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Report

on PhD dissertation

*Working Memory in Conference
Simultaneous Interpreting*

submitted by

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The PhD thesis submitted by Ms Šárka Timarová addresses a central topic of interpreting research from a decidedly interdisciplinary perspective. Over and above the work and its findings, which constitute the main subject of the present assessment report, the dissertation under review is therefore noteworthy also from a research policy perspective on the field of interpreting studies, as it links up with and reaffirms what is arguably the most prominent research paradigm in the study of simultaneous interpreting in conference settings (henceforth SI). From its inception, the cognitive process of SI has attracted the interest of cognitive psychologists, prompting them to put their models of advanced human skills and bilingual language processing to the test. The nature of interdisciplinary investigations has been controversial, however. Ms Timarová represents yet another of those relatively rare cases of interpreting scholars who are themselves university-trained and professionally active conference interpreters and have engaged in scientific research by acquiring and working with concepts and methods from the cognitive sciences, in particular cognitive psychology. The difficulties arising from this 'transdisciplinary' stance for the PhD project – in terms of scholarly exchange and affiliation as well as methodology – would be well worth reflecting on and indeed also impact the present report, which relies on expertise in the field of translation (and interpreting) studies rather than experimental psychology.

The author's choice of subject clearly puts this dissertation at the cutting edge of cognitively oriented inquiry into SI. With over a dozen studies investigating the role of working memory in simultaneous conference interpreting and interpreters and yielding a very uncertain pattern of findings (as summarized by the author in a table on p. 46), it is highly appropriate for Ms Timarová to build on and extend the state of the art regarding the crucial issue of working memory in SI, broken down into three broadly formulated main research questions (p. 58). In addressing these, she reaches beyond previous research designs and findings, most importantly by construing – and measuring – working memory as a complex set of storage and processing (executive) functions and by fore-

grounding the role of working memory in interpreting rather than interpreters. The latter permits this experimental work to link up more closely with research findings in interpreting studies (on such topics as number processing, time lag and syntactic complexity) than would a more psychological focus on abilities of the individual performing the task. Even so, performance is investigated in an experiment with a sizeable group of experienced professional subjects, with Czech and Dutch as their A languages and staff interpreter as well as freelance status (though exact numbers for the latter are not given). Conducting this experiment with 28 participants is in itself a highly remarkable achievement, considering the intensity of the (three-hour) testing sessions.

No less outstanding is the experimental design of the study under review. In her attempt to explore the correlations between various working memory functions and SI, Ms Timarová relies on an innovative choice of tasks to measure storage and, in particular, executive components of working memory, and employs a range of local and global measures of interpreting performance. The latter have clearly been designed with the utmost care, but some facets are difficult to understand. Thus, the exact nature of the manipulation for lists (enumerations) is not apparent from the documentation in Annex 6 (p. 155). If the technical terms listed were indeed interspersed with numerical information (as appears to be the case from p. 147), these items would more appropriately be analyzed in terms of lexical processing (technical terms) than 'verbatim' memory (p. 120).

On the whole, the choice of tasks and measures seems well-argued and based on theoretical findings, but some questions might nevertheless be raised. Thus, it is not clear why preference was given to the letter span task over the listening span task used in previous studies (which would have allowed for comparisons). On the interpreting side, the choice of EVS variability as a (positive) measure of planning (p. 73) could be called into doubt: One might equally view the adoption of a rather steady lag for a given type of speech and delivery as an appropriate strategic choice. In this regard, a major point of criticism concerning the experimental design might be the absence of any holistic measure of SI performance, as derived, for example, from a panel-based assessment of overall quality (used, for instance, by Liu 2001). While figures and lists are relevant aspects of SI performance, their relation with output coherence and 'listenability' would have been of great interest, not least on the assumption that attentional control, which emerges as a prime focus of this study, may play a leading role in the interpreter's management of fluency and intonation and other features of prosody and delivery. When the author rightly points to the potential role of 'background processes which are difficult to measure in the product' (p. 121), it seems regrettable that the methodological avenue of holistic assessment was not explored.

The issue of a more 'realistic' (holistic) assessment in addition to partial measures also relates to the vexing problem of ecological validity in strictly controlled experiments. The author claims that the SI task was performed 'in as ecological a manner as possible' (p. 125), but little is said about this in the methodology section (Chapter 4). Presumably, the professionals participating in the experiment were interpreting without an audience. It would have been highly desirable for the researcher to elicit post-task reactions so as to ascertain how these interpreters experienced the task and how they assessed their own

performance. While the quantitative design of the study (as justified on p. 60) is perfectly legitimate, adding such a minor qualitative component might have yielded valuable insights regarding such issues as personal style, to which the author draws attention in her 'Suggestions for further research' (p. 125). By the same token, a consideration of the potential impact of translational norms, as found by Shlesinger in her study of working memory in SI performance, might have been possible on that basis.

With regard to analyses and findings, the author's work evidently reflects great precision and care, and an impressive level of statistical expertise (as reflected also in the reader-friendly glossary supplied as Annex 1). Nevertheless, further explanation would have been welcome for the handling of some test results. This refers to the deletion of data from the arrow flanker task in the case of long response times (p. 80) and to the deletion of outliers and 'problematic cases' in various working memory measures (as stated on p. 93).

Such data processing queries notwithstanding, there is no doubt that the author's results constitute a major step forward in the investigation of working memory in SI performance. Among the inspiring insights to be gained from this study are the effect of professional experience on working memory, particularly in relation to and as distinct from age, and the distinction between memory functions (short-term storage) and attentional control, with the latter emerging as more important than previously believed. In this context, one might have expected the author to give more extensive consideration in her review of the state of the art (in which there is also no mention of the depth-of-processing approach underlying some previous work on interpreting) to Daniel Gile's influential Effort Model of SI, which envisages a memory component but generally foregrounds the role of attention management. As mentioned briefly at the very end of the discussion on research results (p. 123), the findings of this experimental study could profitably be discussed more extensively in the framework of Gile's model, given its currency in the field and its long-standing emphasis on what Ms Timarová, drawing on Cowan (2005), calls working memory capability rather than capacity.

The suggestion regarding engagement with mainstream models in interpreting studies links back to what was said at the outset of this analytical report about interdisciplinarity in research on interpreting. Whereas strictly controlled experiments according to the standards of cognitive science have sometimes been criticized for being too far removed from the professional reality of interpreting, theoretical models in interpreting studies have been viewed as underspecified and untestable. Ms Timarová is in a privileged position to reconcile these different perspectives, and her thesis is an excellent example of how the 'gap' between disciplines can fruitfully be bridged. The author's grasp of relevant theory and of experimental methodology, as demonstrated in this study, is impressive, and while her manuscript contains some unfortunate editorial slips (such as the misspelling of the name Cattell and a number of missing articles), the quality of this 130-page report (and 40-page appendix) on such a comprehensive and rigorous a very high standard. Overall, the PhD dissertation submitted by work of E L great distinction and of the highest academic merit.