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THE COMPUTER AIDED EXEMPLIFICATION

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The paper deals with a simple and verified method applicable in lexicography. Compiling an English-Croatian Marine Engineering Dictionary for 14 years the two authors have faced the problem of an efficient collection of clear and concise examples that can help clarifying the headword meanings. The problem has been solved by means of simple tools: a PC with MICROSOFT WORD, SOFTLEX (or any other WINDOWS compatible lexicographic software), and a scanner and the scanning software ABBY FREE READER 7.0 PROFESSIONAL EDITION. The earlier techniques used by the authors incorporated both a combination of visual search of thousands of pages and manual recording of examples and the use of TEXTPACK, a lexicographic package. The former method was time consuming as it required permanent concentration and was therefore also time limited. The TEXTPACK, on the other hand, displayed only 50 (later 150) characters from each side of the headword, which was frequently insufficient for understanding of the complete example. Therefore, the headword thorough and clear meaning was too often in dispute and the displayed examples incomplete and unclear.

To explain the proposed method of the computer aided exemplification the author has illustrated and textually explained the whole sequence of search, import and processing operations, so that any potential user may readily apply it.

Key words: dictionary, computer, SOFTLEX, lexicography, exemplification

1. INTRODUCTION

The English-Croatian Marine Engineering Dictionary1 was commenced in the early nineties and has recently been incorporated into the scientific project entitled: Acceptability of Propulsion Units with Reference to Energy, Safety, Ecology and Maintenance Costs. The project has been approved by the Croatian Ministry of Science and Technology, under code number 0112009, and is run by the Rijeka – based Faculty of Maritime Studies.

The dictionary, whose entry structure and other relevant details can be found in two previously published papers[2, 3], should be completed in two years' time. This paper is solely dedicated to an enhanced method of collecting and processing of examples. Exemplification

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is a distinguishing feature of this technical dictionary. The proposed method of finding, processing and importing the selected examples has proved to be highly efficient and considerably quicker than other methods known to the author. Besides, only ordinary and very common software may be used.

2. PROBLEM

Compiling dictionaries is a long and tedious job, requiring a lot of skills, experience, knowledge and above all immense patience. Sometimes whole lives can be dedicated to their completion. Therefore, the use of ready made software may considerably cut the overall time needed to compile a dictionary.

The two authors of the above mentioned dictionary made use of two kinds of software for the purpose, i.e. SOFTLEX 2000[4] and TEXTPACK[5]. The former was a Croatian lexicographic WINDOWS compatible software for entering and processing of all dictionary fields, such as: headwords, grammatical categories, pronunciation, registers, meanings, collocations, phrases. It fully served the purpose. The latter helped finding collocations displaying initially 50 (in a later version 150) characters from each side of the headword. However, the exemplification presented a considerable problem, since the TEXPACK printouts containing insufficiently contextualised and seldom crippled sentences were often hard to understand. Therefore, additional clarifications were often sought in the source literature, taking up a lot of time.

On the other hand, a parallel and a very traditional technique of visual search through thousands of pages, as well as the manual recording of examples, proved to be time consuming, slow and inefficient. To conclude, neither TEXTPACT nor visual search could meet the authors' requirements related to fast collection of comprehensive examples.

3. SOLUTION

The whole exemplification process has been divided up into three phases:

a. scanning of source materials,

b. search and storing of examples

c. importing of the examples into the SOFTLEX.

The tools used for the purpose were a scanner and a scanning software[6] to electronically store the book[7] intended for search of examples in it[8]. However, for reasons of economy, the scanning procedure (a) will not be explained. For search and storing (b) as well as for importing of the examples (c) into a structured yet incomplete dictionary entry, WORD for WINDOWS version 98 was used.

The sequence of search, processing and importing procedures has been described by means of printed screens and brief textual explanations (See Section 4).

