Terminology managament for conference interpreting

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Master's thesis / Diplomski rad

2017

Degree Grantor / Ustanova koja je dodijelila akademski / stručni stupanj: **Josip Juraj Strossmayer University of Osijek, Faculty of Humanities and Social Sciences / Sveučilište Josipa Jurja Strossmayera u Osijeku, Filozofski fakultet**

Permanent link / Trajna poveznica: https://urn.nsk.hr/urn:nbn:hr:142:314048

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Download date / Datum preuzimanja: **2025-03-13**

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Faculty of Humanities and Social Sciences

English Translation and Interpreting Studies, MA Programme

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Supervisor: prof. dr. sc. Marija Omazić

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Scientific field: Philology

Scientific branch: English Studies

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Filozofski fakultet Osijek

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Upravljanje terminologijom u konferencijskom prevođenju

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Znanstveno područje: humanističke znanosti

Znanstveno polje: filologija

Znanstvena grana: anglistika

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Osijek, 2017.

Summary

This thesis describes the crucial differences between translation and interpreting, types of interpreting with particular emphasis on conference interpreting, and modes of conference interpreting. The concept of terminology and its importance for interpreting profession is defined. The thesis discusses terminology management tools, including some research studies on their availability and productivity in conference interpreting, as well as the status of terminology today. Also, the methods interpreters use when organising and filing terminology are discussed. Finally, three terminology management tools (Magic Search, interplex, and InterpretBank) are presented, with detailed description of their features and benefits they offer to conference interpreters.

Keywords: conference interpreting, simultaneous interpreting, terminology, terminology management tools

Sažetak

Ovaj diplomski rad opisuje ključne razlike između pismenog i usmenog prevođenja, oblike usmenog prevođenja, s posebnim naglaskom na konferencijsko prevođenje, i vidove konferencijskog prevođenja. Definira se pojam terminologije i njegova važnost za struku usmenih prevoditelja. U radu se, potkrijepljeno nekim istraživanjima, također raspravlja o alatima za upravljanje terminologijom, što se tiče njihove dostupnosti i učinkovitosti kod konferencijskog prevođenja, kao i o statusu terminologije danas. Raspravlja se i o metodama koje usmeni prevoditelji koriste za organizaciju i pohranjivanje terminologije. Na koncu, ovaj rad predstavlja tri alata za upravljanje terminologijom (Magic Search, interplex i InterpretBank), uključujući detaljan opis njihovih značajki i opcija korisnih konferencijskim prevoditeljima.

Ključne riječi: konferencijsko prevođenje, simultano prevođenje, terminologija, alati za upravljanje terminologijom

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1. Introduction

The aim of this thesis is to provide insights into the benefits terminology management tools can offer to professional conference interpreters and to what extent those tools are actually used by professional interpreters. In order to explain what the interpreting profession actually consists of, the thesis begins by comparing translators and interpreters with regard to the crucial differences when conveying a message in another language. Different types of interpreting are briefly described before introducing conference interpreting, with a brief history and job description. Also, as different modes of conference interpreting, simultaneous, consecutive, and whispered interpreting are explained before briefly mentioning some other branches of the interpreting profession. The next two sections describe the skills a professional interpreter must possess in order to deliver a good interpretation and the manner in which interpreters' working languages are classified. The section about interpreting quality describes research conducted to test the differences in quality assessment by users of interpreting service and interpreters themselves. Several studies are described also in the next section, concerning the working memory of simultaneous interpreting and with regard to cognitive load during simultaneous interpreting, as well as some methods simultaneous interpreters use when trying to decrease cognitive workload. The next section lists and explains the stress factors connected with the interpreting profession. The second part of this thesis is dedicated to terminology used by interpreters. First, the concept of terminology is defined. Then the thesis compares the work process of translators and interpreters, regarding collecting and using terminology. The next section introduces terminology management tools and the studies conducted to test their benefits. The section on the status of terminology today also describes studies conducted in order to test whether interpreters prefer technological solutions or traditional methods during the conference. This is followed by the description of some methods interpreters use when encountering problems during a conference, which can explain why not so many interpreters are inclined to use terminology management tools. In the next section, the features terminology management tools need to have to be adequate for interpreters are described. Furthermore, the next section deals with the manner in which translators nowadays organise terminology and the tools they use and recommend to create and store glossaries. Finally, the last part of the thesis presents three terminology management tools used by interpreters today, Magic Search, interplex, and InterpretBank. The tools are described in detail, including their features and actual suitability for the needs of conference interpreters.

2. Interpreting vs. translation

In his book *Introducing Interpreting Studies* Franz Pöchhacker analyses several definitions of translating to produce a definition that includes the essential elements of the translation process. Translation is thus defined as „an activity consisting (mainly) in the production of utterances (texts) which are presumed to have a similar meaning and/or effect as previously existing utterances in another language and culture" (Pöchhacker 12*).* Although this definition of translating to some extent also applies to interpreting, there are a lot of differences that make interpreting and translation two very distinct professions. As opposed to written translation, interpreting is an immediate form of translation, performed orally and in a different environment. It is important to emphasise that interpreters work with spoken words in a particular context, transmitting the original speakers' message as spoken words, while paying attention to rhythm and intonation and making use of rhetorical devices and gestures. Due to the fact that interpreting process is performed while the speaker is speaking, interpreters have no time to check written sources available to translator, which makes preparation before assignments essential for the profession. Moreover, interpreters have to receive, understand, manage, and reconstruct information at extreme speed. While translators translate approximately 2000-3000 words in one day, interpreters are working with around 150 words per minute. Interpreting is characterised by immediate communication that involves interaction between speakers, listeners, and interpreters, while in translation there is a gap between the author and the readers of a text. Translators mostly spend a long time working on one text, as opposed to interpreters, who work in teams and communicate information on the spot ("Interpreting is not translating").

3. Types of interpreting

Today we distinguish two basic types of interpreting: consecutive interpreting and simultaneous interpreting. While consecutive interpreting is performed "after the source-language utterance" (Pöchhacker 18), simultaneous interpreting is performed "as the source-language text is presented" (Pöchhacker 18). Pöchhacker notes that nowadays there is a type of interpreting known as 'consecutive simultaneous', which "has become feasible with the use of highly portable digital recording and playback equipment" (Pöchhacker 18). Depending on the duration of interpreting and the difference between interpreting longer speeches and short utterances, Pöchhacker also distinguishes two forms of consecutive interpreting: 'classic' consecutive, which involves note-taking, and short consecutive, which is performed without taking notes (Pöchhacker 18-19). Important factors for successful consecutive interpreting are the interpreter's memory and note-taking skills. There are also different types of simultaneous interpreting. Even though the term 'simultaneous interpreting' is nowadays mostly associated with interpreting in a booth with full equipment, whispered interpreting is a form of simultaneous interpreting performed by an interpreter who stands next to one or a couple of listeners and speaks in a low voice, but can also be done using portable equipment (Pöchhacker 19). Consecutive, simultaneous and whispered interpreting will later be explained in more detail. Another type of simultaneous interpreting is 'sight interpreting', where "the interpreter's target-text production is simultaneous not with the delivery of the source text but with the interpreter's real-time (visual) reception of the written source text" (Pöchhacker 19). It is important to mention that this type of interpreting can "shade into the consecutive mode or even come to resemble 'oral translation', with considerable opportunity for 'reviewing' and correction" (Pöchhacker 19). Sight interpreting can also be performed in the booth, in which case the speech the interpreter listens to is more important than the written text. The text can serve as a guide for the interpreter, but speakers mostly do not follow the text completely, something can be added or omitted (Pöchhacker 19).

3.1. Conference interpreting

The International Association of Conference Interpreters (AIIC) is a global association of conference interpreters that, by providing standards and working conditions, makes sure that clients receive a quality service. At the same time AIIC provides recognition, networking, representation to their members, guidance in training new interpreters and supports research. While keeping in mind both clients and interpreters, AIIC provides rules that have to be obeyed by the interpreters in order to deliver a quality service, but also requires from the clients to ensure

appropriate working conditions, good teamwork, and adequate technical equipment ("What we do").

What we know today as conference interpreting is considered to date form the Nuremberg trials (1945-1946). However, interpreting has been present in the history for a much longer time, with interpreters helping people from different cultures to communicate. Even though interpreters have always been involved in the development of international trade, only at the end of the 19th century, when the first international organisations appeared and conferences were held, some people were able to start earning money interpreting. The profession considerably developed in the middle of the 20th century, with the advance in technology and the emergence of simultaneous interpretation. Conference interpretation is defined as conveying a message spoken in one language into another and it is performed at international summits, professional seminars, and bilateral or multilateral meetings of heads of State and Government. Additionally, conference interpreting is also practiced at meetings between chief executives, social and union representatives, and congress meetings ("Conference interpreting").

The way in which interpreting is performed depends on several factors, such as the setting, the time available, the number of languages used and the availability of technology. There are three, already mentioned, modes of conference interpreting: simultaneous interpreting, consecutive interpreting, and whispered interpreting.

3.1.1. *Simultaneous interpreting*

During the process of simultaneous interpreting, the interpreter sits in a booth, using the headphones listens to the speaker in one language, and immediately speaks the interpretation into a microphone in another language. The technical equipment transmits the interpretation to the listeners' headphones. This mode of interpretation is appropriate for both bilingual and multilingual conferences because the speech can be transmitted in multiple languages at once, which is also time-saving. Simultaneous interpreter is performing the task of listening and speaking, analysing the structure of the speech, and monitoring his or her own interpretation at the same time. Since this requires an extremely high level of concentration, interpreters cannot work for a long periods of time without a break. Because of that reason, interpreters work in teams and take turns of about 30 minutes ("How interpreters work"). The working conditions negotiated by AIIC include providing interpreters with a working-space with good ventilation, reasonable temperature, and availability to see the speakers. Also, interpreters should not work more than six hours a day (Obler 2012:177).

3.1.2. *Consecutive interpreting*

During consecutive interpreting, the interpreter is in the same room as the speaker, following the speech and taking notes before rendering the speech in another language. Sometimes the speeches are so long that they have to be divided in multiple parts, with interpretation after each part, even though a trained interpreter is able to reconstruct speeches several minutes long. Since it prolongs the meeting, consecutive interpretation is best suitable for scientific and technical presentations given by a single speaker, but also in meetings where a small number of languages are used. An essential part of consecutive interpreting is note taking. The notes are taken in order to serve as an aid to the interpreter remembering the logic and structure of the speech. Interpreters develop their own note taking strategies, with their own symbols and abbreviations. Also, it is very important that the interpreter delivers a quality speech, with all the critical information logically structured ("How interpreters work").

3.1.3. *Whispered interpreting*

Whispered interpreting can be understood as simultaneous interpreting, but without the booth and all the technical equipment. The interpreter sits very close to the listeners and speaks in a low voice. Also, the interpreters work in teams of at least two people. Whispered interpreting is hard on the voice and thus appropriate only for shorter meetings. Moreover, it is recommended that whispered interpreting is performed for no more than two people. Having several interpreters in the same room, speaking at the same time and in different languages can make noise and distract the participants as well as the other interpreters ("How interpreters work").

3.1.4. *Other branches of interpreting profession*

Translation and interpretation skills are necessary service in various occupations and international interactions. Consequently, besides conference interpreters, there are several other forms of interpretation performed in a different environment. Some of the branches of interpretation are: sign interpreting, court and legal interpreting, community interpreting, and liaison interpreting.

As a special form of interpreting, sign language is used in conference interpreting as well as in other branches. Court and legal interpreting is performed in civil, criminal and administrative courts in countries where people have a constitutional right to follow proceedings in their own language. Also, conference interpreters often work in several courts at an international level. Community interpreters, however, help people communicate with authorities or official bodies. They can work for social workers, doctors, police and other professions with emphasis on social,

cultural and human factors. Liaison interpreting is the activity of accompanying one or more people who do not speak the language of a country and assisting them in a relatively informal context. Liaison interpreters usually interpret sentence by sentence, which does not require special interpreting equipment. Similarly, interpreter-guides are people working in the tourist trade who accompany individuals or groups and help them communicate with the locals. Interpreters are also often required to work in conflict zones as mediators between the military and civilian population. Unfortunately those interpreters are not always trained and aware of what will be required of them in those working conditions ("Related professions").

3.2. The skills of conference interpreters

First of all, it is absolutely required that interpreters have complete mastery of their working languages, and an excellent command of their mother tongue. They have to be able to immediately grasp their passive languages and at the same time have a well-developed capacity to express themselves in their own language. Moreover, interpreters need a good level of general education, a lively and flexible intellect, good analytic capacity, and the ability to put themselves in the minds of the people for whom they are interpreting. It is also essential that interpreters are able to concentrate, that they have a good memory, a pleasant voice and good diction, and that they are physically and mentally robust.

Another quality required to be an interpreter is being rigorous in conveying the message, as well as in the everyday professional practice. Interpreters must never be late to a conference, they always have to be well-prepared for the task and remember that they are absolutely obligated to respect professional confidentiality. In addition, since the job requirements involve a lot of travelling, interpreters should be willing to travel. ("Conference interpreting").

3.3. Working languages

Anybody who ever tried speaking in a foreign language understands that being able to understand a language does not automatically provide us with the ability to speak that language. For that reason it is necessary to classify the working languages of interpreters. For conference interpreters it is necessary to, besides speaking their mother tongue perfectly, also perfectly understand one or more other languages and their cultural context. However, interpreters might not be equally fluent in all those languages. Due to the fact that interpreters have to transmit the message from the source to the target language very quickly, they must understand and think quickly and speak fluently. Working languages are thus classified in three categories (A, B, and C). The 'A' language is the interpreter's mother tongue and it is a target language when interpreting from all other working

languages, both in consecutive and simultaneous interpretation. The 'A' language is an interpreter's active language because in that language it is possible for them to express even very complex concepts. A 'B' language is the language in which the interpreter has complete fluency, but it is not a mother tongue. Interpreters can work into their 'B' language from their other working languages, but some of them prefer only one mode of interpretation to be performed into that language. Mostly interpreters choose working into the 'B' language in consecutive mode because it is not as fast as simultaneous mode and they have more time to think about some difficult structures. The 'B' language is also considered to be an interpreter's active language. Finally, a 'C' language is understood by the interpreter perfectly, but they do not work into that language. The 'C' language is a passive language because interpreters only interpret from that language into their active languages.

This classification of languages also applies to conferences and meetings. Active languages of the conference are those languages which are spoken by the participants. On the other hand, language in which they listen to the interpretation is a passive language of the conference. When preparing for a conference it is always necessary to inquire about the active and passive languages of the conference, so the interpreting team can be adequately organised ("How interpreters work").

