BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA

FACULTAD DE LENGUAS

"DESIGN OF A TERMINOLOGICAL DATA BANK WITH PARTICULAR REFERENCE TO THE AUTOMOTIVE INDUSTRY"

TESIS QUE PRESENTA:

ANABEL LECONA OLVERA

QUE PARA OBTENER EL TÍTULO DE:

LICENCIADA EN LENGUAS MODERNAS

ASESORA:

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PUEBLA, PUE., a 17 de Junio de 2015

“DESIGN OF A TERMINOLOGY DATA BANK WITH PARTICULAR REFERENCE TO THE AUTOMOTIVE INDUSTRY”

A thesis submitted to the School of Languages

for the degree of

Licenciatura en Lenguas Modernas

by

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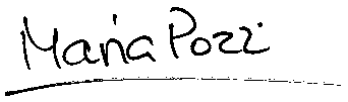

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Por este conducto se hace constar que la alumna ANABEL LECONA OLVERA, de la Licenciatura en Lenguas Modernas del área de inglés de la BENEMÉRITA UNIVERSIDAD AUTÓNOMA DE PUEBLA, está realizando su tesis en EL COLEGIO DE MÉXICO bajo la dirección de la DRA. MARIA POZZI PARDO.

Título de la tesis:

"DESIGN OF A TERMINOLOGY DATA BANK WITH PARTICULAR REFERENCE TO THE AUTOMOTIVE INDUSTRY"

Se extiende la presente constancia a solicitud de la interesada para los fines que a ella convenga.

A T E N T A M E N T
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"DESIGN OF A TERMINOLOGY DATA BANK WITH PARTICULAR REFERENCE TO AUTOMOTIVE INDUSTRY"

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Mayo 2015

ACKNOWLEDGEMENTS

Special appreciation and gratitude to everyone who supported me throughout my studies. Especially, to my family: my parents Cesar and Anatolia, my siblings Alejandro, Cesar, Miriam and Mariana; my grandma Eva†. I am thankful for their aspiring guidance.

Special thanks to my husband Juan Manuel Fosado López, for encouraging me during my studies. He was the first person to motivate me to finish this work, he was always there cheering me up.

Special appreciation to my thesis director María Pozzi Prado for your time, patience, immense knowledge, and your all valuable recommendations and suggestions on this work.

Besides my advisor, I would like to thank the rest of my thesis committee. Lic. Marsha Jane Way Souder and Mtra. Dorit Heike Gruhn for their corrections, suggestions, comments and guidance.

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CHAPTER I

INTRODUCTION

Ever since history began, there have been technical innovations and scientific discoveries, each one of them, no matter what they are, has needed to be named. As in any advancement, language plays an important role. Although in most cases scientists and technicians have been unaware of linguistic issues, they have been forced to find names for new concepts in their specific areas of knowledge. Today, "the lexical unit which represents a concept inside a specific field of knowledge or domain" is called *term* (Bruno de Besse, Blaise Nkwenti-Azeh and Juan Sager, 1997, p. 117-156), and the discipline that studies "terms", including collection, description, formation processes, presentation of terms and the relationships amongst them, is *Terminology*. (Sager, 1990)

The first persons who started creating new terms were specialists in different fields of knowledge. They had the need to name elements, compounds, measurements, physical quantities, inventions, products, things, etc. of their area of study. There were no rules established for naming, so they did it according to their own personal criteria. They often named new concepts after their own first names, last names, and places or even an important characteristic was taken into consideration to find a name for something.

Later, there was a total disaster in designations because of the lack of rules. This gave an impulse to setting up rules for naming. Those who started to do this were not related to Linguistics or Terminology. Cabré (1993) points out some examples, Vesalius was dedicated to Anatomy, Lavoisier and Berthold were chemical researchers and Linnaeus studied Botany and Zoology. They did not develop Terminology as a discipline, but they did create systematic terminologies and nomenclature and some of their principles are still valid nowadays.

As previously mentioned, these scholars did not know the area of Linguistics; however, it was necessary to know the language of every specialty branch of Linguistics (semantics, pragmatics, morphology, phonology, etc.) is needed in Terminology research since all of them deal with the study of the characteristics of language even when Terminology specifically studies special languages. (Dubuc, 1992)

In the 1930s, Eugen Wüster, an electrical engineer, laid the groundwork for scientific research of technical terminology with the aim of improving communication between specialists, avoiding ambiguity in specialized languages, by means of standardization, and convincing specialists of the advantages of standardization (Cabré, 2003). Later, he wrote the first concepts and principles of Terminology in the General Theory of Terminology. Nowadays, he is considered the father of Terminology.

Nevertheless, linguists did not show any interest in Terminology until some decades ago, when there were already terminological studies. They were not interested in terminology because linguistics considered terms to be mere linguistic labels. (Cabré, 1993) Previous researchers, mainly scientists, focused their attention on terminology to create terms in their specialties and develop better communication among them.

From the middle of the 20th century, profound changes took place due to the enormous progress in technology, globalization of trade and politics, development in science, culture, education, and gigantic expansion of mass media. Linguistics and specialists witnessed the increase of special languages and terminology researchers took action in order to fulfill the denomination of new concepts and their presentation.

Terminology as the discipline that studies specialized vocabulary deals with specialized communication. Specialized communication contains lexical and functional units that belong to general language. Moreover, specialized languages

have individual terms, which belong to specific areas and designate domain concepts. It is the basis for the understanding of concepts in specialized subjects, such as economics, computer sciences, medicine, law, engineering, natural sciences and technical sciences, among many others. The terminology of each field can be considered the infrastructure of specialized knowledge. Specific fields need specific vocabulary to define their concepts, intensify their specialization level and describe their entire field of work. (Cabré, 1993)

There is a huge request to develop terminologies in the international, national and industry level, and this reflects on scientific, technical, and economic progress in the fields concerned. Studies carried out by Sager (1990) have demonstrated terminology has an essential role in knowledge and development of all areas of study. The management of technical and scientific information is impossible without using terminological resources correctly.

In addition, due to globalization, industries can be set up anywhere in the world to produce their products at lower costs and hence this phenomenon brings the need for increasing communication in different languages. Moreover, a product passes through different departments where specialized terminology is required.

This is the case of the Volkswagen de México (VW), where workers and employees use specialized vocabulary in the field of the automotive industry. VW, México has to make its technical information concerning its field public to its different work areas as well as to its branches all around the world, (North America, South America, Europe, Asia and Africa). To spread out information from VW México, translation and interpretation play an important role. Therefore, translators and interpreters transform this information into other languages and consequently, they need to know the terminology of the company in order to avoid ambiguity.

The VW México is divided into different areas to carry out the manufacturing process of vehicles. It has a Translation Department, which is responsible for the

translation of documents, manuals, standards, blueprints, specifications, procedures, etc. into German, Spanish, English and sometimes Portuguese. For approximately sixteen years, the Translation Department has worked for the different areas of VW México. The company has a variety of terminological information, but this is not controlled, and translators face different kinds of terminological problems.

For such reason, the Translation Department decided to create a computer based automotive terminological data bank in order to solve terminological problems. This data bank was created taking into consideration the terminology used in each area, the specialists' experience, specialized books and dictionaries related to the automotive area, the Wolfsburg data bank, and all terminology compiled in the Translation Department over the years.

My main objective in this thesis is to demonstrate how necessary a specialized terminological bank is for a Translation Department in order to improve the quality of the translations, save time and avoid ambiguity or confusions with the terminology used within a company. This thesis aims to explain the design of a terminological data bank specialized in automotive area for the VW México Company.

1.1 P R O B L E M

The VW México is an industry dedicated to the vehicle construction. Founded in 1964 in Puebla with German investment, (http://www.vw.com.mx/es/mundo_volkswagen/historia.html), it is divided in different areas to carry out the vehicle manufacturing process.

The company has a Translation Department where all the information goes to be translated; and interpretation services are also solicited here. The Translation Department translates and interprets for company areas and affiliated companies. It is responsible for translating documents, such as manuals, standards,

specifications, and plans, and interpreting events such as conferences, presentations, workshops, and video meetings in German, English, Spanish, and sometimes Portuguese, depending on the client. The subject of translation and interpretation is normally in areas such as mounting, foundry, metrology, quality control, logistics, technical or mechanical development, robotics, maintenance, painting, metallurgic, mechanics, electric and electronics engineering, productive processes, informatics, accountability, laws, human resources, and administration.

The Translation Department has twelve translators; four of them work in the office and the rest are freelance translators who work from home. The freelance translators usually receive the texts and send the work back to the area, purveyor, or customer who requests the translation by e-mail. The coordinator decides who will translate each order depending on the subject of the text and the translator's specialty skills. Most of the VW México translators are slightly specialized in a particular area.

Monolingual and bilingual dictionaries are useful materials for translators and interpreters. There are only two technical automotive dictionaries, one is the *Diccionario de Ingeniería Mecánica y Diseño* (1990) and was made in Spain, so their variety of Spanish is not Mexican. The other one is English-Spanish and viceversa, *Glossary of automotive terminology* (1978) developed by the Engineering Standards and Data Department at Chrysler Corporation's Engineering Office –as an aid to Chrysler employees who work with the automotive terminology of both languages. It explains the substantial differences in automotive terminology which exist among the many Spanish-speaking countries, and at present this aid may need to be updated and include Spanish from Mexico.

There is also the Wolfsburg terminological data bank, that contains automotive terminology, but its Spanish is also from Spain. This fact causes many problems because the terminology used in the areas of the company is from Mexico, but there are no technical Mexican nor automotive dictionaries.

When translators face a problem of equivalence, synonymy, or polysemy and they cannot find the appropriate term, they need to use dictionaries, or to consult specialists, or in the latter apply their own criteria according to their knowledge and experience. If they do not find an equivalent (but they have already ran out of all their resources), they transfer the term of the source language in the translation text, in this case the client is informed about the situation and he/she usually understands the term and agrees the term be translated literally (it may be an Anglicism case, for example). Thus, terms used by them do not always have a lot of acceptance in the rest of the company, so they create terminological problems and confusion for those who use them.

On the other hand, workers do not use the same terminology in all areas; each area has its own vocabulary, different names for tools, actions, pieces, and processes. Therefore, when a text comes to the department, the translator should know who the requester is and what area it is for in order to use the appropriate terminology for that area. However, there is no unified term for each piece, tool, or operation in VW México, and this causes problems for the Translation Department and worse still, among workers.

In addition, translators often face problems because they receive identical documents; therefore, they repeat the same procedures to find terms they have already looked for. There is no terminology data bank available to collect, store, and classify terms or concepts used in the company in order to help translators save time and increase consistency.

1.2 JUSTIFICATION

The results of the overall increase in knowledge and information and the development of many languages are not only concerned with the same areas of study; in addition they involve the area of translation that is responsible to reproduce all this knowledge and information in different languages.

When translators face working with specialized areas, they find many terminological problems because the terminology is only used and spoken by specialists and most of the times, translators do not know all the terminology. Therefore, when they deal with specialized terms, they have to look for more than one resource, to solve their terminological problems, including dictionary searches, specialists' advice, and specialized books.

VW México's translators continuously experience these situations. They are responsible of translating specialized texts of all areas which are related to the manufacturing of vehicles. They need to control, record, store, classify and study the terminology used in order to make sure the same terms are used and understood in the different areas of VW México.

This thesis proposes a reliable solution for terminology problems that VW México translators face every day. The proposed solution is the creation of a terminological data bank in the automotive area to control all the terminology used in this company. This data bank could also supply terminological information in the four different languages in order to help interlinguistic communication. Specialists need to know the specialized terminology in the different languages that companies manage in order to ease their communication.

Translators will have a reference tool to find terms, definitions, equivalents in different languages, synonyms, antonyms, usage in context, term specific observations, abbreviation and acronym meanings; translator, specialist, or terminology notes and bibliography sources information; in order to have consistency in their translations. This terminological data bank will avoid wasting time on dictionaries searches, specialists' consultations of the different areas of the company or the creation of their own terms. It will be also helpful to unify the terminology used among workers in order to avoid terminological confusion.

1.3 OBJECTIVES

General Objective:

-To design a computer based terminological data bank of the automotive industry field in the Translation Department of VW México, in order to unify terminology, improve the quality of translation and speed up the translators' work in the Translation Department of the Company.

Specific Objectives:

-To help translators save time by avoiding lengthy dictionary searches and seeking specialist advice of specialized automotive terms.

-To create a reference tool in order to solve any terminological question, doubt or confusion.

-To show why a terminological bank can be of great help in a Translation Department.

-To help harmonize the automotive terminology in VW México.

1.4 RESEARCH QUESTION

1. How to design a terminology data bank that meets the needs of the Translation Department of VW México?

1.5 FRAMEWORK

This project will be based on a framework of terminological theories and studies; and will also be supported by the translation and terminology activities in the Translation Department and the information of the areas connected to VW México. It will be focused mainly on the works of authors such as Eugen Wüster, Juan C. Sager, Alain Rey, Maria Teresa Cabré, Robert Dubuc, Maria Pozzi and some meaningful ISO standards related to terminology work and study.

In 1931, Eugen Wüster, who was an electrical engineer, started the terminological research by doing some work related to the electro-technical language. Several years later, he proposed the first general terminology theory in which he explains theoretical and practical principles of terminology. He established the relevant importance of study the special language of specialized areas.

Later in the XIX century, appeared Maria Teresa Cabré, a Catalonian linguist, who also has contributed to the terminological research. Cabré is developing a new theory of Terminology. She states that to study a subject, it is also necessary to learn the language of that subject. These notions are essential for this research since, according to works of Wüster and Cabré, knowing the terminology of a specialized area, ease the work of translators.

Some other works will help to complete this thesis, as well as my personal participation and experience in the Translation Department, and its activities particularly in the creation and realization of the automotive terminological data bank.

CHAPTER II

LITERATURE REVIEW

The goal of this chapter is to describe some authors' main ideas on terminology, and additional theoretical information about terminology. These ideas will be combined with all the information related to the development of a data bank.

2.1 SPECIAL LANGUAGES

The purpose of the first topic is to describe what special languages are, how they have been developed and what their characteristics are, according to some authors, and how they are related to terminology.

When the first human beings began to discover their world, one of the problems they had to face was the lack of communication. First, they had to find a way to survive and protect themselves from wild animals, climate, natural phenomena, and other groups of people. In time, they started looking for a way to communicate their feelings, thoughts, ideas, etc. They had to communicate with others to talk about food, hunting, farming, fishing, shelter, nature, enemies, and other social aspects. They felt a need to share what they had learnt from their past experiences and also to learn from others; in consequence, many social functions arose.

Communication began with noises, signs, gestures, but people felt it was not enough and soon they were able to discover that it was possible to express their communicative needs orally. The discovery brought the opportunity to create a language, naming tools, food, objects, actions, animals, arms, clothing, plants, etc. This way, mankind could classify its world into different areas and search for more designations in order to name all the things that it used or what he or she wanted to express.

For centuries mankind has studied its world and has needed to classify it. Moreover, it has needed to create a variety of vocabularies to do so. This task has not yet concluded because many new areas continue to look for special vocabularies to designate their concepts, and new areas are born due to progress and development of civilization.

For example, Lavoisier created a systematic nomenclature to name chemical substances. Before that, alchemists used a fantastic and poetical language to refer to their specialty concepts. When they wanted to refer to gold and silver, they named them after the sun and the moon, and to talk about the mixture of hydrochloric and nitric acids, the substance in which gold can be dissolved: they often called it: 'agua regia'.
(http: //www.terra.es/personal8/biografía/lavoisier.htm).

In that way, scientists and specialists started to create their own nomenclatures to unify or at least harmonize the designations of their areas, i. e. their own language. When a scientist invented or created a product, he or she may have used his/her last name or even his/her own first name to designate the product and patent it. Today, this custom is rarely used.

Special languages are made up of specialized vocabulary in a specific subject and they facilitate communication between specialists and professional people. Special languages come from general language; Sager, Dungworth y McDonald (1980, p. 17) pointed out that:

> "The nature of language is such that general language and special languages can be accommodated within one natural language: the fundamental characteristics of language are manifested both in English and in the language of chemical engineering, both in French and in the language of physics. The difference between general and special languages is a difference of degree rather than kind: the degree to which the fundamental characteristics of language are maximized or minimized in special languages. Special languages are used

more self-consciously than general language and the situations in which they are used intensify the user's concern with the language. It is therefore in the level of use that we look for more specific differentiating criteria."

(Sager, Dungworth & McDonald, 1980 as cited in Teresa Cabré, 1993, p.125)

2.2 DEFINITION OF SPECIAL LANGUAGES

According to Sager et al. (1980) and others, special languages are part of general languages. This means that special languages are originated and formed from general or common language, but they differ from general language in the degree of specialization on thematic areas. Authors have different ways to define special languages. For some, it has been difficult to express what special languages are in linguistic terms. Sager et al. (1980) define them as

"Special languages are readily recognized as pragmatic or extra linguistic subdivisions of a language. Certain difficulties arise when we attempt to explain special languages satisfactorily in linguistic terms."

(Sager, Dungworth & McDonald, 1980 as cited in Teresa Cabré, 1993, p.134)

According to Kocourek (1982), special languages are a transmission and exchange system of information and they use several codes simultaneously. Varantola (1986) points out special languages are semi-independent, based on and derived from common language, but their function has specific approach and their use is only to carry out communication among specialists of a particular or related subject field.

Picht and Draskau (1985) agree with Varantola (1986). In addition, they consider that special languages inform about specific subjects with a precise, clear and accurate terminology. Beaugrande (1987) affirms that they are codes of linguistic nature with rules and specific units and their main objective is their communicative potential. Sager et al. (1980) state that special languages are means of expression for researchers (such as lawyers, physicians, engineers, doctors, etc.)

with a high level of knowledge, who call them “jargon”. On the other hand, Picht and Draskau (1985) consider that special languages cannot only be used for subject specialties, but also for training development in a lower level of specialization.

