NEUROLINGUISTIC INDICATORS OF CONSECUTIVE INTERPRETING

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Abstract: In spite of a large body of research, it has proved difficult to integrate the existing data concerning interpreters' professional knowledge, their linguistic competence and their psycholinguistic predispositions into a cohesive theoretical framework. The article highlights a coherent and interrelated set of psychological abilities as well as processes constituting a relevant component of translation competence.

According to this framework, consecutive interpreting comprises three conceptually related mental processes involving a variety of psycholinguistic factors. These processes are: (1) reception of an initial message, (2) storing of a message, and (3) production of a target message. The message may be received in three ways: (1) on the basis of a text produced by the speaker, (2) via the senses, and (3) through nonverbal communication. Human perception is determined by their cultural background which comprises rules, principles, norms, beliefs – all the cognitive factors which influence their outlook, and according to which they distinguish particular elements of the world and evaluate modes of behaviour, attitudes, etc.

Due to the fact that in the analysis of a message, the interpreter has to identify the main ideas and give them their proper relevance in their interpretation, the received information is converted in the human brain into basic conceptual units forming a semantic net.

NEUROLINGWISTYCZNE PARAMETRY TŁUMACZENIA KONSEKUTYWNEGO

Abstrakt: Tłumaczenie konsekutywne to proces transferencji informacji zawartej w tekście wyjściowym – istotne jest zatem odtworzenie konceptualnej sieci wypowiedzi nadawcy, a nie skupianie się na pojedynczych słowach. Z jednej strony tłumacz odtwarza wyjściowy tekst w języku docelowym, a z drugiej – pełni funkcję edukacyjną, tzn. dostosowuje tłumaczoną informację do potrzeb i kognitywnych możliwości odbiorcy. W razie zakłóceń natury fizycznej tłumacz stosuje szereg strategii „kompensacyjnych" – mniej lub bardziej świadomie odwołuje się do schematów poznawczych dostępnych w jego mózgu, a także stosuje myślenie heurystyczne. Oprócz wiedzy odnoszącej się do elementarnych pojęć z zakresu danej dziedziny oraz wysoko rozwiniętej kompetencji językowej istotną rolę odgrywają również cechy oraz uwarunkowania psychologiczne samego tłumacza, jego uzdolnienia oraz inteligencja. Można przypuszczać, iż deficyty w sferze językowej lub w zakresie wiedzy profesjonalnej są rekompensowane posiadanymi zdolnościami psychologicznymi. Ważną rolę odgrywa wrażliwość na komunikaty niewerbalne i parawerbalne. Ustawiczne poszerzanie i utrwalanie wiedzy o świecie oraz doskonalenie kompetencji językowej pozwala odciążyć pamięć operacyjną. Na osi wiedza-język zachodzi permanentne sprzężenie zwrotne, dlatego poszerzanie wiedzy językowej pociąga za sobą rozwój zdolności kognitywnych, a doskonalenie umiejętności poznawczych niejako „wymusza" stałą aktualizację języka tłumacza. W zawodzie tłumacza konsekutywnego ważne jest dokonywanie auto- i metaanalizy, gdyż w przyszłości pozwala to uniknąć wcześniej popełnianych błędów i zapobiec powstawaniu nowych.

One objective common both to translation and interpreting is to produce the same reaction in the receivers of the translated language as in those of the source language. In order to achieve this, it is of fundamental importance to understand the meaning of the original message. From a neurolinguistic perspective, understanding means creating an adequate mental representation of the intended meaning in the form of a conceptual mental network (Lukszyn 2007a, 190; Lukszyn 2007b, 51-70).

In consecutive interpreting, the interpreter speaks after the source-language speaker has finished speaking. The speech is divided into segments. The consecutive interpreter sits or stands beside the source-language speaker, listening and taking notes as the speaker progresses through their message. When the speaker pauses or finishes speaking, the interpreter then renders the entire message in the target language. Sentence-by-sentence interpreting requires less memorization and therefore a lower likelihood for omissions, yet its disadvantage is in the interpreter's not having heard the entire speech or its gist, and the overall message is sometimes harder to render both because of lack of context and because of interrupted delivery (e.g. imagine a joke told in bits and pieces, with breaks for translation in between). This method is often used in rendering speeches, recorded statements, court witness testimony, and medical as well as job interviews, but it is usually best to complete a whole idea before it is interpreted.

