary* (MMNAHD) (2002) where the lists of indexes (appendixes) as well as the list of boxes and tables given in the front matter, help the user to locate the relevant information in both the central list and the back matter of the dictionary. MMNAHD offers the user a double accessibility as far as indexes and appendixes are concerned. In fact, right from the first page the user can have guidance in terms of appendixes, which are different slots of data grouped together by themes. It does not only give the code numbers of the appendixes but also the page numbers.

This dictionary includes both colour codes and a thumb index for easy access. The back matter texts, which contain all the appendixes, can be distinguished from the rest by their blue coloured pages – giving the user rapid access to the information stored in the back matter text.

The colour codes (gold on black) is even included in the thumb index, since it presents an ordering of letters alphabetically grouped in pairs. The combination of both colour play and thumb index maximises the user accessibility.

6.2.4 Access by both alphabetical and thematic ordering

The access to the dictionary may be achieved through thematic structure. This refers to the sense that the emphasis is placed on the semantic relationship of themes enabling the user to find data within the dictionary at both the level of themes and the level of the lemmata included in each theme. Regarding the alphabetical ordering, Gouws (2001^c:105), who affirms that all dictionaries do not display the same macrostructural ordering procedures, distinguishes the straight alphabetical ordering from an ordering presented as a sinuous file (cf. Wiegand 1989, Hausmann & Wiegand 1989). Gouws (2001^c:105) states that a dictionary with a straight alphabetical ordering typically displays main lemmata whereas a dictionary with a sinuous lemma file has sub-lemmata complementing the main lemmata. The lexicographer should clearly indicate his or her choice of niching or nesting with regard to the data presentation in the dictionary article. Gouws (2001^c:106) indicates that

(n)iched lemmata display a straight alphabetical ordering and the niche maintains the alphabetical ordering in terms of the preceding and the following main lemmata. The deviation in the ordering direction, i.e. horizontal alphabetical ordering vs. vertical ordering has no influence on the alphabetical ordering principal. Whereas, in the nesting, the lemma nests deviate from the straight alphabetical ordering. Although lemma nests sometimes display an internal alphabetical ordering similar to a niche, the external ordering, i.e. the alphabetical positioning of the nested lemmata with regard to preceding and following vertical lemmata, does not display a straight alphabetical ordering.

The organisation of FYEDMT has to conform to the straight alphabetic ordering, since this ordering is easier to deal with and presents more advantages. The proposed dictionary, as a hybrid dictionary, makes room for thematic ordering but also for alphabetic ordering within the central list.

6.2.5 Inner access structure

The inner access structure is described by Bergenholtz and Tarp (1995:219) as the different ways to direct the user to the information required in the shortest possible time. If the outer access structure has the cover of the dictionary as point of departure, the inner access structure has the lemma as point of departure. The principal role of the inner access structure is to ensure that “the user reaches the specific information categories within the dictionary article” (Gouws 1996:16). The

FYEDMT presents a complex microstructure in which three levels of microstructure are intermingled within one dictionary article. This unusual type of microstructure is a result of the amalgamated nature of the FYEDMT and demands from the lexicographer to either present a good and classical inner search route or to employ some innovative devices with regard to the inner access structure strategies.

6.2.5.1 Detection of themes in the central list by means of colour matching

Instead of using a thumb index system in order to have access to a particular theme in the FYEDMT, the lexicographer may match each specific colour with a given theme. This implies that the users would not need to open the dictionary in order to guide themselves to the appropriate theme in the dictionary. The only problem with this approach is that the more themes present in the dictionary, the more colourful the dictionary might be and this increases the risk of confusion.

6.2.5.2 The classical or standardised inner access structure

Like in any modern lexicographical work, the inner access structure of the FYEDMT should adhere to some standard model, permitting the user to follow the search path with less difficulty. The use of French, Yipunu and English with their respective “mini dictionary articles”, in the same “maxi dictionary article”, may at first, sound repulsive towards an ideal micro-architecture. It may also render difficulties for the inner access of this kind of dictionary.

However, the average user is already familiar with some conventional writing symbols and/or diacritics (commas, semi-colons, full stops, etc.) as well as their values. The use of these symbols is a starting point for real solutions if the lexicographer relies on structural markers, which are described by Gouws (1996:23) as indicating the borders between information categories as well as the position and the scope of different search areas.

Regarding a clustered dictionary article like “Outils”, cf. Fig.5.21 or “Pied” (cf. Fig. 5.28), the first criterion for the lexicographer is to be as simple as possible in the introduction of structural markers into the dictionary. The second criterion is consistency, in order for the user to follow a recurrent pattern, familiar to the target user. The spirit of simplicity is of great help, since too many markers may confuse the user. It is also helpful in cases where new and innovative solutions are needed.

6.2.5.3 The use of innovative devices in the amalgamated dictionary article

Innovative devices are needed with regard to the inner access structure for the amalgamated dictionary article. In situations like the one prevailing in the FYEDMT project, the systematic use of colour matching to indicate a particular phenomenon in a specific area of the article or of highlighting a precise data category, cf. Fig. 5.9, constitutes the solution to data retrieval in an amalgamated individual article.

At the level of the amalgamated article's initial lemma, the use of a colour, different from the rest of the article, contributes to the rapid inner access structure. In the example of the individual article accommodating the Yipunu, everything dealing with Yipunu (except for the pronunciation and the part of speech), is presented systematically in italics. This guides the users to distinguish and quickly retrieve the Yipunu data. The innovation is also realised by means of translation equivalents given in every individual article slot and printed in small caps. This approach serves two purposes: The highlighting draws the attention of the user and the small caps play the role of an implicit cross-referencing system.

6.2.5.4 Conventional marking systems

Marking systems vary from dictionary to dictionary. However, some marking systems are more conventional than others and the current tendency is to use the typographical or non-typographical markers more often in order to enhance the way in which the potential user may process his/her consultation.

According to Tufis et al. (1999:222), markers may sometimes be products of the systematic usage of some prescribed lexicographic conventions. Tufis et al. (1999:222) present these conventional markers in six categories. These markers are used in order to quickly identify:

- **The lemma:** In the approach proposed by Tufis et al. (1999:222) lemmata are always written in uppercase characters. In the case of a lemma representing a polysemous lexical item, the senses are differentiated by numeric superscript markers.
- **The FYEDMT:** In the case of the proposed dictionary, three types of lemmas are included in any amalgamated article. The article's initial individual lemma (in French) is coloured in deep blue bold, the second individual lemma (in Yipunu) is the lemma of the second language of the dictionary and is indicated in caps and italics. The third individual lemma (in English) is also

indicated in caps but not in italics and this constitutes the lemma of the third language of the dictionary.