3.1 Search and storing of examples

The Dictionary word list is based upon modern technical literature on diesel engines, auxiliaries, steam turbines, boilers, gas turbines, electrical engineering, electronics, shipboard automation, relevant operation and maintenance manuals and various shipboard and technical office documentation, logs, forms etc. A large number of highly specific words will normally require examplification to help understanding the complete headwords meanings.

The proposed example search method allows quick finding of one or more sentences for a single headword. The "raw examples" are usually to be additionally adapted. Before starting any search operation, a preliminary procedure is suggested. In order to avoid unnecessary stoppages of the FIND option in WORD at a number of lexically empty words, some temporary changes are made. (please, see the text associated with Figs. 2 & 3). The examples are then copied into a working file. This procedure substantially cuts the time needed for search of examples. An example of temporary conversion of lexically empty words is given below. Chapter 1 of the Cowley's book is made up of 54 pages. In it the word of is repeated 897 times, on 178 and or 183 times. If they are temporarily excluded the automatic search programme will avoid stopping 1258 times in only 54 pages. Considering that the book contains 450 pages, the result is that the automatic search will intentionally fail to stop some 11, 300 times. Some estimations based upon the lexicographer's routine operations quote that the proposed automatic search is 8 times quicker than the visual one. Besides, the computer, unlike the human eye, cannot fail to stop at a certain headword beginning with a designated letter.

3.2 Importing the examples from the working file into SOFTLEX

Exceptionally it may happen that a lexicographer hasn't got access to any lexicographic software. In that case only the above section (3.1) is relevant to his/her work. It is more common, however, to compile dictionaries with some reliable and usually tailor-made software designed after the lexicographer's conceptual requirements. As most of those are WINDOWS-compatible the proposed method might apply to them as well. It is, however, sure that importing the examples from the working file into SOFTLEX has been proved to operate successfully.

The selected "raw examples" can be either processed in the working file or directly imported into SOFTLEX appropriate dictionary entry field. Some arguments are given in the text associated with Figs. 12–15.

4. SEARCH, PROCESSING AND IMPORTING PROCEDURES

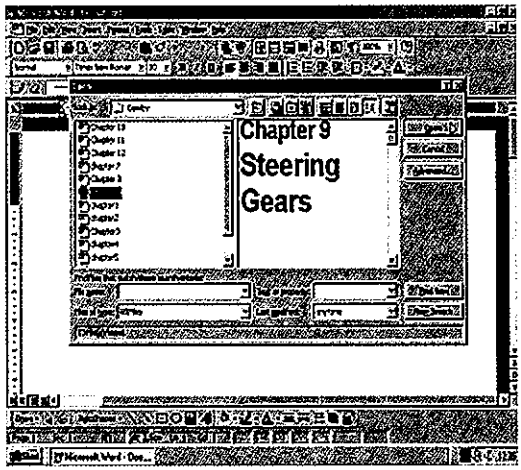

Fig. 1 *A chapter selection*

Click on the chapter selected for word processing.
N.B. Access the document through WORD and never by a direct file opening.

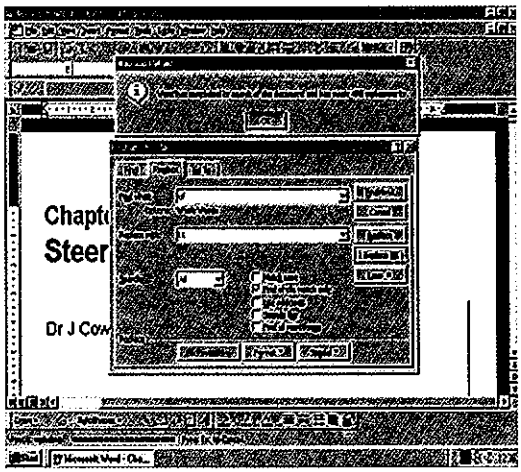

Fig. 2 *Temporary elimination of lexically empty words*

Click on: EDIT,
REPLACE, then
REPLACE: **of** with **kk** ; **on** with **mm**; **or** with **nn**

Click on: FIND WHOLE WORDS ONLY,
SPECIAL (bottom right)

