

BENJAMINS

■
TRANSLATION
■

Psycholinguistic
and Cognitive Inquiries
into Translation
and Interpreting

edited by
Aline Ferreira
John W. Schwieter

LIBRARY

Psycholinguistic and Cognitive Inquiries into Translation and Interpreting

Edited by

Aline Ferreira

John W. Schwieter

Wilfrid Laurier University

John Benjamins Publishing Company

Amsterdam / Philadelphia



The paper used in this publication meets the minimum requirements of the American National Standard for Information Sciences – Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

doi 10.1075/btl.115

Cataloging-in-Publication Data available from Library of Congress:
LCCN 2014037673 (PRINT) / 2014041939 (E-BOOK)

ISBN 978 90 272 5855 7 (HB)

ISBN 978 90 272 6911 9 (E-BOOK)

© 2015 – John Benjamins B.V.

No part of this book may be reproduced in any form, by print, photoprint, microfilm, or any other means, without written permission from the publisher.

John Benjamins Publishing Co. · P.O. Box 36224 · 1020 ME Amsterdam · The Netherlands
John Benjamins North America · P.O. Box 27519 · Philadelphia PA 19118-0519 · USA

Benjamins Translation Library (BTL)

ISSN 0929-7316

The Benjamins Translation Library (BTL) aims to stimulate research and training in Translation & Interpreting Studies – taken very broadly to encompass the many different forms and manifestations of translational phenomena, among them cultural translation, localization, adaptation, literary translation, specialized translation, audiovisual translation, audio-description, transcreation, transediting, conference interpreting, and interpreting in community settings in the spoken and signed modalities.

For an overview of all books published in this series, please see
www.benjamins.com/catalog/btl

EST Subseries

The European Society for Translation Studies (EST) Subseries is a publication channel within the Library to optimize EST's function as a forum for the translation and interpreting research community. It promotes new trends in research, gives more visibility to young scholars' work, publicizes new research methods, makes available documents from EST, and reissues classical works in translation studies which do not exist in English or which are now out of print.

General Editor

Yves Gambier
University of Turku

Associate Editor

Franz Pöchhacker
University of Vienna

Honorary Editor

Gideon Toury
Tel Aviv University

Advisory Board

Rosemary Arrojo
Binghamton University

Michael Cronin
Dublin City University

Dirk Delabastita
FUNDP (University of Namur)

Daniel Gile
Université Paris 3 - Sorbonne
Nouvelle

Amparo Hurtado Albir
Universitat Autònoma de
Barcelona

Zuzana Jettmarová
Charles University of Prague

Alet Kruger
UNISA, South Africa

John Milton
University of São Paulo

Anthony Pym
Universitat Rovira i Virgili

Rosa Rabadán
University of León

Sherry Simon
Concordia University

Şehnaz Tahir Gürçaglar
Bogaziçi University

Maria Tymoczko
University of Massachusetts
Amherst

Lawrence Venuti
Temple University

Michaela Wolf
University of Graz

Volume 115

Psycholinguistic and Cognitive Inquiries into Translation and Interpreting
Edited by Aline Ferreira and John W. Schwieter

Acknowledgments

In addition to the internal review process by the editors, each of the chapters presented in this book was anonymously reviewed and evaluated by 29 international scholars who were invited by the editors. As such, we would like to extend our sincere gratitude to these researchers for helping in this important process. We would also like to thank Prof. Yves Gambier, the series editor of the *Benjamins Translation Library*, and two anonymous reviewers for their excellent suggestions on the entire book manuscript. It is without a doubt that the expertise and guidance of all of these scholars has helped to diversify and strengthen the contents of this book.

Table of contents

Acknowledgments	VII
Part I. Psycholinguistic and cognitive intersections in translation and interpreting	
CHAPTER 1	
The position of psycholinguistic and cognitive science in translation and interpreting: An introduction	3
<i>Aline Ferreira, John W. Schwieter, and Daniel Gile</i>	
CHAPTER 2	
Translation process research at the interface: Paradigmatic, theoretical, and methodological issues in dialogue with cognitive science, expertise studies, and psycholinguistics	17
<i>Fabio Alves</i>	
CHAPTER 3	
The contributions of cognitive psychology and psycholinguistics to conference interpreting: A critical analysis	41
<i>Daniel Gile</i>	
Part II. Studies from psycholinguistic and cognitive perspectives	
CHAPTER 4	
Discourse comprehension in simultaneous interpreting: The role of expertise and information redundancy	67
<i>Adelina Hild</i>	
CHAPTER 5	
Simultaneous interpreting and working memory capacity	101
<i>Šárka Timarová, Ivana Čeňková, Reine Meylaerts, Erik Hertog, Arnaud Szmalec, and Wouter Duyck</i>	
CHAPTER 6	
Process and text studies of a translation problem	127
<i>Sonia Vandepitte, Robert J. Hartsuiker, and Eva Van Assche</i>	