- **The subcomment on semantics:** The senses are marked by uppercase letters such as (A, B, C, D, etc.) and Roman numerals (I, II, III, IV, etc.). The related senses are numbered by means of lowercase letters (a, b, c, d, etc.) or Arabic numbers (1, 2, 3, 4, etc.). The senses that are dependent on a main sense are marked by a black diamond (◆), also called a full diamond.
- The FYEDMT: The different senses included in this project are marked by Arabic numbers **1, 2, 3** etc (in bold), for both the article-initial individual lemma and the individual lemmata. Other senses are marked by means of labels.
- **The definitions** (paraphrases of meaning): The equal sign (=) signals the definition of phrasal units.
- The FYEDMT: The paraphrases of meaning do not have any particular sign to describe it. However, every paraphrase of meaning starts after the translation equivalents given in small caps and is followed immediately by a full stop and spacing. The paraphrases of meaning given in *italics* constitute an additional characteristic specific to Yipunu.
- **The pronunciation:** the data related to pronunciation are contained in square brackets. Thus, each type of data marked by square brackets needs to be differentiated by specialised labels such as “pr.” (for pronunciation), “var.” (for variants) or grammatical labels. In cases where more than one type of squared information is provided, they are separated by dashes.
- The FYEDMT: Pronunciation is not systematic in French and English; it is marked when necessary by means of an IPA transcription. However, in the particular case of Yipunu, the pronunciation is given systematically in square brackets. The Yipunu pronunciation includes tones and its transcriptions are produced according to IAI and IPA standards.
- **The usage information:** In cases where usage information is needed, it will be provided in parenthesis.
- The FYEDMT: The use of parenthesis in the proposed dictionary refers to data treated with the intention of contextual meaning such as (*surtout chez les sportifs et les militaires*), cf. Fig. 528. Parentheses are also used in the

FYEDMT for labelling purposes, e.g. (*Pathol*), for *pathologie* in French and “pathology” in English.

The usage data will be entered in addition to the main dictionary entries, which are treated in the individual article for one of two reasons. Firstly, it could explain the difference between words of roughly similar meaning, e.g. “fat” explaining items like “chubby”, “stout” and “overweight” cf. *Longman Dictionary of Contemporary English* (1990). Secondly, it could present usage data in a more pragmatic way, i.e. cases where usages explain the way some words and phrases can be used in conversation to suggest a meaning or attitude that could not be known simply through understanding the literal meaning of the words themselves.

- **Other further information:** The use of symbols such as <, > and + indicate the treatment of other additional information different from that already presented.
- The FYEDMT: The use of symbols for extra information will be grouped in three categories. The first category concerns cross-referencing. Apart from the explicit cross-reference (i.e. *voir*, *ghengila*, and “see”), the use of symbols like → or ⇒ is appropriate for users who do not understand, for instance, that *voir* in French (the language of lemmatisation) is the equivalent of “see” in English or *Ghengili* in Yipunu, will easily opt for the use of the symbol.

The second category of further data in the FYEDMT concerns the seeking of user satisfaction. When dealing with explanations of meaning that require special treatment, the use of the symbol @, cf. Fig. 5.18, indicates that the article’s initial individual lemma sign, for instance “tongue”, deserves further treatment in order to reach the needs of experts, cf. Fig. 5.27.

Lastly, the third category of furthering the treatment of data in the FYEDMT is expressed in the context of the article dealing with cultural or historical issues, i.e. *francophonie*, cf. Fig. 5.7, and “thanksgiving”, cf. Fig. 5.8. In these particular cases, there is no use of symbols, but data is added in text boxes, leading to the physical isolation of a particular text box from the rest of the data provided within the dictionary article.

6.3. Addressing structure

The addressing structure may be presented as the procedure of coordinating a form and the entries directed at it. Often there is a distinction made between the lemmatic

addressing structure and the non-lemmatic addressing structure with room for sublemmatic issues. In most dictionaries, the data treated as part of the comment on form and the comment on semantics, have a common denominator: they usually refer to the lemma. In this sense the lemma becomes the address of this kind of data. However, in some cases, microstructural data may be addressed at a form other than a lemma: it is the non-lemmatic address. These procedures of addressing constitute the addressing structure.

In the proposed dictionary the emphasis will be on the lemmatic addressing. Sublemmatic addressing will play a secondary role. It can be assumed that users of the FYEDMT will prefer not to deal with the subtlety of the language as such, as in the LGP dictionaries, but that they will rather look for the understanding of concepts in order to grasp the phenomenon described in the dictionary.

6.3.1 Lemmatic addressing structure

Lematic addressing refers to cases where a given item in the dictionary article is addressed at the particular lemma. This addressing procedure is called in Hausmann and Wiegand (1989:349) a lemmatic addressing procedure. In most dictionaries, this type of addressing procedure is intensively used. The FYEDMT, by presenting hybrid structures within the dictionary, will not depart from the lemmatic addressing procedure. In fact, the systematic inclusion of items giving data on pronunciation in Yipunu, for instance, has the purpose of helping the user with the encoding and decoding problems, so that the best possible interpretation of the lemma can be obtained.

The FYEDMT represents a dictionary in which three languages are treated at different levels in the same amalgamated article. As a result the various procedures addressed at the lemma can be seen as lemmatic addressing with each individual article displaying lemmatic addressing.

6.3.2 Non-lemmatic addressing structure

Historically, especially in bilingual lexicography, the emphasis was more on issues regarding a lemmatic bias, cf. Gouws (2001^c). This has resulted in an access structure dominated by the external search route as well as an addressing structure where the lemmata function not only as primary but often as the only treatment units. Consequently, the access to the target language entries has not been presented very attractively to the user; it has been of an inferior nature.

To change this state of affairs, Gouws (2001^c:109) suggests an enhancement of the access structure with a much stronger focus on the target language forms – e.g. non-lemmatic addresses and secondary treatment units. This implies a well-structured microarchitecture and the employment of unambiguously defined search zones, arranged in clearly identifiable text blocks guiding the user to a rapid access structure of a given dictionary.

It also leaves room for the use of either a very sophisticated or a simplified and well-planned system of typographic structural markers, permitting the user to embark on the internal search towards the secondary treatment units.

