

**Conceptual Processing in Simultaneous Interpreting: A  
Cognitive Model of Mental Operations in the Interpretation  
of Three Speeches by President El-Sisi**

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**Abstract**

Interpreting is not code-switching, but an activity which conveys the source speaker's message to the audience. Cognitive linguistics and cognitive psychology have provided ground to examine the interpreter's cognitive environment. Conceptual operations are involved in utterance comprehension in general, where semantic representations are formed in the mind of the receiver. The same applies to interpreting as mental operations take place in the mind of the interpreter. Prágerová (2012) proposes a model to explore the mental reality behind the Simultaneous Interpreting (SI) online performance by comparing the Source Text (ST) and the Target Text (TT) of actual SI performances, analyzing the mental models constructed by the interpreter and the cognitive operations that have been going on inside the interpreter's mind. This paper aims to explore the interpreters' meaning construction during SI performance from Arabic into English of three different types of President El-Sisi's speeches, giving detailed description of the interpreter's conceptual operations based on linguistic evidence, problem triggers that have caused cognitive saturation as well as online processing strategies as summarized by Riccardi (2005). The study aims also to present both SI trainers and trainees with a comprehensive tool of description of simultaneous interpreting, by bringing together three main elements of analysis; namely, problem triggers, processing strategies and mental operations, in hope of helping SI trainers and trainees better explain and understand the complexity of the process at hand.

**Keywords:** Simultaneous interpreting, cognitive-based interpreting studies, descriptive translation studies, conceptual processing, mental representations, mental models, mental operations, SI processing strategies, problem triggers.

## **Introduction**

All human communication involves a set of complex cognitive activities. Translation, in general, and simultaneous interpreting, in particular, inherently involve complex cognitive processing. "[Interpreting] is a human performance in which cognitive activity is first and foremost" (Lederer, 1978/2002, p. 131). It is "achieved through the concurrent application of cognitive and linguistic skills which are so closely intertwined that it is difficult to state whether and when one prevails over the other" (Riccardi, 1996, p. 213). It is as Albir (2001) defines it: "a complex cognitive process which has an interactive and non-linear nature, encompassing controlled and uncontrolled processes, and requiring problem solving, decision making and the use of translation strategies and tactics" (as cited in Alves & Albir, 2010, p. 28). Interpreting has been investigated by different disciplines, and various models have been developed and adopted in order to describe what takes place inside the black-box that is the interpreter's mind.

The present study aims at describing, analyzing and therefore, helping further understand the mental operations, also known as "cognitive operations", which are involved in online simultaneous interpreting (SI) performances. It attempts to apply the recent model of mental operations in SI set by Veronika Prágerová (2012) in her PhD dissertation. Her model is an explanatory one, which makes it suitable for a descriptive approach. The current study is carried out within the framework of Descriptive Translation Studies. It applies Prágerová's (2012) model to Arabic-English online SI performance.

Given the complexity of both the model and the phenomenon under study, the findings from the corpus analysis are described and classified for the purpose of gaining insights into the interpreter's decision-making process which falls under the category of the black-box of the interpreter's mind. The analysis attempts to combine both mental operations, as categorized by Prágerová (2012), together with online processing strategies as summarized by Riccardi (2005). The three speeches chosen are all delivered by one speaker, President Abdel Fattah El-Sisi, as he makes an interesting research subject due to his distinctive discourse features addressed in the study. The sample speeches are an impromptu speech, a read-out speech and a partially impromptu and partially read-out speech. The variety allows the researcher to apply Prágerová's model to different types of speeches, each offering a different challenge to the interpreter.

The focus of the analysis is on the cognitive operations the interpreter carries out during interpreting, how the interpreter works, and what happens when s/he fails in carrying out the task. The analysis is not directed to judging or fault-finding with the interpreters' performance, as the aim of the descriptive analysis is to answer the following research questions: (1) what are the complex mental operations that take place in the mind of the interpreter during an online SI performance?, (2) how are mental models dealt with during an SI performance?, (3) what are the processing strategies and tactics used by the interpreter to cope with certain problem triggers and causes of cognitive saturation?, (4) how does a speaker's special discourse features reflect on the interpreter's cognitive environment?, and (5) how are certain processing strategies linked to certain types of mental operations?. The study aims to present both SI trainers and trainees with a comprehensive tool of analysis and description of simultaneous interpreting. Bringing the three elements of analysis together; namely, problem triggers, processing strategies and mental operations, is hoped to be of benefit to learners, helping them better understand the complexity of the process at hand.

### **Literature Review**

#### **Development of Approaches to Simultaneous Interpreting**

Before the 1950s, the general consensus was that simultaneous interpreting was a process of language transition, seeking correspondence between the words and sentences of the source and target languages, and that it defied all and any description or explanation. However, the social, professional and teaching (or training) scenes changed, and the prevailing linguistic theories were not suitable to explain the interpreting process. This called for a change in the teaching/training methods, and results and insights from different disciplines were called upon, giving rise to a new reading of the interpreting process.

In the 1970s, Seleskovitch and Lederer advocated a new approach to interpreting which gave birth to what is commonly known as "théorie du sens" (the theory of meaning), or the "Interpretive Theory of Translation". Their pioneering, if limited, efforts have paved the way for the cognitive analysis of interpreting, viewing simultaneous interpreting as a process of making sense and of inferencing based on linguistic and extra-linguistic background knowledge (Pöchhacker & Shlesinger, 2002, p. 97). Since then, different models and approaches to understanding and theorizing interpreting have been developed and adopted.

#### **Models of Interpreting**

Models, in general, aspire to describe some aspect of a phenomenon based on immediate observation and empirical data, and to explain how or why a phenomenon occurs (Pöchhacker, 2004, p. 85).

According to Pöchhacker (2010), interpreting scholars have attempted to draw up a variety of models, depending on their various ways of seeing their object of study, in order to capture what they regard as essential features of the interpreting process (p.163). (For an overview of the different types of models, see Pöchhacker (2004)).

### **An Overview of Cognitive (Processing) Models of Simultaneous Interpreting**

Cognitive science is an interconnection of various disciplines; namely, psychology, philosophy, linguistics, anthropology, sociology, artificial intelligence, neuroscience, and education. Looking at the interpreting process through "the prism of some of these disciplines" will lead to a better understanding of the "interpretation of interpreting" (Prágerová, 2012, p.10). The process in interpreting, as most processing models agree, is generally divided into three phases: comprehension, transfer between the two languages, and production. As none of these three stages is observable, researchers have done their best to employ different methods and call upon various approaches to explain what actually takes place inside the mind of the interpreter.

**The Interpretive theory of translation.** One of the most basic and the most powerful "processing" models of interpreting is the Interpretive Theory of Translation set by the pioneering Seleskovitch and Lederer (Seleskovitch, 1968, 1975, 1978, 1981; Lederer, 1981; Seleskovitch and Lederer, 1981; Seleskovitch and Lederer, 1989/1995). The model proposes 'deverbalized sense', or the ability of the interpreter to perceive the meaning of an utterance and to convey its underlying message, as the pinnacle of a triangular process from one language to another (Pöchhacker, 2010, p.164). The three-stage process includes understanding, deverbalization, and re-expressing.

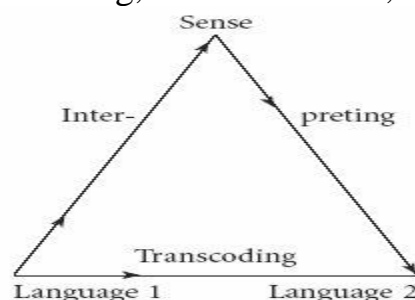


Figure 1. Seleskovitch's (1984) triangle model

**Gerver's processing model of interpreting.** Another one of the earliest processing models of interpreting is David Gerver's (1971, 1975, 1976) which breaks down the process into subtasks to make it suitable for experimental study. His model proposes memory structures (short-term buffer store, long-term memory system, output buffer) as well as

procedures and operations from which the interpreter chooses such as output monitoring, backtracking for improvement, and discarding of input.

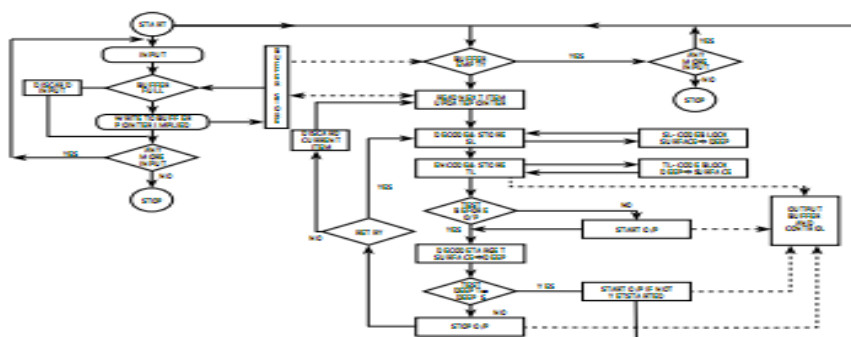


Figure 2. Gerver's (1976) model of simultaneous interpretation process (p. 182)

The problem with Gerver's model, as well as with those similar to it, is that it is rationalist in its approach, based on the philosophic assumption that ignores any ways in which function arises from both body and brain. Also, the model pictures human thinking like a computer that functions step by step along a flowchart, and not in overlapping, parallel processes (Gao, 2011, p. 47).

**Gile's effort model of interpreting.** Daniel Gile (1985, 1991, 1995, 1997, 2008) proposes his Effort model which comprises three basic mental efforts encompassing all "online operations" (i.e. memory efforts), which are activated to allow managing the storage and retrieval of information related to the source and target speech in the working. They are Listening and Analysis Effort, Production Effort, and Memory Effort (Gile, 1995/2009, p. 160-166). He proposes a fourth effort, called "Coordination Effort", which manages attention allocation and shifts between the three other efforts. Combining two efforts or more means more processing capacity.

He also introduces "problem triggers" which are responsible for recurrent problems in interpreting (Gile, 1995/2009, p.171). These triggers may cause "cognitive saturation", which are problems that occur when total processing capacity requirements exceed available processing capacity. Saturation, which he considers part and parcel of the interpreting task, can be either overall or in one of the efforts, resulting in errors, omissions, or affected delivery quality in target speech. Gile (1995, 1997) also proposes the concepts of "cognitive load" and "coping tactics". Both triggers and tactics shall be addressed under interpretation strategies.

**Setton's pragmatic-cognitive model of interpreting.** Among the latest and most comprehensive models is that proposed by Robin Setton (1999) who adopts a corpus-based pragmatic-cognitive framework, combining two pragmatic schools; Sperber & Wilson's Relevance Theory and Austin and Searle's Speech Act Theory as well as two cognitive linguistics schools; Fillmore's Frame Theory and Johnson-Laird's Mental Model Theory. He describes his model as "a hybrid of best available theories" (Setton, 1999, p. 63). He attempts to address all aspects relevant to interpreting such as comprehension, memory and production. A comprehensive overview of cognitive models of simultaneous interpreting presented in the last 60 years can be found in Pöchhacker (2002, 2004).

### **A Model of "Cognitive Operations" in Simultaneous Interpreting**

The present study adopts the model set by Veronika Prágerová (2012) in describing mental operations in simultaneous interpreting. The reason for selecting this model in particular is that her model is one of the most recent attempts at adopting a unifying view of different cognitive models and approaches to simultaneous interpreting devised by different SI researchers; namely, Seleskovitch (1975), Gile (1995), and Setton (1999). However, in order to deal with mental operations in simultaneous interpreting, there are main concepts that need to be addressed first; namely, mental models and representations, problem triggers, as well as processing strategies.

**Mental representations and mental models.** "Mental representation" is a core concept in Cognitive Science. In brief, it is the interface between language and reality. Johnson-Laird (1983), in his book *Mental Models*, argues that the mind is essentially a model-building device, as we understand the world by building inner mental replicas of the relations among objects and events that we come across. In an utterance, a mental model marks the end point of comprehension and the starting point of production. This representation is constantly changing, adapting to incoming information and available world knowledge (Seeber, 2015, p. 81).

According to Johnson-Laird (1983), the construction of a mental model can begin even *before* a propositional representation is complete, but the propositional representation, "which is close to the surface form of the utterance, can still be consulted if reanalysis becomes necessary" (as cited in Setton, 1999, p.15). This feature of mental models is essential in the understanding of the mental operations taking place during interpreting. Another important feature is that a mental model obeys "the

principle of economy", in the sense that it is built on "plausible" *assumptions*, and is held on to even if incomplete, revised, amended if necessary, and reconstructed if proven invalid (Setton, 1999, p.16). Adding new information means updating or revising the existing mental model. This is another important feature that reflects on simultaneous processing.

**Mental models in simultaneous interpreting.** In interpreting, a propositional reference triggers a mental representation in the interpreter's working memory. According to Prágerová (2012), since the interpreter is not the one who has started the conceptualization, s/he is both a receiver and a sender of the interpreted message. The interpreter compares the validity of this mental model against the most probable mental model of the speaker (p. 12). As the speaker formulates his/her thoughts, creating concepts and mental representations in his/her mind, the interpreter begins constructing a mental model even before a propositional representation is complete (p.13). As the interpreting process proceeds, mental representations are fluid, constantly changing through the process of listening and gaining information.

The interpreter's production is an "approximation" and an optimization of the concepts created by the speaker (Prágerová, 2012, p. 17). Creating an identical mental representation is impossible to achieve; therefore, mistakes are bound to happen (p. 17). As long as the propositional representations evoke mental representations that are in harmony with models established in the mind of an interpreter, these mental representations can be verbalized in the target language. However, once a discrepancy occurs between the representations of the speaker and those of the interpreter, the interpreter fails to retrieve a corresponding model from his/her long-term memory and the verbalization starts to be more difficult or even impossible (p. 12-13).