Special languages are more international or universal than general language because specialists are familiar with a determined area of study. Special languages often have common cognates, even in different languages. For example, an English physician would be able to read or at least to understand a French research paper on medicine presented in French while perhaps he would not be able to read a local French newspaper. Specialists often have a minimum knowledge of their specialty in another language because they always read bibliography in the language that has most influence in their country or in their work environment.

According to Teresa Cabré (1993) a special language can be considered as such, because of three different criteria. First, the thematic criterion, which describes all content of a subject, it is specialized learning, and does not belong to the general knowledge of the language speakers. Second, the user criterion, which has specific knowledge of a particular subject, obtained through learning and experience, and the use of special languages in specialized communication. And third, the situation criteria where special languages are born, they are used formally in professional and scientific fields.

Cabré (1993) gives what she considers the characteristics of special languages. They can be special languages according to thematic, situation or user criteria

- They are part of general language.
- They transmit knowledge precisely, economically and adequately.
- Standardization plays an important role in some of them. It is the case of some specialties that have restrictive rules in communication, for example, medicine, astronautics, satellites, aeronautics, robotics, etc.
- They ease communication among specialists.

- They are used by specialists and professionals or anyone involved with a specialized subject field, e.g. students, professionals and even common persons, but they use them with a lower level of specialization.
- They attempt to avoid ambiguity

According to Rodeau (1983), all special languages come from common language. He illustrated this in a diagram (Figure 1) on how special languages work. He mentioned that special languages have two classifications. One is the horizontal classification, where all special languages are unitary. In this classification, we can see the representative special languages like physics, chemistry, anatomy, biology, geology, botany, etc.

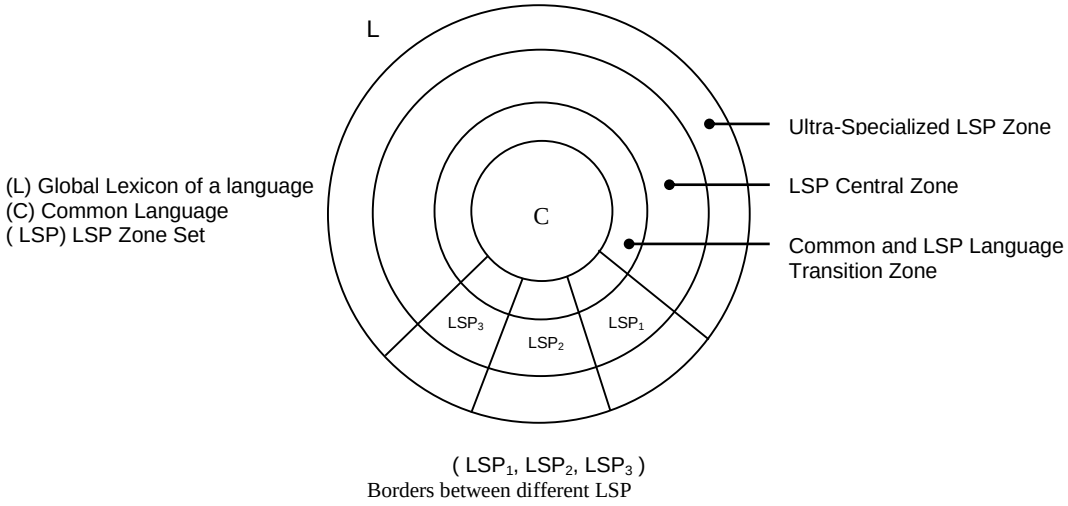

Figure 1. The situation of special languages according Rondeau (Cabré, 1993, p. 145)

The vertical classification shows their degree of specialization. When they are far from the center they are more complex and specialized. They are only understood by specialists who are in touch with all subjects of these special languages. In the center we find general language words that usually have many synonyms.

Nevertheless, according to Cabré (1993), here are words that are used in the common languages, but they also belong to one specialized area. It means they are found in the frontier of common language and specialized language. For example,

in Cabré's words, in daily life when we talk about school, sports, home, jobs, maintenance, professions, etc., we not only need general vocabulary, but also specialized vocabulary is useful for certain subjects. Therefore, it is possible to find special languages with high, medium, and low degree of specialization.

It is important to mention that there are many words that not only belong to one specialized area and one special language, but also to other subjects and with a different meaning. For example, the word *matrix* according to the Webster Dictionary has different meanings; it depends on the subject the word is used*:*

The first meaning is *womb, uterus.*

In Anatomy, this word has two meanings: a) *any nonliving, intercellular substance in which living cells are embedded, as in bone, cartilage, etc.* b) *the formative cells from which a nail, tooth, etc. grows.*

In Electronics, *matrix is a process in which several signals are combined for transmission or recording and then separated for reception or playback.*

In Geology, it *is the rock or earthy material in which a crystal, pebble, fossil, etc. is enclosed or embedded.*

In Linguistics, *matrix is a main or independent clause.*

In Mathematics, *it is a set of numbers or terms arranged in rows and columns between parentheses or double lines.*

In Printing, the word matrix can have two meanings: a) *a metal model for casting the face of type*. b) *a papier-mâché, plaster, or similar impression of type, etc., from which a plate can be made, as in stereotypy.*

2.3 BACKGROUND OF TERMINOLOGY

The origins of terminology can be traced back to the times when the first human beings developed a language to transmit their beliefs, organize and classify their thoughts and ideas. However, theories, principles, bases and methods of terminology have been more recently studied by researchers, even when scientists had already created their own scientific nomenclatures many centuries ago. Since

mankind started classifying the world in order to study it (nature, astronomy, medicine, anatomy, etc.), it has used terminology, but this usage has been unconscious most of the times. It did not really faced vocabulary problems until some centuries ago, when scientists found the vocabulary they used to refer to their specialties limited, poor and senseless. Later, they would deal with the opposite: synonymy, polysemy, ambiguity, etc.

The lack of vocabulary in certain fields, especially sciences, brought the need to regulate the formation of new terms. Advance in sciences does not only expand scientific knowledge, but also increases language and communication; therefore, new concepts should be created.

According to Alain Rey (1995), people like Saint Augustin, Saint Anselm, Indian thinkers, Arabic philosophers, grammarians and lexicographers, started to carry out deep reflections on terminology (although they did not consider them as such), taking into account the relation between object and thought. Even Plato (428 BC – 347 BC), centuries before, in his Cratylus dialogue, wrote some reflections about concept, object and thought. The Greek philosopher Aristotle (384 BC- 322 BC) made significant contributions to most of the different subjects he studied. He also created his own terminology in one of his writings, "the Categories", that is a classification of individual words that can be the subject or the predicate of a proposition.

The idea of establishing a discipline to create, analyze and harmonize terms of special domains was remote and it was not even thought. After the Renaissance, terms like ‘nomenclature’, ‘glossary’, ‘list of names’, etc., started to be included in some dictionaries of different languages. These words would have an immense importance in the development of a new discipline, even when they changed their meaning afterwards.

The first researchers on terminology were people who belonged to natural sciences. For them, it was important to know every possible word about their specialized subject. Buffon (1749) states that:

> "The first task to be undertaken when one embarks on elucidating the history (i.e. the systematic and specific description) of an animal is the critical examination of the nomenclature, to unravel thoroughly the different names that have been given in all languages and at different times."
>
> (Buffon, 1749, as cited in Rey, 1995, p. 12)

According to the words of Rey (1995) in the sixteenth century scientist Vesalius, and later, in the eighteenth century scientist Linnaeus created their own nomenclature for their area of study. However, Linnaeus was not the pioneer of the botany nomenclature; Joseph Pitton de Tournefort (1694) had started the nomenclature of plants based on the structure of the corolla some years before and had built a system which is still used for some aspects of that terminology.

> "Knowing plants means knowing precisely the names they have been given with respect to the structure of some of their parts (...) The idea of characteristics which essentially distinguish one plant from another, must invariably be one with the name of each plant."
>
> (Tournefort, 1694 as cited in Rey Alain, 1995, p.13)

Certainly, Linnaeus' work was better accepted and is recognized at present. It was the point of departure for creating other nomenclatures. In the same century, Lavoisier, Berthollet and Fourcroy created the terminology of chemistry. All these nomenclatures have been models to create new ones in different areas of knowledge, and some of them have been reformed once and again.

In the nineteenth century, the word 'terminology' began to be defined by different languages, but in the same way in most dictionaries. The word acquired the meaning of a group of unclear, confusing and useless words. In 1966, it appeared with a meaning closer to the one that we know today, for example, "…the *Webster*

dictionary defines it as “nomenclature of a field of study”, and the *Petit Robert* (1978) defines this word as “étude systématique des terms .... servant à dénommer classes d’objects et concepts ...; Principes généraux qui président à cette étude” [systematic study of terms .... which serve to name classes of objects and concepts ...; the general principles of this study]” (As cited in Rey Alain, 1995, p.16)

Later on, according to Teresa Cabré (1993), technicians decided to explore terminology study because they also needed to designate new concepts in their technical environment. The accelerated progress of technique and technology required naming new innovations and discoveries and then harmonize communication in these fields.

During the seventeenth and eighteenth centuries, there was an increase of studies on knowledge, thought, philosophy, science, technology and language. Extensive research in different areas, discoveries in several subjects and some new inventions expanded the information circle. Different theories about knowledge were developed and influenced the *raison d’ être* of language. However, some researchers did not agree with this. Scientists and researchers were studying the world and mankind behavior, thus, the need for naming new things was multiplied. The development of mankind together with terminology was obvious; language was a necessary means to support all those changes, and so, the first studies on terminology appeared.

According to Picht and Draskau (1985), at the beginning of 1900s, the first issues in terminology appeared in the electrical engineering area. These works were written by the International Electro Technical Commission (IEC), and also presented the first international vocabulary on electronics in 1938. On the other hand, in Western Europe, some inquiries about scientific and technical terminology were developed; these contributions were mainly made by Eugen Wüster. He was an Austrian engineer (1898 – 1977) graduated from the Technical University of Stuttgart, and he is considered the pioneer of terminology research. He focused his

study on electro technical terminology. In 1931, he submitted his engineering doctoral thesis at the University of Vienna under the title *Internationale Sprachnormung in der Technik, besonders in der Elektrotechnik* [international language standardization in technology, particularly in electrotechnics], where a theory of terminology appeared for the first time. This theory was the origin of important reflections on terminology. The main objective of his thesis was to eliminate ambiguities on technical and scientific communications. In addition, Wüster presents the organization of the terminological works and the methodology for a terminology work.

At the same time, in the Soviet Union there were already some other contributions to terminology; these had been done by D.S. Lotte, who was the leader of the Terminological Normalization Committee at the USSR Ministers' Council Normalization Institute. Lotte and his coworkers Caplygin and E.K. Drezen carried out some research on theoretical and methodical aspects and later they created the "Technical Terminological Commission", which was later transformed to "Technical and Scientific Terminological Commission". Drezen was more interested in terminological standardization. (Cabré, 1993)

In Austria, Wüster's work was being recognized and at the same time it encouraged terminological research. In the same decade of 1930s, the ISA (International Federation of National Standardization Associations) was created. It was constituted by huge commercial nations -France, Great Britain, Germany and the USSR. The goal of this organization was to favor international trade and incite the standardization of products and manufacturing procedures. Thus, Wüster began to create a technical association inside ISA in 1936. This technical association had the intention to create methodological principles to harmonize national terminologies and standards in order to produce and present them. Unfortunately, the Second World War interrupted these tasks. (Cabré 1993)

In 1946, international trade renewed its efforts and created the ISO (International Organization for Standardization), the successor of the ISA, with the

objective of reviewing the manufacturing standards to face up the consequences of the Second World War. Wüster never interrupted his research and thanks to him the ISO/TC37 was originated (the successor of the technical association, created by Wüster) to set up and test the procedures of the terminological standardization and make some recommendations about it.

Until then, linguistics had not shown any interest in terminology, in spite of the fact that terminology is a part of language and that they are in charge of studying it. It is obvious that scientific or technical researchers should not have started the study of terminology, but linguists or specialists in human sciences should have done it. However, they did not show the least interest until a few years later when the most important principles and bases in terminology were already written. They did not show any interest because they did not have the need to study or create new terms. Thus, they began to study terminology to find a terminology theory.

Picht and Draskau (1985) hold that Wüster's main achievement was to establish different meetings with the ISO, the UNESCO, FIT (International Federation of Translators), and the Council for Europe in order to consolidate the study of terminology considering it a discipline. In the same way, the International Information Centre for Terminology (INFOTERM) was formed and located in Austria. The aim of this center was to encourage and organize the scientific and technical information and to look for the progress of terminology.

Around the world, there were also several attempts by linguists, analysts, document makers, editors, and translators to study terminology; however, the lack of resources and the lack of interest by the same organizations did not encourage its development. For example, in Spain many meetings were held to create an association dedicated to the study of terminology, but all these meetings did not achieve a real accomplishment. Decades later, some projects took place, among them, "Red Iberoamericana de Terminología", which is one of the most important

institutions because it links all the study and research center and the terminological data bank of the same region.

According to Teresa Cabré (1993), up to now Eugen Wüster is considered the father of terminology. There are some disagreements about this because other people have considered Lotte as the founder of terminology as a scientific discipline. However, while Lotte was concerned with theoretical and methodological aspects of terminology, Wüster was showing the first terminology theory in his doctoral thesis.

After Wüster, there were a good number of researchers like Helmut Felber, Heribert Picht, Juan Sager, Robert Dubuc, and others who have provided many ideas towards the study and development of terminology. However, all of them have based their arguments on Wüster's theory. Some years ago, in the terminology field Maria Teresa Cabré, a Catalonian linguist, appeared, who has recently published many different reflections about terminology as a discipline. Nowadays she has developed a new theory based on a communicative approach.

It is important to mention the development of terminology studies in Latin America, specifically in Mexico. According to the paper La investigación terminológica en México, presented by María Pozzi in the First National Meeting of Terminology in Mexico City (2001), in 1976 the field of terminology study was unknown in Mexico. However, in that year, El Colegio de Mexico (COLMEX) included terminology as part of the translation program. Teachers from the European Community and Canada lectured on this subject at COLMEX. The relationship between Mexico and the European Community brought the opportunity to open a research project between these two representations. The European Community would supply its terminological data bank EURODICAUTOM, while El Colegio de Mexico would start to work the Spanish language terminology. However, this agreement did not succeed because Spain objected when they knew that Mexico was going to provide the Spanish terminology using Mexican Spanish. They argued that if this bank belonged to Europe, Spain would have to take part in it and not

Mexico. For that reason, the agreement was cancelled. Nevertheless, this incident opened the door for terminology studies in Mexico.

On the other hand, the Universidad Nacional Autonoma de Mexico (UNAM), at the ENEP, campus Acátlan, began to offer lexicography, lexicology and terminology seminars for the linguistics program. It had to do more with linguistics than with translation. The Pompeu Fabra University from Barcelona supported these seminars and other terminology intensive courses.

In 1994, Mexico joined ISO/TC37 (Terminology: principles and coordination). Mexico has worked on different international terminology standards and El Colegio de Mexico has always been in charge of these. That same year, El Colegio de Mexico, with the support of CONACYT, started developing the Mexican terminological data bank (BTMEX), which contains terminological information on different subjects. The information contained is in English, Spanish and some of it in French.

In 1996, the fifth RITerm symposium took place in Mexico. The main purpose was to promote terminological activities in our country. RITerm has a specific research project, it is called RITerm-BD and the aim is to gather, make and spread terminological compilations in countries from Latin America (Spain and Portugal included).

After those events, cities like Puebla, Xalapa, Mexicali, and Campeche have been chosen to have some conferences, congresses and symposia. Some universities in these places have now included terminology as a course in some university programs. In 2001, the second Iberoamerican conference on terminology took place in Mexico City. The goal of these events was to spread the knowledge and activities of this subject and at the same time to create interest in students in this discipline, which was almost unknown in Mexico.

According to Pozzi (2001), there is little terminology research in Mexico; in fact, El Colegio de Mexico is the only institution that works on terminology study and the development of terminology standards. The ENEP, campus Acatlán does research on linguistic aspects of terminology. In the application, there are some technical specialized dictionaries that are being developed in these two institutions with support from COFETEL (cellular telephony and electronic commerce). In Acátlan, the vocabulary for cinematographic terms was created, and at present, terminology for satellites control is being put together. COLMEX has taken part in the gathering of several vocabularies like nuclear waste and dangerous materials in the work place (with the Canadian government), informatics, environment and the feed ionization (with the Red Panlatina de Terminología), and the international commerce. In addition, the University of Veracruz is working with English teaching as a second language and anthropology terminologies.

On the other hand, the Mexican committee for the attention of the ISO, has given some tuition to other technical committees to help to manage their own terminologies, and to show the importance of giving an adequate usage and management of specific terminologies in their fields.

Although the expansion of terminology studies has increased in Mexico, in the words of Pozzi (2001), there are some problems stopping the development of this discipline. The main problems are-

- The lack of interest by competent authorities (SEP, SECOFI, etc.), general public, and many different companies that manage specialized terminologies.
- The lack of funding for this work. To achieve tangible results with high quality, money is needed in specific budgets.
- The lack of human resources with a reasonable training.

However, there is a great interest in terminology and its applications from different institutions, companies and a great number of students who have realized its importance. Many specialized dictionaries and terminologies are being designed

at the moment. This fact means that the terminology development will be different from what it has been so far.

2.4 GENERAL CONCEPTS, PRINCIPLES, METHODS AND THE TERMINOLOGY THEORY

The aim of this section is to describe the definitions of terminology, the general theory of terminology of Wüster, its principles and methods according to some authors.

Before starting with some authors' contributions to the principles, methods and the general theory of Terminology, it is important to distinguish the word 'terminology' in the words of Juan C. Sager (1990). The word is a polysemous misnomer because it has three different meanings in current usage. This confirms the importance of the study of terminology in all fields of knowledge. People can get confused with many words if they have more than one sense. So, if we talk about terminology, we can talk about the discipline (the word terminology is used in the singular and without an article), the activity or a collection of terms (the word terminology is used in plural or proceeded by an article). The last meaning of terminology is recorded like the first usage of this word.