3.4. Interpreting quality

Factors which are considered when assessing the quality of interpretation are: first impression, voice, intonation, fluency, diction, accent, logical cohesion, style, terminology, and correct meaning transfer (Barbagianni, "Rethinking Terminology with the Interpreter in Mind"). There are two criteria of measuring interpreting quality – by standards of the profession and the users of the services. For The International Association of Conference Interpreters (AIIC) it is of the utmost importance that the interpretation produces the same effect on the listeners as the original speech. The interpretation "should have the same cognitive content and be presented with equal clarity and precision in the same type of language" (Kurz 2001:395). Interpreters work at numerous conferences and with all kinds of subject matter. Of course, participants have different styles and members of the audience have different expectations. Kurz emphasises that while nuances of words are of the utmost importance in a diplomatic conference, technical accuracy is the most important in a gathering of scholars, and the elegance of speech in artistic gatherings (2001:395). Interpreters always have to be aware of their audience and their expectations in order to successfully complete their task. Kurz mentions several studies conducted in the form of questionnaires to determine the expectations or response of the target audience. Bühler tested

Kurz's hypothesis that interpreters' quality criteria reflect user expectations with an interesting result. Using a bilingual questionnaire, she determined that some of the criteria that professional interpreters consider to be of great importance (speaking with the native accent, having a pleasant voice, using correct grammar) were not that important to the audience (Kurz 2001:398). However, Kurz's further research showed that quality assessment actually depends on the situation and communicative context. Using the same questionnaire, she compared results of three different groups of participants. The research on quality control was conducted at an international conference, a medical conference, and during a Council of Europe meeting. All three groups considered sense consistency, logical cohesion, and correct terminology to be of great importance, however, the results differed in evaluation of importance of the other criteria, such as correct grammar, pleasant voice, and native accent (Kurz 2001:398). Kurz, therefore, concluded that "the target-language receiver or listener must be seen as an essential element in the process" (2001:398). Kurz also considers opinions that, due to the users' inability to understand the original speech in the source language, they are unable to evaluate the quality of interpretation. She admits that in some cases users may get a false impression of high quality because of smooth delivery, but they may also fall under the impression of interpretation being of low quality, while it is in fact the original speech that is lacking in quality. However, some users are able to understand the source language but use the interpretation as a help in understanding, in which case the audience is valid to judge the quality of interpretation. No matter the circumstances, if possible, interpreters should always try to do the best of their ability to meet the expectations of the audience (Kurz 2001:404). After all, interpreting is performed for an audience and interpreters should always keep the users' expectations in mind.

3.5. Simultaneous interpreting and working memory

Various authors agree that simultaneous interpreting requires an exceptional amount of cognitive effort. Even when there is no disturbance and the speaker is speaking clearly, simultaneous interpreter performs several language tasks at the same time: listening to a speech, comprehending it, and speaking in a different language. In order to better understand this process, many researches have taken interest in testing the abilities of interpreters' working memory. Even though scholars do not always agree on the definition of working memory, according to Obler, working memory is generally understood as the "ability to hold material in mind 'verbatim' in order to 'work' with it as one processes sentences for comprehension and production" (Obler 2012:178).

Signorelli, Haarman and Obler reviewed several studies conducted to examine whether there is a difference between the working memory of interpreters and non-interpreters. Although the results were mixed, a majority of studies (five out of seven) reported interpreters' advantage in working memory. Interpreters showed an advantage in seven of the fifteen tasks of the storage-only function of the working memory and in four of five tasks assessing the storage-plus-processing function. The authors suggest that the reason for the interpreters' advantage is their ability to better cope "with response interference during recall compared to non-interpreters" (Signorelli et al. 2011:200). In order to further research this issue and reason for discrepancy between the results, Signorelli, Haarmann and Obler tested differences between interpreters and non-interpreters in tasks concerning various components of working memory. They tested sub-vocal articulation skills, nonword repetition skills, cued recall for phonological and semantic information, how much of the difference is accounted for by semantic vs. phonological short-term memory, as well as whether age contributes to those differences. Both younger and older interpreters were tested on reading span and nonword repetition in order to see if the age of the interpreter is also a relevant factor regarding working memory. The results of the study concerning articulation showed no significant effects of profession or age, while interpreters scored higher in reading span and nonword repetition. Regarding cued recall, no effects of the profession were shown, but younger interpreters tend to perform better than older interpreters and non-interpreters of both age groups. The results of this research and the previous research indicate interpreters' advantage regarding working memory. The authors emphasise that, while further research on this topic may be required, the findings can be beneficial for the training and work performance of professional interpreters (Signorelli et al. 2011:205-210).

When dealing with difficult tasks, such as interpreting between two structurally different languages, as described in the research deducted by Seeber and Kerzel (2011), interpreters can resort to some strategies that provide them with slightly more time to produce a solution. One of the strategies is *waiting*, which forces them to store more information into their working memory. However, while waiting temporarily reduces cognitive load by transforming the process of simultaneous language comprehension and production into memorisation, it can lead to "a considerable increase in cognitive load downstream" (Seeber and Kerzel 2011:229). Similarly, *stalling* can provide the interpreter with more time (it differs from *waiting* in that the interpreter is still speaking) but without adding any new information. Seeber and Kerzel point out that instead of reducing it, *stalling* actually increases cognitive load, due to the disturbance that the encoding and production of irrelevant material adds to the comprehension process. *Chunking* is described

as a process of dividing the input into smaller segments that can be encoded without waiting for the end of the sentence. Because the fragments need to be put together without the main verb connecting them so the original meaning can be established, this strategy can also temporarily increase cognitive load. Finally, *anticipation* is a strategy of trying to guess a sentence constituent before it being realised in the original speech, which also results in an increase of cognitive load (Seeber and Kerzel 2011:230-231). Seeber and Kerzel's research showed that cognitive load during interpreting of syntactically asymmetrical structures increases towards the end of the sentence, while the availability of discourse context decreases the amount of cognitive load necessary to interpret individual sentences (Seeber and Kerzel 2011:238).

3.6. Stress factors

Even though every job or profession involves some amount of stress, for interpreters the stress level can be considerably high. Every interpreting task requires a great deal of research and preparation. However, can interpreters truly prepare for any possible situation that could lead them to perform their job poorly and can the stress itself cause them not to perform well? Among stressors reported by bilingual language professionals, there are factors that the interpreters themselves can prevent. Such factors are fatigue, sleep deprivation, and limited preparation (Blumenthal et al. 2006:479). On the contrary, there are a lot more factors that the interpreters cannot have an influence on. Every profession includes some common causes of stress, such as working on high stakes tasks, heavy workload, performing on short-notice or demanding shift schedules (Blumenthal et al. 2011:479). However, people in the audience mostly don't understand that no matter how much preparation interpreters do in advance, their performance greatly depends on their working environment. For example, simultaneous interpreters, working in the booth have to provide quality and culturally appropriate translation while listening to the speaker. Listening, translating from source to target language, and speaking at the same time requires a great amount of concentration. Simultaneous interpretation becomes much more difficult when the source language has much different syntax than the target language and the interpreter has to hear the whole sentence before producing a translation (e.g. the verb or negation come at the end of the sentence). In addition, interpreters also have to concentrate on their own voice quality, on pronunciation, speed, tone, and volume. It is very important that the audience receives all critical information from the original speech. Unfortunately, sometimes interpreters work with inadequate equipment – they cannot hear the speaker or the audience cannot hear them, which prevents them from doing their job no matter how well they are prepared. In addition, the speakers are not always aware of the interpreters and they can speak quickly, incomprehensively or with an unfamiliar

accent. Moreover, non-native speakers are sometimes not so fluent in the language in which they are speaking, which makes the interpreter's job much more difficult. However, the stress can be caused also by interpreters' personal opinion and they can feel the need to help conflicting parties, the content can be emotionally disturbing, they need to maintain secrecy, they can be judged by the audience or they are working with people who undermine their value (Blumenthal et al. 2011:479). All those factors can impact the interpreter's performance, but there are studies that offered some coping mechanisms, at least regarding the problem with noisy environment or fast and incomprehensive speeches. Some studies suggest that "making predictions based on context, when context is available, enables listeners to improve accuracy of word recognition under noise, especially when the listeners are native or early non-native users of a language" (Blumenthal et al. 2011:489). Also, in order to prepare themselves for stressful working situations, interpreters should individually practice skills such as "concentrating in noise, developing an automatic set of phrases for production, enlarging their chunking of input into working memory" (Blumenthal et al. 2011:489).

4. Terminology

In the past terminology was mostly connected to written translation, however, nowadays more and more scholars emphasise the importance of terminology in interpreting. As Chiara Barbagianni observes, results of studies of terminology in written translation cannot be considered valid for interpreting studies due to the different communication channels (Barbagianni, "Terminological and Terminographical Approaches"). Barbagianni offers two definitions of terminology. On the one hand terminology is "the study of terms, that is the relationship between concepts and denominations in a specific knowledge domain" (Barbagianni, "Terminological and Terminographical Approaches"), and on the other hand "the set of terms pertaining to a specific knowledge domain" (Barbagianni, "Terminological and Terminographical Approaches"). Of course, to talk about terminology, the word 'term' itself needs to be defined. Will offers a definition formulated by Eugen Wüster, who explains the concept of the 'term' "as a dual entity, consisting of a word form (denomination) and a content (concept) or meaning" (Will 2007:2). However, the problem with Wüster's model arises in his theory that terms have only one specific meaning and have to be standardized. This theory is ignoring the variability of terms in different contexts, which only makes translation more difficult (Will 2007:2). Another important term Barbagianni mentions is terminography, which is defined as "the study of how to gather systematically the findings achieved in the course of terminological analysis ("Terminological and Terminographical Approaches"). Barbagianni's thesis is that by providing efficient terminology management solution, cognitive stress may be reduced, which can considerably improve interpreting quality ("Terminological and Terminographical Approaches"). Since interpreters, as well as translators, are not only the providers of interpreting services, but also the users of terminology products, Mohammadi (2013) also agrees that "studying their specific needs during translation projects will contribute to the development of terminology tools that increase their productivity as well as the quality of their output" (2013:5).

5. The working process

5.1. Translators

As already mentioned, interpreters' working process differs from that of translators. In the age of advanced technology many tools have been developed to aid translators in completing their work. Nowadays translators mostly receive original texts in electronic form, which, with the help of wide array of computerized tools, considerably shortens the time and effort put into a translation. After receiving the source text in electronic form, translators can be able to scan the document in search for technical terminology. After consulting paper dictionaries or some of many online databases, dictionaries or other references, they update their computer-based database and proceed with the translation. Another significantly helpful and time-saving segment of computerised translation is being able to run the target language text through a grammar and spell-checker. In this context it is important to mention that when Barbara Moser-Mercer wrote her article (1992) on terminology in the electronic age, she was talking about sending the final product to the client "via modem or on a diskette" (Moser-Mercer 1992:508). Even then translators had a variety of computer-based tools to use and with the technology advancing every day, they have access to more and more special features designed specifically for translating purposes. Not only that databases are constantly growing, but more and more software tools with all kinds of helpful features are being developed in collaboration with translators and having translators in mind. Considering that there are so many tools developed for one side of the profession, it is surprising that advancements in technology mostly overlooked interpreters and their needs.

5.2. Conference interpreters

The interpreters' work begins mostly by reading the material provided for the conference or relevant literature in case the material is not provided. Rodriguez and Schnell (2009:XY) distinguish several stages of preparation: "theme-based preparation, linguistic preparation, translation preparation and, lastly, interpretation preparation". Even during the first stage of preparation, while reading the relevant material, interpreters begin to extract terms and compile a glossary. After identifying unfamiliar terms and phrases, interpreters search for equivalents in the target language. Barbara Moser-Mercer notes that interpreters usually "establish terminology lists with source language terms down the left margin and centre of the page and target language equivalents down the right margin" (Moser-Mercer 1992:509). The process of searching for equivalents in the target language is the same as in translation, as interpreters also have all the databases and dictionaries at their disposal. During the linguistic preparation, the interpreter

analyses the compiled material and extracts "relevant terms, synonyms and hyperonyms, acronyms and other abbreviated forms in order to compile glossaries, usually monolingual, to which are added equivalents in target languages during the translation preparation" (Rodriguez and Schnell 2009:XY). After compiling glossaries, interpreters try to learn as many terms as possible and study the subject matter in order to prepare for the conference. During the interpretation preparation, interpreters, reading the written text, eliminate redundant content and underline keywords and important concepts that will be included in later glossaries. According to Rodriguez and Schnell (2009:XY), extensive preparation regarding terminology has always been of great importance and based on glossaries designed to suit interpreters' individual needs. The difference is that in the past, unlike nowadays, there were no tools for more effective management of terminology. Even shortly before and during the conference interpreters consult with their colleagues and the participants of the conference so they can update their glossaries and find better solutions for some terms. During an interpretation session, terminology research with a software programme designed for interpreters frees up short-term memory and helps to retrieve more syntactical structures. Moreover, interpreters' work usually does not end even after the conference is finished. In order to prepare for future conferences on similar subjects "conscientious interpreters will polish the list of terms, perhaps even print it out in its updated form and file it away, sometimes together with certain conference documents, if they had been allowed to take them from the booth" (Moser-Mercer 1992:509). Even though interpreters have access to the same tools and databases used by translators, because of the time constraints in the booth, interpreters are usually not able to check dictionaries and other sources. They have to pay attention to new information acquired during the conference. As Moser-Mercer says, this is "a continuous process, with terminological equivalents refined often until the very last moment before embarking on the interpretation of a speech or scientific paper" (1992:509).

6. Terminology management tools

There are two major groups of terminology tools used by translators and interpreters – a 'term bank' and 'termbase'. A term bank is defined as "an enormous termbase addressing a wide range of heterogeneous audience encompassing companies, language learners, or even the general public" (Mohammadi 2013:2). Term banks, such as *TERMIUM®*, *Interactive Terminology for Europe (IATE), United Nations' Multilingual Terminology Database* (*UNTerm*), are usually provided by major companies or governmental agencies (Mohammadi 2013:2). Although similar, a termbase is distinguished from a term bank by its characteristic of being a collection of structured term entries, being relatively smaller in size and having a more limited audience (Mohammadi 2013:2). Naturally, term banks and termbases are not developed for and used by only translators and interpreters. These terminology tools benefit also subject specialists, who use these tools to check the meaning and spelling of unknown terms in different languages and who sometimes create new terms, professional communication mediators (including translators, interpreters, journalists, post-editors etc.), lexicographers and terminologists, information and documentation specialists, language planners, publishers, language teachers, applied linguistic researchers, and general users such as manufacturers, parliamentarians, and customs official. To the list of users Mohammadi also adds machine translation systems (2013:3-4). The wide array of professions benefiting from terminology tools shows how much it is important to compile databases and develop even more computerised tools designed for a particular profession. According to Mohammadi, due to the fact that they are sometimes unable to find an equivalent term in a target language and have to invent their own terminology, translators and interpreters can also be considered as creators of terminology. The most important factors for interpreters in choosing terminology are the context and the clients' requirements. Since the experts are the users of interpreting services, if the terminology provided by terminologists differs from that of experts, interpreters will always choose the experts' terminology (Mohammadi 2013:5).