**Description of Prágerová's "cognitive operations" model.** Prágerová (2012) proposes a model of cognitive activities which include anticipation, predictive formulation of thoughts and retrospective self-correction.

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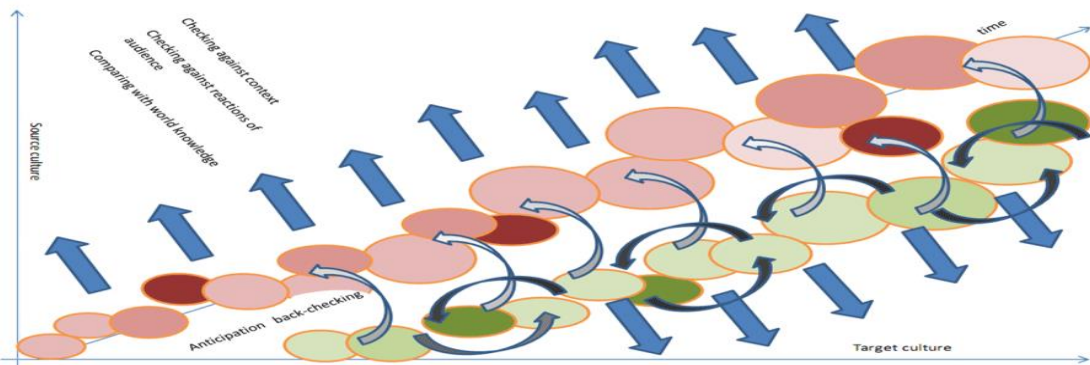


Figure 3. Prágerová's (2012) Cognitive Model of Simultaneous Interpreting

According to the model, Axes X and Y are defined as Source and Target culture. Axis Z stands for Time, which, despite the simultaneous nature of the interpreting process, is actually defined by a time lag between the original speech and the interpreted one; hence, the shift between the left original speech (in pink) and the right interpreted one (in green) (p. 60). The act of interpreting is visualized as a series of "cycles" of listening, analyzing, anticipating, creating a mental model, approving or correcting the image reached through continuous back-checking against both context and source and target culture (p. 60-61). The interpreter, then, compares the mental representations with mental models from his/her long-term memory, retrieving items from the working memory, and finally verbalizing a particular speech segment.

Bubbles refer to the units of speech, and they get darker in color depending on their informational density; the darker the bubble, the higher the density of information, and the higher the cognitive load and the more the cognitive processes involved in the interpreting process. Arrows pointing back and forth represent cognitive operations connected with the previous speech unit (imported cognitive load) or with the following one (exported cognitive load); both of these concepts are borrowed from Gile's (1995) Effort Model. The zig-zag ordering of the bubbles refers to the compromises the interpreter makes and the circularity of the arrows points to the "cyclic repetition of similar cognitive operations in each unit's cycle" (p. 61).

Prágerová (2012) describes her model as more "organic" than other suggested models, in the sense that it is less schematic, viewing the human mind as something more complex than a computer that operates according to algorithms (p. 62). A human mind, she argues, is more "susceptible", more "vulnerable", more "creative", and more "flexible" than any computer-relevant flowchart may suggest. The model is suitable



for only didactic and descriptive purposes, where findings from corpus analysis can be classified and described with relevance to cognitive operations used to transfer a successful message in interpreting (p. 64).

### **Problem Triggers and Processing Strategies**

**Classifications of problem triggers.** Processing strategies in interpreting have been closely linked with difficulties, or "problem triggers" as Gile (1995/2009) calls them, faced by interpreters. He defines problem triggers as "anything that increases the processing capacity requirements of an interpreter (more effort needs to be put into listening/ understanding, shorter memory or production) or increases signal vulnerability" (Gile, 1995/2009, p. 171). These problem triggers are not only limited to factors inhibiting comprehension, but are also, as Setton (1999) notes, associated with the overlap of multilingual comprehension and language production. In the past, problem triggers were addressed rather individually. Later on, attempts at presenting a classification, or a more structured list, of these problem triggers have been made by researchers whether for research or educational purposes.

Gile (1995/2009) classifies "online" problem triggers into: (a) problems due to cognitive saturation, which can be chronic or occasional; (b) cognitive problems, due to external factors, high density of source speech, or syntactic differences; (c) linguistic problems, due to speech perception, speech production, or culture-specific problems; (d) speaker-related problems, due to factors related to a particular speaker's way of delivery or logical coherence (p. 192-200). Gile's classification targets training and educational purposes. It can be applied to research, but "it does lack broader categories to make it more comprehensive" (Mankauskienė, 2016, p. 145).

Setton (1999) suggests another classification for problem triggers: (1) speech-input-related problems, such as style, presentation, and way of delivery; (2) subject-related problems, which are problems related to the interpreter's competence and preparedness; and (3) environment-related problems, such as comfort and technical conditions (p. 99). Important as it is, the classification is still too broad to be useful in corpus description and analysis.

Prágerová (2012) offers a third classification of problem sources: (a) subjective factors, related to the interpreter's inexperience or tiredness; (b) extra-linguistic factors, due to use of read-out texts, use of relay, or other factors related to the communication context, general knowledge of the world and prior knowledge of the topic; (c) institutional factors, related to the referential frame of certain institutions such as the EU; (d) cultural factors, such as the use of irony, humor, idioms, or culture-specific collocations, (e) source-language factors, such as false friends

and syntactic difficulties; (f) speaker-related factors, such as unclear speech or unfinished or unarticulated sentences; and (g) hedge, as in the interpreter's subconscious impulses (p. 69-83).

Prágerová's classification results in the addition of very interesting problem triggers such as the different types of knowledge that influence the framing of a segment, and the affect of the unconscious impulse of hedging on the interpreter's part. However, the classification shows evidence of overlap of categories and redundancy in some sub-divisions. For instance, hedging does not claim the importance of being a category on its own and can be put under subjective-influenced categories. Also, cultural-influenced problems can be put under source language factors with a sub-division of linguistic- and cultural-influenced problems.

**Processing strategies.** As interpreting is a goal-oriented communicative activity, it is only logical that interpreters are constantly developing and refining conscious and unconscious means to achieve their communicative goal. Hurtado (1999) defines "translation strategies" as the "individual procedures, both conscious and unconscious, verbal and non-verbal, used by the translator to solve the problems encountered in the course of the translation process, depending on the specific requirements involved" (as cite in Ribas, 2012, p. 814). Categorizing strategies is not an easy task, as it is rather difficult to draw a dividing line between different types of strategies (Pöchhacker, 2004, p.132). Some researchers have offered overall approaches to strategies (Kirchhoff, 1976; Kohn & Kalina, 1996; Kalina, 1998). Gile (1995/2009) has addressed them under the name of "coping tactics" which interpreters resort to in order to deal with problem triggers in his Effort Model (p. 200-211). He divides them into: (1) Comprehension tactics, such as reconstructing the segment using extra-linguistic knowledge, and using boothmate's help; (2) Preventive tactics such as taking notes and segmentation; and (3) Reformulation tactics such as consulting documents in the booth and using superordinate terms. As interesting as the coping tactics are, they are tailored for educational purposes, and therefore, prove difficult to apply in descriptive research. For instance, it is impossible for corpus analysis to describe the interpreter's use of boothmate's help or of taking-note tactic.

Riccardi (2005) summarizes the most common categorization for strategies used in simultaneous interpreting (p. 765). Her summary serves the purpose of the current research paper, paving the way to describing the more general categorization of cognitive operations used by interpreters.

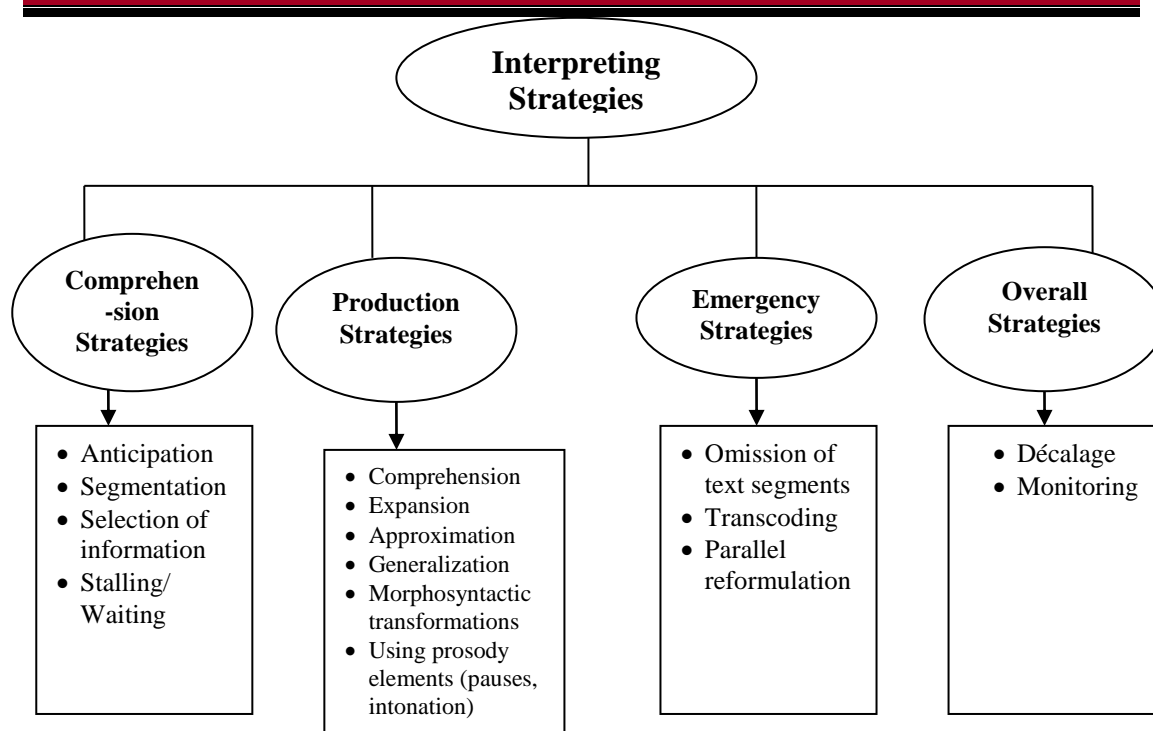


Figure 4. Summary of Riccardi's (2005) categorization of interpreting strategies

**Comprehension Strategies.** Anticipation is one of the interpreting strategies whose importance has been addressed by a large number of researchers (Moser 1976; Kirchhoff 1976; Wilss 1978; Lederer 1981; Kurz 1983; Seleskovitch 1984; Chernov 1992; Gile 1992; Kohn & Kalina 1996; Riccardi & Snelling 1997; Massaro & Shlesinger 1997; and Setton 1999). According to Van Besien (1999), anticipation is "the production of a constituent (a word or a group of words) in the target language before the speaker has uttered the corresponding constituent in the source language" (as cited in Seeber, 2001, p. 65). The ability to anticipate depends on the interpreter's linguistic competence (or knowledge of syntactic and semantic regularities), and extra-linguistic competence (or prior knowledge of the situation and the subject) (Kirchhoff, 1976/2002, p. 115). This ability to correctly expect what is coming improves as the source text unfolds; the more verbal and non-verbal cues the interpreter can perceive from the speaker, the better the chance of understanding and thus anticipating the speaker (Seeber, 2001, p. 66). Anticipation goes hand-in-hand with controlling and monitoring processes as well as back-checking (Prágerová, 2012, p.120).

Segmentation, also known as chunking and salami, is the appropriate division of the input speech, especially long and complex sentences, into "functioning units", where a functioning unit is the "smallest possible decoding unit of the SL for which a 1:1 relationship can be established with a TL segment (Kirchhoff, 1976/2002, p. 114).

Based on the interpreter's processing capacity limitations, time constraints and structure-related processing difficulties, the interpreter might choose the information selection strategy where excessive lag overload can be remedied through distinguishing between crucial and minor information, omitting irrelevant information and choosing what s/he deems relevant and important (Kirchhoff, 1976/2002, p. 116). Waiting, or stalling, also referred to as delaying response and tailing, is when the interpreter waits and delays production, or provides no new information in an attempt to gain more time and more information until meaning disambiguation is achieved.

**Production strategies.** Compression, also known as condensation, summarization and filtering, is when the interpreter summarizes the source text, omitting redundant elements and repetitions. It proceeds on different levels and includes various operations such as substitution and deletion. It is recommended not to exceed 75% of the original speech (Herbert, 1952, p. 68). Expansion, on the other hand, or addition, or elaboration, is when the interpreter adds something absent in the source speech to make the interpreted speech more logical and coherent. Approximation, or attenuation, is when the interpreter fails to retrieve the "ideal" target-language counterpart and settles for another one which at least partly expresses the intended meaning (Bartłomiejczyk, 2007, p.441). Generalization is when the interpreter uses a superordinate term instead of the specific term. Some classifications refer to generalization as an example of approximation.

Morpho-syntactic transformation is when the interpreter makes a syntactic shift, expressing the ST meaning using different syntactic constructions such as the conversion of negative clauses into affirmative clauses, of subordinate clauses into main clauses, and of verb phrases into noun phrases, etc) (Li, 2015, Table (1)). An interpreter resorts to using prosodic elements to give his/her delivery a natural flow. Prosodic elements include speech rate, pauses and syllable lengthening, intonation, prominence (Martellini, 2013).