CHAPTER 7

- Post-editing machine translation: Efficiency, strategies,
and revision processes in professional translation settings 145

Michael Carl, Silke Gutermuth, and Silvia Hansen-Schirra

CHAPTER 8

- On a more robust approach to triangulating retrospective protocols
and key logging in translation process research 175

Igor Antônio Lourenço da Silva

- About the contributors 203

- Index 205

PART I

**Psycholinguistic and cognitive intersections
in translation and interpreting**

CHAPTER 1

The position of psycholinguistic and cognitive science in translation and interpreting

An introduction

Aline Ferreira*, John W. Schwieter*, and Daniel Gile**

*Psycholinguistics and Language Acquisition Laboratory, Wilfrid Laurier University / **École Supérieure d'Interprètes et de Traducteurs, Université Paris 3

1. Background: A historical reminder

Translation Studies (TS), the young academic discipline which has developed around research on translation and interpreting, spans a remarkably wide spectrum of approaches, theories and research methods. The present collection highlights the input of psycholinguistics and cognitive science to TS through a scrutiny of recent findings and current theories and research. Before presenting the contributions offered in this volume, it is perhaps useful to recall some historical and contextual background to gain a better overall perspective and view of where and how they fit in the wider framework of past and present TS.

1.1 The beginnings

Reflection on translation is at least as old as (written) human history, and (prescriptive) statements on how to translate were made through the ages by numerous important personalities, including translators, but also philosophers, religious leaders, and writers (see for instance Robinson 1997). When the idea of scientifically investigating translation eventually emerged in the 1950s, the pioneers were linguists who were primarily interested in linguistic aspects of translation; that is, in relationships between linguistic systems and the reality they describe, between the linguistic systems as such, and between source texts and target texts as linguistic assemblies. Nida (1964), who worked with Bible translators, was perhaps the first linguist who considered translation under the light of its communicative function. This led him to a significant departure from a purely linguistic analysis of

relations between source texts and target texts, and into the idea of distinguishing between ‘formal equivalence’, which is linguistically based, and ‘dynamic equivalence’, which is communication oriented. This distinction, along with Vinay and Darbelnet’s (1958) classification of translation ‘techniques’, was perhaps what paved the way to later work on translation as targeted behaviour as opposed to a quest for linguistic equivalence.

Levý (1967) was one of the first investigators to shift the angle from the linguistic systems or texts to the translators and their behaviour. He applied the principles of mathematical game theory by considering that the translators’ decisions were based on strategic considerations aiming for maximum ‘gain’.

Translation Studies as a would-be autonomous academic field with disciplinary aspirations, expressed most illustratively in Holmes’ (1972/1988) famous paper “The name and nature of Translation Studies,” started developing about half a decade later in Western Europe. The scholars who made up the academic kernel of the movement worked mostly around comparative literature, the foci being literary texts and their translation(s), translation and culture, translation and society. At the same time, throughout Europe and in the USSR, academics involved in translator and interpreter training started developing their own theories. Those theories moved away from formal linguistic approaches and into more sociocultural and communication-based approaches: such was the case of German functionalist theories, in particular the Skopos theory (Reiß & Vermeer 1984) and the theory of translatorial action (Holz Mänttääri 1984) or into more cognitive considerations, mostly without relying on input from cognitive psychology. This was the case of Interpretive Theory, also known as the Theory of Sense (*théorie du sens*), developed by Seleskovitch and Lederer (see Seleskovitch 1977, 1981; Seleskovitch & Lederer 1989) for interpreting before it was extended to written translation, though Chernov, whose interest was also in conference interpreting, (see Chernov’s 1994 model of the interpreting process), did work with psycholinguists.