According to Juan Sager (1990, p. 2-3) terminology means:

1. - It is the study of and the field of activity concerned with the collection, description, processing, and presentation of terms, i.e. lexical items belonging to specialized areas of usage of one or more languages.

2. - A theory, i.e. the set of principles, arguments, and conclusions required for explaining the relationships between concepts and terms, which are fundamental for a coherent activity under 1.

3. - A vocabulary of a special subject field.

It means that terminology, as a discipline, allows us to identify, analyse, create and harmonize vocabularies for a determined subject field systematically. The objective is to respond to specialists' communication needs. The second definition is related to the methodology of doing terminology; its study supplies the appropriate vocabulary to specialized subjects. The last one is related to the vocabularies (sets of designations) of the different areas of study; for example, there is the terminology of anthropology, zoology, satellites, etc.

It is important to point out that for many years, there have been controversies and discussions among many specialists in considering terminology as a discipline because it only responds to social needs of language expressions and they deal with political and commercial interests. Sager is one of these authors who do not admit terminology as an autonomous discipline. Nevertheless, he recognizes its value as a subject because it has theoretical bases. He says:

> "There is no substantial body of literature which could support the proclamation of terminology as a separate discipline and there is not likely to be. Everything of import can be said about terminology is more appropriately said in the context of linguistics or information science or computational linguistics. We see terminology as a number of practices that have involved around the creation of terms, their collection and explication and finally their presentation in various printed and electronic media. Practices (…) however well-established, do not constitute a discipline, but there is no point on denying a long history of methodologies which themselves require theoretical underpinnings to justify their distinctive nature. Disciplines establish knowledge about things and as such are justified in their own right; methodologies are only means to an end, and, in the case of terminology, how to do things." (Sager, 1990, p.1)

On the other hand, other specialists agree that terminology is a scientific discipline, even when it is often considered an interdisciplinary discipline, for its development has depended on the participation of several disciplines like morphology, semantics, etymology, linguistics, logic, ontology, epistemology,

philosophy of science, cognitive sciences, information science and the individual subject fields. They are related to each other because all of them are concerned with the systematization of concepts and terms.

According to Sager (1990), terminology is considered part of linguistics because both of them have the same objective which is to study language. Linguistics studies general language, its nature, structure and development including phonetics, phonology, morphology, syntax and semantics. Terminology only studies the specialized languages, which are created by the different areas of study. It concerns merely the study of particular vocabularies, the creation of new terms, methodologies for doing it and the control and standardization of specialized terms.

According to Sager (1990), the interest of the study of terminology was generated in great measure with the isolation of individual fields of knowledge together with the expansion of information especially in science and technology and many of social changes that were motivated by linguistic needs. As a consequence of these international facts, new designations had to be created for the new concepts, and later, to control the undesirable diversity of terminology and the large quantity of the new designations in order to reduce ambiguity, which is originated by synonymy, polysemy and homonymy. In that way, a methodology to process terminological information was created. This author mentioned that terminology is supported by linguistics, information science or computational linguistics. In this way, terminology is able to study, analyze, collect, store and classify the different vocabularies of one or more specialized subjects.

Cabré (1993) considers that terminology was not born to become a discipline; at the beginning, there were no concerns about its nature and theoretical foundations. However, it has developed to create its own area of study because of the swift progress of sciences and techniques and the insufficiency of specialized vocabulary among fields of knowledge of different languages. It has also attained the general recognition of its importance in the entire world.

Wüster originated the basis of this discipline from a deep reflection of the practice of his dictionary *The Machine Tool, An Interlingual Dicionary of Basic Concepts*. At the beginning, his concern was not only related to the theory, but also to the methods aimed at the compilation and the terminology standardization because he considered this area of study like a tool to avoid the ambiguity of scientific and technical communication. However, the result of his impressions in that dictionary was the theoretical formulation of terminology, which is called “the General Theory of Terminology”. This theory certifies that terminology guarantees the standardization of scientific and technical vocabularies.

Besides, according to Cabré, this theory was based on the studies of four scientists. The first is A. Schloman, a German researcher, who considered that specialized terms need to be worked systematically; he is also author of some technical vocabularies in six languages. The second is the Swiss linguist Ferdinand de Saussure, the first researcher who emphasized the systematization of languages. Another is the Russian E. Dressen, who was pioneer in showing the significance of standardization, encouraged the creation of the organization ISA (International Standardization Association). It was the first international organism of standardization and later it was changed to ISO, which is the current organism of standardization. Finally, we have the English J. E. Holmstrom, who helped generate an international organization to be in charge of managing and spreading terminologies. This fact produced the creation of INFOTERM (International Organism of Documentation and Terminology) in 1971.

According to Cabré (1999), Wüster’s main objective with the “General Theory of Terminology” was to standardize scientific and technical terms in order to go for the universal language and the uniformity of communication. His interest was to achieve internationally the unification of communication among specialists. Wüster stated that the terminological activity is performed on compiling concepts and terms of each specialized area to ensure unification. It means that this theory proposes the unification and monosemy of terms. The importance of vocabulary is absolute before

grammar, the synchronic treatment of terms, and the management of them (recompilation, unification, and standardization of terms).

In the words of Cabré (1999), the basic elements of the "General Theory of Terminology" are:

1. Terminology is considered an autonomous discipline where linguistics, logic, ontology and informatics are intersected.
2. The main object of study is scientific and technical concepts.
3. Terms are considered semiotic units; they are composed by concept and designation. Their communicative, syntactic, semantic, discursive and social dimensions are not studied.
4. Concepts are considered static units, so their evolution is not studied.
5. The restricted function of terminology is to label concepts of professional communication.
6. Terms only belong to the communication between specialists and professional people.
7. Terms belong to just one specialty and it does not share them with other subject fields.
8. The main objective of studying terms is the standardization of concepts and designations.
9. The scientific and technical subject fields are the only privileged areas of study of terminology.
10. The main objective of standardization is to guarantee the univocity of professional communication.
11. Finally, this theory separates specialized languages from common language and terms from words.

Cabré states that the general theory of terminology is systematic and logical, but it is useful just for standardized communication because it does not have a diverse application. That is to say that it is valid for scientific and technical subject fields, the standardization of their terminologies mainly at the international level.

However, these insufficiencies are acceptable because it was developed in the industrial engineering in order to compile their terms and delete ambiguities in that special language, as Cabré says in the following quotation-

> "Las insuficiencias de la teoría de Wüster son lógicas si tenemos en cuenta cómo y dónde surgió su propuesta. La terminología nació de unas preocupaciones muy precisas: de la necesidad de técnicos y científicos de normalizar denominativa y conceptualmente sus disciplinas en vistas a garantizar la comunicación profesional y la transferencia de conocimientos. La TGT surgió como fruto de una reflexión realizada desde una práctica precisa en el ámbito técnico: la máquina herramienta; se proponía unos objetivos muy bien delimitados: garantizar la univocidad de la comunicación profesional; y nació en el contexto de búsqueda de una lengua universal que permitiera superar los obstáculos que el lenguaje ordinario causaba en la comunicación. Pero con el paso de los años han aparecido necesidades informativas y comunicativas nuevas, se han diversificado de las aplicaciones terminológicas y se han generalizado el conocimiento y la tecnología."
>
> (Cabré 1999, p. 147)

This theory mainly seeks the international standardization of concepts and terms, and the methodologies for doing it. It means that standardization of terminology aims to achieve standard vocabularies of scientific and technical subject fields. In this way, these normative vocabularies would work in a way where just one term corresponds to one concept and just one concept corresponds to one term (ISO 10241: 1992, International terminology standards – Preparation and layout).

In order to get rid of the insufficiencies of the "General Theory of Terminology", Cabré has presented a new proposal, the "Communicative Theory of Terminology" (CTT) (1999); it attempts to solve all the terminological problems that Wüster' s theory does not cover. According to Cabré, the main principles of this theory are-

1. Terminology is an interdisciplinary subject because it is formed of the contributions of the knowledge, language and communication theories.

2. General and specialized language are associated; however, each one of them has its own idiosyncrasy.
3. The object of study is the terminological unit: term.
4. Terms are considered lexical units with syntactic, pragmatic, semantic, communicative and discursive values.
5. Terms do not belong to just one specialized area, but also they can be used in different subject fields with a specific value.
6. The objective of the applicable terminology is to collect terms of a specialized area and establish certain conditions. One of these conditions can be standardization of terms.
7. Synonymy and polysemy are real phenomena in specialized and general language, so they are admitted. In the case of standardized terminologies, the communicative variation is reduced.
8. The methodology of terminology can be adaptable to its objectives, users, subject fields and available resources.

According to Wüster (Cabré 1993), the study of terminology starts with concept. The concept and the relationships between concepts are units of analysis and they relate language and reality. Sager says that people use them to change ideas and thoughts and they give the structure of a discipline. At the same time they allow the obtention of designations of established concepts.

ISO 704:2000 (E) (Terminology work – Principles and methods) establishes that the study of terminology starts with objects which are appreciated and identified by the senses (concrete objects) and by the mind (abstract objects) in the environment of the different work fields. These two kinds of objects are conceptualized into concepts.

The same international standard defines concepts as the mental representation of objects; they are made of the characteristics of objects. Such

characteristics are properties that constitute concepts and allow the distinction of one individual concept from another.

According to Wüster, the characteristics of concepts which are classified with different criteria (e.g. intrinsic characteristics or extrinsic characteristics) and the relations which are also classified (e.g. logical and ontological relations, relations of material – product, of succession, causality, and tooling) are useful to provide a position to concepts inside conceptual systems.

In terminology, concepts are considered units of thought and elements of knowledge and in special languages they can be expressed in different ways, for example, definitions, designations, appellations, codes, formulae, pictures, letters, symbols, icons, signs, diagrams, figures, body movements, etc. Particularly in the area of terminology, they are represented by terms.

When an object has been conceived and the concept has been comprehended in the mind, it is necessary to describe what the concept is, taking into account its characteristics. It means to create a definition, a verbal description of the concept. In the words of Juan Sager (1990):

> "Definition is generally understood to be the process of explaining the meaning of linguistically expressed symbols…"
>
> "As a product the definition is a linguistic description of a concept, based on the listing of a number of characteristics which convey the meaning of the concept."
>
> (Sager, 1990, p. 39)

Sager points out that a terminological definition must offer only one identification of a concept within a corresponding conceptual system of which it belongs and forms part, taking into account its relations to neighboring concepts.

In addition, Robert Dubuc (1999) adds that the terminological definition demands three characteristics- clarity, adequacy and conciseness, in order to create an appropriated definition for the concept of an individual object. Consequently, when the definition is established, it is necessary to form a designation. ISO 704: 2000 (E) affirms that designation is the representation of concepts and the most common and distinguished designations are symbols, appellations and terms.

2.5 TERMS

The purpose of this section is to explain what a term is, the principles of term formation and the main methods of term formation according to different terminology experts.

The word term is defined in the glossary of terms used in terminology in the article of Bruno de Bessé et al. (1997) as “a lexical unit consisting of one or more than one word which represents a concept inside a domain”. In his book *Manual de la Terminologia.* Robert Dubuc (1999) supports the idea that a term or a terminological unit is an element that belongs to a special language of a specialized area. Therefore, a term is the designation of a specific concept that is related to a specialized subject.

According to Cabré (1993), terms, which are the fundamental basis of terminology, represent concepts of all special subject fields and allow the designation of a specialized reality. They are known by specialists and they always appear in specialized papers, journals, manuals and books, which are also written and understood by specialists.

Dubuc (1999) explains that there are terms only inside specialized subjects, activities, or techniques. There are no terms in general languages; it is possible to take words of the general language and then to consider them as terms, but it is necessary to place them inside specialized contexts. In addition, a term can be used

in several subjects, using it in relation to the corresponding context of the subject fields. However, the same term should not be the designation of different concepts in one subject field, that fact generates ambiguity between terms.

The task of terminology is to develop univocal vocabularies in all special languages, where a term corresponds to one concept and a concept is represented by just one term in all specialized subjects and activities (ISO 704: 2000, terminology work – Principles and methods). However, some experts agree that terms under certain circumstances can be the designation of more than one concept and concepts can be designated by more than one term. These conditions are synonymy, polysemy, and homonymy.

2.5.1 TERM CONCEPT RELATION

Terminology mainly seeks to have univocal terms for each specialty; however, reality shows that form and content of the term can have different relations with other designations, for example, synonymy, polysemy, and homonymy, besides the fact that the immense and diversified amount of designations does not allow it. The following relations or conditions are defined according to ISO 704 (p.24-25).

Synonymy relation is where one concept is represented by two or more designations. In a specialized document or speech, these terms, called synonyms can be interchangeable. For example, in the automotive area tires, pneumatics, or rims can represent the concept of wheels of a vehicle. In Cabré's proposal (the Communicative Theory of Terminology, or CTT), synonymy is admitted because it is considered a real phenomenon inside common and specialized languages in order to establish the unit's value. Nevertheless, she points out that some restrictive subject fields avoid synonymy because they have a major systematic and their denominative variation is reduced; for example, it is the case of medical, satellites, astronautics, aerial and military areas.

Polysemy is the phenomena where just one designation has several meanings. In a general language dictionary, it is possible to find a word with more than ten meanings. Such is the case of the term virus that can be found in the areas of medicine, computers, biology and other areas with diverse meanings.

The last condition, homonymy deals with designations that have the same phonetic and similar written forms but the designated concepts are totally unlike. For example, the words “brake - break”, they have the same phonetic features and almost equal spelling but the meaning is completely different. The word “brake” is a restraint used to slow or stop a vehicle; and “break” is a word with multiple meanings, it can be a noun and a verb. As a verb means to terminate, separate, destroy; among other meanings.

Terminology looks for the monosemy (no homonyms or polysemous terms) and mononymy (no synonyms) in special languages; these ideal conditions would avoid or reduce ambiguity, because just one term would designate only one concept and vice versa.

2.5.2 TERM FORMATION

According to Sager (1990), general language does not have conscious rules for word formation, it admits arbitrariness in word formation, and the creation of words is based on habitual experiences. Nevertheless, special language makes an effort to have systematic rules for term formation in order to create transparent and consistent terms in accordance with subject fields. These rules aim to avoid polysemy, synonymy, and homonymy and control the formation of new terms.

Terms are created, accepted and used by specialists and terminologists. A term can be composed of one word, several words, a phrase, an acronym, an abbreviation, etc. According to ISO 704, a term consisting of only one word is called ‘simple term’ and a ‘complex term’ consists of two or more words.

2.5.2.1 Principles of term formation

According to Sager, (1990) and the ISO 704 (2000: 31-35), there are some *ideal* principles that should be taken into account in term formation in order to have univocal terminologies in subject fields:

1. A term must express the concept it designates. The term should correspond to the same concept it designates, without confusion.
2. Characteristics of concepts should be considered in the term formation in order to maintain nature of concepts and make easy the identification of terms.
3. A term is always created inside a specialized discourse.
4. A term should avoid having synonyms, homonyms and should be monosemic.
5. A term must be integrated and be consistent with a concept system in order to organize meaningful units into its corresponding particular field.
6. A term should be concise and avoid containing unneeded information. It means to avoid using unnecessary words to create a term.
7. A term should be able to produce derivatives.
8. A term should not be pleonastic (not be redundant or repetitive in meaning, in the case to include words with the same meaning in different languages).
9. Shortened forms of long terms are best accepted in order to ease their usage.

2.5.3 METHODS OF TERM FORMATION

According to the same references, there are a number of possibilities to create new terms. These methods or resources are not different from the mechanisms to create a new word in general language; the only difference is that terms are created in specialized contexts. The following methods are applied to the English language although other languages also use them.

2.5.3.1 Methods to create new terms

Derivation deals with adding affixes to existing words. Sager affirms affixes do not possess meaning of their own, but get one of many possible meanings in combination with stems.

Example: ***im*** + *permeabili* + ***ty*** = *impermeability*

mis + *fire* = *misfire*

de-*clutch*-***ing*** = *declutching*

Compounding deals with the combination of existing words in order to create new terms. Compounding may be a complex term, a phrase or a blend. The units of the complex term or phrase can connect by fusing or a hyphen. Blends are the product of joining two or more words and these are the results of clipped terms.

Example: complex term ---- *oilproof, exhaust system*

phrase ---- *ball handle of control level*

blend ---- ***electri****city* + *exe****cute*** = *electrocute*

mo*tor* + ***ped****al* = *moped*

fla*me* + *gla****re*** = *flare*

ISO 704 explains that special languages are plentiful of abbreviated forms in order to easy the use and pronunciation of some concepts. In some cases, both the long or expanded form and the short form are used, the former in written communication and the latter in oral communication. Shortening a word or words also create new terms. There are different patterns to create abbreviated forms. Sager calls all these shortening patterns **compression**.

Short terms designate the same concept of a long form with fewer words.

Example: Intergovernmental Group of Twenty – four on International Monetary Affairs = *Group of Twenty –four*

Clipping means to reduce or truncate the front, middle or back part of a simple term.

Example: gasoline= **gas**, automobile= **auto**, demonstration= **demo**, laboratory= **lab**

Abbreviation is formed by excluding some words or letters of a term. Abbreviations often need a period at the end.

Example: Four by four = 4x4 Antilock Braking System= ABS Air Conditioner= A/C

Initialisms deals with creating a term, taking the first letter (or sound) of each word of the components of a complex term or appellation. Initialisms must be said letter by letter.

Example: Revolutions Per Minute= RPM Global Positioning System= GPS

Acronyms are words formed by initial letters of a group of words. The new term must be pronounced like a word.

Example: ***VAG***= *Volkswagen Audi Group*

KAMA= Korea Automobile Manufacturers Association

2.5.3.2 Methods to create terms using existing resources

New terms can be also formed using already existing terms, based on the analogy of established words or terms. The following process shows how this may be done.