The lexical items such as *Bras* (in French), with *ghoghu* as the Yipunu translation equivalent and “arm” in English, will receive a microstructural treatment addressed at the lemma such as:

1.n. each of the two upper limbs of human body from the shoulder to the hand. **2** a side part of a chair supporting a sitter’s arm. **3** a strip of water or land extending from a larger body. **4** a branch or division of an organisation.

The above example represents a typical lemmatic addressing. The microstructural data provided is for the user to encode and decode the meaning of the lemma sign “arm”. However, there is another possibility of treatment that offers the user a non-lemmatic encoding or decoding perspective.

From a non-lemmatic perspective, with the individual article *Ghoghu* (the Yipunu translation of “arm”) as the lemma sign, one might find the following treatment:

Ghogu dibaal ugheghangu: “the arm of a male should not be touched”. This idiomatic expression is often used to indicate the aggressiveness or the potential danger one may encounter and/or represent. It has nothing to do with the denotatum *ghoghu* interpreted as “*ilem*”, a limb.

The user will need the context in order to interpret the correct meaning of *ghoghu dibaal ugheghangu*. In this way it may be seen as contextual non-lemmatic addressing

In the FYEDMT the treatment of the lexical item *dusal du kusu* (literally “the feather of the parrot”) is not an idiomatic expression, but the only lexical item used to designate the gap between the front teeth in the mouth. It will be treated under *dusala*. This will represent a kind of non-lemmatic addressing also called zero addressing.

6.4 Mediostructure

6.4.1 Theoretical background

The term “mediostructure” is also referred to as the cross-reference structure, cf. Nielsen (1999a). Mediostructure or cross-reference structure can be applied in both LGP dictionaries and LSP dictionaries. According to Nielsen (1999b:90), theoretical lexicography as well as practical lexicography have come to realise that the information needed in printed form in specialised bilingual dictionaries is of a more complex nature than that ordinarily found in general bilingual dictionaries cf. (Rossenbeck 1991, Nielsen 1994a and Bergenholtz and Tarp 1995).

From the viewpoint expressed by Nielsen (1999b:90), it is clear that the degree of complexity is high in bilingual dictionaries dealing with cultural dependent subject fields, since each culture included in the dictionary has developed its own special characteristics reflecting ways in which to structure and describe itself. As a result, the FYEDMT will deal with the field of medicine, but practically it will display the treating of two separate medical systems characterised by their linguistic systems and worldviews.

6.4.2 Lexicographic exposés on the cross-reference concept

The cross-reference concept is presented in Tarp (1999:116) as a method to connect and inter-relate different knowledge elements or items included in the dictionary. This method elaborates on ways in which the lexicographer directs the dictionary user from one position in the dictionary to another by establishing a relation between positions that can be explored in order to optimally satisfy the user’s needs. Sometimes this might even be accomplished by means of supplementary data, which the user did not expect or require when consulting the dictionary.

6.4.2.1 Cross-reference typology

The cross-reference or mediostructure typology differs from one dictionary to another, or even from lexicographer and/or metalexicographer to another. As a result, some representative examples of cross-referencing classification are given below with the intention of establishing the simplest cross-reference structure possible for the FYEDMT. The compiler of this dictionary needs to bear in mind that the less complex the mediostructure, the more user-friendly the dictionary will be.

According to Blumenthal et al. (1987), a cross-reference should have at least four important elements: the cross-reference symbol, the cross-reference address, the cross-reference item and the cross-reference relation. In the same vein, Nielsen

(1999b:98) presents the three main categories of cross-reference: those supporting comprehension, others supporting production/translation and those directed at information on the translation equivalents. These cross-references largely revolve around the lemma, the dictionary article and the word list, etc. Five distinctive types of cross-references are grouped together in these three categories.

Gouws (1999), referring to the WAT's dictionary structures, comments on intertextual mediostructural connections between the central word list and the outer texts. From the suggestion made by Gouws (1999:4), one can count the external mediostructural connections: the relationship between the central word list and the front matter texts, the relationship between the central word list and the back matter texts and the relationship between the central word list and the inner structures. This approach leads the metalexigrapher to consider the point of view expressed earlier in Blumenthal (1987) as presenting some characteristics which will prove profitable for the FYEDMT.

The point of view expressed by Tarp (1999:129) divides the concept of cross-references into two major components, namely the explicit and the implicit cross-references.

6.4.2.2 The concept of explicit cross-references

According to Tarp (1999:129), explicit cross-references always require an explicit cross-reference indicator, i.e. "see", "see also", "compare" or in the form of symbols such as \rightarrow , \Rightarrow , \uparrow , \downarrow , \leftrightarrow , etc.

The *Chambers Biology Dictionary* (1989) gives an example of explicit cross-references, cf. Fig. 6.2.

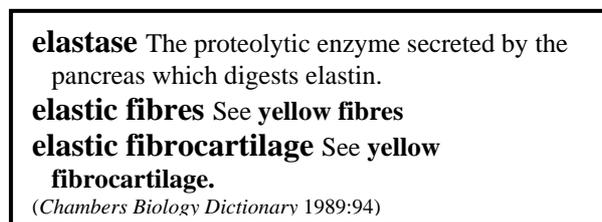


Figure 6.2

In this example "see" is used as explicit cross-reference marker between the lemma "elastic fibres" and the lemma "yellow fibres", as well as "elastic fibrocartilage" and "yellow fibrocartilage". Moreover, this example illustrates what Nielsen (1999b:98) calls cross-references to information on the lemmata, since it refers to information of the lemma "yellow fibrocartilage". However, in Fig. 6.3 the lemma "chromatin" is

cross-referred to the information included in Appendix C (back matter texts). In this sense it is in line with the “word list-external but dictionary-internal cross-references” of Nielsen (1999b:98).

The use of a reference such as “1879, Flemming”, cf. Fig. 6.3, implies data/information outside this dictionary and is important for the history of medicinal discovery. It is a well-known fact that the name of Alexander Flemming is associated with the discovery of penicillin. In this sense the use of “1879, Flemming” represents a “dictionary-external cross-reference” as described in Nielsen (1999:98). The use of Fleming represents double-cross referencing; it guides the user from the central list to the back matter section, and from the back matter text to outside the dictionary.

chromatin the complex of nucleic acids (DNA and RNA) and proteins (histones and nonhistones) comprising eukaryotic chromosomes. **See Appendix C, 1879, Flemming**
(*A Dictionary of Genetics* 1997:64)

Figure 6.3

6.4.2.3 The concept of implicit cross-references

The implicit cross-reference is characterised by the occasional use of implicit cross-reference markers such as *, =, ≠ or the use of *italic*, **bold**, or CAPITAL letters.

