

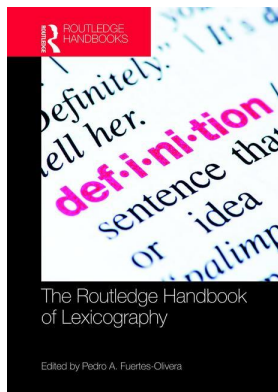
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Dictionaries and access

Rufus H. Gouws

3.1 Introduction

As containers of knowledge (see McArthur 1986), dictionaries have to provide data that contribute to the satisfaction of the lexicographic needs of their intended target users. In order to achieve this, cognizance has to be taken of the real lexicographic needs and reference skills of a clearly identified intended target user group for each dictionary. No single dictionary can either satisfy all the lexicographic needs of a general and unidentified user group nor be everything to everyone. In the planning and compilation of their dictionaries lexicographers should therefore meticulously negotiate the typical user and usage situations of their envisaged dictionaries, and this should have a determining influence on the functions, contents and structures of these dictionaries.

In the field of metalexigraphy and dictionary research scholars strive to formulate theories that can help to prevent a haphazard and arbitrary approach in the lexicographic practice and can assist practical lexicographers with theoretically based models to be used in the planning and eventual compilation of dictionaries. The development of lexicographic theory should never be performed as an activity of theory for the sake of theory. It should be interpretable in terms of the practice and be directed at enhancing the quality of the lexicographic practice. Wiegand (1989d:251) already indicated that lexicography is a scientific activity that leads to the production of dictionaries so that a further activity (i.e. the cultural process of dictionary use can be activated). The success of any dictionary is not to be found primarily in the assessment given by lexicographers or metalexigraphers but rather by those people utilising it as members of its intended target group in a typical usage situation. The response of the intended target users to the way in which the dictionary assisted them in their consultation procedures and the ease of retrieving the required information rapidly and unambiguously from the data on offer in the dictionary should indicate the degree of success of that dictionary as a practical instrument.

Because lexicographers should have a clear identification of the intended target users of their dictionary they should also be keenly aware of the envisaged function(s) of the dictionary. These functions are determined by the role the dictionary has to play within its user group. In order to achieve the function(s) foreseen for a given dictionary the appropriate data

need to be selected and the necessary structures be employed to make the data accessible and the information retrievable by the intended target users. Access to the data on offer is an early and necessary step to ensure eventual successful dictionary consultation procedures.

This chapter will focus on one of the structures of dictionaries (i.e. the *access structure*), but will also go beyond the access structure by looking at the more comprehensive process of access in both printed and online dictionaries. Comprehensive and detailed discussions of the access structure can be found in Wiegand (2008) and Wiegand and Beer (2013). The current discussion does not attempt to go into the same detail. Some seminal issues discussed in these publications will be referred to in this chapter but in a brief and far less detailed way.

3.2 On the notion of *structure*

A significant feature of a structure is the arrangement of elements that are interrelated as components of a single system. In his definition of dictionary structures Wiegand emphasises ordering as a feature, e.g. the macrostructure (Wiegand and Gouws 2013:78) and microstructure (Wiegand and Smit 2013:159) that are ordering structures, but ordering is also a feature of access structures (Wiegand and Beer 2013:115). Looking at the access structure in printed dictionaries the arrangement and organisation of elements can be clearly identified. There is a linear order, for example, from the entries on the spine of a dictionary to a specific item in the dictionary article. In combination the outer and inner access structures determine the search route a user can follow from an extra-lexicographical situation where a lexicographic need is realised which lets the user turn to a dictionary. Depending on the familiarity of the specific user with the specific dictionary or with dictionaries in general, either the full search route or one or more sections of the search route could be followed to reach the destination which is the item from which the required information can be retrieved.

A user familiar with a specific dictionary may skip some phases in the external access process, whereas someone not familiar with the same dictionary needs to go through all the steps on the external search route before reaching the lemma sign of the article in which the item presenting the required data occurs. But even the most experienced user will need at least a part of a rapid access structure or the search words on the top of each page to reach the desired article stretch that contains the article with the required item. Irrespective of the steps followed or omitted, there is a linear ordering in the total number of steps, and a typical consultation proceeds in a specific ordering or partial ordering. A distinction has to be made between the full structure or a partial structure. The search route of a given user may consist of a part of the complete search route. That part is determined by a partial article structure, and any two or more subsequent components of the access structure represent a partial stretch in the access structure. The ordering, and therefore also a given partial access structure stretch, is not necessarily monodirectional because on the outer search route a user can pass the desired article stretch or the relevant search words and then has to page backwards. Even on the inner search route a user can move from the lemma sign as guiding element to a search zone beyond the zone that contains the required item. On the vertical search route the search direction may then be upwards instead of the default downward direction.

A valid question that arises, then, is whether the notion of an access structure also applies to online dictionaries. Is there still sufficient evidence of an interrelated arrangement of components that belong to a single system? Some e-dictionaries (e.g. dictionaries on CD that actually only are digital versions of printed dictionaries) do have an access structure similar to their printed counterparts. The question to be answered is not directed at these

dictionaries but at those e-dictionaries available and accessible in online format. In principle online dictionaries also have an arrangement of components that could determine the access route a user follows to reach the required entry. However, all these stepping stones on the search route are not necessarily used when a user accesses a given dictionary. Some users rely on all or several components, whereas other users may utilise a minimum of these access markers. The fact that they still are there and still are available constitute the inter-related arrangement as a structure. The use of this arrangement of components cannot, however, be regarded as a compulsory phase in accessing a dictionary, and in online dictionaries new access possibilities emerge. I will look at some of these new possibilities in Section 3.5 (see Part VI of this *Handbook* as well as Chapters 27 and 28 for gaining more insight on the concept of access in online dictionaries).