Full (i.e. unbroken) consecutive interpreting of entire thoughts allows for the full meaning of the source-language message to be understood before the interpreter renders it in the target language. This affords a truer, more accurate, and more accessible interpretation than does simultaneous interpretation.

The role of bilingual competence as well as professional knowledge are very often overrated in consecutive interpreting. The notion of *linguistic competence* should be defined as the interpreter's command of a target, as well as of a source language, inclusively of the knowledge pertaining to the cultures and idiosyncrasies involved, whereas the term of *professional knowledge* refers to the interpreter's acquaintance with the theme being treated, i.e. with the subject covered (e.g. law, the economy, genetics etc.). Undoubtedly, a fluent command of the source and target languages constitutes an unquestionable component of the interpreter's translation competence. However, the professional knowledge has not proved as necessary as one may expect. Translators whose level of professional knowledge is much lower than the specialists' knowledge sometimes are as effective in their translation practice as translators-specialists in a particular domain (Marchwiński 2008, 33). The above may be explained by the fact that interpreters-specialists while translating tend to "overinterpret" the message, i.e. they distort a conceptual semantic net of a given text. Thus, the interpreter/translator is not obliged to create, in their brain, knowledge which should be comparable to the expert's knowledge. The interpreter should have elementary knowledge referring to the universal basics of the specialized language.
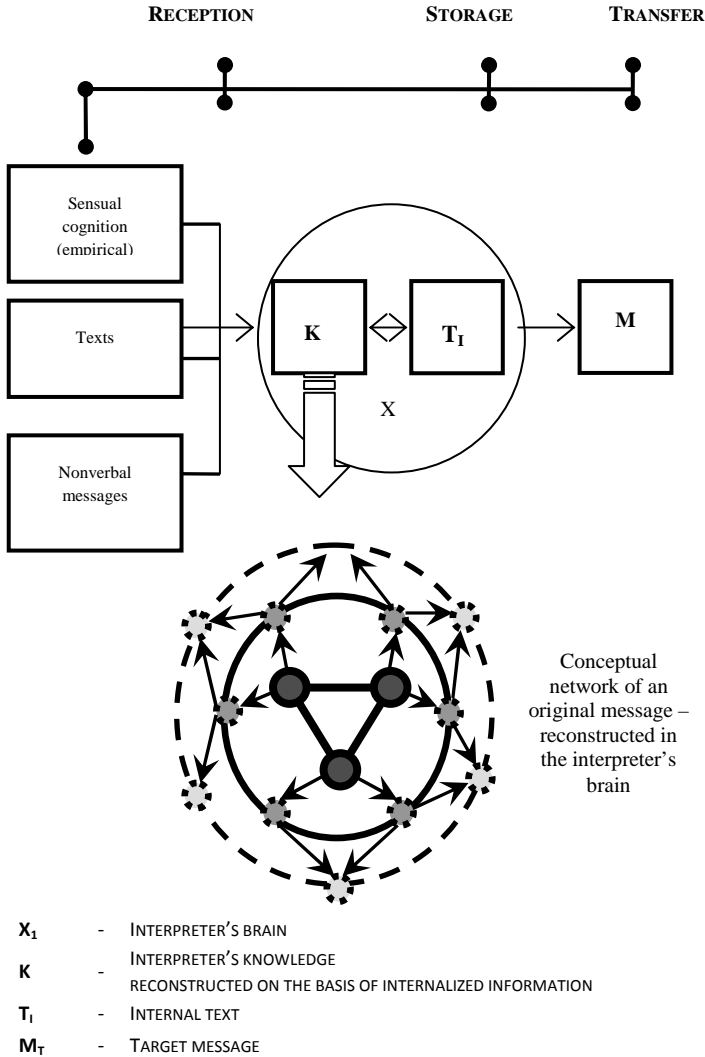
Apart from the knowledge constituted by elementary terms within a certain domain and except for the highly developed linguistic competence, also traits, features and the interpreter's psychological profile play a crucial role. The interpreter should have good hearing, fast reflexes, the ability to concentrate, a capacious memory, the ability to cope with stress (high stress resistance), etc. (Kielar 2003, 133). Other cognitive and attitudinal aspects to be mastered include, among others, good interpersonal and social communication abilities. What plays an uppermost role is psychological self-control and