Conversion deals with changing the syntactic category of actual forms into others, without any change in their natural form. For example, an adjective as a noun, or a noun as a verb. The word inflection does not change the morphological form of terms.

Example:	*tune-up (noun)*	*to tune up (verb)*	
	level (adjective)	*to level (verb)*	*a level (noun)*
	oil (noun	*to oil (verb)*	

Terminologization is when a word of the general language is used to represent a different concept in one or more special languages.

Example:

	Shoe
General language:	*an outer covering for the human foot, made of leather, canvas, etc….*
Automotive field	*the casing of a pneumatic tire*

Borrowing consists of integrating terms of a foreign language or a specialized area into another language and another specialty. The borrowed term may be belonging to the same special language. There are two types of borrowings: *transdisciplinary borrowing* and *translingual borrowing*.

Transdisciplinary borrowing is also known as internal borrowing. In this method, a term from one specialty is borrowed in order to represent a new concept in another specialized area inside the same language.

Example: The term “cloud” where the everyday word cloud took on a very specific meaning in the context of computing.

Translingual borrowing occurs when an existing term or concept from one language is borrowed in order to represent the same or different concept into another language. This kind of borrowing can carry out by the adaptation or the loan translation methods.

The following examples are translingual English borrowings in Spanish.

Example:	*Jazz*	*Corn flakes*	*Checking features*	*E-mail*

Adaptation deals with using cognates and following the custom of taking almost same morphological structure of terms into other languages. It has been called internationalism.

Example of	*Terminologie*	*terminology*	*terminologie*	*Terminologia*
Internationalisms:	German	*English*	*French*	*Spanish*

Loan Translation consists of using the same morphological units of the borrowing language in the translation in order to form a new term in another language. This process is applied to complex or compound terms.

Example: *wood screw* = *Holzschraube* *Weltanschauung* = *worldview*

Cabré classifies these term formation methods into three different resources that speakers and specialists use to create terms and words. They are formal, functional and semantic resources.

Formal resources are processes where terms are created through the modification of existing units. It is the case of derivation, compounding, abbreviation, acronym and clipping. Functional resources deals with changing the grammatical category of words; therefore, conversion is a functional resource. Semantic resources deal with modifying the meaning of units to create new ones, such is the case of terminologization.

2.6 STANDARDIZATION AND TERMINOLOGY

The goal of this section is to explain the role of standardization, its importance and the benefits for the terminology area.

In 1952, a new technical committee ISO TC/37, inside ISO, was created in order to solve different communication problems in specific technical and scientific areas and with the challenge of standardizing the methods used for them. The first standardized vocabularies had been the nomenclatures of chemistry, zoology and botany in the 18th century.

According to The Webster Dictionary, the word “standardize” means *to make standard or uniform; cause to be without variations or irregularities*. Standardization is to harmonize rules, guidelines, definitions of characteristics, instructions, processes and procedures of materials and products through documented

agreements (standards). In the case of terminology, standardization means to unify and harmonize concepts, concept systems, terms and definitions, and to obtain a normative vocabulary in which one term only corresponds to one concept and only one concept corresponds to one term (ISO 10241 {1992} International Terminology Standards –Preparation and layout).

According to ISO 704 (2000) (Terminology work, Principles and methods), “terminology standardization seeks to reduce ambiguity produced by polysemy, synonymy or homonymy. It permits the creation of new terms in accordance with the principles and methods of terminology, and it facilitates the management information on different areas of special languages, improve productivity and permit to access international markets, companies, organisms, etc. “

A standardized terminology is the result of carrying out and fulfilling the basic principles and methods to standardize terminologies. These principles and methods are established by the technical committee ISO TC/37 and are based in the different researches that the members of this committee perform.

However, it is not easy to standardize the terminology of all specialized fields. This is the goal, and it would be great to achieve it, but as we know there are many regional, contextual and cultural aspects affecting and influencing the use and development of each special language.

On the other hand, according to the paper *Terminología y Normalización* presented by Pozzi in the First National Meeting of Terminology in Mexico City (2001), there are some levels where the terminology standardization is convenient and vital. This is because in these levels some specific aspects are handled, for example, weights and measures, control measures, industrial processes, procedures, security and hygiene, and quality, etc. In these cases, standardization is necessary because one language mistake can lead to serious problems in those fields.

Business level. - Companies handle their own standardized terminology among employees of the different branch-offices to ease communication between them, besides; it is part of their marketing strategies. Some of the companies that need to use a standardized terminology are IBM, Hewlett Packard, Volkswagen, General Motors, Peugeot, among many other national and international companies.

National level. - Each country needs a standardized organism to make its own standards. They can be mandatory or voluntary. Din of Germany, BSI of Great Britain, AENOR of Spain, DGN of Mexico, AFNOR of France, are some examples of national standardized organisms.

Regional level. - Some regions of countries need to possess standards. Examples of these include the Comisión Panamericana de Normas Técnicas (COPANT) and the Comité Europeo de Normalización (AEN).

International level. - Some organisms have been created to standardize all over the world. Examples are ISO (International Organization for Standardization), IEC (International Electrotechnical Commission) and ITU (International Telecommunication Union).

2.7 TERMINOLOGY IN SPECIALIZED TRANSLATION

The objective of this section is to explain the existing relationships between terminology and translation and the role of terminology in specialized translation according to Teresa Cabré (1993, 1999).

According to Cabré (1999) terminology and translation are two disciplines with similarities or coincidences and their relationships between them are obvious. Both of them came to cover informative and communicative needs. Translation arose from the need to transmit knowledge into different languages and terminology arose from the need to express specialized thinking. In both cases, there is no historical date when they were born and under what circumstances. Both are interdisciplinary because they deal with the cognitive, language and communication sciences. Likewise, terminology and translation aim to support a theoretical basis in order to be recognized like individual disciplines because at present they are considered just practical applications.

In spite of their similarities, Cabré says they have two main differences. Translation has a final character while terminology has a pre-final character. The translation result is a finished product because the outcome is an informative and communicative text and the terminology result is a list of terminological units of a specialized domain; it is just an instrument to carry out other activities, e.g. translation, interpretation, writing of specialized texts, etc.

The other difference is that terminology is indispensable to specialized translation, but terminology does not require translation at all to develop itself. In the case of translation, terminology provides all the units, phraseology, equivalencies, contexts and information related to each term of each special subject.

Terminology represents the specialized reality so terms are units that transmit and communicate specialized knowledge. They represent and transmit just the content of specialized subjects. They form the different special languages that are the basic instruments of communication between specialists. Terminology is in charge of supplying univocal units; this is the task of a terminologist together with specialists, to create just one term that corresponds to just one concept of the specialized reality.

In this way, in translation, terminology helps in the cognitive conversion of one language content into another one. Specialized translation requires appropriate and actual terminology of each area of specialization. It should be appropriate and actual to the level of specialization because it should correspond to the same units that native specialists use in actual communicative situations in order to respect and maintain the same communicative conditions that specialized written or oral texts require. Moreover, terminology is useful to solve terminological problems in a specialized subject and not to stop the translation process.

Therefore, Cabré (1993) affirms specialized translators do not only need to understand the source language, be fully proficient in the target language and know the terminology of specialized subjects, but they also need to know at least in a minimum level the terminology discipline in order to comprehend the specialized vocabulary, the procedures to get it, to face and solve common terminological problems. In this way, translators will be able to act as terminologists when it is necessary and do not have sufficient time to entrust a terminologist with a resolution in order to find out the necessary term on time or solve any other terminological situation.

In addition, terminology helps translators have knowledge similar to that specialists have because most of the times, translators need to have an expanded knowledge of the specialized area in order to understand the subject, the reality and the special language of the subject field.

Thus, translators have the responsibility to go deep into terminology. According to their needs and their work quality, they decide if it is important to study terminology or continue using the common tools and methods to carry out the translation activity.

2.8 TERMINOLOGICAL DATA BANKS

The purpose of this section is to explain what a terminological data bank is, its benefits in specialized areas and its development in the last decades.

According to Sager (1990) the introduction of new technologies in the Industrial Revolution (18^{th}/ 19^{th} centuries) generated a tremendous growth of information and terminology in the technical and scientific fields and at the same time an overlap information exchange was also produced.

It was necessary to record the terminology of those specialized subject fields in order to keep up with communication at distance, exchanges and updates. In this way, non-experts (managers in industry, administrators, students of disciplines, etc.) and people who needed to re-interpret knowledge (technical writers, translators, standardization experts, patent lawyers, teacher, students, etc.) could use it.

At the beginning the recording of terminology glossaries was done by hand; however, the development and evolution of computer science brought about a new way of recording. Computer programs or software allowed integrating all of those glossaries into machine readable or computerized dictionaries.

These computer-based glossaries were called terminological data banks (term banks). Dubuc (1999) considers that informatics and terminology do not work independently. They work together in order to store and classify information, divulge and retrieve it, creating complete specialized terminological data banks.

A terminological data bank is a database dedicated to the storage and management of a set of terms related to a common specialized domain. Sager defines a terminological data bank as:

> “a collection, stored in a computer, of special language vocabularies, including nomenclatures, standardised terms and phrases, together with the information required for their identification, which can be used as mono- or multilingual dictionary for direct consultation, as a basis for dictionary production, as a control instrument for consistency of usage and term creation and as an ancillary tool in information and documentation.”
>
> (Sager, 1990, p 169)

According to some terminology researchers, terminological data banks have developed into three generations until now. The first generation was in the 1970s. They had a simple structure, created in mainframe computers and often developed in an ad hoc system. Their access was extremely restricted; people could only use them if they were connected to the terminals where the terminological banks were.

The majority of them were born sheltered within international, governmental, and multinational organisms, organizations and companies, specifically in their translation offices. The term banks of this generation were TEAM developed in the translation service of Siemens in German, and EURODICAUTUM of the European Community, BTQ (Banque de Terminologie du Québec) and TERMIUM (term bank of the Translation Bureau of Public Works and Government Services, Canada).

In the second generation, Sager says many terminological data banks started to be available through direct connections, on line. Users had to connect to a host by telephone, with a modem and a communication program in order to access term banks. This new access increased the probabilities to check in terminological data banks. Besides improved term bank design, designers had more freedom to experience and try to solve problems of premature systems. Nevertheless, there were still some limitations, such as costs of telephone connections, saturation of telephone lines in peak hours, risks of connection drops, the slowness of computers, etc.

The best known term banks of that generation were TERMDOK, TNC (Tekniska Nomenclaturcentralen) in Sweden, the Copenhagen Business School

term bank and CEZEAUTERM, another one concentrated on the Soil Science field was the one at the Université de Clermont-Ferrand in France.

In the third generation, distribution strategies of terminological data banks content changed considerably. Designers continued spreading around term banks on line and with the new CD-ROM format. CD-ROM has a lot of space to store information. This format has overcome accessibility difficulties; in addition, it has many advantages, such as cost, flexibility and web distribution.

Sager, Cabré and Dubuc agree in considering terminological data banks as indispensable tools for professionals of the general language and specialists of the different subject fields who work in bilingual or multilingual contexts. At the beginning, they were mostly created for and used by translators. Nevertheless, nowadays, the privileged users are also terminologists, interpreters, lexicographers, documentalists and information science specialists, technical and scientific specialists, technical writers, scientific journalists, subject fields students, etc. Even though the type of users has increased, it is now known that most people who continue consulting and needing term banks are translators.

Sager considers that terminological data banks respond to the same needs to consult a dictionary, to check term spelling, its grammatical category, gender, domain area (where a term is used), definition, synonyms, standard situation, equivalents in other languages, etc. However, a terminological data bank has more advantages. It is easier to consult, accessible through an access language, the information is more reliable and completed and it is continuously up-dated and searches are brief and profitable. Indeed, term banks information can be retrieved and transmitted to anywhere in the world in a matter of milliseconds.

Cabré says terminological data banks store specialized and selected information derived from dictionaries, encyclopedias, glossaries, and books related to the corresponding specialized subject fields. She points out that terminological

data banks allow users to have a lot of information in just one reference. In addition, these references are useful to produce manual dictionaries and control the vitality of languages.

According to ISO 12620 (1999) Computer applications in Terminology: Data categories), terminological data are organized into entries, placed on computerized cards and then, they are stored in a diffusion computer program. Each terminological entry contains information related to just one concept-term. The information of each term depends on the data category definition, which is designated by terminologists and specialists who create terminological data banks in computer programs.

2.8.1 INFORMATION OF CONCEPT–TERM IN TERMINOLOGICAL DATA BANKS

All terminological data banks definitely contain different information among them; it depends on their main users' needs and objectives, the users they will have and the environments where they are developed. However, there is specific information that is usually common in all the category definitions. The following information is based on ISO 12620.

TERM RELATED INFORMATION. - The linguistic information related to terms, their semantics and grammatical properties, their different representations of terms and their usage.

Entry: Term which heads a terminological entry (the preferred designation of a defined concept.)

Example: fender

Synonym: Relation among two or more terms in a particular language where they represent the same term.

Example: The synonyms of *multiple-purpose tester* are multitester, multimeter, volt-ohm-milliammeter.

Antonym: Relation between two terms in a particular language where they represent opposite concepts.

Example: monopoly – oligopoly

Monopoly. - Having only one dominant supplier of goods or services in a defined market. Such as salt, sugar, petroleum, air traffic, insurance, or deliveries.

Oligopoly. - Having only one purchaser of goods, products or services offered by a number of providers. Such as government purchase of missiles or biological warfare weapons. (http://fox.rollins.edu/antonyms).

Variant: If the term has other forms in the same language (no synonyms).

Example: catalogue (GB), catalog (US)

Abbreviation: Designation formed by omitting words or letters from a longer form and designate the same concept.

Example: In the area of telephony, CA is abbreviation of 'cancelled'.

Full form: In the case the term has a full form and abbreviated form.

Example: The full form of the abbreviation etc. is et cetera.

Acronym: Abbreviation formed of the initial letters of the components of the full form of the designation.

Example: UNESCO (United Nations Educational, Scientific and Cultural Organization).

Gender: Feminine, masculine, neuter.

Grammatical category: Information that indicates the grammatical features of a term.

Example: noun, adjective, verb, adverb, etc.

Grammatical number: The grammatical identifier that indicates the number of objects referred to by the term.

Example: singular, plural, dual, etc.

Usage label: State of term usage

Example: standardized term, recommendable term, preferred term, non-recommendable term, etc.

Region label: Identifiers of where the term is often used.

Example: UK, United States.

Equivalence: Relation between designations in different languages representing the same concept.

Example: camshaft (English), árbol de levas (Spanish), Nockenwelle (German).

Thematic area: A domain or field of special knowledge to which a term belongs.

Example: Acoustics, Mineralogy, Mechanics, Informatics, etc.

Language identifier: Information in a terminological entry that indicates the name of a language.

Example: German, English, Spanish, Italian, French, etc.

Note: Statement that supplies any observation or comment or further information about the term, meaning or usage.

CONCEPT RELATED INFORMATION. - Providing conceptual information of the term in order to understand the meaning of concepts.

Definition: Representation of a concept by a statement that gives an explanation of what the term means and it differentiates the term from related concepts.

Example: fender. - A metal or plastic enclosure over the wheels of an automobile or other vehicle to protect against splashing mud, etc.

Context: Text where a concept is illustrated or the use of a term.

Example: The term “crankcase” is used in the following text:

The oil pump is located in the crankcase used to force oil, under pressure, to various parts of the engine, it is driven by a gear on the camshaft. There are two types: gear pump and rotor-type pump.

(http://www.sromagazine.com/paris/dictionary/index.htm)

Note: Statement that supplies any observation or comment or further information about the term, the meaning or the usage.

BIBLIOGRAPHIC SOURCE INFORMATION. - The bibliographic sources of the linguistics and conceptual information of each term. This information is useful to prove the reliability of information and additional researches of users.

Source: information that indicates the bibliographic references where all categories information was taken from, the most common are term, definition and concept reference.
Example: The source of the definition example is: Diccionario Enciclopédico de términos técnicos, (1996). Editorial McGraw-Hill. Volumen 1, p.140.

ADMINISTRATIVE INFORMATION. - This information is included in order to control data banks, entries, people who collect terms and their related information as well as dates. It is useful and necessary for the administrative staff.
Created by: The person who enters the term and data categories is considered the creator of that entry.
Creation date: The date on which an entry is created.
Modified by: The person who records an entry element is considered the modifier of that entry.
Modification date: The date on which an element (field, record, entry, etc.) is modified.
Checker: The individual who checks a field or a complete terminological entry.
Approver: The individual who approves a consolidated or definitive field or terminological record.
Note: Statement that supplies any observation, comment, recommendation or further information about the record.

Along this chapter, it was explained the most important information that was considered necessary to create and develop a terminology data bank. It was discussed the important concepts about special languages, principles and theories of terminology and theories; and relevant information about term formation as well as specialized translation and terminology data banks.

All this information will help to define, create and develop the terminology data bank in the Translation Department. It will provide the fundamental principles to

create a reliable tool based on experienced authors' works. Moreover, it will serve as a basis for decision-making in future activities regarding this project.

CHAPTER III

3.1 METHODOLOGY

The purpose of this chapter is to explain the method used in the design of a terminological data bank with particular reference to the automotive industry in the Translation Department of VW México. Throughout this chapter, the different steps followed to carry out the project and the participation of the researcher will be described.

In order to provide terminological solutions to the different and common terminological difficulties the translators of VW México often face when dealing with texts of the automotive area, it was decided to create a profitable and reliable tool called terminological data bank. It contains quality information regarding the terminology in the four main languages, German, Spanish, English and Portuguese, used in the company.

The main purpose of a terminological data bank is to make the translation and interpretation of specialized texts of the automotive industry easier, improve quality, optimize time spent on these tasks and achieve a harmonious automotive communication in the different areas of the company.