3.3 Access structures – a brief historical perspective

It is a well-known fact that the lexicographic practice is much older than lexicographic theory or than attempts to formulate theoretical models to improve the quality of dictionaries (see Gouws 2005). During its early developments lexicographic theory primarily focused on a reflection of the contents, especially the linguistic contents, of prevailing dictionaries and on an analysis of dictionary typology (see Zgusta 1971). A subsequent phase in the development of lexicographic theory shifted the focus to an identification and discussion of dictionary structures (Gouws 2005). Macrostructures and microstructures were introduced and discussed by Rey-Debove (1971:21), and this identification and comprehensive discussion of a variety of structures were continued in publications like Wiegand (1989a; 1989b).

Throughout the ages of their existence dictionaries functioned as practical instruments, and the data in these dictionaries had been presented in ways that could be accessed by their target users. However, the focus in these dictionaries had been on the contents and not on the structures or the establishment of search routes to guide the user to the required entries. The emergence of lexicographic theory and its identification and analysis of dictionary structures should not be regarded as the introduction of these structures – they had been there before but had not been named as such or been analysed in theoretical discussions. One of the important contributions of the emergence of theoretical lexicography was the fact that it presented a mirror that enabled practical lexicographers to take a critical look at dictionaries, including the contents and presentation of data and the ways in which users are assisted or neglected in their consultation procedures. A further advantage was an identification of different components and structures of dictionaries and a discussion that helped enhance the future utilisation of these structures to improve the quality of dictionaries.

A historical perspective on dictionary access as given in this chapter is rather a historical perspective on some of the theoretical discussions of access structures than on the development of access routes prior to the formal identification of this structure type or on the way in which early lexicographers planned their dictionaries to assist users in quickly finding the required data. A real perspective on access prior to the identification of access structures would have had to look among others at the use of a thematic ordering in the early dictionaries by means of which words that refer to things belonging to the same theme were brought together, or one would have had to look at the transition to the system of alphabetical ordering and the implications it had for users when looking for a specific word and data regarding that word in a given dictionary. This will not be done in this chapter.

The concept of the access structure as one of the core dictionary structures was introduced by Hausmann and Wiegand (1989: 329). According to them the “access structure of

the microstructure is called the inner access structure”, whereas “(A)ll other access structures, above all the access structure of the central list, are called outer access structures”. Unfortunately they fail to define the access structure as such but rather explain the outer and inner search paths. Wiegand (2008:213) stresses the need for a clear distinction between *access structure* and *search route/path*. The access structure is not the search route a user follows, but rather the structure that determines this search route. The outer access structure determines the search route from the entries on the spine of a dictionary up to the lemma sign. The inner access structure determines the search route within the dictionary article with the required item as final destination.

Since the early work by Hausmann and Wiegand (1989), advances in the discussion of the access structure are expressed by Wiegand in, among others, Wiegand (2008); Wiegand and Beer (2013), which gives a comprehensive discussion of a variety of types of access structures (all of which will not be discussed in this chapter); Engelberg and Lemnitzer (2009); and Svensén (2009). Bergenholtz and Gouws (2010) also focus on access to data but instead of using the term *access structure*, they refer to the *access process*.

3.4 Core issues and topics: dictionary structures and the role of access structure

Metalexigraphic research of the last three decades often focussed on dictionary structures. Although a variety of structures have been identified and discussed individually in metalexigraphic literature, especially by the prolific German metalexigrapher Herbert Ernst Wiegand, e.g. Wiegand (1989a, 1989b, 1989c, 1996, 2003; Hausmann and Wiegand 1989) it is important to realise that no single structure functions in isolation. The nature of each structure is co-determined by the function(s) of the dictionary and the distribution and presentation of data, and the different structures often have an interactive relation with other structures. As an example of this interaction one could refer to the fact that the microstructure as a structure that presents an ordering of items within the dictionary article interacts with the article structure. The article structure contains text segments that can be divided into items and structural indicators. These structural indicators are not components of the microstructure but play an important role in the identification of the search zones in which the items are accommodated to ensure a successful microstructural ordering. An interactive relation also exists between the data distribution and the addressing structures of a dictionary. If the lexicographer opts for a complex system of addressing, e.g. lemmatic addressing completed by non-lemmatic addressing, the data distribution structure has to make provision for data allocated to subsections in search zones with a microstructural item and not the lemma sign as address.

With this chapter’s focus on access, some aspects of interactive relations in which the access structure participates will also come to the fore. It is important to note that the access structure is not the only structure that plays a significant role in the envisaged dictionary user’s access to the data on offer in the dictionary. In this regard the role of structures like the data distribution structure, the frame structure, the macrostructure, the microstructure and the article structure needs to be negotiated. In the following sections selected information about selected structures that are relevant for accessing the data in dictionaries are briefly discussed. It has to be mentioned that this is not a comprehensive or even balanced reflection of the nature and role of these structures, but it only looks at some of the issues relevant to the access process. The discussion of these aspects of other structures will be done whilst

looking at various aspects of access and accessibility. However, one structure (i.e. the data distribution structure) needs to be dealt with before further attention to access.

