



# TRANSLATION [AND INTERPRETING] IN TRANSITION 3

13-14 July 2017

Campus Mercator, Abdisstraat 1, 9000 Ghent

Conference with keynote lectures by Silvia Hansen-Schirra (University of Mainz), Dorothy Kenny (Dublin City University), Haidee Kruger (Macquarie University) and Kilian Seeber (Université de Genève)

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[tt3@ugent.be](mailto:tt3@ugent.be)

Organized by the department of Translation, Interpreting and Communication, UGent



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Faculty of Arts and Philosophy, Ghent University  
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# List of participants

Akbari, Alireza	KU Leuven, Belgium	<a href="mailto:Alireza.akbari@kuleuven.be">Alireza.akbari@kuleuven.be</a>
Almasri, Meshail	King Abdulaziz University, Saudi Arabia	<a href="mailto:m.almasri@live.com">m.almasri@live.com</a>
Bisiada, Mario	Universitat Pompeu Fabra, Spain	<a href="mailto:mario.bisiada@upf.edu">mario.bisiada@upf.edu</a>
Bot, Hanneke	Bot-bct, Netherlands	<a href="mailto:hanneke.bot@wxs.nl">hanneke.bot@wxs.nl</a>
Cerutti, Giorgina	University of Geneva, Switzerland	<a href="mailto:Giorgina.Cerutti@unige.ch">Giorgina.Cerutti@unige.ch</a>
Charlat, Joanna	MME, Belgium	<a href="mailto:joanna.maquirecharlat@gmail.com">joanna.maquirecharlat@gmail.com</a>
Chou, Isabelle Ching	University of Electronic Science and Technology of China, China	<a href="mailto:isabellecchou@uestc.edu.cn">isabellecchou@uestc.edu.cn</a>
Chmiel, Agnieszka	Department of Translation Studies, Adam Mickiewicz University, Poland	<a href="mailto:achmiel@amu.edu.pl">achmiel@amu.edu.pl</a>
Collard, Camille	Universiteit Gent, Belgium	<a href="mailto:camille.collard@ugent.be">camille.collard@ugent.be</a>
Czulo, Oliver	IALT Universität Leipzig, Germany	<a href="mailto:czulo@uni-leipzig.de">czulo@uni-leipzig.de</a>
Daems, Joke	Ghent University, Belgium	<a href="mailto:joke.daems@ugent.be">joke.daems@ugent.be</a>
Dayter, Daria	University of Basel, Switzerland	<a href="mailto:daria.dayter@unibas.ch">daria.dayter@unibas.ch</a>
De Baets, Pauline	Ghent University, Belgium	<a href="mailto:pauline.debaets@ugent.be">pauline.debaets@ugent.be</a>
De Sutter, Gert	Ghent University, Belgium	<a href="mailto:gert.desutter@ugent.be">gert.desutter@ugent.be</a>
Defrancq, Bart	Ghent University, Belgium	<a href="mailto:bart.defrancq@ugent.be">bart.defrancq@ugent.be</a>
Delaere, Isabelle	KU Leuven - Kulak, Belgium	<a href="mailto:isabelle.delaere@kuleuven.be">isabelle.delaere@kuleuven.be</a>
Finet, Arnaud	The Urban School of San Francisco, United States	<a href="mailto:afinet@urbanschool.org">afinet@urbanschool.org</a>
Freiwald, Jonas	Institut für Anglistik, Amerikanistik und Romanistik, RWTH Aachen, Germany	<a href="mailto:jonas.freiwald@ifaar.rwth-aachen.de">jonas.freiwald@ifaar.rwth-aachen.de</a>
Guo, Junfei	ULB, Belgium	<a href="mailto:junfei.guo@gmail.com">junfei.guo@gmail.com</a>
Hansen-Schirra, Silvia	University of Mainz, Germany	<a href="mailto:hansenss@uni-mainz.de">hansenss@uni-mainz.de</a>
Heilmann, Arndt	RWTH - Aachen, Germany	<a href="mailto:arndt.heilmann@ifaar.rwth-aachen.de">arndt.heilmann@ifaar.rwth-aachen.de</a>
Hoberg, Felix	University of Leipzig, Germany	<a href="mailto:felix.hoberg@uni-leipzig.de">felix.hoberg@uni-leipzig.de</a>
Hodzík, Ena	Notre Dame University-Louaize, Lebanon	<a href="mailto:ehodzík@ndu.edu.lb">ehodzík@ndu.edu.lb</a>
Jimenez-Crespo, Miguel A.	Rutgers University, United States	<a href="mailto:miquelji@rci.rutgers.edu">miquelji@rci.rutgers.edu</a>