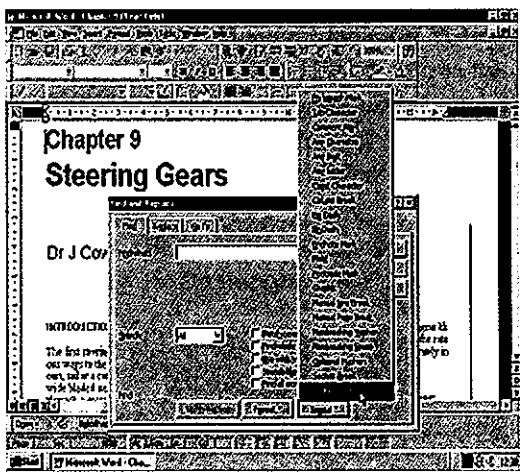

Fig. 3 *SPECIAL options*

Click on: WHITE SPACE (bottom) Selection of that option means that the chosen word will be preceeded by a white space. Therefore, the REPLACE ALL order will substitute only the above specified words (**of**, **on**, **or**) and not e.g. **cofferdam** with **ckkferdam**, **crankcase** **door** with **crancase** **donnr** and **port** with **pmmt** .

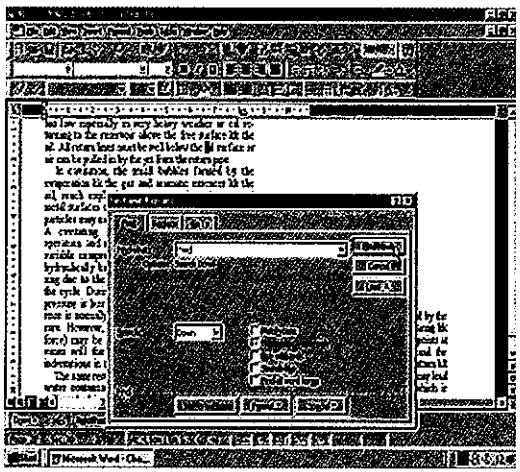

Fig. 4 *Search of examples*

The command: WHITE SPACE has displayed the symbol ^w. When you add the designated letter, the search for your examples may begin. In our case this is letter **o**. Therefore, your string should be: **^wo**.
Click on FIND NEXT (alternatively press F3). The cursor has stopped at the compound **oil surface** and the whole example is prepared for copying.

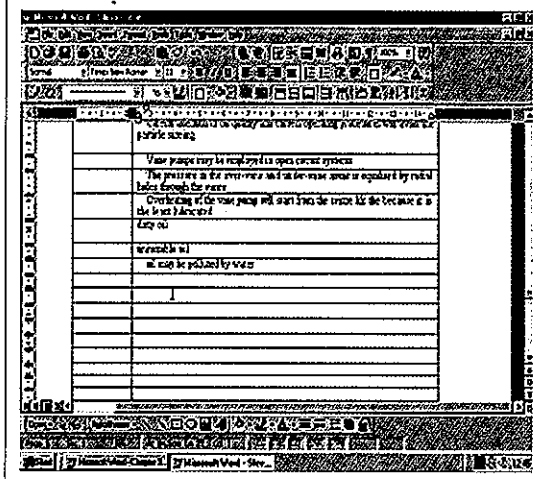

Fig. 5 *Working file*

The designated letter working should be previously opened and placed to the bottom tool bar. The file contains raw material that can be tailored either in it, or later on in the dictionary itself. The advantage of the former approach is that you can directly copy the example into the dictionary. However, in case that your dictionary already contains an example for the given word or words, your time spent arranging the example may have been lost in vain. Therefore, the time- saving factor is not an unimportant issue.
Switching from the selected chapter to the working file and vice versa is carried out by means of : ALT+TAB command.