Even though some research on terminology management in interpreting was conducted by Daniel Gile in 1980s, until recently this subject was almost forgotten (Mohammadi 2013:6). In order to determine the need of conference interpreters regarding terminology, Moser-Mercer conducted a survey in 1992. The interpreters surveyed were active members of International Association of Conference Interpreters (AIIC) and English was one of their working languages. The participants were surveyed according to how long they have been working in the profession, how many days per year they work and whether they use a computer. The results showed that those interpreters who have been working in the profession longer and who work more days a year are more likely

to opt for a specialisation in a specific field and to use data processing tools and other electronic solutions. Regarding documentation and terminology research, the papers received and read at the conference are deemed the most important by 79% of respondents. Next in order of importance are personal terminology lists (66%), client-supplied terminology lists (54%), bilingual dictionaries (49%), personal terminology databases on computer (40%), monolingual dictionaries (39%), and glossaries (38%), while external databases showed to be the least useful with only 3,6% of respondents accessing them. As for the use of computers in the profession, the results showed that among the respondents who have spent more than 21 years in the profession 36% use a computer, as opposed to 7% among those who have spent 6 – 10 years in profession. In the category of those who work for 100 – 200 days per year 33% use a computer, while those who work for 200 – 300 hundred days a year do not use computers (Moser-Mercer 1992:509-511). Moser-Mercer compared terminology databank software packages then available on the market and concluded that two of them, *Term-PC* and *Multiterm*, showed as the most useful for interpreters. Some of their most important features were the ability to work with at least three languages per glossary, the latitude to define the structure of entries, quick retrieval of entries from any language by either full entry, short stroke or keyword, and convertibility of terminology import or export (Mohammadi 2013:6-7).

7. The status of terminology today

Regarding the current status of terminology in conference interpreting, two surveys were conducted at Bologna University and the Sprachen & Dolmetscher Institut (SDI) in Munich. These surveys provide data on the use of computers and terminology management software in the interpreters' booth. The results of the surveys indicate that many interpreters still use traditional tools, such as hard-copy glossaries with personal notes and standard reference work. The interpreters stated three reasons for not using computerised tools. The main reason is the interpreters' opinion that there is no need for such tools in interpretation. Also, the tools for interpreters on the market were inadequate and did not prove efficient. Surprisingly, only 17% to 27% of respondents were aware of the existence of terminology software products developed specifically for interpreters, such as Interplex, Lookup, and TermDB. Moreover, only a small number of interpreters showed interest in terminology management programmes developed for them. Even those who used the software ignored corpus analysis tools and continued extracting terms manually (Rodriguez and Schnell 2009:XY).

Overcoming problems during interpretation

Interpreters may encounter problems in all stages of working in the booth. Problems in the listening and analysis may arise due to the unknown, unexpected or misheard terms in the source language, which usually happens because of the noise. On the other hand, during the message reconstruction phase interpreters may not be familiar with the equivalent terms in the target language or may be unable to retrieve them from memory in that short period of time they have to produce the speech in the target language (Rodriguez and Schnell 2009:XY). Rodriguez and Schnell note some methods interpreters used when facing problems. During the listening and analysis phase, interpreters come up with solutions based on the context. However, during the message reconstruction phase, there are more solutions interpreters can turn to in order to produce appropriate equivalents or get the message across. They can turn to paraphrasing the unfamiliar term, use a hyperonym or make a morphological or phonological change to the source language term in order to adapt it to the target language. Also, interpreters tend to ask their colleagues in the booth for help, accurately and phonetically reproduce the term in the source language or search immediately in the available materials. As Rodriguez and Schnell (2009:XY) emphasise, interpreters are reluctant to use the last method because it can often be a cause of distraction and considerable loss of information. According to the survey conducted in Bologna, it seems that for interpreters conveying the meaning of the message and clear and expressive speech are of the

utmost importance, before accuracy and correctness of terminology. Rodriguez and Schnell (2009:XY) explain that the emphasis on the first requirements is due to interpreters not being required to use standardised terminology as translators are. Unlike translators, interpreters have much more freedom in using neologisms, foreign words or borrowings.

8. Terminology management tools and interpreters' needs

With continuous and rapid advance in technology increases the demand for obtaining more information in a shorter time period. Nowadays it is even hard to imagine what it was like living and working without computers and technology available today. With almost all professions and occupations slowly becoming computerised, can those who are not inclined to the use of technology keep up with the demands of the advancing world? Unfortunately, not a lot of attention was given to the needs of interpreters. Although the rest of the world is evolving quickly, with regard to technology, interpreting profession has not received many useful technological solutions that can reduce the workload and effectively provide help during the conference.

Carabelli mentions two fundamental problems regarding terminology tools for interpreters. Firstly, adequate interpreter products may not be currently available because the majority of the tools that are available are developed as an aid to language learning. Secondly, the available products are developed for single use, on single work stations and without the possibility of interaction among users (1999:150).

During a conference interpreters have to process and convey a great amount of information in a brief period of time. Besides unknown terms, interpreters also have to be able to quickly recognise and transmit also abbreviated terms and proper names (Rodriguez and Schnell 2009:XY). Considering that, Rodriguez and Schnell propose some solutions regarding the content and format of terminology records, as well as a database typology adequate for terminology requirements in the interpretation booth. Besides terms in the source language and their equivalents in the target language, interpreters need to carefully extract hyperonyms, synonyms, abbreviations and proper names, names of products and items that are frequently mentioned. In addition, they have to acquire all information about the client's preferences. In order to be able to more easily identify the term when listening to the speech, the interpreter notes the pronunciation and highlights it on the record, as well as including phraseology units and verb-noun collocations that enable an easier reconstruction of the message using paraphrases. It is very important that the visual format of the terminology record enables the interpreter to locate information quickly. Also, it should have all the features such as adjustable formats, colours, fonts, character sizes, and box sizes in order to allow each interpreter to personalise their records according to their individual needs. Rodriguez and Schnell also suggest developing small databases, specific for the area of specialty or according to the conference or client. Those databases should be multilingual and include the option of switching between the source and target languages. There are five features distinguishing these

small databases from those designed for translators. Firstly, the databases have to allow quick access to information in order to allow the interpreter to find the wanted terms easily during interpretation. Intuitive navigation should be included in the features, as well as the possibility of updating the terminology record in the interpretation booth. The last two features that should be offered by the databases are freedom to define basic structures and multiple ways of filtering data. Rodriguez and Schnell emphasise that the interpreters should abandon the usual methods regarding terminology management in order to be provided with glossaries designed specifically according to their needs. The authors also point out that the designing of the new terminology tools should be entrusted to terminologists and interpreters in collaboration with linguistic engineers (Rodriguez and Schnell 2009:XY).

Similarly, Mohammadi (2013) describes a survey conducted among conference interpreters at the University of Ottawa by Bilgen in 2010. Based on that survey, she suggests some features that proved necessary for terminology management tools used by interpreters. Firstly, the organisation and structure of term records should be adjustable, allowing the users to change the source and target languages and select the languages they are working with. Secondly, term types, such as acronyms, should be able to be specified and retrieved. Also, the most important information types often consulted by interpreters should be included in terminology tools as a sample template, which should also be adjustable. While using these terminology tools interpreters should be able to choose among diverse input, display, and output formats in order to select the one best suited for their individual needs and preferences before, during, and after the conference. Additionally, because of the time constraints in the interpretation booth, terminology tools should be equipped with an efficient and fast search function. The results of this survey completely correspond to the terminology tools solutions proposed by Rodriguez and Schnell and mentioned earlier. However, with the addition of not so insignificant factors of being of a reasonable price and easy to learn and use (Mohammadi 2013:9).

9. Organising terminology

For conference interpreters it is of essential importance to be well organised. With every new task, glossaries, terms, notes, and other material grow in size and interpreters who have been working in the profession for several years can find themselves overwhelmed by the amount of compiled data. In order to be able to retrieve old data when having to work on a similar task, every interpreter develops his or her own filing system. This process can be more complex for conference interpreters since they work with all kinds of subject matter. Interpreters who have a good filing system can easily access their old glossaries when encountering a similar subject. Also, universally accepted terminology is constantly changing, so it is necessary to update old files by replacing obsolete terms with those that are currently accepted.

The task of organising and searching through old files was much more difficult in the past when interpreters were making their glossaries using just pen and paper. Fortunately, the digital age offers several alternatives for storing large amount of data. While some interpreters may still prefer to work with just printed material, today it is easy to scan the materials, store them on computers and print them out when needed. Also, more and more interpreters are recommending technical solutions for compiling, but also storing glossaries, simply because it is easier, faster, and better organised. The fact that technology is constantly changing and advancing may be a setback since interpreters may have to change their filing systems or transfer a large amount of data in order to keep up. In addition, no matter how much technology makes interpreters' jobs easier, they can never completely rely on technology. If the materials are not stored in multiple spaces, with a computer system crash, everything can be irretrievably lost.

For all these reasons professional interpreters ("How do/did you keep your glossaries, terms, studying notes organized?" *Interpreting.info*) suggest to never user software applications that use a specific format that cannot be opened in another software. Also, when downloading terminological resources from the Web, it is recommended to store them in a PDF file format, since it is the most widely used one. It is also important to store files in a way that enables cross-glossary searches. Fortunately, there are applications that offer this function (e.g. dtSearch Desktop, Interplex).

Moreover, it is wise to take advantage of numerous online cloud services available today, which offer storage for all file formats and can be accessed anytime and anywhere, using computers or mobile devices. However, one has to be careful also when using cloud services. While most of those services offer a specific amount of free storage space, that may not last forever and the

materials stored there may end up belonging to the developers. Also, it happens that the cloud service itself is shut down. Therefore, it is recommended to keep all the materials stored on personal computers, but keep a synchronized copy on a reputable cloud-based storage provider ("How do/did you keep your glossaries, terms, studying notes organized?"). Also, it may be helpful to keep copies of personal databases on external drives, just in case of some unpredictable circumstances.

Regarding organising the terms themselves, some interpreters prefer to write their notes vertically instead of using spreadsheets and table, since it is faster to type, improves readability, and allows adding notes, explanations, links, which is more difficult while using tables. Also, it is important to keep notes of some meta data in each glossary. The meta data should include client's name, recruiter's name, meeting title, working languages, names of colleagues, date, and sources used for making glossaries. It is very important to keep the meta data consistently, using the same keys and format and have a consistent naming scheme for glossary files ("How do/did you keep your glossaries, terms, studying notes organized?").

While many interpreters still use Microsoft Word, Excel, or both for making glossaries, those applications are not developed to suit all needs of interpreters'. While they may prove useful for creating glossaries, most interpreters agree that Word and Excel, because of their limited search functions, are not adequate for use in the booth ("What are the best software packages for glossary making?" *Interpreting.info*). Although nowadays there are software packages designed for interpreters, there is no terminology management tool that is accepted and used by all interpreters. Every interpreter needs to test out several tools to find the one that suits them best. Some of the tools used and recommended by interpreters are: interplex, LookUP, TermDB, InterpretBank, Glossary Pro, and Intragloss ("What are the best software packages for glossary making?").

10. Magic Search

Magic search is a Translatum.gr project launched in 2011. At the beginning it supported only limited number of language pairs. However, in 2015 it was refactored and enhanced as MagicSearch.org. Magic Search is an easy to use multilingual tool that can be accessed online and free of charge. This tool searches multiple sources, including dictionaries, corpora, machine translation engines, and search engines with a single click. The search begins with selecting a language, entering a word or phrase in the textbox and pressing Enter or clicking on the Search button. A single scrollable page with multiple sources is displayed (see Figure 1). While the outer scroll scrolls through the displayed sources, the inner scroll allows scrolling within each specific source.
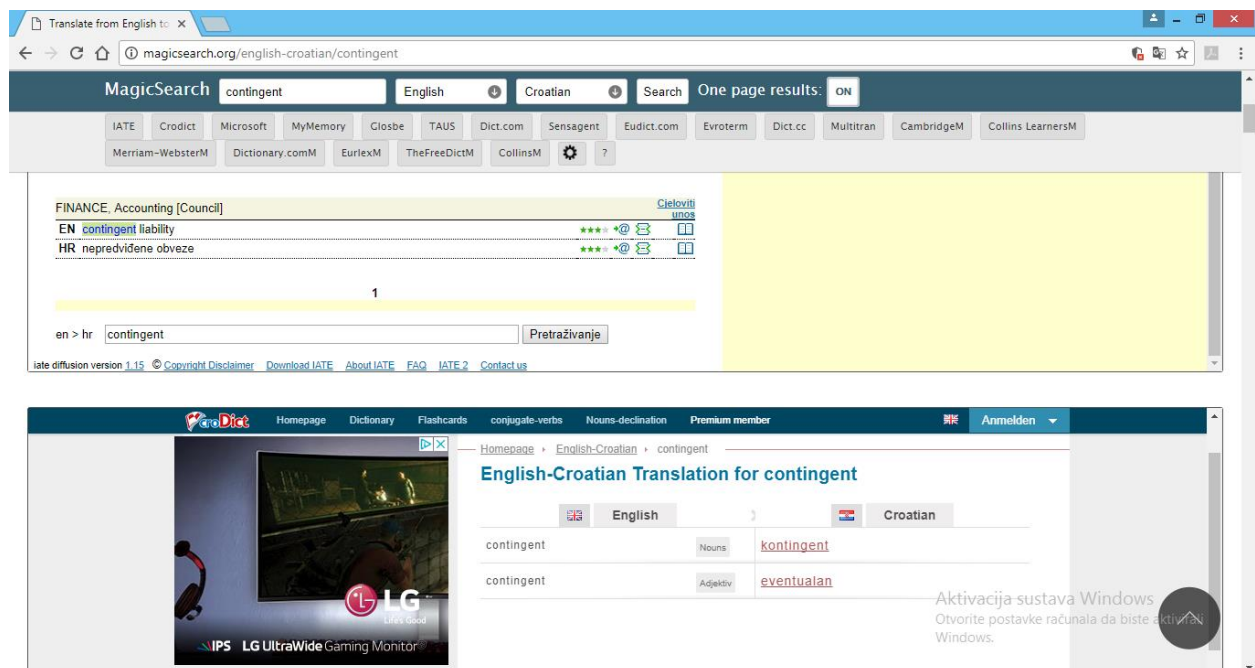
Figure 1 Results displayed in one page

