Sandro Nielsen

Data Presentation Structures in Specialised Dictionaries: Law Dictionaries with Communicative Functions

1 Introduction
2 Focussing on data supporting dictionary functions
3 Preliminary observations on the distribution of data
4 Search results resembling traditional dictionary articles
5 Search results with alternative layouts
6 Concluding remarks
7 Bibliography

Abstract: Theoretical lexicographers have developed a range of elaborate structures to describe the arrangement of data inside dictionaries, in particular in dictionary articles. However, most of these structures have been developed on the basis of detailed analyses of print dictionaries and relatively little has been said about the arrangement of data in e-dictionaries. The relevant data types are lexicographical data providing help concerning the function(s) and use of dictionaries on search results pages. In order to create a visual hierarchy on screen that makes the most important search result data stand out, lexicographers should prioritize functional data that are directly related to and support the function(s) of dictionaries on a need-to-have/nice-to-have basis, because data presentation structures with functional focus may better help users achieve their intended goals, i.e. finding answers to problems in communicative situations. One result is that lexicographers can analyse and describe the visual hierarchy in terms of data presentation fields and search zones, even though some search results may be described as non-articles.

Keywords: search zones, article schematic, dictionary function, functional data, visual hierarchy, layout, structural indications

1 Introduction

In most situations the successful communication of written messages depends on the way in which they are presented to readers. When they communicate with dictionary users, lexicographers should be guided by similar considerations so that the data in dictionaries are easily accessible to and understandable by those who consult lexicographical tools. Lexicographers can adopt various approaches to achieving this aim, e.g. by using full sentences in definitions, by avoiding textual condensation in articles, and by using logical and navigable structures to present lexicographical
data. Several scholars have discussed ordering structures applicable to specific parts of dictionaries, e.g. component parts and structures in monolingual dictionaries (Hausmann/Wiegand 1989), different types of microstructures in general dictionaries (Wiegand 1989), microstructures in monolingual and bilingual specialised dictionaries (Nielsen 1995), data distribution structures in specialised dictionaries (Bergenholtz/Tarp/Wiegand 1999), hierarchical microstructures in different textual units of dictionaries (Wiegand/Smit 2013), and article structures in printed and e-dictionaries (Gouws 2014).

One feature shared by most contributions on lexicographical structures is the predominant focus on polyfunctional print dictionaries. In the age of the Internet in which print media are gradually superseded by digitized media, lexicographers should consider whether it is time to examine the need for new ways in which to describe and discuss ordering structures in e-dictionaries in order to prepare lexicographical tools for the future. This contribution attempts to identify main factors affecting data presentation in monofunctional specialised dictionaries accessed by desktop computers with particular reference to a planned dictionary project and an existing online law dictionary covering the languages Danish and English. This involves a discussion of different types of data and data carrying elements in e-dictionaries (Section 2), basic principles of presenting data in lexicographical web pages (Section 3), the use of traditional articles in e-dictionaries (Section 4), and search results that have alternative layouts (Section 5).

2 Focussing on data supporting dictionary functions

Web pages generally contain a range of different data types and online dictionaries tend to follow suit. Home pages for dictionary sites vary a lot in terms of data content and layout since their main purpose is to welcome users and invite them to perform various consultative acts. One of the component types that is directly relevant to lexicographers as well as users are results pages and a look at one such page from a dictionary that has been around for some time will help to narrow the scope of this contribution. When they search for the English term computer in DiCoInfo, users will be provided with the data shown in Figure 1, which is a screen shot showing search results.

Figure 1 shows that the data types have been grouped and positioned in various places on the results page. Beginning from the top of the page we find the header area, which contains first a navigation menu to external sources and immediately below that a content element with the logo and full name of the dictionary and at the bottom of the header an internal navigation menu. Then a search area is placed immediately below the header area and directly to the right of that we find a sidebar listing the last terms posted in French, English and Spanish. The main body text showing the results of the search appears immediately below the search area and
the sidebar. The search resulted in two lemmas (i.e. head words) being found and the screen displays part of the first result above the fold, i.e. the part of the web page users will see before scrolling down – the remainder is below the fold, i.e. users can only see the rest of the data by scrolling down. Below the fold users can find context and lexical relations addressed to the lemma in meaning 1 as well as a sidebar with Spanish and French equivalents. Furthermore, users can see all data addressed to the lemma in meaning 2 as well as a sidebar with a French equivalent. Finally there is a footer identifying the compilers of the dictionary. The remaining elements in Figure 1 belong to the desktop browser window, e.g. tool bar, task bar and scroll bar at the top, bottom and side edges of the window, and are, therefore, not part of the web page (see L’Homme/Robichaud/Leroyer 2012 for a further discussion of DiCoInfo).