The group of users of automotive terminology includes line workers, engineers specialized in the different automotive areas, technicians, mechanics, electricians, translators, interpreters, administrators, etc. However, this thesis deals only with the area of language, particularly, translation. So, this work is mainly focused on the Translation Department of VW México and proposes the terminology bank an attempt to solve the problems continuously faced by the staff of this area.

Therefore, the development of the terminological data bank basically focuses its attention on translators and interpreters in order to satisfy their needs. They are the ruling communicative intermediaries for the exchange of information in these four different languages, English, Spanish, German and Portuguese, within the transnational company.

The automotive industry embraces all the fields related to vehicle manufacturing; in other words, the manufacturing process covers many and different stages to carry out the construction of vehicles. Therefore, this data bank includes information related to all concepts used in the different automotive work areas such as tools, actions, processes, objects, parts, instruments, equipment, materials, machinery, etc.

The automotive area in VW México is made up by the areas of logistics, painting, quality control, tinsmith, metrology, foundry, packing, process, after-sale, mounting, technical development, maintenance, and different engineering specialties. It also includes the Human Resource, Administrative, Legal, Financial and Computer Departments since the personnel from these departments also uses the automotive terminology in their daily activities.

It is important to point out that the people interested in developing the automotive terminological data bank had practically no knowledge about terminology and its management. Even translators had very little knowledge of these topics. Perhaps most of them had experience with them in practice, but the theory was new. For this reason, at the beginning, the project team for this research received training regarding the discipline of terminology and its application. Translators, specialists and auxiliary staff attended terminology lectures, symposia and congresses.

After the terminology training, the phase of compiling all the available information of the automotive terminology began. To do this, it was necessary to get automotive bibliography to support and develop the terminological data bank.

Gathering information from just one particular area is not an easy task. In order to achieve this, it was necessary to look for data department by department. Fortunately, most of these areas have important and essential information about themselves and their specific terminology they use, for example, technical lists of auto-parts, books, magazines, journals, articles, manuals, procedures, standards, etc.

Besides, during the last years, the Translation Department has compiled most of the information from translations of articles, standards, documents, manuals that were requested by the company. Moreover, there were some scarcely useful technical dictionaries and automotive dictionaries.

The after-sale service department is in charge of editing different magazines, manuals, advertising, and brochures about vehicle prototypes, so the personnel of this department support the development of the terminological data bank, supplying all the necessary information. This department plays an important role in the data bank because they are able to provide many definitions of automotive terms, so its support is very valuable.

In addition, the information of the terminological data bank of Wolfsburg Volkswagen was taken into account to compile the German terms. This information was also compared in order to have similar information and complete the collected documentation. Besides, the structure of this data bank was based on the structure of the Wolfsburg Volkswagen data bank in order to have a successful exchange later.

3.2 CONDITIONS FOR THE AUTOMOTIVE TERMINOLOGICAL DATA BANK

Once the information had been collected, it was necessary to store it in the computer to make the following step easier. The next stage was to study, analyze, classify, and organize the corpus (all the collected information) to select the useful material.

The appropriate information was classified according to the different languages and subject fields. With the supervision of the project leader and translators, this classification was begun.

Later, it was necessary to choose the computer program to store the selected terminology and process it. Selecting the program was not easy because at the time, no one knew anything about software used to manage terminological information. However, after some searching on the Internet and asking several computer experts and terminologists, some of the most known and practical programs for terminology management were compared, and the Multi Term, Déjà vu and SLDX programs were chosen.

The Multi Term application was the most convincing and acceptable for the group objectives. This application belongs to the TRADOS TRANSLATION SOLUTION software, which has different applications for translation projects. Multi Term is basically a specialized database program that is particularly helpful in creating, managing and presenting terminologies. It is based on free-format text entries and the number of entries to store is unlimited. One entry can have information of just one concept and it is possible to specify its equivalencies in up to twenty languages in the same entry. This program allows users to carry out searches of individual concepts.

Before filling entries or index cards, it was necessary to create a “database definition”. This consists of including the appropriate data categories according to the translator needs. The Multi Term program arbitrarily gives a database definition; it is possible to use the existing database, deleting or adding data categories or creating a new one. It was difficult to define which categories were the most appropriate for the automotive terminological data bank because many data could be included. However, after many attempts, and meetings with translators to know all their needs, the automotive terminological entry is composed of the following information (see Figure 2) in the four languages (Spanish, English, German and

Portuguese). It must be noted that the definition of the Wolfsburg data bank also had to be taken into account in order to exchange information later on.

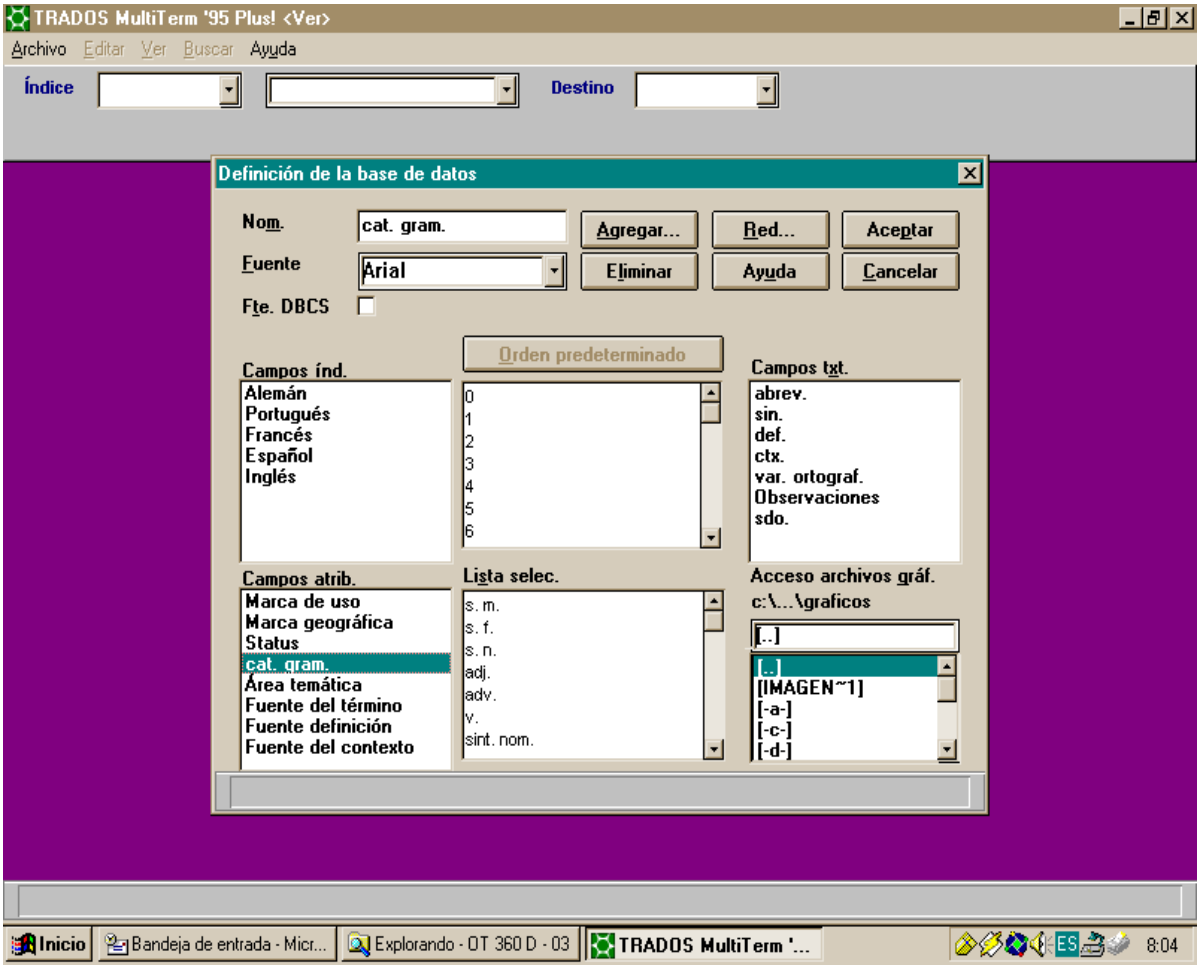

Figure 2. Database definition.

3.3 INFORMATION RECORDED

The purpose of this section is to explain the information the database contains. It will review all and every category of information as- control, linguistic, conceptual and bibliographical data.

Control information: It is necessary to have control of the information in order to supervise the data bank, entries, date and the administrative users who fill the data

bank. In order to be aware of reviewing of each entry; there is also a convenient status category which is an identifier to show if the information entry has been revised and approved or need to be checked. All this kind of information is useful for the administrative staff. The data categories of control information include the following items.

ENTRY NUMBER: The Multi Term program automatically numbers each entry in order to organize and control terminological entries.

CREATED BY: The user who enters the term and data categories is considered the creator of that entry. This category is essential to control information and verify the authorized staff.

CREATION DATE: The date on which an element (field, record, entry, etc.) is created. This category is needed to control information, update and give maintenance to the terminological data bank.

MODIFIED BY: The person who modifies any entry element is considered the modifier of that entry. This category is essential to control information and verify the authorized staff.

MODIFICATION DATE: The date on which an element (field, record, entry, etc.) is modified. This category is essential to control information and useful for updating and maintenance of the terminological data bank.

STATUS: The purpose of the status of a terminological entry is to provide an identifier to know the reviewing advancement of entries. This category is mainly useful for the area that is in charge of the terminological entries, in this case, the terminology data bank users. The status category contains the following two sub-categories –O.K. and REVIEW.

O.K. – This means that specialists and terminologists have reviewed the entry information and it has been corrected (if it was necessary) and approved, so the information is plainly reliable.

REVIEW. – This means the information of categories needs a review of administration users (translators, terminologists, specialists, etc).

Linguistic information: It is essential to include this information related to terms in order to know their semantic and grammatical properties, the long or short forms of terms, their standard and geographical usage, etc. The data categories of linguistics information are as follows.

TERM: This is a designation of a defined concept in a specialized area. It is one of the main categories in the automotive data bank because the term equivalencies are recorded in this category in the four languages (German, Spanish, English and Portuguese) of the data bank. It goes at the top of each terminological entry.

LANGUAGE IDENTIFIER. – This is the symbol or expression that indicates the name of the language to which a term belongs. This category was necessary because VW México uses four languages, and so does the data bank. In this way, translators and interpreters find the equivalencies of terms and the data of the other categories in these languages.

GRAMMATICAL LABEL: This indicates the features of terms. This category was mainly selected in order to help translators identify the article declination (in the case of German) and to know the semantic function of terms in the four languages.

The subcategories of grammatical label are:

masculine noun (m.n.)

feminine noun (f. n)

neutral noun (n.n)

adjective (adj.)
adverb (adv.)
verb (v)
nominal syntagmatic relation
verbal syntagmatic relation
adjectival syntagmatic relation

SYNONYM: This category is the relationship between terms, where two terms or more represent the same concept in the same language. This category is useful to know the different designations for one concept and propose the most appropriate term.

SPELLING VARIANT. This category allows showing the different forms of spelling of one term. It is mainly applicable in the English language because of the differences between British and American English. There are many designations with variants and it is important that users know them in order to use them correctly. An example of this is catalogue (GB) vs catalog (US).

GEOGRAPHICAL LABEL: This indicates the geographical area or region where terms are used. There are some automotive terms, which are not always used in the same region or country even when they belong to the same language, especially in Spanish and English languages. The subcategories of the geographical label category are - Spain, Mexico, England, USA, Germany and Brazil.

USAGE LABEL: This deals with an informative note or identifier revealing approval or acceptability aspects. In the automotive industry, there are standardized or recommended automotive terms in the four languages of the data bank for translators, it is important to know them in order to use them appropriately. The three sub-categories are-

VW term. - A term recommended by VW México.

Recommended term. - A term that has been recommended by a translator, specialist, area or an authority in the automotive industry.

ABBREVIATION / ACRONYM: This is a reduced form of a longer term and is generated by the omission of letters; both (the longer term and the abbreviation or the acronym) designate the same concept. Acronyms are also included in this category, but it is possible to identify if they are abbreviations or acronyms through an identifier. In the automotive language, there are many abbreviations; therefore, this category is necessary to differentiate them.

FULL FORM OF THE ABBREVIATION OR ACRONYM: This category was included in order to know the longer form of abbreviated terms or acronyms.

Conceptual information: This deals with supplying information related to concept in order to understand the meaning of concepts and their conceptual environment. This information helps a better understanding of the concept in question.

SUBJECT FIELD: This category deals with the different fields of special knowledge. The manufacturing process of VW México involves the effort of many different areas of special knowledge; therefore, the terminological data bank aims to contain the vocabulary of all these domains in order to classify VW México terms within them. So, this category has included the following areas-

- Automotive engineering
- Automotive vehicle
- Productive Processes
- Mechanical Engineering
- Robotic Engineering
- Electric and electronic engineering
- Chemical engineering
- Civil engineering

- Technical development
- Proofs and Materials
- Human Resources
- Information Science
- Administration
- Finance
- Trade
- Legislation
- Environment
- Communication
- Medicine
- Translation Problems

In the case of Administration, Finance, Trade, Legislation, Environment, Communication, and Medicine, there are additional subject fields that deal with the daily activities and the economical and commercial development of the Company. Besides, the information belonging to these areas is often sent to the Translation Department to be translated. These subject fields were included in order to embrace all the fields of the Translation Department. However, the terminology of these areas will be included gradually because the automotive terminology is the priority at this time.

The sub-category of Translation Problems was included in order to record and analyze the most difficult phrases, terms, and abbreviations to translate in any the four languages. It aims to clear up their terminological situation to ease their usage. It was possible to see how translators face some difficulties when translating certain terms. This sub-category is essential to improve this work.

DEFINITION: This category includes a descriptive statement that illustrates the meaning of a term and is practical to differentiate it from other concepts. For translators of VW, definition is essential to fully understand concepts.

CONTEXT: This category shows a text, which illustrates the concept and the use of its designation. This category is convenient for translators in order to have better comprehension and usage of terms.

NOTE: This category helps to provide additional semantic, syntactic, pragmatic or morphological information about any part of a terminological entry and it is not contained in the different categories. On other hand, it can also include useful information for the administrative staff in order to modify, add, comment, and observe any aspect of the terminological entry.

Bibliographical information: In order to convince users of the quality and reliability of information, it is important to provide a complete citation of the bibliographical sources of linguistics and conceptual information. This means the documented source of terms, definitions and contexts. In addition, this information can be useful if users need additional research. Therefore, the entry has four categories of bibliographical information and they will be coded in order to abbreviate the long references. However, it will be possible to know the complete reference through a hyperlink which will be sending users to a Word file where they can find all the bibliographical sources of the linguistics and conceptual information.

TERM SOURCE.- This is the documented bibliography, from where the term was extracted. This category has the following sub-categories and they will be coded in the terminological data bank:

Glossary of Automotive Terminology. (1978) Compiled by Technical Information Department Engineering Office Chrysler Corporation.

Volkswagen - Terminologie, EZTP (Terminological Data Bank of Germany Volkswagen).

Diccionario de Ingeniería Mecánica y Diseño, (1990). P. Parker Sybil. España. McGraw-Hill.

Standard: (Description)

PDM (Product Detail Mounting Instruction): (Description)

Manual: (Description)

Diccionario Técnico Ilustrado del Automóvil (1981), Polonia

Technical Lists –DT-VWM: (Description)

VW Informative document: (Description)

Internet terminological data bank: (site)

SYNONYM SOURCE: This is the documented bibliography from where the synonym is extracted. It has the following sub-categories and they are planning to be coded in the terminological data bank:

Glossary of Automotive Terminology. (1978) Compiled by Technical Information Department Engineering Office Chrysler Corporation.

Volkswagen - Terminologie, EZTP (Terminological Data Bank of Germany Volkswagen).

Diccionario de Ingeniería Mecánica y Diseño, (1990). P. Parker Sybil. España. McGraw-Hill.

Standard: (Description)

PDM (Product Detail Mounting Instruction): (Description)

Manual: (Description)

Diccionario Técnico Ilustrado del Automóvil (1981), Polonia

Technical Lists –DT-VWM: (Description)

VW Informative document: (Description)

Internet terminological data bank: (site)

DEFINITION SOURCE: This is the documented bibliography from where the definition is extracted. It has the following sub-categories and they will be coded in the terminological data bank:

Diccionario de la Lengua Española (1992), España: Editorial Espasa.

El pequeño Larousse Ilustrado 2000.

Volkswagen - Terminologie, EZTP (Terminological Data Bank of Germany Volkswagen).

DUDEN, (Deutsches Universalwörterbuch). 1989: (Traducción):

AMIA: (Description)

Diccionario de Ingeniería Mecánica y Diseño, (1990). P. Parker Sybil. España: McGraw-Hill:

Diccionario de Automoción (1998). W. David & H. Boyce. España. Paraninfo:

Enciclopedia Británica 2000:

Enciclopedia Hispánica 2000:

Centro de Traducciones VWM:

Diccionario del Español Usual en México. (1996). Colegio de México:

Diccionario Salamanca de la Lengua Española (1996), España, Santillana:

Internet terminological data bank or Internet site: (site)

CONTEXT SOURCE. This is the documented bibliography from which the context is extracted. It has some of the above sub-categories or additional sources (books, journals, PDM, Standards, Manuals).

One more category was also included, an illustration, a picture, diagram or any other graphic representation of a designation. We decided to incorporate this category because it is very practical to understand a concept through illustration. Besides, in the automotive industry, there are many concepts (auto-parts, tools, machines, etc.) that only the people who handle them know; so translators and interpreters do not have a total comprehension of them. The Multi-Term program makes it easier to include illustrations in the same terminological entry, and in this way it is possible to present complete information about automotive terms.

According to the Multi Term program, these data categories are classified in three fields inside the database definition. The database definition is the place where the data categories are included and organized according to the correspondent field-index, text and attribute. The index field is useful to store terms in different

languages. The Multi Term program allows defining up to 20 index fields for up to 20 languages in a database definition. In the case of the automotive terminological data bank, the index fields are the German, Spanish, English and Portuguese, as well as the synonyms of each term. The terms and synonyms are placed according to the appropriated language index and are sorted alphabetically.