Also, Magic Search, by using cookies, remembers the language pair selected for future use. The navigation in search results is done by simply clicking on the wanted source button as it changes colour. In order not to lose focus, the button should not be clicked too fast while the sources are still being loaded. However, it is possible to change the default setting of *One page results* to *off*, and thus load the sources in the background, which are then not scrollable. Turning this setting off will enable clicking on the wanted source without losing focus. By clicking on the *gear* icon (see Figure 2) it is possible to reorder, include or exclude sources. Simple dragging and dropping sources on the left column will reorder them. Clicking on the *x* icon next to each dictionary on the left column will exclude it, while clicking on the + icon next to each source on the right column

will include the source. Also, the sources can be dragged and dropped between columns. Magic Search offers the option to include monolingual sources in bilingual pairs. By submitting a search selections will be remembered for the future use. It is also possible to easily revert back to default settings by clicking *Reset*. Magic Search also includes options to install extensions on search browser or use the tool directly from Microsoft Word application.
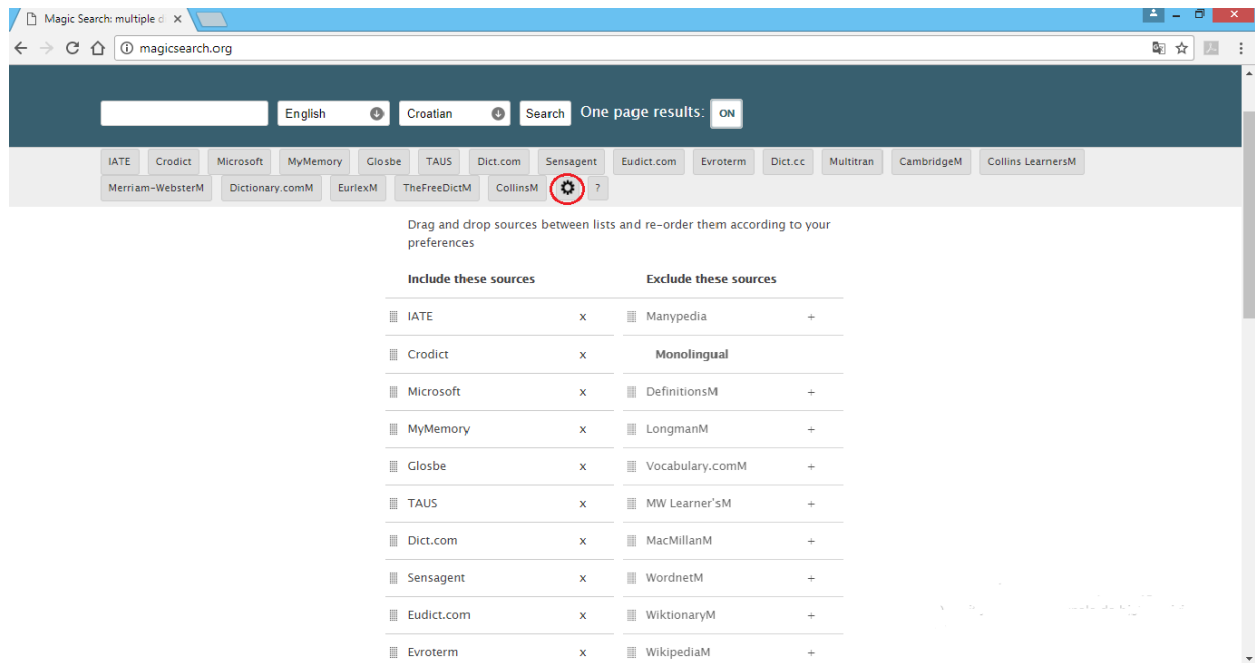

Figure 2 Selecting sources

Magic Search is a tool useful for both translators and interpreters. Maybe the biggest advantage of Magic Search tool is the option to find entries from multiple online sources with just one click. It does not take too long for the results to load and it is easy to navigate through the results. Online dictionaries are mostly limited. While some of them provide a wide array of synonyms, examples from the corpora, and even translations of some common phrases, translators often have to consult more sources to find suitable translations. Providing the option of searching from multiple sources at once makes Magic Search a considerably time-saving terminology tool. Another useful feature is the option to include and exclude sources from the search. Online dictionaries are not always reliable, so one has to be careful in choosing sources and selecting equivalents in the target language. By excluding irrelevant sources, the results can be loaded even faster. Being able to change the order in which sources load is also a helpful feature because more reliable sources can be put on the top of the list. Furthermore, the option for searching monolingual databases, which provide definitions, explanations, and synonyms, can prove extremely useful for understanding a

particular term when there is no adequate equivalent. A downside of Magic Search is that it does not provide the option to add sources which are not integrated into the tool manually. However, in the *frequently asked questions* section, the developers provide contact information so anybody can request a specific source to be added and leave feedback on the Magic Search itself. Another disadvantage may be the inability to search for the translation in multiple languages at once. Most often, online dictionaries do not include the option of searching for translation in two or more languages, but that feature could be very useful for interpreters who have more working languages. However, Magic Search is free of charge and extremely easy to use, which makes it a valuable aid in searching for term equivalents. Not only translators, but also interpreters can benefit from this tool when preparing for a conference. Unfortunately, Magic Search is not adequate to be used by the interpreters during interpretation. Even though in, usual circumstances, the search does not take too long, an interpreter, performing the task in the booth does not have enough time to type the term into the search engine and look through the results.

11. Interplex

Interplex is a terminology management tool designed by an interpreter for the use of interpreters while working in the interpreting booth. It is developed by Peter Sand and Eric Hartner and is available on the market for $75. Interplex runs on Windows and Mac operating systems, as well as iPhone and iPad.

This programme allows an easy and always available search for words and expressions, which is a helpful function during the interpretation process in the booth. In addition, while searching terms Interplex ignores accents, so it is easy to quickly find terms in languages using characters with accents, such as French, German or Spanish.

11.1. Glossary management

After starting the programme, pressing the *Glossary Index* icon (marked in Figure 3) opens a list of glossaries. Interplex already contains some premade glossaries in several languages. Clicking once on a specific glossary shows the number of expressions (above the glossary table) in that particular glossary.
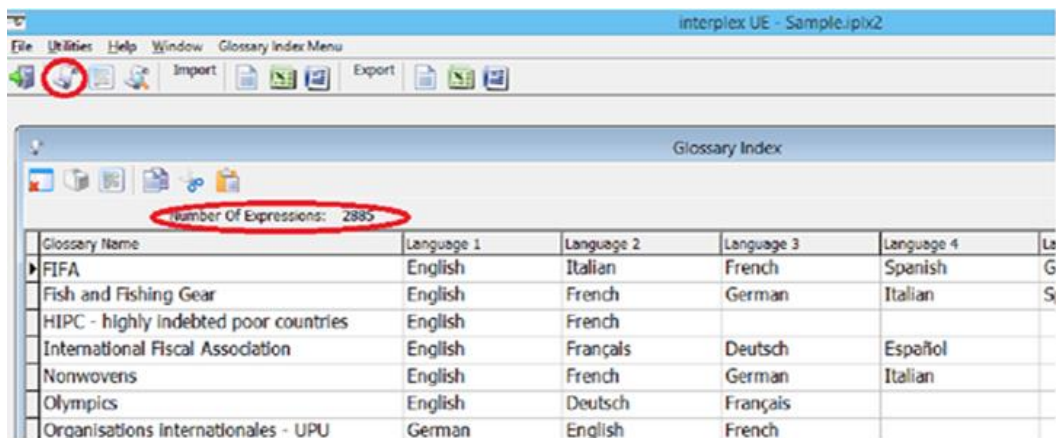
Figure 3 Glossary Index

However, double click of the mouse on a selected glossary opens the wanted glossary. The glossary can also be opened by clicking on the *Open Up The Expressions For The Selected Glossary* icon or pressing the *Enter* key while on the *Glossary Name* of the desired glossary. The selected glossary is open in a new window and allows printing, searching and editing, which can all be done with just one click of the mouse (see Figure 4). In the upper left corner of the *Expressions* window there are icons used for closing the window and printing the glossary. Below those icons, there is a search box that allows scrolling through all available glossaries. Entering a term in the

search box in the middle and pressing the *Enter* key or clicking on the *Search* icon on the far right of the window will immediately extract only those expressions that contain the wanted term. Below the *Search Text* box it is available to tick the box and thus allow only the full word search. On the right of the *Search Text* box there is a box for selecting languages in which the wanted term will be searched. While it is possible to scroll through the terms, in the upper right corner of the window there is a navigation bar used for navigating through the terms. With just one click of the mouse the user can move to the first term, the last term, previous and next term. There are also icons for inserting new terms, deleting terms, editing, and post editing. By clicking the last two buttons the user cancels editing of the term and refreshes data. The *Stop* button will clear the search and show the whole glossary again.
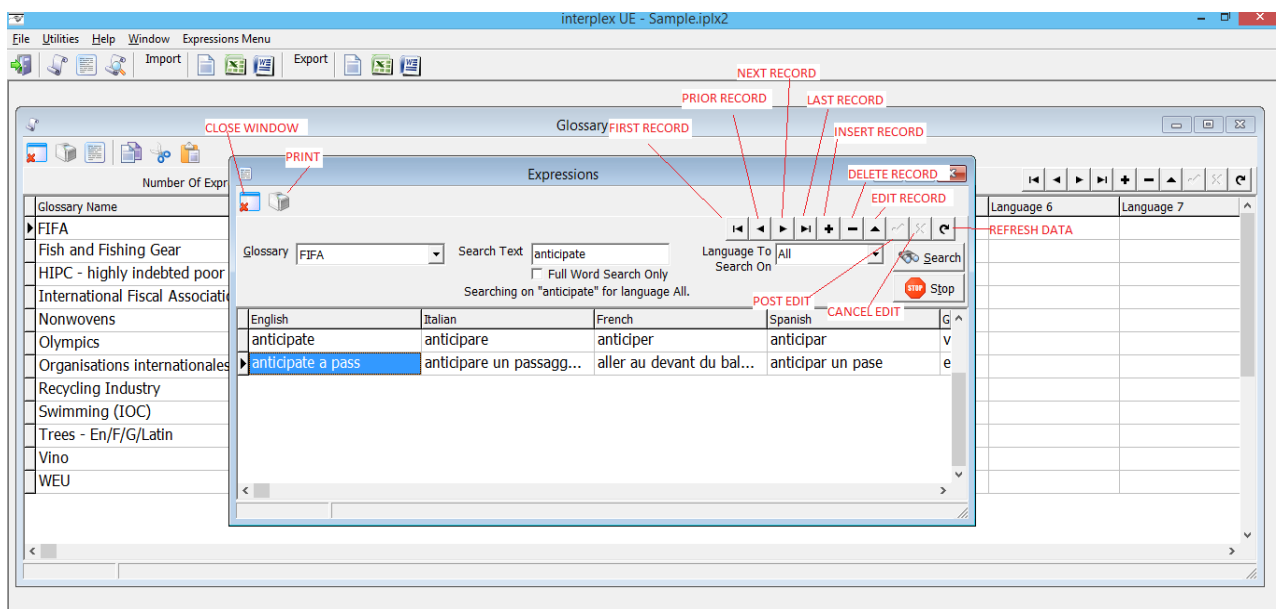
Figure 4 Term viewing and editing

11.2. Creating a new database

By selecting *New Database* under the *File* menu in the upper left corner of the main window, it is possible to create a new glossary database from scratch. Under the *File* section, the new database can be saved by selecting *Database Save As*. By creating multiple databases users can organise their glossaries according to a theme, conference or other parameters.

11.3. Creating and editing glossaries

Adding a new glossary can be done by pressing the Insert key or the plus (+) button on the navigation bar. To save a glossary it is required to either move from the current row using the mouse or the arrow key or press the check mark button on the navigation bar. Glossaries can be

deleted by pressing Ctrl + Delete while on the specific glossary or by pressing the minus (-) button on the navigation bar while on the glossary (see Figure 5).

The creation of glossaries begins by entering the name of the glossary and specifying the languages. The order of columns can easily be changed by just holding and dragging the column in wanted direction. Also, right click of the mouse provides a series of options for editing the text in the columns. Therefore, users can choose the colour and font size of each column (see Figure 6), they can italicise or bold the font, underline or cross out the terms in a particular column, and choose how the terms in the columns will be sorted (column ascending, column descending or chronologically). In addition, right click of the mouse offers an option to hide particular columns, which can be reverted by selecting the option *Show All*. Because of the width of the columns, longer expressions are sometimes not visible. Right clicking on the expression opens the full expression in a popup window.

Users can also change the *Glossary Name*, change the language name, add a new language or delete a language by blanking out a populated language field. When deleting a language, all expression entries associated with that language will be permanently deleted from the selected glossary.
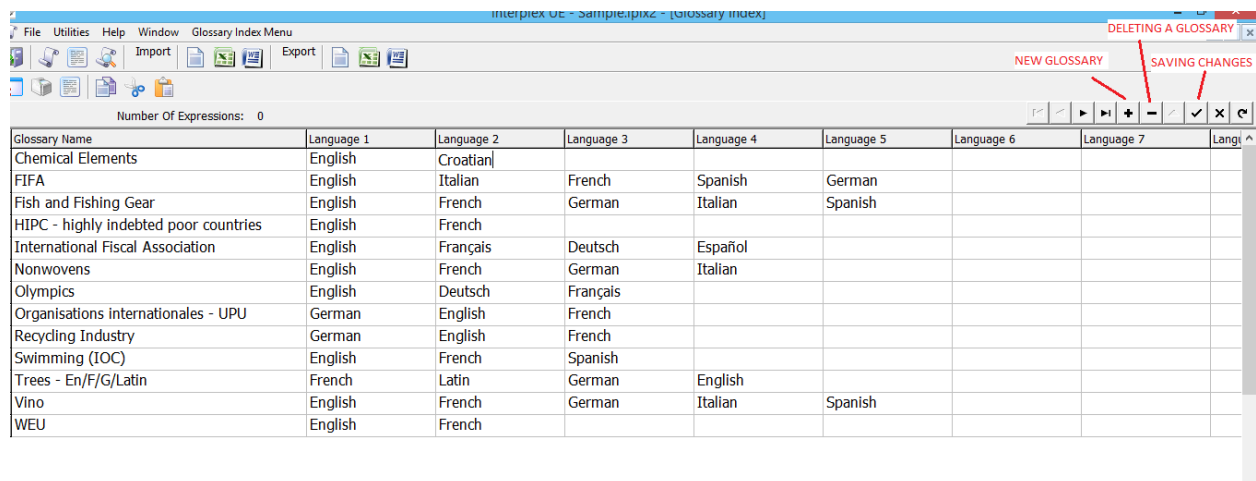
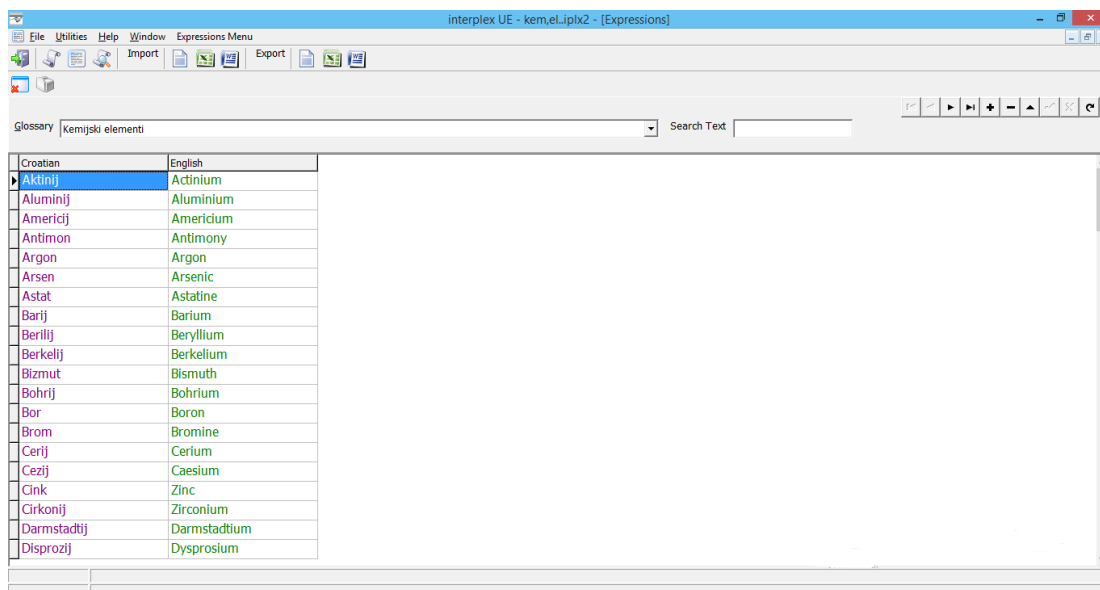Figure 5 Creating, editing, and deleting a glossary

Figure 6 Customised colour

Interplex provides features for merging glossaries by copying, cutting and pasting. After selecting the glossary which is being copied or cut, the user can press the copy/paste icons or choose *Copy Glossary* or *Cut Glossary* in the *Glossary Index* menu. After selecting the glossary to which the first glossary will be pasted, it is required to choose *Paste Glossary* in the *Glossary Index* menu. While pasting the glossary, interplex provides an opportunity to match up languages of the two glossaries.