3.4.1 *The data distribution structure*

One of the first structures to be employed in the compilation of a dictionary is the data distribution structure (Bergenholtz, Tarp and Wiegand 1999:1778). This structure determines the venues of all data to be included in a dictionary as a text compound or *big text*, also known as a carrier of text types (Kammerer and Wiegand 1998:224). Prior to the distribution of data in a dictionary, there has to be clarity on the different venues that are available to be populated by the data. The lexicographers need to decide on the overall structure, that is, the textual book structure in printed dictionaries (Hausmann and Wiegand 1989: 330) or the feature compound structure in online dictionaries (Klosa and Gouws 2015:149). The central list of the dictionary (i.e. the traditional alphabetical component of printed dictionaries) represents a search field that contains article stretches in which each article constitutes a search area and within each article different search zones exist (Wiegand, Beer and Gouws 2013: 63). Besides deciding on the data types to be distributed to the various search zones in the different types of articles (e.g. default single articles, cross-reference articles and synopsis articles), lexicographers should also negotiate the possibility of using outer texts, or outer features in online dictionaries, to accommodate additional data that supplement the default presentation. The more diverse the data venues determined by the data distribution structure are, the more complicated the access procedures that need to guide users to the different data entries. Where access is needed to data allocated to venues other than the dictionary articles, users need additional assistance to make them aware of these locations and to determine a search route to these venues that could ensure an optimal retrieval of information.

In the majority of discussions of access structures in printed dictionaries the focus has been on access to data in the central list – employing the outer and the inner access structure. Although access to items in the dictionary articles remain important, provision should also be made for systematic access to data presented in other venues of a given dictionary.

3.4.2 *Significant features in access structure*

Whether they have an underlying theoretical approach or not, the eventual success of any product in the lexicographic practice is co-determined by its accessibility. All ways and means employed to enhance access to the data on offer in a dictionary should be applauded, and both practical and theoretical lexicographers should strive to elevate the levels of accessibility to such an extent that even the most inexperienced member of the envisaged target user group of any dictionary can perform a successful dictionary consultation procedure by accessing the dictionary successfully, retrieving the necessary information and having the confidence that this information provides an unambiguous answer to the question that prompted the dictionary consultation. This constitutes the core objective of access in dictionaries.

In order to ensure such an increased accessibility, it is important to be familiar with some significant features of access, including features of access structures but also of some other dictionary structures. In this regard only four topics will be discussed: the type of macro-structure and its implications for the access structure, the rapid access structure, the access alphabet and the article structure.

3.4.2.1 The macrostructure

A dictionary can have one or more than one word list in its macrostructure. Where a dictionary has only one word list the macrostructure and the alphabetical access structure are identical (see Hausmann and Wiegand 1989: 328).

The macrostructure is an ordering structure that displays the lemmata as guiding elements of dictionary articles in a specific way. Different types of ordering lead to different access possibilities. In a straight-alphabetical macrostructure, all the lemmata are presented in a vertical order and the typical access will proceed downwards starting at the top of a page.

Due to especially space-saving efforts macrostructures in printed dictionaries often deviate from a straight-alphabetical order in favour of sinuous lemma files where vertical ordering is complemented by horizontal ordering. This leads to procedures of niching, i.e. where the horizontally ordered lemmata maintain the strict alphabetical ordering as in Figure 3.1, a partial article stretch from the *Pharos Woordeboek Dictionary* (Du Plessis 2005), or nesting, where the horizontally ordered lemma cluster shows deviation from the strict alphabetical ordering on morpho-semantic grounds, as in Figure 3.2, a partial article stretch from *Nasionale woordeboek* (De Villiers et al. 1987):

call-ing geroep; roepstem; beroep; roeping; beroeping (*deur gemeente*)
calling card (*Am.*) visitekaartjie
calling-off afgelasting

cal-li-o-pe (*Am. mus.*) stoomorrel
Cal-li-o-pe (*Gr. mit*) Kalliope, Kalliope

cal-li-per (*Am.*) **caliper** (*dikw. mv., med.*) loopyster
inside callipers holpasser
outside callipers diktepasser
(pair of) callipers krom-, meetpasser, loopyster
rule callipers kaliberstok
calliper brake passerrem
calliper compasses krom-, meetpasser
calliper gauge speermaat
calliper splint (*med.*) loopyster

Figure 3.1 Example of niching

blaas I (blase) s.nw. 1. *dun vlies gevul met lug of gas.*
 Lug-, seepblaas. 2. *rekbare spiersak in die menslike of dierlike liggaam gevul met vog.*
 Galblaas.
 3. *voorwerp soos 'n blaas of daarvan gemaak.* Die
 – van 'n voetbal. Verfblaas. Vir 'n – met ertjies op loop sit, *gou bang word, skrik.*
'blasie, blaas ≈ **agtig; blaaskruid, – vrug, – wier** (by 1); **blaasaandoening, – breuk, – geswel, – koliek, – kramp, – kwaal, – ontsteking, – steen, – stoornis** (by 2); **blaasbrand, – roes** (by 3).

Figure 3.2 Example of nesting

Compared to a dictionary with a straight-alphabetical ordering, difficulty of access is increased in a dictionary with a niched ordering (Figure 3.1) and even more in a dictionary with a nested ordering (Figure 3.2).