Figure 1 represents only one search result in one e-dictionary, but it is possible to make some preliminary observations of a general nature. It seems reasonable to say that the data contained in the two top elements of the header and in the footer areas are irrelevant to the search for information and may therefore be called non-functional data, while the data contained in the body text are directly relevant to the search for information and may therefore be called functional data. Functional data are directly related to and support the function(s) of dictionaries. Following Bergenholtz/Tarp (2010: 30) a dictionary function is “the satisfaction of the specific types of lexico- graphically relevant needs that may arise in a specific type of potential user in a specific type of extra-lexicographical situation.” The following discussion will primarily
concern functional data, because lexicographers should prioritize this type of data and how they are presented in online dictionaries.

3 Preliminary observations on the distribution of data

The best way in which to tell users what they want to know is to arrange data in a logical and rational way. Lexicographers can do this by adopting various means, sometimes referred to as structures in print dictionaries such as the macrostructure, article structure and microstructure. For the purposes of the following discussion the overall term lexicographical data distribution structure is used, which is an ordering structure arranging connected and dependent data items in dictionaries. In an online context, these data items may contain lexicographical data, i.e. data that provide help concerning the function(s) and use of dictionaries, while all other data types may be regarded as extra-lexicographical because they do not support the function(s) and use of dictionaries. Typical examples of extra-lexicographical data in e-dictionaries are general informative data by publishers, advertisements on home pages and advertisements surrounding the main text body on results pages. In order to narrow the scope of this contribution, the focus will mainly be on lexicographical data that are also functional data and focus will be on main body texts on search results pages.

One essential question is how lexicographers can best structure and present lexicographical data in e-dictionaries. Following Duckett (2010: 419), who describes web pages in general, lexicographers should profile dictionary users with a view to “working out the tasks that these people would want to achieve, and determining the information needed to achieve those goals.” This may be related to dictionary functions in that lexicographers should identify relevant types of usage situation to establish types of user need to be satisfied (goals), so that dictionaries provide the types of data that help users achieve their goals. Figure 1 may serve as an example of data distribution. As argued by Plumley (2010: 24) “From a design standpoint, what you want is to ensure that the header area of the website does not take up too much of this valuable real estate.” The header area in Figure 1 takes up so much space that the data items containing data helping users to achieve their goal (improve their mastery of computer-related terminology) appear below the fold. In order to help users achieve their goals, the main body text of the results page should have been placed more prominently and the header area should have been reduced or eliminated. Even though lexicographers may think that space in e-dictionaries is unlimited this primarily applies to databases, since the amount of space available on screens is limited – even though it is possible to allow users to scroll vertically and horizontally. This means that lexicographers should distinguish between the concepts of “need to have” and “nice to have” in respect of structuring functional and non-functional data and therefore give priority to some data (need to have) over others (nice to have); as
argued by Duckett (2010: 386): “The primary factor in prioritizing the items on the
page should be letting visitors achieve what they came to do.”

Another question is how to prioritize functional data in dictionaries. The solu-
tion may depend on how many functions the dictionaries have. Compilers of poly-
functional dictionaries intended to provide help in communicative, cognitive and
operative functions all at the same time may find it difficult to prioritize: should
data supporting knowledge acquisition be positioned above, beside or below
data supporting text production; should data supporting text comprehension be
positioned above, beside or below data supporting operational tasks; how much
amount of screen space should be allocated to each function, etc. If users with spe-
cific lexicographical needs (goals) consult polyfunctional dictionaries that show
data supporting all intended functions on each results page, only few data will
be need-to-have data, whereas some of the remaining data may be nice to have.
Compilers of monofunctional dictionaries would seem to have fewer problems
adopting a rationalized ordering and prioritization of lexicographical functional
data because the total number of possible combinations of data types is smaller
than that for polyfunctional dictionaries. If users who need to know the translation
of terms consult monofunctional dictionaries that show data directly supporting
this particular function on each results page, most or all data will be need-to-have
functional data.