11.4. Searching

Especially in the case when there is a large number of glossaries in the database, it can be very time-saving to be able to search for terms in multiple glossaries at once. Interplex also allows the searching of terms in all glossaries in the database, which is done by clicking on the *Multi Glossary Search* icon marked in Figure 7. Doing that opens a window containing the *Search Text* box, in which the wanted term is entered. The term can again be searched by pressing the *Enter* key or clicking on the *Search* icon. Below the *Search Text* box there are three options that can be selected to modify the search. Ticking the *Limit Search to Certain Glossaries* box provides the option to choose specific glossaries to search from and exclude the other glossaries. In the upper right corner of the *Multi Glossary Search* window, there are again the navigation buttons used for moving to the first term, the previous term, the next term, and the last term.
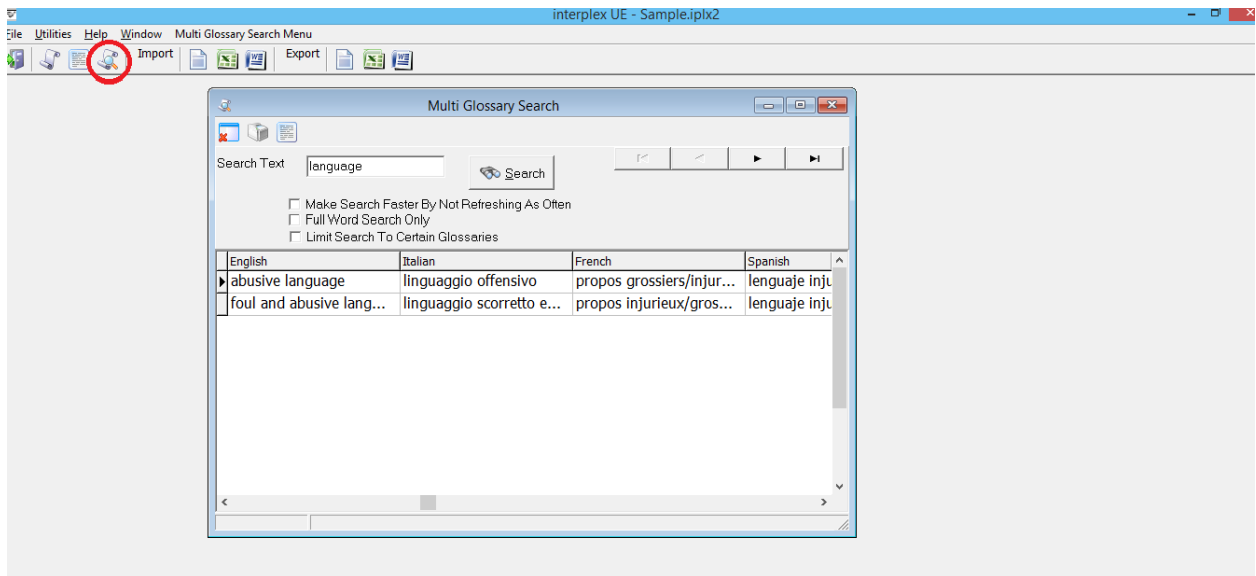
Figure 7 Multi Glossary Search

11.5. Importing and exporting glossaries

Interplex offers the possibility of easily importing and exporting glossaries in text, word, and excel file formats. Clicking on the desired importing file format opens a window for choosing documents stored in the computer (see Figure 8).
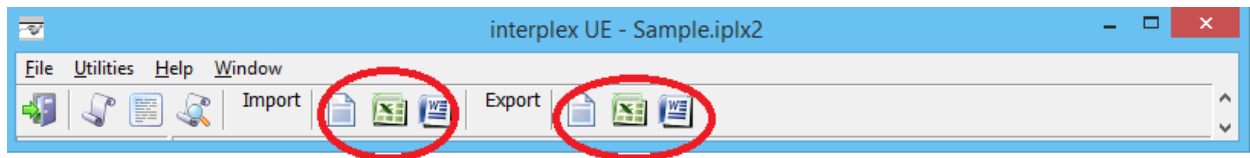

Figure 8 Importing and exporting glossaries

It is also possible to select all documents in the folder. At the bottom of the window there is a box that, when ticked, opens a selection of glossaries the new glossary can be imported to. However, the import to an existing glossary is available only when no more than one glossary is selected (Figure 9). By simply clicking the *Import* button on the right of the window the file will be imported.
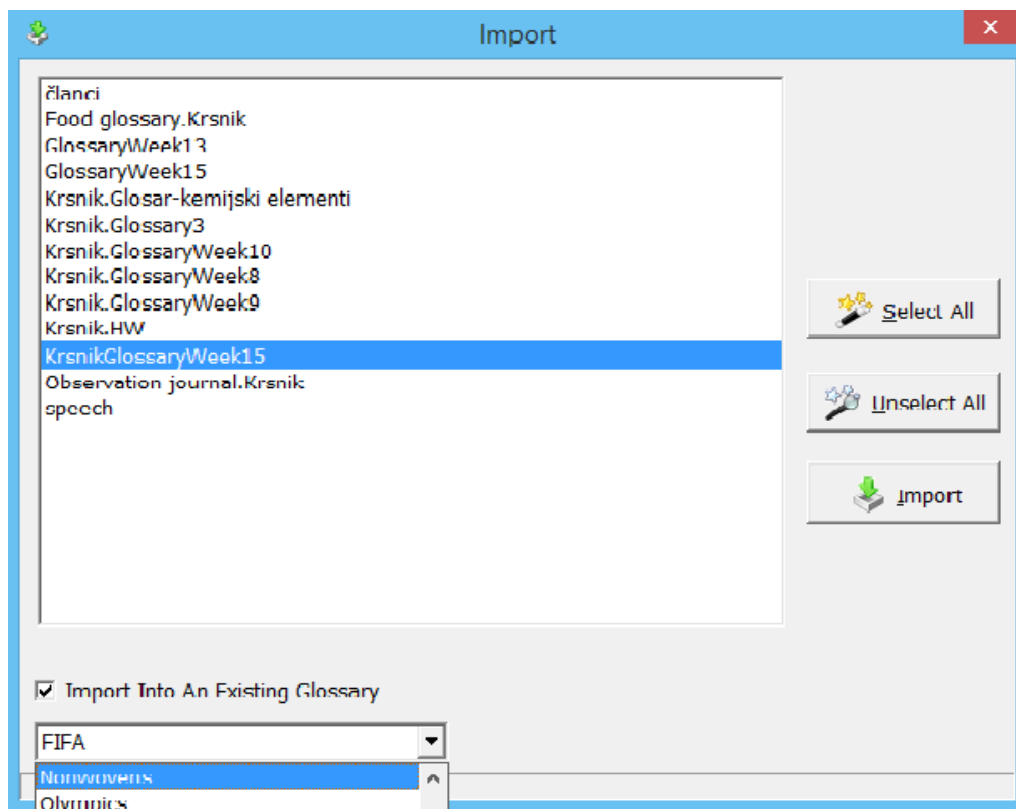
Figure 9 Importing glossaries

When importing files from Excel, users have to keep in mind that each sheet is considered as a separate glossary and that the sheet name becomes the glossary name. The languages must be in row 1 starting at column A, while expressions start in row 2 and go down. When there is a blank in the row 1, the programme will assume that there are no more languages. Also, any time a blank row is found, it is assumed that there are no more expressions.

When importing Word files, it is important to know that each Word document is considered a separate glossary and the file name becomes the glossary name. The Microsoft Word document must contain one table that includes both languages and expressions. The languages must be in the first row of the table, while the expressions must start at the second row and go down. Any time a blank row is found, it is assumed that there are no more expressions.

11.6. Editing

A new expression can be added by pressing the insert key or the plus (+) button on the navigation bar. To save the added or edited terms it is enough just to move from the current row either with the mouse or with the arrow key on the keyboard. Another way to save terms is to press the check mark on the navigation bar.

11.7. Configuration

In order to be suitable for individual needs of the users, Interplex makes it possible to configure settings such as allowing unlimited field width for the expressions. This is possible by selecting the *Utilities* menu and then *Configuration* and setting *Allow Unlimited Field Width In Expressions?* to *Yes*. After that, the user can also choose to set unlimited field width for each created glossary. However, glossaries with unlimited field width for expressions will take up more space and load with less speed. The configuration option also provides the ability to set the desired default expression column width or row height. When choosing *Yes* for *Check For Duplicate Expressions When Saving?* interplex will allow no rows with duplicate expressions. The users can also set the *Choose Font Styles By Language* to *Yes* in order to be able to define different font style to be used for various languages. In addition, in the *Window* menu, it is possible to change the layout of the programme. The first option is for opened windows to appear in cascade view (see Figure 10) and the second in form of tiles that can be placed vertically or horizontally (see Figure 11).
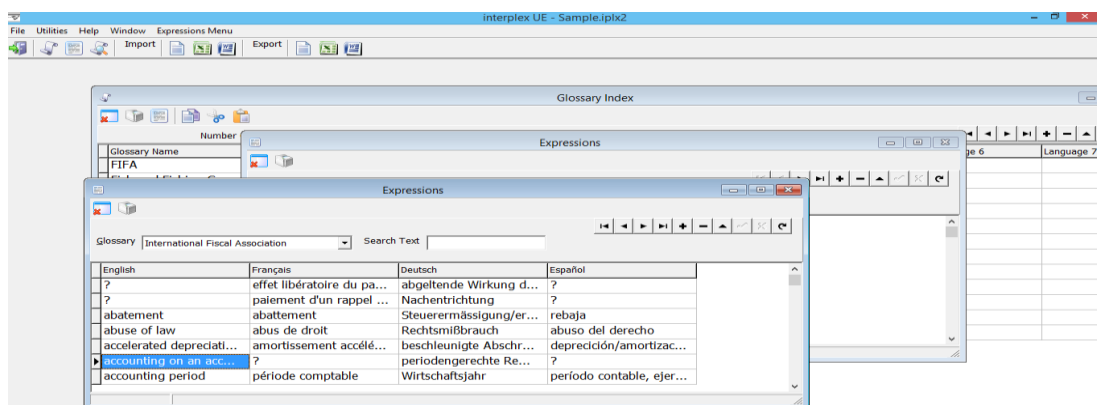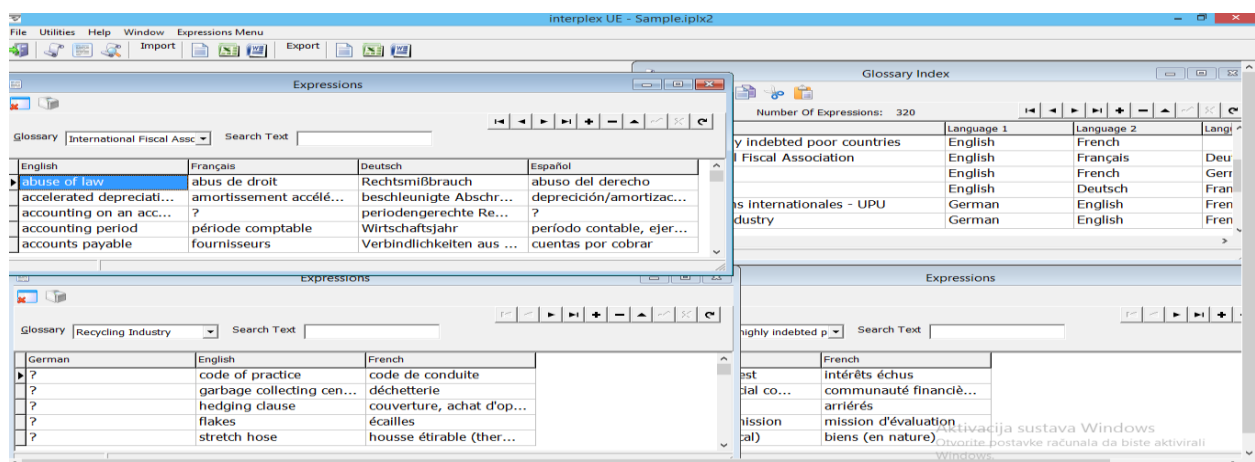

Figure 10 Cascade view

Figure 11 Horizontal view

11.8. Advantages and disadvantages

Interplex is not among the most expensive terminology management tools and is easy to use. A very helpful feature is being able to create glossaries consisting of multiple languages, with some premade glossaries already included. Also, Interplex is very fast in opening glossaries and providing search results, which is of essential importance in interpreting. It is easy to change the order of working languages in the glossary or temporarily hide a language that is not needed. Import and export of glossaries can be done easily and quickly. Furthermore, the tables are customisable in a sense of changing colours of terms in each column and changing the row width and height. More importantly, Interplex provides the option of creating multiple databases, which is great for organising glossaries by themes, conferences or any other parameters. Not to forget, Interplex can also perform a quick and thorough search through all the glossaries in the database.

Even though Interplex is a useful tool for interpreters, there is room for improvement. Interplex is outdated in terms of design. It is not hard to get lost when multiple windows are opened. Also, this tool does not provide a very clear view of terms or the ability to add notes or comments. However, other columns intended for more languages can be used for notes instead. Although this tool provides a very fast search, it is required to type in the whole word in order to get the wanted result.

The fact that a lot of interpreters use interplex, proves its efficiency in preparing for a conference or storing material. However, it can be improved by adding a search feature more suitable for the booth as well as a new design that would provide a clearer view of the expressions contained in the glossaries.

