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Introduction

Nowadays there are many different dictionaries on the market, also specialized, bilingual dictionaries of the medical area. But what would facilitate the work of dermatologists, professionals of the area of dermatology and also researchers and translators that are working with the specialized language of dermatology is a bidirectional dictionary of the medical area of dermatology.

Therefore in the scope of this thesis is the process of establishing such a dictionary. In the theoretical framework will be implemented how a practical dictionary should look like and what demands of such a dictionary are. Furthermore will be stated the microstructure regarding the dictionary's contents. In the context of the chapter methodology and processing of data the procedure of the process and analysis of the German and Portuguese corpus will be presented. In the subsequent chapter will be shown a contrastive linguistically data analysis regarding the terms from the German and Portuguese corpora including the examples of two adjectives, a collocation and a past participle to demonstrate the grammatically and syntagmatically behavior of the terms in the respective languages but also will respect the concepts of the terms that could differ from the source language in the target language.

Concluding it will be presented a model of a dictionary in the area of dermatology as well as the functionalities of the model.

Chapter I: Aim

The aim of this work is to show the process of establishing a bidirectional dictionary of the medical area of dermatology in the German and Portuguese language. There are indeed medical dictionaries in the German and Portuguese language on the market that contain medical terms in general but they seem rather incomplete because many terms of the area of dermatology are missing. I think that the existence of a specialized, bilingual dictionary of the medical area of dermatology in the German and Portuguese language could be very useful for the potential target audience of dermatologists, professionals of the area of dermatology and also researchers and translators that are working with the specialized language of dermatology. Concerning the dictionary's content the objective is to establish a dictionary that not only contains medical terms but also collocations, further it is thinkable to include illustrations as well as audio and video material.

Chapter II: Theoretical framework

II.1. The dictionary's demands

In order to know how a practical dictionary should look like, first of all there will be demonstrated the attributes concerning the type of the establishment of the intended dictionary.

According to Zink (1994), the three attributes that describe the qualitative demands of dictionaries are validity, beauty and utility¹. He explains that good dictionaries are accurate in the sense that they fulfill logical requirements in order to inform the reader as well as possible. The dictionary has to be beautiful in terms of fulfilling certain aesthetic requirements in order to be pleasing to the reader, and they have to be useful enough to also satisfy practical demands (Zink, 1994: 84).

Zink maintains that, with regard to the validity of the dictionary, three criteria need to be fulfilled: provability, the possibility of reaching a consensus concerning the facts that the articles contain and actuality. By provability the author refers to the selection and critical evaluation of information sources. In this context Zink notes that it is essential to collaborate closely with experts to guarantee the content-related accuracy. As written sources, secondary workups, like textbooks, may be more suitable as primary publications in professional journals as the knowledge might not always be assured and processed second-hand. But Zink also admits that Willibald Pschyrembel, whose name is synonymous with the German-speaking standard reference work on medicine, had a different opinion (Zink, 1994: 85). Even today, Pschyrembel's set benchmark, which orients itself not in quantity but in quality, in relation to medical information should contain no arbitrary or transitory turns of phrase, no erroneous theories, rather assures that data, concerning the most important diseases as well as current therapies be entered into the work (de Gruyter, 2009²). I agree with Pschyrembel's benchmarks because science is constantly developing so therefore using actual written source such as

¹ Order according to the author

² <http://www.degruyter.com> consulted 26.03.2012

scientific journals is a good way to keep up with the latest scientific discourses and to ensure that terms³ which relate to modern treatments are present in the work.

Another criterion is the possibility of reaching a consensus regarding the stated facts in the articles; Zink (1994: 86) notes that dictionaries should be as infallible as possible. Concerning the article's integrity Zink gives the example of the incident in Tschernobyl in 1986; at that time the author worked on a dictionary about radioactivity and there were voices that asked for statements of all-clear signals on information regarding the consequences. From Zink's point of view it was beyond debate to state such information, retrospectively that decision turned out be the right one. Hence dictionaries however are not a suitable platform for scientific discussions; otherwise the integrity of the entries could be compromised because the entries would be manipulative and could compromise the didactically value. Regarding actuality, the author means that only proven facts, like headwords should be treated in a dictionary rather than discussions that are relevant today but that could be outdated in the very near future. He states the example of the discussion about urinary extraction that used to be discussed a lot but nowadays does not have any importance nowadays. This is why objective accurateness has more weight than the actuality of the provided information (Zink, 1994: 87).

No less important is formal accuracy, such as the correct use of the orthography or the abbreviations together with the correct references to other headwords to assert the credibility of the entries and thus the dictionary's quality (Zink, 1994: 85-86). The user can verify immediately if those references or headwords are correct by simply using the dictionary. That is why the result of that verification affects the judgment in relation to the entry's credibility and thereby the quality of the dictionary in general is affected much more than the content itself. Moreover, what is essential for the establishment of the dictionary is the definition of rules regarding the order and logic of the dictionary's structure. For example, one has to develop a generally applicable and logical system for the different medical customary orthographies, or one has to decide which terms should be applied as headwords (Zink, 1994: 88).

³ A term is a word with a meaning that is relatively precise and independent of the context, often subject to some special convention or regulation, as, for example, with technical terms defined by standards associations (Halliday & Colin, 2007: 108-109).

Relating to the dictionary's beauty, the author explains that it is not adequate only to maintain the content-related and formal accuracy but it is also very important to consider the role of an esthetic issue. This implies the way the information is represented in order to delight the readers because only a dictionary that pleases the user ensures a positive didactic effect. To create that effect, components like the style, the choice of words, the entry's composition, the texts length and the comprehensibility all influence the reader. Zink describes the dictionary's beauty as a dimension that the reader assesses and experiences instantaneously and therefore deserves a high degree of attentiveness. Hence the fact of giving a definition of words of foreign origin with other foreign words does not signify a hindrance for the expert audience; on the contrary those texts appear to be scientifically much more legitimate (Zink, 1994: 90). By using the term *text* the author refers to the articles in the dictionary. My interpretation in relation to the expression "scientifically much more legitimate" concerning foreign words is that Zink means to address experts and therefore wants to create the impression of scientificity by not using colloquial language. Foreign words emphasize facts and circumstances in a text and lend importance while German terms attenuate the issue. The decision to apply foreign words depends therefore on the virtue that one tends to achieve in relation to the reader (Zink, 1994: 90-91). Zink also notes that another important requirement as to the beauty of a dictionary is the demand of uniformity of the language and the composition of articles. Equal sets of facts should also be labeled equally in the different texts; similar headwords should have a similar composition. Only through a certain standardization of choice of words and their structure a coherent impact of the read texts occurs (Zink, 1994: 91).

Zink also elucidates that the dictionary should be restricted to the absolutely necessary. The chronic shortage of space in a dictionary can be understood not merely as a disadvantage; on the contrary, that fact improves the quality of the product. Any redundancy is to be avoided, as it is not only unnecessary but also annoying to give information repeatedly. Therefore the needed information should be given only once where it is most relevant and to provide further references. One of the most important issues appertaining to the dictionary's style is the comprehensibility of the phrasings. The stylistic rule is to enumerate common events, after that the uncommon events because only what is formulated instantaneous comprehensibly appears to be memorably and will be remembered

(Zink, 1994: 92-93). The author further states that the readability depends on typography and layout. To allow for the straightforward locating of entries and to facilitate the reading process, it is existential to select the different fonts in order to distinguish between different headwords and articles. The decision to highlight terms in texts in semi bold or italics should be coherent to facilitate a coherent reading of the texts (Zink, 1994: 94).

Zink states that the most difficult issue of all is the question as to what purpose a dictionary serves. To answer that question there is an objective and subjective point of view. The objective reason for the existence of dictionaries is the following: because dictionaries permit the description of specific excerpts from reality in the most convenient and economical way. The subjective reason is because dictionaries permit readers to answer questions concerning specific excerpts from reality in the most convenient and economical way (Zink, 1994: 95).

According to Zink the purpose of good dictionaries is therefore to fulfill a double function: on the one hand is the description of a section of reality and science, and on the other hand to answer the questions, that occur in relation to this section (Zink, 1994: 95). By referring to sections the author refers to different domains of reality and science, in the case of the intended dictionary it would be the section of dermatology⁴. Zink further notes that the more complete and detailed a dictionary is, the more beneficial it will be. As a consequence, the actual skill of establishing a dictionary is to connect those requirements in the best way possible (Zink, 1994: 96). Regarding this, the purpose of my thesis is to denominate the elements of the pertaining excerpt of knowledge and subsequently to illustrate those elements. The designation occurs on the level of the headwords, while the explanation takes place on the level of the headword texts (Zink, 1994: 96). By referring to headword texts the author addresses the articles in the dictionary, i.e. lexicographical articles.

The first step in the process of establishing a dictionary is, according to Zink, not the collection of terms but the perimeter of a partial quantity with regard to a process of eligibility. The three important criteria in that connection are that the selected headwords should describe the “middle” of terminology. They should be

⁴ According to the Merriam Webster dictionary dermatology is defined as the branch of medicine concerned with the diagnosis, treatment, and prevention of diseases of the skin, hair, nails, oral cavity and genitals (<http://www.merriam-webster.com>) consulted 13.03.2012

combined to a whole and should support the development of a comprehensible terminology (Zink, 1994:97). I do not agree entirely with Zink because I think it is possible - after selecting a specific scientific field like dermatology for example – to establish a dictionary that provides not only a partial quantity but a representative part of the scientific field.

The selection of terms should ensue by the frequency of their occurrence and the functionality of their application. To maintain the usability of the dictionary, the headwords have to be selected according to their significance. The significance is ascertainable by the frequency of occurrences in the practical utilization in the scientific field. According to the author, the quantitative data with respect to the frequency of distribution are only available in exceptional cases (Zink, 1994: 97). Selecting the headwords is only the first step in establishing the compilations of the headword inventory. The second step is their suggestive endorsement and conjunction. It is necessary to connect them with each other to transform the quantity of individual terms into a systematic, hierarchical entity. This is possible by allocating the individual terms to hyperonyms or collective nouns (Zink, 1994: 100).

Concerning the selection of lemma⁵, initially the range respective to the extension of the terminology has to be defined. Lippert (1978: 84) distinguishes between three levels: the scientific language that the future doctor learns during his studies, the medical colloquial language that is used most notably for the communication between the doctor and the medical personnel and the scientific speech in relation to laymen (Lippert *in* Lüking, 1994: 150). The potential audience target of the proposed dictionary will consist exclusively of experts. In this context the factor of the intended user's level of encyclopedic knowledge has to be taken into account to provide the information adapted for the user's needs. According to Bergenholtz & Tarp (1995) the encyclopedic knowledge is a factor that has to be considered in

⁵ Lemma (plural: *lemmata*) is the lexicographical term for what is popularly referred as entry word or headword. The lemma directs the user to the required dictionary article, headed by the lemma. Except the case of proper nouns, there will usually be a choice between different forms of the linguistic sign as lemma, since at the same time the form of the lemma represents the entire linguistic sign. Lexicography has a tradition of lemmatizing nouns in the singular, verbs in the infinitive and gradable adjectives in the neutral uninflected form, although a few dictionaries use other lemmatisation criteria. In the case of irregular inflection, the irregular form may be lemmatised as well to facilitate user access to the information required (Bergenholz & Tarp, 1995: 15).

connection with the encyclopedic information because it influences the amount and nature of the linguistic information required. The authors distinguish on the expert level a high level of encyclopedic and low level of foreign-language competence together with a high level of encyclopedic and foreign-language competence (Bergenholtz & Tarp, 1995: 21). Therefore specialized bilingual dictionaries should provide linguistic information, in the first place in the form of equivalents, with perspective to translation from and into the native language (Bergenholtz & Tarp, 1995: 49).