Kajzer-Wietrzny, Marta	Adam Mickiewicz University, Poland	<a href="mailto:mkaizer@wa.amu.edu.pl">mkaizer@wa.amu.edu.pl</a>
Keller, Laura	Université de Genève, Switzerland	<a href="mailto:laura.keller@unige.ch">laura.keller@unige.ch</a>
Kenny, Dorothy	Dublin City University, Ireland	<a href="mailto:dorothy.kenny@dcu.ie">dorothy.kenny@dcu.ie</a>
Korpala, Pawel	Adam Mickiewicz University in Poznań, Poland	<a href="mailto:pkorpala@wa.amu.edu.pl">pkorpala@wa.amu.edu.pl</a>
Kruger, Haidee	Macquarie University, Australia	<a href="mailto:haidee.kruger@mq.edu.au">haidee.kruger@mq.edu.au</a>
Lambrechts, An	KU Leuven Campus Sint-Andries Antwerp, Belgium	<a href="mailto:an.lambrechts@kuleuven.be">an.lambrechts@kuleuven.be</a>
Lapshinova-Koltunski, Ekaterina	Saarland University, Germany	<a href="mailto:e.lapshinova@mx.uni-saarland.de">e.lapshinova@mx.uni-saarland.de</a>
Lee, KyeongHwa	Applied Linguistic and Translation (IALT) at Leipzig University in Germany, Germany	<a href="mailto:deinepupille@naver.com">deinepupille@naver.com</a>
Lehka-Paul, Olha	Adam Mickiewicz University in Poznań, Poland, Poland	<a href="mailto:olehka@wa.amu.edu.pl">olehka@wa.amu.edu.pl</a>
Lei, Victoria	University of Macau, Macao	<a href="mailto:viclcl@umac.mo">viclcl@umac.mo</a>
Ma, Xingcheng	The Hong Kong Polytechnic University, China	<a href="mailto:littlehorse@hotmail.com">littlehorse@hotmail.com</a>
Macken, Lieve	LT3, Ghent University, Belgium, Belgium	<a href="mailto:lieve.macken@ugent.be">lieve.macken@ugent.be</a>
Martínez Martínez, José Manuel	Universität des Saarlandes, Germany	<a href="mailto:chozelinek@gmail.com">chozelinek@gmail.com</a>
Molerov, Dimitri	Humboldt University of Berlin, Germany	<a href="mailto:molerov@hu-berlin.de">molerov@hu-berlin.de</a>
Neumann, Stella	RWTH Aachen University, Germany	<a href="mailto:stella.neumann@ifaar.rwth-aachen.de">stella.neumann@ifaar.rwth-aachen.de</a>
Nitzke, Jean	University of Mainz, Germany	<a href="mailto:nitzke@uni-mainz.de">nitzke@uni-mainz.de</a>
Oster, Katharina	University of Mainz, Germany	<a href="mailto:osterk@uni-mainz.de">osterk@uni-mainz.de</a>
Pan, Jun	Hong Kong Baptist University, Hong Kong	<a href="mailto:janicepan@hkbu.edu.hk">janicepan@hkbu.edu.hk</a>
Prieels, Lynn	Ghent University, Belgium	<a href="mailto:lynn.prieels@ugent.be">lynn.prieels@ugent.be</a>
Przybyl, Heike	Saarland University, Germany	<a href="mailto:heike.przybyl@uni-saarland.de">heike.przybyl@uni-saarland.de</a>
Ragni, Valentina	University of Leeds, United Kingdom	<a href="mailto:v.ragni@leeds.ac.uk">v.ragni@leeds.ac.uk</a>
Rosiers, Alexandra	Ghent University, Belgium	<a href="mailto:alexandra.rosiers@ugent.be">alexandra.rosiers@ugent.be</a>

Sabzevari, Mahdi	Pnu university, Islamic Republic of Iran	<a href="mailto:mehdisabz@hotmail.com">mehdisabz@hotmail.com</a>
Sauerzapf, Marietta	Austria	<a href="mailto:mariettasauerzapf@gmx.at">mariettasauerzapf@gmx.at</a>
Schumacher, Perrine	Uliège, Belgium	<a href="mailto:p.schumacher@ulg.ac.be">p.schumacher@ulg.ac.be</a>
Seeber, Kilian	Université de Genève, Switzerland	<a href="mailto:kilian.seeber@unige.ch">kilian.seeber@unige.ch</a>
Serbina, Tatiana	RWTH Aachen University, Germany	<a href="mailto:tatiana.serbina@ifaar.rwth-aachen.de">tatiana.serbina@ifaar.rwth-aachen.de</a>
Stachowiak, Katarzyna	University of Warsaw, Poland	<a href="mailto:km.stachowiak@uw.edu.pl">km.stachowiak@uw.edu.pl</a>
Stipech, Maria Carla	Universidad Nacional De Cuyo, Facultad De Filosofia Y Letras, Argentina	<a href="mailto:carlastipech@gmail.com">carlastipech@gmail.com</a>
Sun, Tingting	Beijing Foreign Studies University, China	<a href="mailto:suntingting@bfsu.edu.cn">suntingting@bfsu.edu.cn</a>
Tijtgat, Evelien	KU Leuven Kulak, Belgium	<a href="mailto:evelien.tijtgat@kuleuven.be">evelien.tijtgat@kuleuven.be</a>
Turski, Marcin	Adam Mickiewicz University, Poznań, Poland	<a href="mailto:tmarcin@wa.amu.edu.pl">tmarcin@wa.amu.edu.pl</a>
Van Beveren, Amélie	Ghent University, Belgium	<a href="mailto:Amelie.vanbeveren@ugent.be">Amelie.vanbeveren@ugent.be</a>
Van Brussel, Laura	Ghent University, Belgium	<a href="mailto:lauravbrussel@gmail.com">lauravbrussel@gmail.com</a>
Van De Walle, Céline	Ghent University , Belgium	<a href="mailto:celine.vandewalle@ugent.be">celine.vandewalle@ugent.be</a>
Van Egdom, Gys-Walt	Zuyd University, Netherlands	<a href="mailto:gijs-walt.vanegdom@zuyd.nl">gijs-walt.vanegdom@zuyd.nl</a>
Vandepitte, Sonia	Universiteit Gent, Belgium	<a href="mailto:sonia.vandepitte@ugent.be">sonia.vandepitte@ugent.be</a>
Vandevoorde, Lore	Ghent University, Belgium	<a href="mailto:lore.vandevoorde@ugent.be">lore.vandevoorde@ugent.be</a>
Verplaetse, Heidi	KU leuven, Belgium	<a href="mailto:heidi.verplaetse@kuleuven.be">heidi.verplaetse@kuleuven.be</a>
Vranjes, Jelena	Campus Sint-Andries Antwerpen, KULeuven, Belgium	<a href="mailto:jelena.vranjes@kuleuven.be">jelena.vranjes@kuleuven.be</a>
Wang, Honghua	Hang Seng Management College, Hong Kong	<a href="mailto:ansonwang@hsmc.edu.hk">ansonwang@hsmc.edu.hk</a>
Weyell, Adam	University of Leipzig, Germany	<a href="mailto:adam.weyell@uni-leipzig.de">adam.weyell@uni-leipzig.de</a>
Whyatt, Boguslawa	Faculty of English, Adam Mickiewicz University, Poland	<a href="mailto:bwhyatt@wa.amu.edu.pl">bwhyatt@wa.amu.edu.pl</a>
Witczak, Olga	Adam Mickiewicz University, Poland	<a href="mailto:owitczak@wa.amu.edu.pl">owitczak@wa.amu.edu.pl</a>
Xu, Ziyun	Wake Forest University, United States	<a href="mailto:xuziyun@gmail.com">xuziyun@gmail.com</a>
Zhao, Qiurong	University of Science and Technology, China	<a href="mailto:qiurong.zhao@ustb.edu.cn">qiurong.zhao@ustb.edu.cn</a>