4 Search results resembling traditional dictionary articles

E-dictionaries compete with Internet search engines as data providers, but Inter-
net search engines tend to provide too many results from searches in vast bulks of
unstructured data, and the results are often irrelevant or unmanageable if people
look for specific information. One way in which lexicographers can overcome this
problem is to design e-dictionaries that give users the opportunity to access struc-
tured data with targeted searches and allow compilers to present search results in
rationally structured ways that tell users exactly what they need to know.

Center for Lexicography at Aarhus University, Denmark, has completed several
e-dictionary projects and more are in the pipeline. One of the planned projects aims
to develop a database that can serve as the core of a set of monolingual and bilin-
gual dictionaries designed to help specific types of users to understand Danish and
English legal texts, write legal texts in Danish and English, translate English legal
texts into Danish and vice versa, and acquire knowledge about English and Danish
legal matters. The targeted user groups are Danish lawyers, professional transla-
tors and law students. These three groups all need help in general types of situation
involving English and Danish law and legal language, e.g. reading textbooks and
translating court documents. The following discussion is restricted to communicative
functions and situations.
The dictionary project will have several components. The first component is a database with specially selected data that have been structured to ensure easy search and retrieval. This type of database contains discrete data fields each holding a specific type of data, e.g. fields that contain lemmas, fields that contain definitions, fields that contain inflectional paradigms, and fields that contain collocations. These fields are connected through links establishing a relationship between the field containing a specific lemma and the field with the relevant definition, the field with the relevant inflectional data, etc.

Secondly, the database is the core of several dictionaries, e.g. a defining dictionary as well as a translation dictionary. Through the user interface, users will not experience any difference between dictionary and database, but lexicographers should treat them as separate and interacting components.

The third component is a search engine that searches the individual data fields in the database, retrieves the relevant data, and presents them according to different setups for different dictionary functions. Defining dictionaries will show e.g. lemmas and definitions, while text production dictionaries will show e.g. lemmas, definitions, inflectional paradigms and phrases.

The use of a lexicographical basis with three main components has a number of implications. First of all, e-dictionaries may contain independent lexicographical sections, as the search engine can give direct access to sections (in effect web pages) that support the function(s) and use of dictionaries, e.g. subject–field sections that provide introductions to the field of law, and sections providing help to translate linguistic structures and genre conventions. Secondly, e-dictionaries with relational databases may have no alphabetically arranged wordlists in the traditional sense, i.e. a lexicographical structure that arranges lemmas in a specific order so that they can easily be found (see e.g. Hausmann/Wiegand 1989: 336) because they enable lexicographers to present discrete search results in various ways such as traditional dictionary articles or as mere lists of collocations and phrases. This means that each planned e-dictionary is supported by an output device that arranges the data retrieved from the database according to type and presents them in a predetermined order that matches user needs (see Nielsen 2014 for a discussion of the planned dictionary project; and Bergenholtz/Nielsen 2013 for a discussion of lexicographical databases). The following data types have been selected for inclusion in the database:

- Lemma (including homonym index where relevant)
- Grammatical data addressed to lemma (inflection, countability, active and passive forms)
- Equivalent
- Grammatical data addressed to equivalent (inflection, countability, active and passive forms)
- Definition (including language code and polysemy index where relevant)
- Collocations (short and long combinations of words but not full sentences)
- Example sentences (full sentences)
- Antonyms and synonyms (addressed to lemma and/or equivalent)
By focussing on user needs in various types of usage situation, lexicographers can select data that satisfy a specific type of user need and present the data so that they can easily be turned into useful information. The monolingual law dictionaries will offer assistance in three kinds of communicative situation:

- Help to understand a term
- Help to write a text where the expression is known
- Help to find a term where the meaning is known

The bilingual law dictionaries will offer assistance in the following two kinds of communicative situation:

- Help to translate a term
- Help to translate a collocation or phrase

The project is still in its developing phase and the examples below are prototypes that illustrate how the search engine retrieves the types of data that users need in various usage situations and how the output device presents those data types in predetermined order and format when the dictionaries are fully operational.

