THE ROLE OF COGNITIVE REPRESENTATION IN CONSECUTIVE INTERPRETATION – A CASE STUDY

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Abstract: A long-standing source of conceptual difficulty and confusion in interpretation has been the overall construal of the world in the interpreter's mind when listening to the source language speech. Hence, the target language rendition can be dramatically marked by lack of understanding or by conceptual misrepresentations. The present paper deals with possible landmarks in the follow-up of the target renditions, on the basis of research conducted in the European Master's Programme for Interpreters' training in the University of Bucharest. Ultimately, it is not only knowledge of the world and knowledge of the topic that determines appropriate comprehension, it is also knowledge of language grammar that can decisively contribute to a correct, fluent and reliable message in consecutive interpretation.

Keywords: short-term memory, familiarity coefficient, speaker's communicative intention, interpreting coping skills, cognitive modelling.

1. Listening to the clue of the speech: what the speech is about

Consecutive interpretation is apparently an artificial situation of linguistic mediation, however, its effect is essential in inter-cultural communication, there where the members of two different linguistic communities or the speaker and the target audience do not speak the same language. That is why the trained interpreter is currently aware of the obstacles or barriers that may stand in the way of communication. For instance, what contributes to the understanding of the "aboutness" of the speech as pronounced in the source language is a set of factors which can be listed as follows:

- Way of articulation of the utterer, i.e. always will comprehension be impaired if the speaker mumbles the words or has some difficulty in articulation;
- Construction of the speech or the way in which it follows or not the regular "format": introduction, core, conclusion. The speaker can also reverse the order or include many or few details or "detours", with comings and goings, innuendos, digressions, etc. On the contrary, the speech may be structured differently, i.e. it can be straightforward, but very dense, with abrupt transitions from one topic to another, with no preliminary information or descriptive paragraphs. This constitutes the very clue of the speech, as the speaker will be crystal clear in delivering it, however, he/she will be relatively hard to follow if the speech is highly dense in information and technical explanations or if the main speaking and rhetorical strategy will be irony, allusions to inside information, presuppositions and everything related to previous and opaque facts and states of affairs. That is why the so-called encyclopedic and or targeted knowledge in the field are usually the musts of a trained interpreter.
- A third important factor for good comprehension is the speaker's communicative intention, closely linked to the above criterion, in the sense that the speaker wishes to be clear, to be ironical, to be friendly or unfriendly, but what he/she will always wish is to communicate the intended message to the audience. To that end, the speaker will resort to certain strategies, communicating, i.e. linguistic, behavioural and social. He/she will obviate a certain "touchy" matter while stressing another, or he will resort to other techniques, such as exemplifying a situation, a case, drawing preliminary conclusions, by inferring certain effects, past and future, etc. All these will put an imprint on the structure and language of the speech, they will determine the style and type, even the register of the speech, even if the register is

usually determined by the speaker's status and individual knowledge of language and knowledge of the world.

- One additional factor is the "setting" of the situation where consecutive interpretation must be provided. It is significant whether the audience is formed of experts in the respective field or whether it is formed of people who get general information about a current topic (for instance AIDS prevention, campaign against drug addiction and organizational support, environmental protection policies, etc.).
- Finally, what also counts for good comprehension is the positioning of the interpreter as opposed to the speaker, whether the interpreter sees and hears the speaker in normal –face-to-face or side-by-side positioning. This is the audio-visual factor, a sine-qua-non condition, which organizers tend to forget or to obviate for misunderstood "aesthetic" reasons.

1.1 A closer look at the understanding phase and the Mental Representation System/Model in Interpreting

It is not accidental that Interpreting is considered to be a job for the "mature" trained people rather than for those who are very young. The reason why we start from this current assumption is that cultural and societal as well as human psychological background has proved to be essential in good, commonsensical interpretation.