The *Concise Colour Medical Dictionary*, cf. Fig. 6.4, does not use explicit markers to indicate or cross-refer. Instead it uses the symbol * which is an implicit cross-reference marker. In the example below, cf. Fig. 6.4, the references to “sympatholmimetic”, “ephedrine”, “isoprenaline” and “salbutamol” by means of asterisks (*) indicate that these lemmata are connected to bronchodilator as different types of bronchodilators which all have the same effect on the air passage. This example shows that this dictionary article portrays the case of “article-external but word list-internal cross-reference” (Nielsen 1999b:98).

Bronchodilator *n.* an agent that causes widening of the air passage by relaxing bronchial smooth muscle. *Sympathomimetic drugs that stimulate beta-receptors, such as *ephedrine, *isoprenaline, *salbutamol, and terbutaline, are potent bronchodilators and are used for relief of brochial asthma and chronic bronchitis. These drugs are often administrated as aerosols, giving rapid relief, but at high doses they may stimulate the heart.

(Concise Colour Medical Dictionary 1994)

Figure 6.4

In some cases one dictionary can combine both the symbol * and the *italic* form as in the following example, taken from the *Concise Colour Medical Dictionary* (1994):

Sexually transmitted disease (STD) any disease transmitted by sexual intercourse, formerly known as *venereal disease*. STDs include *AIDS, *syphilis, *gonorrhoea, genital *herpes, and *soft sore. The medical speciality concerned with STDs is *genitourinary medicine*.

(Concise Colour Medical Dictionary 1994)

Figure 6.5

6.4.3 Which cross-reference markers for the FYEDMT?

The use of cross-reference markers in an implicit way, especially in the case of the *Concise Colour Medical Dictionary* (CCMD), makes the user aware of the cross-reference. The fact that the marked items are already treated in the central list is indicated through the use of either * or italics, so that the user only has to find the location of the lexical item in question. It also offers a clear view of which items are treated in the dictionary and which ones are not. This system of cross-reference does, however, seem to present some limitations. For instance, an item in italics draws the user's attention but does not necessarily mean that the user should see or consult a particular item in the back or front matter text.

The explicit cross-reference markers, on the other hand, present more advantages than the implicit ones. Yet, to a certain extent, the cross-reference markers without symbols such as “see” or “see also” might present some limitations with regard to translation issues – “see” and “see also” is for English users what *voir* and *voir aussi*

is for the French user, and *laba* and *laba na* is for Yipunu users. To cross-reference without a symbol, is a sound strategy and very explicit on the condition that the user understands English, French and Yipunu. Moreover, using this type of cross-referencing will require some additional linguistic performance from the user while the use of cross-reference markers with symbols simplifies the difficulty.

In fact, the user of one language does not need to have some linguistic performance to grasp the meaning of a symbol such as → which is intensively used in all kinds of communication in order to show the way or to indicate a particular direction. Thus, the FYEDMT users will likely benefit more from this kind of reference marker system, using symbols instead of words or playing with fonts and font sizes.

The FYEDMT cross-referencing system if approved, will be in a way corroborated by Blumenthal et al. (1988) as they affirm that cross-references, among other things, consist of cross-reference symbols.

6.4.4 External mediostructural connections

The FYEDMT, as any dictionary, should make room for some interaction between the central list and the outer texts in order to guide the user in a more efficient way to the required information.

6.4.4.1 Mediostructural connections between the central word list and the front matter texts

It will be of great benefit if the proposed dictionary, the FYEDMT, can present an equivalent of “Toelighting by die gebruik van die Woordeboek” of the WAT. This will entail the user’s guidelines, and a text containing the editorial abbreviations used in the central list, cf. Gouws (1999: 7). According to Gouws (1999:7), both these kinds of texts can be regarded as integrated outer texts due to their interaction with the text functioning as the central list in order to achieve the genuine purpose of the dictionary, cf. Bergenholtz, Tarp and Wiegand (1999:1778).

The argument is that both the guidelines and the editorial abbreviations are provided to ensure the proper interpretation of the texts presented in the articles of the central list. They also help to convey an establishment of a mediostructural link between the central text and the integrated outer text containing these abbreviations and their respective full forms, cf. Gouws (1999).

6.4.4.2 Mediostructural connections between the central word list and the back matter texts

The connections of the central list interacting with the back matter text may be beneficial for the FYEDMT, in the sense that it will help to convey more cultural information to the user who is keen to know more about a specific subject or to find some other sources of related subjects in the field of health sciences and medicine. In most medical dictionaries, the back matter texts contain additional data such as drawings, further exemplification or just complementary information that the user needs to know in order to have a sound comprehension of the phenomena described in the central word list. The example below – referring the user to Appendix C, the author as well as providing the bibliographical reference – can be regarded as illustrative of this kind of connection.

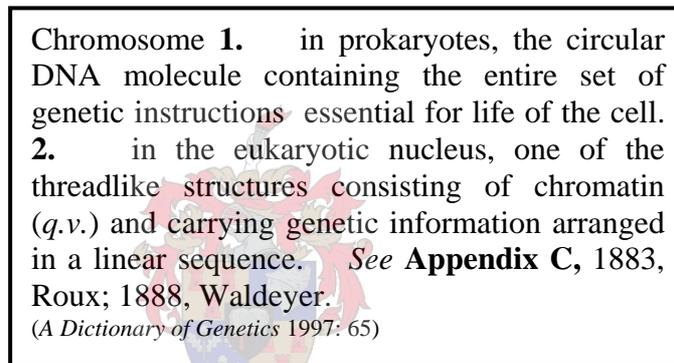


Figure 6.6

6.4.5 Internal cross-referencing

The use of internal cross-referencing is helpful to the user if the macrostructure of the word list is alphabetical, cf. Nielsen (1999a). More than only directing the user to an address within the dictionary, cross-referencing can be structured according to a set of functional as well as transparent principles, cf. Bergenholtz and Tarp (1995). This implies that circularity should be avoided by all means in order to provide the user with the appropriate information at the relevant place in the dictionary. The internal cross-referencing then refers the user to information within the central list.