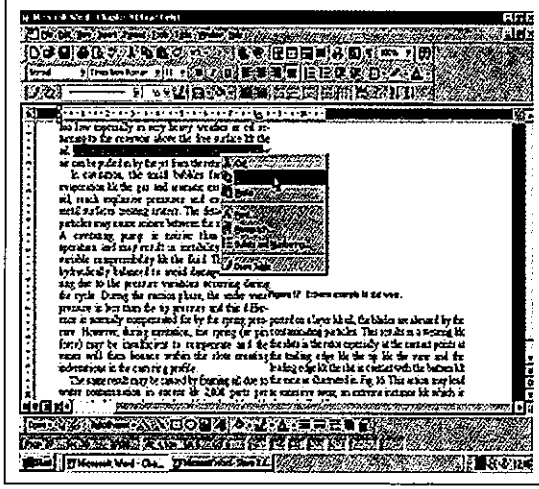

Fig 6. *Selection and copying of examples*

Select the sentence by holding left hand mouse section.
Click on : COPY
When the cursor has stopped at the appropriate word, or as in our case at the compound: oil surface, the whole sentence is then copied into the working file: All return lines must be below the oil surface or air can be pulled in by the jet from the return pipe.
Longer sentences my be stored in the Working file as they help us clearly understand the headword meaning. If the example is clear enough it can be arranged (All return lines must be below the oil surface) and placed into the dicionary:.

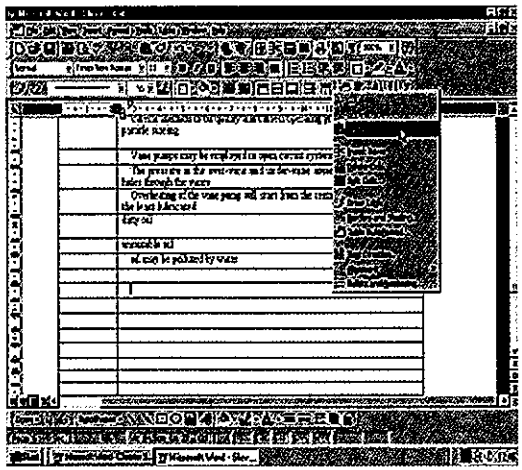

Fig 7. *Paste*

Press: ALT+TAB to enter the working file
Click on: PASTE
Your example is now in the working file
Click on: ALT+TAB to reenter the chapter processed for further search of examples.

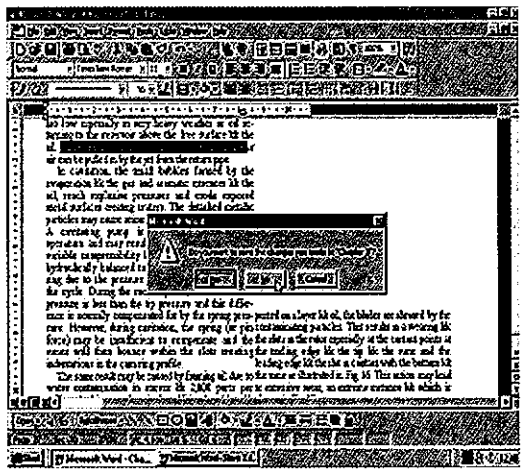

Fig. 8 *Completion*

When the cursor has reached the end of the chapter, exit the chapter file by clicking on: ESC, usually in the top left corner of the keyboard.

Then the window appears with the text: **Do you want to save changes you made to Chapter 9.**
Click to: **NO**. In this way all the previously made changes to the Chapter 9 (**of, on, or** into **kk mm nn**) will be restored.

5. FROM WORKING FILE INTO SOFLEX

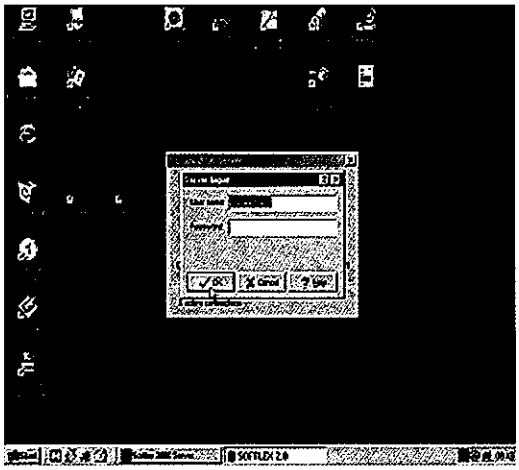

Fig. 9 *Opening the Softlex 2000*

To start the lexicographic software, two icons are to be activated
Click on:
S (server),
S (logon),
OK