# Programme

THURSDAY 13 JULY 2017

8.00-9.00	Registration / Welcome Desk / Coffee	
9.00-9.15	Conference opening	
9.15-10.15	<b>Keynote lecture 1: Silvia Hansen-Schirra (University of Mainz)</b> <i>Between normalization and shining-through: mixed methods for researching translation processes</i> Room: A108	
10.15-10.45	<i>Coffee break</i> Room: A104	
	<b>SESSION A</b> Room: A213 Chair: Bart Defrancq	<b>SESSION B</b> Room: A214 Chair: Lore Vandevoorde
10.45-11.15	(1.A) Agnieszka Chmiel and Agnieszka Lijewska (Adam Mickiewicz University in Poznan) <i>Coping with incongruences between the auditory and the visual input channels in simultaneous interpreting with text</i>	(1.B) Marta Kajzer-Wietrzny (Adam Mickiewicz University) <i>Linking words in intra and Interlingual translation – combining corpus linguistics and keylogging data</i>
11.15-11.45	(2.A) Katarzyna Stachowiak (University of Warsaw) and Pawel Korpala (Adam Mickiewicz University in Poznan) <i>Effort embodied: On eye movements and gestures in response to interpreting-related cognitive effort in professionals and trainees</i>	(2.B) Miguel A. Jimenez-Crespo (Rutgers University) <i>Exploring the literal translation hypothesis through a combination of corpus and cognitive studies: an experimental study with professional translators</i>
11.45-12.15	(3.A) Jelena Vranjes (Campus Sint-Andries Antwerpen) <i>On the management of turn-taking in an interpreter-mediated dialogue: an eye-tracking study</i>	(3.B) Oliver Czulo (Universität Leipzig) <i>Aspects of a primacy of frame model of translation</i>
12.15-13.45	<i>Lunch break and poster session</i> Room: A104	
13.45-14.45	<b>Keynote lecture 2: Kilian Seeber (Université de Genève)</b> <i>Research on interpreting: Is there madness to our method?</i> Room: A108	
	<b>SESSION A</b> Room: A213 Chair: Joke Daems	<b>SESSION B</b> Room: A214 Chair: Isabelle Delaere
14.45-15.15	(4.A) Laura Keller (University of Geneva) <i>Does simultaneous interpreting modulate parallel language activation?</i>	(4.B) Pauline De Baets and Gert De Sutter (Ghent University) <i>Cognates in translation: a corpus-based Behavioral Profile approach</i>

15.15-15.45	(5.A) Defeng Li and Victoria Lai Cheng Lei (University of Macau) <i>Advance Glossary Preparation in Simultaneous Interpreting</i>	(5.B) Arndt Heilmann, Jonas Freiwald, Tatiana Serbina and Stella Neumann (RWTH Aachen University) <i>Translation of inanimate themes in popular scientific texts</i>
15.45-16.15	Coffee break <u>Room: A104</u>	
16.15-16.45	(6.A) Ena Hodzik (Notre Dame University-Louaize) <i>Transitional probability effects on prediction during simultaneous interpreting from German into English</i>	(6.B) Amélie Van Beveren, Timothy Colleman and Gert De Sutter (Ghent University) <i>Explicitation in Translation: a corpus-based translation study of grammatical alternations in original and translated Dutch</i>
16.45-17.15	(7.A) Camille Collard and Bart Defrancq (Ghent University) <i>A Corpus-Based Study on the Interpreting Process: Investigating Cognitive Sex Differences</i>	(7.B) Ekaterina Lapshinova-Koltunski (Saarland University) <i>Exploring Linguistic Differences between Novice and Professional Translators with Text Classification Methods</i>
17.15-17.45	(8.A) Céline Van De Walle and Ellen Van Praet (Ghent University) <i>The interpreter's role in healthcare: a multimodal perspective on inter-professional training</i>	(8.B) Lynn Prieels and Gert De Sutter (Ghent University) <i>A corpus-based multivariate analysis of linguistic norm-adherence in audiovisual and written translation</i>
17.45-18.45	Reception, with the support of the Belgian Chamber of Translators and Interpreters (BKVT/CBTI) <u>Room: A104</u>	
19.30	Conference Dinner at Het Pand (Onderbergen 1, 9000 Gent) (Only for participants who registered and payed in advance for the dinner. A description of the itinerary can be found on the last page of this book of abstracts)	

### Poster presentations

- P.1 Ziyun Xu and Leonid Pekelis. (Wake Forest University and Stanford University). *Chinese Interpreting Studies: Defining a discipline through its publications.*
- P.2 Isabelle Ching Chou and Yuanjian He. (University of Electronic Science and Technology of China and University of Macau). *Bypassing Conceptual Barriers in Simultaneous Interpreting: A Corpus-assisted Case Study.*
- P.3 Bogusława Whyatt, Tomasz Kościuczuk and Marcin Turski. (Adam Mickiewicz University). *Incorporating proof-readers to understand the effects of directionality on translation process.*
- P.4 Junfei Guo and Mathias Coeckelbergs. (Université Libre de Bruxelles). *A Neural Networks based Domain Classification System for Machine Translation.*
- P.5 Olga Witczak. (Adam Mickiewicz University). *External resources in the post-editing process: a case study.*
- P.6 Giorgina Cerutti. (University of Geneva). *Concordancers for legal corpus analysis: a comparative study.*
- P.7 Tingting Sun. (Beijing Foreign Studies University). *Interpreter's mediation of footing and participation framework in China's live broadcast news reporting.*
- P.8 Qiurong Zhao. (University of Science and Technology Beijing). *Translation Quality Assessment: Combining corpus linguistics, translog and eye tracking research.*