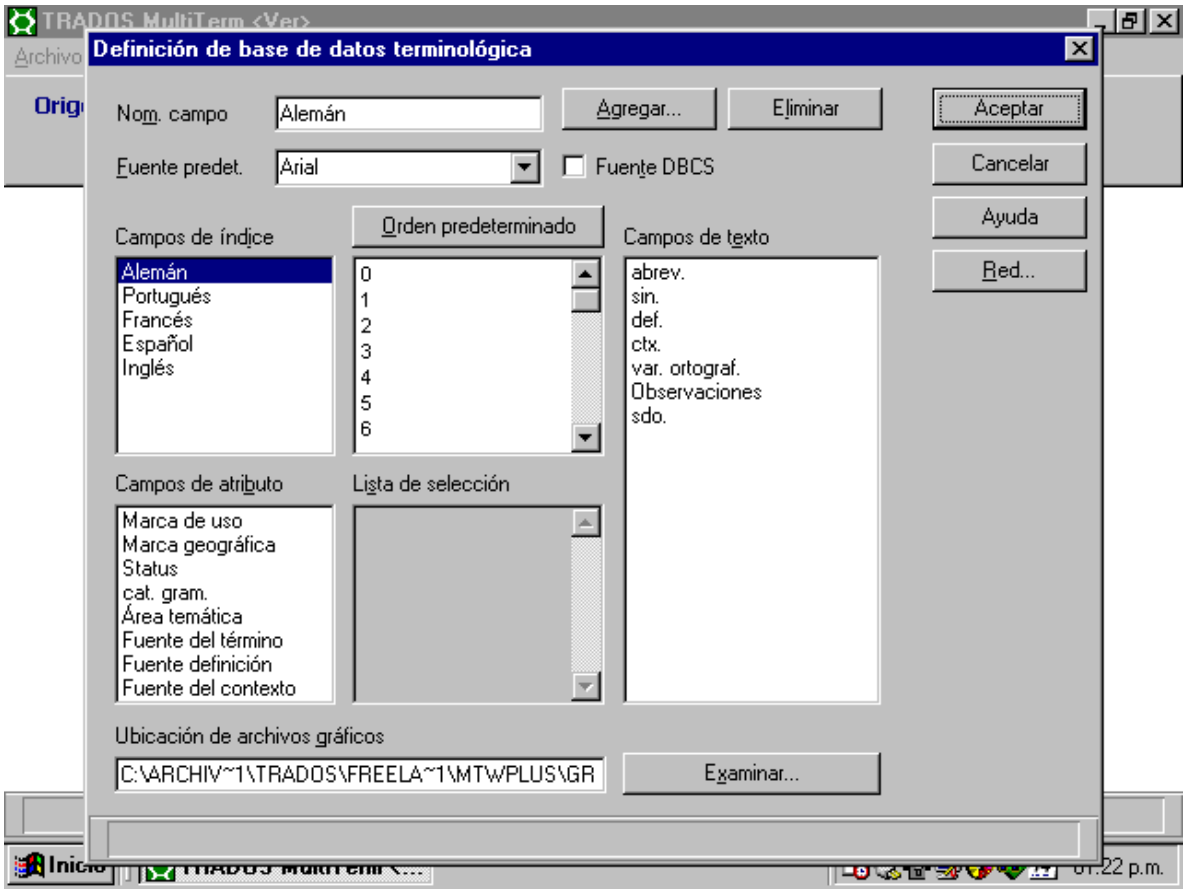

Figure 3. Classification of information in index, text and attribute fields.

In the case of synonyms, Multi Term allows storing synonyms and terms at the same level in an entry: they do not need any special identification from terms. If a term contains multiple terms in one language, it is implicitly clear that they must be synonyms. However, they are presented to the user with smaller letter and a different color from terms. It is possible to use an attribute to classify them if a term has various synonyms and to know what the preferred synonym is. In the automotive

data bank, the aim is to store just one or two synonyms to reduce synonymy and ambiguity and later harmonize each term.

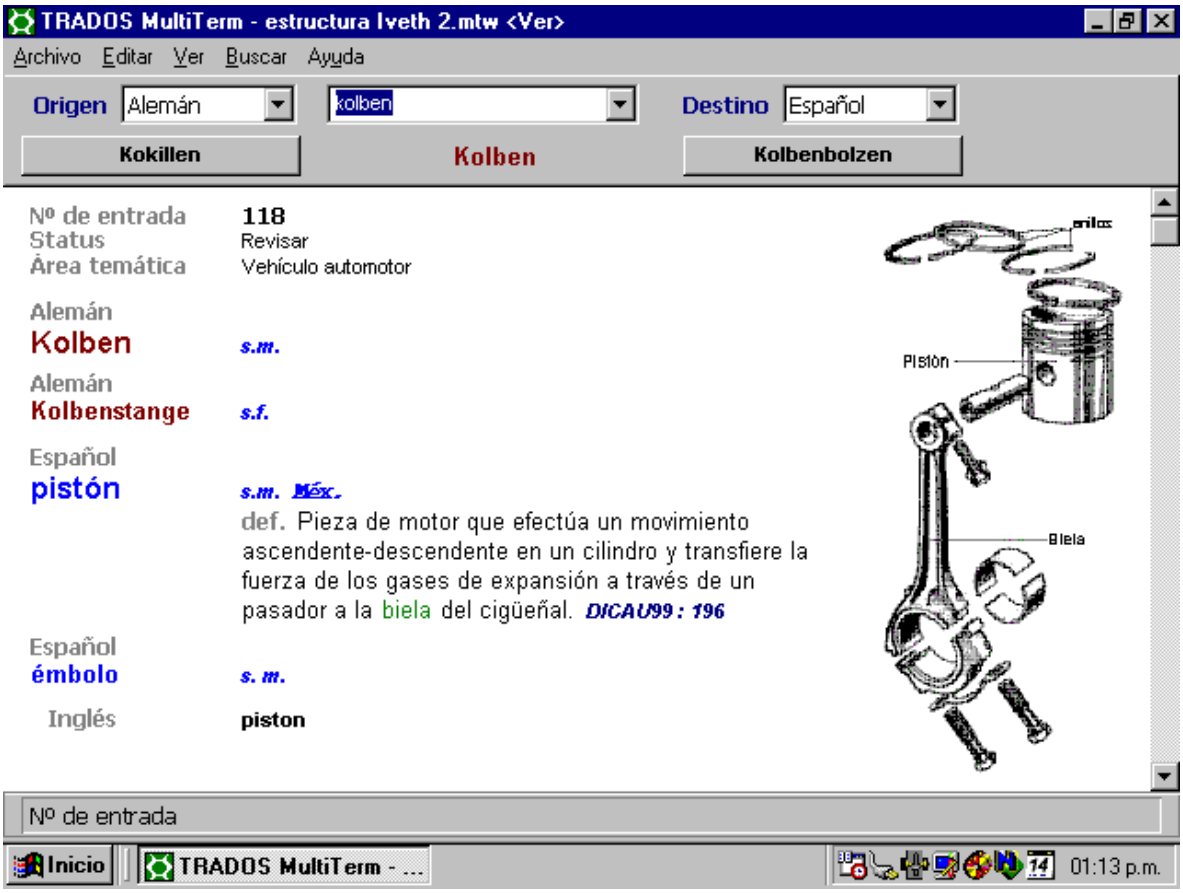

Figure 4. Example of a terminological entry with synonyms in German and Spanish.

The text field is used to store additional descriptive information about terms and it must be written in the entries, for example, definitions, contexts, notes, etc. The text fields have a free format to describe terminological information. The automotive terminological data bank has five text fields: index field meaning of the abbreviation, definition, synonym, context and note.

The attribute field deals with the categories that have an additional and detailed classification. Each attribute field has a pick list of possible attribute values.

For example, the grammatical category is an attribute field and its values are verb, adjective, adverb, or noun. So, these categories have many different attributes and it is necessary to choose the appropriate attribute according to the category in question. The data bank contains the following categories inside the attribute fields- thematic area, grammatical category, usage note, geographical usage, bibliographical source of term, definition and context, and status.

Once the database definition was created, it was necessary to create an input model. This is a template that allows specifying one basic structure for all terminological entries in order to have consistent, controlled and adaptable terminological data. An input model also allows protecting the data bank information, so administrative staff is the only one who is able to add, edit and delete entries, and users are only allowed to consult and read them. In the input model, one can add the index, text and attribute fields according to the category organization selected.

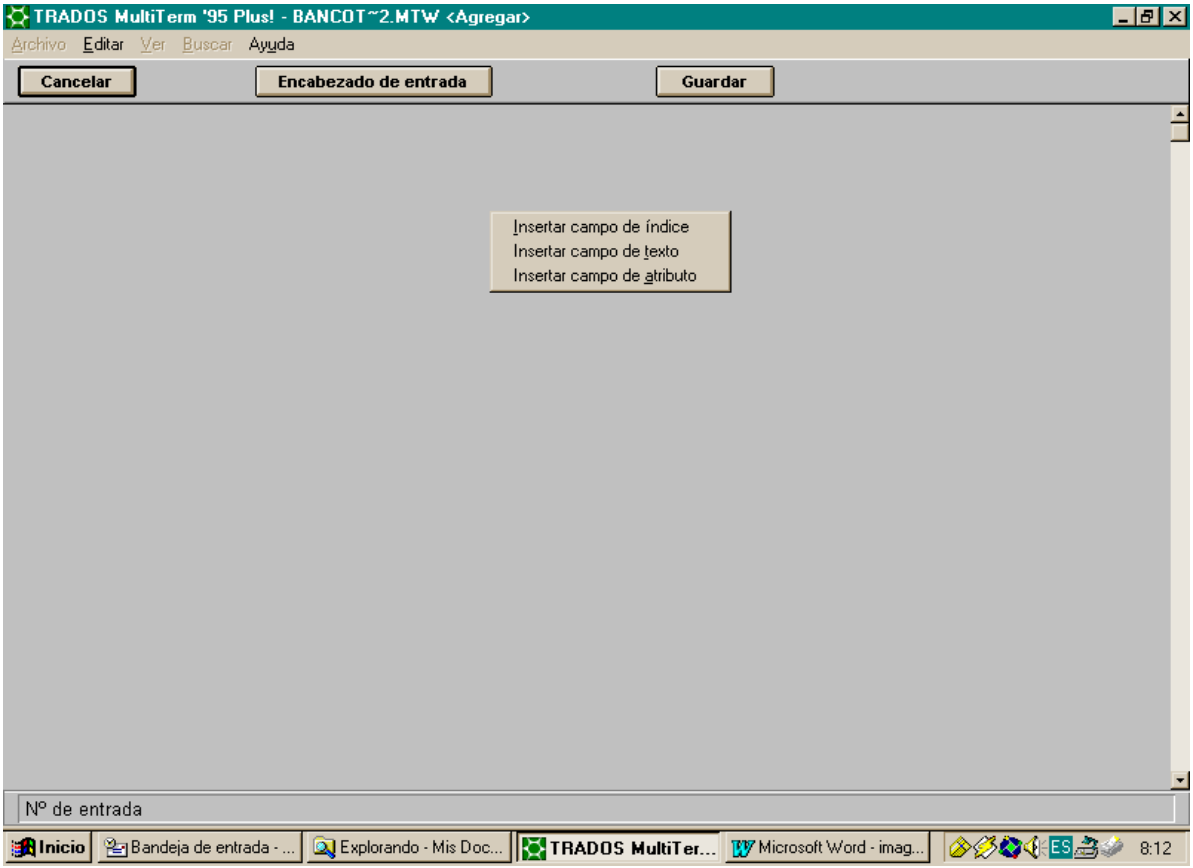

Figure 5. An empty input model.

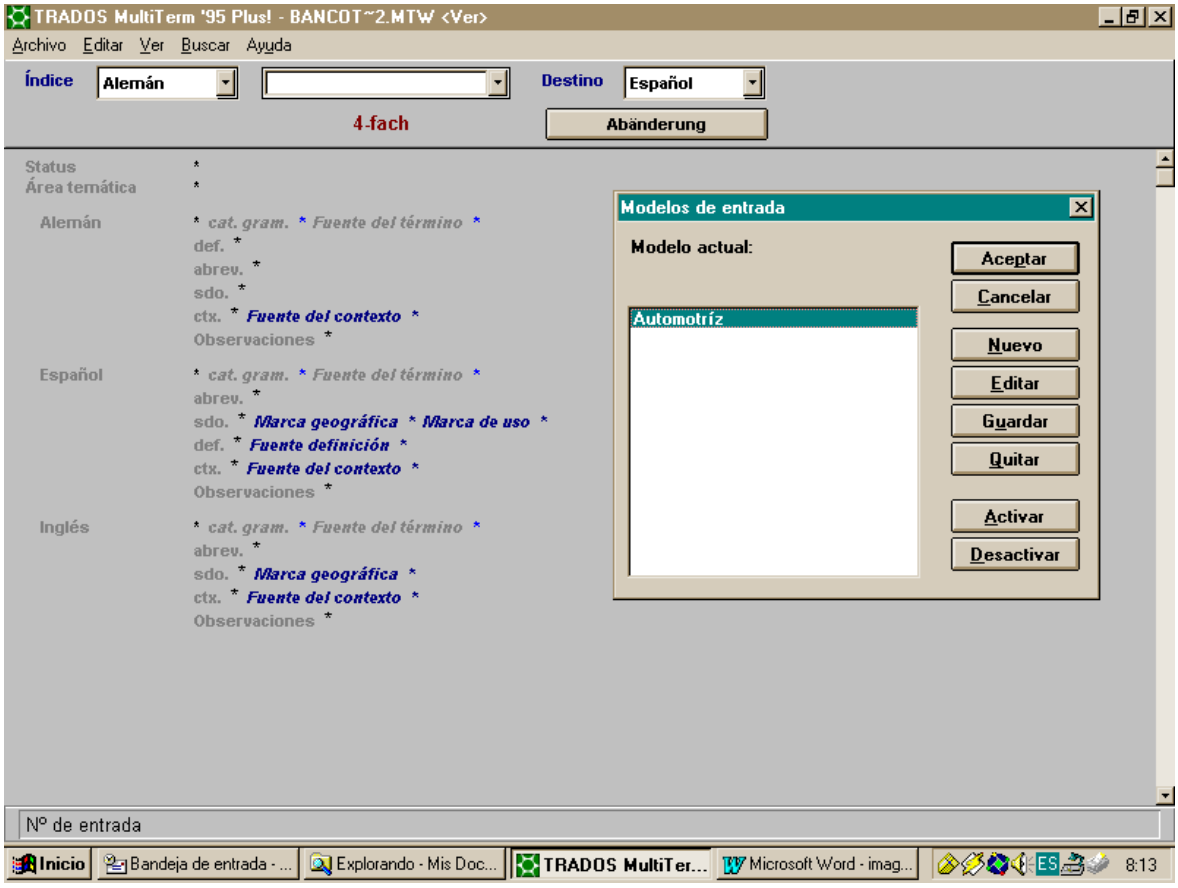

Figure 6. An input model with the data categories.

Even, when users are only allowed to consult and read terminological entries, it is important for the administrative staff to know the terminological information contributions or comments of users in order to improve and increase the data bank information and to carry out the objectives of creating the automotive terminological data.

After creating the input model, the creation of entries began. The entry has three index fields for the four languages- German, Spanish, English and Portuguese. In these fields the three equivalencies of a term are inserted. Each one of the equivalencies is accompanied by the categories of conceptual, linguistic and bibliographic information. These categories correspond to the text and attribute fields.

Figure 7. Example of a terminological entry with the category data included.

The process of creating entries has been difficult because there are a lot of terms with different connotations for the various and different areas of applications. All of them need to be included because they are used in the Company. So, it has been necessary to consult area specialists, specialized translators or specialized dictionaries. In this way, it has been feasible to resolve and clear up automotive concepts.

3.4 RETRIEVAL OF INFORMATION

The retrieval of information with the Multi Term program is practical because it has different methods of searching and users are able to find information quickly. Users have four kinds of searches- simple, global, and fuzzy or through the entry number.

1. SIMPLE SEARCH. – This consists of typing the term in the search field. The first few characters are enough to find specific terms.