Since the FYEDMT is foremost about medical terminology, the use of specialised terms may require some encyclopaedic notes that will often demand an additional explanation, especially for neophytes. Bergenholtz and Tarp (1995:215) believe that in cases like these, the lexical items in question should be highlighted and a cross-reference made to the place in the dictionary where they are explained in further detail.

The FYEDMT, presenting three individual articles in one amalgamated article with French as the language of lemmatisation, may present some internal cross-referencing systems regarding the treatment of other individual articles (individual articles in Yipunu and in English).

Usually where important data is given in the lexicographical article of another item that relates to a particular lexical item, a cross-reference is offered at the end of the paraphrase of meaning. However, with the support of pictures, a cross-reference may be made by means of hyponyms. According to Hartmann and James (1992: 70) hyponymy refers to the semantic relationship between items where the meaning of one item (superordinate) is more general than the others (hyponyms). For instance, in Fig. 6.7 the lexical item “tools” is the superordinate of the hyponyms “drill”, “mowers” and “nail”.

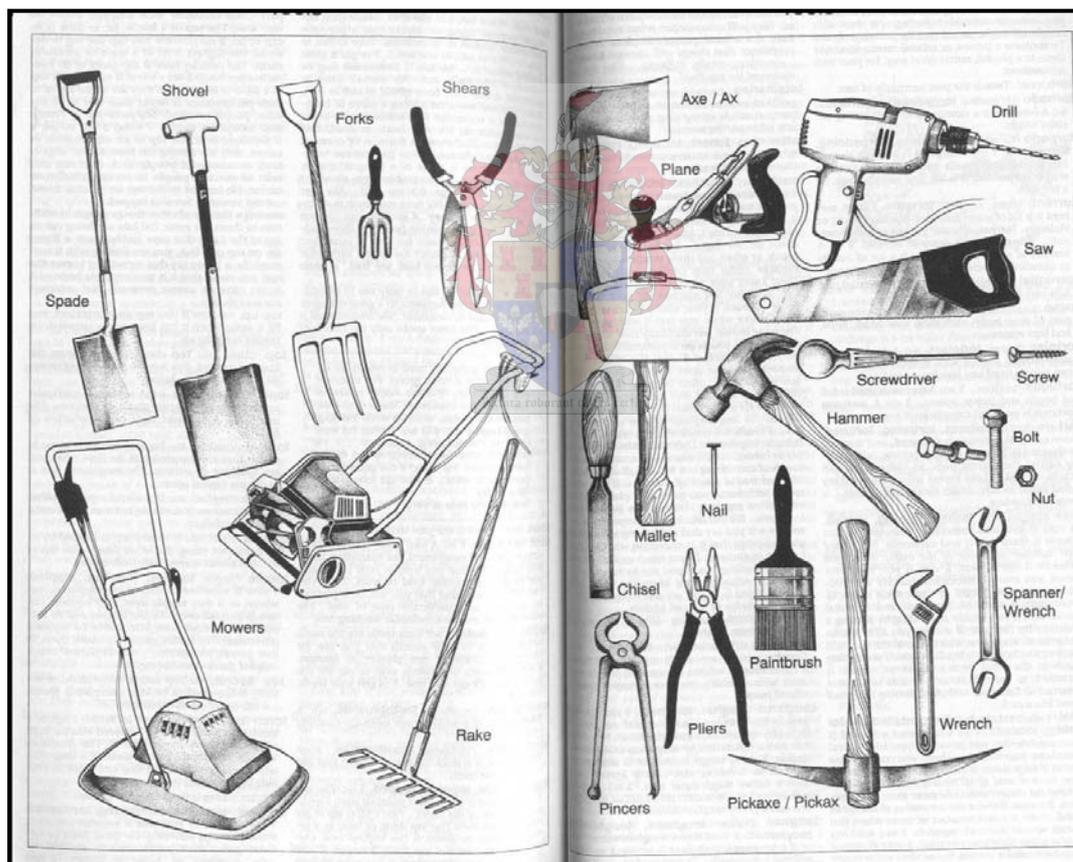
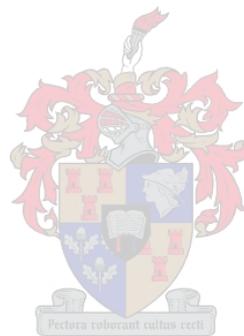


Figure 6.7
(Collins Cobuild New Student's Dictionary)

6.5 Conclusion

As it is developed above, propositions of colour matching are suggested in order to ensure an easier access to the dictionary. The outer text structure determines the part of the search route which leads the user from the entry on the cover of the dictionary to the lemma sign given as guiding elements of a given article. The addressing structure is of most importance to help the user by means of data coordination to distinguish between procedure of lemmatic addressing and non-lemmatic addressing. The mediostructure as the system of cross-referencing makes provision to guide the user between the central list, the outer texts and even cross-reference address outside the dictionary.



Chapter 7

CONCLUSION

This dissertation is the result of research aimed at the formulation of a theoretically based-model for the compilation of a French-Yipunu-English specialized dictionary, focusing on the medical field. The target users are the Yipunu community who do not have a culture of dictionary use, therefore the proposed model will also have to make provision for communication between the experts and laypersons. The Gabonese government is aware of the need of reference sources in the medical field and realizes the value of a multilingual specialized dictionary of medical terms. Such a dictionary can play a vital role in the government's awareness campaign where much attention has been given to.

In the field of lexicography much attention has been given to research directed at models for specialized dictionaries, especially within the theoretical framework of the German metalexicographer Herbert Ernst Wiegand. The research underlying this dissertation has been done within this theoretical framework according to which a dictionary has to be regarded as a carrier of text types. The focus has been on the genuine purpose of the dictionary, the needs of the target users, the lexicographic functions, the dictionary conceptualization plan and the various dictionary structures. Emphasis was put on the full lexicographic process needed for a model like this to assure the success of the eventual compilation of such a dictionary.

The main focus in Chapter 1 was an explanation of a number of key concepts.

Chapter 2 gives a brief discussion of the medical situation in Gabon. The socio-political aspects of Gabon as a country play an important role because socio-political programs in the world matters relating to health are constant topics of discussions, and they are central in the planning of new projects. An overview of Gabon had to be explained briefly, because it was important to understand the background of the country, if one intends to compile a dictionary. The aim of this chapter was to justify why the dictionary should be compiled because the compilation of a dictionary is to address the specific needs of the target user. Target users of this proposed dictionary are Gabonese exposed to Western as well as African medicine. Although people are going to hospitals, it is matter of fact that they still make use of traditional healers. In

addition, there is now a tendency of Western doctors to turn to traditional healers because of the progress made in opportunistic diseases by these traditional doctors.