FRIDAY 14 JULY 2017

8.30-9.00	Registration / Welcome Desk / Coffee	
9.00-10.00	<b>Keynote lecture 3: Dorothy Kenny (Dublin City university)</b> <i>Of Meaning, Materiality and Magic: Conceptualising Machine Translation in the 21st Century</i> <u>Room: A108</u>	
	<b>SESSION A</b> <u>Room: A213</u> <u>Chair: Daria Dayter</u>	<b>SESSION B</b> <u>Room: A214</u> <u>Chair: Oliver Czulo</u>
10.00-10.30	(9.A) Mario Bisiada (Universitat Pompeu Fabra) <i>The Editor's Invisibility: Changes to Nominalisation in the Translation Workflow</i>	(9.B) Tatiana Serbina, Arndt Heilmann and Stella Neumann (RWTH Aachen University) <i>Splitting of coordinated sentences in translations from English to German</i>
10.30-11.00	(10.A) Olha Lehka-Paul (Adam Mickiewicz University in Poznań) <i>A longitudinal study into translation trainees' self-revision behaviour and the role of personality</i>	(10.B) José Manuel Martínez Martínez and Elke Teich (Universität des Saarlandes) <i>An information-theoretic approach to modeling routine behavior in translation</i>
11.00-11.30	<i>Coffee break</i> <u>Room: A104</u>	
11.30-12.00	(11.A) Evelien Tijtgat and Isabelle Delaere (KULeuven) <i>From nitwit to pro: an in-depth analysis of translation evaluation methods in educational and professional settings.</i>	(11.B) Katharina Oster (University of Mainz) <i>Monitoring and mental lexicon in translators</i>
12.00-12.30	(12.A) Xingcheng Ma (the Hong Kong Polytechnic University) <i>Tapping into the cognitive process of translation evaluators: Different perspectives in translation quality assessment</i>	(12.B) Daria Dayter (Universität Basel) <i>Corpus methods in a search for translationese in the parallel corpus of simultaneous interpreting Ru-En (SIREN)</i>
12.30-13.00	(13.A) Alireza Akbari (KULeuven) <i>Docimologically Justified Parsing Items: Introducing a New Method of Translation Evaluation</i>	(13.B) Pawel Korpala (Adam Mickiewicz University in Poznan, Poland) <i>Emotional contagion in simultaneous interpreting: A GSR study</i>
13.00-14.30	<i>Lunch break</i> <u>Room: A104</u>	
	<b>SESSION A</b> <u>Room: A213</u> <u>Chair: Gert De Sutter</u>	<b>SESSION B</b> <u>Room: A214</u> <u>Chair: Stella Neumann</u>
14.30-15.00	(14.A) Jean Nitzke (University of Mainz) <i>Contrasting problem solving activities in post-editing and translation from scratch</i>	(14.B) Victoria Lai Cheng Lei and Defeng Li (University of Macau) <i>How Costly is Omission – A “Hidden Effort”?</i>
15.00-15.30	(15.A) Gys-Walt Van Egdom (Zuyd University of Applied Sciences)	(15.B) Jun Pan and Honghua Wang (Hong Kong Baptist University and Hang Seng

	<i>Post-editing Effort: Procedures, Processes, Perspectives</i>	Management College) <i>The Development of Textual Competence in Student Translators: A corpus-based study of coherence and cohesion</i>
15.30-16.00	(16.A) Heidi Verplaetse (KULeuven) <i>Differentiated impact of parallel corpus as TM for different levels of technicality: the case of PILs and SmPCs</i>	(16.B) Valentina Ragni (University of Leeds) <i>Conceptual and Practical Challenges in Experimental AVT Research. The Example of a Reception Study on Reverse Subtitling</i>
16.00-16.30	Coffee break <u>Room:</u> A104	
16.30-17.30	<b>Keynote lecture 4: Haidee Kruger (Macquarie University)</b> <i>Translation and/as language contact: Conceptual and methodological questions</i> <u>Room:</u> A108	
17.30-17.45	Closing remarks <u>Room:</u> A108	

# Abstracts: Keynote lectures

# Silvia Hansen-Schirra

University of Mainz

## **Between normalization and shining-through: mixed methods for researching translation processes**

Empirically-based translation research has so far been developed within two major self-standing approaches: corpus-based work on properties of translated texts or translation universals (product) and experimental studies of translators' expert performance (process). Recent advances in corpus architecture and multi-level corpus querying and an increasing incorporation of methods from psycholinguistics and cognitive science into process-oriented research point to a desired combination of corpus studies with a more direct, experimental insight into processing efforts for the development of an empirical model of the translation process.

Within the corpus-based realm, translation properties like normalization vs. shining-through have been investigated for many languages. Whereas these studies report on frequency patterns of standardization or interference effects, they only give little insight into the cognitive processes which trigger translation alternatives typical or untypical of the target language. Speaking from a cognitive point of view, shining-through can be related to syntactic or lexical priming from the source text, while normalization is due to monitoring or inhibition processes.

This paper will give an overview of cognitive models concerning priming and monitoring in translation. Additionally, it will explain their relation to translation properties or universals like normalization or shining-through. Studies on these phenomena will be discussed from a product-oriented as well as process-oriented perspective. Different translation modes – e.g. translation from scratch, sight translation, post-editing – will be included in this discussion since they represent different stages within the priming continuum. On the one hand, for instance, priming processes in sight translation differ from a traditional translation task because time constraints and stress influence the cognitive effort involved in the translation processes. On the other hand, inhibition and monitoring depend on several factors like the status of the source language, the translation skopos, the text type, etc. For example, post-editors' cognitive processes are primed by the machine translation output, which in turn causes unidiomatic renderings and hinders creative problem solving strategies. Multi-method approaches including translation corpora, key-logging, eye-tracking, EEG studies, etc. will be examined with respect to their possibilities of data triangulation.

**Kilian Seeber**  
Université de Genève

**Research on interpreting: Is there madness to our method?**

After half a century of scholarly research on interpreting, the field of *interpreting studies* still seems to be grappling with some fundamental questions about *how* this research should be carried out. Recent attempts at providing basic methodological guidance for budding researchers in *interpreting studies* in the form of textbooks and manuals further testify to the existence of a real (or at least perceived) need in this respect. At the same time, they raise legitimate questions about the very field of *interpreting studies*: is it still in its infancy, has it entered adolescence, or has it reached its rite of passage into adulthood? And if the latter is indeed the case, how do we explain some of the methodological teething problems we cannot seem to shake? In my presentation I will provide a tentative answer to these questions by highlighting some of the most salient methodological challenges we continue to face.

# Dorothy Kenny

Dublin City University

## Of Meaning, Materiality and Magic: Conceptualising Machine Translation in the 21st Century

At the turn of the millennium state-of-the-art MT systems manipulated linguistic knowledge in the form of handcrafted grammatical and lexical rules, but by the end of the 2000s, data-driven MT had overtaken rule-based systems. The new paradigm took advantage of the terabytes of human translation data now available in machine-readable form, and from which machines could 'learn' models of translation. For two decades or so, such models were predominantly statistical and based on Bayesian optimization, but more recent MT research is dominated by connectionism, and uses artificial neural networks to learn translation relationships from training data.