1.2 The rise of empirical research

Early academic activities around translation were definitely part of the humanities or ‘liberal arts’, and included reflection, theory, and translation critique rather than empirical research, which is central to cognitive science. Interestingly, some pioneers who were essentially theoreticians called for an ‘empirical discipline’ (Holmes 1972/1988) and for empirical research (Toury 1995), though they did not engage in much empirical research themselves. The same can be said

about Chesterman, who devoted much reflection to empirical research under a Popperian angle. Empirical research did eventually gain some impetus starting in the early 1990s. Arguably, it was driven by two main developments, which were not unrelated.

One was the beginning of ‘process research’, pioneered by Krings (1986) and Lörscher (1991) on the basis of Ericsson and Simon’s Think-Aloud-Protocol (TAP) paradigm developed in psychology. This was the first highly visible contribution of psychology to research into written translation – in interpreting, such influence had been observed as early as the 1960s and 1970s (see Gerver 1976). The TAP paradigm raised much interest in the TS community, especially in Germany and in the Nordic countries (see, among many other contributions, the collective volume edited by Tirkkonen-Condit and Jääskeläinen 2000).

The other important driving force of empirical research in TS was the increasing involvement of translation practitioners and trainers of translators and interpreters in research. Their interest was directed less towards theory and more towards practical issues having to do with training and with professional practice such as quality perception, translation tactics (commonly referred to as ‘strategies’ in the literature: see Gambier 2008, on this terminological issue), translation competence, language differences, and their practical impact. This generated field observation initially, and empirical research proper later.

Meanwhile the Internet developed and facilitated cross-border exchanges between translation scholars, and an international TS community emerged. At the initiative of José Lambert, a Belgian TS scholar based at the KUL University in Leuven, the CERA chair (now renamed CETRA), a yearly research summer school program, was set up in 1989 to train young doctoral students specializing in translation-related topics who came from all over the world. CE(T)RA became an important meeting point for translation scholars who served on the ‘staff’ and for trainees, several hundred of them by 2013. Similar programs were then set up elsewhere and had a stimulating effect. In 1992, the European Society for Translation Studies was established in Vienna.

Both CETRA and EST have had a federating influence in bringing together TS scholars from numerous horizons and with diversified interests. Their numerous meetings and exchanges probably had a positive role in opening TS scholars to interdisciplinary work.

2. Translation studies: An academic entity with a wide spectrum of interests

A comprehensive account of the progress and achievements of TS scholars would require a full book, or several. In the following paragraphs, a few examples will be highlighted to show the diversity of the present landscape and the theoretical and methodological input from neighboring disciplines, in particular cognitive science and psycholinguistics.

Scientometric evidence (see Franco Aixelá 2013) indicates that Gideon Toury is the most quoted and presumably one of the most influential authors in TS. His main contribution, linked to literary and sociological theories, was the idea that translation should be studied not prescriptively, on the basis of what critiques believe translation should be like, but descriptively, taking relevant social norms in the target culture as a key element in the analysis of translation choices observed (Toury 1978). In its wake, further conceptual work with classifications and definitions of norms was done by authors such as Theo Hermans and Andrew Chesterman, and numerous analyses of existing translations were conducted within this new paradigm (see Chesterman 1993; Hermans 1991; and Toury 1978, 1995). Beyond the concept of norms, sociology has actually inspired much theoretical work in research into written translation. In particular, Bourdieu's ideas and concepts and some of Goffman's concepts have been used as tools for the analysis of various translational phenomena in what has come to be called the 'sociological turn in Translation Studies' (Gouanvic 1999; Diriker 2004; Pym, Shlesinger, and Jettmarová 2006; Wolf and Fukari 2007).

Cultural studies can be seen as an extension of sociology. Many TS authors with background in sociology such as Pym or interest in sociology such as Toury are involved in cultural studies and have been reflecting on translation from that viewpoint. Actually, the academic departments and research centres they belong to often associate translation with cultural studies officially. In some cases, the cultural studies viewpoint is linked to ideology, in particular when looking at the very fundamental choice of either 'naturalizing' texts so that they read line 'native' texts or 'foreignizing' them by translating them in a way which preserves some of their 'foreignness'. This latter choice was advocated by French TS scholar and philosopher Antoine Berman (1984), but also by Lawrence Venuti (1986), who further posited that translators who belong to cultures that consider themselves 'weak' tend to foreignize and those who belong to cultures that consider themselves 'strong' tend to naturalize. The sociological issue of power is clearly part of this analysis, and is associated with other issues such as feminism, post-colonialism, censorship and self-censorship in translation under totalitarian regimes. All these have generated a considerable volume of literature in TS, both theoretical

and empirical. Sociological considerations also underlie some general and scientometric analyses of TS as a discipline, when authors consider the action of and interaction between groups of scholars in terms of power and influence in their analysis of the evolution of TS (Gile 1995; 2006).