Danish translators and lawyers may need to know how to translate the English term *timeshare contract* and consult the *English–Danish Law Dictionary: how to translate a term*. The search engine will search the data fields containing inflectional data in the database, which allows users to search for the term in its inflected forms. The user interface will present the lemma and the following types of data as applicable: homonym index, polysemy index, language code, definition, inflection, all addressed to the lemma; and the user interface will present the equivalent as well as inflection, contrastive note, and usage note addressed to the equivalent. Furthermore, there may be cross-references to relevant terms and an indication of a source with an embedded link. The search result for *timeshare contract* is shown in Figure 2.

Figure 2 shows how specific data types can benefit professional translators and lawyers who translate legal texts into Danish. The definition helps users to ascertain that they have found the correct term (this is also supported by the synonym of the lemma) and the equivalent helps to translate the term. In addition to the equivalent, English collocations and examples with their translations into Danish are types of data that assist users in translating the term in various contexts. Finally, the data presented in Figure 2 provide help to translators and lawyers who write and copy-edit Danish legal texts based on information and knowledge acquired from reading English texts.

The arrangement of data in the article *timeshare contract* can be analysed in various ways. It is possible to study articles under the heading article structure, which
can generally be described as the ordering structure applying to the lemma and all the data items addressed to the lemma. Lexicographers can also study the microstructure of dictionary articles, i.e. the ordering structure applying to all the data items addressed to the lemma of an article (Hausmann/Wiegand 1989: 361; and Wiegand/Smit 2013). These structures have been developed for examining specific types of text segments in print dictionaries and are more or less elaborate. Nielsen (1995: 200) suggests that articles in print dictionaries should be divided into fields that each contains a particular type of data using an article schematic. This terminology appears to be suited for describing articles in e-dictionaries as the term field is used by some software to refer to a placeholder of text, whereas other software use the term content element and content area, all of which can be divided into sections and sub-sections. The use of data presentation fields may be complemented by analysing articles in terms of search zones as suggested by Wiegand (2000: 269 et seq.), because fields in article schematics can be seen as search zones from a user perspective. By analysing dictionary articles in terms of fields and search zones, lexicographers can describe their textual topology, i.e. lexicographers can study and describe the way in which text segments are connected to ensure continuity of article texts and their data content.

The article in Figure 2 represents data that have been placed in the main body text in a logical and rational order. At the same time, the individual data items have been positioned so that they together make up a visual hierarchy that allows easy access. This hierarchy can be described in terms of search zones based on the types of data

![Figure 2: Help to translate a legal term in planned bilingual dictionary.](image)
and data items they hold. The first search zone contains three sub-zones: one that contains the lemma, a second that contains data on part of speech, and a third that contains the inflectional paradigm of the lemma. Three typographical structural indicators have been used, different font sizes, boldface for the lemma and italics for part of speech, and a non-typographical structural indicator: angle brackets around the inflectional paradigm. The next search zone contains the definition and is introduced by a data-identifying entry, the heading “Definition”, which is a structural indicator that gives “an explicit identification of the type of data accommodated in the relevant search zone” (Gouws 2014: 161). Then follows a zone containing a synonym of the lemma and which is headed by a data-identifying entry. Immediately below is a search zone divided into three sub-zones: the first contains the Danish equivalent (highlighted by the structural indicator boldface), the second contains data on part of speech (highlighted by the structural indicator italics), and the third contains the inflectional paradigm (highlighted by the structural indicator angle brackets). Then follows a zone headed by a data-identifying entry and which contains a synonym of the equivalent. Immediately beneath that search zone comes another containing data items with English collocations on a grey background and data items with their Danish translations on a white background. Each translation is positioned immediately below the English collocation to which they are addressed and together with the colour variation this makes it easy for users to find the proper collocation. The last search zone, introduced by a data-identifying entry, holds an English example sentence and its Danish translation; again different background colours for the data items make it easy to distinguish between the two. Finally, all data-identifying entries are in blue colour to make them stand out from the rest of the text, which is in the normal form of positive text: black text on a white background (Nielsen 2000: 125).