Because the access structure coincides with the main macrostructure, these different types of macrostructures lead to different types of access structures (i.e. a niching or a nesting access structure). The lexicographer's decision to opt for a niched or nested macrostructural ordering should not be done in a random way or merely on the grounds of space-saving attempts. This microstructural choice also has access implications. Niching, and especially nesting, increases the degree of textual condensation in the central list of a dictionary, and this could easily impede accessibility. Consequently, before choosing a macrostructure that deviates from the alphabetical ordering, the lexicographer needs to consider the reference skills of the intended user and the implications in terms of rapid access and successful information retrieval. For younger and less experienced users of printed dictionaries, a strict alphabetical ordering of macrostructural elements will be the preferred arrangement and will offer the best access possibilities.

The language in dictionary articles often displays a deviation from natural syntax because of different procedures of textual condensation. The more condensed the items in a dictionary article, the more cumbersome the access process becomes. This can also be seen on macrostructural level where space-saving procedures often lead to lemma clusters where the first stem of the lemmata have been substituted by a place-keeping symbol, downgrading these macrostructural elements to the level of sublemmata, that is, a lemma sign that can only be reached via the lemma sign that functions as guiding element of a preceding article (see Gouws and Prinsloo 2005:89). In the following example, Figure 3.3, from the Afrikaans dictionary *HAT5* (Odendal and Gouws 2005), the lemma *daklig* ('light in a roof') is presented in the condensed form *~lig* with its first stem substituted by the place-keeping symbol '~'. This lemma occurs in a niche, attached to the article of the main lemma *dak* ('roof'), and the niche contains a cluster of niched partial lemmata, preceded by a lemma part in lemma-external niche entrance position (Wolski 1989:365; Wiegand 1983), that is, the form *dak:*. The sublemma *daklig*, as is the case with all the sublemmata in this niche, cannot be accessed directly but only via the lemma sign *dak* and the subsequent lemma part in lemma-external niche entrance position. This is a complicated form of access, and lexicographers need to determine whether their users are qualified to access the data in such clusters successfully.

dak *s.nw.* [*~ke, ~kie*]

1 Boonste, dekkende raamwerk van 'n gebou; ook wel, die laag dekmateriaal wat op die raamwerk rus: *Af-, gewel-, saaldak. 'n Asfalt, pan-, plankies-, rietdak.*

2 Huis, woning: *Onder een dak woon*, in dieselfde huis.

3 Bedekking wat aan die dak van 'n huis, laat dink: *Die dak van 'n bus, trem.*

Uitdr: *Onder dak bly*, in die huis. *'n Dak bo jou kop hê*, 'n woning hê. *Iemand onder dak bring*, van huisvesting voorsien. *Dak natmaak (natgooi)*, by die bou van 'n huis, die werksmense traktee sodra die eerste kap opgestel is. *Iets van die dakke of verkonstig*, dit openbaar maak. *Onder dak wees*, beskerm teen wind en weer.

dak: *~balk, ~bedekking, ~dekker, ~geraamte, ~geut, ~gewel, ~helling, ~kap, ~lig, ~materiaal, ~raam, ~rand, ~strooi, ~timmerasie, ~venster.*

Figure 3.3 Example of place-keeping symbols for space saving

In some dictionaries a user can follow more than one route to eventually reach a specific lemma sign in the central list. Lexicographers can employ additional access possibilities to increase the routes to be followed. In this regard a distinction can be made between mono-accessible and poly-accessible dictionaries. In a mono-accessible dictionary the default outer access route will be the only way of reaching a lemma sign and continuing on the inner access route within the dictionary article. Poly-accessibility is realized, for example, when a dictionary has an index, and a given word can either be found via the macrostructure or via an entry in the index.

The Afrikaans dictionary *Grondslagfasewoordeboek* (Gouws, R. et al. 2010) has learners in the first three school years as target users. In the central list an alphabetical ordering prevails. A user already familiar with the alphabet may immediately go to the central word list and follow the default outer access route to reach a given lemma sign.

Users could also go to the back matter texts *List of words . . . Lys van woorde* where each word included as lemma in the dictionary and each word given as English equivalent for an Afrikaans lemma sign are presented in two separate lists. For each lemma or equivalent from the central list entered here these lists contain entries giving the page numbers where the relevant words can be found in the central list, and a user can proceed to the required lemma sign via the reference found in the back matter text.

In the word list each word typically has a reference to two different page numbers – the one to the central word list, and the other to a text in the front matter section. The front matter of this dictionary contains a thematic section in which different themes treated in the class room are presented by means of pictures and words.

Each smaller picture presented in the main picture is also given separately in columns next to the main picture with the Afrikaans and English words for the thing represented by the picture. Users consulting this dictionary during an early phase of their first school year when they are not yet fully familiar with reading can move from the main picture to the relevant smaller picture and from the word given there to the relevant lemma sign in the alphabetical section – where the same small picture precedes the lemma sign and functions, along with the relevant lemma sign, as a component of a combined guiding element. The limited dictionary-using skills of the target users of this dictionary are taken into consideration and yet another way of accessing the data is made available in this poly-accessible dictionary.

3.4.2.2 The rapid access structure

Hausmann and Wiegand (1989:338) already introduced the notion of a rapid access structure. Lexicographers employ different ways and methods to enhance the accessibility of their dictionaries and to ensure faster consultation procedures. This is done on the level of both the external and the internal access structure. Within the outer access structure the two main sections of a bidirectional bilingual dictionary, that is, the two alphabetical components within which each of the two treated languages respectively functions as source language, are often separated by means of a coloured page. Looking at the front edge of the dictionary this colour page divides the dictionary, and a user can easily see where the second alphabetical component of the dictionary commences. In a similar way the back matter texts or even texts inserted as middle matter within the alphabetical components are distinguished by means of coloured pages (see the *Macmillan English Dictionary* (Rundell 2002)) with its

inner texts inserted into the alphabetical section and identified for rapid access by means of pages with coloured edges.