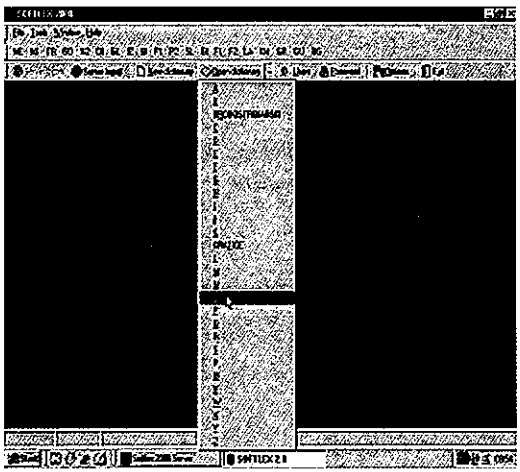

Fig 9 *Opening of the dictionary*

Click on: OPEN DICTIONARY
select a desired letter by clicking on it

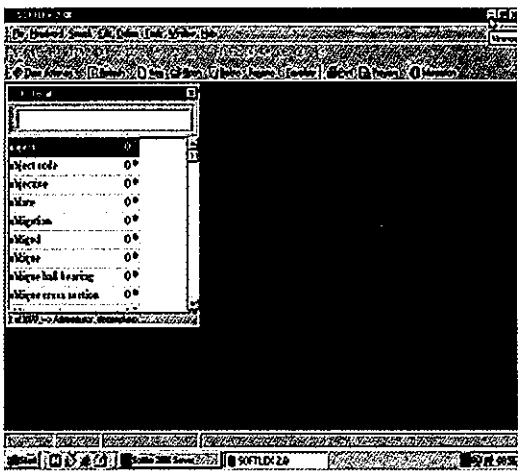

Fig. 10 *Headwords*

The headwords are displayed in the left section of the screen.

Your dictionary has now been prepared for entering new examples.

Click on: – (shown in top right end of the screen)

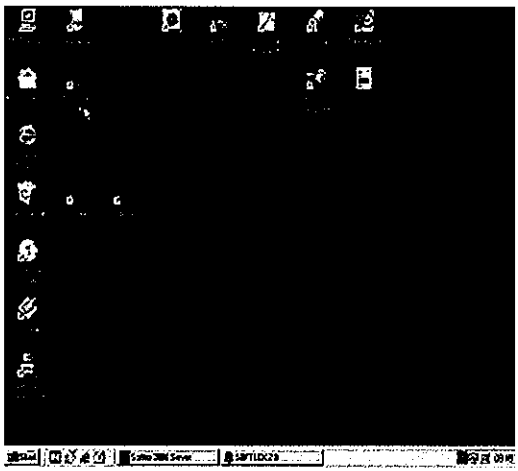

Fig. 11 *Desktop*

At the desktop you may now observe that the Softlex has been temporarily closed and both of its icons are located below at the toolbar