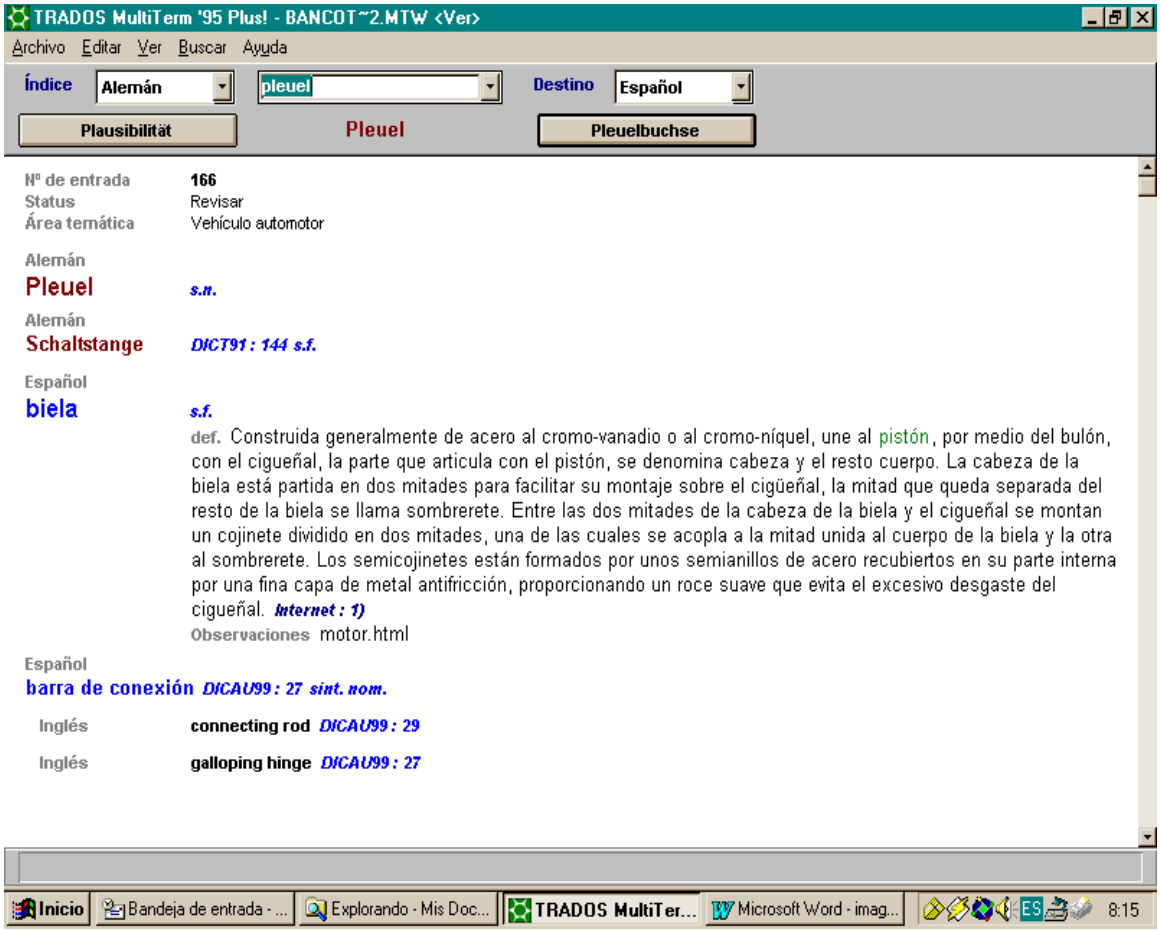

Figure 8. Example of simple search.

2. GLOBAL SEARCH. – This deals with finding all entries that have a special character string. This search is basically useful when a user does not know what

he /she is looking for or he /she does not want to type in a long search term. The use of asterisk as a placeholder is necessary for any string of characters to carry out the global search. The asterisk must be inserted before, after or between individual character strings. For example, if the user is looking for a term that ends with the string “beet”, it is necessary to select the source language, in this case English and to type “*beet” into the search field and then press [Enter]. Immediately in the screen a hit list appears showing the entries that end with “beet”. Once the user has found the desired term, he /she shall click in the selected term and confirm it with OK, or look at each entry by double clicking in each term.

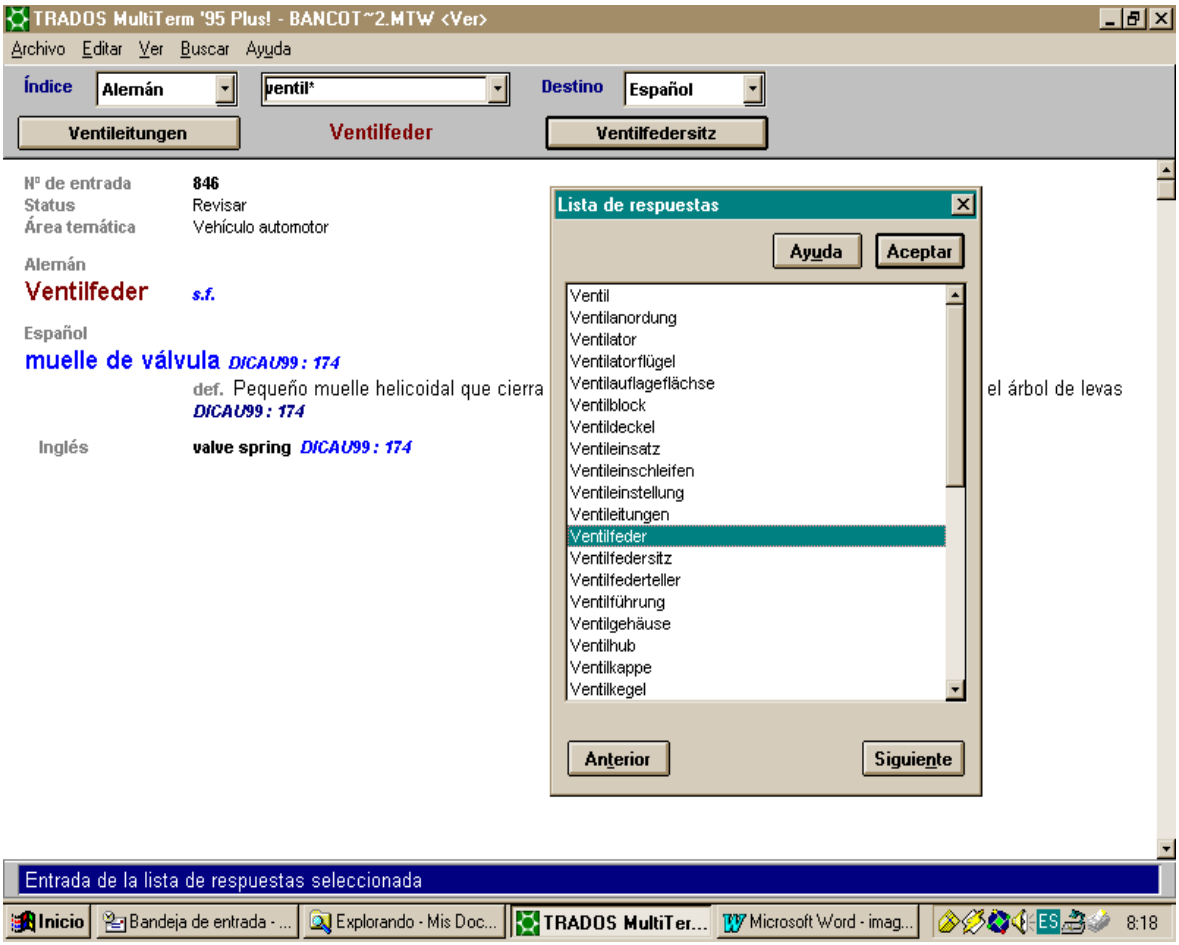

Figure 9. Example of global search.

3. FUZZY SEARCH. – This deals with finding an entry even if the desired term is misspelled or transposed. This kind of search is practical when users look for multi-word terms, acronyms, abbreviations or compound nouns.

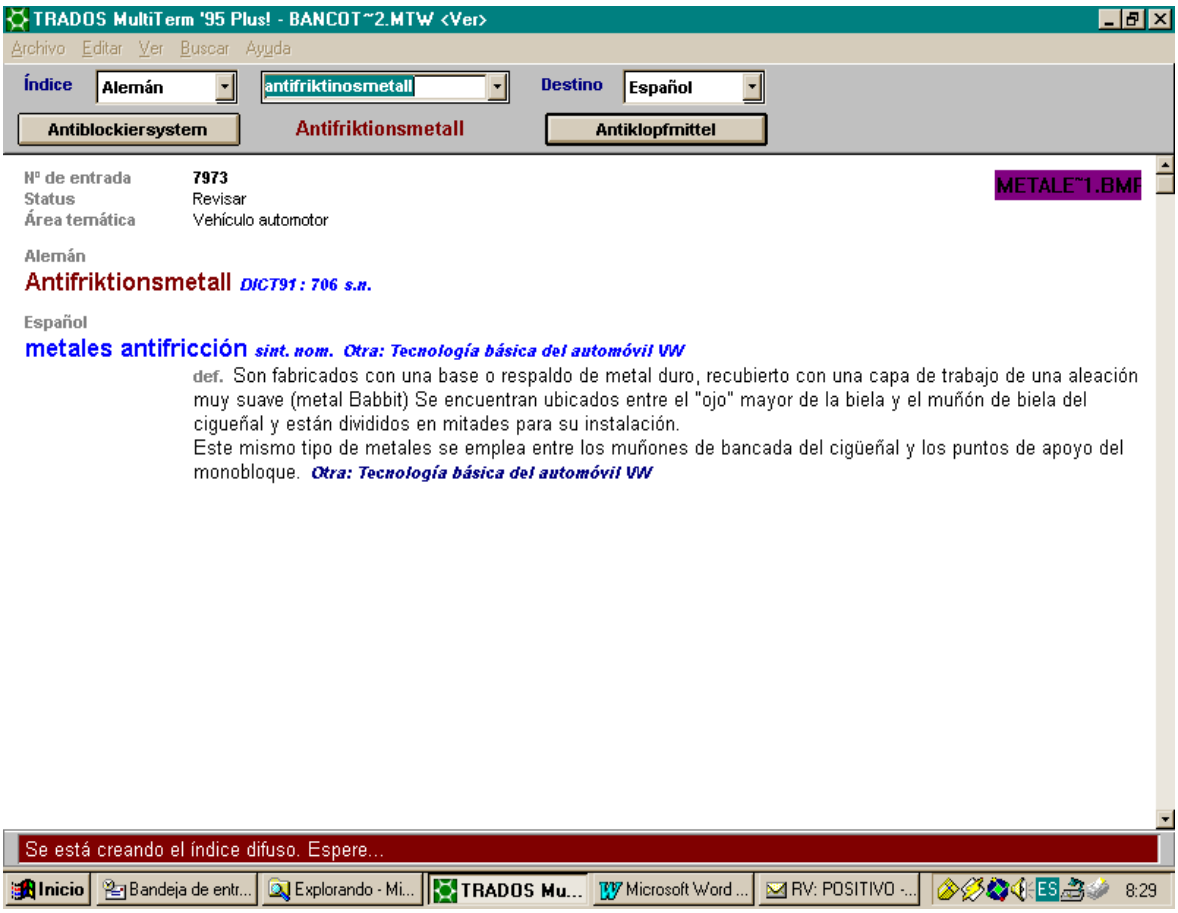

Figure 10. Example of fuzzy search.

4. SEARCH THROUGH ENTRY NUMBER. One must go to the Search menu, select the Go to Entry Number command and type the wanted entry number into the search field. Immediately, the corresponding entry displays on the screen.

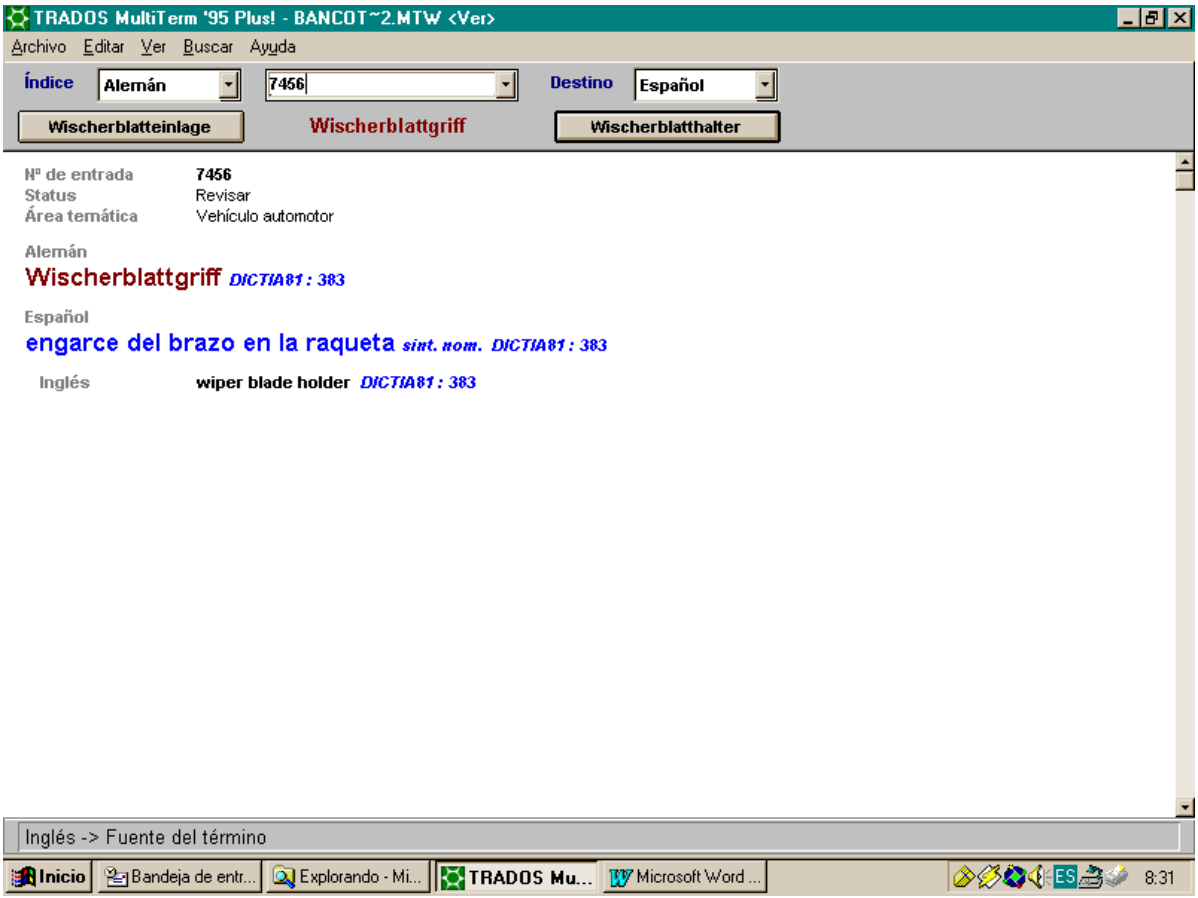

Figure 11. Example of search through entry number.

CROSS-REFERENCE. - The Multi Term program allows including the cross-reference function in order to jump to other entries. For example, in a term definition, it is possible to find other terms and they are highlighted in green. This mark, which is considered a cross-reference, allows users to go to other entries directly.

Figure 12. Example of the cross-reference.

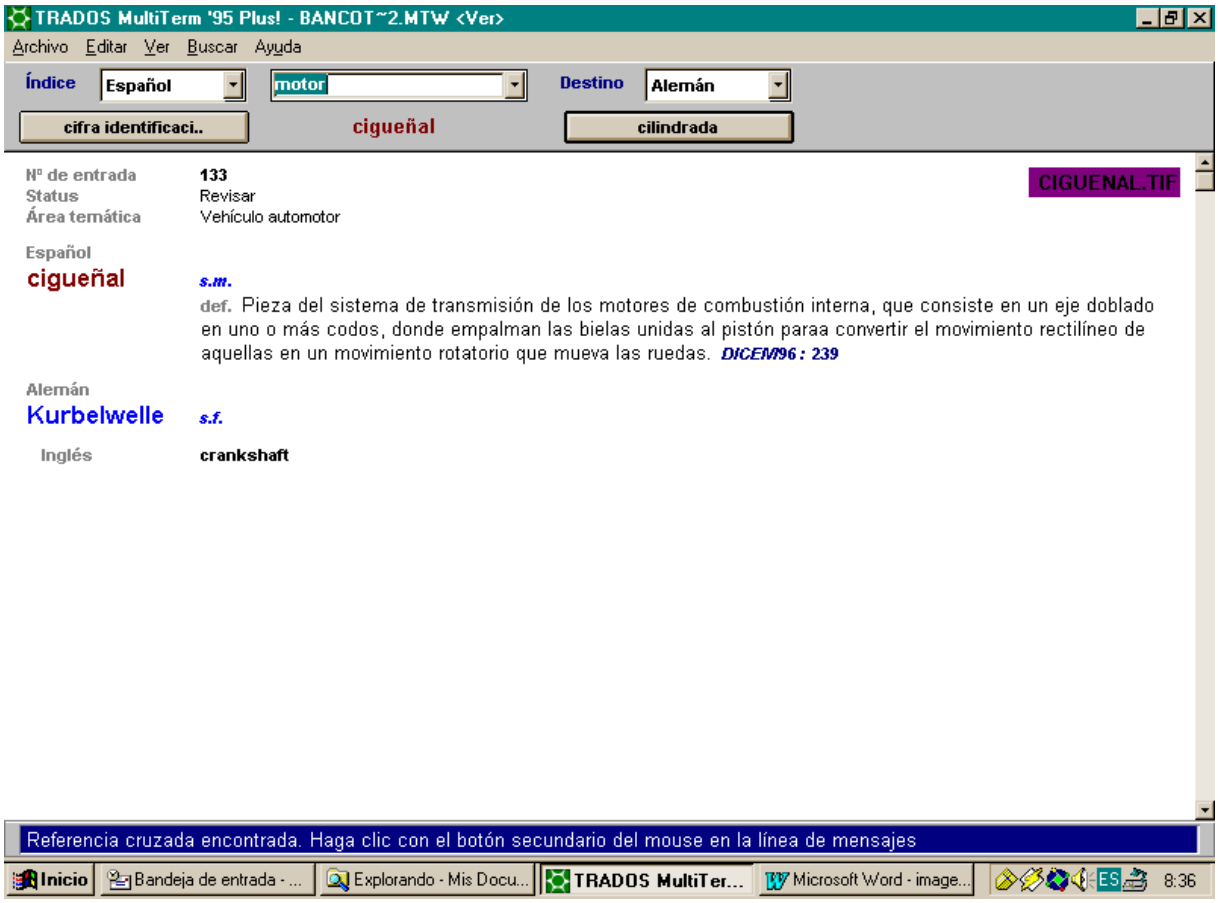

Figure13. Example of the result of the cross-reference.

The Multi Term program has five types of searches in order to ease the retrieval of information and for users to have the possibility to choose the source language and the target language where they are interested in finding the information.

Spanish is the interface language of the terminological data bank. The majority of users understands and speaks this language and this fact was considered to select the interface language.

At the present, 8575 entries have been entered in the terminological databank. It has been important to fill out all the data categories of every equivalence in the four languages of every entry; however, it has not been possible because there

is no full time staff for this project, so its development is slow. Therefore, the filling of information is done little by little. In the case when some titles (categories) are not available, it is because they are hidden (because it is possible to hide categories) due to lack of information; they are empty categories at the moment. The main reason is to show only available information to users.