A. Understanding with senses (perceptual comprehension)

Experimental studies have shown that reasoning is regularly coupled with images; in the 60's, the study of mental imagery became widely popular, but scientists concentrated more on the role of imagery in reasoning and problem solving rather than on imagery as a form of memory or imagery as an intervening variable in experiments on learning. Later, the theory of imagery ("pictorialist") was used experimentally to describe "the mind's eye" (Kosslyn 1992), which is an analogous representation of information in a spatial medium. Mental scanning is a type of cognitive exercise based on imagining or "seeing" the scene/situation/event happening at a certain moment.

B. Information-based comprehension

The role of metarepresentations in understanding the world involves the use of an utterance or a speech as a set of several utterances to represent some other representation than a thought of the speaker's at the current time. For example, if a speaker uses a set of linguistic expressions to refer to a given situation or state of affairs, the audience will get a representation of that situation in compliance with the already used expressions as vehicles of the audience's metarepresentations of the respective possible world. In real-time speeches and situations without mediating interpretation, there can occur different types of metarepresentation: the pure quotation or mention and the reported speech and thought, in which an utterance is used to represent an utterance or thought attributed to someone other than the speaker at the current time. In the act of simultaneous (or consecutive) interpretation – metarepresentations occur in a mediated manner, via the interpreter's already processed representation. The message is perceived as a ready-made representation which is "cooked" by the interpreter but which must copy or shadow the original representation of the speaker. The listeners are subject to a double processing operation, the interpreter's and theirs. What is essential in this dual approach to the act of mediated communication is that the hearer or audience should recognise the speaker's informative intention that is the relevant elements in the speech. If the expected effect comes promptly from the audience - as a result of optimal relevance and comprehension, then interpretation turns into a felicitous act of communication.

Ultimately, what really interacts in the act of communication is the different representations taking shape in each one of the participants' mind: the speaker, the interpreter, the listener.

Humans have the ability to construct mental and public representations of many different types. Some are sensory, for instance we can represent in our mind the sound of some car horn in a busy city, or the sound of bells in a church, the appearance of a blooming apple-tree in spring, the pink roses in a garden, or even the sweet chocolate taste of some cake. Other representations are conceptual or abstract, that is they are the product of our mind and we can represent them only in an utterance that is through verbal expression, through language. According to Fodor (1983), the mind must have several different systems of representation and computation and together form a uniform background which facilitates understanding of the world. Humans also have the ability to construct mental representations of these representations; we can represent utterances, or the news we listened to on the TV, or the ideas in a book we have just read. These are metarepresentations or "theory of mind", i.e. the ability to explain and predict the behaviour of others by attributing to them certain beliefs, intentions and desires (see Eun-Ju 2000: 1). *Mutatis mutandis*, this is exactly what interpreters are expected to be doing while they interpret the message they listen to and take over from the speaker. Interpreters are responsible for what they understand or for what they assume they get from the speaker in terms of ideas, opinions and impressions. If they are wrong in their endeavour to decode the message correctly, the whole message can then be distorted and the final outcome will fail to be that which is expected from the target audience. There are situations where the respective message has been pronounced before in a different language and where the message went right from beginning till the end. Therefore, a checking in the metarepresentations of some text is obligatory for evaluation of the speech in the target language vs. that of the source language.

In the specific situation of simultaneous interpretation, where the audience, the interpreter(s) and the speaker continually interact in a given conference setting, according to the specific social "role-play" task, metarepresentations are of utmost importance and they can be the embodiment of the mindsets existing in each participant in the act of information exchange. In order for the speaker's representation to be convergent with the the speech relevant to the hearer, i.e. informationally loaded, the interpreter must be able to "check" that (meta)representation at some given point during interpretation. If such a checking point is missing, the hearer may fail to understand or capture the exact meaning, that is the meaning intended by the speaker. Metarepresentation ultimately means comprehension of the thought, opinion, idea, news or comment of the speaker with respect to a given situation (context) of the speech in a conference setting. Information derived from any source (perception, inference, communication) may be relevant to an individual or to a group of individuals (participants in a conference). Interpretation can be viewed as a model of re-conceptualization of a linguistic message, and in line with Lakoff (1987), who considers that thought is imaginative in nature, this re-conceptualized message is a propositional model based on the interpreter's imagistic and conceptual knowledge. Conceptual knowledge is part of the background or 'cultural' knowledge which 'builds up' long-term memory in a human mind. Interpreters, during their regular training, try hard to update their background knowledge in order to re-activate comprehension of concepts and relational or associative cognition occurring in the source language speech. The better one's general background, the better will their working memory be. Unfortunately, cognitive research is still "a black box" (cf. Nuyts 2000), because it never surfaces directly, but it is always found at the level of a most common form of semiotic behaviour such as language.