stress assimilation. The interpreter should know how to cope with a variety of distracting factors provoked by the context, environment, audience etc., which in some cases may prove to be the main source of stress hindering the entire interpreting process. Furthermore, the interpreter's experience and their age are of fundamental importance, since their long-term practice largely impacts the interpreter's activity and very often allows to surmount various difficulties of whatsoever nature while interpreting. The interrelations between linguistic competence, professional knowledge and psychological predispositions allow to assume that insufficient levels of professional as well as linguistic knowledge may be compensated for by well developed psychological skills. And, on the contrary, well developed linguistic competence and professional knowledge may make up for the deficits in psycholinguistic determinants.

The appropriate level of professional knowledge enables the interpreter to differentiate relevant and redundant information and allows them to distance from literality. Word-for-word translation very often results from strictly verbal memorization of a text, without understanding and analyzing any deeper structure of the message, which consequently leads to a limited storing capacity, i.e. one may memorize only one sentence (Kielar 2003, 133).

The interpreter, as an active participant of a communicative process, plays a double role. Firstly, they replace the speaker, which fact enables them to speak in the first person singular. Secondly, the interpreter may observe the audience, among which the sender as well as receivers of the message are to be found. Due to the foregoing process, the linguistic intermediary may use not only linguistic-textual information which is to conclude from the content itself as well as from the form, but also from situational information. As the observer, the interpreter may assess participants' moods, way of reacting to the speech, etc. However, in order to evaluate messages produced by the environment, the interpreter should have a high level of emotional intelligence, which may clearly be deemed as a component of psychological skills.

According to this framework, consecutive interpreting comprises three conceptually related mental processes involving a variety of psycholinguistic factors. These processes are: (1) reception of an initial message (absorption), (2) storing of a message (creation/reconstruction), and (3) production of a target message (transfer). The message may be received in three ways: (1) on the basis of a text produced by the speaker, (2) via sensual perception, which generally takes the visual or auditory form, and (3) through nonverbal communication, which to some extent may also be categorized as sensual perception (Picture 1). It should be emphasized that human perception is determined by the cultural background (Grucza 1997, 17). A person's culture comprises rules, principles, norms, beliefs – all the cognitive factors which influence their outlook, according to which they distinguish particular elements of the world and evaluate modes of behaviour, attitudes, etc.

RECEPTION   **STORAGE**   **TRANSFER**

X_1	-	INTERPRETER'S BRAIN
K	-	INTERPRETER'S KNOWLEDGE RECONSTRUCTED ON THE BASIS OF INTERNALIZED INFORMATION
T_I	-	INTERNAL TEXT
M_T	-	TARGET MESSAGE

Picture 1. The consecutive interpreting process

The reception of an original text and the ability to reconstruct within the brain knowledge represented by a given text to some extent are determined by: (1) genetic predispositions, (2) mental "instruments", i.e. potential, on the basis of which one may create their own language as well as their own knowledge, and by (3) logical as well as analytical thinking. The sender's message constitutes only an external representation of their knowledge, and the interpreter's task is to create and/or reconstruct this knowledge in the brain. The reconstruction and/or creation is of a gradual nature and may be illustrated by an open interval (0, 1). The unbounded interval represents open endpoints of

the human "cognitive continuum", which means that, on the one hand, despite strong efforts, it is impossible to eliminate all external factors invading the human body from the outside world, which to some extent entails the necessity of automatic data processing conducted in the brain. On the other hand, following the doctrine of epistemological scepticism, even the most detailed and thorough analysis of the message will not prove that one has reached the last stage of cognitive absorption, whose final effect may be deemed as the most faithful reflection of the sender's knowledge.

The interpreter should follow their intuition, both linguistic and interpersonal, otherwise known as their "sixth sense". However, the role of intuition – due to the lack of empirical support – has been marginalized and shifted to the field of parapsychology.