According to Lüking the bilingual dictionaries purpose is to give information concerning two languages and to provide assistance in cases of difficulties which occur during the transfer from one language to another. To enable the rapid and certain use of the dictionary the user needs to know the criteria regarding the selection of lemma (Lüking, 1994: 149). Lüking further notes that based on the eligibility criteria the user can make a supposition if the wanted lemma is represented in the lexicon excerpt before actually looking them up (Lüking, 1994: 149). The problems regarding the dictionary's macro structure affect not only the selection but also the order of lemma.

In that context Lippert (1978: 85) reveals that the problem of the differentiation of the medical terminology is not only to define the boundary frontiers, but the fact that medicine is in a phase of evolution. Every day new terms are created, others are substituted through new knowledge, others are buried in oblivion (Lippert *in* Lüking, 1994: 150). The author further states that especially in the area of medicine it is difficult to define the pure medical lexicon since the limits between medical areas blur as a result of interdisciplinary research. Therefore it has to be decided if words that originate in different medical areas but are used in medical coherence are to be incorporated as lemma (Lüking, 1994: 151). The author refers to words what in terminology would be denoted as terms.

In relation to formal distinction the question arises what should be contained in the dictionary: only terminology, therefore a type of skeletal nomenclature or as well other, to the terminology pertaining lexical units that occur in the respecting field frequently (Haensch *in* Lüking, 1994: 152).

According to Lüking compound words may represent an obstacle because one cannot always assume that denomination in the target language is the result of an

element-for-element-translation. Especially in terminology of medicine excessive use is made of the formation of compounds. Of course it is not possible to incorporate all possibly generated compounds in the dictionary (Lüking, 1994: 152). From the terminological point of view I cannot agree with that statement because what has to be provided in the dictionary are the concepts whether they are compound words or not. According to the ISO 1087 a term is denoted as the verbal designation of a general concept in a specific subject field (ISO 1087, 2000: 26). Those concepts are units of knowledge created by a unique combination of characteristics (ISO 1087, 2000: 22). Therefore the objective of the intended dictionary is to provide equivalents for the mentioned concepts in the respective target language. Equivalence is the relation between designations in different languages representing the same concept (ISO 1087, 2000: 30). According to that the terms and their equivalences have to be represented in the dictionary because otherwise the user needs will not be fulfilled. According to Lüking it is not necessary to state the compounds whose translation results in the translation of the particular elements in a reception dictionary because the user can process those compounds himself by means of his mother tongue. Due to his specialized knowledge he is also able to verify if the encountered translation describes indeed a in the medicine known issue (Lüking, 1994: 152). Again it is not possible to approve that statement because for example in the case of a translator the user cannot anticipate which concept corresponds to the concept in the target language. The author further notes that the treatment of multi-word terms has to be extremely well thought out. According to Trost from the Medical University Vienna a multi-word term is a term that consists of more than three words like for example *Fossa cranii anterior*.⁶ Lüking notes that the percentage of multi-word terms in English is higher in comparison to German because the possibility of forming multi-word terms is more restricted than in German. Therefore it is important to examine if the translation poses difficulties (Lüking, 1994: 153). However I am not completely convinced that that is the case because the language for specific purpose in the field of medicine has its roots in the Greek and Latin language and therefore it might not differ in the target language after all. Absolutely required is the acquisition if the

⁶Trost, Harald, (2011) <http://www.meduniwien.ac.at> consulted 09.04.2012

translation of particular elements that do not lead to the same equivalent⁷ in the target language (Lüking, 1994: 153).

Another element that needs to be provided is abbreviations that occur in medical texts and often differ in the target language. According to Lüking without the knowledge of the meaning of innumerable abbreviations medical texts often remain incomprehensible. Therefore a medical technical dictionary has to register established abbreviations, if possible with the equivalent in the other language (Bunjes *in* Lüking, 1994: 153). In the reception dictionary it seems quite useful to state a solution in the target language to give the user the possibility to decode the solution in his peculiar language (Lüking, 1994: 153).

II.2.THE DICTIONARY'S MICROSTRUCTURE

The intended type of dictionary is a specialized, bidirectional dictionary that will contain culture-independent knowledge in German-Portuguese⁸ and Portuguese-German. Therefore must be considered the following aspects concerning the dictionary's structure.

According to Bergenholtz & Tarp some experts for example regard law as a single-field which again consists of a number of sub-fields (Bergenholtz & Tarp, 1995: 58). Regarding bilingual single-field dictionaries there a distinction must be made between culture-dependent and culture-independent dictionaries (Bergenholtz & Tarp, 1995: 177). In culture-independent knowledge, the subject matter does not change with language or country community (Bergenholtz & Tarp, 1995: 61). The authors also elucidate that there are specialized dictionaries that have been designed as genuine bidirectional. These dictionaries are containing word lists with the required grammatical and encyclopedic information in both sections of the

⁷ According to Bergenholtz & Tarp an equivalent is defined as follows: An equivalent designates the translation of the lemma or other source-language expression into the target language. Equivalents thus only provided in bi- or multilingual dictionaries. As there are different degrees of equivalence, [...] equivalents may also be used to describe the relationship between a lemma or source-language expression and its target-language translation (Bergenholtz & Tarp, 1995: 15).

⁸ According to the authors languages like German, English and Portuguese are large languages (Bergenholtz & Tarp, 1995: 54).

dictionary. Often such dictionaries are really two independent dictionaries, in other words two dictionaries based on independent lemma selection for each language concerned. That fact creates new perspectives for culture-independent dictionaries. In the basis of a selection of lemma which, at least as far as the majority of the languages for specific purposes (LSP), terms is concerned, is the same for the two languages, the two word lists could be linked in a number of ways. As a result, references to a common encyclopedic section may be made from either list, both of which may also provide encyclopedic information, thereby considering native speakers of both languages. In addition, the explication language may be adapted to support dictionary priority functions (Bergenholtz & Tarp, 1995, p. 53-54). By referring to the explication language the authors denote the language in which the articles/encyclopedic notes are written. In a German-Portuguese / Portuguese-German technical dictionary, the encyclopedic notes may be in Portuguese in the Portuguese-German part of the dictionary and vice versa (Bergenholtz & Tarp, 1995: 54).

According to Bergenholtz & Tarp the first component a bilingual dictionary requires is a dictionary grammar. It should be noted that the grammatical information however is more important to translators than to domain experts. The authors further state that a dictionary grammar is an independent component that provides grammatical information related to the lemma or equivalents occurring in the dictionary. Depending on the target audience specialized dictionaries should provide linguistic information in view of intended user's lexicographical needs as well as dictionary functions. The linguistic information is particularly important in dictionaries intended for translation and text production. That grammatical information is particularly required for bilingual dictionaries where the target language is not the user's native language because the user cannot be expected to dominate the grammar of the foreign language as well as that of his mother tongue. Therefore a dictionary grammar may either describe the grammatical irregularities or the grammatical regularities of the target language (Bergenholtz & Tarp, 1995: 178).

The authors state further that another component of a bilingual dictionary is the word list. The most frequently applied criterion implies that a word list be compiled for each language. In a straight-alphabetic wordlist for example each article is

addressed to one lemma alone. This principle has the advantage that lemmata are easily found as they always appear at the head of the article (Bergenholtz & Tarp, 1995: 192).

Bergenholtz & Tarp also note that another type of entries are collocations, in which two or more words consist or enter into a syntactic unit the meaning of which may be explained as a combination of the meanings of the individual words. Only words occurring together within a limited span are regarded as collocations. Some studies admit a span up to four words after and before the node, but most often the span covers the entire sentence. We already saw above that the difficulty in relation to equivalents has to do with the concepts that may differ from the source language to the target language.

According to ISO 704: 2009 there are two types of concepts to be distinguished: General concepts and individual concepts. When a concept depicts or corresponds to a set of two or more objects which form a group by reason of common properties, it is called a general concept and, in special languages, the designation takes the form of a term (e.g. floppy disk, liquidity, money market fund, etc.). When the concept depicts or corresponds to a single object or when an object comprising a unique composition of entities is considered a single entity, it is called an individual concept and is represented in special language as an appellation (e.g. United Nations, Internet, World Wide Web) or a symbol. Appellations refer to individual concepts and comprise names, titles and other similar forms and shall be distinguished from terms that refer to general concepts.

It follows that any unique object shall be considered an individual concept. When an individual concept is designated by an appellation constructed by conjoined entities, it is still considered an individual concept even though conjoined words or terms usually signal more than one concept.

Therefore one can assume that a collocation, a multi-word term or a lexical combination are the sum of the meanings of the individual words that constitutes the collocation, a multi-word term or a lexical combination but consist of an autonomous meaning as a whole.

The German tradition focuses on potential word combinations, on the typical combination of two groups of words or two words. Between trivial word combinations and so-called semantically distinct combinations is made (Bergenholtz & Tarp, 1995: 118). I would like to add that the extent of collocations

varies from dominion to dominion and likewise their structuring varies from dominion to dominion.

The authors further discuss that regarding the indication of word combinations in specialized dictionaries several possibilities are available:

- a) multi-word terms are lemmatized and non-terminological word combinations, i.e. collocations, are provided in the articles,
- b) both multi-word terms and collocations are lemmatized, the articles containing no information on word combinations,
- c) word combinations are not lemmatized, information on both multi-word terms and collocations being provided in articles,
- d) multi-word terms and collocations occur both as lemmata and in the articles
- e) implicit information on word combination is given in articles, either as part of the encyclopedic note or in the sentence examples (Bergenholtz & Tarp, 1995: 118).

Hereafter the presented possibilities will be validated. The authors state that option e) demands a closer study on the user's part, the availability of this implicit information should be provided in the user's guide. All four remaining models provide explicit information. Example of model d), a German-English dictionary:

Akt act notarieller *notarial act*
unfreundlicher Akt unfriendly act

According to the authors choice d) is the last favorable. They state further that indeed a wide range of relevant terminological and non-terminological word combinations are provided for the LSP in question but the user has to refer to several places in the dictionary. Moreover, no distinction is been made between multi-word terms and collocations. Model c) is on the other hand is unambiguous, as the user will have to look up only once. Provided that the search has been lemmatized, all information about collocations and multi-word terms occurs in the same place. Compare the following example of a German-Danish dictionary:

effektiv *adj* wirksam
~ rente Rendite, den ~ *anvedente toldsats* der
tatsächlich angewandter Zollsatz

rente Zinsen *pl*
effektiv ~ Rendite, *fast* ~ Festzins, *tillige med* ~
nebst Zinsen

From this principle both user and lexicographer will benefit as all word combinations addressed to a given lemma may be found in one look up, as they are provided in connection with each relevant word of a multi-word lemma or a collocation. Thus, the multi-word term *effektiv rente* occurs with its German equivalent under both *rente* and *effektiv*. There is no distinction been made between collocations and terms since the equivalent of a Danish multi-word term cannot automatically be assumed to be a single-word lexical unit in German.