12. InterpretBank

Developed and programmed by Claudio Fantinuoli, professional conference interpreter and PhD researcher and lecturer in New Technologies and Interpreting Studies, InterpretBank is a computer-assisted interpreting tool developed specifically for conference interprets during all phases of the interpreting process. This tool is developed for the creation and management of specialised glossaries, but also terminology retrieval during the process of interpretation. While the main application runs on Windows and macOS, glossaries can be accessed also from any mobile device. The current version is the fourth generation of InterpretBank with some useful new updates, such as the integration of high-quality terminological resource designed for high-speed glossary creation. Some of the main features of InterpretBank include saving glossaries in a unique database, which enables their use in the future, automatically suggested translations while compiling a new glossary, intelligent search algorithms for locating terms in the booth, speech recognition, synchronisation of glossaries between desktop and laptop, and an easy sharing way of sharing glossaries with colleagues. Moreover, InterpretBank provides help with memorising new terms, finding the use of words in context, finding definitions on the Web, and extracting relevant terminology. InterpretBank for professional interpreters can be purchased for €119, with an additional fee for customisation and upgrades that can be bought for €29 each. However, in order to promote the use of terminology management tools and implement it also in conference interpreting training, students can buy the InterpretBank license for half the price, i.e. €59. Naturally, a free demo version is available for download and use for a period of 28 days before deciding to purchase the full version. Updates, which are released periodically are always free of charge.

12.1. Features

When using InterpretBank for the first time, the users have to specify their working languages, as shown in Figure 12. It is possible to set up to five working languages, which cannot be changed later. The languages that are not set at the beginning can be added at a later time. Also, languages can be changed before creating the first glossary by unblocking the drop-down menu in tab *Advanced settings* and menu *Allow me to change database settings* (see Figure 13). Databases can be synchronised between PCs and laptops by choosing a cloud service, such as DropBox, and installing it on both computers.
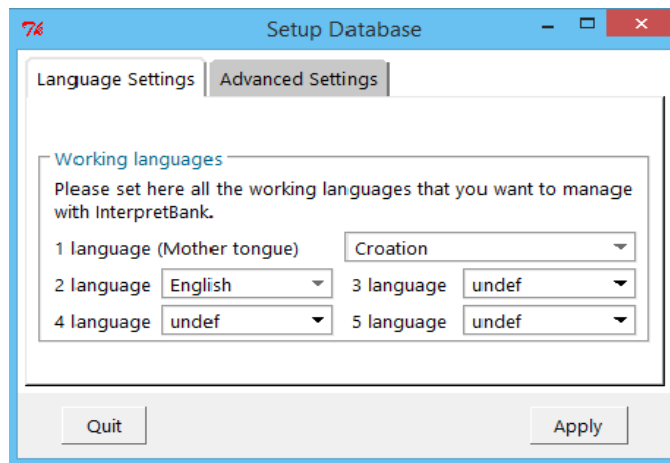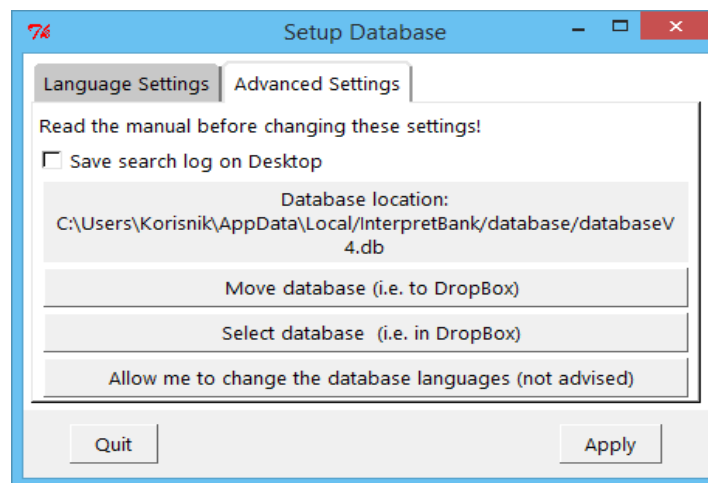
Figure 12 Setting the working languages

Figure 13 Advanced settings

12.2. Creating glossaries

While creating a new glossary InterpretBank offers a feature of making subglossaries. A new glossary is created by selecting menu *Database* and *Create a new glossary* or simply clicking on the icon shown in Figure 14. In the section *MyGlossary* the glossary name should be entered. The next stage is specifying the languages of the glossary and, if desired, entering a description, which can consist of some notes about the event or similar (see Figure 15). After clicking *Apply,* the new glossary is created and ready to be filled with terms. Subglossaries can be added while creating a new glossary, but also at a later time, when an existing glossary is opened. A Subglossary is created by selecting menu *Glossary* and *Add a SubGlossary*. After setting the languages of the subglossary

and adding description, if desired, by clicking *Apply* the subglossary is created. Also, it is possible to add new languages to the subglossary at a later time. To open a glossary, it has to be chosen from the drop-down menu *Glossary* and it is automatically displayed. In order to access subglossaries, categorisation fields are expanded by clicking the icon marked in Figure 16 and selecting a subglossary. If the subglossary field is not displayed, all terms of the selected glossary will be displayed without any restrictions. By selecting the desired glossary in the drop-down menu *Glossary* it is possible to rename the glossary with the function *Update glossary* or delete a glossary by selecting *Delete glossary* in the same menu.
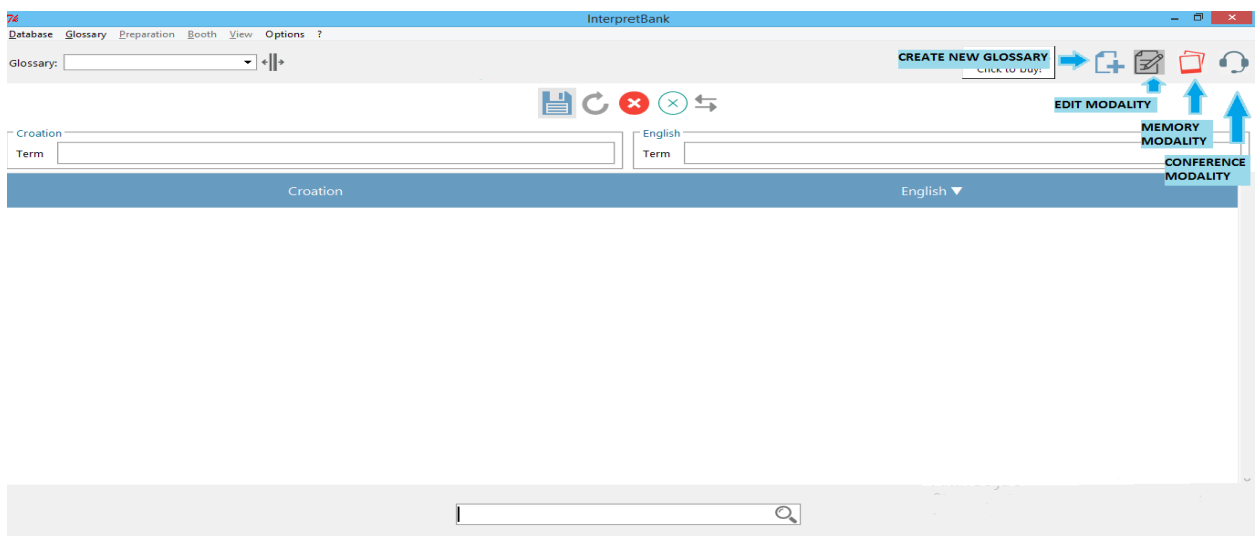

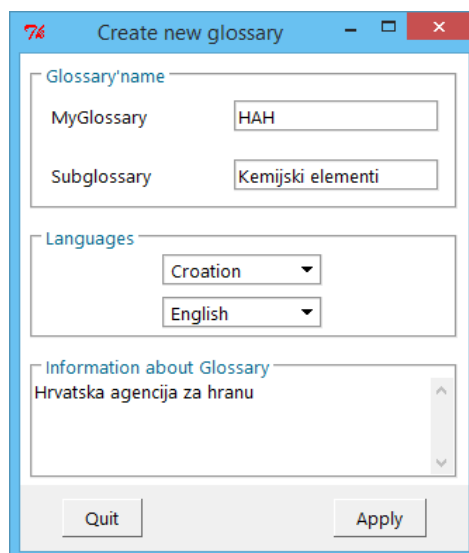Figure 14 Creating glossary shortcut and modality icons
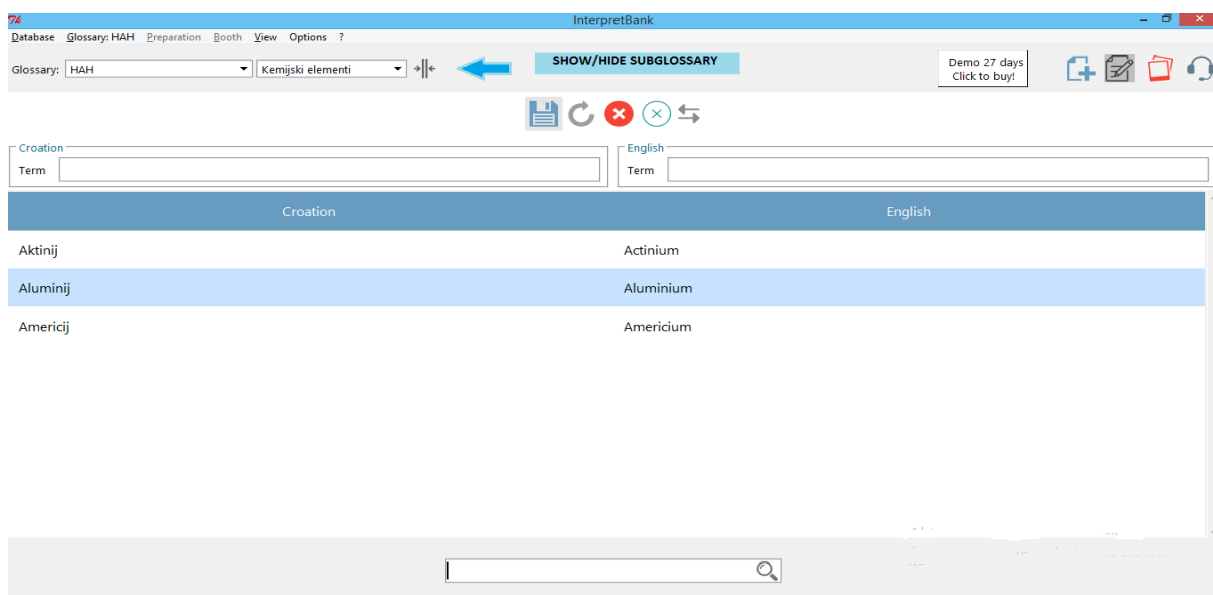

Figure 15 Creating a new glossary and subglossary

Figure 16 Viewing subglossaries

12.3. Merging glossaries

InterpretBank also offers the function of merging glossaries. The first glossary is chosen from the drop-down menu *Glossary*. By selecting *Merge glossary* the second window showing other glossaries will appear (see Figure 17). Just by clicking on the desired glossary, all terms will be added to the second glossary. Adding a language to an existing glossary is done by clicking on the menu *Glossary, Update glossary* and specifying the wanted language.
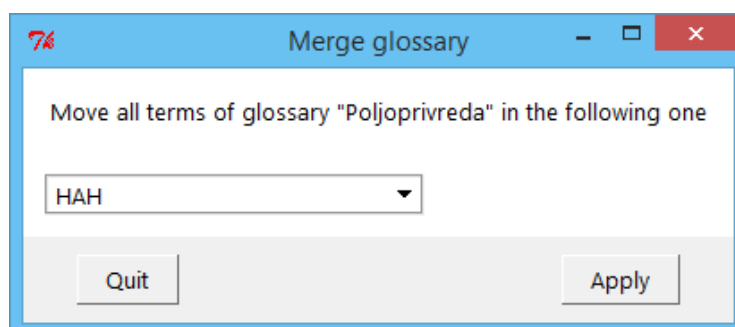

Figure 17 Merging glossaries

12.4. Term editing

InterpretBank allows users to add, delete or change terms with the *Edit Modality* function. In this modality it is also possible to search a database. The icon marked in the Figure 14 opens this

modality. Terms are written and edited in the upper part of the window. The input mask can be changed in menu *View*, allowing to show or hide extra fields. The open glossary is shown in a table and it is possible to select single terms from the table to do some operations, such as searching for translations on the Web.

Terms and their translation are edited in the *Term* fields in the upper part of the window. It is also possible to add additional information to the term and its translation, for example a definition or a link. In menu *View Extra fields* and *Block-Notes* can be shown or hidden (see Figure 18). *Extra fields* contains language related additional information, while *Block-Notes* contains information which is not language related. In the *Block-Notes* any kind of information can be added to a term. It is also possible to mark a portion of the text as booth-relevant and access it in the Conference Modality. This feature reduces the quantity of information displayed in the Conference Modality. To mark a part of text as booth-relevant, it is first selected, clicking the right click provides the feature *Tag for the booth*. In order to show this information in the Conference Modality, the column *Extra info* has to be activated.
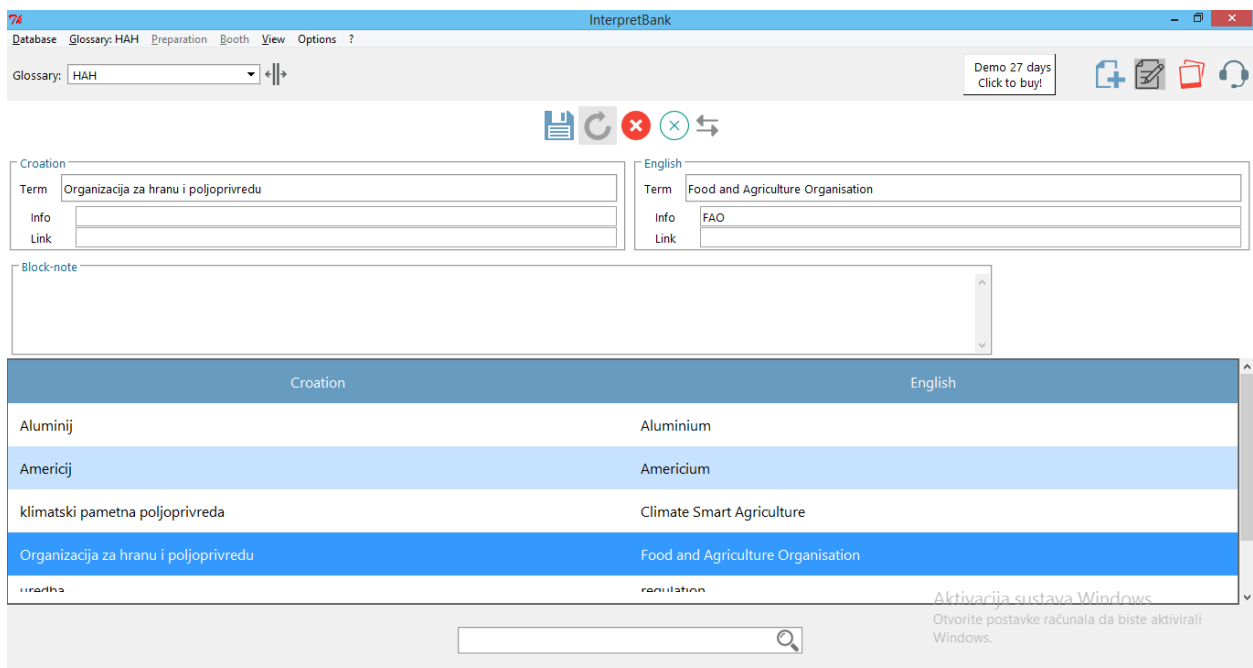