In many situations people read hardcopy texts differently than screen texts so lexicographers should consider whether users approach e-dictionaries differently than they would print dictionaries. For example, print dictionaries often contain dense texts with a lot of data items following each other in straight-text mode, while texts on websites are often less dense and easier to take in. According to Krug (2006: 11) one of the basic principles of web design is “don’t make me think”, by which he means that it should be self-evident, obvious and self-explanatory how to use websites and read messages on web pages. Generally speaking, the same principle should apply to online dictionaries since they use the same medium as other websites. One example of the principle in use can be found in Figure 2: data-identifying entries functioning as signposts that guide users to the functional data they need without having to give any thought to where on the web page the relevant data are positioned. In addition, the main body text of the results page has well-balanced amounts of text and white space, helping users to find their way among the functional data, which is also in line with web design rules: “White space can guide the eye and help users understand the grouping of information” (Nielsen 2000: 18). In this context, it is relevant to distinguish between two types of white space, namely macro white space, which is
the space between the large elements on a web page, and micro white space, which is the amount of space between headings, paragraphs and list items (Duckett 2010: 434). Figure 1 is a good illustration of how macro white space can be used and Figure 2 illustrates the use of micro white space.

In Figure 2, micro white space works in two ways. Firstly, blank (i.e. white) lines separate the search zones causing the visual hierarchy of the main body text to stand out. Secondly, each search zone and sub-zone ends with blank space. In addition, all data-identifying entries end with blank space marking the ends of the structural indicators. This is only one of the ways in which the main body text of results pages can be described in terms of search zones, but it illustrates how the article schematic can be transformed into a layout that is structured vertically. The search path that users have to follow is made up of the structural indicators, is vertical and follows the left text margin. If the main body text had been written as a long, unbroken chain of words – as in many print dictionaries – the search path would have been sinuous, meandering through the text. By analysing main body texts in this way, lexicographers can describe the way in which text segments, such as search zones and sub-zones, can be connected to ensure a clear visual hierarchy.

The ease with which to understand the meaning of legal terms is sometimes affected by homonymy and polysemy. In order to properly understand a legal term, users must be able to identify the correct meaning of words that are spelt identically (homographs) but have different referential foci. The planed dictionaries adopt the syntagmatic criterion “part of speech” to distinguish between homographs belonging to different word classes, for example the noun *contract* and the verb *contract*, whereas morphological criteria are generally used in cases of polysemy (see Figure 3), so that nouns that can be both countable and uncountable are treated as polysemes, e.g. the noun *authority* (“the power to act on behalf of another” (uncountable) and “official organisation” (countable)).

A search for the term *authority* in the *English Law Dictionary: help to understand a term* will give the result presented in Figure 3. The search result contains definitional data that are intended to help users to understand terms found in legal texts: the meaning of the term searched for, as this was what the users wanted. The search word
is presented twice and index numbers act as non-typographical structural indicators that highlight the two definitions by positioning the data presentation fields containing the articles in an above-below relationship on the screen. Furthermore, the order in which the two search results are presented is directly linked to the function of the dictionary: to provide help to understand legal terms. As a result, the proper legal term *authority* is presented first and the semi-legal term *authority* is presented second, and as both terms are relevant in legal contexts they are need-to-have terms. Again various typographical and non-typographical structural indicators as well as micro white space have been used to create the visual hierarchy.

5 Search results with alternative layouts

The search results have so far been examples of dictionary articles but not all search results in e-dictionaries can be described as articles in a traditional sense. The following discussion concerns an existing e-dictionary called *Dansk-Engelsk CISG Ordbog* (Danish-English CISG Dictionary), which is a bilingual dictionary treating the subject of international contracts for the sale of goods regulated by the United Nations Convention on Contracts for the International Sale of Goods (CISG). It is a sub-field dictionary, i.e. a specialised dictionary that covers one sub-field within a general field of law, and gives in-depth treatment of the sub-field concerned (Nielsen 1990: 132–135, Nielsen 1994: 38–43). The *CISG Dictionary* is designed to provide help to Danish law students (the targeted user group) when they write legal texts in English as a foreign language (see Nielsen 2012 for a further discussion of the *CISG Dictionary*).