As far as consecutive interpreting is concerned, nonverbal communication is of the essence. Firstly, words have limitations – there are many areas where nonverbal communication is more effective than the verbal one (e.g. shapes, directions, personalities may be expressed nonverbally). Nonverbal messages are powerful, since nonverbal cues primarily express inner feelings (verbal messages deal basically with the outside world). Furthermore, due to the fact that nonverbal messages cannot be controlled as easily as spoken words, nonverbal messages are likely to be more genuine. The less controllable the message is, the more difficult it is to hide the speaker's intentions (Brown 1986, 505). Social etiquette limits what may be said, but nonverbal cues can communicate thoughts. Finally, a separate communication channel is necessary to help send complex messages: a speaker may add enormously to the complexity of verbal messages through simple nonverbal signals. In the event of psychophysical disturbances, such as noise, when the interpreter experiences difficulties in receiving the original message, these information deficits may be compensated for by data derived from nonverbal cues. This fact supports a general truth that it is easier to interpret a person who is seen rather than a person beyond the visual field of the interpreter.

A cultural intermediary has to reconstruct the meaning of the original text. Having absorbed all the stimuli coming from the outside, on the basis of the internalized information, they create and/or reconstruct in their brain knowledge, and then form "internal texts", which are understood as mental representations of a conceptual network/a semantic net illustrating the core of the sender's message. While the interpreter creates an internal utterance in their brain, certain anatomical structures are activated and new neural pathways are paved. Those structures of the interpreter's brain are activated which are anatomically similar to the sender's activated centers. In other words, similar neural/conceptual networks should be formed in the interpreter's as well as sender's brains. The reconstruction of semantic network representing the meaning of the information given and constitutes one of the most relevant stages of consecutive interpreting.

The structure of each specialized text is determined by basic concepts (terms), namely, first order derivative terms as well as second order derivatives terms. It is natural to assume that first order derivative terms are regular due to their direct and unambiguous relations to basic terms, whereas second order derivative terms are implied from multiple and multilevel semantic interrelations (Lukszyn 2009, 11)].

The interpreter plays a technical as well as an educational role. The technical function refers to explaining to listeners terms provided in the original text. The educational function refers to the fact that the interpreter's task is to enlarge upon as well

as to update a particular type of knowledge. The interpreter structurizes and implements the receiver's context of knowledge as well as bears responsibility for the receiver's mental comfort in terms of the provision of new information. In the event that – due to the lack of relevant knowledge – the receiver does not comprehend the interpreted message, the interpreter has to reorganize the conceptual units network of the sender in an optimal way so that the receiver may create in his/her brain a similar net. The main task of interpreting is to harmonize/synchronize the sender's and receiver's contexts of knowledge. While the receiver absorbs the sender's conceptual network, the interpreter has to prevent the sender's context of knowledge from deformation or destruction.

Within the axis: knowledge-internal text, there is a permanent feedback loop. Broadening the linguistic competence entails the enrichment of knowledge, since by naming and placing "verbal etiquettes" on new things, one creates new notions, new meanings, new semantic units. On the other hand, the enrichment of knowledge implies a permanent verification of one's language. Therefore, the language acquisition is a never-ending, ongoing process (Grucza 2004, 29).

Due to the fact that in the analysis of a message, the interpreter has to identify the main ideas and give them their proper relevance in the interpretation, the received information is converted in the human brain into basic conceptual units forming a semantic net. Information-processing paradigms attempt to deal not only simply with the permanent structure of the memory, but with the full range of human comprehension, including the acquisition of new information and its integration into old information, which is a topic of major importance for all forms of interpretation. Understanding, here, refers to ideas, not to words, since the interpreter has to convey concepts. The methodology of interpreting consists in the conversion of a given message into basic conceptual units, into conceptual form, or into its underlying abstract form. The interpreter must decode the message into its abstract form before undertaking translation, and before proceeding to encode the message into the target language.

The interpreter is performing operations common to normal language use in the perception and comprehension of the message to be translated, but he or she must take such an operation one step further by reformulating and re-expressing the information. Translation is not possible without a decoding of the message into its underlying, conceptual form: translation is not possible without exegesis (Garretson 1981, 247). The exegesis is recorded in internal form in the interpreter's brain. The interpreter seems to extract the meaning of the material, store this information in an abstract form, and, in the course of recognition and recall, reconstruct the stored material afresh, imposing on it a new grammatical and syntactic structure.