**Emergency strategies.** Riccardi (2005) adds omission of text segments under emergency strategies. It is also referred to as skipping, ellipsis, and message abandonment (Li, 2015, Table (1)). It is when the interpreter resorts to deleting expressions s/he deems superfluous or redundant, repetitions, unimportant utterances, incomprehensible input, untranslatable elements, or a message that is unacceptable in the target discourse (Li, 2015, Table (1)). Transcoding is a sort of calquing or literal, word-for-word rendition that an interpreter resorts to when s/he is

unable to grasp the overall meaning of the original and decides to stick to the surface structure of the source language (Li, 2015, Table (1)). Parallel reformulation, also known as substitution, is when the interpreter invents elements that do not exist in the original speech, but which s/he considers plausible in the communicative context in order to make up for not understanding the original and to avoid long pauses or unfinished sentences.

**Overall strategies.** Under the title "Overall Strategies" comes the strategy known as Décalage, or time lag, or extending/narrowing the Ear-Voice Span (EVS). It is when the interpreter manages his/her processing capacity by extending or narrowing the EVS to devote more effort to listening and processing (Li, 2015, Table (1)). Monitoring is a very important strategy that comes after the speaker has actually produced the item which the interpreter anticipated. So, if anticipation precedes the actual incoming speech, monitoring takes place after the rendering, as the interpreter does not monitor only his/her renderings, but also what has been anticipated (Prágerová, 2012, p.120). This might be followed by self-correction, or by the interpreter's decision to ignore the error in his/her reformulation either because the error is trivial or because the correction might cause more harm than help (Li, 2015, Table (1)). This is a strategic decision and a conscious one which makes it different from making errors of which the interpreter is unaware (Li, 2015, Table (1)).

### **Mental Operations**

The interpreter has a huge repertoire of strategies and tactics to choose from. It is true that decision-making concerning choosing the proper strategy falls under the category of the black-box of the interpreter's mind; however, these can still be deduced from the way the interpreter handles a specific problem, or from the type of error made. Mental operations are "the combination of acquired skills and knowledge, a complex cognitive operation that is based on the interpreters' comprehension and their intention to convey a segment as a result of their assessment of the cognitive environment" (Prágerová, 2012, p. 121-122). Prágerová (2012) suggests the following ten types of mental operations (p.122-152).

**(1) Operations connected with cognitive load import.** These are operations connected to the processing of a particular sentence as well as cognitive operations carried over from a previous sentence. "Imported cognitive load", according to Gile (1995), is when the interpreter, still listening to the beginning of a speaker's new sentence, may still need to retrieve the last part of the previous sentence from the working memory and decide how to formulate it, or to monitor his/her own output. These tasks come on top of the processing of the new sentence resulting in

importing cognitive load. This is sometimes clear when there is an overlap of units due to the cognitive saturation from the previous segment.

**(2) Operations connected with cognitive load export.** These operations are the same as the ones in the previous type with the only difference that the cognitive load this time is carried on to the successive segment. This happens when the interpreter processes sentences with higher information density towards the end. This is more likely to result in exporting cognitive load to the following sentence. This type is clear when the speaker hesitates at the beginning of a sentence and then speeds up the pace at the end causing an overlap of units. The interpreter has to wait to hear a longer section and make sense of it causing partial loss of information.

**(3) Operations dealing with probability.** These are operations that deal with conditioned sentences, asserting something hypothetical. These probabilities might be a source of more complex cognitive operations as they present a concept that does not display the simple decision positive-negative and they are not easy to build in into a mental model.

**(4) Operations using extra-linguistic knowledge.** The interpreter resorts to using extra-linguistic knowledge combined with anticipation first to create a mental model. This mental model is verbalized and then the hypothesis is verified. For instance, when the speaker does not offer any context, or give a proposition with missing information, the interpreter has to reconstruct the mental model on the go and try to guess the missing information resorting to his/her prior knowledge.

**(5) Operations using context knowledge.** The interpreter uses knowledge from the context during interpreting when s/he embarks on constructing a mental model and then when proceeding, realizes the model was wrong and needs to be adjusted, or discarded with and s/he has to start anew.

**(6) Operations aiming at comparing mental models.** The interpreter needs to build a mental model that resembles the speaker's as closely as possible. The more similar the two cognitive environments are, the more successful the interpretation is. For instance, an interpreter hears a mispronounced name, builds a mental representation for "a name of country", and then when s/he proceeds, s/he disregards the representation and accepts a new one "name of month", for example.

**(7) Operations using discourse knowledge.** The interpreter uses operations that use discourse knowledge to bridge inferences that are not self-explanatory or that represent gaps. Discourse knowledge could be

knowledge of familiar collocations, acronyms or jargon known to be used in a certain institution or related to the culture of a certain speaker. The interpreter resorts to this type of knowledge with mispronunciations or indistinct ones on part of the speaker.

**(8) Operations directed forward in predicting the argument's development.** This is when the interpreter prepares a cognitive environment that resembles the speaker's and proceeds to produce an anticipated item that is most likely the intended one. For instance, if the speaker has an unexpected blackout in a spontaneous speech hesitates and then tries to recall the term, the interpreter notices the irregularity in the stream of the speech and infers what is more probable. Here, anticipation is crucial.

**(9) Operations directed backward.** This is when the interpreter monitors whether the just finalized segment is complete and corresponds with the further development of the line of thought. It might result in back-correction, specifying or adding missing information.

**(10) Operations using generalization/approximation.** This is when the interpreter uses generalizations or approximations to unburden his/her overloaded working memory due to, for instance, the use of a lengthy segment that misses a verb.

This classification is not comprehensive, as all cognitive operations taking place inside the interpreter's mind cannot be exhaustively recorded. However, it is an attempt at devising a tool that might assist in the description of what happens during the phase that is not yet explored in depth; namely, the series of cognitive operations initiated by triggers contained in the original speech.

### Methodology

#### Corpus Description

The speeches chosen are all delivered by one speaker, President Abdel Fattah El-Sisi, Egyptian President as of 2013, as he makes an interesting study due to discourse features addressed below. The extracts analyzed are from three speeches delivered by the President on three different occasions; the inauguration of the Nativity Coptic Church, which is an improvised 6-minute speech, delivered on New Year's Eve in 2019; a 10-minute extract from the improvised speech delivered on the celebration of the Egyptian Fund "Tahya Masr" dated January 26<sup>th</sup>, 2019; and another 10-minute extract from the speech delivered on the celebration aimed to honor the Egyptian Woman, dated March 30<sup>th</sup>, 2019, which is a partially improvised and partially read-out speech. All three speeches are interpreted into English by interpreters from Nile TV International Channel. The first and third extracts are interpreted by the same interpreter, while the second is rendered by a different one, giving

an interesting chance to apply the model to two different interpreters, with different approaches to interpreting.

The reason behind the choice of these three speeches in particular is that they allow the researcher to apply Prágerová's model to different types of speeches, each offering a different challenge to the interpreter. In an impromptu speech, the speaker simultaneously creates mental models, alters or discards them altogether as s/he goes, and divides speech flow into short segments or a rush of ideas, with both accidental and deliberate redundancy. In a read-out speech, there is the immense informational density and the high-speed delivery where an interpreter strives to formulate mental models and to deliver the translation at the same time as the speaker. In a partially impromptu and partially read-out speech, the interpreter has to shift gear between the two types with all their peculiarities. The focus of the analysis is on the cognitive operations the interpreter carries out during interpreting, how the interpreter works, and what happens when s/he fails in carrying out the task. The two interpreters in all three speeches are professional interpreters who use their skills, knowledge and experience for the maximum benefit of the audience.

### **Method of Analysis**

All three speeches analyzed for this study are transcribed from the original speeches and their interpretations available on *YouTube*. The videos are converted into .mp3 format, in preparation for transcription. Transcriptions of both the original speeches and their interpretations are carried out with the assistance of *ExpressScribe Transcription* software.

For corpus analysis, the transcribed speeches are divided into units of meaning. Each unit contains the original speech and its interpretation. The unit is analyzed and the cognitive operations used by the interpreter are identified in light of the presented model. The segmentation is carried out for the purpose of analysis. They approximately correspond with the amount of information the interpreter could take in and process in one cycle. A segment could be a single proposition or more than one, a sentence, a compound or a complex sentence, an argument, or a metaphor (Prágerová, 2012, p. 102). According to Setton (2002), segments could vary from one interpreter to another and from one situation to another. As Prágerová (2012) explains, these units of meaning do not correspond to the speaker's segmentation as much as are restrained by the interpreter's memory and processing capacity (p. 102).



### President El-Sisi's Speech Features

Most of President El-Sisi's speeches display certain common features and characteristics. If known beforehand, they are likely to help the interpreter in his/her task. They are also likely to affect the analysis, as these features require certain mental operations to come into use during the interpreting process.

According to a Critical Discourse Analysis (CDA) study carried out by Dina Abdel Fattah (2015) in her master's thesis, President El-Sisi is noticed to repeatedly do the following: (1) he employs an inclusive strategy by using Educated Spoken Arabic (ESA), which is switching between varieties of Modern Standard Arabic (MSA) and Egyptian Colloquial Arabic (ECA) dialect; (2) he uses inclusive terms such as "let me" and "all of us"; (3) he uses occasional pauses which emphasize an idea and get the audience involved in the speech; sometimes pauses are because he improvises the speech, or parts of the speech, and so he needs these pauses to organize his ideas, think about the language usage, and then deliver his thoughts; (4) he poses questions to let the addressees interact with the speaker and think of expected answers; and (5) he makes several religious references and allusions (p. 56-70).

Another CDA study adds another feature of President El-Sisi's speeches which is his extensive use of repetition at the morphological level, the word level and the chunk level (Hussein, 2016, p. 97). These repetitions have didactic, emotional and rhetorical functions. He is also known for his use of synonymy and near-synonymy which are used to reinforce meaning (Hussein, 2016, p. 98-99). These features, especially code-switching, pauses, repetitions and using religious expressions, are expected to cause cognitive overload for an interpreter.

### Analysis

The analysis has attempted to combine both mental operations, as categorized by Prágerová (2012), together with online processing strategies as summarized by Riccardi (2005). Speeches and their interpretations have been analyzed segment by segment in table form. This has allowed the researcher to do an in-depth analysis of what is going on inside the interpreter's black-box. The analysis is not directed to judging or fault-finding with the interpreters' performance. The aim of the descriptive analysis is to take a peek inside their heads and describe the complex cognitive processing behind the interpreters' performance, tie it up with strategies and tactics used to cope with problem triggers and causes of cognitive saturation. For the sake of clarity of classification, mental operations are written in *italics*, whereas processing strategies are highlighted in **bold**.

Speech on Celebrating the Nativity Coptic Church

Ar	بسم الله الرحمن الرحيم خالوني في البداية إن أنا أرحب بكل الضيوف الموجودين معانا النهارده. اللي هم .. فخامة الرئيس أبو مازن الرئيس الفلسطيني والضيوف من ... (تصفيق من الحضور) والضيوف من أشقائنا من الدول العربية الشقيقة والصديقة بأرحب بيهم إنهم يحضروا معانا هذه اللحظة التاريخية
Eng	In the name of God the most Merciful, the most Compassionate.. In the name God. Let me at the outset.. welcome all the guests who are here with us today His Excellency President Abu Mazen, the Palestinian President, as well as the guests..(APPLAUSE) At this historical, important moment
Mental Op.	<i>Operations using generalization/approximation</i> – The interpreter, affected by an external problem trigger (noise of applause from the attendees), had to deal with missing information (guests from brethren Arab countries), and instead of using extra-linguistic knowledge to infer the segment she could not hear, she resorts to information <b>selection</b> and <b>condensation</b> and prefers the safety of the superordinate "guests".

Ar	وكمان .. اسمحو لي إن أنا أوجه في هذه اللحظة برضه كل التحية والاحترام لأرواح شهادتنا المصريين اللي سقطوا (تصفيق من الحضور) أنا بأقول كل المصريين. مش هأتكلم على الجيش والشرطة و.. المدنيين من أشقائنا المسيحيين أو حتى .. في بقية ال.. يعني .. حتى في المسجد اللي تم الاعتداء عليهم.
Eng	(Pause) Let me also.. send respect, and appreciation to the souls of our Egyptian martyrs (applause) All Egyptians... I am going to talk about the army, the police, the civilians... The Christians.. all the Muslims...
Mental Op.	<i>Operations connected with cognitive load export</i> – still carrying cognitive load from the previous segment, the interpreter <b>pauses</b> at the beginning of the new segment to hear a longer section and uses <i>décalage</i> to make sense of the cognitive environment constructed by the speaker, taking into consideration that this is an improvised speech. <i>Operations using generalization/approximation</i> - The interpreter, is still affected by the external problem trigger (noise from the attendees), and instead of missing more information, she resorts to <b>selection of information</b> and <b>summarization</b> , avoiding details such as saying "all the Muslims" without

	mentioning the Muslim martyrs who were assaulted in the mosque in the days previous to the speech. The noise definitely caused a processing load to the interpreter.
Ar	<p>أنا بس عايز أقول لكم حاجة اللحظة دي لحظة مهمة قوي. لحظة مهمة في تاريخنا. اسمعوني طيب. اسمعوني من فضلكم اللحظة دي لحظة مهمة جدا في تاريخنا لأن احنا لما كنا من سنتين موجودين في الكاتدرائية في العباسية وقولت لقداسة البابا إن إحنا إن شاء الله .. ااا... خلال .. العام القادم هنكون موجودين وبنحتفل واحتفلنا بالمرحلة الأولى . انهارده بنحتفل احتفال كامل بـ.. انتهاء الـ.. بناء في الكاتدرائية وفي المسجد الـ.. الفتاح العليم</p>
Eng	<p>I would like to tell you all one thing. This is a very important moment, in our history. This is a very important moment in our history. Because two years ago, we were in the Cathedral in Al-Abbasseyya and I told the Pope, that God willing, during the next two years, we will celebrate the first phase of the Cathedral. And today we are celebrating.. the full construction of the Cathedral,.. and the mosque.</p>
Mental Op.	<p><i>Operations using context knowledge</i> – During the interpreter's construction of the mental model, she uses context knowledge to <b>select</b> important information and discard with repetitions for the sake of maintaining a mental model as similar as possible to the speaker's. <i>Operations directed forward in predicting the argument's development</i> – The interpreter in her rendering the speaker's "that God's will, during the coming year" as "during the next two years" is an example of forward production, where she has <b>anticipated</b> this item based on the previous mental representation "two years ago". However, she does not have the luxury of back-checking and opts for <b>no-repair</b> of the result of her anticipation. <i>Operations aiming at comparing mental models</i> – While the speaker says "full celebration of the Cathedral ", the interpreter successfully renders it as "celebrating ... the full construction of the Cathedral". She uses her knowledge of the speaker's constructed cognitive environment to do <b>parallel reformulation</b> of what the speaker says, <b>inferring</b> what the speaker means despite the mistaken attributive. <i>Operations using generalization/approximation</i> – Due to the</p>