The spectrum of topics covered in the *Benjamins Translation Library*, which was launched in 1994 with a volume on *Language Engineering and Translation* (Sager 1994) and now comprises more than 100 volumes, is an illustration of the branching out of Translation Studies. Besides fundamental theoretical issues and several volumes devoted to translator and interpreter training, the collection offers volumes on topics which range from process research (e.g. Alves 2003; Alvstad, Hild, and Tiseliu 2011; Englund Dimitrova 2005; Tirkkonen-Condit and Jääskeläinen 2000) to language-specific and language-pair specific phenomena in translation (Schmid 1999), from court interpreting (Edwards 1995; Hale 2004) to community interpreting (starting with Carr, Roberts, Dufour, and Steyn 1997) from Media Translation (Gambier and Gottlieb 2001) to audiovisual translation (Díaz Cintas 2008; Orero 2004), screen translation (Chiaro et al. 2008), game localization (O'Hagan and Mangiron 2013) and subtitling for television (Pedersen 2011) – see the *Benjamins Translation Library* website. A similarly wide spectrum of research topics can be seen in special issues of translation journals and in recent doctoral dissertations. The continued diversity and ever-deepening exploration of various aspects of translation and interpreting are naturally associated with interdisciplinarity, and as is shown in the contributions collected in this volume, the input of cognitive science has been considerable.

3. The current volume: Psycholinguistic and cognitive intersections and studies

In the chapters of this volume, multiple research methods are presented which yield results that have implications for future research in translation and interpreting studies. Some of the chapters discuss the methodological and theoretical constructs commonly used in translation and interpreting research, resulting in in-depth reviews. Part I, *Psycholinguistic and cognitive intersections in translation and interpreting*, features two chapters written by leading scholars whose central positions in translation and interpreting studies are brought forward, aiming to bring a critical overview on the contributions of cognitive studies, psychology, and psycholinguistics in both translation and interpreting studies. In Part II, *Studies from psycholinguistics and cognitive perspectives*, five studies are presented which explore various issues in translation and interpreting from several approaches. The role of working memory and expertise in simultaneous interpreting, as well

as the role of language competence and strategies during the process of translation are some of the topics discussed in the chapters. More recent approaches to the study of translation processes, such as post-editing machine translation, and more traditional ones, such as the use of verbal protocols to empirically investigate translation process, are some of the methodologies which are employed and discussed in this volume.

In all, this volume consists of chapters that highlight theoretical and empirical implications for translation and interpreting, whether focusing on the performance of expert or novice translators and interpreters. The chapter contributions feature international researchers from both translation and interpreting communities in order to foster a more universal, scientific set of perspectives. By discussing valid empirical and experimental designs and critically reviewing and building on existing theories, this volume demonstrates a collaborative research effort that results in benefits for both translation and interpreting studies. This volume provides different perspectives on the state of the field of interpreting and translation studies, oriented toward the growing number of readers interested in the development of the two disciplines. The intriguing elements that are presented in the “black box” of the translator or interpreter are discussed throughout this volume from different paradigms. This volume also gathers together theoretical and practical discussions not only for translation and interpreting scholars but also for linguists, psycholinguists, students, teachers, translators, and interpreters.

In Chapter 2, Alves presents a piece in which the scholar describes how the young disciplines of cognitive science, expertise studies, and psycholinguistics are developing as intersecting research fields, reflecting on their respective potential contributions to and impact on translation process research (TPR). Although most studies do not necessarily claim an affiliation to those disciplines, there are clear indications that such links exist and traditions from them do indeed have an impact on how TPR has evolved. As a result, in addition to presenting an overview on some of the most recent publications on TPR, the chapter revisits some of the main assumptions of cognitive science, expertise studies, and psycholinguistics and discusses how they interface with TPR. Alves describes how the first generation of TPR studies affiliated itself within cognitive science and how the second generation (from around the late 1990s) was more able to narrowly focus on better-defined questions and hypotheses, based on the combined use of different methods of data elicitation and analyses. Alves' chapter brings a consistent overview of how psycholinguistic experiments have developed theories and methodologies in translation studies in order to grow and develop on its own. It also describes how metacognition plays a key role in the development of translation expertise and explains the links between TPR and studies on expertise and expert

performance. The chapter is a valuable contribution not only because it aims at examining the interface between TPR and cognitive science, but also because it sparks a discussion on how TPR interfaces with expertise, a topic of constant interest among researchers in translation studies. This interaction, in Alves' words, is "a question which has been revisited many times and will probably continue to demand further scrutiny in the years to come."