Also on the front edge of a dictionary lexicographers often employ thumb index markers to guide users to specific article stretches. In some dictionaries these indexes are explicitly marked for specific alphabet stretches, whereas some other dictionaries merely have a small block to indicate the start of a new stretch. The knowledgeable dictionary user is especially assisted by these aids as part of the rapid access structure of a dictionary. Whereas rapid access is a complementary access component of printed dictionaries, it can be regarded as a default approach in online dictionaries where the search does not have to proceed via search words, article stretches or even lemma signs as guiding elements of articles (see Section 3.5 of this chapter).

Search words, also referred to as alphabetised lemmatic running titles (see Wiegand and Beer 2013:132), constitute another form of rapid access on the external search route. Having reached a specific article stretch, either by means of a thumb index marker or by a mere guessing of where a given lemma is alphabetically positioned in a dictionary, a dictionary user can speed up the search for a lemma by looking at the search words given at the top of each page, above the presentation of the partial article stretch of the specific page. Dictionaries have different ways of ensuring this type of rapid access. The one way is to include a search word that represents the first lemma treated on the specific left-hand page of a dictionary in the top left corner of that page and the last lemma treated on the right-hand page in the top right corner of the right-hand page of that dictionary.

A more helpful way is to give a search word representing the first and last lemma treated on a single page in the top left and top right corner respectively of that single page – and to do it on every page.

These search words assist the user to determine whether the lemma sign he or she is looking for occurs on the specific page. If the required lemma sign does fall within the partial article stretch identified by the search words, the user can continue with the outer access by looking at the lemma signs on the specific page to find the one that is the guiding element of the article from which information needs to be retrieved.

3.4.2.3 The access alphabet

Wiegand and Beer (2013:111) indicate that the external data accessibility in printed dictionaries “is achieved by creating outer access structures.” The macrostructure is one such structure, and the alphabetical ordering of lemmata in the macrostructure plays an important role in enhancing the accessibility of the dictionary. However, lemma candidates cannot always only be ordered, and therefore also accessed, by means of an alphabetical approach. Many lemma candidates contain both alphabetical and numerical elements (e.g. *4×4-vehicle*, *.38 gun*, *18-wheeler*), lemmas including alphabetical elements as well as elements from other alphabets (e.g. *α-particle*) and even other orthographic elements like hyphens and letters marked for orthographic purposes with, for example, a circumflex or diaeresis. The Danish alphabet contains among others the letters *å* *æ* and *ø*, and in Sepedi the letter *š* has a frequent occurrence besides the normal *s*. Decisions need to be taken how and where words starting with or containing these letters should be ordered. A clearly explained system is needed to ensure quick and successful access to the relevant words. The lexicon of Afrikaans contains the following words: *leer*, *lêer* and *leër*. In which order should they be lemmatised?

Decisions that need to be taken to ensure a proper ordering of such lemma candidates led to the formulation of an access alphabet (see Bergenholtz, Tarp and Wiegand 1999:1813). In addition to the alphabet prevailing in a given language, lexicographers need to make provision for the ordering of and consequent access to lemma signs that deviate from the pure alphabetical form of the specific language. Such alphanumeric items or items with marked letters compel lexicographers to devise an access alphabet for their dictionaries that makes provision for a consistent and systematic ordering of these items as entries in the dictionary. An access alphabet is the set of elements according to which lemma signs are ordered in the macrostructure of a dictionary. Typical applications of access alphabets are as follows:

- 1 Numerical elements, both in numerical lemmata (e.g. *24/7*) and in combination with alphabetical elements (e.g. *4×4-vehicle*), as well as symbols in lemma signs (e.g. *α-particle*), are treated according to their ‘word’ value. *24/7* will be entered in the article stretch for the letter ‘T’ and in the position where the words *twenty four* would have been entered, whereas *4×4-vehicle* and *α-particle* would be treated in the alphabetically applicable positions in the article stretches of the letters ‘F’ (*four by four vehicle*) and ‘A’ (*alpha particle*) respectively.
- 2 Unmarked precedes marked, resulting in the ordering *leer,leër; lêer*, because in the first word both vowel signs are unmarked and in the second one the first vowel sign is unmarked.
- 3 A word without hyphen precedes a word with a hyphen, e.g. the Afrikaans word *sandaal* (‘sandal’) precedes *sand-aal* (‘sand eel’).
- 4 Blanks often do not play a role in the ordering of lemmata – the ordering only goes according to the signs (e.g. letters). Therefore *honey bear* precedes *honeybee* which precedes *honey beer*.

Dictionary users need to become familiar with these ordering principles because such a knowledge will enhance the speed of access to the lemma sign that is the destination of their outer search route.

3.4.2.4 The article structure

The access structure interacts with the article structure in a variety of ways but primarily to secure the best possible inner search route. Wiegand, Feinauer and Gouws (2013:317) indicate that a dictionary article is an accessible dictionary unit that shows at least one external access text element, is a constituent of a wordlist and consists of lexicographic data that are made accessible so that the dictionary user can unlock lexicographic information. The article structure plays a significant role in the accessibility of lexicographic data.