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	cognitive saturation by the end of the segment, due to external factors (noise) and flaws in the speaker's logic leading to extra processing effort, the interpreter resorts to <b>information selection</b> , skipping the name of the Mosque, preferring the general reference "Mosque", in an attempt to unburden her overloaded processing capacity.
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Ar	المعنى اللي بنقصده هنا إن إحنا بنقول لبعضنا وبنقول لأنفسنا إن إحنا لن نسمح لأحد إن هو أبدا .. يعني .. يؤثر .. أنا مش هأقول في .. فتنة طائفية. التعبير ده أنا مش بأحبه. إن إحنا مش كده. إحنا واحد. إحنا واحد وهانفضل واحد. (تصفيق الحضور)
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Eng	The important symbol here is that we are saying to ourselves and to each other we won't allow anyone... to influence Egypt. I am not going to talk about sedition, because.. we are not as such. We are one and we will always be one. (Applause)
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Mental Op.	<i>Operations using context knowledge</i> – The speaker, in his attempt to formulate and verbalize two mental models; one related to stating that Egypt will stand tall and the other related to formulating the concept of sedition, and yet looks for a suitable term to accurately carry forward his mental representation, hesitates and ends up with an unfinished sentence. "We won't allow anyone ever ... I mean ... to influence... I don't want to say... Sedition. I don't like this term". This is the literal rendering of what the speaker says. However, the interpreter expertly uses her knowledge of the context to <b>infer</b> the missing part of the unfinished sentence, giving a coherent rendering, unlike the original speech. The interpreter does it again when she <b>infers</b> the logical connector between the two segments "I am not going to talk about sedition" and "we are not as such", using "because" for a smoother mental representation that corresponds with the development of the speaker's line of thought.
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Ar	ف.. المعنى اللي بنسجله النهارده هي شجرة المحبة .. هي شجرة المحبة اللي إحنا غرسناها مع بعض. محبتنا لبعضنا البعض الشجرة دي لسة عايزة يتحافظ عليها، ونخلي بالناس منها، ونكبرها، لغاية ما ثمارها تخرج من مصر للعالم كله، اللي هي المحبة والتسامح والتآخي بين الناس وبعضها، بين الناس وبعضها اسمعوا كلامي. الفتن لن تنتهي. (أحد الحضور) طب اسمعوني بس.
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Eng	Today, we are ... talking about the love tree that we have planted together. Our love to each other. This tree of love is in
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	<p>need for more protection and care, so that it can grow more and its fruits would come out of Egypt to the whole world; love, tolerance, fraternity between people. Seditions would never come to an end. (Benefited from the pause)</p>
Mental Op.	<p><i>Operations aiming at comparing mental models</i> – The interpreter builds mental models that resemble the speaker's as closely as possible. She professionally uses the strategy of <b>décalage</b> to manage her available processing capacity and give a cognitive environment as similar as possible to the original. She benefits from the speaker's attempts to keep the quiet among the attendees.</p>
Ar	<p>اللي حفظ مصر. اسمعوا كلامي. اللي حفظ مصر ربنا سبحانه وتعالى. وهو اللي هيحفظها لأجل خاطر أهلها. لأجل خاطر أهلها. أهلها ناس طيبين. اللي هو انتم. كل المصريين. ناس طيبين. وبالتالي حفظها. اسمعوا كلامي بس. اسمعوا. أنا مش عايز أأخذ الوقت كله من .. الوقت كله بتاع ... ميصحش</p>
Eng	<p>What has protected Egypt.. is God and it is God who would protect it for the sake of the Egyptians, because the Egyptians are kind... It is you.. all the Egyptians are all kind. That's why God protected it.</p>
Mental Op.	<p><i>Operations aiming at comparing mental models</i> – The interpreter builds mental models that resemble the speaker's as closely as possible. She professionally uses the strategy of <b>décalage</b> to manage her available processing capacity and give a cognitive environment as similar as possible to the original. She benefits from the speaker's attempts to keep the quiet among the attendees.</p>
Ar	<p>ميصحش. ... بأقول الشجرة دي هاتخرج من هنا. المحبة والمودة والتآخي بيننا وبين بعضنا. ولازم تكونوا عارفين إن الفتن لن تنتهي ولكن اليقظة والوعي. وهنا هأقتبس من كلام قداسة البابا وأقوله.. في ٢٠١٣، تم الاعتداء على الكنائس. وبعدين لما قالوا لقداسة البابا قال لهم وطن بلا كنائس.. وطن بلا كنائس خير من كنائس بلا وطن. الكلمة دي (تصفيق)</p>
Eng	<p>So, this tree, this love, would come out Egypt to reach other places in the world. You need to understand that sedition would never stop. But our awareness would.. protect our country. And here, I would like to take from what the Pope said...</p>

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	<p>(Pause) In ٢٠١٣, churches were attacked. And afterwards, when they asked the Pope, he said ... we want to protect our country. A country without churches is better than churches without a country</p>
Mental Op.	<p><i>Operations using context knowledge</i> – The speaker, in his attempt to formulate his mental models, reiterates the one about the "love tree" and the one about "sedition". He starts one line of thought "Seditions would never end, but vigilance and awareness..", leaves it unfinished and moves one to another mental representation referring to a previous exchange with the Pope. The interpreter, expertly enough, fills in the gap in the constructed mental representation, <b>inferring</b> the missing information from the context by adding "would ... protect our country".</p> <p><i>Operations directed forward in predicting the argument's development</i> – The interpreter, preparing the cognitive environment that resembles the speaker, can <b>anticipate</b> the item that corresponds to what the Pope said, as it is a common quote, and recall it, using her extra-linguistic knowledge to anticipate what is probably going to be said.</p>
Ar	<p>والله أنا مش هانساهها لقداسة البابا. صحيح. دي كانت بتعكس معاني عظيمة جدا جدا نتوقف كلنا عندها، اللي هو إذا حافظنا على أوطاننا، لما حافظنا على أوطاننا، مش بقي .. بنصلح اللي اتدمر، لأ. ده إحنا بنبني جديد. إحنا بنبني ١٤ مدينة (تصفيق) فيها المساجد والكنائس وفيها كل حاجة</p>
Eng	<p>I would never forget this... as it reflects very great meanings.. that we should all remember .. the fact that if we protect our countries and when we protected our countries, we are not just.. reconstructing what was destroyed, but we are building new things. We are building fourteen cities, with mosques, churches and everything.</p>
Mental Op.	<p><i>Operations using generalization/approximation</i> – The interpreter uses <b>information selection, deleting</b> the "لقداسة البابا" (for the Pope) and "صحيح" (this is true!) as she deems them redundant, in an attempt to alleviate cognitive overload.</p> <p><i>Operations dealing with probability</i> – The speaker uses both if and when in the same proposition. The interpreter is successful</p>

	in <b>chunking</b> the input, dealing with the conditioned sentences, which is a source of complex cognitive operations and not easy to build into mental models.
Ar	يبقى الأصل في الموضوع .. المعنى العظيم الذي قاله قداسة البابا إن إحنا عييننا، وعينا، فهمنا، حرصنا، على بلدنا. نخلي بالنا منها. نخلي بالنا منها. وأنا بأقولها النهارده كده. في قمة الاحتفال الجميل والرائع ده؟ أبوه. ماتنسوش. ما تنسوش أبدا إن إنكم تخلوا بالكم من بلدكم. لما هانخلي بالنا منها، هانعمل بفضل الله كل شئ.
Eng	So, ... the starting point is .. to protect our country The great meaning the Pope said, that our awareness, our understanding, and our keenness on our country comes first. We need to look after our country... And I am saying this today while we are celebrating this very important day. You should never remember that you need to look after your country. When you care for our country, we will be able to do anything and everything
Mental Op.	<i>Operations using discourse knowledge</i> – The interpreter is faced with another unfinished sentence, and has to use her discourse knowledge to bridge an <b>inference</b> that represents a gap. The speaker starts constructing a mental representation saying "The main point is ..." and then leaves it unfinished and moves on to another mental representation "The great meaning the Holy Pope mentions is ...". The interpreter, expertly, fills in the gap, completing the discarded mental representation by adding "to protect our country". <i>Operations dealing with probability</i> – The speaker, in his usual manner of employing inclusive strategies, asks the audience a rhetorical question and answers it himself. What he says literally translates as "And I am saying this today, at the peak of this great and beautiful celebration? Yes, I am!". The interpreter is dealing with the complex cognitive process of constructing this hypothetical mental representation and decides to <b>paraphrase</b> it, explaining the intended meaning behind it. <i>Operations connected with cognitive load export</i> – With the cognitive saturation resulting from processing the previous segment, where the speaker asks a rhetorical question, the interpreter misinterprets "ماتنسوش" or "You should never forget" as "You should never remember". The exported cognitive load from processing the previous segment has resulted in constructing the wrong mental representation and does not give

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	her time to monitor, back-check and hence, the <b>no-repair</b> .
Ar	أنا مش هأطول عليكم. كل عام وأنتم طيبين. كل عام وأنت طيب قداسة البابا. كل عام وأنتم طيبين. وعيد سعيد عليكم. وسنة سعيدة علينا كلنا. وكل سنة وإنتم طيبين. وتحيا مصر. تحيا مصر. تحيا مصر. السلام عليكم ورحمة الله وبركاته.
Eng	I do not want to be lengthy, and many happy returns. Many happy returns, the Pope. Many happy returns, all the Christians. New happy year! Long live Egypt! Long live Egypt! Long live Egypt! Peace be upon you!
Mental Op.	<i>Operations connected with cognitive load export</i> – Still processing the sequence of greetings the speaker repeats in high speed, the interpreter is trying to keep up with the quickened pace towards the end of the speech, causing an overlap of units and resulting in using the wrong sequence of the fixed expression "New happy year!". This is a clear example of an overburdened working memory, where the cognitive load is exported from processing previous segments, affecting the following one.

**Speech on Celebrating the Egyptian Woman**

Ar	بسم الله الرحمن الرحيم طب إحنا برضه، يعني... اسمحو لي إن إحنا.. بمناسبة مرور سنة.. مائة سنة.. على الدور الكبير والعظيم اللي قامت به المرأة المصرية في تاريخ مصر. فاسمحو لي إن إحنا نكرر مرة تاني إن إحنا نقف لمدة.. تكريم واعتزاز واحترام وتحية لها (تصفيق الحضور)
Eng	In the name of God, the Most Merciful, the Most Compassionate Celebrating the Centennial of the Egyptian woman and the role she played in the history of Egypt, let us once more reiterate.... this to stand for a moment in respect to the Egyptian woman. (APPLAUSE)
Mental Op.	<i>Operations using Extra-Linguistic Knowledge</i> – The speaker literally says "celebrating a year.. one hundred years". The Interpreter uses her prior knowledge to construct the right mental model despite the speaker's hesitation. <i>Operations using Context Knowledge</i> – The speaker gives an impromptu proposition that is not fully developed, full of gaps and missing information. The interpreter uses her knowledge of the context to deliver a coherent mental representation. She also resorts to <b>stalling</b> and <b>omission</b> as strategies in order to be able



	to formulate a more logical and coherent rendition.
Ar	اتفضلوا استريحوا شعب مصر الكريم. سيدات مصر العظيمات. السيدات والسادة. اسمحوا لي في البداية أن اتوجه لكم جميعا وإلى شعب مصر العظيم بكل التحية والتقدير والاحترام وتحية تقدير خاصة للمرأة المصرية العظيمة، بنات وسيدات النيل وصانعات السعادة والنماء
Eng	Would you please be seated? The great people of Egypt, the great women of Egypt, ladies and gentlemen, let me at the outset extend to you all and to the great people of Egypt the greetings, the respect and the appreciation and especially respect to the Egyptian great women. My daughters, the daughters and the women of the Nile and the creators of peace and prosperity
Mental Op.	<i>Operations using Discourse Knowledge</i> – The interpreter resorts to her knowledge of familiar expressions related to the speaker and the situation. She also resorts to <b>transcoding</b> in a part where she goes word-for-word (e.g. Egyptian great women) in an attempt to alleviate processing overload especially with the shift from impromptu speech to read-out one.
Ar	عظيمات مصر، إن سعادتي كبيرة اليوم بهذه الاحتفالية التي صارت تقليدا سنويا مصريا نحرص عليه ويعكس شعورنا الحقيقي كدولة ومجتمع تجاه المرأة زوجة كانت أو أما، ابنة كانت أو أختا، وكذلك تقديرنا وامتناننا للمرأة في جميع الأدوار التي تقوم بها على مسرح الحياة ويالها جميعا من أدوار مهمة ومقدرة
Eng	The great women of Egypt... ahh.. I am highly pleased celebrating this occasion today that became an Egyptian annual tradition that reflects our real feeling as a country and a community towards the Egyptian woman, be it a wife, a mother, or a daughter, or a sister.. and express our appreciation and respect to women in all her roles in life... and they .. are all very important and highly appreciated roles.
Mental Op.	<i>Operations connected with cognitive load import</i> – The speaker uses metaphoric language in the last part of the proposition, building a mental model, comparing life to a stage where a woman is an actress playing an important role. The interpreter decides not to build a cognitive environment similar to the speaker's due to the complexity of the task and the cognitive saturation already imported from the processing of the previous