There is a kind of self-renaissance among traditional healers in Gabon to gather themselves under one association of traditional healers. The intention is to harmonise and standardise their work, as to offer a different approach to Western medicine. In that, the objective is to achieve cooperation between Western and African system of medicine, and to find a platform in terms of terminology.

The health policy of the government of Gabon was previously providing social care to all of its citizens, taking maximum care of them. However, due to the recent economic crisis, and most diseases pertinently been difficult to be eradicated, it is becoming costly for the government to continue with its health policy. Hence, the government is now turning its attention to prevention and therefore awareness.

It is at this point that Chapter 2 found its relevance because the compilation of the proposed dictionary the FYEDMT will help to standardise the terminology between the Western and African medicine.

In Chapter 3 the lexicographic process with regard to data was discussed in detail. The FYEDMT like other dictionaries adhere to the criteria required in the compilation of any lexicographic work. The study of the lexicographic process has shown that:

- The acquisition of data includes primary data in which the oral corpus should receive the same attention as the written corpus. The oral data is an absolute necessity for dictionary compilation in African languages.
- A data collection policy should be formulated to describe ways to obtain the relevant oral and written sources. As a result the contributions from other scientific disciplines can help to build an interdisciplinarity in the data collection policy. An example of interdisciplinarity was given with regard to the *Actes du séminaire interdisciplinaire sur les méthodes des collectes des Données* (Acts of the Interdisciplinary Seminar on data collection methods), organized in Libreville, Gabon, by LUTO *Laboratoire Universitaire des Traditions Orales* (University Laboratory of Oral Traditions)
- The data distribution structure as well as the dictionary plan was also discussed with the intension to give more shape to the envisaged FYEDMT.

Chapter 4 discusses the frame structure. The emphasis was on the outer texts which represent the metalexigraphic structural components of the dictionary and their

classification, where the central list, albeit the principal part of the dictionary, is no longer the only venue for data consultation within the dictionary. This chapter also presented the possible subdivision of a primary frame and the secondary frame.

In Chapter 5 the core structures are presented, i.e. the macro- and the microstructure as the core structures of the dictionary. It introduces a hybrid type of macrostructure with a thematic arrangement mingled with a straight alphabetical macrostructure. The different themes to be included in the FYEDMT are arranged alphabetically as a topic of themes section. The lemmata included in each topic as article stretch are also alphabetically organized. The microstructure which is divided in a comment on form and a comment on semantics introduces a new type of article: the amalgamated dictionary article, in which three individual articles are combined. This new type of article gives the user three distinctive search areas with French being the language of lemmatisation and Yipunu the first target language and English the second target language.

Chapter 6 elaborates on the guide structures, and some propositions were developed to ensure an easier access to the dictionary. The outer access structure for instance, determines the part of the search route which leads the user from the entries on the cover of the dictionary to the lemma sign given as guiding element of a given article, i.e. to help the user by presenting various devices and different venues of data for better consultation. In this chapter, the colour matching system as innovative access method was suggested. The addressing structure was also studied in order to help the user by means of data coordination to distinguish between procedures of lemmatic addressing and non-lemmatic addressing. The discussion of the mediostructure focus on the relationship the central list has with the outer texts by means of a comprehensive system of non-referencing. In this system also called cross-reference the user can be directed either within the central list or towards the outer texts or even outside the dictionary. The mediostructure makes provision to guide the user between the central list, the outer texts and even cross-references could also be from one entry in the central list to another central list entry.

Finally, it is shown that the compilation of the dictionary demands not only a dictionary plan but also a sound theoretical knowledge in lexicography as the discipline regarding dictionary compilation.

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ADDENDUM 1

**Report of Research and Data Collecting in Gabon:
January & February 2002**



Date: 20th March 2002

The research was based on the medical situation in Gabon. This item constitutes a title of our introductory chapter of the thesis and can be divided in four parts.

- A) Documentary
- B) Sources
- C) Data
- D) Motivation

Documentary:

The research took approximately 40 days and has been conducted into medical areas like hospitals, (Hopital de Nkembo; *Nkembo hospital*, **CHL** *Libreville hospital centre*, **HPO** *Owendo paediatrics hospital*); clinics (*Polyclinics ELRAPHA*, *Private clinic of Belle-vue*); public Health sectors (**MSPP** *Public Ministry of Health and population*, **OMS** *World Health Organisation*, **PNLS** *National Programme of fighting against AIDS*, **PNLP** *National Programme of Fighting against Malaria*, **CTA** *centre of ambulatory treatment*); Private health organisation etc. At this stage of the research, documents, which can give the right information and produce more or less a clear presentation about Gabonese Policy on health and the overall medical situation in this country, were important and constituted the first preoccupation. There were two principal types of documents found: written ones and oral ones.

The Written documents: they consist of electronic documents (from the computer) such as different plans and reports of every year, province by province, containing public health information of the country. The computer department of the Gabonese Ministry of public health holds these documents. This electronic information was not accessible for technical reasons.

In these written documents can be included, different confidential printed documents (available only for reading), journals, scientific reviews, local publications (*ECHO SIDA*) etc, or some pictures produced by *PNLP National programme of fighting against malaria*.

Oral documents: they are essentially based on notes taken during discussion with certain authorities, like the General Director of Public health (Prof. Kombila) and some interviews recorded in audio tapes like the interview of Doctor MAKHA head of Private clinic of Belle-vue in Libreville (Gabon) or the interview given by Mr. MBONE Fortuney, Responsible of psycho-social department, in the *PNLS (National Programme of fighting against AIDS)*

Sources:

Sources can also be divided into two major parts; official sources and unofficial sources.

-By official we mean any useful information drawn from any public health institution or any organism representing at any level or dealing with the governmental policy.

-The population interviewed constituted unofficial sources.

Data:

There is currently some information in the computer as a starting point of data, which are going to be improved in the future, and completed in other publications.

Seven pages about Malaria, 15 pages about AIDS which need to be translated from French to English.

There are also 3 audio cassettes of 60' concerning interviews of Bapunu people explaining what they know about traditional healers and their therapeutically methods.

Motivation:

In May 2001 we had a fruitful discussion with Prof Sven Tarp from Denmark, Specialist on LSP Dictionaries. He proposed a certain approach of the Structure of the future **Yipunu-English-French explanatory dictionary of medical terms**.