Nor allowance is been made between collocations and terms in model b), as both multi-word terms and collocations are lemmatized as shown in the following example of a Spanish-Danish law dictionary:

causa legal retlig grund
legal, causa retlig grund

The dictionary makes a distinction in practice but in such a subtle way that the user may not find out: collocations are lemmatized only once, usually under the “most important” noun, whereas multi-word term are lemmatized in several places, in particular under each element in the terminological phrase.

According to the authors model a) provides the greatest advantage for the user but not necessarily for the lexicographer as that model implies much more work (Bergenholtz & Tarp, 1995: 119-120). Personally, I feel that it is worth to accept additional work in order to establish the best dictionary possible and therefore I cannot agree with the authors because the objective should be the optimum final product.

Bergenholtz & Tarp also note that the question that has to be considered in relation of the dictionary's purpose is the communication function. This can be the production, reception or translation of languages for specific purposes texts. These functions must be accommodated to the intended user's competence level in each of the following areas: native-language competence, foreign-language competence and encyclopedic competence. On the level of native-language competence a number of information are required in the dictionary such as orthography, gender, pronunciation, regular and irregular patterns of inflection and typical word combinations (collocations). Only in those cases that give rise to doubt the pronunciation may be provided. Regarding native-language text reception it is important to provide grammatical information on word class, gender, pronunciation, irregularities, etc. The expert who dominates his particular area a hundred percent does not require any encyclopedic information at all to understand a text of LSP. A further specialized dictionary function is foreign-language text production which requires in principle the same types of information as the native-language text production. With regard to meaning the expert only requires a native-language equivalent to understand a foreign-language text. The expert will be in a position to find the correct native-language equivalent in a given context by drawing on his encyclopedic knowledge (Bergenholtz & Tarp, 1995: 22-23).

The above mentioned theoretical aspects will be applied in the following chapters; in the subsequent chapter the technical process of achieving the required examples that the dictionary will contain are demonstrated.

Chapter III: Methodology and processing of data

The following chapter presents a description of the required technical process in order to come upon suitable examples for the establishment of a medical dictionary for the area of dermatology.

In order to be able to establish a comparison between the terms (see chapter 1) from the area of dermatology in German and Portuguese, it was necessary to create a commensurable corpus. A corpus is defined as a collection of naturally occurring language text in electronic form, often compiled according to specific design criteria and typically containing many millions of words (Halliday & Colin, 2007: 105).

The implemented research in order to come upon a scientific article, journal or magazine that is published both in German and Portuguese in the field of dermatology was without any result. Since there is no respective corpus in both languages to generate an alignment it was mandatory to constitute one manually. An alignment is defined as the process of aligning equivalent sequences in bilingual or multilingual parallel corpora, so that one sequence in one language corresponds to the equivalent sequence in another language and both of them can be accessed or displayed at the same time (Halliday & Colin, 2007: 104). Therefore the choice fell on two comparable journals, the official journal of the association of German dermatologists, *Berufsverband der Deutschen Dermatologen*, which is published monthly and the journal of the Portuguese society of Dermatology and Venereology, *Sociedade Portuguesa de Dermatologia e Venereologia*, which comes quarterly, in order to obtain a comparative corpus.

That analogous corpus will be my paper's starting point whereas it signifies the centerpiece of the establishment of the planned dictionary; it entails various benefits as Thomas Herbst and Michael Klotz (2003) reveal. By the virtue of to the dimension of corpora that exist in the English language at the beginning of the 21 century one can assume that the achieved data is a lot more representative in comparison with other methods of data ascertainment. Another gain is that corpora

permit to elevate statistics about the frequency of applied words which are not obtainable in any other way. The statistics not only concern the frequency of the generic occurrence, but also the occurrence in correspondence with other words, such as phenomenon like valence, collocation and phraseology. A collocation is defined as the habitual meaningful co-occurrence of two or more words (a node word and its collocates or collocates) in close proximity to each other. As a lexical relationship, collocation can be defined quantitatively as the degree of which the probability of a word y occurring in text is increased by the presence of another word x (Halliday & Colin, 2007: 105). The analysis of corpora can be objectified regarding the issue exceedingly in comparison to questionings or audit trails because routine inquiries can be designed much more easily in a not predetermined way (Herbst & Klotz, 2003: 274). Admittedly not the approach of the English, but the German and Portuguese language is objective of the present paper nevertheless it can be assumed that the advantages are also applicable for those languages.

To achieve the required corpus, it was indispensable to obtain the German journals of the association of German dermatologists by contacting the office directly by email so as to request the editions of the year 2010 as a PDF file. For the acquisition of the Portuguese journal from the same period of time it was essential to make a draft on an acquainted German dermatologist requesting his help to access the online platform because the journals are only approachable for members of the Portuguese association, i. e. for dermatologists exclusively. Unfortunately the Portuguese association revealed not to be as cooperative as the respective German association hence it was only possible to attain editions the first two quarters of the year 2010. That fact is mentioned because it has a drastic effect on the volume of the corpus that is available, as a matter of fact at this particular time the volume is only as half as substantial as it could have been which affects the representation of the paper.

After having received the mentioned journals as PDF documents, the first pass was to start converting the six German and the two Portuguese editions into text documents in order to process them further.

The chosen subsequent treatment was the application of a semi-automatic treatment using the program CONCAPP_RC for the purpose of comparing the corpora. This stated program provides concordance searches and word frequency text analysis,

for example the most or least frequent terms. A concordance is defined as a list of lines of text containing a node word, nowadays generated by computer as the principal output of a search of a *corpus* showing the word in its contexts and thus representing a sum of its usage; see also KWIC (Halliday & Colin, 2007: 105). Furthermore it permits the examination of the alignment of both the German and Portuguese corpus.

The content of the journals of the *Berufsverband der Deutschen Dermatologen (BVDD)* that was used as corpus contain the following categories: *Aktuelles in Kürze*, the rubric that treats policy and economy with reference to dermatology like alterations in medication prices, new campaigns, new guidelines in treatments or forthcoming conferences. The rubric *Berufspolitik* includes reports of dermatologists to actual issues, debates or glosses. *Aus den Ländern* comprises news from different federal states such as legislative changes in the dermatologic sector, exhibitions or conferences. Furthermore *Pharma News*, pharmaceutical news in relation to new medications, was included. Not incorporated were small advertisements, recommendations for television programs, publishing information and so forth.

In accordance with the semi-automatic treatment it was possible to establish an initial analysis with regard to the frequency of occurrence in the German corpus.

The content of the journals of the *Sociedade Portuguesa de Dermatologia e Venereologia (SPDV)* that were used as corpus contain the following categories: The rubric *Educação médica contínua* conveys the current state of knowledge in relation to a dermatological issue. The category *Artigo de guidelines* treats the guidelines concerning the treatment of skin diseases while the category *Artigo de opinião* discusses issues like ethics in medicine. In addition used were rubrics like review articles, case reports or abstracts of SPDV meetings. Not incorporated were scholarships and prizes, announcements, annual activities reports etc.

Yet it would go beyond of the scope of this paper to process all possible entries therefore it was necessary to eliminate all referential elements to require a synoptic view. Furthermore notice was only taken of the nouns, verbs, adjectives and monograms. To narrow down the shortlist of potential terms that could be used in

the dictionary only terms that occurred at least 10 times in the corpus were considered.

To come upon the respective equivalents in the target language Portuguese once again it was made use of the program CONCAPP_RC.

To minimize the amount of the encountered terms also in the Portuguese corpus all referential elements were eliminated. Also in this case notice was only taken of the nouns, verbs, adjectives and monograms. To narrow down the shortlist of potential terms that could be used in the dictionary only terms that occurred at least 10 times in the corpus were considered.

In the subsequent chapter the results of the data process will be showed as well as the linguistic analysis concerning required information.

As stated above the information that will be required in the dictionary are the following: grammatical information on word class, gender, contingent pronunciation, regular and irregular patterns of inflection and typical word combinations (collocations). This information regarding the selected examples will be given in the following chapter.

Chapter IV: Contrastive analysis of German and Portuguese data

In this chapter the selection of examples, which were chosen, based on their frequency in the corpora and their representativity with regard to their linguistic nature will be presented. Concluding those examples will be linguistically analysed.

As a result of that process subsequently follows the list of forms of the German corpus that constitute as object to give a diversified example, to represent the analysis as clearly as possible, it was made use of tables. Furthermore it will be demonstrated the respective KIWICS. A KIWIC is short for key word in context and defined as a computer-generated set of concordance lines in which the node word is in the centre of each line (Halliday & Colin, 2007: 106).

The German corpus contains several thousand forms, altogether 137844. Even it is not possible to investigate that fact any further for now, it should be mentioned that interestingly 11567 forms are so called hapax legonema⁹.

IV.1. *topisch* vs. *atopisch*/*tópico* vs. *atópico*

To demonstrate an example of an adjective the term the choice fell on the form *topisch* because, as it will be revealed hereafter, the term is very easily to be mistaken with the term *atopisch*.

Table 1: KWIC: *topisch*

äparate in Kombination mit	<u>topisch</u>	angewandtem Metronidazol
ann Tacrolimus- Salbe eine	<u>topische</u>	Behandlungsalternative für
diskutiert, bei denen sich	<u>topisches</u>	Tacrolimus in klinischen Stu
e Therapie der Psoriasis mit	<u>topischem</u>	Tacrolimus kann vor
len werden. Bei Applikation	<u>topischer</u>	Präparate ist auf physikalis
on topischen Steroiden oder	<u>topischen</u>	Immunmodulatoren nach Ab

Reference: [Der Deutsche Dermatologe](#)

⁹ A hapax legonema is defined as a word or form found only once in a body of texts; for example in a corpus or in the works of a single author (Halliday & Colin, 2007: 106)

The form *topisch*¹⁰ is a medical term that describes for example the type of application of a medicament its meaning is local, superficial¹¹. The adjective consists of the prefix *top* that is a neoclassic formative¹² with the denotation *location* and the suffix *-isch*.¹³

Whereas adjectives can be inflected concerning the gender, case and number there is not only the not inflected form (see table 2) to be observed. The form *topisch* occurs in total 79 times in the corpus.

As the table 2 shows the not reflected forms only occurs 3 times. Those times the use of the adjective is predicatively, the adjective operates as predicative to the subject and stands before the respective noun.

Table 2: not inflected form *topisch*

	<i>Adjective</i>	<i>Occurrence</i>
<i>positive</i>	topisch	3

Reference: www.canoo.net

Adjectives can also be attributive, as adjunct to a noun to describe it closer. Apart from the infinitive form, all other forms found in the corpus are attributive.