Figure18 Extra fields

While creating a new glossary, terms can be saved, edited or deleted. Saving a new term in the selected glossary is done by clicking on the button marked in Figure 19 or just by pressing *Enter* when the icon is greyed. To update a term, it has to be selected

in the *Table*. The term is now shown in the Term fields in the upper part of the window. After editing and clicking on the icon marked in Figure 19 or pressing *Enter* when the icon is greyed the term is updated. Same steps are applied when deleting a term. After selecting the term in the *Table,* the term is shown in the Term fields. Clicking on the button marked in Figure 19 and confirming the next window deletes the selected term. The *Clear mask* button is used to clear the term mask without deleting the term itself from the database.
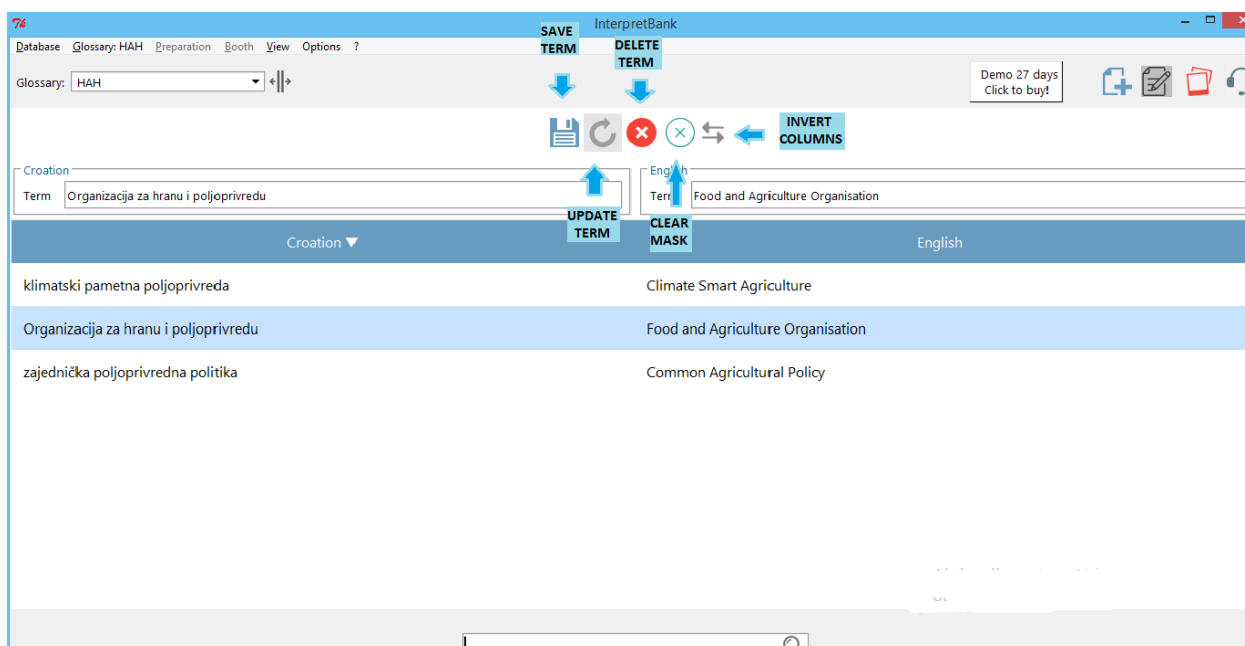

Figure 19 Term editing

12.5. Automatic translation during glossary creation

InterpretBank offers several features to speed up the creation of glossaries. By searching terminology databases in several languages, InterpretBank enables the user to quickly choose among several translation suggestions. While working with a glossary of two languages, translation proposals in InterpretBank can be acquired by entering a term in a *Term field* and moving to the other language field using the *Tab* key. Alternatively, it is possible to select a row from the table, right click of the mouse (or F1 key on Windows) and select *Translate missing term*. A window with suggested translation then appears (see Figure 20). The feature *Find translation on your favourite Webpage* also helps when working with a glossary of two languages by selecting a table row with a missing translation, pressing the right click of the mouse (or F2 key on Windows), and selecting *Search translations/definitions in favorite Webpages*. The default Web browser will be opened with the results of the search for the language combination specified in the

glossary. The wanted translation services can also be set manually by selecting the menu *Options* and *Set online services to lookup in the browser* or *Automatic translation* (see Figure 21).
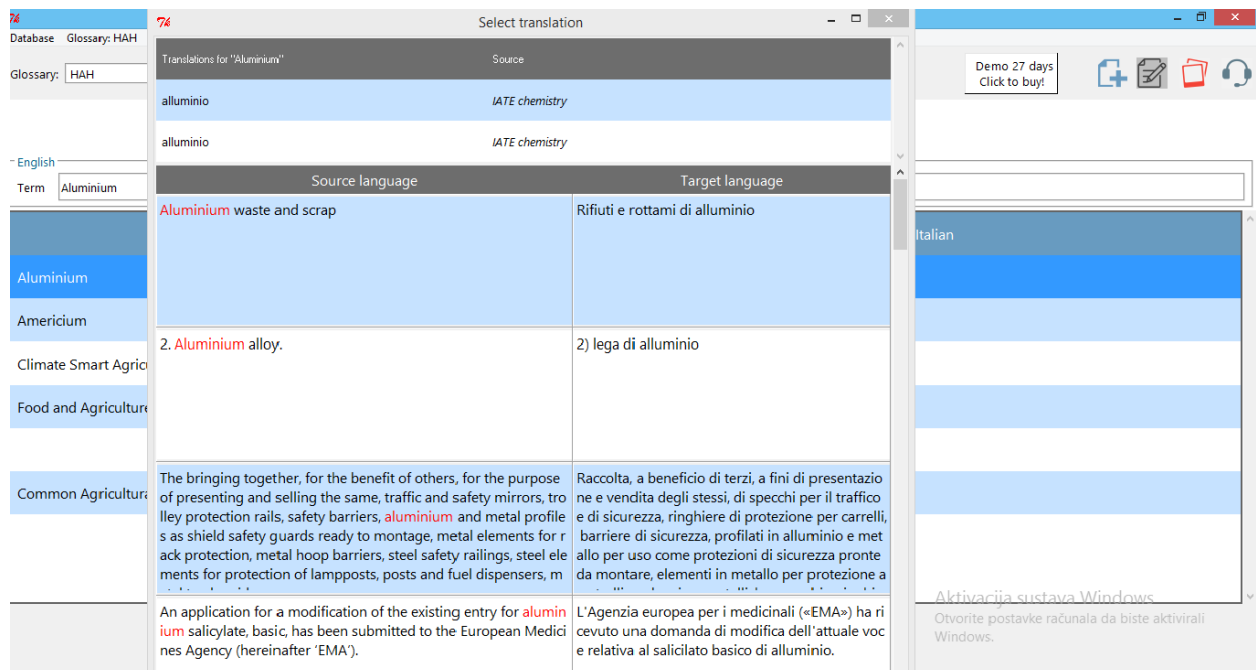

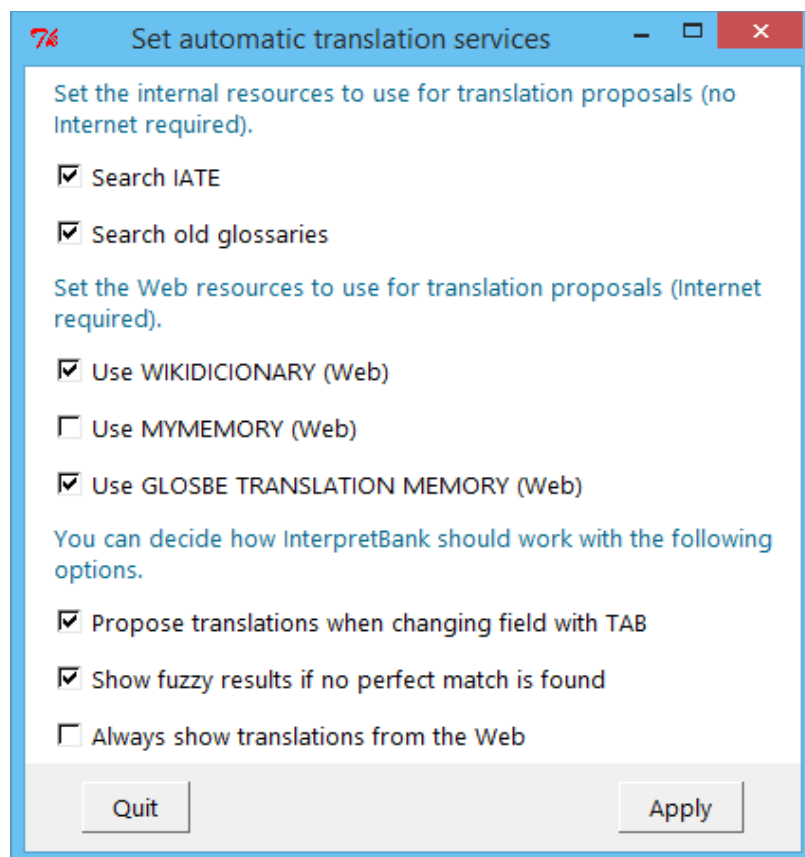
Figure 20 Translation suggestions using IATE database

Figure 21 Setting automatic translation

12.6. The search function

To search for a term in a glossary it is enough to enter the term or a part of it in the search field and press the *Enter* key or the magnifying lens. The results are shown in the table view and the search is automatically done in all languages.

12.7. The Conference Modality

Having adequate tools for retrieving terminology in the booth is of great importance to interpreters. During the process of simultaneous interpreting, the interpreter performs many tasks at the same time. Inadequate tools can not only increase the cognitive load and stress the interpreter has to deal with, but also cause errors and omission, and thus a poorer quality of interpretation. So "in order to avoid a cognitive overload of the interpretation task, interpreters need to have at hand the right term at the right moment without interfering with the balance of the other various processes" (Fantinuoli 2016:49). Fantinuoli claims that in order for a tool to be suitable for the use in the interpreting booth it has to have a user interface which is clear and unobtrusive, requires a short user's input, produces pertinent results, offers a clear visualisation of results, and it is not influenced by spelling errors (2016:49-50). All those features are included in InterpretBank.

InterpretBank offers an effective feature for searching terms in the booth. It is done by switching to the *Conference Modality*. This modality then implements an intelligent search developed specifically for interpreters.

When using InterpretBank in the booth it is possible to control the way of performing searches in the conference modality. Selecting the menu *Booth* and *Search parameters* or simply by clicking on the *gear* icon will display the dialogue shown in Figure 22. There are two search profiles, simple and advanced. After selecting the *Simple profile*, the parameters will be set in a way to allow a good search experience for most users. This profile is also suitable for very large glossaries. On the other hand, the *Advanced profile* offers and advanced search experience by activating many intelligent search algorithms. Because this profile is more demanding for computer capacities, it should be used on modern computers. All parameters can be set manually. The conference modality searches event/subject glossary first, but the search can be extended to the entire database and external resources. The manner in which the search is performed depends on the settings and intelligent search algorithms.
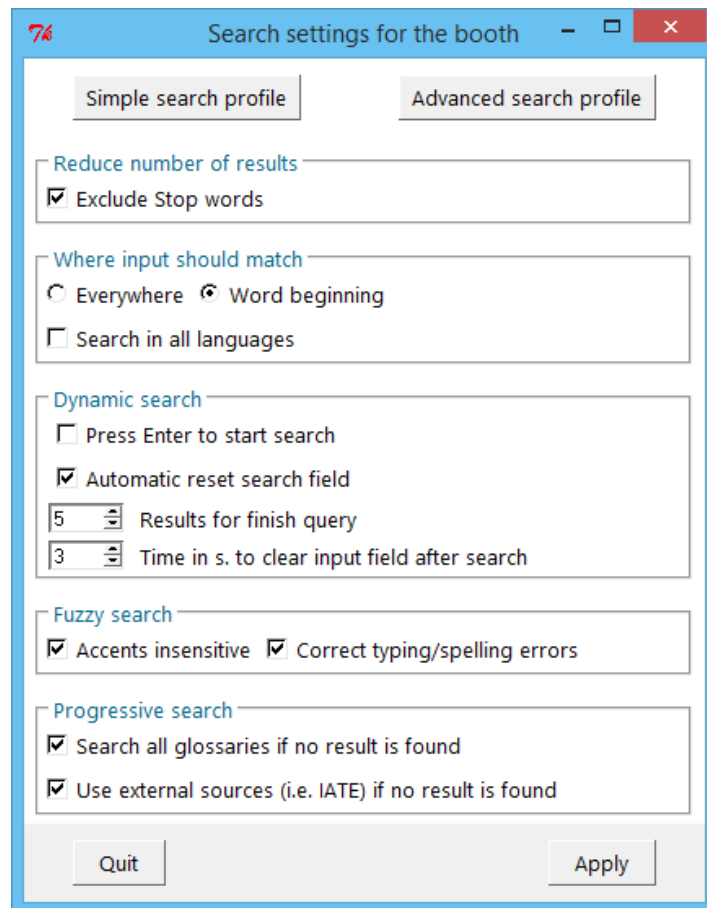
Figure 22 Search settings for use in the booth