In September 2001, Dr. Isaac Zogobé, who was escorting Dr. Yolande Zang Bie at Stellenbosch University, is a specialist in pediatrics at **HPO** Hopital pédiatrique d'Owendo (*Owendo pediatical hospital*) in Gabon. He suggested that working on medical terms dictionary in general is a vast domain and is going to be a hard task because the medicine itself is actually based on specialization. No one can be efficient in everything and everywhere in terms of the medical field. In others terms it is almost impossible to find a medical doctor who can have the absolute mastering in every domain of medical sciences. Therefore, the best way was to be focus on a certain group of diseases such as Malaria, HIV/AIDS, and Meningitis. These groups of targeted diseases have the particularity to present or cover several other diseases and symptoms. The aim is to have maximum vocabulary of medical terms through these targeted diseases, and as a result we decided to focus on two major diseases: HIV/AIDS and MALARIA which can include others.

The choice of those two diseases is based on the fact that HIV/AIDS covers for instance Tuberculosis, diarrhea, cancer, skin sickness, vomiting, migraine etc, and malaria covers fevers, heart diseases, cerebral problems etc. In Gabon the research was focus on Malaria and HIV/AID for the reasons described above.

Secondly, the desire to compare the information drawn from Internet and the information in the field to see whether they coincide or not is one of most challenging aspects for the credibility of this work.

List of persons interviewed:

1- Prof. P.A Kombila-KOUMBA: General Director of Public Health of Gabon

We did explain the role and the importance of the future dictionary of medical terms, and then we obtained form Professor Kombila some guidance and recommendations of his collaborators. This list was containing names of medical personnel and different medical fields in which we were expecting some explanations or information:

a) Health Situation of Gabon:

- The Statistics service of General direction of Statistics, there we met Mr.Georges OWOUNOU
- General Direction of human resources and equipments in Oloumi (Libreville)
- General Direction of infrastructure Planification in Oloumi
- For the HIV/AIDS, he recommended us to The PNLIS (National Programme of fighting against AIDS) next to, to meet Dr. Malonga, head of this institute. There Mr. F. Mbone did not hesitate to help us during three days.
- PNLIP (National Programme of fighting against Malaria) we worked for 4 days with Dr. Pakou, head of PNLIP and her team. She committed Mr. Martin N'Goua Obame, Medical Entomologist in Nkembo Hospital (Libreville) for my Work from whom I learnt a lot about malaria and different techniques of fighting against this disease.

b) Professor GASSITA is a specialist in therapeutical herbs in Gabon. We did not have any possibility to meet him.

c) Traditional Healers Association: the general Director recommended us to meet:

- Dr. INOUA Deputy director of Health was the first Medical doctor interested in the result achieved by one traditional healer. Dr. INOUA was one who initiated the traditional Healers Association. We did not meet him. But we met one of his partners: Dr. MAKA, head of private clinic in Belle-vue.

2- **Mr. F MBONE** Clinician Pathologist in Psychology and head of department of appui psycho-médico social (*social psycho-medical aid*) in Programme National de Lutte contre le SIDA (P.N.L.S). *National Programme of fighting against AIDS*.

We gathered from him an interview of 13 pages within which he presents The PNLS and the impact of HIV/AIDS in Gabon.

3- **Dr. PAKOU** Head of PNL (National Programme of fighting against Malaria) and her team: We obtained information about The PNL, the Gabonese Government policy concerning Malaria and methods and Campaigns of fighting against Malaria.

4- **Dr. MAKA** head of Belle-vue Private Clinic Gabon, is part of the team that found a molecule that can reduce substantially the process of HIV/AIDS. From him we drew another approach of anti-retroviral. (Medications against AIDS)

5- **Dr. L. GAUDONG** head of a military Hospital in Libreville, which is called Hopital Dispensaire de la Gendarmerie Nationale. We obtained some documents.

6- **Dr. T.C BAGAPHOU** in service in the Polyclinic EL RAPHA he worked on finding a good medication against Malaria for children in Dr. Schweitzer's Hospital in Lambaréné (central province of Gabon)

7- **Dr. Isaac ZOGOBE** Specialist in Pediatrics in the HPO (Owendo Pediatrics Hospital), from whom we got reorientation of our work.

8- **Dr. NTONG MVE** specialist of Public Health and former General Director in the Ministry of Public Health and population.

9- **Mr. G. OWOUMOU** Computer Scientist and Statiscian in the Statistics department of Ministry of Public Health and Population. We got

comprehensive summarised government reports on public health province by province.

10- **Mr. M. N'GOUA OBAME**, a medical Entomologist in the PNLP National Programme against Malaria in Nkembo Hospital. He is responsible for insecticide materials; we received from him some sessions in malaria process, especially three different types of mosquitoes responsible of Malaria. *Anopheles Gambiae*, *An Funestus*, *An Mili* and *Moucheti* govern the transmission of Malaria in Gabon, he said. However, the most frequent and parasitic is the specimen called *Plasmodium Falciparum*. One of the best means to fight against these insects is to use a special mosquito net, which is cheaper than any insecticides. As a result, different techniques of mosquito net impregnation (putting the fabric in a chemical solution) are parts of training offered by PNLP to the Specialists and to laypeople as well.

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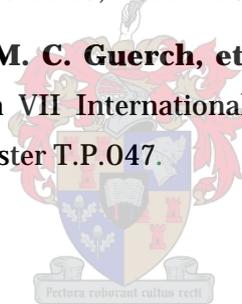
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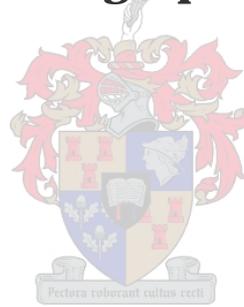
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ADDENDUM 2

The Yipunu corpus and the use of tones and new orthographical system



m múru : Bénengili múru, iléma áyívhu vha ju!lu dúnyuru payí, mútu áji mateli,mastsâna

myúru : Pa! múru'móosi, umásobana na mímosi,mika pwéela, bakanéngila yiri myúru.

matu!ji: biléma bi dúnyuru, bívhu yáari na yáari yi múru, bítughúlsu mambu na kûmfu.

míisu: biléma bímósi, bívhu vhaghûsu yîntsi, bítula!bisi mambu ma bulôngu.

díisu: mú dunnyuru du mútu, vháji bilema bi bëji bénéngili míisu. Pa! yiki yímóosi, wandi pi!ntsa , bakamunéngila yí díisu.

mbâsu: Ileme yivhu vha yintsi, na maluta mabeji ma gheyi. Ileme yie yina ,yi tu vhe muvhumu no (ghulu) fwimbna mbunga.

múnu: diluta di vhu vhaghari yintsi. na mu twivhosili.

mfúgha:Munongu mikúdu mi músiru mirogha, mísakama míkatasini mîri ó dijo!mbi.

mfúgha neni: Bwáli bu ghulõgha. Bévhayi yi mútu áka mu mfúgha neni, yi balõsi bamamughanga ó dikõlu. Yí, áka mu múyâma.