¹⁰ Topisch gleich örtlich, Pschyrembel, <http://www.triplane.ch> consulted 16.03.2012

¹¹ (Medizin) örtlich, äußerlich (von der Anwendung und Wirkung bestimmter Arzneimittel) <http://www.duden.de> consulted 16.03.2012

¹² Formative: the element (as a suffix) in a word that serves to give the word appropriate form and is not part of the base, <http://www.merriam-webster.com> consulted 16.03.2012

¹³ www.canoo.net consulted 16.03.2012

Table 3: pronominal flections of *topisch* (without articles)

	SINGULAR									PLURAL		
	Masculine			Neuter			Feminine			Masculine / Neuter / Feminine		
	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence
<i>Nominative</i>	-	topischer	3	-	topisches	12	-	topische	3	-	topische	6
<i>Accusative</i>	-	topischen	1	-	topisches	1	-	topische	2	-	topische	1
<i>Dative</i>	-	topischem	-	-	topischem	14	-	topischer	4	-	topischen	18
<i>Genitive</i>	-	topischen	-	-	topischen	-	-	topischer	-	-	topischer	2

Reference: Helbig & Buscha, 2001: 275

Table 3 shows that the occurrence of the term occurs 3 times in the masculine singular form in the nominative case and once in the masculine singular form in the nominative case. The neuter singular form is represented 12 times in the nominative case, once in the accusative case and another 14 times in the dative case. The feminine singular form appears 3 times in the nominative case, twice in the accusative case and another 4 times in the dative case. The plural form is represented 6 times in the nominative case, once in the accusative case, 18 times in the dative case and twice in the genitive case. The tables show that the most frequent use is neuter singular form in the nominative case and dative case and the plural form in the dative case.

Table 4: nominal flections of *topisch* (with definite articles)

	SINGULAR									PLURAL		
	Masculine			Neuter			Feminine			Masculine / Neuter / Feminine		
	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence
<i>Nominative</i>	der	topische	-	das	topische	1	die	topische	2	die	topischen	-
<i>Accusative</i>	dem	topischen	-	das	topische	-	die	topische	-	die	topischen	-
<i>Dative</i>	den	topischen	-	dem	topischen	3	der	topischen	-	dem	topischen	-
<i>Genitive</i>	des	topischen	-	des	topischen	-	der	topischen	-	der	topischen	-

Reference: Helbig & Buscha, 2001: 274

The table shows that the occurrence of the term with definitive article once in the neuter singular form in the nominative case and 3 times in the dative case. Twice the feminine singular form appears in the nominative case. One can assume that the use of the forms with article in scientific texts is rather infrequent.

Table 5: mixed flections of *topisch* (with *ein*)

	SINGULAR									PLURAL		
	Masculine			Neuter			Feminine			Masculine / Neuter / Feminine		
	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence
<i>Nominative</i>	ein	topischer	-	ein	topisches	-	eine	topische	2	eine	topischen	-
<i>Accusative</i>	einen	topischen	-	ein	topisches	-	eine	topische	-	eine	topischen	-
<i>Dative</i>	einem	topischen	-	einem	topischen	-	einer	topischen	1	einen	topischen	-
<i>Genitive</i>	eines	topischen	-	eines	topischen	-	einer	topischen	-	einer	topischen	-

Reference: Helbig & Buscha, 2001: 276

Table 5 shows that only the feminine singular form appears with the indefinite article *ein*, in the nominative case twice, in the dative case once. One would have to conclude that the use of the term with the indefinite article is rather uncommon as well.

A very similar term, *atopisch*¹⁴ that has a completely different meaning than *topisch* was found 21 times. The term has its origin in the Greek language, Greek *ατοπία*, *atopía*, and means “*placenessless*”.¹⁵ The form is formed by the stem *atop* and the suffix *-isch*. The prefix *a* has a negating significance. It stands at the beginning of a loanword with Latin or Greek origin.¹⁶ Furthermore it is not autonomous. This description might be a little confusing because in the case of *atopisch* the prefix stands at the beginning of a Greek loanword, but in this case the prefix does not have a negative meaning. Once more the adjective is predicatively; it operates as predicative to the subject and stands before the respective noun.

¹⁴ Atopie bezeichnet die genetische Veranlagung zur Vermehrten Bildung von Antikörpern der Gruppe IgE, <http://www.triplane.ch> consulted 16.03.2012

¹⁵ <http://de.academic.ru> consulted 16.03.2012

¹⁶ <http://www.canoo.net> consulted 16.03.2012

Table 6: KWIC: *atopisch*

mann, Natalija Novak	Die A	<i>atopische</i>	Dermatitis (AD) ist eine in
soriasis, Sézary-Syndrom,	a	<i>atopisches</i>	Ekzem oder Lichen ruber z
ird dem Krankheitsbild	der a	<i>atopischen</i>	Dermatitis offenbar nicht
e hohe Besiedlungsrate	von a	<i>atopischer</i>	Haut mit dem Bakterium is

Reference: [Der Deutsche Dermatologe](#)

All in the corpus detected forms of *atopisch* are attributive, functioning as adjunct to a noun.

Table 7: not inflected form *atopisch*

	Adjective
<i>positive</i>	<i>atopisch</i>

Reference: www.canoo.net

Table 7 shows the term in its not inflected form that form does not occur in the corpus.

Table 8: pronominal flections of *atopisch* (without articles)

	SINGULAR									PLURAL		
	Masculine			Neuter			Feminine			Masculine / Neuter / Feminine		
	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence
<i>Nominative</i>	-	<i>atopischer</i>	-	-	<i>atopisches</i>	2	-	<i>atopische</i>	5	-	<i>atopische</i>	1
<i>Accusative</i>	-	<i>atopischen</i>	-	-	<i>atopisches</i>	-	-	<i>atopische</i>	-	-	<i>atopische</i>	-
<i>Dative</i>	-	<i>atopischem</i>	-	-	<i>atopischem</i>	-	-	<i>atopischer</i>	1	-	<i>atopischen</i>	-
<i>Genitive</i>	-	<i>atopischen</i>	-	-	<i>atopischen</i>	-	-	<i>atopischer</i>	-	-	<i>atopischer</i>	-

Reference: [Helbig & Buscha, 2001: 274](#)

Table 8 shows that the neuter singular form is represented twice in the nominative case, the feminine singular form appears 5 times in the nominative case and once in the dative case. Only once occurs the plural form in the nominative case. The table shows that the most frequent use is feminine singular form in the nominative case.

Table 9: nominal flections of *atopisch* (with definite articles)

	SINGULAR									PLURAL		
	Masculine			Neuter			Feminine			Masculine / Neuter /Feminine		
	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence
<i>Nominative</i>	der	atopische	-	das	atopische	2	die	atopische	5	die	atopischen	-
<i>Accusative</i>	dem	atopischen	-	das	atopische	-	die	atopische	-	die	atopischen	-
<i>Dative</i>	den	atopischen	-	dem	atopischen	-	der	atopischen	-	dem	atopischen	-
<i>Genitive</i>	des	atopischen	-	des	atopischen	-	der	atopischen	4	der	atopischen	-

Reference: Helbig & Buscha, 2001: 275

Table 9 shows that the occurrence of the term with definitive article twice in the neuter singular form in the nominative case, 5 times in the feminine form in the dative case and another 4 times in the genitive case. One can assume that the use of the forms with article in scientific texts in relation to that term is as frequent as the use without definitive article.

Table 10: mixed flections of *atopisch* (with *ein*)

	SINGULAR									PLURAL		
	Masculine			Neuter			Feminine			Masculine / Neuter /Feminine		
	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence	Article	Adjective	Occurrence
<i>Nominative</i>	ein	atopischer	-	ein	atopisches	-	eine	atopische	-	eine	atopischen	-
<i>Accusative</i>	einen	atopischen	-	ein	atopisches	-	eine	atopische	1	eine	atopischen	-
<i>Dative</i>	einem	atopischen	-	einem	atopischen	-	einer	atopischen	-	einen	atopischen	-
<i>Genitive</i>	eines	atopischen	-	eines	atopischen	-	einer	atopischen	-	einer	atopischen	-

Reference: Helbig & Buscha, 2001: 276

As you can see table 10 shows that only once the feminine singular form appears with the indefinite article *ein* in the accusative case. One would have to conclude that the use of the term with the indefinite article is rather uncommon.

Both the adjective *topisch* as *atopisch*, except the not inflected forms, stand before the respective noun.

After processing the Portuguese corpus it was possible to detect the equivalent to the first term *topisch* that has the term *tópico* as equivalent in Portuguese. Like *tópico* all following adjectives that serve as examples stand after the respective noun ¹⁷(Cunha & Sintra, 1995: 274). Consequently the congruency depends on the gender and number of the noun and not, like in the German language, on the noun's case.

Table 11: KWIC: *tópico*

obtidos com esta terapêutica *tópica*. Apesar de haver apenas algun poeira ; com a utilização de *tópico* de Propionato de Clobetasol tísfatório por tratamentos *tópicos*. As terapêuticas sistêmicas

Reference: [Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia](#)

The adjective was to be found overall 74 times in the corpus.

Table 12: *tópico*

SINGULAR				PLURAL			
Masculine		Feminine		Masculine		Feminine	
Adjective	Occurrence	Adjective	Occurrence	Adjective	Occurrence	Adjective	Occurrence
Noun		Noun		Noun		Noun	
<i>tópico</i>	15	<i>tópica</i>	36	<i>tópicos</i>	23	<i>tópicas</i>	-

Reference: [Cunha & Sintra, 1995: 252](#)

As table 18 shows the term occurs 15 times in the masculine singular form, 36 times in the feminine singular form and 23 times in the masculine plural form.

By comparing the occurrences in the German and Portuguese corpus we can assume that in both languages the term *topisch/atópico* is of most relevance and therefore has to be included in the intended dictionary. The different syntactical behavior should not be ignored but included as well to enable a simplified use of the dictionary.

¹⁷ O adjectivo vem depois dos substantivos. Neste caso, a concordância depende do género e do número dos substantivos.

The equivalent in the Portuguese language for *atopisch* is *atópico*.

Table 13: KWIC: *atópico*

com o diagnóstico de dermite a <i>tópica</i> . Dois meses após a primeira c iose vulgar. Nos doentes a <i>tópicos</i> há uma anomalia genética

Reference: [Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia](#)

The adjective *atópico* was to be found overall 14 times.

Table 14: *atópico*

SINGULAR				PLURAL			
Masculine		Feminine		Masculine		Feminine	
Adjective Noun	Occurrence	Adjective Noun	Occurrence	Adjective Noun	Occurrence	Adjective Noun	Occurrence
atópico	10	atópica	2	atópicos	2	atópicas	-

Reference: [Cunha & Sintra, 1995: 252](#)

As table 20 shows the term occurs 10 times in the masculine singular form, twice in the feminine singular form and twice in the masculine plural form.

Due to the similarity between the adjectives not just in the German but also in the Portuguese language it is quite easy to confound the adjectives.