Following Alves' review, Chapter 3 by Gile brings forth an overview which comments on the contributions of cognitive psychology and psycholinguistics to conference interpreting. It reports on the development of interpreting studies that have used psychology as a means of theoretical reference to the field. The chapter is a comprehensive review that starts with the first academic work on conference interpreting in the 1930s, and presents a description on how interpreting practitioners became interested in carrying out studies from different perspectives and methodologies. As such, this chapter is beneficial for those who are interested in carrying out research on interpreting, as it points out some methodological issues that remain unresolved, such as neglecting ecological validity and prioritizing control and measurability. At the same time, the chapter is also relevant for more experienced researchers since it brings a critical debate on the contribution of psychology to research into conference interpreting by considering empirical findings, methods and tools developed, and ideas formulated. Cognitive psychology and cognitive science have demonstrated their value to professional conference interpreting researchers, though those insights have sometimes been misunderstood within the interpreting research community. Critiques presented in Gile's chapter shed light on the questions raised on methodologies and ecological validity for future studies, mostly related to the promising physiological measurements that have been adapted from psychology.

Part II begins with a contribution which investigates high-level discourse processes in simultaneous interpreting. Chapter 4 by Hild reports a two-dimensional quasi-experimental study in which results from two different groups of participants (experts and novices) and two different texts (level of information redundancy) are experimentally contrasted. The chapter features a theoretical contribution which discusses research assumptions not only related to interpreting studies, but also to textual comprehension, the process of inference in the discourse framework, the role of the individual differences in terms of reading skills, and working memory capacity. The latter is explained in order to analyze its role in the complex cognitive activities that take part during interpreting and, more specifically, how expert professionals demonstrate superior performance. The chapter shows how experts are able to construct a coherent mental representation and to adapt their strategies according to the source text. In the study presented, experts demonstrated higher performance accuracy on

all variables analyzed in which comprehension processes were efficiently performed. The analysis of the retrospective protocols, a standard research method used to investigate the general strategies applied to the difficulties of carrying out a task, show how expert interpreters are more able to apply strategies which mediate higher-level comprehension processes. Hild's chapter is a contribution for exploratory studies on interpreting, since it brings an experimental design that can potentially be replicated and might lead to new contributions to studies on conference interpreting that, according to Gile (this volume), still present unresolved methodological issues.

In Chapter 5, Timarová, Čenková, Meylaerts, Hertog, Szmalec, and Duyck present an overview of the studies that correlate working memory capacity and simultaneous interpreting at different skill levels which are measured via different cognitive tasks. In both current cognitive and interpreting research, working memory is one of the most prominent topics and results from empirical studies correlating working memory and higher-cognitive abilities and processes may not only lead to contributions to interpreting studies but also to additional psycholinguistic research. The chapter presents a study with professional interpreters to test whether there is a relationship between working memory capacity and simultaneous interpreting performance. Twenty-eight professional interpreters performed a battery of tests measuring working memory capacity (letter span task, Corsi task, complex span task), in addition to a several measures of interpreting performance (lexical, semantic, and syntactic processing, temporal delay, vocabulary richness, and dealing with speed). Interestingly, the results of Timarová et al.'s chapter revealed no significant results for extensive working memory capacity involvement in simultaneous interpreting performed by professional interpreters. The authors explained this as being due to methodological differences between previous research (e.g., participants) and that the storage component of working memory might not play a crucial role in professionals with a higher degree of skill acquisition, a claim which is different for less-skilled groups such as interpreting students and untrained bilinguals. Timarová et al.'s study is an example of how the collaborative involvement of scholars from both interpreting studies and cognitive psychology might be especially *beneficial* for research. Future studies will need to hone in on the exact role of working memory capacity during interpreting, a question that remains unresolved.

Focusing on the translation process of figurative language, Chapter 6 by Vandepitte, Hartsuiker, and Van Assche presents three cases studies to examine whether or not metonymic language constitutes a translation problem for translation students. Vandepitte et al.'s study reveals that metonymic language is indeed a translation problem and because metonymic construction constitutes a bigger challenge than non-metonymic construction, the process will take longer for both