The meaning of a sentence or text may be more effectively captured by a set of nonverbal concepts and their interrelationships rather than by the semantics of natural language. The theory of interpretation provokes the following questions: (1) whether the message received by the interpreter may be effectively analyzed by the decomposition of words into more primitive semantic features, or (2) whether meaning, as it is represented in the mind, is better described in terms of non-linguistic conceptual relations, i.e. in the language of thought (otherwise known as *mentalese*) (Fodor 1979)].

The advantages of a decompositional approach are varied. It is generally accepted that the meanings of words can be expressed in terms of a combination of simpler concepts. Such basic concepts (variously termed semantic 'units', 'features',

'components', 'primitives') are envisioned as a restricted set of units of meaning, capable of describing the meanings of words in language. Just as in phonology, where sounds are composed of bundles of features, so too can a word be reduced to a bundle of semantic features (Katz and Fodor 1963; Katz and Postal 1964). However, it is argued that decomposition is not 'psychologically real' for the language user; that is, the language user does not carry out the mental process of decomposition in perceiving and comprehending verbal messages. Lexical items which are more complex in their combination of features have not proved any more difficult to comprehend than simple lexical items (Kintsch 1974, 240). In the second place it is argued that not all semantic relations, i.e. relations between meanings, can be explained in terms of independent items of meaning and their combinations into wholes.

The proponents of propositional representations argue in favour not of lexical decomposition, but of the "meaning postulate". The "meaning postulate", as initially conceived by logicians (Carnap 1964), is intended as a set of inference rules in a logical system to cover extra-logical relations. Their particular usefulness in linguistics lies in their ability to express those entailment relations between words which are not bi-directional. However, meaning postulates do not reduce a word to primitive, atomic concepts, as in lexical decomposition; instead they provide a set of inference rules (or axioms) associated with the word, rather than defining a word in terms of individual features (Garretson 1981, 249).

A closer examination of the interpreter's notes confirm the limitations of a decompositional analysis. Interpreters in their notes make a broad use of abbreviations, but also frequently treat complex words as unitary concepts (Rozan 1959).

The production of a target message may be understood as the transfer of processed information. Then, the message expressed by the interpreter in a target language is reconstructed in the receiver's brain. Listener's reactions may serve as a feedback, on the basis of which the cultural intermediary improves his/her own translation competence. At the stage of producing a target text, the interpreter's lingual abilities are of fundamental importance. Undoubtedly, cognitive abilities are determined by linguistic abilities, which may be divided in turn into formative as well as functional abilities. Formative abilities enable each speaker-listener to produce, create, send, perceive and recognize texts of any kind, treated in this case as a set of sounds, i.e. as a set of acoustic signals. Functional abilities determine a human's capacity to use the above acoustic signals in the form of signs, which is understood as giving these acoustic signals a particular meaning. Functional abilities constitute the basis for cognitive abilities, which means that more complex mental operations depend upon formative skills. Therefore, a variety of cognitive skills, which are conditioned by functional skills, are referred to as supra-lingual/postlingual abilities (Grucza 1983, 417).

It needs mentioning that the basis for formative skills is constituted by a certain physiological potential. However, neither physiological nor cognitive capabilities constitute a component of linguistic skills. Due to the fact that physiological abilities give grounds for linguistic potential, they may be defined as prelingual/sublingual skills.

The conclusions which are to be drawn from the above analyses are as follows: (1) the interpreter's linguistic or knowledge deficits may be compensated for by psychological skills; (2) sensitivity to nonverbal communication plays a significant role in rendering interpreting services; (3) consecutive interpreting consists in conveying the

general message rather than individual words, therefore it is of fundamental importance to reconstruct a conceptual network of the received information; (4) the interpreter plays a technical as well as educational role; (5) in the event that a wide range of psychophysical disturbances are encountered, the interpreter may use a variety of compensatory strategies; (6) it is highly recommended to constantly enrich one's vocabulary as well as to expand one's professional knowledge in order to enhance one's long-term memory and to strengthen neural connections in the brain; (7) broadening the linguistic competence entails the development of cognitive capabilities, whereas the improvement of cognitive skills implies a permanent verification of a person's language.

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