IV.2. Zelle/célula

The term *Zelle* is represented overall 21 times; it will not be taken into account that the term is element of a compound word another 37 times; certainly the term will be examined further as part of a collocation.

Table 15: KWIC: *Zelle*

lich steigern lässt. Um die <i>Zelle</i> zur Pluripotenz zu bringen, mü d wird durch infiltrierende <i>Zellen</i> gebildet. Die Bindung von V Spezies in menschlichen Haut <i>zellen</i> gehemmt werden. „Diese Ei
--

Reference: [Der Deutsche Dermatologe](#)

The noun *Zelle* is part of the nouns that have the ending -en in plural. The meaning of the term designates in this case body cells.

Table 16: *Zelle*

	Singular			Plural		
	Article	Noun	Occurrence	Article	Noun	Occurrence
<i>Nominative</i>	die	Zelle	-	die	Zellen	2
<i>Accusative</i>	die	Zelle	1	die	Zellen	8
<i>Dative</i>	der	Zelle	1	den	Zellen	7
<i>Genitive</i>	der	Zellen	-	der	Zellen	2

Reference: www.canoo.net

Table 12 shows that form in the singular form only appears once in the accusative and dative case. The plural form whereas occurs twice in the nominative case, 8 times in the accusative case, 7 times in the dative case and another 2 times in the genitive case. Therefore one can assume that the use of the plural form is more frequent than the use of the singular form.

The collocation *dendritische Zelle* that occurs 3 times will be examined closer.

Table 17: KWIC: *dendritische Zellen*

Makrophagen und dendritischen <i>Zellen</i> . In dieser Krankheitsphase urch besondere dendritische <i>Zellen</i> , die nur in entzündlichen L nd CCL22 durch dendritische <i>Zellen</i> und trägt zur Th2-Polarisie
--

Reference: [Der Deutsche Dermatologe](#)

The adjective *dendritisch* means dendritic, branchy. The adjective consists of the prefix *dendr* that is a neoclassic formative with the denotation *tree* and the suffix -*sch*¹⁸. The adjective *dendritisch* is behaving like forms the *topisch* and *atopisch*. That collocation occurs altogether 5 times in the German corpus.

¹⁸ www.canoo.net consulted 16.03.2012

Therefore one can assume that the form *dendritische Zellen* has a significant role in the area of dermatology and within the scope of this paper it will be demonstrated that this role is not limited in the German terminology. Therefore that collocation will serve as example.

In the Portuguese corpus the form *células* occurs overall 81 times in the corpus, it is the Portuguese equivalent of the term *Zellen*.

Table 18: KWIC: *células*

<p>tidade variável. Por entre as <i>células</i> observavam-se quistos e cris ásico, mixóide, condróide, de <i>células</i> balonizantes, rabdóide, tipo a e linfoma B difuso de grandes <i>células</i>. É conhecida a associação</p> <p style="text-align: center;">Reference: Trabalhos da Sociedade Portuguesa de Dermatologia e Venerologia</p>
--

Table 22 shows the term was only to be found twice in the singular form but another 79 times in the plural form. Therefore it can be assumed that almost always it is used the plural form in relation to scientific texts.

Table 19: *célula*

	<i>Adjective</i>		
	<i>Article</i>	<i>Noun</i>	<i>Occurrence</i>
<i>Singular</i>	a	<i>célula</i>	2
<i>Plural</i>	as	<i>células</i>	79

Reference: [Cunha & Sintra, 1995: 181](#)

The collocation equivalent to *dendritische Zellen* is the term *células dendríticas* which occurs in the corpus 4 times.

Table 20: KWIC: *células dendríticas*

sia blástica plasmocitóide de <i>células</i> dendríticas derivada de célula lulas dendríticas derivada de <i>células</i> dendríticas plasmocitóides é o diagnóstico de neoplasia de <i>células</i> dendríticas plasmocitóides blá sia blástica plasmocitóide de <i>células</i> dendríticas é uma neoplasia ra
--

Reference: [Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia](#)

In the selected Portuguese collocation the adjective is predicatively, it operates as predicative to the subject but in contrast to the German syntax it stands after the respective noun.

IV.3. eingesetzt/colocado, inserido, utilizado

The final example is the in the inflected form *eingesetzt* of the verb *einsetzen* that occurs overall 46 times in the German corpus.

Table 21: KWIC: *eingesetzt*

allem Botulinumtoxin Typ A <i>eingesetzt</i> , das für mehr als 20 In intertriginösen Psoriasis <i>eingesetzt</i> werden sollten, wenn dies der verschiedenen beim CHE <i>eingesetz</i> ten Behandlungsmethoden. dem weltweit am häufigsten <i>eingesetz</i> ten Botulinumtoxin Typ A (BT
--

Reference: [Der Deutsche Dermatologe](#)

The past participle *eingesetzt* is part of a dichotomous passive construction, a construction of a process (Helbig & Buscha, 2001: 145). In the current corpus the construct occurs as a conjunction of the past participle in the present tense and simple past, solely in the third person singular and plural.

Table 22: *eingesetzt* with present tense

		Present tense	
		Occurrence	
	Indicative	Past participle	Occurrence
<i>er/sie/es</i>	wird	eingesetzt	5
<i>sie</i>	werden	eingesetzt	27

Reference: Helbig & Buscha, 2001: 144

As table 15 shows the conjunction of the past participle with the indicative case in the present tense third person singular occurs only 5 times, the conjunction in the third person plural occurs however 27 times. One can assume that the use of the plural form is much more common. On the contrary the conjunction of the past participle with the indicative case in the simple past occurs only twice in the third person singular and another 3 times in the third person plural (see table 16). Therefore it can be assumed that the use of the present tense is much more frequent.

Table 23: *eingesetzt* with simple past

		Simple past	
		Occurrence	
	Indicative	Past participle	Occurrence
<i>er/sie/es</i>	wurde	eingesetzt	2
<i>sie</i>	wurden	eingesetzt	3

Reference: Helbig & Buscha, 2001: 144

The Portuguese equivalent for the term *eingesetzt* was not that easy to be located because for the verb *einsetzen* the Pons online dictionary¹⁹ suggests various translations, such as *colocar*, *inserir*, *meter*, *utilizar*, *nomear* and *entrar*. Naturally not all of these suggestions are applied in the terminology of the dermatological area. Therefore it was necessary to consult the concordance once again to be able to detect the correct equivalents.

¹⁹ <http://de.pons.eu/> consulted 16.03.2012

The past participles occurring in the Portuguese corpus are *colocado*, *inserido* and *utilizado*. Their passive construction is formed with the verb that requires a direct object²⁰ (Bechara, 2001: 286).

Table 24: present tense

	Present tense Occurrence	
	Indicative	Past participle
<i>ele/ela</i>	é	...
<i>eles/elas</i>	são	...

Reference: Cunha & Sintra, 1995: 402

In the current Portuguese corpus the construct occurs as a conjunction of the past participle in the present tense and simple past, solely in the third person singular and plural (see Table 24 and 25).

Table 25: present perfect

	Perfect Occurrence	
	Indicative	Past participle
<i>ele/ela</i>	foi	...
<i>eles/elas</i>	foram	...

Reference: Cunha & Sintra, 1995: 403

Overall the term *colocado* was detected 12 times in the corpus.

Table 26: KWIC: *colocado*

<p>da a ênfase é habitualmente <i>colocada</i> na defesa dos interesses e expectativas e as exigências <i>colocadas</i> pelos dermatopatas e seus fa EP4. O diagnóstico de DPE foi <i>colocado</i> e a pesquisa de neoplasia ocu prático, são frequentemente <i>colocados</i> em confronto, criando difi</p>
--

Reference: *Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia*

²⁰ Em geral, só pode ser construído na voz passiva verbo que pede objeto direto, acompanhado ou não de outro complemento.

Table 27 shows that past participle occurs twice in the masculine singular form and 4 times in the feminine singular form. The masculine plural form is represented 3 times as well as the feminine plural form.

Table 27: *colocado*

SINGULAR				PLURAL			
Masculine		Feminine		Masculine		Feminine	
Past participle Noun	Occurrence	Past participle Noun	Occurrence	Past participle Noun	Occurrence	Past participle Noun	Occurrence
colocado	2	colocada	4	colocados	3	colocadas	3

Reference: Dicionário verbos portugueses, 1994: 68

The other equivalent *inserido*, derived from the verb *inserir*, was discovered 4 times overall.

Table 28: KWIC: *inserido*

cas médicas, admiravelmente <i>inserido</i> no meio social e consequentem s a médicos dermatologistas <i>inseridos</i> em consultas especializada inal (jpeg. ou tiff.) e não <i>inseridas</i> em qualquer outro programa.
--

Reference: Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia

Table 29 shows that the masculine singular form occurs once, the masculine plural form twice and the feminine singular form twice.

Table 29: *inserido*

SINGULAR				PLURAL			
Masculine		Feminine		Masculine		Feminine	
Past participle Noun	Occurrence	Past participle Noun	Occurrence	Past participle Noun	Occurrence	Past participle Noun	Occurrence
inserido	1	inserida	-	inseridos	1	inseridas	2

Reference: Dicionário verbos portugueses, 1994: 51

The third and last possibility as an equivalent for *eingesetzt* is the past participle *utilizado*, derived from the verb *utilizar*.

Table 30: KWIC: *utilizado*

avaliação da	antibioterapia	<i>utilizada</i> ,	duração e custo do tratament
tolerância às	terapêuticas	<i>utilizadas</i> ,	sem efeitos adversos sign
olismo lipídico. Este ácido é	<i>utilizado</i>	em combinação	com óleo de p
s relacionados com	fármacos	<i>utilizados</i>	no tratamento da úlcera de p

Reference: [Trabalhos da Sociedade Portuguesa de Dermatologia e Venerologia](#)

It was found overall 58 times in the Portuguese corpus.

Table 31: *utilizado*

SINGULAR				PLURAL			
Masculine		Feminine		Masculine		Feminine	
Past participle Noun	Occurrence	Past participle Noun	Occurrence	Past participle Noun	Occurrence	Past participle Noun	Occurrence
<i>utilizado</i>	14	<i>utilizada</i>	19	<i>Utilizados</i>	18	<i>utilizadas</i>	7

Reference: [Dicionário verbos portugueses, 1994: 17](#)

Table 33 shows that the masculine singular form occurs 14 times, the feminine singular form 19 times. The masculine plural form is represented 18 times while the feminine plural form occurs 7 times.

To sum up all shown equivalents should be considered, however due to the frequency of occurrence one can assume that the use of the past participles *utilizado* and *colocado* is much more common than the use of *inserido*. The showed examples prove that under certain circumstances it is not enough to provide just one equivalent in the respective target language.

To come upon a practical example the two present medical dictionaries were analyzed regarding the structure as well as in relation to the grammatical information.

The first present reference work is the medical dictionary *Medizinisches Wörterbuch* by Nolte-Schlegel & Soler, 2004 in German-Spanish-Portuguese / Portuguese-German.

The second reference work is the *Medizinisches Wörterbuch* by Oliveira, 2007 in German- Portuguese.