Muyâma: nyogha dikõlu.

mad∇!ba: Mubéelu matu!ji. Munge mad∇!ba, mútu, mughêtu, mwâna aghémwéghu!lu, áma bátu nândi bévhósi, aghémwéghu!lu ku!mfu.

mughólu: bé mwénéngili yî durëbi. Iléma yíghéeyi yívhu o gha!ri (ghaári) banda tsânda mughêtu, yí ti!mbuyi, yí múvheghi nzíla múghangu.

mbântsi: Bivhîsi bívhu o gha!ri tûlu, bíkândi mbõmbu ná bigha!ri.

mulêmbu: mulêmbu, pa yí umóosi, tûmba pa yí mipwe!la bakánéngila yí milêmbu. Biléma bi dúnyuru bívhu vha másukasulu ma díkaka.

mulêmbu mûlumi: mulêmbu díkaka, úghufí, ghwí vhyõghulili bamba!tsi úrogha.

mulêmbu tsyeli: bénéngili mulêmbu tsyeli, mulêmbu díkaka ághu ghéeyi.

mulêmbu gháari: mulêmbu díkaka, ghúvhu vhagháari, ghwí vhyõghulili bamba!tsi úsakama.

ndúka tsyeli:

ivhênda yáamba: Mulêmbu díkaka ghwí dúki mulêmbu mûlumi, bémúnéngili yivhênda yáamba mbá ná ghwoni twívhêndili yáamba. Mulâsa mambu, nó lóonga nzíla, yivhenda yáamba bésungí.

mudũghu: Bwáli bú mbasu, bwípa!lisi malũngu ó mbasu né múnge mudũghu aghánámu idĩmbu mú mbasu.

muswaami: Bwáli bu dírogha. Dirõgha di dúnyuru divhávha, dírándisi biléma bi dúnyuru.

muvhuvha: Mubéelu bághétu, ghwí vhuvhisi mamba ó banda tsânda mughêtu. mambi, ná mivhúsi (na mívhusi).

ambêmbi: Mubéelu bängebi, ghwí rándisi mabânga, ghwi vheéyi dibãghu, na mínu ngányi aghévhuúmi burânga, akábákughanga.

musuuntsu: Bénéngili musúuntsu, dilûta dívhu vhagháari marângi dípa!lisi *ghengisa múnýákùlù*

mukaáki: Bwali buránga bubênga ubõka mútu. Íkotsulu yírange.

muvhita:(ashme) Bwali buránga, bubênga ubõka mútu. Munge muvhita,

munyákulu: Ndengulu súusu dzi músunzu (músuntsu). Dilûta, dívhu óyáari yi marângi, yípa!lisi mambi.

misînyi: Murébu nânga úvhu vha pëdu kongi, bébéli na díisu.

mbâsu: Iléma yívhu vhagháari yîntsi, ná yooni twívhuúmini, twífwíimbini.

Ngenzi díisu: **múnu**: Dilûta dívhu, dínéni,dívhu vha gháari yîntsi . Na múnu

twírúngusi úji, uvhōsa, nónu. Ógháari múnu vháji: dúlimi, mínu, dilalagha ná yidāgha mām̄ba.

mukōgha: Yivhāsi yi dikúlu (dikūlu). Iléma yi dúnyuru vhanghúusu múpilingi.

muríma:

muvhusi: muvhúmunu, munyákulu.

misópu: bénégili misópu bigháari bi mútu ábi vhyóosi bighu!ji, bíkálusa bighu!ji byé bína múpa!lisa mām̄bi (ma!mbi) ó yitsāghu.

mōji: Iléma yi dúnyuru, yípa!tama, yívhu ótsi mábeeni, vhangháari mbāntsi. Mōji úbéntsa urānda payí mútu ámághāngu mu mbūndu, payí áanzi mu múkaáki, payí ána biraranda, payí mwāna ngebi ána misóba mipwe!la ó gháari mōji, payí mughétu áka na dími.

mōji: Mamóosi bénégili mōji, payí mughétu áko ntsíma tsūngi, áka na dími (dími). Mamóosi wāndi, bévhá yí ghúghu ána mōji, mútsingulu yí mójyāndi úroḡha.

malūngu: Munōngu mām̄ba mabēnga, mévhyóoli mu myāntsi ná dunyuru dwootsu, mésálisi muríma (muríma) ná bubóju, yíka baganga (bagaanga) mónyu. Bapūnu bámosi bénégili malūngu yí (mēnga). (maluungu mamápála)

matéji: mām̄ba ma múnu, métughwāmusi usóbana bighu!ji ó gháari múnu múmínanga na burānga. Nyambi ámátuvhegha máteji, múvhotsa nó lyōmisa divhúvhu. Bévhá yí ngebi pa! áska láama nzāla (nzāla), aghéjāabi yí ditéji yighu!ji.

mungúnga : Ighóghóju yívhu ó gháari kīngu, yítughwāmusi umína bighu!ji na mām̄ba nóvhyóosa bíima bímosi ó gháari mōji.

Musūnda kānda: bāna bóotsu béréli upa!lisa múru vha díburulu. Tūmba bénégili musunda kānda, mwāna érelisi upa!lisa makúlu.

mambēmbi: Mubéelu bāngebi, ghwí rāndisi mabānga, ghwi vhéeyi dibāghu, na mínu ngānyi.

aghévhuúmi burānga, akábákughanga.

musuuntsu: Bénégili musúuntsu, dilūta dívhu vhangháari marāngi dípa!lisi ghengil munyakulu

mukaáki: Bwali burānga bubēnza ubóka mútu. Íkotsulu yírange....

muvhita: (ashme) Bwali burānga, bubēnza ubóka mútu. Munge muvhíta