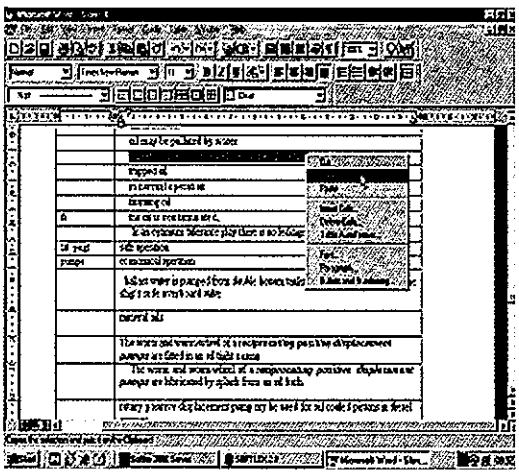

Fig. 12 *Opening of the Working file*

Always access the Working file through WORD. Then, select the example

Click on: COPY, ALT+TAB to change from the file to the dictionary

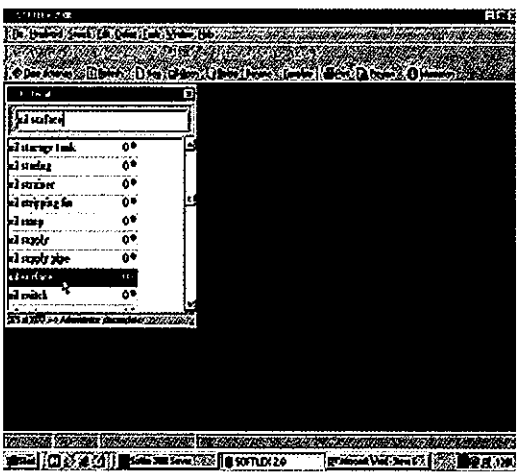

Fig. 13 *Opening of the dictionary*

Write the headword (oil surface) in the window above the list of headwords.

Click on the marked headword in the list to display the headword within the dictionary.

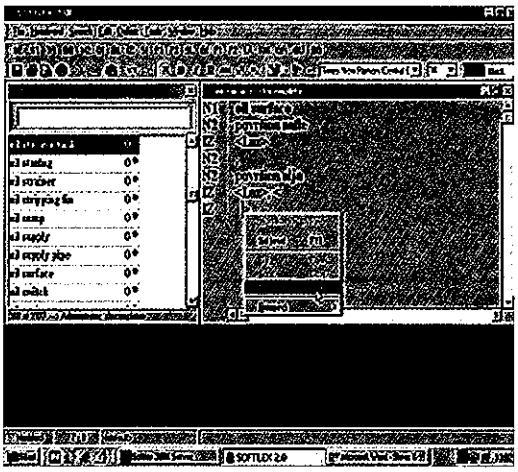

Fig. 14 *Pasting of the example*

Position the cursor to the field provided for the example.

Click on: PASTE

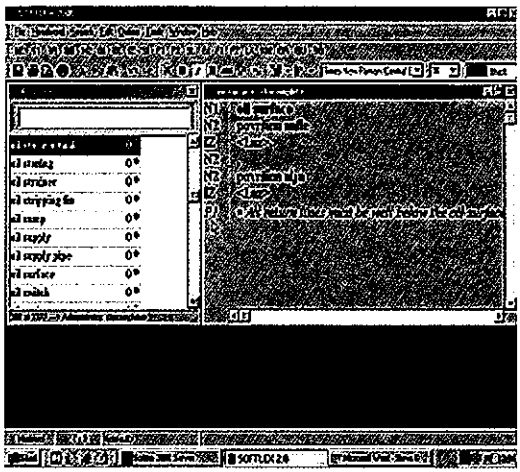

Fig 15 *Pasted example*

If the pasted example has not been adapted in the working file, this can be done in the dictionary itself.

Next, apply bold to the headword (**oil surface**).

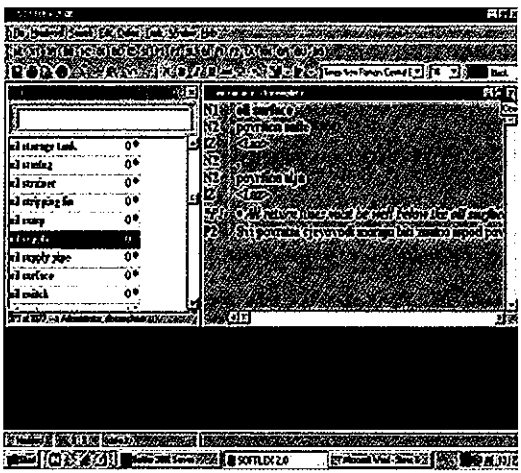

Fig. 16. *Translation of the example*

The adapted (shortened) and graphically processed example in English (bold) is now translated into Croatian