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	part of the proposition. Thus, the interpreter votes for the unimportance of the comparison, <b>omits</b> the metaphoric element and <b>explains</b> the intent of the image.
Ar	فالمرأة الأم هي الظهر الساند، نبع الخير الذي لا ينضب، طاقة العطاء والتضحية المتجردة من أي شروط أو قيود، وهي الحصن الأمين لأبنائها، مصدر دفنهم وراحتهم، وسلامهم النفسي، معلمة القيم والحكمة والمبادئ.
Eng	The woman, the mother, .. is the backbone supporting her family and children. She is the well of good, the source of sacrifice and love, unconditional love, and she is the fortress protecting her children. She is the source of their warmth and comfort, inner peace, teaching values, wisdom and principles.
Mental Op.	<i>Operations aiming at comparing mental models</i> – The speaker constructs more than one mental model in his description of the Egyptian woman (a backbone, a water spring, a fortress, a source of warmth, and a teacher). She is capable of using <b>décalage</b> professionally to build mental representations as similar as possible to those of the speaker's.
Ar	الأم المصرية لا يفي قدرها اي كلمات مهما طالت، ولا أية تعبيرات أدبية مهما كانت بليغة. والمرأة الزوجة هي الشريك الوفي والمخلص، رفيقة مشوار الحياة بتقلباتها وتحدياتها، بأفراحه وأحزانه، الملاذ لزوجها عندما تشتد الأزمات والداغم له بلا حدود.
Eng	The Egyptian mother. .. can never be fully appreciated whatever the words, whatever the rhetoric is said. The mother, the spouse is the devoted partner. She is the partner in the journey of life with all its challenges and turbulences, the sorrow, the pain and the happiness. She is the shore for the husband and she supports him relentlessly
Mental Op.	<i>Operations connected with cognitive load export</i> – Still recovering from the cognitive saturation from the previous segment, the interpreter processes the following one, exporting the cognitive load on to the successive segment. Hence, the hesitation and <b>delay</b> at the outset of the segment. <i>Operations aiming at comparing mental models</i> – The interpreter <b>anticipates</b> that the speaker is still talking about the mother and builds a mental representation using this assumption. However, when the speaker proceeds to speak about the woman as the wife, she compares the two cognitive environments,

	disregards the representation "the mother", and builds a new one "the spouse" in an attempt at <b>repair</b> . <i>Operations using generalizations/approximations</i> – The interpreter deals with the final segment and its mental representations where the woman is compared to "a haven" and "a support" to her husband. She uses an <b>approximated</b> mental representation; "shore" for "haven" and a <b>morpho-syntactic transformation</b> noun "support" for verb "supports".
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Ar	والمرأة الأخت والابنة، سبب الابتسامة والسعادة، قرّة عين الآباء والأمهات، منذ أن تكون طفلة وليدة وبينما تكبر يوماً بعد يوم، لتصبح شابة يافعة ذات أحلام وطموحات، لتزدهر معها أحلام أبويها وسعادتهما بنات النيل، عظيمات مصر
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Eng	The mother, the sister, the reason of happiness and smile. She is the apple of the eyes of mothers and fathers since she is born up till she is a young woman who has her own ambitions and dreams. And with this flourishes the dreams and the happiness of the parents. The daughters of the Nile, the great women of Egypt
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Mental Op.	<i>Operations directed backward</i> – The interpreter <b>monitors</b> the just finalized segment "سبب الابتسامة والسعادة". She says "the reason of happiness", back-checks her interpretation and adds in a missing element from the speaker's mental representation, <b>adding</b> "and smile". The same applies to "ذات أحلام وطموحات" "who has her own ambitions and dreams".
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Ar	إن تطور ورقي أي مجتمع إنما يقاس بدرجة تطوره الثقافي والأخلاقي والمعرفي، وارتبط ارتباطاً وثيقاً بتطور ثقافة ووعي المرأة، ومساهمتها الفاعلة في بناء المجتمع وتنميته.
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Eng	The development and welfare of any country.. is measured with its cultural, ethical development and it is closely linked to the awareness and the culture of woman and her contribution in building the community and developing it.
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Mental Op.	<i>Operations using generalizations/approximations</i> – The interpreter, in dealing with her overloaded working memory <b>approximates</b> "society" for "country". <i>Operations using cognitive load import</i> – The interpreter still listening to the beginning of the new segment, suffers from cognitive saturation at its end "its cultural, ethical and cognitive development", <b>omits</b> one of the three types of developments in an attempt to unburden her overloaded working memory.
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	<i>Operations directed backward</i> – The interpreter <b>monitors</b> the just finalized segment "بتطور ثقافة ووعي المرأة". She says "the awareness", back-checks her interpretation and <b>adds</b> in a missing element from the speaker's mental representation, adding "and the culture of woman".
Ar	ولقد كانت للحضارة المصرية القديمة المكانة الأولى بين جميع الحضارات الإنسانية في ذلك الوقت، من حيث معاملتها وتقديرها للمرأة واعترافها بإسهاماتها المتعددة في جميع المجالات سواء في بناء الأسرة وتماسكها، أو في دورها المجتمعي والتنموي وفي الحياة العامة
Eng	The Egyptian old civilization is ranked first amongst the all human civilizations back then as how it respected and acknowledged the contributions of women in all walks of life, be it in building the family and its coherence, or in her community and development role or in public life
Mental Op.	<i>Operations aiming at comparing mental models</i> – The interpreter builds mental models that resemble the speaker's as closely as possible, using almost <b>transcoding</b> , going word-for-word in an attempt to relieve her burdened processing capacity.
Ar	وتم خليد هذه المكانة الرفيعة نقشاً على جدران الآثار الفرعونية، التي باتت دليلاً قاطعاً لنا نحن المصريين على عراقية أصولنا وتحضر علاقاتنا الإنسانية وفي العصر الحديث واصلت المرأة المصرية رقيها وتفوقها فشاركت في ثورة عام 1919 ونحتفل هذا العام بمئويتها لتسقط الشهداءات من المرأة المصرية بجانب رجال مصر الأصلاء، وأصبحن خالداً في ضمير الوطن ووجدانه.
Eng	And this greater status of women is inscribed on the walls of the monuments and temples that signifies to all the Egyptians that we had a very civilized human relation back in the past and in the modern history,.. the Egyptian women went on excelling. She participated in the revolution of 1919 that we are celebrating its Centennial this year and there were female partners ... who became martyrs beside the men of Egypt and they became part of the conscience of this nation.
Mental Op.	<i>Operations dealing with cognitive load import</i> – The interpreter uses <b>décalage</b> towards the end of the segment. She is processing a long, complex sentence, where the speaker adds another mental model (celebrating the Centennial of the revolution of 1919) to the already constructed mental model (the achievements of the Egyptian woman in the modern times). The tasks come on top of each other. She <b>stalls</b> for a small span to

	hear a longer section and make sense of the new mental representation causing partial loss of information.
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Ar	وتستمر مسيرة كفاح المرأة لتحصل على حق الانتخاب وممارسة الحقوق السياسية كاملة، وقبل ذلك، الحق في التعليم وشغل أي من المناصب والوظائف العامة وصولاً إلى اليوم الذي نرى فيه المرأة في جميع ميادين العمل الوطني
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Eng	The path of the woman go on until she gets the right to vote and the right to practice full political rights and before that the right to education and assuming any public posts and positions up till this today when we find women in all fields of public .. a.. work.
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Mental Op.	<i>Operations using discourse knowledge</i> – The interpreter uses the strategy of <b>transcoding</b> , sticking to the surface structure of the original speech, in an attempt to unburden her saturated working memory, until the final part of the segment, where she resorts to her prior knowledge of the discourse used and uses a term "fields of public work" more common than the literal translation of the term "fields of national work"; hence, the hesitation.
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Ar	نساء عاملات بشرف وقوة وكفاءة ومساهمات بفاعلية في بناء مصر الأم العظيمة التي أنجبت نساء ورجالا، أوفياء وكراما السيدات والسادة، إن المرأة المصرية أثبتت جيلا بعد جيل وعلى مدار التاريخ المصري
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Eng	Working mothers with efficiencies, strength and participation in building the future of Egypt, the great mother who gave birth to men and women who are devoted to this country. Ladies and gentlemen, ... the Egyptian woman proved a generation after the other throughout history..
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Mental Op.	<i>Operations directed forward in predicting the argument's development</i> – The interpreter proceeds to produce an <b>anticipated</b> item that might be the intended one. She inaccurately interprets "working women" as "working mothers"; however, the flow of the speech does not allow her the luxury to monitor, back-check and repair the segment, especially that the following segment addresses the Egyptian mother once more, resulting in <b>no-repair</b> .
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Ar	أنها طرف أساسي في معادلة الوطن، وشريك مكتمل في جميع معاركه وحروبه وتحدياته
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Eng	that she is an important party in the equation of this country and a partner in all its battles, fights and challenges...
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Mental Op.	Operations dealing with comparing mental models – The interpreter succeeds in constructing a mental environment as similar as possible to the speaker's; hence, achieving a successful interpretation.
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Ar	وبينما ظلت على عهدا تجاه أسرتها تبنيتها في صبر ودأب، وتقييمها بالرحمة والعتاء، وقوة الإرادة والإصرار، فإنها لم تقصر يوما، تجاه مجتمعا ووطنها؛ بل تحملت المسؤوليتين معا، بقوة تحمل تليق بها وتدفعنا إلى إعطائها التقدير المستحق، والظروف الملائمة والميسرة لتستطيع تحمل تلك المسؤوليات الجسام
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Eng	While she has always kept her promise towards her family, patiently building it and supporting it with compassion, tenderness and persistence, she never saved any efforts to support her country and she shouldered both the responsibilities together with a strength up to her capabilities, and we need to provide her with suitable conditions and circumstances so that she would be able to endure all these grave responsibilities
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Mental Op.	<p><i>Operations directed backwards</i> – The interpreter <b>monitors</b> the just finalized segment, and <b>compensates</b> for a missing element from the beginning of the representation "دأب", where the Egyptian woman builds her family with patience and "persistence", by adding it to the way she supports her family "with compassion, tenderness and persistence".</p> <p><i>Operations using generalizations/approximations</i> – The interpreter resorts to <b>generalization</b> and <b>approximation</b> together with <b>compression</b> and filtering in an attempt to relieve her overloaded working memory due to the speaker's use a lengthy segment; for instance, "to support her country" instead of "to support her community and country", and "to provide her with suitable conditions and circumstances" instead of "to provide her with deserved appreciation, as well as suitable and favourable circumstances"</p>
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Ar	وفي الظروف والأحداث الصعبة، التي مرت بمصر خلال السنوات الأخيرة كانت المرأة خط الدفاع الأخير والصلب
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Eng	In the difficult events Egypt has been through over the past few years, women have always been the last defense, strong line..
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Mental Op.	<i>Operations aiming at comparing mental models</i> – The interpreter builds mental models that resemble to speaker's as closely as possible, using almost <b>transcoding</b> , going word-for-word in an attempt to relieve her burdened processing capacity.
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Ar	حملت ضمير الوطن على عاتقها، وقدمت الشهداء، من أعزائها بصبر واحتساب، حافظت على هوية الوطن، وأصرت على تماسكه ووحدته، بإصرار لا يلين، وعزم يليق بمن خلدها التاريخ منذ كتابه أول سطر فيه
Eng	She supported the conscience of the country and she gave the martyrs in patience and belief. She protected the identity of the country and she insisted on its coherence and unity with a relentless effort.. and a will equal to her role over history.
Mental Op.	<i>Operations aiming at comparing mental models</i> – The interpreter builds mental models that resemble to speaker's as closely as possible, using almost transcoding, going word-for-word in an attempt to relieve her burdened processing capacity, especially that the interpreter is dealing with some religious terminology "صبر واحتساب", which is one of the common problem triggers that cause cognitive saturation. <i>Operations using generalization/approximation</i> – the final part of the segment is so complex with its indirect reference to the Early Egyptians, the processing of which is likely to cause cognitive overload. Her resort to <b>compression</b> is an economic way to render the message and at the same time to unburden her overloaded working memory without information loss.