Each approach to MT embodies a different understanding of translation and meaning: rule-based systems tend to be aligned to symbolism, and inclined to see meaning as objective and residing in more-or-less discrete concepts, labelled by structurally-motivated linguistic expressions that can in turn be combined according to the principle of compositionality. Statistical approaches, meanwhile, tend to take it on faith that the problem of meaning in translation has already been solved prior to run-time by the human beings whose output constitutes training data for the engine, and the burden of ensuring 'same meaning' thus gets pushed upstream. They manipulate n-grams, and translation 'knowledge' is enshrined in snippets of language that have no necessary standing in linguistic theory. Neural MT, on the other hand, deals with complete sentences at a time, and is consistent with theories in which meaning is associative and distributed across multiple nodes in a network, the connections between which are strengthened by reinforcement through learning and experience.

Meanwhile, the ubiquity of MT, and its increasing reliance on vast quantities of linguistic data and particular types of hardware, have given new impetus to arguments about the materiality of language and translation, and an increasing sense that what is being exchanged in communication is material language, rather than immaterial thought. But a descent into the material realm does not mean that translation is becoming more transparent. If anything, contemporary MT is marked by its extreme opacity, with Neural MT becoming so opaque in its inner workings that it is often described as 'magic'.

In this talk I work through these ideas on meaning, materiality and magic, asking if it matters to translation studies how MT works, or what assumptions computer scientists make when automating translation, and if it does matter, then how are we as translation scholars and teachers to respond.

# Haidee Kruger

Macquarie University

## Translation and/as language contact: Conceptual and methodological questions

Translation and language contact are complex, interlocked phenomena. Viewed as a form of individual language processing, translation is a dynamic psycholinguistic and sociocognitive contact event that plays out in the cognitive processing and decision-making of the translator. This process produces a product, which is subsequently subject to further processing events (by, for example, revisers, editors and proofreaders), before a final product is created. The translation, as a product, forms part of the cultural commodities that circulate and participate in the larger social dynamics of language contact, increasingly characterised by globalised-localised real-world and digitally mediated multilingualisms and multiculturalisms. Within these settings, readers are exposed to and process the contact-influenced texts produced by translators as one of the array of linguistic inputs they receive every day. Considered from within an emergentist, usage-based and broadly constructionist framework, these inputs shape users' own linguistic representations and subsequent language use (see Bybee 2006).

This broad-strokes sketch of translation as an individual language contact process that yields a product simultaneously shaped by, and shaping, the social dynamics of contact, is the rationale for this paper's argument in favour of developing a robust theoretical and empirical interface between translation studies and contact linguistics. At the same time, it highlights the complexity of this endeavour, both conceptually and methodologically. It raises conceptual questions like:

- What is the relationship between translation and (other) contact(-influenced) varieties? (Kranich 2014; Kruger & Van Rooy 2016a, 2016b, in press; Lanstyák & Heltai 2012)
- What is the relationship between translation, individual psycholinguistic processes and broader social processes in settings of language contact? (Kruger & Van Rooy 2016a)
- What are the effects of language contact on translation, beyond transfer? (Bisiada 2016; Kruger in press; Kruger & Van Rooy 2016a, 2016b, in press; Malamatidou 2016, Ožbot 2014)
- How can translations interact with other contact processes in a society to shape language variation and language change? (Becher et al, 2009; House 2006; Kranich et al. 2011; Siemund 2008)

These conceptual questions also prompt methodological questions about appropriate empirical approaches to study translation, as both a process and a product, within the frame of language contact (Neumann 2011). In this, questions about what evidence is needed, and how this evidence can be used to model language variation and change associated with translation both from a psycholinguistic and sociolinguistic perspective take centre stage. These conceptual and methodological questions form the focus of this paper, presented as a conceptual and empirical dialogue between translation studies and contact linguistics.

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# Abstracts: Parallel sessions

## **(1.A) Coping with incongruences between the auditory and the visual input channels in simultaneous interpreting with text**

**Agnieszka Chmiel**

Department of Translation Studies  
Adam Mickiewicz University  
Poznań, Poland  
achmiel@amu.edu.pl

**Agnieszka Lijewska**

Department of Psycholinguistic Studies  
Adam Mickiewicz University  
Poznań, Poland

Simultaneous interpreting with text is a multimodal task with two input channels: auditory, i.e. the speech delivered by the speaker and visual, i.e. the written text available to the interpreter. The impact of the additional visual channel may be positive thanks to facilitated comprehension and content retention and negative due to the risk of visual interference from the source text. Previous studies have shown that access to the text in simultaneous interpreting boosts performance (Lambert, 2004; Stachowiak and Korpala, 2014; Szychala, 2015). Interpreters were found to actively search for visual information to complement the input from the auditory channel (Seeber, 2012). Additionally, interferences from the source text were not more frequent in simultaneous interpreting with text as compared to regular simultaneous interpreting (Lamberger-Felber and Schneider, 2008).

The purpose of the present study was to examine how conference interpreters cope with incongruences between the auditory and the visual input channels when interpreting simultaneously with text. A group of professional conference interpreters (N=24) was asked to simultaneously interpret a text from English (their B language) to Polish (their A language) while having access to the text. As compared with the text delivered by the speaker, the written text included incongruences in proper names, numerical data and lexical items. The participants' output was recorded and their eye movements were tracked with EyeLink 1000 Plus eye-tracker. We analysed whether the participants looked at the experimental items, whether their fixations differed depending on the level of congruence between the auditory and the visual channel and whether interpretation accuracy was influenced by the participants' reading patterns. Data was analysed by means of mixed linear models and logistic regressions.

Preliminary data analysis shows that when faced with incongruences, interpreters did not successfully cope with visual interference and interpreted the majority of proper names and numbers inaccurately by following the visual input. Skipping rate (i.e. not fixating on experimental items) varied greatly across the participants. In general, looking at the text increased accuracy in the case of congruent text and decreased accuracy in the case of incongruent text. Numbers were interpreted more accurately than names and lexical items, suggesting that interpreters are very attentive to numerical data. The analysis of total viewing times revealed that interpreters looked longer at incongruent items regardless of their type. When faced with congruent items, greater accuracy was achieved with longer total viewing times.

Taken together, these findings suggest that interpreters rely heavily on the visual modality when interpreting simultaneously with text, especially when faced with numerical data. Despite their experience, processing three separate input channels (listening to the speaker, self-monitoring and reading the text) strains their cognitive resources. As a result, they disregard the most important auditory channel and fall into the trap of visual interference.