Language is specifically meant to code and transmit conceptual information, therefore, interpretation is necessarily based on this form of semiotic behaviour. However, as already mentioned repeatedly, it is not only language that is important in conceptual knowledge, it is also vision which is biologically a primary source of perception. Language is derived, in the sense that it is a cultural superimposed system of conceptualization. As acknowledged repeatedly in previous studies (Seleskovitch and Lederer 1984, Gile 1995), Interpretation is a communicative situation and is highly context-sensitive, therefore, the participants engaged in a process of human interaction will intersect their own cognitive representations of the world through the act of interpretation. This interchange is both inter-cultural and inter-linguistic. Flexibility of expression depends on the convergence of conceptual representations and uniform production of language. Only when the conceptual elements become available to the production system of language will the interlocutors understand each other correctly, i.e. will they share a common set of categorical representations (conceptualized) elements expressed via language. This is in fact the essence of SI from the comprehension point of view.

Short-term memory or working memory is precisely a certain capacity to store in one's immediate memory – the set of representations just heard or processed mentally. To retain in one's mind what has been uttered in a sustained and coherent manner means to be able and express verbally the same message, even if somewhat reformulated or rephrased or summed up to a certain extent. In consecutive interpreting, however, it is not only horizontal cognitive processes such as short-term memory skills that take action. Note-taking system in CI is an illustration of the way in which some mental vertical processes also intervene; through the note-taking system the trained interpreter rearranges or restructures information in a coherent, logical manner, in accordance with the flow of comprehended discourse.

2. Tentative measurements of comprehension and production efforts in SI

Several professional interpreters and researchers of the process of SI have reached the conclusion that efficiency in the SI production can be measured on the basis of various numerical indices, such as the **familiarity coefficient** (Alexieva 2000) or the **listening and production effort** (Gile 1995, Gile and Kurz 1997).

The familiarity coefficient is related to the degree of knowledge that interpreters may or may not have about the topic of the conference. The lower the coefficient, the poorer the knowledge and vice versa. Therefore, familiarity with the topic of the conference means to what extent can the content of a speech/text pronounced by the speaker at the conference sound "familiar" to the interpreter, as if it had been heard or listened to before - so that in the actual process of interpretation the interpreter should not be totally taken aback by the novelty of the speech, on the contrary, he/she should be able to recognise or even remember certain words (names of concepts or notions), graphs, acts etc. and find a more readily processed equivalent or reformulation into the target language of the original message in the source language. Familiarity coefficient relates to the semantic and cognitive density of the SL text on the one hand and to the rate and clarity of the SL delivery – on the other. In line with Alexieva (2000: 46), we can consider semantic and notional density to be a determining factor of comprehensibility and "listenability" in the act of SI. The question that arises is how semantic and cognitive density is constructed in a text or in a speech, which is practically a kind of "oralised" text. Apart from the conceptual words proper, words or terms that define and circumscribe the semantic field or the domain of reference (e.g. *cardiac disease* in the field of medical care/cardiology, *landfill* in the area of environmental protection a.s.o.), what really "loads" the text with condensed information is its grammatical structure, the sentence

dependency elements, the constituent structure, use of emphatic expressions, clefting procedures, degree of embedding, sequence of tenses, condensed forms of nominal participial or infinitival phrases, etc.