Ar	السيدات والسادة، إننا إذ حققنا تقدما في مسيرة دعم وتمكين المرأة فما زال أمامنا الكثير الذي نصبوا إليه حتى نصل إلى مجتمع تسوده العدالة والإنصاف. وبحيث يشترك في بناء الوطن جميع أبنائه، رجالا ونساء، بنفس الهمة والإصرار، لذلك فإني أوجه الحكومة بما يلي:
Eng	Ladies and gentlemen, while we achieved the development in the path of women empowerment, we still have a lot to do, .. so that we are able to achieve a community with the justice and all people, men and women, in this community with the same strength and will serve it. That's why I would like that to give this directive to the government.
Mental Op.	<i>Operations connected with cognitive load export</i> – Due to an overloaded working memory from the processing of the beginning of the segment, the interpreter <b>stalls</b> to hear a longer section; hence, the pause. She then proceeds to make sense of the rest of the segment, causing a partial loss of information. <i>Operations directed backwards</i> – With the interpreter aware of the loss of information in the previous segment of the representation, she uses <b>monitoring</b> and <b>back-checking</b> of the just finalized segment and adds missing information "and will

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	serve it" at the end of the proposition by way of <b>compensation</b> for the missing element from the previous mental representation.
Ar	أولاً، دراسة سبل تحقيق مساهمة أكبر للمرأة في سوق العمل، وتوفير المناخ الملائم والداعم لها، في ظل حماية اجتماعية مناسبة لتشجيع تحولها من العمل في القطاع غير الرسمي إلى القطاع الرسمي وفي القطاعات غير التقليدية التي تتحقق فيها طموحاتها
Eng	First, considering the methods of achieving more contribution on part of women in the labor market as well as (picking up a faster pace) creating the enabling environment for them in light of a social safety network ... and helping her to transfer from the informal sector to the formal sector and to unconventional fields that would enable her meet her ambitions..
Mental Op.	<i>Operations using discourse knowledge</i> – The interpreter manages to successfully use <b>segmentation</b> , keeping up with the high pace and high information density of this read-out speech by leaning on her prior knowledge of the discourse and the familiar terms used in this context in order to be able to successfully manage her available processing capacity
Ar	ثانياً، إنني إذ أحي تبني الحكومة لاستراتيجية وطنية لمكافحة العنف ضد المرأة، فإنني أكلفها بوضع التشريعات المناسبة التي تهدف إلى حماية المرأة فعلياً من كل أشكال العنف المعنوي والجسدي. (تصفيق الحضور) أخذين في الاعتبار أن الزواج المبكر قبل السن القانونية والحرمان من التعليم أو حرمانها من النفقة المناسبة لها ولأولادها في حضانتها في حالة الطلاق هي جميعاً أشكال متعددة للعنف
Eng	Secondly, while I commend the national strategy of the government to fight violence against women, I would like to designate them to develop needed legislations aiming at protecting women from all forms of physical and emotional violence. (APPLAUSE) Taking into consideration the fact that early marriage before the legal age and deprivation from education or alimony suitable for her and her children in case of divorce are different forms of violence.
Mental Op.	<i>Operations aiming at comparing mental models</i> – The interpreter builds mental models that resemble the speaker's as closely as possible, using almost <b>transcoding</b> , going word-for-word in an attempt to relieve her burdened processing capacity.



## Radwa Mohammad Kotait

Ar	ثالثاً، (تصفيق الحضور) قيام الحكومة بدراسة أعمق وأشمل لظاهرة الغارمات وصياغة التشريعات والسياسات التي من شأنها الحد من تلك الظاهرة لما لها من تداعيات على كيان الأسرة المصرية
Eng	Thirdly, (APPLAUSE) the government should make a more comprehensive in-depth study of the fact of indebted women and developing strategies and legislations to limit such a phenomenon, as it has adverse effects on the Egyptian family.
Mental Op.	<i>Operations directed backward</i> – The interpreter <b>monitors</b> the just finalized segment "وصياغة التشريعات والسياسات التي من شأنها". She says "developing strategies", back-checks her interpretation and <b>adds</b> in a missing element from the speaker's mental representation, adding "and legislations".

Ar	رابعاً، في ضوء التوجيهات السابقة بصياغة مشروع للتوعية الأسرية وإعداد الشباب لمسؤوليات الزواج، فإنني أتطلع للتنفيذ الفعال والإيجابي لبرنامج "مودة" بحيث يوتي ثماره في استقرار الأسرة ويحفظ لكل من الزوجين حقوقه جنباً إلى جنب مع دراسة إصدار قانون جديد للأحوال الشخصية (تصفيق الحضور)
Eng	Fourthly, in light of the former directive to draft a bill for family awareness and developing youth for the responsibilities of marriage, I'm looking forward to positive and effective implementation of MAWADDA project so that it would lead to the stability of the family and protect rights of both husband and wife as well as issuing a new law for personal affairs. (APPLAUSE)
Mental Op.	<i>Operations aiming at comparing mental models</i> – The interpreter builds mental models that resemble the speaker's as closely as possible, using almost <b>transcoding</b> , going word-for-word in an attempt to relieve her burdened processing capacity. <i>Operations directed backward</i> – The interpreter <b>monitors</b> the just finalized segment "اللتنفيذ الفعال والإيجابي". She says "positive", back-checks her interpretation and adds in a missing element from the speaker's mental representation, adding "and effective implementation".

Ar	أنا يمكن النقطة، أو ال.. فقرة الخاصة بمودة، عايز أقول إن إحنا ... يعني إذا ما كنش في عمل متكامل وأقصد بمتكامل إنه يكون ملزم، ملزم لينا كلنا كأسر، كشباب وشابات مقدمين على الزواج، يبقى في .. آليات.. محكمة تلزمنا إن إحنا نقوم بالدور ده تجاه أبنائنا وبناتنا، علشان يتم إعدادهم بالشكل المناسب اللي يساهم في تحقيق نجاحهم في .. بناء أسرة بشكل كامل.
Eng	Regarding this point on MAWADDA,

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	<p>I would like to say that if there is no integrated work and I mean here by integrated the fact that it should be binding,.. binding to all of us, as families, young men and young women about to get married.</p> <p>We need to develop mechanisms, binding to play this role towards our sons and daughters to qualify them for a family life.</p>
Mental Op.	<p><i>Operations directed forward in predicting the argument's development</i> – The interpreter, with the speaker's digression to an improvised segment of the speech, as it is usually the case with President El-Sisi when he feels the need to comment on a proposition, prepares a cognitive environment that resembles the speaker's and proceeds to produce an anticipated item that is most likely the intended one. She deals with the irregularity in the stream of speech, <b>anticipates</b> and infers elements that complete the big picture of the mental model intended by the speaker.</p>

**Speech on Celebrating Tahya Masr Fund**

Ar	<p>بسم الله الرحمن الرحيم السيدات والسادة الحضور الكريم، اسمحوا لي في البداية إن أنا أوجه لكم ول.. من خلالكم كمان لكل المصريين التحية والتقدير والاحترام والشكر على ... الجهود اللي اتبذلت وعلى الدعم اللي تم تقديمه علشان ال..صندوق تحيا مصر.. يخرج ويبتدي يتحرك بالشكل اللي إحنا .. شفناه دلوقتي.</p>
Eng	<p>In the name of God, the Most.. a.. Merciful. Ladies and Gentlemen, would you please permit me... (PAUSE) say to all Egyptians, to salute all Egyptians, and ... all my respect and thanks for all the efforts, with all the support, .. to Tahya Masr Fund ... to.. to let Tayha Masr goes out and move this way.</p>
Mental Op.	<p><i>Operations aiming at comparing mental models</i> – The interpreter attempts to build a mental model that resembles the speaker's as closely as possible "أوجه لكم، ومن خلالكم كمان لكل "المصريين", and then, after listening for the further development of the line of thought "التحية والتقدير والاحترام والشكر", in <b>monitoring</b> and back-checking, she compares the two cognitive environments and back-corrects in saying "say to all Egyptians", followed by "to salute all Egyptians".</p> <p><i>Operations using generalization/approximation</i> – The interpreter, due to the initial delayed response, has to resort to <b>condensation</b>, where she condensed all the "to extend my</p>

	<p>thanks, appreciation, respect and gratitude" into "to salute, in an attempt to unburden the cognitive overload.</p> <p><i>Operations connected with cognitive load export</i> – The speakers hesitates at the beginning of the proposition and then picks up the pace towards the end, which causes an overlap of units, resulting in exporting cognitive overload to the following segment towards the end. The interpreter resorts to <b>transcoding</b>, translating word-for-word the final segment "goes out and moves this way" for "يخرج ويبتدي يتحرك" in another attempt to deal with the cognitive saturation.</p>
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Ar	وأنا مش هأكرر الكلام اللي اتقال، لكن أنا هافكر نفسي، إن أنا في أحد أول لقاءاتي مع رجال الأعمال في مصر.. اتكلمت على الصندوق ده..
Eng	And I am not going to repeat what was said. But I am going to remind myself .. that in one of my very first meetings with the businessmen in Egypt, .. I spoke with them about this fund..
Mental Op.	<i>Operations aiming at comparing mental models</i> – The interpreter, using <b>décalage</b> professionally, manages to build a cognitive environment similar to the speaker's, which results in successful interpretation.

Ar	وساعتها أنا قلت إحنا محتاجين رقم كبير قوي علشان يساهم في حل مسائل الدولة غير قادرة على إن هي تحلها يعني. وساعتها أنا طلبت رقم كبير قوي، أو حلمت برقم كبير قوي، وبعدين .. أطلقنا الفكرة، أو أطلقنا البرنامج.. وابتدينا.. إل.. نشوف.. إل.. تبرعات المصريين وبالمناسبة غير المصريين
Eng	And then, I said, we need such a huge amount of money.. to participate in solving issues the State by .. on its own will never be able to do it on, .. on its own, but I was dreaming of such a big amount of money, so we launched the idea and the initiative, ... and we also ... aa.. were witnessing the donations of Egyptians and non-Egyptians,
Mental Op.	<i>Operations directed backward</i> – The interpreter <b>monitors</b> what she has just said, comparing it to the just finalized segment, especially with the speaker's several attempts at rephrasing. She notices the irregularity in the speaker's stream of speech and makes <b>repairs</b> , rephrasing what she has said in light of the new developments.

Ar	وأنا مش هأكون مبالغ لو قلت لكم إن أول دعم .. جه .. إل.. كمبادرة، ماكنش من مصر. ماكنش من مصر. كان من خارج مصر. فأنا بأشكره وأشكر كل المصريين ورجال الأعمال والمستثمرين و.. كل مصري ساهم زي ما قالوا كده بأي رقم حتى
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	لو كان الرقم ده جنينه واحد
Eng	.. tell you what, I am not going to exaggerate ... The very first donation, or initiative, it was not coming from Egypt. It was from outside Egypt. And so, I will thank him and also I will thank all the businessmen and investors, and all the.. every Egyptian who participated or was sharing with any some of money even if it is one pound.
Mental Op.	<i>Operations directed backward</i> – The interpreter <b>monitors</b> what she has just said, comparing it to the just finalized segment, especially with the speaker's several pauses and attempts to construct his mental model. She notices the irregularity in the speaker's stream of speech and makes <b>repairs</b> , rephrasing what she has said in light of the new developments. She says "the first donation" in an <b>anticipation</b> of the kind of support that can be given to a fund, and then, when the speaker says "كمبادرة" after a pause, she decides to repair saying "or initiative".

Ar	وزي ما أنتم شفتوا، ... الل.. صندوق .. يعني .. له مجلس أمناء، ااا .. يعني بشكل .. ااا .. عايز أقول محكم.. واشتغل بشكل مؤسسي كويس قوي. وبيتعامل مع ال... الموضوعات اللي احنا ااا .. زي ما بنقول كده بنساهم فيها. خليني بس مش هأصح، لكن أقول إيه، الصندوق بيساهم بأرقام، .. يعني في برنامج .. اااا .. الإسكان اللي هو الخطر، إحنا بنتكلم في مائتين وخمسين ألف وحدة سكنية. مائتين وخمسين ألف. بدأنا بمائتين ألف ودلوقتي بنتكلم في مائتين وخمسين ألف.
Eng	And as you have seen, the fund... there is a board for the fund, ... a very disciplined way, institutional way... and it really deals.. with the issues.. with the issues we can share in. The fund is participating with numbers, .. with the housing in the danger places, for example, two hundred and fifty housing units,... two hundred and fifty thousand.. now .. we began with two hundred thousand units, now two hundred and fifty thousand units ...
Mental Op.	<i>Operations connected with cognitive load import</i> – With the speaker's several hesitation pauses and attempts at constructing a mental model, phrasing and rephrasing propositions, the interpreter is faced with one of two strategies; either to <b>stall</b> and wait for more incoming text for meaning disambiguation, and risk partial loss of information, or to use <b>transcoding</b> , going word-for-word, and risk having the output sound unnatural and awkward in the TL. The interpreter opts for transcoding, and hence, the almost-awkward rendition. She keeps constructing

	and reconstructing mental models trying to guess missing information and verify her hypothesis as the speaker verbalizes his mental model.
Ar	خليني بس مش هأصح، لكن أقول إيه، الصندوق بيساهم بأرقام، .. يعني في برنامج .. الإااا.. الإسكان اللي هو الخطر، إحنا بنتكلم في مائتين وخمسين ألف وحدة سكنية. مائتين وخمسين ألف. بدأنا بمائتين ألف ودلوقتي بنتكلم في مائتين وخمسين ألف.
Eng	The fund is participating with numbers, .. with the housing in the danger places, for example, two hundred and fifty housing units,... two hundred and fifty thousand.. now .. we began with two hundred thousand units, now two hundred and fifty thousand units ...
Mental Op.	<i>Operations connected with cognitive load export</i> – The speaker hesitates at the outset of the segment, with pauses, hedging and rephrasing, and then he ends the segment with higher information density, using one the famous problem triggers for an interpreter, which is numbers. This causes overlap of units and cognitive saturation for the interpreter; hence, the wrong interpretation of the number "250 units" and then, after <b>monitoring</b> the output and back-checking, attempting the <b>repair</b> in "250 thousand units". <i>Operations aiming at comparing mental models</i> – The speaker, after building the mental representation "250 units", compares her cognitive environment to the speaker's, discards the representation and accepts a new one "250 thousand units".
Ar	فمائتين وخمسين ألف وحدة سكنية مش ثمنهم أبدا لو قلنا المتوسط حتى .. الدكتور مصطفى موجود.. يعني .. لو قلنا المتوسط مائتين وعشرين، مائتين وثلاثين ألف جنيه للوحدة، إحنا بنتكلم في .. خمسين مليار؟ مش كده؟ خمسين مليار.
Eng	now two hundred and fifty thousand units ... Dr Mustafa Madboly, the Prime Minister,.. aa .. two hundred and thirty Egyptian pounds, fifty billion Egyptian pounds, about fifty billion Egyptian pounds.
Mental Op.	<i>Operations connected with cognitive load import</i> – Once again, with the speaker's several hesitation pauses and attempts at constructing a mental model, phrasing and rephrasing propositions, the interpreter is faced with one of two strategies; either to <b>stall</b> or to use <b>transcoding</b> , and once more takes the risk of going word-for-word and having the output sound unnatural and awkward in the TL. The interpreter opts for transcoding, and hence, the almost-awkward rendition. She