Articles contain text segments which can be divided into two types: items and indicators (see Wiegand 1989b:427–428). Items giving different types of data are presented in different search zones within the dictionary article as a search area (Wiegand, Beer and Gouws 2013:63). Each one of these search zones contains items from which information can be retrieved.

The inner access structure determines the inner search route that provides guidance for a user within the dictionary article. Whereas items are components of the

microstructure, the structural indicators, both typographical and non-typographical indicators (see Wiegand 1989b:428), are not part of the microstructure but elements of the article structure. They mark specific search zones and specific items to assist users with access to the necessary data-carrying entry in a dictionary article. Especially in printed dictionaries the structural indicators ensure that the knowledgeable dictionary users do not have to read the whole article, but can directly access the search zone that contains the required items. Yet again, this rapid access implies that a user does not have to complete every step of the search route but may skip certain sections in order to quickly reach the desired search zone. The article structure should be devised in such a way that indicators enhance the search procedure and therefore add to the success of the dictionary consultation procedure. The following article from *HAT6* (Luther et al. 2015), Figure 3.4, displays clearly marked search zones. This article layout allows rapid access to the different items included in the article.

bos *s.nw.* [~se, ~sie]

1 groot klomp bome; woud: 'n *natuurlike/inheemse/aangeplante bos* • 'n *bos met geeldoringbome*.

2 (*botanie*) lae plantegroei; struik: 'n *struikagtige bos* • *Die bitterbessie is 'n bossie met swart bessies*.

3 groep/bondel voorwerpe bymekaar/aanmekaar gebind: 'n *bos blomme* • 'n *bossie beet/wortels/spinasie/kruie* • 'n *bos sleutels* • 'n *dik/welige/wilde bos hare*.

◇ **Uitdr:**

|*deur die bome die bos nie sien nie*

die geheel nie kan sien nie as gevolg van te veel kleinighede.

|*deur die hele bos loop om die kromste lat te sny*

gesê van 'n meisie wat baie vryers gehad het, maar met die treurigste van hulle getrou het.

(...)

|*voorste bos*

(*as antwoord op die vraag: Hoe gaan dit?*) baie goed.

► **bos:** ~beampte, ~bewaarder, ~brand, ~navorsing, ~opsigter, ~pad, ~ryk, ~varing

► **bosagtig**

Figure 3.4 Example of structural indicators displaying clearly marked search zones

The ordering within the article and a clear marking of different subsections of the article also have to make provision for the treatment of the different part of speech occurrences of a given word. In this regard the lexicographer needs to decide whether the ordering of the treatment directed at the different part of speech occurrences is done in a random way, according to the usage frequency of the use of the different part of speech occurrences or in a fixed order, for example, the treatment of a word's occurrence as noun always precedes its treatment as a verb, etc. Here structural indicators could guide a user from one part of speech occurrence to the next. Compare the following article for the lemma sign *haat* (hate), Figure 3.5, from *HAT5*, where an arrow point is used as structural indicator to mark the different zones where the different part of speech occurrences are treated. This adds to the rapid access assistance of this dictionary.

haat

- ▷ *s.nw.* Gevoel van hewige afkeer, sterk vyandige gesindheid: *Geveinsde liefde is gevaarliker as openlike haat. Hy haat dit met 'n wrewelige haat. Haat en nyd skaad altyd. Iemand haat toedra. Haat jeens iemand hê.* ▼ *So vergeld hulle my met kwaad vir goed en haat vir liefde* (Ps. 109.5 NV). ▼ *Dat liefde so tot haat kon skif. | . . . Haat wat sulke dun wei-water is* (N.P. van Wyk Louw). ▼ *Die grootste van die drie | bly nog die haat* (Emst van Heerden). ▼ *Regina het nie geweet dat haar haat so intens soos haar diep liefde was nie* (A.H.M. Scholtz). **≠liefde.**
- ▷ **ww. [gehaat]** 'n Gevoel van hewige afkeer van iemand of iets hê, 'n baie sterk wrok teen iemand of iets koester. *Jou vyande haat. Julle moet haat wat sleg is en liefhê wat goed is. 'n Gehate mededinger, diktator, tiran. . .* ▼ *Wie my haat, haat ook my Vader* (Joh. 15:23 NV). **≠liefhê.**

Figure 3.5 Example of arrow being used as structural indicator to mark different zones

In online dictionaries, access to specific search zones is enhanced by the use of a multi-layered article structure (Gouws 2014:164). Figures 3.6 and 3.7 from *elexico* show a screen shot of the article of the lemma sign *Pferd* ('horse'). In the first screen shot the user can find search zones, for example, for orthography and etymology and an overview of the different subcomments on semantics.

Pferd		Lesartenübergreifende Angaben
<hr/>		
1 Orthographie		
Normgerechte Schreibung:	Pferd	
Worttrennung:	Dieses Wort ist nicht trennbar.	
1 Herkunft und Wandel		
Etymologische Angaben:	<i>anzeigen</i> ↻	
Wandel 1700 bis 1945:	–	
Wandel seit 1945:	–	
1 Wortbildungsprodukte (automatisch ermittelt)	<i>weiter</i> ↻	
		Lesartenbezogene Angaben 1
<hr/>		
<i>Lesart 'Reittier' weiter</i>	↻	
Mit <i>Pferd</i> bezeichnet man ein großes Säugetier mit langen Beinen, das vom Menschen bevorzugt als Reittier und gelegentlich auch als Zug- und Lasttier genutzt wird.		
<i>Lesart 'Turngerät' weiter</i>	↻	
Mit <i>Pferd</i> bezeichnet man ein Turngerät mit vier langen Beinen, einem ledernen Aufbau und zwei Griffen an der Oberseite.		
<i>Lesart 'Schachfigur' weiter</i>	↻	
Mit <i>Pferd</i> bezeichnet man die Schachfigur, die als einzige über die anderen Figuren hinweg auf ein freies Feld bewegt werden kann.		
<i>Lesart 'Tierkreiszeichen' weiter</i>	↻	
Mit <i>Pferd</i> bezeichnet man eines der zwölf Tierkreiszeichen des chinesischen Horoskops.		