The predications network in a text or in a speech is practically the backbone of that text/speech, therefore, to identify those predicational constituents, whether finite or non-finite and the cohesive elements that build up the text into a logical whole is the main task of the interpreter. Moreover, of equal importance is the reference or deictic structure of the text/speech, that is why the subject constituents must also be pursued in the linear sequence of text production. What proves to be sometimes quite a trying task is identification of the nominal head in a series of pre-and post modifying and qualifying elements in a constituent structure (e.g. the so-called left-branching sequences whereby a subject is a complex nominal phrase, as in: *The numerous drug-rehabilitation, crime-prevention and job-training program design strategies* have not yielded very good results…). Such a sentence is formed of several implicit and explicit predications chunked into a condensed expression which must be undone in a language such as Romanian, in such a form as: *Numeroasele strategii de proiectare a programelor de dezintoxicare si de prevenire a actelor penale cat si pentru gasirea unui loc de munca*. This means that the interpreter will have to "wait" until the whole left-branch information package is uttered by the speaker so as to reformulate the content in an appropriate Romanian form, which is structurally and phonetically much longer than the source language. Of course, a different strategy can be used by which the interpreter may choose to restructure the information into segments or clusters of predications, by approaching the speech synthetically rather than analytically. In this latter case, the interpreter must have a complete control over his/her memorizing or storing abilities so as to trigger off at the right moment the information bit needed for further verbal expression. Memorizing is also dependent on the individual syntactic processing, since a given item of information might appear in a simple sentence or in a complex one, or in syntactically different places in the sentences; if this affects subjects' ability to interpret, we can conclude that this difference is an indication of the importance of syntactic processing in interpreting. The syntactic properties of a speech are to be reflected in clause density and clause embedding. Clause density designates the total number of clauses per segment – roughly the proportion of subordinate clauses to main clauses – and as such is a measure of the syntactic complexity of the segment. Clause embedding designates the syntactic "prominence" of the clause. Both of these measures are associated with the assumption that clause density and embedding lead to more effort in syntactic processing and consequently – to a higher probability of errors in interpreting performance.

This is called computational capacity and it varies from one interpreter to another since it requires a great deal of mental effort in the act of processing and performing simultaneous interpretation. The interpreter's computational capacity also varies on account of the compensatory mechanisms that each interpreter is developing during his/her career, a mechanism that regards the coping strategies of intently delaying, cancelling, or resuming the information packaged in a certain source language structure so as to trigger it off later, or even earlier, given the prediction skills, or else – restructure it in a different formal pattern in the target language. The compensatory mechanism of information resumption in an interpreted speech is conducive to a multidirectional approach from the part of the interpreter, by which the linear order of human speech is reorganised and processed so as to turn the message into an optimally relevant piece of information for the listeners. Such reorganisation of information is far from being automatic, it is time- and mental effort-consuming, despite the apparently short or instantaneous sonorous 'production' coming from the interpreter.

At this point, we should mention that consecutive interpretation also calls for an appropriate note-taking system, in the sense that the notes usually reflect the cognitive 'mapping' of the speaker's allocution in the form in which the interpreter can 'draw' this reflection. Therefore, the notes will reflect the interpreter's own computational capacity to comprehend the speech, so they will help the interpreter to come back on the rendition of the content of the speech in the consecutive mode. The interpreter's computational capacity can be calculated by resorting to Alexieva's formula of familiarity coefficient ration between the number of recurrent notional concepts and number of notional words in general, in a speech or a segment of a speech), but this coefficient varies with the type and substance of the speech. Generally speaking, a political speech is easy to understand and retain, while a technical, highly specializing speech is difficult – if not impossible to decode in interpretation. On the basis of the familiarity coefficient a speech can be judged whether it is predictable in what it states. For instance, a speech segment (quoted below) from that pronounced by Barak Obama on his accession of US Presidency, in November 2008, would have a familiarity coefficient of 134/283= 0.48. Therefore, the text is quite 'redundant' in the sense that many of the notions or concepts that are mentioned in the speech are resumed at some point and extended or elaborated upon in similar persuasive contexts, given the fact that this is a political speech addressed to the American people and is being pronounced by the President Elect of the US, at the end of the Election Day.