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	<p>keeps constructing and reconstructing mental models trying to guess missing information and verify her hypothesis as the speaker verbalizes his mental model.</p> <p><i>Operations using extra-linguistic knowledge</i> – With the cognitive overload the interpreter is suffering from, trying to keep up with the speaker's constant construction and reconstruction of mental representations, leaving sentences unfinished, the interpreter uses her extra-linguistic knowledge, and <b>explains</b> that Dr Mustafa whom the speaker refers to is in fact Dr Mustafa Madboly, the Prime Minister. However, her burdened cognitive processing does not give her space to complete the speaker's unfinished sentence.</p>
Ar	<p>الصندوق مش ممكن يقوم بالدور ده. لكن بيحصل إيه؟ يدفع مائة مليون جنيهه هنا، يجي على بشائر الخير متوقف شوية، .. لغاية ما الدولة تقدر تحط الـ ١١١ .. الجزء المخصص ليها اللي هتقدمه في الـ ١١١ .. التدفق المالي للمشروع، يقوم هو .. إيه.. مساند بمائة مليون أو مائتين مليون، مع الـ ١١١ .. مع بشائر الخير أو اللي سبعة وعشرين ألف وحدة اللي إحنا بنتكلم عليهم في الإسكندرية.</p>
Eng	<p>Of course, the fund on its own cannot do this on its own. But to participate with one hundred million here with Bashayer El-Kheir for example, if it stops for a while, ... so ... so ... if there are any obstacles, the Tahya Masr would participate with one hundred or two hundred million Egyptian pounds with Bashayer El-Kheir, or the twenty seven thousand housing units in Alexandria, ..</p>
Mental Op.	<p><i>Operations connected with cognitive load import</i> – Once again, with the speaker's several hesitation pauses and attempts at constructing a mental model, phrasing and rephrasing propositions, the interpreter is faced with one of the two strategies; either to <b>stall</b> or to use <b>transcoding</b>, and here she opts for stalling, trying to disambiguate the overall and verbalize the speaker's mental representation. This represents a heavy processing burden for the interpreter.</p>
Ar	<p>اللي أنا عايز أقوله إن حتى في الفيروس سي وكده، علشان بس الأمور تبقى واضحة، إحنا بنتكلم على إن الصندوق بيساهم .. بيساهم .. بمساهمات في هذه الأنشطة ولكن لا يستطيع .. لا يستطيع إن هو يقوم بتمويلها كامل. مايقدرش</p>
Eng	<p>What I want to say, even with the Virus C campaign, .. just to make it clear for everyone, .. we are speaking about what the fund is doing, is to share in these activities. But it cannot do this</p>

	or to finance them .. completely on its own
Mental Op.	<p><i>Operations directed forward in predicting the argument's development</i> – With the speaker's hesitancy, trying to find the right words to verbalize the mental models he is constructing, the interpreter prepares mental models that resemble his, and produces anticipated elements that are most likely the intended ones, using <b>anticipation</b>. The speaker says " إنا بتتكلم على إن .. الصندوق بيساهم .. بيساهم ..", and so the interpreter use the general verb "what the fund is doing".</p> <p><i>Operations directed backwards</i> - The interpreter <b>monitors</b> whether her finalized segment corresponds with the further development of the speaker's line of thought, now that it has been rephrased, and so she back-checks her output and <b>specifies</b> it saying "to share in these activities".</p> <p>The same cognitive operations of predicting forward and then monitoring backwards apply to rendering " ولكن لا يستطيع .. لا " as "يستطيع إن هو يقوم بتمويلها " when the speaker finally settles on " تمويل كامل".</p>
Ar	<p>لإن إنا بتتكلم في ارقام ضخمة جدا جدا لكن هو بيساهم مع الدولة وبعدين هو عنده القدرة كصندوق إن هو ياخذ المبادرة ويتحرك بسرعة، لغاية ما مؤسسات الدولة تبقى وزارة التخطيط تشتغل، وتحط في الموازنة، رقم معين لصالح الموضوع اللي إنا بتتكلم فيه، فيبقى إنا الفترة الـ الـ اللي إنا محتاجينها لغاية ما الدولة .. يعني .. ترتب نفسها لمجابهة هذا الموضوع، يكون الصندوق اتحرك زي موضوع كده الغارمات وحاجات أخرى، يمكن تكون .. يعني ، .. التضامن الاجتماعي، وزارة التضامن الاجتماعي، مايبقاش عندها الذراع أو الآلية أو الاجراءات ساعتها، إن هي تحلها في الوقت ده.</p>
Eng	<p>because we are speaking about very huge numbers, but it is participating with the State.</p> <p>And it has the ability to have the initiative .. to move faster till the institutions of the State or .. the Ministry of Planning to move toward the issue.</p> <p>But in this period of time, which we really need till the State arrange all the issues, to face this problem, then,.. then, the fund would proceed, and move faster.</p> <p>The Ministry of Social Solidarity, .. had the mechanism, maybe the Ministry, did, did not have the mechanism to deal on the spot.</p>
Mental Op.	<i>Operations using generalization/approximation</i> – The interpreter uses <b>condensation</b> when she renders the speaker's "





	and with these resources cannot fulfill the needs of one hundred million people.
Mental Op.	<i>Operations aiming at comparing mental models</i> – The interpreter uses <b>chunking</b> successfully and builds cognitive environments as similar as possible to the speaker's.
Ar	وأنا بأقول الكلام ده بمنتهى الوضوح كده... حد كان يصدق إن إحنا ولغاية دلوقتي في نقاش معايا على إن أنا أقدم وحدة سكنية بالصور اللي انتم شفتوا جزء منها.. في الدويقة ووو.. حنت تانية كتير؟ أنا باتكلم مش عن القاهرة ومش عن الإسكندرية، أنا باتكلم على كل الجمهورية. المائتين ألف وحدة سكنية اللي إحنا بنتكلم عليهم دول .. على مستوى الجمهورية بالكامل. بس إحنا بنعمل إيه؟ إحنا بنغير حياة .. مليون إنسان. لو قلنا المائتين وخمسين ألف وحدة، في المتوسط خمسة ولا أربعة، يعني بنتكلم في مليون، مليون ومائتين وخمسين ألف إنسان، بيتغير حياتهم بشكل جذري. حد يقول في دولة زي مصر، .. إنها تقدم .. أأ.. سكن بالشكل ده، وفرشاه كمان؟ ماحدث يقول كده. لكن إحنا لما بنعمل الإجراءات دياة، .. بنحاول نخفف بيها، ونغير بيها، شكل.. ومضمون حياة الناس.
Eng	And I am saying this clearly, anybody would believe and till the moment, there are discussions.. to introduce or to present a housing unit in Al-Dowiqa or in some of the places which you .. which you watched just a few minutes ago? I am not speaking about Cairo, Alexandria, I am speaking about .. all over Egypt. Two hundred and fifty thousand units, it is all over Egypt, distributed all over Egypt. But what we are doing, .. we are changing the life of a person. Two hundred and fifty thousand units, ... mean, in ... and each family is four or five ... a... persons, five people, .. we are changing the lives of thousands of people Anybody would imagine that Egypt can introduce .. such housing unit with furniture, .. furnished like this? But when we take these procedures, we are trying to eliminate the suffering, .. and to change the lives of people.
Mental Op.	<i>Operations directed backwards</i> - The interpreter <b>monitors</b> whether her finalized segment corresponds with the further development of the speaker's line of thought, now that it has been rephrased, and so she back-checks her output ""or in some of the places which you .." and <b>specifies</b> it saying "which you watched just a few minutes ago?"

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Ar	<p>المائتين ألف وحدة سكنية اللي إحنا بنتكلم عليهم دول .. على مستوى الجمهورية بالكامل. بس إحنا بنعمل إيه؟ إحنا بنغير حياة .. مليون إنسان. لو قلنا المائتين وخمسين ألف وحدة، في المتوسط خمسة ولا أربعة، يعني بنتكلم في مليون، مليون ومائتين وخمسين ألف إنسان، بيتغير حياتهم بشكل جذري. حد يقول في دولة زي مصر، .. إنها تقدم .. أ.. سكن بالشكل ده، وفرشاه كمان؟ ماحدث يقول كده. لكن إحنا لما بنعمل الإجراءات دياة، .. بنحاول نخفف بيها، ونغير بيها، شكل.. ومضمون حياة الناس.</p>
Eng	<p>Two hundred and fifty thousand units, it is all over Egypt, distributed all over Egypt. But what we are doing, .. we are changing the life of a person. Two hundred and fifty thousand units, ... mean, in ... and each family is four or five ... a... persons, five people, .. we are changing the lives of thousands of people Anybody would imagine that Egypt can introduce .. such housing unit with furniture, .. furnished like this? But when we take these procedures, we are trying to eliminate the suffering, .. and to change the lives of people.</p>
Mental Op.	<p><i>Operations using context knowledge</i> – The speaker says "the 200 thousand units we mentioned above". However, the interpreter uses her prior knowledge of the context and embarks on creating a mental representation based on this prior knowledge and not the speaker's input, <b>substituting</b> his "200 thousand" with "250 thousand units".</p> <p><i>Operations connected with cognitive load import</i> – The speaker hesitates a lot in this segment, making impromptu calculations, verbalizing and then re-verbalizing his mental representations. This causes the interpreter to <b>stall</b>, and hesitate, trying to infer the mental model to pursue. This results in the overlap of units and importing of cognitive overload towards the end of the segment.</p> <p><i>Operations using context knowledge</i> – The interpreter constructs the mental model, and then when proceeding, adjusts it based on the developing context in "such housing unit with furniture, .. furnished like this?". She also uses her prior knowledge of the context to <b>expand</b> the interpretation of "وبنحاول نخفف بيها" literally "trying to alleviate...", as "we are trying to eliminate the suffering", filling in the gap.</p> <p><i>Operations using generalization/approximation</i> – The interpreter uses <b>condensation</b> when she renders the speaker's "ونغير بيها، شكل.. ومضمون حياة" as " to change the lives of people".</p>

Ar	أنا مش عايز أكثر كثير معاكم في الكلام، لكن عايز أقول للمصريين، .. من فضلكم، .. سواء كان للجمعيات الخيرية الموجودة معانا، واللي بتقول بدور مجتمعي كبير جدا جدا، لها كل التقدير والاحترام. كل الجمعيات بتقوم بدور مجتمعي كبير قوي مع الـ... الدولة، ومع الصندوق نفس الكلام. مش هأقول ما تترددش إنك تساهم، لكن عايز أقول لك إن الظروف الصعبة أو القاسية للناس، ... اللي موجودة لما إحنا كلنا، .. يعني ربنا يقدرنا إن إحنا .. يعني .. نطبطب على بعض، .. نطبطب على بعض.. ووو .. نقوم بالدور ده ونساهم فيه، يوم عن يوم، .. هتبيض تلاقى الدنيا بتتغير بفضل الله سبحانه وتعالى بشكل كبير قوي.
Eng	I am not going to speak that much, .. but I want to tell the Egyptians, please .. please .. whether to the NGOs who are represented here, and .. they are doing such a big role, with all my appreciation and respect... a... with the state institutions or with the fund, .. I am not going to say do not hesitate to participate, but the dire circumstances of the people,... when God helps us, .. just to take care of each other, ...to be tender to each other, ... and to have this role, to participate, to share.. a day after the other, we are going to witness these changes a day after the other.
Mental Op.	<i>Operations connected with cognitive load import</i> – Once again, with the speaker's several hesitation pauses and attempts at constructing a mental model, phrasing and rephrasing propositions, constructing and discarding cognitive environments, leaving propositions unfinished, the interpreter is faced with one of the two strategies; either to <b>stall</b> or to use <b>transcoding</b> , and here she opts for transcoding, which results in an awkward rendition, and unfinished mental representations, due to the burdened working memory of the interpreter, trying to keep up with the mental representations being constructed and discarded.

Ar	الحقيقة أنا مش عايز أقول بس الصندوق علشان مابقاش .. بس منصف، أنا عايز أقول إن الجمعيات والصندوق بيقيموا بدور رائع ومن فضلكم، يا مصريين، كل المصريين، ما تستقلش أبدا بأي حاجة ممكن تقدمها بأي رقم ممكن تحطه، حتى لو كان زي ما قلت كده، .. جنيه واحد. ده هيساهم في تخفيف .. الـ... عن معاناة .. الـ... ناس كثير جدا، إحنا بنتحرك وشايفينهم كدولة وإنتم كمان معانا شايفين إحنا بنعمل إيه. وبالتالي، هيبقى بنخفف عنهم.
Eng	In fact, .. I am not going only, .. only to speak about the fund, I want to be fair, but also the NGOs. They are doing a great role, and please, to all Egyptians,... do not think that anything you can give is little thing, .. but even if one pound, it can make a different,.. a difference.