After selecting the examples *topisch/atópico*, *Zelle/célula* and *eingesetzt/utilizado*, *colocado*, *inserido* it was made use of two medical dictionaries for the language combination German-Portuguese respectively German-Portuguese-Spanish to verify if the terms are presented in that reference works. In the medical dictionary by Pinto de Oliveira, 2007, it was only the term *Zelle* to be found with the Portuguese equivalent *célula*. In the second medical dictionary by Nolte-Schlegel & Soler, 2004 the same term was detected.

The dictionary by Nolte-Schlegel & Soler does not provide any information concerning the word class. Only the gender of nouns is indicated, adjectives and verbs are not denoted. Information to pronunciation, regular and irregular patterns of inflection are not available. To give an example of the description of a collocation the example of *atopisches Ekzem/eczema atópico* was chosen (Nolte-Schlegel & Soler, 2004: 26). The term is presented as follows:

Ekzem *n* (atopisches) – **eczema** *m* (atópico)

Since only *Ekzem* is lemmatized it is not very clear that the term is a collocation. If the user now is searching for the term *atopisch/atópico* it is not possible to find the terms because nor in the German part nor in the Portuguese part those terms are stated.

The dictionary *Medizinisches Wörterbuch* by Oliveira, 2007 likewise does not provide any information concerning the word class. Only the gender of nouns is indicated, adjectives and verbs are not denoted. Information to pronunciation, regular and irregular patterns of inflection are not available. However there is a definition given regarding the term as well as the German name of the term. To

give an example of the description of a term including a collocation the example of *fokale Infektion* was chosen (Oliveira, 2007: 111). The term is presented as follows:

Infektion *f* (Ansteckung) Infecção *f*.
Invasão e multiplicação de microorganismos no corpo humano com acção patológica destes e reacção orgânica consecutiva. **Fokale I.** infecção focal.

In this case the collocation is marked but there is no further information available. Trying to look up the term *fokal/focal* is not possible because terms are not stated in the dictionary.

To summarize the arrangement of the analyzed dictionaries is not satisfactory because there is important information missing. Hence in the next chapter it will be presented a proposal for a bilingual dictionary that provides the user with the information required.

Regarding the selected examples it can be stated that in the case of the adjectives *topisch/atópico* and *atopisch/atópico* especially the grammatically and syntagmatically behavior differs in the German and Portuguese language while the difficulty in relation to the example *Zelle/célula* consists in the fact that it is a collocation and has to be treated not as the sum of the meanings of the individual words. This fact got even clearer relating to the example of *eingesetzt/utilizado, colocado, inserido* because the selection of the equivalents has to be compliant as well with the concept in the respective language. Initially I had considered the past participle *nomeado* also as possible equivalent for *eingesetzt* but I had to realize that the concept does not correspond with the terminological use in the area of dermatology. Thus one can conclude that to establish a useful and correct dictionary not only the grammatical or lexicological information but also the conceptual compliance has to be provided.

Chapter V: Model of a dictionary

V.1.Introduction to the model

Taking into consideration the analyzed dictionaries in the following chapter will be presented the proposal of a specialized, bilingual, bidirectional dictionary of the medical area of dermatology in the German and Portuguese language. To demonstrate how such a dictionary would look like it will be made use of the example terms that are stated in the third chapter. The objective of the intended model is to provide the user with the required grammatical information on word class, gender, regular and irregular patterns of inflection and typical word combinations (collocations) and thereby facilitate the search for a textual equivalent in the target language. Also provided in the dictionary have to be the concepts that correspond to the compound words in the respective target language.

There are different types of dictionaries: the printed version but also electronic dictionaries and dictionaries of electronic medium. The intended type of dictionary belongs to the category of electronic dictionaries. As well as for the printed dictionary the in the theoretical framework mentioned demands and components apply to that kind of dictionary. However the electronic dictionary offers advantages contrary to the printed version. According to Herbst & Klotz it is achievable to include not only audio material but also video material in the dictionary (Herbst & Klotz, 2003: 251). For example it is possible to implement information related to pronunciation not as a phonetic transcription but instead it is possible to provide a spoken version of the requested lemma, spoken by a native speaker. This fact could facilitate the access to information especially for users that are not used to read phonetic transcription. Further it is imaginable to include video material as well that could serve as supplement for illustrations. The possibility to provide video material should be mentioned even considering that the intended dictionary will not contain illustrations. The authors state that another advantage of the electronic dictionary is that there is no shortage of space as in the printed version (Herbst & Klotz, 2003: 255). That fact makes it possible to provide for example extracts of a corpus which would represent a work simplification especially for translators whereas they can obtain information related to the syntax

of the target language. In relation to the amount of information provided, Herbst and Klotz note that it is possible to flexibilize the represented texts and utilize filters that allow the user to choose the amount of information needed. Depending on this needs the dictionary could be used in a receptive or productive way. Thus it is imaginable to construct the dictionary in several extension levels whereas the more specific information, for example relating to collocations, is initially hidden and is showed only after clicking on a hypertext element. In this respect the dictionary is to be understood as profound lexical data base that can be consulted by the user in a flexible way (Herbst & Klotz, 2003: 257). Another advantage is the facilitation of the consultation process. The intended dictionary could have an entry field that allows the entry of lemma and provides after the entry of the first three letters a list of the searched lemma in an index window. Furthermore it could be included an assistance in relation to the right orthography that inquires the correct spelling. The authors further discuss the possibility of including special data fields that contend grammatical indications, collocations or definitions within the article structure (Herbst & Klotz, 2003: 261).

V.2. Description of functionalities of the model

In the following presented possibilities will be applied including the selected examples.

The adjective *topisch* and the Portuguese equivalent *atópico* will be represented as follows:

After entering the letters there will open a window with the suggestion

After selecting the showed lemma, the subsequent information will be visualized:

Here we have the information on the grammatical word class → and information on the regular and irregular patterns of inflection →

Through clicking on `~er` there will follow the opening of a window containing the flexion of the adjective and one could choose between the visualisation of

`pronominal flections of topisch`

which leads to the opening of the respective table

Table 3: pronominal flections of *topisch* (without articles)

	SINGULAR									PLURAL		
	Masculine			Neuter			Feminine			Masculine / Neuter / Feminine		
	Article	Adjective		Article	Adjective		Article	Adjective		Article	Adjective	
<i>Nominative</i>	-	topischer		-	topisches		-	topische		-	topische	
<i>Accusative</i>	-	topischen		-	topisches		-	topische		-	topische	
<i>Dative</i>	-	topischem		-	topischem		-	topischer		-	topischen	
<i>Genitive</i>	-	topischen		-	topischen		-	topischer		-	topischer	

Reference: Helbig & Buscha, 2001: 275

or `nominal flections of topisch (with definite articles)`

that leads to the opening of the respective table

Table 4: nominal flections of *topisch* (with definite articles)

	SINGULAR									PLURAL		
	Masculine			Neuter			Feminine			Masculine / Neuter / Feminine		
	Article	Adjective		Article	Adjective		Article	Adjective		Article	Adjective	
<i>Nominative</i>	der	topische		das	topische		die	topische		die	topischen	
<i>Accusative</i>	dem	topischen		das	topische		die	topische		die	topischen	
<i>Dative</i>	den	topischen		dem	topischen		der	topischen		dem	topischen	
<i>Genitive</i>	des	topischen		des	topischen		der	topischen		der	topischen	

Reference: Helbig & Buscha, 2001: 274

or mixed flections of *topisch* (with *ein*)

which leads to the opening of the respective table

Table 5: mixed flections of *topisch* (with *ein*)

	SINGULAR						PLURAL		
	Masculine		Neuter		Feminine		Masculine / Neuter / Feminine		
	Article	Adjective	Article	Adjective	Article	Adjective	Article	Adjective	
<i>Nominative</i>	ein	topischer	ein	topisches	eine	topische	eine	topischen	
<i>Accusative</i>	einen	topischen	ein	topisches	eine	topische	eine	topischen	
<i>Dative</i>	einem	topischen	einem	topischen	einer	topischen	einen	topischen	
<i>Genitive</i>	eines	topischen	eines	topischen	einer	topischen	einer	topischen	

Reference: Helbig & Buscha, 2001: 276

The advantage of the table's implementation is to provide the user with grammatical and lexical information.

There will also be provided another button labelled

concordance

This button leads to the opening of a window containing the extract from the concordance:

Table 1: KWIC: *topisch*

äparate in Kombination mit <i>topisch</i> angewandtem Metronidazol ann Tacrolimus- Salbe eine <i>topische</i> Behandlungsalternative für diskutiert, bei denen sich <i>topisches</i> Tacrolimus in klinischen Stu e Therapie der Psoriasis mit <i>topischem</i> Tacrolimus kann vor len werden. Bei Applikation <i>topischer</i> Präparate ist auf physikalis on topischen Steroiden oder <i>topischen</i> Immunmodulatoren nach Ab
--

Reference: Der Deutsche Dermatologe

By providing an extract from the concordance the user obtains an overview of the morphosyntactic behavior of the term, in this case of the adjective.

Further will be provided various examples such as example phrases if the user needs more information than presented in the concordance. The phrases could be accessible by clicking the *pink writing* in the concordance to activate the function

example

that contains example phrases from the concordance:

- 1) Für die Therapie *topisch* zugelassen Dosen sowie Isotretinoin in schweren sind Metronidazol und Azelainsäu-Fällen mit Erfolg verabreicht.
- 2) Andere *topische* Behandlungen zeigen ebenfalls häufige Rezidive und belasten zudem mit mehr Nebenwirkungen, wie starken Rötungen oder Fieber.
- 3) Insbesondere aufgrund ihrer Lokalisation im Gesicht und an der behaarten Kopfhaut kommt *topisches* Tacrolimus für die Behandlung der seborrhoischen Dermatitis prinzipiell in Frage.
- 4) Die Salbengrundlage von *topischem* Tacrolimus ist bei dieser Indikation deutlich vorteilhafter als eine Cremezubereitung.
- 5) Bei Applikation *topischer* Präparate ist auf physikalische Filter in Kombination mit hochwertigen Filtersubstanzen zu verweisen.
- 6) Die Wirksamkeit der *topischen* Immunmodulatoren Tacrolimus-Salbe und Pimecrolimus-Creme ist in vielen Studien bestätigt worden.

The advantage of the implementation of examples is to provide the user with the not only with the morphosyntactic behavior of the term but also to give him access to the context.

The same function will be provided for the Portuguese part, to obtain grammatical information through clicking on *-a* in *topisch adj.~er - tópico -a*

The user has the possibility to visualize the respective table that contains grammatical information. There will follow the opening of a window containing the flexion of the adjective:

Table 12: *tópico*

SINGULAR				PLURAL			
Masculine		Feminine		Masculine		Feminine	
Adjective		Adjective		Adjective		Adjective	
Noun		Noun		Noun		Noun	
<i>tópico</i>		<i>tópica</i>		<i>tópicos</i>		<i>tópicas</i>	

Reference: Cunha & Sintra, 1995: 252

By clicking on the button labelled [concordance](#) another window would open containing the extract from the concordance:

Table 11: KWIC: *tópico*

obtidos com esta terapêutica [tópica](#). Apesar de haver apenas algun
poeira ; com a utilização de [tópico](#) de Propionato de Clobetasol
tisfatório por tratamentos [tópicos](#). As terapêuticas sistémicas

Reference: [Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia](#)

For further information the user can click on the pink writing to utilize the function that will visualize the example phrases from the concordance: [example](#)

1) As lesões perianais tinham sido previamente interpretadas como condilomas genitais e tratadas durante vários meses com ciclos de crioterapia e imiquimod [tópico](#), com agravamento clínico progressivo. 2) Tem neste momento 22 meses de seguimento, a lesão não voltou a ter ulceração, está completamente cicatrizada, em fase de involução, Apresentamos este caso de hemangioma infantil ulcerado, pelos bons resultados obtidos com esta terapêutica [tópica](#).