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## (1.B) Linking words in intra and interlingual translation – combining corpus linguistics and keylogging data

Marta Kajzer-Wietrzny

Adam Mickiewicz University

Poznań, Poland

As some scholars view intra- and interlingual translation as a parallel activity (cf. Jakobson 1959; Steiner 1975; Zethsen 2009), it is vital to establish to what extent the products of these tasks are alike, and whether the processes behind the products differ. It is possible that the so called translation universals, features long discussed mostly in the context of interlingual translation (cf. Baker 1993; Laviosa 2002; Mauranen - Kujamäki 2004) may be caused by a whole range of processes that are not unique to this one activity only. Although extensive, the literature on translation universals lacks publications reporting on comparative empirical studies of such features in intra- and interlingual translation. To establish to what extent these two tasks are similar, the reported study, carried out within the ParaTrans project\* (Whyatt et al. 2016, Kajzer-Wietrzny et al. 2016), looks into the product and the processes behind intra- and interlingual translation.

In this presentation, we look at small corpora of texts collected in an experimental setting, in which the participants translated and paraphrased texts using Translog II. This allows to compare texts at two distinct phases of the translation process: drafting and revision (Jakobsen 2002). The analysis centres on the use of linking words, which may reveal translators' tendency to explicitation. The aim is to establish whether the use of linking words in intra- and interlingual translation is similar and to determine in which of the two production stages the linking words are mostly produced.

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## **(2.A) Effort embodied: On eye movements and gestures in response to interpreting-related cognitive effort in professionals and trainees**

**Katarzyna Stachowiak**

Department of Interpreting Studies and Audiovisual Translation,  
Institute of Applied Linguistics  
University of Warsaw  
Warsaw  
km.stachowiak@uw.edu.pl

**Pawel Korpala**

Faculty of English  
Adam Mickiewicz University in Poznan  
Poznan  
pkorpala@wa.amu.edu.pl

At first sight, interpreting consists mainly of listening and speaking, while in fact both simultaneous and consecutive modes are composed of a set of concurrently performed cognitive operations, requiring good effort management and coping strategies. Additionally, the general cognitive load interpreters face can be temporarily increased by the presence of what Gile (2009) calls “problem triggers”. These elements of the source text that contribute to the level of cognitive load include numbers and lists (Gile 2009). The effort interpreters make to decrease the cognitive effort is observable in their bodily activities, executed as a sort of coping strategy or “emergency reaction”, which might differ in professionals and trainees (as shown by Lambert 2004). Such activities include eye movements and gestures.

The general aim of two studies presented was to demonstrate that eye movements and/or gestures can be treated as correlates of cognitive effort in consecutive and/or simultaneous interpreting. The first study verifies if eye movements and beat gestures change with the level of local cognitive load in interpreting. Mean fixation duration and mean number of beat gestures per minute are calculated in two groups: professional interpreters and interpreting trainees, when these groups interpret numbers, lists and control items in the simultaneous and consecutive modes. The results of the study show that in both of the interpreting modes, and in both groups, mean fixation duration and the mean number of gestures per minute changed depending on the level of cognitive effort related to processing numbers and lists. The effort was remarkably higher in trainees than in professionals. The second study tests the extent to which professionals and trainees use visual materials when interpreting numbers and determines the facilitative effect of visuals on interpreting accuracy. Its results indicate visuals are important interpreting aids in both groups. In short, the outcomes of the studies show that the visuomotor activities executed by interpreters co-occur with their cognitive effort in interpreting.

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## **(2.B) Exploring the literal translation hypothesis through a combination of corpus and cognitive studies: an experimental study with professional translators**

**Miguel A. Jimenez-Crespo**

Rutgers University

United States of America

This experimental study combines corpus-based translation studies (CBTS) and Cognitive Translatology (Muñoz 2014) in order to study the processing of literal translations (Halverson 2016) and interference (Toury 1995) by professional translators. It tests the cognitive effort in the processing translations in a simulated translation memory system using data extracted from a previous corpus study (Jiménez-and Tercedor forthcoming) that focuses on medical texts that contain explicitations of medical Latin-Greek terms. This corpus study (Jiménez-Crespo and Tercedor forthcoming) is based on the 40-million word Translational Web Corpus of Medical Spanish (Jiménez-Crespo 2014) that identified significant differences at the lexical and register levels between translated and non-translated medical websites in the US addressed at lay people. It was motivated by previous work in the English to Danish combination (Askehave and Zethsen 2003; Zethsen 2005; Raynor 2007; Jensen and Zethsen 2012; Zethsen 2013) that identified that translated medical texts were on average less lay-friendly and usable than non-translated texts in part due to a direct translation of Latin and Greek terms into Danish (Zethsen 2004). Jiménez-Crespo and Tercedor (forthcoming) study concluded that Spanish translations of English medical texts contained significantly less Latin Greek terms (LG), as well as LG terms accompanied with reformulations or explicitations, than similar non-translated medical websites produced in Mexico and Spain. This resulted in what is known as known as “register mismatch” (Pilegaard 1997), when the register of the source and target texts are inadequately different. Additionally, the formulation of explicitations-reformulations of medical terms were generally different in both translated and non-translated text mainly as a result of literal translations of source texts.

A second follow up experimental study to be published in *Jostrans* (Jiménez-Crespo forthcoming), addressed the question of whether these translated that seem to display lower levels of specialization and higher percentage of explicitations of medical terms are in fact be more understandable and preferred by the target users of the translations in the United States, Spanish speakers. In a user reception study, subjects preferred the reformulations found in non-translated text over those in translated text to understand medical terminology.

This third study in the progression from corpus to experimental studies thus addresses the underlying potential causes of differences between translated and non-translated texts when they intend to express the same communicative function, the explicitation of similar obscure medical terms. The study uses 10 professional translators with more than 5 years of experience and they translated a medical text using a simulated translation memory task (Mellinger 2015) in which some segments were offered as full matches. The subjects are offered translations under two conditions: whether the proposed translations are (1) literal translations found in a translational corpus, inadequate or not, or (2) adequate reformulations-explicitations that diverge either lexically or syntactically found in non-translated texts that fulfill the same communicative function (i.e. “polyuria (abnormally large volumes of urine) translated literally as “poliuria (volúmenes anormalmente grandes de orina)” [translation found in translated texts] or “poliuria (eliminación de grandes cantidades de orina)” [similar segment found in non-translated texts]. The first one is an inadequate literal translation, while the second entails lexical differences, “elimination of large amounts of urine” but with the same meaning).

The task was screen recorded and key logged. The working hypothesis is that cognitive effort in terms of processing segments and location of pauses will be lower when a literal adequate translation is presented and

higher both when and inadequate literal translation or an adequate and valid translation found in the non-translational corpus are presented. This study will thus connect corpus and cognitive studies and it delves into the underlying causes of the features of translated language (Baker 1993; Chesterman 2004).