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	This would eliminate the suffering of many people. We are moving and we are watching them. We are.... And now you can see with us what is going on around. And we are trying to eliminate their sufferings.
Mental Op.	<p><i>Operations using context knowledge</i> – The speaker says "علشان "مابقاش", literally "so I won't be" and then after a pause adds "only fair". If put together, it would give the opposite meaning. The interpreter successfully renders it based on her knowledge of the context "I want to be fair".</p> <p><i>Operations using generalization/approximation</i> – The interpreter uses <b>generalization</b> when she uses general terms like "anything" and "little thing" to refer to "donations", in an attempt to unburden her overloaded working memory.</p> <p><i>Operations directed backwards</i> – The interpreter monitors her just finalized segment and makes necessary grammatical <b>repairs</b> when she says "it can make a different,.. a difference". The same applies to "We are.... " and then "And now you can see with us".</p>
Ar	<p>مبادرة "نور حياة" اللي اتكلموا عنها، دي لما كانت الدكتورة غادة وزيرة التضامن قالت لي يا فندم في عندنا مشكلة كبيرة في أطفالنا في المدارس، ومحتاجين إن إحنا نتدخل سواء بالعلاج .. الجراحي للمياه البيضاء والزرقاء، أو للـ .. القرنية، أو حتى إننا نعمل للأطفال دية نظارات لهم، يعني، بعد ما نعمل مسح طبي أو مسح لقوة إبصار عينيهم يعني، أنا لو ما كنتش في صندوق تحيا مصر في فلوس، .. كنت هأقول لها طيب ادرجوا الموضوع ده في .. الـ الموازنة بتاعتكم نبقى نتصرف في رقم لصالح الموضوع ده. لكن لأن كان موجود المبلغ، قلنا مليار جنيه لصالح المبادرة دية.</p>
Eng	and the initiative of Nour Hayah, ... when Dr Ghada Wali, the ... Minister of Social Solidarity, .. she told me we do have a big problem with our sons in the schools, we should interfere whether with the ... with the ... medical treatment or the surgical intervention of Cataract, glaucoma, or corneal surgical procedure, or even to give them medical glasses, after having this medical survey, to examine their visual .. a.. issues, or their visual level, ... ok... what about including this into your budget? But, .. because this budget, or this sum of money was there, so it was introduced to this initiative
Mental Op.	<i>Operations directed forward in predicting the argument's development</i> – The interpreter prepares the cognitive environment that resembles the speaker's and when the speaker hesitates, she proceeds to anticipate the intended meaning based

	<p>on inferencing what is more probable. The speaker says "ومحتاجين إن إحنا نتدخل سواء بالعلاج ..", and so she <b>anticipates</b> "with the ... medical treatment"</p> <p><i>Operations directed backwards</i> – The interpreter <b>monitors</b> her finalized segment, listens to the speaker's further development "سواء بالعلاج .. الجراحي للمياه البيضاء والزرقا، أو للـ .. القرنية" and back-corrects her rendering by adding a more specified interpretation "or the surgical intervention of Cataract, glaucoma, or corneal surgical procedure" after the <b>anticipated</b> "medical treatment". The same applies to the interpretation of "to examine their visual .. a.. issues, or their visual level" and to "But, .. because this budget, or this sum of money was there".</p> <p><i>Operations using discourse knowledge</i> – The interpreter uses her knowledge of technical terms to expertly fill in the gaps of indistinct terms used by the speaker in her rendering of "the surgical intervention of Cataract, glaucoma, or corneal surgical procedure".</p> <p><i>Operations dealing with probability</i> – The speaker constructs a hypothetical mental model asking what would happen if the fund did not exist. Probabilities are a source of complex cognitive processing and their mental models are not easy to build. This is clear in the evidence of cognitive overload when the interpreter <b>omits</b> the first part of the hypothesis "أنا لو ما كنش في صندوق تحيا .." and proceeds to the second part of the hypothesis "مصر في فلوس، .." "ok... what about including this into your budget?"</p> <p><i>Operations using generalization/approximation</i> – Due to the cognitive overload resulting from the high density of information in the first segment of the proposition, the interpreter suffers from processing overload at the end of the proposition from processing the previous part of sentence and omits the amount of money mentioned resorting to <b>generalization</b> saying "this sum of money was there, so it was introduced to this initiative".</p>
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Ar	<p>الكلام بينطبق على الفيروس سي، وبينطبق على .. حاجات كتير قوي، كتير من الناس .. الـ .. مش هنا. المتشككين، .. اللي هم بيحاولوا دائما يقللوا من الجهد، ويقللوا من العمل ويشككوا فيه. فيقولوا كلام مش دقيق. يقول لك الموضوع ده .. الـ .. مش الدولة اللي بتقوم به، لأ! الدولة ممثلة في شعبها، وشعبها هو اللي بيساهم في الصندوق ده وفي صناديق أخرى وبالتالي، إحنا بنتحرك وبنقدر نعمل اللي إحنا بنعمله. وكل ما الأرقام هتزيد معانا، كل ما الأرقام هتزيد معانا، إحنا هنعمل أكثر</p>
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Eng	and this is implemented to many other issues. Many people, ... not here, but those who are in doubt, .. who are all the time trying to decrease the efforts, or to say ... a. .. that .. it is ..in doubt, it is not .. saying all the time that the State is not the issue, is not the one who is taking care of this or doing this, No, the State is presented in its people. But whenever the numbers are going to increase, we are going to do more.
Mental Op.	<p><i>Operations connected to cognitive load import</i> – With the interpreter still listening to the speaker's new sentence and still needing to retrieve the last part of the previous sentence, the interpreter's working memory is overloaded with imported processing from previous segment, resulting in partial loss of information, <b>omitting</b> "Virus C".</p> <p><i>Operations connected with cognitive load import</i> – Once again, with the speaker's several hesitation pauses and attempts at constructing a mental model, phrasing and rephrasing propositions, constructing and discarding cognitive environments, leaving propositions unfinished, the interpreter is faced with one of the two strategies; either to <b>stall</b> or to use <b>transcoding</b>, and here she opts for transcoding, which results in an awkward rendition, and unfinished mental representations, due to the burdened working memory. "Many people, ... not here, but those who are in doubt, .. who are all the time trying to decrease the efforts, or to say ... a. .. that .. it is ..in doubt, it is not .. saying all the time that the State is not the issue".</p> <p><i>Operations connected with cognitive load export</i> – Cognitive processing overload is exported to the following segment, resulting in the total omission of this segment " وشعبها هو اللي بيساهم في الصندوق ده وفي صناديق أخرى وبالتالي، إحنا بنتحرك وبنقدر نعمل اللي إحنا بنعمله".</p>

### Discussion & Results

The above segment-by-segment analysis shows that Prágerová's (2012) visualization of the act of interpreting, as a series of "cycles" of listening, analyzing, anticipating, creating a mental model, approving or correcting the image reached through continuous back-checking against both context and source and target culture, retrieving items from the working memory, and finally verbalizing a particular speech segment, is all true. This is exactly what the interpreters do and keep doing

throughout their online performance, in a cyclic repetition of similar cognitive operations.

President El-Sisi, especially in his impromptu speeches, or digressions from read-outs when he feels the need to comment or make a note to the audience, is noticed to hesitate at the outset of the improvised segments, taking his time to construct his mental representations, verbalize them, pause and then re-verbalize them, either to choose more accurate verbalizations or to discard with the mental model he constructed altogether and start anew. This pattern results in unfinished sentences, logical incongruity or gaps that need to be filled in. These are problem triggers which have been classified as speaker-related influences. They result in the interpreter's using operations connected to cognitive load import and export, whether the hesitation and pauses are at the beginning of a proposition, with the speaker gaining momentum, causing information congestion at the end of the segment, or are at several segments, causing the overlap of units and representations. These cognitive-overload operations are noticed to be connected with certain tactics. Interpreters either use *décalage* and stalling, trying to delay their productions in an attempt to disambiguate the speaker's line of thought or to wait the speaker out until he settles on the desired mental representation, or opts for transcoding, going word-for word, copying the speaker's hesitations and pauses. While the latter processing strategy might be safer, but results in an awkward, stilled production most of the time, the former strategy results in a more coherent production, but risks partial or total loss of information, and shows instances of information selection, condensation, or omission.

Sometimes, external, or extra-linguistic problem triggers, such as noise from the excited audience especially in celebrations like the one in the Nativity Coptic Church, result in the interpreter's using operations that lean on generalization, approximation, or selection of information, in order not to lose the information totally. The interpreters have been noticed to resort to operations using prior knowledge, whether the source is extra-linguistic, context or discourse, in an attempt to fill in gaps or complete sentences left unfinished by the speaker in his attempts to verbalize mental representations and models constantly competing for attention in his mind. These cognitive operations are noticed to be connected with tactics such as addition and expansion, trying to fill in the gaps, inferencing missing information or the logical continuation of a certain line of thought, or using terminology and collocations that are linked to a certain type of discourse.

When the speaker hesitates in verbalizing the mental model formulated in his head, or suffers from an unexpected blackout especially

in an impromptu speech, trying to recall a word or a name, the interpreter is noticed to lean on mental operations that are directed forward, predicting the argument's development. The interpreter based on the cognitive environment prepared to resemble the speaker's as much as possible is capable of using the famous processing strategy; anticipation, whether linguistically or extra-linguistically. The degree of success of the anticipated element or elements depends on how close the mental models created by both speaker and interpreter are.

Operations directed backwards are the opposite of the ones that lean on anticipation. They might occur on their own, when the interpreter back-checks whether the just finalized segment corresponds with the development of the line of the thought, or might follow one of the operations directed forward, when the interpreter attempts to see whether the anticipated element fits in the formulated mental model or not. These operations are closely linked to "monitoring", one of the overall strategies used by the interpreter to keep an eye on what has just been verbalized, and to check whether this verbalization needs repair or is on the right track. One of the interpreters, the one who has interpreted the President's speech celebrating Tahya Masr Fund, shows higher tendency towards constantly monitoring, checking and double-checking her finalized segments. She feels the constant need to back-correct, specify or add missing information throughout the speech. It is a coping tactic that is brought into use partly due to an impulse that is related to the interpreter's character, as well as due to the nature of the speaker's irregular stream of speech, especially improvised ones.

Operations dealing with probability are related to the speaker's constructing hypothetical mental models, which are always difficult to copy by the interpreter as they do not display a simple decision of positive or negative. In the extracts analyzed, there are only two occurrences of hypothetical mental models; one in the speech celebrating the Nativity Church and one in the speech celebrating Tahya Masr Fund. In the first instance, the interpreter was capable of successfully using *décalage*, as well as chunking, processing the incoming message without causing saturation of her processing capacity. In the second instance, already suffering from overloaded working memory, the interpreter resorts to omitting the first clause of the conditional sentence and proceeds to second clause, displaying a partial loss of information.

The interpreter is constantly constructing mental models that resemble as closely as possible the speaker's. If *décalage* is successfully managed, the two cognitive environments are usually similar, resulting in



the interpreter successfully rendering the message. If for any reason the interpreter's processing capacity is burdened due to one of the numerous problem triggers, the mental representations might not be the same resulting either in repair or no-repair.

One of the most common mental operations used by the interpreters is the one using generalization. When the interpreter is not able to retrieve the exact counterpart of a segment, is facing a difficulty, or is suffering from high time pressure or from burdened capacity processing, the strategy of choice is usually generalization, condensation, or approximation, where partial loss of information is better than total loss. It is also a successful way to unburden the interpreter's overloaded working memory.

### **Conclusion**

The intention of the paper is to apply Prágerová's (2012) model of mental operations to simultaneous interpreting from Arabic into English, where interpreting is seen as a set of cycles of cognition, inferring and decision-making, and where the interpreter is constantly constructing mental models to resemble the speaker's, always planning, always anticipating ahead, always on the alert monitoring and back-checking his/her formulation against finalized segments of the original speech. The analysis shows that the interpreter's success depends on his/her wise management of the available cognitive capacity as well as his/her ability to construct mental representations that resemble the speaker's as closely as possible and to put them into words that lead to corresponding mental representations in the audience's minds. The model used is quite different from other models commonly used in analysis, as it is less schematic and more organic. It respects the creativity and flexibility of the human mind. The analysis is not judgmental; it is an attempt at highlighting the herculean processing effort that takes place inside the black-box that is the interpreter's mind.

The discussion above has attempted to provide answers to the research questions by giving a detailed description of the complex mental operations that take place in the mind of the interpreter during an online SI performance as well as of the way mental models and representations are built, double-checked, refined or discarded of. The discussion also describes the processing strategies and tactics used by the interpreter to cope with the problem triggers and causes of cognitive saturation. Some of these problem triggers have been related to linguistic and cultural factors and some were directly related to the idiosyncrasies of the speaker. The analysis also shows that certain processing strategies are linked to certain types of mental operations. For instance, cognitive-overload operations are noticed to be connected to *décalage* and stalling,

as well as to transcoding and going word-for word, depending on the interpreter's method of choice. Also, operations using prior knowledge, whether extra-linguistic, context or discourse, are noticed to be connected with tactics such as addition and expansion, inferencing missing information, or anticipation.

The research is an attempt at linking mental operations as categorized by Prágerová (2012) with problem triggers and processing strategies addressed in a great number of studies, with a view of reaching a comprehensive tool of analysis and description of simultaneous interpreting. Bringing these three elements of analysis together is hoped to be of benefit to learners, helping them understand the complexity of the process at hand, as well as to trainers of interpreting, giving them a tool of explanation that touches on several components of this rather complex process.

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