The main components of the *CISG Dictionary* form a triadic setup similar to that of the planned law dictionaries described in Section 4 above: a database, a search engine and a user interface. The database contains the following types of data placed in discrete data fields:

- Danish lemma
- Grammar note addressed to Danish lemma
- Word class indication addressed to Danish lemma
- Meaning discrimination addressed to Danish lemma
- English equivalent of Danish lemma
- Grammar note addressed to English equivalent
- Contrastive note addressed to Danish lemma and English equivalent
- Danish collocations
- English translations of Danish collocations
- Danish short phrases
- English translations of Danish short phrases
- Danish long phrases
- English translations of Danish long phrases

The dictionary provides help to Danish students who are writing essays, exam papers and other types of legal texts and offers them a number of routes to the lexicograph-
ical data. Users can select a list of lemmas (alphabetically arranged) and their equivalents presented on the screen (see Figure 4). The list is divided into four columns, from left to right: Danish lemmas; English equivalents; meaning discrimination in appropriate cases so that users can select the correct equivalent; and cross-reference links, which users can click for further information.

![Figure 4: Excerpt of list of lemmas and equivalents in the CISG Dictionary.](image)

In order to guide users, the rows of lemmas and their equivalents in Figure 4 are separated by horizontal lines and the four columns are separated by vertical lines. In addition, equivalents are presented in orange colour in an attempt to make them stand out as users will be searching for equivalents. The presentation of data has a functional focus in that the list shows users the English translations of Danish terms, i.e. need-to-have data that answer the question: what is the Danish term X called in English? Those who want more help to write legal texts in English related to a specific Danish term, e.g. købesum, can click on the cross-reference link in the right-most column and they will be directed to another web page with accessive functional data resembling a traditional dictionary article, which can be seen in Figure 5.

![Figure 5: Full set of accessive functional data addressed to the lemma købesum.](image)
Figure 5 shows the constituent parts of the accessible functional data entry: two content elements containing discrete data presentation fields (or search zones). The top element has five fields: the Danish lemma; the English equivalent; meaning discrimination (data-identifying entry only); the date of making the article; and contrastive note (data-identifying entry only). The second content element has eight data presentation fields containing collocations, short phrases, long phrases, cross-reference (empty) and headings (i.e. data-identifying entries). The data-identifying entries are placed to the left of the associated data presentation fields in contrast to Figures 2 and 3 where the entries are placed above the associated data presentation fields (or search zones). Finally, horizontal and vertical lines separate different data presentation fields; and the equivalent as well as all translations of collocations, short and long phrases are presented in orange colour to emphasize the functional focus.

Users can also access the lexicographical data by selecting the search option “search for head word”. Students who are looking for the English equivalent of a specific Danish term can type their search word, e.g. køber (i.e. buyer), in the search box and they will get the search result shown in Figure 6.

Figure 6: Result of a search for the term køber among lemmas.

The result of the search reveals that the database has four lemmas containing the search string køber, because the search engine finds all lemmas that are identical to, begin or end with the search word. In Figure 6, the data-identifying entries are placed at the top of the four columns. The results in Figure 6 provide writers with help to translate legal terms; if they need more data, they can click a cross-reference link and go to a web page with a full set of functional data.

Users may look for help with linguistic units larger than terms and can search for collocations, for short phrases, and for long phrases. Students who want help to translate a specific Danish collocation, e.g. indgå en kontrakt, can type this collocation into the collocations search box and the dictionary will present the search result illustrated in Figure 7. The search engine found one occurrence of the collocation and the dictionary presents users with the specific Danish collocation and its English translation – i.e. what users were looking for, and nothing more.
The search result in Figure 7 has a functional focus in that the data directly answers the question(s): what is the English translation of the Danish collocation X? Or: which English collocation is equal to the Danish collocation X? The results page does not contain functional data that answer other possible questions unrelated to this particular Danish collocation and its English equivalent. Again the translation is placed to the right of the collocation and is highlighted by orange colour. In addition, the data-identifying entries are placed above the functional data items, i.e. at the top of the three columns.

The search results in Figures 2–7 illustrate a number of issues relevant for data presentation in e-dictionaries. Firstly, the search result in Figure 7 contains a lexicographical treatment unit (collocation and data addressed thereto) and can be regarded as either an article or a non-article. The result may be described as a dictionary article containing a lemma (the Danish collocation) followed by an equivalent followed by a cross-reference (i.e. a link). This analysis means that a data item classified as a collocation in the database is reclassified as a lemma in the user interface, which implies that search results in e-dictionaries are (always?) articles. The search result can also be described as a source-language collocation followed by its target-language translation followed by a cross-reference. This analysis means that the search result is not a dictionary article because an article always contains a lemma (Hausmann/Wiegand 1989: 328; and Wolski 1989: 363); which implies that search results in e-dictionaries are not always articles but rather sets of accessive functional data. Whether lexicographical data are presented in articles or not is unlikely to be the concern of users because they are more interested in processing the data into information that is useful to the task at hand.