Figure 3.6 Search categories in online dictionaries

By clicking the zone of an item giving a polysemous sense, the user accesses that subcomment on semantics (cf. Figure 3.1). The internal access structure allows the user to be guided to other relevant search zones, for example, for collocations, constructions and grammar. The presentation in this screen shot enhances rapid access and contributes to successful dictionary consultation procedures.

Pferd

Lesart **'Reittier'**

➊ zur Übersichtsseite

Bedeutungs- erläuterung	Kollo- kationen	Konstruk- tionen	Sinnverwandte Wörter	Gebrauchs besonderheiten	Grammatik
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➋ **Erläuterung der Bedeutung/Funktion**

Mit *Pferd* bezeichnet man ein großes Säugetier mit langen Beinen, das vom Menschen bevorzugt als Reittier und gelegentlich auch als Zug- und Lasttier genutzt wird.

Belege *anzeigen* ↻ Illustrationen *anzeigen* ↻

➌ Wortklasse: Individuativum

Figure 3.7 Accessing semantic subcomments in online dictionaries

3.5 Looking to the future: new possibilities in the digital era

The digital era has brought numerous new possibilities to the fore, including in fields like lexicography and information science. One of the most significant differences between printed and online dictionaries is the ease and speed of access. A user can start with a given lemma sign and then move into the article in a way comparable to the access in printed dictionaries. However, access does not only have to proceed via the lemma sign because a well-planned online dictionary makes it possible to have rapid access to individual items within a dictionary article. By entering a search string that contains, for example, two or more words from a fixed expression, the user can immediately be taken to that fixed expression as an item within a dictionary article. Where search zones are clearly identified they could be the immediate target of a specific consultation.

Svensén (2009:441) regards the access structure as the predominating structure in online dictionaries, although it functions differently compared to printed dictionaries. Searching in an online dictionary will often not be sequential. Svensén (2009:442) makes provision for different types of searching in online dictionaries (e.g. wildcard, incremental and fuzzy searching) but also searching several strings simultaneously by using Boolean operators. Access is also enhanced by means of a variety of linking procedures.

What is of paramount importance is that online dictionaries need to be planned and compiled in such a way that the structures, including the access structure, may be utilised

effectively when accessing data. This yet again emphasises the need for a strong theoretical basis to ensure an optimal lexicographic practice.

3.6 Conclusion

Dictionaries are practical instruments and need to be planned and compiled in such a way that their target users can achieve a successful retrieval of information. This is only possible if they can access the data. As part of the responsibility to their users lexicographers need to devise the best possible access structures for both printed and online dictionaries. Innovative research to ensure successful access in new types of dictionaries should be a priority in the field of metalexicography in order to enhance the quality of the lexicographic practice.

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Related topics

Lexicography and information science; electronic dictionaries; dictionary portals; the Accounting Dictionaries.

Further reading

Further guidance on access and access structures can be found in, among others, Wiegand and Beer (2013), specifically a general theoretical discussion of access in printed dictionaries, Svensén (2009) for access in printed and online dictionaries, Engelberg and Lemnitzer (2009) for a discussion of a variety of topics regarding access and Bergenholtz and Gouws (2010) for terms to be used when referring to the access process and a discussion of case studies in dictionary access. Tarp (2015) deals with e-lexicography, examines the whole concept of *structure* and discusses some of the new ways in which lexicographical structures express themselves in the digital environment.

References

Dictionaries

- De Villiers, M., J. Smuts, L.C. Eksteen and R.H. Gouws (eds.) (1987) *Nasionale woordeboek*. Cape Town: Nasou.
- Du Plessis, M. (ed.) (2005) *Pharos Afrikaans-Engels/English-Afrikaans Woordeboek/Dictionary*. Cape Town: Pharos.
- elexico*: www.owid.de/wb/elexiko/start.html
- Gouws, Ronél, L. Potgieter and S. Burgess (eds.) (2010) *Grondslagfasewoordeboek Afrikaans/English*. Cape Town: Maskew Miller Longman.
- Luther, J., F. Pheiffer and R.H. Gouws (eds.) (2015) *HAT6: Handwoordeboek van die Afrikaanse Taal*. Cape Town: Pearson.

- Odendal, F. F. and R. H. Gouws (2005) *HAT5: Handwoordeboek van die Afrikaanse Taal*. Cape Town: Pearson.
- Rundell, M. (ed.) (2002) *Macmillan English Dictionary for Advanced Learners*. Oxford: Macmillan Education.