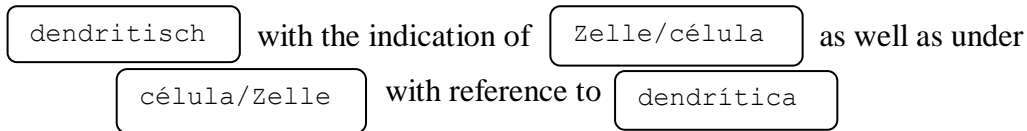
3) Os autores apresentam um caso clínico de uma mulher de 63 anos de idade, com placas eritematosas confluentes no períneo, do orifício anal até aos grandes lábios, com maceração moderada, com 4 anos de evolução. Já tinha realizado vários tratamentos [tópicos](#) sem qualquer melhoria.

For the adjective *atopisch/atópico* the same functions will be provided, it is further imaginable to insert a box with a reference to *atopisch/atópico* to refer to orthographic similarity but the diverse meaning.

[atopisch/atópico is not to be confused with atopisch/atópico!](#)

Subsequent will follow the same practice for the examples of a noun and a past participle.

The following term *dendritische Zelle/célula dendrítica* corresponds to a terminological combination. Therefore the term has to be found by the user under



Therefore by searching for *Zelle* the window that opens will present:

Zelle f (-; -n) **célula** f related term: dendritische Zelle

Now the user can provide further information by clicking on **f** to attain a table that contains grammatical information on the noun. At the moment opens a window containing the requested information:

Table 16: Zelle

	Singular			Plural		
	Article	Noun		Article	Noun	
Nominative	die	Zelle		die	Zellen	
Accusative	die	Zelle		die	Zellen	
Dative	der	Zelle		den	Zellen	
Genitive	der	Zellen		der	Zellen	

Reference: www.canoo.net

There will be also provided the concordance by clicking on the respective button

concordance

Table 15: KWIC: Zelle

lich steigern lässt. Um die Zelle zur Pluripotenz zu bringen, mü
 d wird durch infiltrierende Zellen gebildet. Die Bindung von V
 Spezies in menschlichen Hautzellen gehemmt werden. „Diese Ei

Reference: [Der Deutsche Dermatologe](#)

By clicking on the *pink writing* the function example will be activated, opening the window with the respective examples:

- 1) Um die *Zelle* zur Pluripotenz zu bringen, müssen mehrere Gene gezielt ausgeschaltet werden.
- 2) Nur etwa eine von 10.000 *Zellen* ließ sich in eine iPS-Zelle verwandeln.

To obtain information on the collocation *dendritische Zelle* it will be visualized the button concordance when the user clicks on the writing *blue writing*.

Zelle f (-; -n) **célula** f related term: dendritische Zelle - célula dendrítica

Now the window containing the respective concordance will open:

Table 17: KWIC: dendritische Zellen

Makrophagen und dendritischen *Zellen*. In dieser Krankheitsphase
urch besondere dendritische *Zellen*, die nur in entzündlichen L
nd CCL22 durch dendritische *Zellen* und trägt zur Th2-Polarisie

Reference: Der Deutsche Dermatologe

By clicking on the *pink writing* the following example phrases will be visualized:

- 1) Es wird nach Traumata und Infektionen in hohen Mengen von Keratinozyten der AD-Patienten exprimiert, induziert die Produktion der proinflammatorischen Zytokine CCL17 und CCL22 durch *dendritische* Zellen und trägt zur Th2-Polarisierung bei.
- 2) Der Wechsel von der Th2 zur Th1-Immunantwort wird möglicherweise auch durch besondere *dendritische* Zellen, die nur in entzündlichen Läsionen von AD-Patienten zu finden sind, die inflammatorischen dendritischen epidermalen Zellen (IDEC), mit beeinflusst.

If the user is searching for *dendritisch* the entry dendritisch adj.~er - dendrítico -a

will be appear. As already showed in the example of *topisch* the grammatical information will be provided.

In case the user is looking for the Portuguese equivalent *dendrítico* he will find likewise the information given in the example of the adjective *tópico* as well as the concordance and respective examples.

In the event of searching for the term *célula* the following information will be provided:

By clicking on the writing -a in the field dendritisch adj.~er - dendrítico -a

The user will have the possibility to find the respective grammatical information in form of a table:

Table 19: célula

	Adjective	
	Article	Noun
Singular	a	célula
Plural	as	células

Reference: Cunha & Sintra, 1995: 181

By clicking on the button labelled concordance another window will open containing the extract from the concordance:

Table 18: KWIC: células

<p>tidade variável. Por entre as <u>células</u> observavam-se quistos e cris ásico, mixóide, condróide, de <u>células</u> balonizantes, rabdóide, tipo a e linfoma B difuso de grandes <u>células</u>. É conhecida a associação</p> <p style="text-align: center;">Reference: Trabalhos da Sociedade Portuguesa de Dermatologia e Venerologia</p>
--

By clicking on the *pink writing* the following example phrases will be visualized:

- 1) Este sistema permite aumentar a penetração de água no interior da *célula*, manter a água dentro da célula e ao mesmo tempo aumenta a expressão de AQ3.
- 2) Observava-se uma população polimórfica de *células* de natureza predominantemente histiocitária, com *células* inflamatórias.

Relating the collocation *célula dendrítica* information will be visualized the button

concordance

by clicking on the writing *blue writing*.

Zelle f (-; -n) *célula* f related term: dendritische Zelle - célula dendrítica

Table 20: KWIC: células dendríticas

sia blástica plasmocitóide de *células* dendríticas derivada de célula
lulas dendríticas derivada de *células* dendríticas plasmocitóides é
o diagnóstico de neoplasia de *células* dendríticas plasmocitóides blá
sia blástica plasmocitóide de *células* dendríticas é uma neoplasia ra

Reference: Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia

By clicking on the *pink writing* the following *example phrases* will be visualized:

- 1) A neoplasia blástica plasmocitóide de células *dendríticas* derivada de células dendríticas plasmocitóides é uma entidade de classificação recente.

The last example is the implementation of the past participle *eingesetzt* that will have the following entry:

eingesetzt *past participle* - **utilizado, colocado, inserido**, *past participle*

As there is more than one equivalent all possibilities have to be represented.

The user can provide further information by clicking on *past participle* to attain a table that contains grammatical information. Now opens a window containing the requested information:

Table 22: *eingesetzt* with present tense

	<i>Present tense</i>		
	<i>Occurrence</i>		
	Indicative	Past participle	
<i>er/sie/es</i>	wird	eingesetzt	
<i>sie</i>	werden	eingesetzt	

Reference: Helbig & Buscha, 2001: 144

Table 23: *eingesetzt* with simple past

	<i>Simple past</i>		
	<i>Occurrence</i>		
	Indicative	Past participle	
<i>er/sie/es</i>	wurde	eingesetzt	
<i>sie</i>	wurden	eingesetzt	

Reference: Helbig & Buscha, 2001: 144

By clicking on the button labelled *concordance* another window will open containing the extract from the concordance:

Table 21: KWIC: *eingesetzt*

allem Botulinumtoxin Typ A eingesetztt, das für mehr als 20 In
intertriginösen Psoriasis eingesetztt werden sollten, wenn dies
der verschiedenen beim CHE eingesetzten Behandlungsmethoden.
dem weltweit am häufigsten eingesetzten Botulinumtoxin Typ A (BT

Reference: Der Deutsche Dermatologe

By clicking on the *pink writing* the following *example phrases* will be visualized:

- 1) Von den sieben Serotypen des Toxins wird vor allem Botulinumtoxin Typ A *eingesetzt*, das für mehr als 20 Indikationen zugelassen ist.
- 2) Große Aufmerksamkeit wird dem weltweit am häufigsten *eingesetzten* Botulinumtoxin Typ A (BTX-A) geschenkt.

Concerning the Portuguese equivalent the grammatical information will be indicated when the user clicks on the button *past participle* in the entry

eingesetzt *past participle* - *utilizado, colocado, inserido* *past participle*

Now will open a window with the grammatical information:

Table 24: present tense

	Present tense	
	Occurrence	
	Indicative	Past participle
<i>ele/ela</i>	<i>é</i>	...
<i>eles/elas</i>	<i>são</i>	...

Reference: Cunha & Sintra, 1995: 402

Table 25: present perfect

	Perfect	
	Occurrence	
	Indicative	Past participle
<i>ele/ela</i>	<i>foi</i>	...
<i>eles/elas</i>	<i>foram</i>	...

Reference: Cunha & Sintra, 1995: 403

Now the user can choose between the displayed equivalents. If he selects

utilizado

The following grammatical information will be provided:

Table 31: utilizado

SINGULAR				PLURAL			
Masculine		Feminine		Masculine		Feminine	
Past participle		Past participle		Past participle		Past participle	
Noun		Noun		Noun		Noun	
utilizado		utilizada		utilizados		utilizadas	

Reference: Dicionário verbos portugueses, 1994: 17

By activating the button labelled concordance another window will open containing the extract from the concordance:

Table 30: KWIC: utilizado

avaliação da antibioterapia utilizada, duração e custo do tratament
 tolerância às terapêuticas utilizadas, sem efeitos adversos sign
 olismo lipídico. Este ácido é utilizado em combinação com óleo de p
 s relacionados com fármacos utilizados no tratamento da úlcera de p

Reference: Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia

Trough clicking on the *pink writing* the following *example phrases* will be visualized:

- 1) O adalimumab é um inibidor do factor de necrose tumoralalfa (anti-TNF-alfa) utilizado no tratamento da DC, no entanto, a sua eficácia no tratamento das manifestações cutâneas da DC tem sido raramente descrito na literatura.
- 2) Apresentam-se 5 doentes com tumores faciais de DC duvidoso, nos quais a dermatoscopia foi utilizada para uma melhor orientação no diagnóstico.
- 3) Todos os métodos de tratamento utilizados são viáveis na abordagem deste tipo de CBC.
- 4) Nestes casos, a sua eficácia parece ser dose dependente, sendo necessárias doses superiores àquelas habitualmente utilizadas no tratamento da DC intestinal.

In case the user selects **colocado** the equal grammatical information as in the foresaid example will be given.