Secondly, the search results are presented as tables, or article schematics, even though this may not always be apparent. The tables in Figures 4–7 are all shown with black borders and black lines separating rows and columns in order to explicitly indicate the visual hierarchy: the data presentation fields, or search zones, are clearly indicated and easy to find. In contrast Figures 2 and 3 illustrate tables with implicit, unmarked borders and rows and columns are separated by white space (gaps); this is a different way in which to present the visual hierarchy and make data presentation fields, or search zones, easy to find. Either way of presenting tables appears to work from a user’s point of view by making things self-evident and obvious under the prin-
principle “don’t make me think”, but as noted by Krug (2006: 14) “these things are always on a continuum somewhere between “Obvious to everybody” and “Truly obscure”, and there are always tradeoffs involved.”

A third issue concerns the different positions of data-identifying entries in tables. All entries in Figures 2, 3 and 5 are placed inside articles but in different positions vis-à-vis the data they introduce. In Figures 2 and 3, data-identifying entries are placed above the associated data presentation fields, or search zones, creating an above-below relationship, whereas the data-identifying entries in Figure 5 are placed to the left of the associated data presentation fields creating a left-to-right relationship. The search results shown in Figures 6 and 7 illustrate a different situation in that their data-identifying entries are positioned at the top of table columns thereby transcending the rows containing articles (or sets of accessive functional data).

Finally, lexicographers should give consideration to the arrangement of data items as this may influence the ease with which users can access functional data in main body texts. Data items can be positioned in various ways within groupings of items, e.g. collocations, as illustrated in Figures 2 and 5. The collocations and phrases in Figure 2 are arranged in such a way that each source-language collocation and phrase is placed on a new line and each translation is placed on a new line, i.e. in an above-below relationship. In contrast, the collocations and phrases in Figure 5 are arranged so that source-language collocations and phrases and their translations follow each other in a linear sequence when reading from left to right, which requires the use of non-typographical structural indicators to separate them – in this case colons and semi-colons. Whether one or the other presentation format is the better may depend on the number of data items in a specific article because use of the above-below structure carries the risk of functional data being found below the fold in search results with many data items. Use of the linear sequence of data items, on the other hand, often causes all functional data in main body texts to appear above the fold.

6 Concluding remarks

As indicated above, lexicographers can identify a number of main factors that affect the presentation of data in e-dictionaries as specialised online dictionaries accessed by desktop computers can offer traditional search results as well as new types of search results. Lexicographers should, therefore, consider how best to merge the technical options available for online information tools with modern lexicographical principles when they plan and compile e-dictionaries. In this light, databases may function as repositories of structured data serving monolingual and bilingual specialised dictionaries that search for data in databases, retrieve the relevant data, and present them in pre-set ways. The layouts of such presentations may be analysed in terms of lexicographical data distribution structures and lexicographers should
distinguish between lexicographical data, i.e. data that provide help concerning the function(s) and use of dictionaries, and extra-lexicographical data, because the latter may have a negative impact on the presentation of search results online. Lexicographers should also distinguish between functional data that are directly related to and support the function(s) of dictionaries and non-functional data on a need-to-have/nice-to-have basis, because data presentation structures with functional focus may better help users achieve their intended goals.

Search results that do not resemble traditional dictionary articles can often provide users with straight-to-the-point data because of their functional focus: users will get specific answers to their specific search queries. By limiting the data presented in main body texts on search results pages to functional, need-to-have data, lexicographers increase the chance that data will appear above the fold and reduce the risk that data below the fold may be missed because it is not obvious that there are more data than you can see on the screen. In order to further help users decode lexicographical data, lexicographers may present the visual hierarchy of screen data in ways that help users find relevant data by using various structural indicators and place data items inside data presentation fields that act as search zones.

7 Bibliography

7.1 Dictionaries


7.2 Other literature