> "Four years ago, I stood before you and told you my story of the brief union between a young man from Kenya and a young woman from Kansas who weren't well-off or well-known, but shared a belief that in America, their son could achieve whatever he put his mind to.
> It is that promise that's always set this country apart -- that through hard work and sacrifice each of us can pursue our individual dreams but still come together as one American family, to ensure that the next generation can pursue their dreams as well.
> It's why I stand here tonight. Because for two hundred and thirty two years, at each moment when that promise was in jeopardy, ordinary men and women, students and soldiers, farmers and teachers, nurses and janitors -- found the courage to keep it alive.
> We meet at one of those defining moments -- a moment when our nation is at war, our economy is in turmoil, and the American promise has been threatened once more.
> Tonight, more Americans are out of work and more are working harder for less. More of you have lost your homes and even more are watching your home values plummet. More of you have cars you can't afford to drive, credit cards bills [sic] you can't afford to pay and tuition that's beyond your reach.
> …….
> We are more compassionate than a government that lets veterans sleep on our streets, and families slide into poverty; that sits -- that sits on its hands while a major American city drowns before our eyes.
>
> Tonight -- Tonight I say to the people of America, to Democrats and Republicans and Independents across this great land: Enough!"

However, a high familiarity coefficient does not necessarily mean that the interpreter faces no problems of interpretation whatsoever. More often than not, it is exactly with such texts that interpreters have to fight in order to strike the right note - that is to find the proper register and proper wording in the target language. Obviously, long professional experience always helps in providing a good, appropriate rendition of the message. If the topic of the conference is technical or scientific in some specialized field, the value of the familiarity coefficient counts more than in the regular political meetings, because it regularly proves to be significantly lower. Experiments showed (Barik 1971, Alexieva 1998) that FC (familiarity coefficient) values which are below 0.25 become incomprehensible and the communication acts may fail completely in the interpreting process. The interpreter is faced with such stress

in memorizing and comprehending the speaker's message that performance would practically crack down. Lack or gaps in the horizontal chain of information impairs the computational processes of the mind and heavily depreciates cognitive mapping or comprehension of the leading idea(s) of discourse (cf. Setton 2002).

3. The holistic view on interpreting

A speech cannot be judged only in quantitative terms, precisely because of the complexity of its syntax. Clause density and clause embedding as well as lexical conceptual representation of the speech add up to making it more or less 'relevant', in Sperber and Wilson's (1986) terms. Empirical experiments have shown that narrative speeches, for instance, are more readily comprehended and rightfully rendered in interpretation than descriptive, procedural or highly referential speeches (Dillinger 1990). Speech (based on a previously composed text) types proved to be highly significant for interpretative purposes in a conducted experiment with experienced interpreters. The conclusion of this study was that in spite of the fact that both speeches had the same number of words, clauses, cohesive elements, and propositions, as well as similar distributions of the amounts and types of each such structural elements, there was a systematic difference in how well interpreters performed (and understood) with them. This difference can be attributed to the different ways in which propositional information was organized to form and informational structure, or frame for the text/speech.

Concluding, we could assume that in consecutive interpretation it is very important to look at several factors that constitute the structure and form of the delivered speech, besides the speaker's linguistic peculiarities. Proposition generation, conceptual representation and general knowledge of the subject/topic of the speech, as well as syntactic processing are the hard nuts to crack in the interpretation act, during the comprehension stage. Performance is essentially, (however, not uniquely) dependent on comprehension. This is the reason why consecutive (and simultaneous) interpretation must be assessed in its holistic perspective, given the fact that interpretation mediates between several communicators: speaker, interpreter, audience/listeners, potential respondents, etc. and that mind operates in a vertical (i.e. modular), not only in a horizontal (memory- and information-wise) manner.

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