### **(3.A) On the management of turn-taking in an interpreter-mediated dialogue: an eye-tracking study**

**Jelena Vranjes**

Campus Sint-Andries Antwerpen

KULeuven, Belgium

Recent years have witnessed a growing number of studies focusing on the role of eye gaze in relation to speech and other embodied signals in dialogue interpreting (Pasquandrea 2012, Mason 2012, Davitti 2013, Krystallidou 2014). It has been shown that gaze direction has an important function in signaling conversational attention and facilitating turn management. In order to study gaze in interpreter-mediated talk, researchers have been using video data. However, video recordings very often do not allow a detailed study of interlocutors' mutual gaze and rapid eye movements, and errors can occur when making judgments of gaze direction (Argyle & Cook 1976, Streeck 2009). As argued by Mason (2012), there is still systematic research to be done on the gaze behavior of all participants in interpreter-mediated talk to gain new insights into the visual information that the participants resort to.

With its recent methodological advances, eye-tracking technology is increasingly being used to measure interactants' gaze behavior in ongoing face-to-face interactions (Pfeiffer 2012). More specifically, a new generation of mobile eye-tracking systems (typically integrated in sets of glasses), is being employed in cognitive interaction research (Brône & Oben 2015, Holler & Kendrick 2015) and recently also in face-to-face dialogue interpreting (Vranjes et al. 2015). These studies show that, by measuring multiple participants' eye gaze simultaneously, we can get a rich insight into the interaction dynamics of gaze distribution.

In the present study, I will focus on the role of eye gaze in the turn-taking process in interpreter-mediated talk. More specifically, I will address the question as to how gaze and other embodied behavior is related to addressee selection and the projection of the next speaker in interpreter-mediated dialogue.

The study is based on a set of 6 authentic interpreted-mediated interactions in an institutional setting by making use of mobile eye-tracking glasses (cf. Brône & Oben 2015). The analysis of the data reveals specific patterns of gaze distribution related to turn-taking in interpreter-mediated dialogues. The study also shows how verbal and non-verbal resources interact in the constitution of dialogue management and illustrates the importance of visual monitoring of the speaker's embodied behavior. And finally, the results provide additional evidence for the regulatory role of the interpreter in face-to-face interpreter-mediated dialogue.

## (3.B) Aspects of a primacy of frame model of translation

**Oliver Czulo**

Institute for Applied Linguistics and Translatology

University of Leipzig

Germany

czulo@uni-leipzig.de

We can assume that meaning is the guiding factor in translation (see e.g. Kade 1968). A “precise” or “adequate” translation of meaning is, however, constrained by various factors, such as cultural differences, functional considerations or, as in the following ex-ample taken from CroCo (Hansen-Schirra et al. 2012), formal constraints:

(1) Einzelheiten können Sie diesem Bericht entnehmen.

‘Details can you from this report take-out’

Additional details are contained in this report.

In the German original, the direct object is shifted into the topic position at the front with the finite verb following directly. This grammatical construction cannot be easily reproduced as such in English, and in the English translation, the direct object from German becomes the subject, with the generic agent Sie ‘you[formal]’ having been dropped. This change in the grammatical pattern comes with a shift in perspective of the main verb. While the German original speaks of something being taken out of a “container”, the English translation speaks about something being contained in a “container”. But at the same time the function of the German grammatical pattern, namely putting an element into topic position or even a certain focus, is reproduced in English.

This observation, and similar others, lead me to the following questions: If meaning is central to translation, which factors can lead to changes in meaning, such as the shift in perspective described above? And how can these changes as well as the similarities which prevail despite the changes be described more systematically?

In this talk I address the interplay of form, function and semantics in translation. Meaning is seen as a factor itself for shifts, as it can be subject to culturally determined and realities (e.g. institutional structures). I present a primacy of frame model – i.e. with semantics as key factor – for describing shifts such as above integrating formal, functional and semantic aspects. I make use of Frame Semantics (Fillmore 1982) to cover semantic aspects and of Construction Grammar (Goldberg 1995) for formal and functional aspects. My model is based on an overview of various empirical studies by myself and by others involving Frame Semantics and Construction Grammar as means for analysing translation. The model synthesizes the approaches into a consistent framework for analysis. On top of that, I raise the question of how this cognitive-linguistic mental model on the one hand and neuro-cognitive research and findings on the other hand may correlate and may fruitfully complement each other. Last but not least, I point out some open research questions for Frame Semantics and Construction Grammar arising from the model and lay out an early draft for a research programme aimed at acquiring more empirical data and getting a clearer picture of how the concept of similarity can be modelled linguistically.

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## **(4.A) Does simultaneous interpreting modulate parallel language activation?**

**Laura Keller**

Interpreting Department  
FTI, University of Geneva  
Geneva, Switzerland  
laura.keller@unige.ch

Evidence suggesting that bilingualism significantly improves cognitive abilities, e.g. cognitive control (De Groot, 2011), metalinguistic awareness and abstract thinking (Baker and Prys Jones, 1998; Bialystok and Barac, 2012), or task switching abilities (Bialystok et al., 2012) has been called into question (Paap et al. 2015, De Bruin et al. 2014, Paap and Greenberg, 2013). The effect of simultaneous interpreting skills on general cognitive abilities and language processing however, seems more robust, in particular as regards working memory capacity (Chmiel, 2016; Timarova et al., 2014; Köpke and Signorelli, 2012; Christoffels, 2006).

However, potential interpreting-induced changes on processing aspects other than working memory have received less attention. Parallel language activation patterns as indicators of language competition management observed in bilinguals (see e.g. Marian and Spivey, 2003; Blumenfeld and Marian, 2011 or McQueen and Viebahn, 2007) are a case in point. Consequently, we submit that comparing simultaneous interpreters with un-trained multilinguals could reveal differences in lexical competition and access.

The objective of this study is two-fold: First, it sets out to test the hypothesis that activation patterns differ between professional simultaneous interpreters and naïve multi-linguals when performing a monolingual identification task as well as a real-time translation task. Second, it investigates co-activation of diglossic language forms, i.e., Swiss German (cf. Ferguson (1959) for further reference), to test language variety processing in diglossics.