Other literature

- Bergenholtz, H. and R.H. Gouws. (2010) "A New Perspective on the Access Process", *Hermes* 44: 103–127.
- Bergenholtz, H., S. Tarp and H. E. Wiegand. (1999) "Datendistributionsstrukturen, Makro- und Mikrostrukturen in neueren Fachwörterbüchern", in L. Hoffmann, H. Kalverkämper and H. E. Wiegand (eds.) *Fachsprachen. Languages for Special Purposes: An International Handbook of Special-Language and Terminology Research*. Berlin: de Gruyter, pp. 1762–1832.
- Engelberg, S. and L. Lemnitzer (2009) *Lexikographie und Wörterbuchforschung*. Tübingen: Stauffenburg.
- Gouws, R.H. (2005) "Meilensteine auf dem historischen Weg der Metalexikographie". *Lexicographica* 21: 158–178.
- Gouws, R. H. and D. J. Prinsloo. (2005) *Principles and Practice of South African Lexicography*. Stellenbosch: SunMedia.
- Gouws, R. H., U. Heid, W. Schweickard and H.E. Wiegand. (eds.) (2013) *Dictionaries: An International Encyclopedia of Lexicography. Supplementary Volume: Recent Developments with Focus on Electronic and Computational Lexicography*. Berlin/New York: Walter de Gruyter.
- Hausmann, F. J. and H. E. Wiegand. (1989) "Component Parts and Structures of General Monolingual Dictionaries: A Survey", in F. J. Hausmann, O. Reichmann, H. E. Wiegand and E. Zgusta. (eds.) (1989–1991): pp. 328–360.
- Hausmann, F. J., O. Reichmann, H. E. Wiegand and E. Zgusta (eds.) (1989–1991) *Wörterbücher: Dictionaries. Dictionnaires. An International Encyclopedia of Lexicography*. Berlin/New York: de Gruyter.
- Kammerer, M. and H.E. Wiegand. (1998) "Über die textuelle Rahmenstruktur von Wörterbüchern. Präzisierungen und weiterführende Überlegungen". *Lexicographica* 14: 224–238.
- Klosa, A. and R.H. Gouws (2015) "Outer features in e-dictionaries". *Lexicographica* 31: 142–172.
- McArthur, T. (1986) *Worlds of Reference*. Cambridge: Cambridge University Press.
- Rey-Debove, J. (1971) *Étude linguistique et sémiotique des dictionnaires français contemporains*. The Hague/Paris: Mouton.
- Svensén, B. (2009) *A Handbook of Lexicography*. Cambridge: Cambridge University Press.
- Tarp, S. (2015) "Structures in the communication between lexicographer and programmer: Database and interface". *Lexicographica* 31: 217–235
- Wiegand, H. E. (1983) "Was ist eigentlich ein Lemma?", in H. E. Wiegand (ed.), *Studien zur neuhochdeutschen Lexikographie III* (Germanistische Linguistik 1–4/82). Hildesheim: George Olms, pp. 401–474.
- Wiegand, H. E. (1989a) "Aspekte der Makrostruktur im allgemeinen einsprachigen Wörterbuch: alphabetische Anordnungsformen und ihre Probleme", in F. J. Hausmann et al. (eds.) (1989–1991), pp. 371–409.
- Wiegand, H. E. (1989b) "Der Begriff der Mikrostruktur: Geschichte, Probleme, Perspektiven", in F. J. Hausmann et al. (eds.) (1989–1991), pp. 409–462.
- Wiegand, H. E. (1989c) "Arten von Mikrostrukturen im allgemeinen einsprachigen Wörterbuch", in F. J. Hausmann et al. (eds.) (1989–1991), pp. 462–501.
- Wiegand, H. E. (1989d) "Der gegenwärtige Status der Lexikographie", in F. J. Hausmann et al. (eds.), pp. 246–280.
- Wiegand, H. E. (1996) "Das Konzept der semiintegrierten Mikrostrukturen: Ein Beitrag zur Theorie zweisprachiger Printwörterbücher", in H. E. Wiegand (ed.), *Wörterbücher in der Diskussion II*. Tübingen: Max Niemeyer Verlag, pp. 1–82.

- Wiegand, H.E. (2003) “Überlegungen zur Typologie von Wörterbuchartikeln in Printwörterbüchern. Ein Beitrag zur Theorie der Wörterbuchform”. *Lexicographica* 19: 169–313.
- Wiegand, H. E. (2008) “Zugriffsstrukturen in Printwörterbüchern. Ein zusammenfassender Beitrag zu einem zentralen Ausschnitt einer Theorie der Wörterbuchform”. *Lexicographica* 24: 209–315.
- Wiegand, H. E. and S. Beer (2013) “Access Structures in Printed Dictionaries”, in R. H. Gouws et al. (eds.) (2013), pp. 110–149.
- Wiegand, H. E., S. Beer and R. H. Gouws. (2013) “Textual Structures in Printed Dictionaries: An Overview”, in R. H. Gouws et al. (eds.) (2013), pp. 31–73.
- Wiegand, H. E., I. Feinauer and R. H. Gouws (2013) “Types of Dictionary Articles in Printed Dictionaries”, in R. H. Gouws et al. (eds.) (2013), pp. 314–366.
- Wiegand, H. E. and R. H. Gouws (2013) “Macrostructures in Printed Dictionaries”, in R. H. Gouws et al. (eds.) (2013), pp. 73–110.
- Wiegand, H.E and M. Smit (2013) “Microstructures in printed dictionaries”. In Gouws, R.H. et al. (eds.) 2013: 149–214.
- Wolski, W. (1989) “Das Lemma und die verschiedenen Lemmatypen”, in F. J. Hausmann et al. (eds.) (1989–1991), pp. 360–371.
- Zgusta, L. (1971) *Manual of Lexicography*. The Hague: Mouton.