**Dictionary Writing Systems**

1. Nowadays dictionaries are written on computers → more and more targeted software tools are being developed

Any software that serves these purposes is generally referred to as a **dictionary writing system** (DWS).

2. A general overview

The first generation of dedicated dictionary writing systems was developed at the beginning of the 1990s, with the aim of making life easier on the entry-writing front (Rundell and Kilgarriff 2011).

In addition to the requirement of **supporting lexicographers** in their work, **sustainable data storage** and – especially in larger projects – an efficient **project management system** of the whole workflow are challenging demands that computerisation should be able to meet. These three aspects should be taken into consideration when trying to outline the main features of a dictionary writing system.

**Some definitions of DWS:**

’ a piece of software for writing and producing a dictionary. It might include an editor, a database, a Web interface and various management tools […]. It operates with a dictionary grammar, which specifies the structure of the dictionary’ (Kilgarriff 2006: 7)

’a program that enables lexicographers to compile and edit dictionary text, as well as facilitating project management and (later in the process) typesetting and output to printed or electronic media’ (Atkins and Rundell 2008: 103)

Besides ’dictionary writing system’ there are other terms: ’dictionary editing system’ (Svensén 2009: 422), ’dictionary compilation software’, ’lexicography software’ or ’dictionary production software’ (de Schryver and Joffe 2006: 41, Joffe and de Schryver 2004: 17), ’lexicographic workbench’ (Ridings 2003: 204), ’dictionary management system’ or ’lexicographer’s workbench’ (Langemets, Loopmann and Viks 2010: 425), ’dictionary editing tool’ (Krek 2010 928), ’dictionary building software’ (Mangeot 2006: 185) or simply ‘editorial system’ (Tittel 2010: 298).

3. In the past, a number of software packages have been developed, the best known being **commercial products** such as **IDM DPS**, **TLex** and **ABBY Lingvo Content** offering **off-the-shelf solutions** suitable for the production of a great variety of dictionary products.

IDM DBS – <https://www.idmgroup.com/content-management/dps-info.html>

TLex – <https://tshwanedje.com/>

ABBY Lingvo Content – <https://www.abbyy.com/en-ee/>

4. In-house solutions: a large number of **in-house software programs** exist that have been partly created for one dictionary publisher or one specific project. Here are some specific DWSs being created and used in academic contexts:

**“Dictionary Editor and Browser” (DEB)** − An open source platform developed at Masaryk University (https://deb.fi.muni.cz/)

**EELex** − Dictionary writing system developed at the Institute for Estonian Language (https://www.keeletehnoloogia.ee/en)

**“Algemeen Nederlands Woordenboek” (ANW) Article Editor** − Dictionary writing system developed at the Instituut voor Nederlandse Lexicologie, the Netherlands (http://www.elexicography.eu/wp-content/uploads/2014/05/TiberiusSchoonheim\_The-ANW-and-its-Lexicographical-Process\_Preprint.pdf)

**Jibiki platform** − A generic online, open source environment suitable for different projects developed at the University of Savoy (http://www.papillon-dictionary.org/papillon/Information.po?lang=)

**Termania** − A free online dictionary portal with integrated dictionary browsing and editing tools (<https://www.termania.net/>)

**Onoma** − Dictionary writing system used in the compilation of the Woordeboek van die Afrikaanse Taal (Ridings 2003, Mongwe 2006: 20)

5. There is another type of software that supports lexicographers in dictionary making, namely **corpus-query systems**. In recent years, corpus-query systems have become a standard tool in lexicographic work. It can be used in addition to a dictionary writing system or be an integral part of it.

Mark-up languages, such as the popular XML, allow electronic documents to be structured in a machine-readable way by adding information to the text in the form of tags, that is standardised labels. Different types of input software can be used when working with a mark-up language such as XML. Some dictionary projects use a generic XML editing tool such as Emacs, which can be adapted and used for lexicography.

BUT! These generic tools do not necessarily meet the needs of complex dictionary projects, because they were not specifically designed for lexicographic work.

Another option is to develop a new system based on an XML editor and adapt it to dictionary production (this can be commercial, freeware or open software, such as Oxygen, or Xmetal).

6. **Commercial dictionary writing systems** are designed to manage the entire dictionary production workflow, from the first entry to the final product ready for publication in print or electronic format. They typically consist of three main components:

- a text editing interface (editing tool)

- a database, where data is stored;

- administrative tools for project management and publication

a) **editing tool**: it allows lexicographers to enter their text into predefined slots or spaces.

* a DWS usually offers one editing interface but several different ways of viewing the data
* different views are provided for a ‘what-you-see-is-what-you-get’ (WYSIWYG) view (or ‘preview mode’), and ’tree-diagram’ view. Both views allow text to be added or edited, and any change will automatically be stored centrally
* a DWS allows only a limited number of values and character strings for certain fields (labels and indications of part-of-speech, word-class markers, grammar codes, register labels etc.), by using drop-down lists
* some non-typographical structure indicators, for example commas, brackets around certain information types etc., are generated automatically
* the style guide can be integrated into the dictionary writing system to make context-sensitive help available and accessible with a simple click
* lexicographers may create ‘templates’ for typical entry-types (e.g. a typical noun entry) or recurring parts of entries (e.g. collocation structures)
* real-time spellcheckers reduce the presence of typos

b) **the database**: text entered and edited in the ‘front end’ of the DWS is stored in the dictionary’s database. Usually lexicographers do not work directly on the database to any great extent, but they can use it to run complex searches and filter the text with the help of the specific query language

* the database usually uses Unicode, an IT standard that assigns a unique and universal number to each character existing on any platform and in any program or language
* today’s DWS are typically based on a server-client architecture: lexicographers work on computers that are connected to a server where all changes are stored centrally
* the DWS should allow the export of entire dictionaries or parts of dictionaries in formats such as XML, RTF, PDF or HTML

c) **administrative tools**

* at any time the system keeps a record of who is working on which entries
* any delay in the planned work schedule will be automatically brought to the attention of the project manager by the dictionary writing system
* the system should ensure that no more than one person at a time can edit an entry
* a useful feature is version control, that is a facility that makes it possible to track changes
* a further aspect is scriptability, that is the possibility of automating processes through scripts

7. A new challenges for today’s dictionary writing systems is that they are incerasingly used not just to write single dictionaries but to build **databases that will serve as the basis for many dictionaries.**

Reference: Abel, Andrea: Dictionary writing systems and beyond. In: Granger, Sylviane, Paquot, Magali (eds.): *Electronic Lexicography*. Oxford: Oxford University Press. (pre-publication draft)