There are several important features of Conference Modality: excluding stop words, specifying where input should match, dynamic search, fuzzy search, and progressive search. *Exclude stop words* feature, when activated, excludes non-lexical words such as prepositions from the search. The Conference Modality also allows to choose where input should match. To match only the beginning of the words, *Word beginning* is selected, while selecting *Everywhere* matches any part of a word. By default, InterpretBank searches only in the left column, but it is possible to increase the number of results and search in all languages by selecting *Search in all languages.* Furthermore, it is possible to influence the way InterpretBank interacts with the users. Although a search is by default started every time a letter on the keyboard is pressed (see Figure 23), the search can be started manually with the *Enter* key by selecting *Press enter to start search*. If some conditions are met, the input field is cleared automatically in order to be ready for the next search. This option can be activated and deactivated with *Automatic reset search field*. By activating this option the user can influence the number of results that are considered to be suitable for resetting the input field (five by default) and the time of inactivity (three by default settings). Regarding the *Fuzzy search* feature, with *Accents insensitive* activated, words are found independently of the use

of accents or diacritics. By selecting *Correct typing/spelling errors*, words are found even if there is a spelling error or a typo in the glossary. This function can increase the number of results. Also, the terms found using this feature are shown in the search results in italic. Finally, if there are no results when searching the event glossary, the progressive search function can extend the search to the whole database by selecting *Search all glossaries* or to external sources by selecting *Search external resources*.
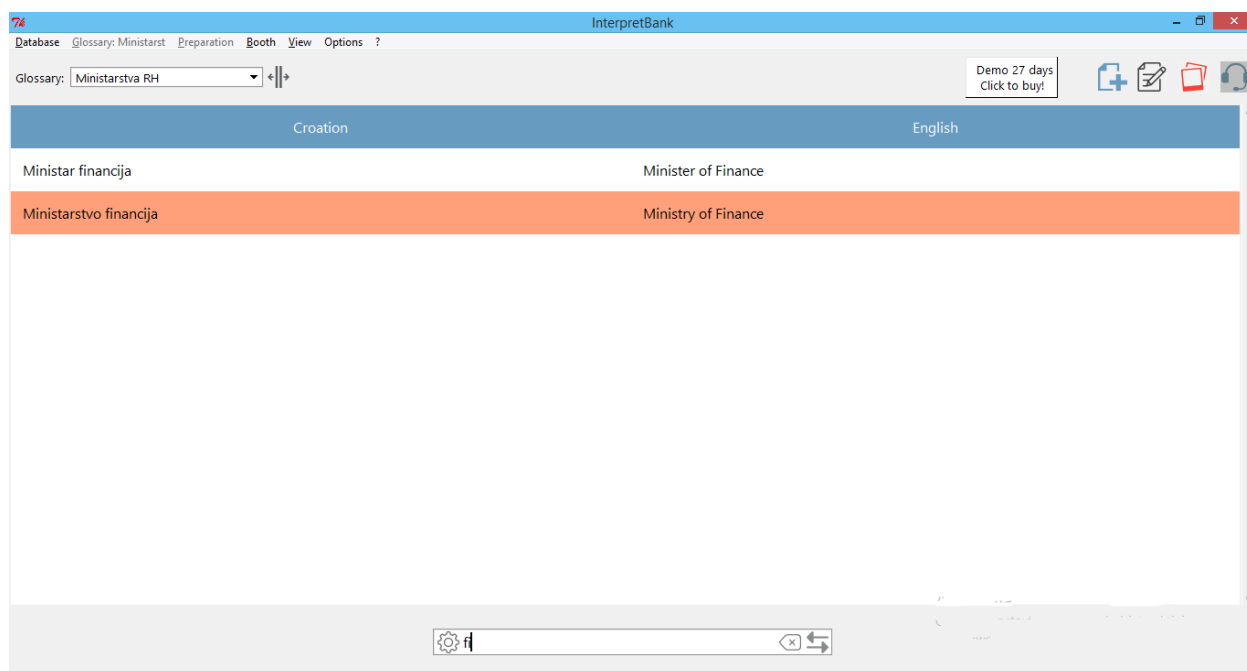

Figure 23 Searching for terms in Conference Modality

12.8. Accessing glossaries on an iPad or Android tablet

Glossaries stored using InterpretBank can be searched on Windows and Mac operating systems as well as on any mobile device (iPad and Android). In order to be accessed using an iPod or Android, glossaries are uploaded to a secure server. After uploading the glossaries, users are able to access them through a Web browser from any device. InterpretBank generates a link for opening glossaries. If the users wish to receive the link via e-mail, they can provide their e-mail address to activate the option in the menu *Options* and *E-mail*. The e-mail address will be saved and does not need to be entered every time. The next step is opening a glossary and selecting menu *Glossary* and *Upload to access from any device*. A dialog window confirms that the glossary is uploaded. The link is copied on the clipboard and can be pasted anywhere. With the activation of the e-mail option, an e-mail is automatically sent to the user's e-mail address. The link received is private and only the user can access the glossary, but of course, the user can forward the link to colleagues. On the mobile device the user opens a link received via e-mail. It is possible to move the columns

by pressing the column header and moving it. In order to search for terms, it is enough to enter just some letters and the search is cleared by pressing *Enter*. When the link is opened, there is no more need for active Internet connection. The glossaries saved on the servers are automatically deleted after seven days.

12.9. Import, export, and exchange of glossaries

Another important feature necessary for interpreters' needs is the ability to import and export glossaries. To exchange a glossary with colleagues who use InterpretBank it is necessary to export the glossary in IBEX format. This is done by selecting the menu *Glossary*, *Export glossary, IBEX* and choosing the folder in which the file will be saved. The file can then be shared with other interpreters.

It is also not complicated to export a glossary as MS Excel or Word file. It is done by selecting the wanted glossary (through *Glossary* and *Subglossary*), then selecting the menu *Glossary, Export glossary, Excel* or *Word* and finally specifying the folder in which the file will be saved.

Glossaries made in Microsoft Excel or Word with up to nine different columns can be imported in InterpretBank database. Excel glossaries may contain two or more languages and one extra field with comments.

To import an Excel or Word glossary, the user clicks the menu *Database, Import glossary into database, WORD or EXCEL* and selects the wanted file. The file has to be in a recent Microsoft format (with .xlsx or .docx extension). In *Import preview* the user can see the glossary as it will be imported in the database, as shown in Figure 24. Using the drop-down menus, the user matches the languages (columns) of the glossary with those of the database, specifying the content of each column. There is an option *Exclude first row* to not show the first row in the database, if it contains, for example, language names. The user then inserts the name of the glossary and imports it into the database by clicking on *The glossary is okay, import it.*
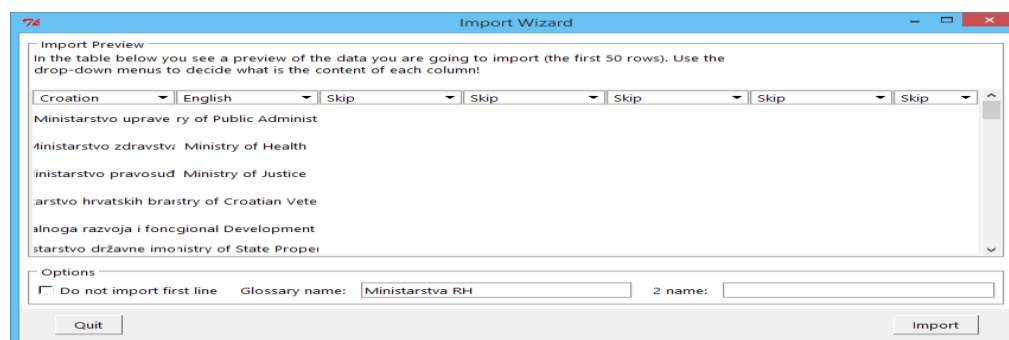

Figure 24 Import preview

12.10. Changing glossary view

InterpretBank allows its users also to change the glossary view. By selecting a glossary, InterpretBank visualises all the languages used in that glossary in the same order in which they were put when the glossary was created. Temporarily changing the number of languages visualised in their order is done by using the menu *View* and *Temporarily change data visualization* (see Figure 25). These setting will apply only until opening a new glossary. The order of the two languages on the left can be changed by using the shortcut *Shift + x*. To change the way in which a glossary is displayed permanently, it has to be updated using *Glossary* and *Update glossary*.
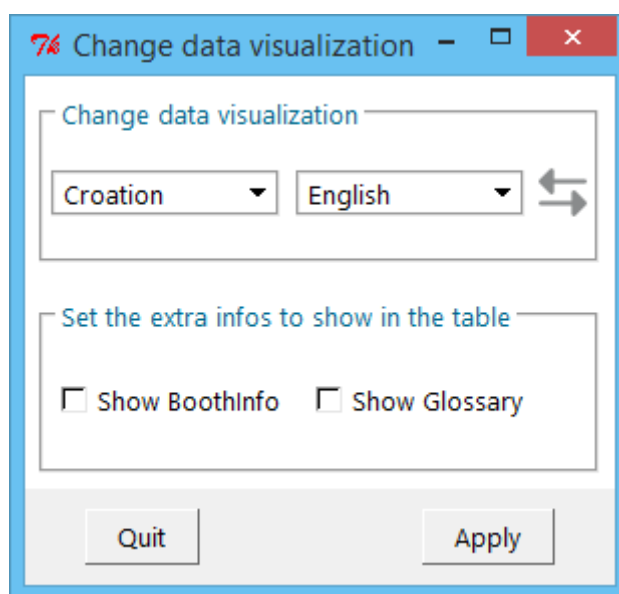

Figure 25 Temporarily changing data visualisation

12.11. Printing glossaries

Glossaries stored in InterpretBank can be printed via Internet browser. In order to print a glossary, the user selects it in the drop-down fields *My Glossary*, then selecting the menu *Glossary, Print via Internet Browser*. After clicking on print, the glossary will be displayed in the default Internet Browser.

12.12. Backing up and restoring the database

Among other features, InterpretBank offers the function for interpreters to save their glossaries in a safe way so they can be restored in case an unexpected incident happens and all data is lost. The database is backed up by selecting *Database, Backup* and *Backup Database*. The users chooses the folder for saving a backup copy of the database. Restoring a database from a backup copy is

as simple as clicking on the menu *Database, Backup, Restore Backup* and specifying the backup file. The backup and restore function can also be useful for moving the entire database between computers.

12.13. Memorisation modality

When preparing for a conference, interpreters have to memorise as many new terms and phrases as possible. InterpretBank also provides technical aid in visually memorising the terminology before the conference. The Memorisation Modality is accessed by clicking on the icon marked in Figure 26. The *Start* button starts or resumes showing the terms alternatively in all languages. The *Pause* button pauses the memorisation process, while pressing the start icon again resumes the memorisation process from the point in which it was paused. The *Stop* button stops the memorisation process and pressing the start icon after this will restart the memorisation process from the beginning. The *Next* button deactivates the automatic advancing and moves to the next term every time the icon is pressed. The *Shuffle* button places the terms in a casual order.

Figure 26 Memorisation Modality

12.14. Other options

Included in the many options provided by InterpretBank is also an option to set online services to lookup in the Internet Browser. While creating a new glossary, the user can search the preferred online dictionaries, both multilingual and monolingual. With this option users can choose which services will be shown when starting a search. Whenever possible, the Web pages will be opened in a single Tab and if the user feels that some valuable sources are missing in this option, he is free to contact the developers and ask them to include the desired source. In addition, InterpretBank allows users to customise the characters dimension according to their wishes, as well as customising table by changing colours, borders, etc. There is also an option to enter symbols in all entry fields by right clicking with the mouse on the field and selecting *Insert symbol*, which is

useful if the interpreters need to enter characters not supported by their keyboard layout. Furthermore, InterpretBank now offers an option to create a new IATE database. Currently, IATE database is included in InterpretBank in five languages: English, French, German, Spanish, and Italian. The users who want to use other languages supported by IATE can create a new resource and install the data for the desired languages. Users are able to create the database by themselves, which involves downloading a lot of data and preparation, but they can do it free of charge. However, users can also request a new database in the desired language from the developers, in which case they receive a one-click solution, but have to purchase the customisation package for the price of €29.

12.15. Empirical studies on the use of InterpretBank

Regarding the use of tools dedicated to the preparation of interpreting process, Xu (2015) conducted and experimental research to investigate in which manner the Corpus Driven Interpreter Preparation can improve the performance of interpreters in training. The participants were given tasks of building small comparable corpora, as well as the use of automatic term extractors and concordance tools to discover terminological and factual information on a specific subject. The results of the study proved the usefulness of such tools because "the test groups consistently had better terminology performance during simultaneous interpretation, interpreting more terms correctly, having higher terminology accuracy scores and making fewer terminological omissions" (Fantinuoli 2016:51).

In the context of using InterpretBank in the booth, Gacek's (2015) empirical study showed that the use of booth-friendly search tool is more efficient in improving terminology correctness and completeness than more traditional solutions. Similarly, Biagini (2016) conducted a study to determine whether the use of an electronic glossary in the booth can be a disturbing factor for the interpreting process. By comparing the performance of a terminology-dense text of two groups of interpreters, the first using InterpretBank and the second a traditional glossary on paper, he showed that the group that used the software performed better. They correctly translated a larger amount of technical terms and reduced the term omissions. Based on the results of the study, Biagini suggests that better performance of the first group could be caused by the fact that tools such as InterpretBank reduce the cognitive load needed to look up terms as opposed to the traditional methods (Fantinuoli 2016:51).

12.16. Advantages and disadvantages

Although InterpretBank is expensive, it offers numerous features that benefit interpreters in all stages of the work process. InterpretBank is extremely easy to use, with all the important functions accessible with just one click of the mouse. In addition, every function is performed with a very high speed, which is of particular importance for interpreters. An interesting feature is the possibility to create glossaries within glossaries, which can be helpful in preparing for conferences dealing with all kinds of subject matter. InterpretBank also offers the feature of essential importance – searching terms in all glossaries in the database. It is very easy to create, delete, merge, import or export glossaries, as well as switch the order of working languages in a glossary. Also, the ability to add description to each glossary and subglossary improves the search when dealing with a particular theme and the filing system. The biggest advantages compared to other terminology management tools include the implementation of IATE, the possibility to add organised notes and links to each term (which can be easily accessed during the conference), and the ability to search for translations on the Web directly from the application. Moreover, InterpretBank offers important innovations in form of memorisation mode, and conference mode. Memorisation mode can be very helpful in learning terms when preparing for a conference, especially with the possibility to adjust the speed and order in which the terms appear. Conference mode is very easy to use, with a nice design that provides clear view of the terms in the table. More importantly, the search through glossaries begins with pressing just the initial letter and shows results immediately.

The ability to use IATE database when translating to just five languages can be considered a disadvantage, especially since those working with unsupported languages who want to take advantage of the new feature have to purchase it. Furthermore, the direct search is currently limited to just two languages and cannot be used when the table consists of more than two languages. Also, a slight disadvantage may be the inability to customise the font and colour of particular terms or just one side of the table. All changes are automatically applied to the whole table.

All in all, InterpretBank is a very advanced terminology management tool with many innovative and useful features helping interpreters to get through literally every stage of the work. Of course, there is room for improvement, but InterpretBank definitely represents a new generation of terminology management tools.

13. Conclusion

It is surprising that the interpreting profession has been deprived of adequate technology for so long. Not only because of so many technological advancements in other fields, but also because the most widely used type of interpreting, simultaneous interpreting, is connected with technology and depends on it. Professional interpreters are people of exceptional abilities, but all the tasks that they have to perform at the same time can put a serious strain on their cognitive functions. With interpreting being a service profession, the quality of interpretation is of essential importance not only for interpreters themselves, but also for the clients and users of the service. As proved by so many studies, providing adequate technological tools suited for the needs of interpreters greatly improves the quality of performance and lowers cognitive stress. In Moser-Mercer's words "more powerful and more efficient tools can and must be developed so that the interpreter can become more economical in dealing with increasing amounts of information and thus ultimately provide a better service" (Moser-Mercer 1992:512).

In essence, interpreters should not be afraid to use technology and should support further research on this subject. Of course, technology cannot be completely relied on and should be used with caution. However, all kinds of innovations in this field can prove to be extremely beneficial to interpreters and their performance.

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