Currently, the automotive terminological data bank is only available for the translation office. The Multi Term program is only installed in a local computer where any translator or specialist is able to access it. However, the goal in the future is to install it in the VW México Intranet in order for everybody to have access to it.

3.5 PARTICIPATION

I would like to explain my participation on this project. I was honored to be part of the team that started the creation of this terminological data bank. Particularly, I worked directly with Mr. Marco A. Almanza Moncada, a technical translator of German and Spanish, and also the leader of the terminological data bank project. We both attended different Terminology symposiums and conferences in order to improve our knowledge on this area and to know how to create the data bank. Once we received the knowledge, we narrowed the needs, the problems and the possible solutions that this data bank would provide later.

Our scheme started with a survey with different questions regarding the situation of the Translation Department, the problem, the translators' difficulties, the solutions, the creation, development and advantages of the databank, the information in it, the role of the specialists, the future of translation activity and the communication within the company. It was a tool that helps us organize and plan the creation of this proposal.

Basically, my participation and contribution consisted of:

- Online research about creating terminological data banks.

- Online research about computer programs and software for the data bank in order to select one.
- Familiarizing myself with the program selected.
- Extraction of terms in English and Spanish from blue-prints, standards, technical instructions and procedures, lists of auto-parts, stored translations, automotive dictionaries, special trouble terms, terms collected from other sources.
- Collection of information available in the different departments.
- Collection and storage of automotive terms in English and Spanish.
- Support of the definition of the data categories.
- Filling in of the data categories on the terms collected (as much information as possible).
- Finding of the term equivalences on English and Spanish.
- Finding of reliable sources to get information to fill data categories (specifically definition, contexts, and synonyms in English and Spanish).
- Finding of term illustrations.
- Update of control information like status of entries, modification and creation dates.
- Training for translators how to use the program and show how it works and receive feedback.

CHAPTER IV

RESULTS

The objective of this chapter is to explain the results obtained up to this point on the design of the automotive terminological data bank in order to assess the methodology, the performance of the project, the benefits, and the problems encountered.

4.1 RESULTS OF THE METHODOLOGY

The methodology selected to create the terminological data bank has been applied. The different steps followed for the design of the terminological bank are considered common in terminological projects: identification of users' needs, general and specific research on the particular topics needed to create a tool to solve needs- the terminology data bank, software training, definition of the data categories for the automotive data bank based on users' needs, extraction of terms from the different automotive sources available, storage and classification of terms, evaluation of information collected, filling data entries, presentation of the project, training users how to use the new tool and so on.

Perhaps most of the steps need rigorous attention; it depended on the subject field in question. However, it is important to say that this project started without any terminological tuition or terminology bibliography. It started even without the support of internet because the terminology studies were very recent in Mexico at the time the project was started.

At the beginning, the project development depended only on the structure of other terminological data banks projects, the translators' experience, the users'

needs and expectations, and the Multi Term and TRADOS program manual. Later the development was supported and based on terminological research.

4.2 INFORMATION RECORDED

Collection of the lists of terms began several years ago when there was no intention to create a database of automotive terms. Among the reasons for starting collecting terms were to avoid term searches that had already been done, to store particular terms, considered “problem terms”, for some specific reason, to collect term equivalences with specific connotations, and to avoid wasting time in special terms that had already been investigated.

Once the data categories were defined and set up in the program selected, the preparation of terminological entries started. At present, the term bank contains about 8210 terms in German, 7944 terms in Spanish, and 6712 terms in English, subdivided into the different automotive thematic areas. The majority of terms have the three equivalences (German, Spanish and English) and the corresponding information of data categories in Spanish because it is the common target language of the translations. Some equivalencies in Portuguese appeared, but much work is still pending.

Other categories and the rest of information from the other languages need more preparation regarding the data categories of each term already stored. This is an on-going work project, so the process of creating and preparing entries, filling in the data categories of the four equivalencies, reviewing and updating the information is time consuming, but done consistently.

It is important to point out that the two preferred languages are German and Spanish. The Volkswagen Company is an industry founded with German investment settled in the State of Puebla, Mexico. Therefore, these two languages are the most spoken and used within the Company. English is also included in the terminological

bank because the United States is one of the main markets of the Company and it is a universal language, due to the high amount of technical information written in English. Portuguese is included since technical documents are sent to the branch in Brazil to be translated.

In the Translation Department, 55 percent of the translations are done from/to German, 40 percent are done from English, 4 percent are done from Portuguese and 1 percent are done from other languages that are less frequently used. Therefore, user searches are more common in German and Spanish, slightly fewer in English and rare in Portuguese. For this reason, the terminological information in Spanish and German takes priority over English and Portuguese.

4.3 USERS REACTION TO THE TERMINOLOGICAL DATA BANK AND THE RETRIEVAL OF INFORMATION

The users, translators and translators' assistants have had access to the terminological bank and their experience with search procedures has been considered easy and quick. The Multi Term program has turned out to be user-friendly and translators are already familiar with the operation of the program tools to retrieve information. Indeed, the language interface is Spanish due to the fact that the majority of users speaks and understands this language; therefore, searches are carried out in a comprehensible language environment.

The translators feel the terminological data bank could become an invaluable tool for their daily work activities and convenient for using appropriate automotive terms in the four languages. They have provided feedback that has been used to improve the procedures of the data bank. When a particular term is still not found in the terminological bank because there are many missing terms in the four languages, the administrative staff writes down the term in order to research it and add it to the terminological data bank immediately.

Among the different types of information that users often look for, we have been able to identify the following.

- The most appropriate equivalencies of terms.
- Definitions to understand completely a new term.
- The gender of German terms since there is no natural way to know if a term is masculine, feminine, or neutral.
- Definitions of specific terms to understand meanings.
- Synonyms of German, Spanish, English and Portuguese terms.
- The full form of automotive abbreviations or acronyms.
- Context in order to see and know how terms are used. Confusions or doubts are usually dispersed when examples are given.

Users have realized this tool helps them understand concepts, as well as to know their properties and their thematic environment. It also helps to homogenize translations and guarantee quality control when a large text is split and done by more than one translator. They are convinced that in the future they will avoid looking up terms in general, bilingual or monolingual dictionaries because the terminological bank contains reliable information in the automotive area. Therefore, users will save time in searches because the data base access will be quicker for information retrieval.

4.4 PROBLEMS

The main problems found are basically in the categories of the database definition. Many unnecessary categories were added when the definition of the database was defined. Some of them store irrelevant information for the users; thus some of them were eliminated right away; others may be still analyzed by the project leader too.

Another problem that has been solved is the presentation of references. At the beginning, complete references were stored in the attribute field in order to select the corresponding in the category of term, synonym, definition or context source, but

some references were too long, so the project team decided not to delete the category, but rather to code all the references and to prepare a file with all the complete references in case users were interested in consulting them. Therefore, reference presentation was improved and space is now saved.

Another problem found by a terminologist is in the category of usage label. In this category, when an identifier reveals the approval or acceptability of terms, it also includes one that reveals a term as standardized. However, the terminologist pointed out that so far there is no standardized automotive terminology in Mexico. Therefore, this sub-category is not acceptable, and it will be eliminated.

The next situation some translators complain about is the fact that the terminological data bank program is set up in the computers in the Translation Department. This is convenient for in-house translators, who can have a complete access to it, but it is not at all practical for freelance translators, or perhaps even for the specialized workers outside the Translation Department who could be interested in using it. Since the terminological data bank is still not available online on the intranet, it will not be possible for them to take advantage of it. There is no information yet on when this could be possible.

The project leader believes that many problems will appear in the development and maintenance of this project in the future, but they will be solved with the support of all the information on standards, books and the terminologists' advice. He feels that all the benefits provided by the terminological data bank demonstrate that it must be taken into consideration as a tool while translating or using the automotive terminology.

4.5 THE MULTI TERM PROGRAM

The project team and users believe the Multi Term program to be helpful both for work and access. The information storage and retrieval is simple and accurate. The

Translation Department staff and translators are already familiar with the usage of the program tools to retrieve information.

In addition to information retrieval, the program allows filtering information in order to retrieve entries that match a certain criterion. For example, users can filter terms belonging to a specific thematic area. It also allows importing and exporting the database, or part of it, in order to exchange information. Indeed it is also possible to export the information of the data bank to the word processor in order to make professional dictionary printouts. These situations may not be recommended right now, because so much work has yet to be done to have a considerable amount of terms with their respective categories completed. It will be recommended when the terminological bank is more complete.

This program may be updated because the TRADOS Company has updated the Multi Term program version. This updated version has new features and tools to make the use of the program and the access to the data bank easier. One of the advantages of the new version is the possibility to include videos or films in the terminological entry. This advantage will be useful to insert videos of the area workshops, of machinery, tools and parts when it is not possible to find illustrations of some terms.

4.6 FUTURE OF THE AUTOMOTIVE TERMINOLOGICAL DATA BANK

The main purpose of the terminological data bank is to ease automotive communication in the areas of the VW México in order to reduce ambiguity, which is caused by polysemy, synonymy and homonymy. At present, this intention has not been fulfilled because the terminological data bank is new and on-going. The development of this kind of project is relatively slow; however at some point in the future it may be a considerably complete, updated and specialized source of knowledge and a marvelous tool for those who deal with the automotive language.

For now, the users are in-house translators, interpreters and the Translation Department staff. The project has been established with the support of the Translation Department only; it has not been presented yet to the other departments of the VW México because the terminological data bank needs to be more integrated with terms and data categories in the four selected languages.

In addition, the Company is going through a difficult period in its exportations due to the world economic crisis. Some decisions were made and some departments were dramatically affected. Thus, the VW México has been forced to reduce the staff in order to reduce costs. For this reason, the terminological data bank project, amongst others, has been reduced regarding working hours.

At the moment, the Translation Department is undergoing major structural changes and the terminological data bank requires a general and profound inspection. This will be the first inspection, so the entry information will be supervised with specialists from the different areas as well as by an expert terminologist in order to ensure the accuracy and completeness of the each terminological data category.

The future of this project seems promising for the performance of the VW México translators and the Translation Department. It can solve many terminological problems in the translation and interpretation of texts, conferences, workshops, and internal communication among specialized work areas.

The expectations for the future are that the VW México fully supports the terminological data bank project and it integrates the data bank to the Intranet, which will be useful to clear up terminological communication confusions of translators, specialists and workers in each area, to reduce time spent on searches, to avoid semantic problems and to harmonize the automotive vocabulary. With the company's support, the terminological data bank will be fed quicker and its benefits will satisfy the users sooner because the project will have its own organization and a budget will be given to its development.

In the future, it proposes to exchange the terminological information of the automotive data bank with the Wolfsburg term bank and with *"Le grand dictionnaire terminologique"* (GDT), a data bank from Quebec, Canada. The Wolfsburg term bank has been designed in Volkswagen Wolfsburg by the “Post sales” department in order to solve the same kind of terminological problems in the automotive field. It is a multilingual data bank, German, English and Portuguese are included but the Mexican Spanish language is not covered.

L'Office québécois de la langue française is a public organization which has been in charged to create the terminological data bank, "Le grand dictionnaire terminologique". It contains information of different subject fields, amongst them the automotive subject field in English, French, Spanish and other languages. In this way, this exchange will be useful to expand information in the same languages handled and complete information in the automotive area.

There are also future plans to organize the terminology of the different subject fields that deal with the automotive industry and include it in the automotive terminological bank such as administration, finance, informatics, medicine, environment and human resources. In fact, these subject fields are already included in the thematic area category in the terminological data bank; however, developing the automotive terminology is still the priority.

CHAPTER V

5.1 CONCLUSIONS

The objective of this chapter is to summarize the work that has been done in order to create a computer based terminological data bank of the automotive industry field in the Translation Department on VW México. General feedback of the project will be explained regarding the terminology research, the data bank development, achievements and shortcomings, as well as a possible future of this particular terminological data bank.

Terminology is the discipline where it is possible to compile process and present the specialized vocabulary of all specialized subject fields. Terminology as a discipline that studies designations of concepts of a particular subject field has been required to control information in a specific and specialized context, in this case, that of the automotive industry. The terminology discipline has been systematized to develop an automotive terminology data bank, which is an organized database of automotive terms used in the VW México.

The automotive terminology is considered a special language; the terms differ from the words of general language. It is used within all areas of the automotive industry; users are specialists dealing exclusively with automobile construction and, in this case, communication takes place in VW México plant. It is necessary for translators to be familiarized with specialized terms and to understand their purpose and interaction with one another to perform a specialized translation and consequently a specialized communication.

Of the most notable achievements of the automotive terminological data bank in the Translation Department, it is possible to improve the quality of translations. With the terminological data bank, a translator is able to find multifunctional and

multilingual information. Translators will be able to find and understand a term by its definition, know the different equivalences in four languages, synonyms, a recommended term, to know how to use a term according to an example that is given in the context field, to see a picture to understand much better a concept (if it is available), to see notes of special terms, when there are any, either by a specialist or a terminologist.

This information allows users to have general and specific information of a term, and he/she may be able to choose what term is really needed in the text. Moreover, all entries are reviewed and revised by a team and this assures quality and consistency.

Besides improving quality of translations, communication among VW México departments will also improve. Confusion in terminology may be avoided. There may be fewer mistakes when they perform procedures after reading information coming from the Translation Department.

Secondly, the terminological data bank is constantly updated with new terms; new information can be inserted in existing entries. As time goes on and activities continue, the data bank will be more complete and become the firsthand tool to facilitate the work of translators.

Thirdly, access to the terminological data bank is very rapid, and it is also very quick when it comes to receiving feedback when searches are done. Consulting a multilingual, general or specialized dictionary, a specialized book in the subject field in question or a subject specialist is always a time-consuming task.

Finally, the software itself is a great asset to the project. It was a great decision to select the SDL Trados program. It is an excellent terminology management tool and also a sophisticated translation platform. The program is user friendly,

understandable and practical. It has different applications that are beneficial for the work of translators.

The automotive data bank stores only the vocabulary from the automotive domain, which may include terms not found in technical or general dictionaries as well as those without a suitable translation for the automotive subject field. Indeed, the Spanish used in the terminological data bank is from Mexico, the one users speak and used, not the Spanish from dictionaries made in Spain.

This tool will allow the automotive terminology to be established and the oral and written communication within the Company to be facilitated. Later, when the terminology data bank be available on intranet in VW México, there may be more interest, together with other automotive organizations to standardize terminology in order to reduce polysemy, synonymy and homonymy in the automotive field.

As with any project, shortcomings were also found, including the fact that some users were skeptical about the development or the result, since terminological studies were recent when the project started and the development process was very slow. However, as the project progressed, users realized it could be a great asset for the Translation Department and, in the future, for VW México work areas.

Second, it may take several years to have a considerable number of entries. This task is a never ending duty that needs constant updating, additions and revisions. The first step has been done, which was to create the terminological data bank. The next step involves time and consistent work.

Being part of the staff of the Translation Department, I was able to see and face the entire process of its creation. For that reason, I consider the result of this thesis enormously useful for the translators who work in the Translation Department of this company. It will be a reliable and practical tool to carry out their work and help harmonize all automotive terminology in VW México.

Third, full-time staff is required to improve quality and quantity of content information. This is also related to economic resources that are needed to continue the development of the terminological data bank. The Translation Department may need to review the benefits this project will produce and see that any expenses are worthwhile making.

Finally, the development of this project was affected by the internal changes in the Translation Department. However, the advancement that has been achieved is noticeable. The initial stage was not easy, but the needs made it happen. Hopefully the Translation Department will take control of the shortcomings and restart activities in the terminological data bank soon.

As the automotive area, many subject fields need to organize their own terminology to improve communication. Nowadays, the different field areas, which are interested in setting up a standardized, or at least harmonized, terminology are quite limited. They belong to fields where security is demanded and necessary to avoid physical risks or material damages, such as the aeronautics, satellites, militia, astronautics, chemistry, or medical fields, among others.

However, even other field areas that are in need of a standardized or harmonized terminology, have very little interest in creating it. This is due to the fact that the study of terminology needs more recognition as a separate discipline and its study is recent, at least in Mexico. Nevertheless, terminology exits as a discipline, a practical activity and as a social interest to organize special languages.

At present, in Mexico there are several obstacles that prevent the appreciation and development of the terminology activity and some terminological data banks may take longer to be a real and supported tool like VW México. Among these impediments, Maria Pozzi (2001) mentions the following:

- ⇨ Terminological resources are needed to study terminology and develop terminology projects (a terminology organization, bibliographical reference, tuition on the matter of universities or a terminology body, etc.)
- ⇨ Lack of interest of universities to incorporate terminology in the modern languages or translation programs in order to include the terminology as a resource to improve the translation labor.
- ⇨ Lack of permanent diffusion of the study of terminology of organisms or institutions where this discipline is already studied and recognized.
- ⇨ Lack of financial resources to develop a terminological project with the methodology, staff and resources needed. (This is the case of the automotive terminological data bank in VW México)
- ⇨ Lack of communication between the different terminology organizations where terminology activities are developed in a parallel manner.

Despite these obstacles, the study of terminology and its practical activity is gradually developing because of the need to identify, collect, organize, describe, and present linguistic knowledge in each area of study as well as advancement and development of science, technique and technology.

In recent decades, terminology studies have increased in linguistic, governmental, and educational sectors to improve the tools and means to consolidate, accumulate, spread and exchange specialized knowledge. In this way, it is possible to summarize and preserve knowledge in books, dictionaries, encyclopedias and also computerized data banks. Later, technical and scientific specialists, writers, journalists, translators and interpreters can use them to create an accurate work in the specialized subject fields in question.

Like any other new discipline, it may take time to be absolutely respected and extensively studied. However, the results will be beneficial not only for the language in this case, but for the continuous work activities regarding communication as in the

case of the Translation Department of VW México and later on, among all its departments.

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