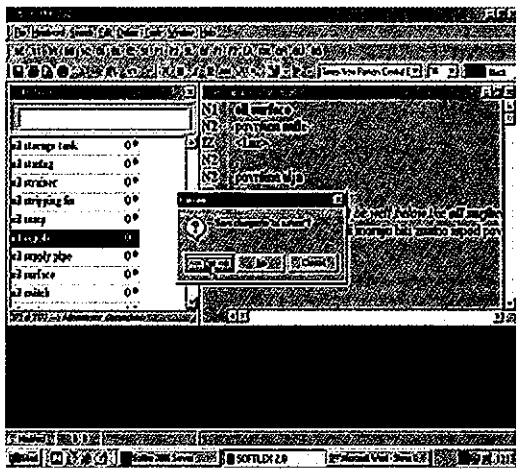

Fig. 17 *Completion*

Press: ESC to exit the headword
Click on: YES on the window displaying words: Save changes to oil surface ?

The process of importing new examples may now continue.

6. CONCLUSIONS

1. The proposed computer aided method has been primarily intended for quick finding, processing and importing of examples in the dictionary, but it is not limited only to this. The method may also be applied for finding collocations and phrases.

2. The TEXTPACK proved to be inadequate for the purpose of finding examples. Besides, it has not offered the possibility of automatic example importing.

3. Only common tools and no specific knowledge are required to handle the computer aided exemplification process..

4. The method is approximately 8 times quicker than visual search and manual processing.

5. All examples commencing in a designated letter may be recorded, without any fear of omitting an important term.

6. There is a wide possibility of selecting the most appropriate examples.

7. Additional clarity of the selected examples may be obtained by scrolling the scanned text. Therefore, the actual substitutes of some overused and often insufficiently clear words such as *arrangement, facility*, or *installation*, as well as of pronouns, can be easily found.

8. Spelling errors in the selected examples do not exist since they are only copied.

9. The automated process can be further used to find examples and their corresponding

translations in a single file contining the whole dictionary and to transfer them into a working file. This is done in the following way, using only keyboard commands:

- SHIFT+ ⇒ to mark the headword
- CTRL+C+F+V+ENTER to start searching the example for the selected headword
- SHIF+CTRL+ ⇓ to copy the found example and its translation
- CTRL+V to paste the example and its translation into the working file.

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PRONALAŽENJE PRIMJERA RAČUNALOM

Sažetak

Rad se bavi jednostavnom i provjerenom metodom, koja se može primijeniti u leksikografiji. Radeći na Englesko-hrvatskom brodostrojarskom rječniku čitavih 14 godina, dvojica su se njegovih autora suočila s problemom učinkovitoga i brzoga prikupljanja jasnih i kratkih primjera, koji pomažu u pojašnjenju značenja leksema. Problem je riješen jednostavnim alatima i računalnom podrškom, i to: računalom s programima MICROSOFT WORD, SOFTLEX (ili drugimm leksikografskim programom koji se može koristiti s WINDOWS-ima) te optičkim snimačem s programom ABBY FREE READER 7.0 PROFESSIONAL EDITION.

Raniji način prikupljanja primjera temeljio se na vizualnom pretraživanju tisuće stranica tekstova i njihovu ručnom bilježenju, ali i na automatskom pretraživanju leksikografskim softverom TEXTPACK-om. Vizualno pretraživanje bilo je dugotrajno, zahtijevalo je stalnu koncentraciju i stoga je bilo vremenski veoma ograničeno. Program TEXTPACK, s druge je strane, bio brz, ali je omogućavao odabir primjera sa samo 50 znakova (kod kasnije verzije, 150) sa svake strane leksema, što je najčešće bilo nedovoljno za potpuno razumijevanje primjera. Zbog takvih nepotpunih primjera i značenje samih leksema bilo je često nedovoljno jasno.

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