By activating the button labelled **concordance** another window will open containing the extract from the concordance:

Table 26: KWIC: *colocado*

da a ênfase é habitualmente colocada na defesa dos interesses e expectativas e as exigências colocadas pelos dermatopatas e seus fa EP4. O diagnóstico de DPE foi colocado e a pesquisa de neoplasia ocu prático, são frequentemente colocados em confronto, criando difi

Reference: Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia

Again through clicking the *pink writing* the user has the possibility to visualize example phrases:

- 1) O diagnóstico de DPE foi **colocado** e a pesquisa de neoplasia oculta foi negativa.
- 2) É **colocada** a hipótese diagnóstica de micobacteriose atípica e realizadas biópsias cutâneas (avaliação histopatológica, cultura e exame directo com Ziehl-Nielsen), exames laboratoriais de rotina e serologias virais.
- 3) Todavia, no plano prático, são frequentemente **colocados** em confronto, criando difíceis dilemas, de complexa e controvertida resolução.
- 4) Foram **colocadas** as hipóteses de diagnóstico de líquen plano, pênfigo vulgar, penfigóide cicatricial ou sífilis.

In case the user chooses **inserido** he can obtain the already presented grammatical information and through activating the **concordance** button the following excerpt will be presented:

Table 28: KWIC: *inserido*

cas médicas, admiravelmente *inserido* no meio social e consequentem
s a médicos dermatologistas *inseridos* em consultas especializada
inal (jpeg. ou tiff.) e não *inseridas* em qualquer outro programa.

Reference: *Trabalhos da Sociedade Portuguesa de Dermatologia e Venereologia*

The respective example will be shown by clicking the *pink writing*:

1) Tradicionalmente unívoca e integral, baseada na figura tradicional do João Semana -clínico arguto, perspicaz, prático, dominando a globalidade dos conhecimentos e (poucas) técnicas médicas, admiravelmente *inserido* no meio social e consequentemente partilhando com o pároco e com as autoridades locais responsabilidades no diagnóstico e cura (também) das maleitas sociais - , a relação médico-doente mudou de paradigma, assumindo um carácter mais parcelar, especializado, fragmentado e episódico.

2) Este despacho limita a prescrição de agentes biológicos a médicos dermatologistas *inseridos* em consultas especializadas de Psoríase, atendendo " à necessidade de um diagnóstico correcto, à especificidade dos tratamentos e ao risco dos próprios medicamentos", adicionalmente, promovendo "a constituição de um registo nacional de doentes tratados".

As demonstrated in this chapter the implementation of the terminology is insofar quite complete as it provides information not only in relation to the grammatically and syntagmatically behavior of the terms/collocations in the different languages but also regarding the differing concepts in the respective language.

Regarding the example of the past participle *nomeado* as a possible equivalent for *eingesetzt* it was demonstrated that the concept does not correspond with the terminological use in the area of dermatology. This proves that to establish a useful and correct dictionary not only the grammatical or lexicological information but also the conceptual compliance has to be provided.

Concerning the dictionary's handling special attention has been given the visual aspect: to simplify the use of the dictionary different colors for each section make it

easy for the user to orientate him in the process of searching and finding the required information. The fact that the user can navigate the amount of information himself prevents a flood of information and makes it possible to select the information required. To conclude, the intended dictionary fulfills not only the criteria presented in the theoretical framework i.e. the lexicographical requirements but also corresponds to the user's needs. Therefore I regard the intended dictionary as user-friendly.

Conclusion

The scope of the presented thesis was the process of establishing a specialized, bidirectional dictionary of the medical area of dermatology in the German and Portuguese language. In the presented thesis was stated how a practical dictionary should look like as well as the criteria that are important for the establishment of such a dictionary and it was given an overview of the potential problems in relation to the process of establishing the dictionary. Furthermore the microstructure regarding the dictionary's contents was examined. Also was described the processing of data to come upon the technical terms that are represented in the intended dictionary and also the analysis of the German and Portuguese corpus. Concluding a scheme for the intended dictionary was presented, that not only provides information on grammar and syntax; moreover it was demonstrated that the concepts in relation to the equivalents might differ in the respective target language and therefore merit special consideration.

Moreover it was demonstrated that the dictionary is to a great extend user-friendly because the user can navigate the amount of information himself and thereby select the information required. To conclude, the intended dictionary fulfills not only lexicographical requirements but also corresponds to the user's needs.

The objective of future works is to implement a dictionary that not only regards lexicographical and grammatical information concerning languages of special purposes but also focuses on terminological concepts.

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Appendix A: Model of a data base I

auf die Zugriffsmöglichkeiten: Das gilt selbst für elektronische Wörterbücher, die inhaltlich vollkommen oder weitgehend mit den entsprechenden gedruckten Versionen identisch sind, weil alle elektronischen Wörterbücher über so genannte Suchroutinen verfügen, die einen Nachschlagevorgang enorm erleichtern und beschleunigen.

Im einfachsten Falle existiert ein Eingabefeld, in das das gesuchte Lemma direkt eingetippt werden kann. Das spart gegenüber dem Blättern im gedruckten Buch Zeit und Mühe und kann dazu führen, dass das Wörterbuch häufiger konsultiert wird.¹⁶ Vielfach ist dem Eingabefeld – wie unten anhand der CD-Ausgabe des *New Shorter Oxford English Dictionary* (NSOED-CD) dargestellt – noch ein alphabetischer Index an die Seite gestellt, dessen sichtbarer Teil sich je nach Stand der Eingabe aktualisiert. Meist genügt dann schon die Eingabe der drei oder vier ersten Buchstaben, um das gesuchte Lemma im Indexfenster erscheinen zu lassen, von wo der gewünschte Artikel dann durch Anklicken aufgerufen werden kann (Abb 78).

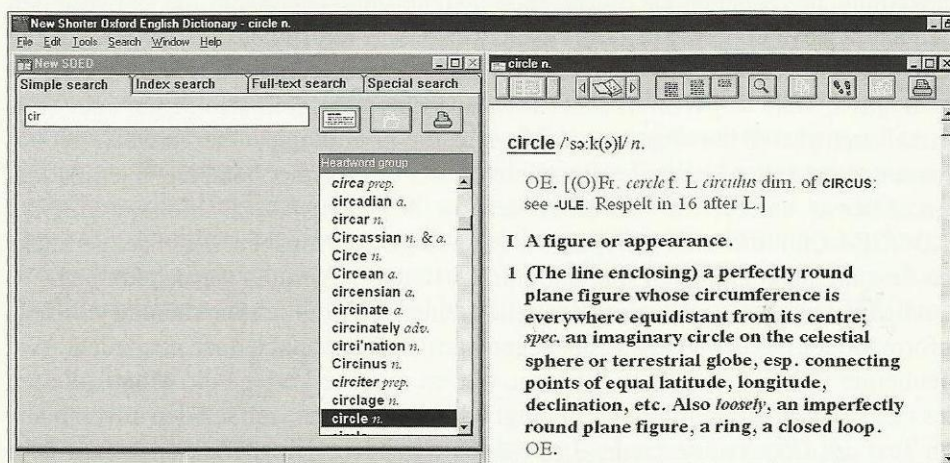


Abb. 78: NSOED-CD

Weiter verbessern lässt sich der Zugriff auf den Index durch sogenannte Platzhalter (*wild cards*), d.h. Sonderzeichen wie * (für eine beliebige Anzahl von Zeichen) und ? (für ein beliebiges Zeichen), die eine schreibungstolerante Suche ermöglichen. Ist man sich etwa nicht sicher über die Schreibung von /ɪnˈdætmənt/, so kann man sich mit „ind*ment“ behelfen; eine entsprechende Suche in der CD-Ausgabe des *New Shorter Oxford English Dictionary* führt zu einer Lemmaliste, die neben *indebtment*, *inducement* und *indument* eben auch die Homophone *indictment* und *inditement* enthält. Besonders wichtig ist eine solche Funktion natürlich in Lernerwörterbüchern. Tippt man bei einer Suche in der CD-Ausgabe des *Longman Dictionary of Contemporary English* (LDOCE4-CD) etwa schlampig *grapfruit* ein, so wird gefragt:

Appendix B: Model of a data base II

Do you mean:

grapefruit
gravitate

Wichtiger ist dieser Aspekt natürlich in Hinblick auf Rechtschreibunsicherheiten, so wird bei der Eingabe *seel* immerhin eine Liste von *steel, seek, see, eel, seal, sell, seer, feel, heel, keel, peel, reel* zur Auswahl angeboten. Zusätzlich dazu bieten manche elektronischen Wörterbücher, wie die CD-Ausgabe des *Longman Dictionary of Contemporary English* (LDOCE4-CD) oder auch das *New Shorter Oxford English Dictionary* (NSOED-CD), auch die Möglichkeit einer phonologischen Suche. Voraussetzung ist hier allerdings, dass die Benutzer die Transkription beherrschen (Abb 79).

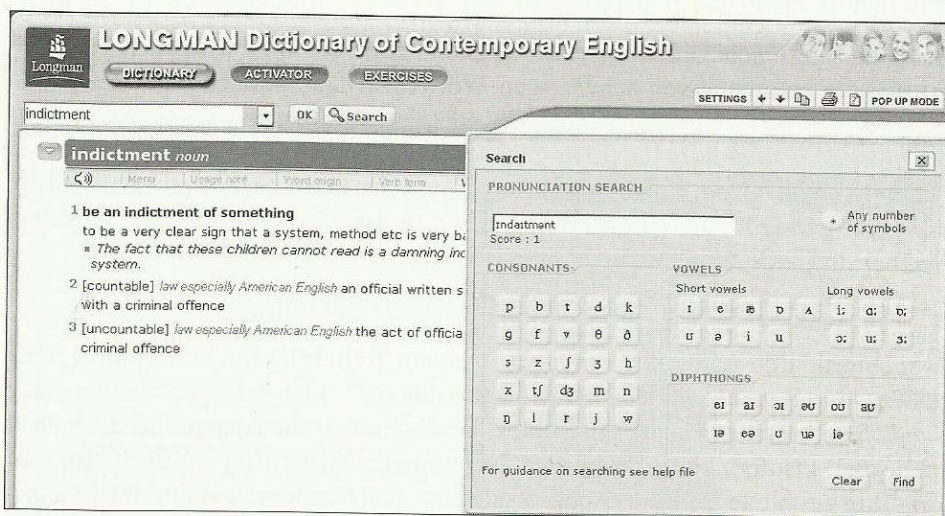


Abb. 79: LDOCE4-CD

Langenscheidts e-Handwörterbuch Englisch verfügt darüber hinaus ebenso wie der *Nouveau Petit Robert (version électronique)* auch über eine Suchroutine, die Wortformen auf die lemmatisierte Nennform zurückführt, so dass z.B. bei Eingabe der Wortform *genommen* das Lemma *nehmen* angeboten wird, bei *gibst* das Lemma *geben*, etc.¹⁷ Weitverbreitet ist diese Suchmöglichkeit in den elektronischen Wörterbüchern zum gegenwärtigen Zeitpunkt jedoch noch nicht.

7.3.2.2 Hyperlinking

Üblicher ist dagegen die Möglichkeit, einen Eintrag direkt durch Anklicken des entsprechenden Wortes aus einem anderen Wörterbuchartikel heraus aufzurufen, was