An eye-tracking experiment was designed to test four groups of participants (diglossic interpreters, non-diglossic interpreters, diglossic non-interpreters and non-diglossic non-interpreters; testing ongoing; tested n=60; L1=DE, L2=EN). The participants are asked to either click on a visual target that appears along with a phonological competitor and two filler images on a screen (three fillers and no competitor in the baseline condition) or to perform a translation task requiring them to name the target in their L1. The phonological competitor either belongs to the language variety used to administer the task (i.e. Standard German) or to the diglossic form that is only shared by the two diglossic groups of participants.

Following the predictions of the eye-mind hypothesis (Just and Carpenter, 1980), the proportion of fixations on the different object categories (target, competitor, filler) reveals the timeline of object processing and the relevance of object categories with respect to participant profiles. Slower target identification times on competitor trials for instance would indicate a cost of competition resolution and allow for extrapolations on lexical access. A higher proportion of fixations on the phonological competitor from the task-irrelevant language variety compared to the unrelated filler objects on the other hand, would suggest similarities in parallel language variety and parallel language activation. This would imply that the distinction between language and language variety is not of relevance to language processing. Furthermore, task-dependent differences in activation patterns would point to task-specific, rather than profile-specific allocation of resources.

Preliminary results are expected to show whether there is evidence for parallel language variety activation in the two diglossic subgroups and whether such activation is further modulated by interpreting expertise and task requirements.

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## **(4.B) Cognates in translation: a corpus-based Behavioral Profile approach**

**Pauline De Baets and Gert De Sutter**

Department of Translation, Interpreting and Communication

Ghent University

Ghent, Belgium

One of the main research topics within corpus-based translation studies is how translated texts differ from non-translated texts. Research has shown that the language use in translated texts indeed differs linguistically from non-translated texts, but these differences are mostly ascribed to either translation universals or language-external factors, such as register, source language, prestige etc. (Baker, 1993; Capelle & Loock, 2013; Delaere, De Sutter & Plevoets, 2012; Kruger, 2012). There is considerably less attention for thorough cognitive explanations (see, however, Halverson, 2003; Halverson 2007; Kroll & Stewart, 1994). By applying a usage-based method (i.e. Behavioral Profiling, see below) on semantic fields that contain both cognates and non-cognates, we hope to provide cognitive explanations for the attested translational features and thereby help to close the gap between cognitive linguistics and corpus-based translation studies. For the present study, we use the behavioral profiling method to investigate the influence of cognates on the semantic structure of the translated Dutch semantic field of *beginnen* (compared to non-translated Dutch). Behavioral profiling is a usage-based method that aims at capturing the complexity of word meaning by looking at contextual features of the words under study (Gries & Divjak, 2009; Szymor, 2015). Firstly, the lexemes (in this case: Dutch verbs expressing inchoativity) are selected by means of the SMM++ (Vandevoorde, 2017), a method based on back translation. Secondly, the sentences containing one of those lexemes are extracted from the Dutch Parallel Corpus (Macken et al., 2011) and are annotated for both semantic and syntactic features, such as transitivity, verb mode and concreteness of the subject. In a final step, the enriched corpus data are subjected to multiple correspondence analysis, and consequently the behavioral profile of the lexemes in translated and non-translated Dutch can be visualized. This visualization can display even subtle changes in a semantic fields, and thus enables us to thoroughly compare the semantic structure of non-translated and translated language. Consequently, in this paper we will argue that these differences can be indirectly interpreted as evidence of cognitive mechanisms in translation.

## (5.A) Advance Glossary Preparation in Simultaneous Interpreting

**Defeng Li and Victoria Lai Cheng Lei**

University of Macau

Macao

Diaz-Galaz et al (2015) examined the role of advance preparation in simultaneous interpreting and found that both professional and novice interpreters “worked significantly better after advance preparation, this being reflected both in accuracy and in ability to maintain a shorter EVS” (1). It is generally believed that interpreters should focus on advance preparation of bilingual glossaries as well as topic-specific knowledge. This study investigates whether and how advance glossary preparation affects the interpreter’s behavior in simultaneous interpreting and to what extent it affects their interpreting performance. For that, professional and novice interpreters will be invited to complete two sight interpreting tasks in two conditions, i.e. with and without advance glossary preparation. An eye tracker and an external voice recorder will be used to record their eye movements and their interpreting sessions. Their fixation counts, fixation durations and pupil sizes will be analyzed to examine their eye movement patterns in the two conditions. Their interpreting will be transcribed verbatim and graded in terms of the accuracy of information and fluency of delivery by two experienced interpreting teachers. Furthermore, the lexical density and articulation rate will also be calculated with corpus tools. Based on such findings, we will attempt to discuss the implications for both translation practice and translator training.

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## (5.B) Translation of inanimate themes in popular scientific texts

Arndt Heilmann, Jonas Freiwald, Tatiana Serbina and Stella Neumann

Chair of English Linguistics

RWTH Aachen University

Aachen, German

arndt.heilmann@ifaar.rwth-aachen.de

This paper sheds some light on the difficulty of translating inanimate agentive subjects from English to German. German is known for its restrictive mapping of semantic roles to grammatical functions (Hawkins 1986), which is why the subject is often conflated with the semantic role of the agent. This constraint is less binding in English and, therefore, it is likely that this difference between both languages is responsible for translation problems when translating from English to German.

In translations between English and Dutch, which is closely related to German, Doms (2014) shows that 40 percent of inanimate subjects are translated using some kind of shift as a translation strategy. Using a combination of corpus-based and experimental approaches we investigated this assumption further.

We used the CroCo corpus for the corpus analysis (Hansen-Schirra et al. 2012), and analyzed the clauses both from a Systemic Functional Grammar perspective as well as a Construction Grammar perspective. SFG transitivity analysis revealed a significant difference between the frequency of inanimate subjects combined with certain process types in English original texts and their translations to German (Freiwald 2015). Moreover, from a Construction Grammar perspective, the more specific pattern [NPresearch Vshow Clause/NP], which is examined further in the present study, was shown to be often changed to another structure when translating from English into German (Serbina 2015).

We assumed that these translation shifts pose greater demands on the translators' cognitive resources. Earlier research with single context-free sentences showed that the translation of inanimate subjects from English to Dutch is related to higher processing effort for students of translation. The strong animacy constraints for elements in the Dutch subject position were linked to this finding (Vandepitte and Hartsuiker 2011). We tested cognitive effort associated with the translation of inanimate subjects from English to German in an ecologically valid setup (Heilmann et al. in preparation) using eye tracking and keystroke logging to record behavioural measures of 13 professional translators. We found significantly more translation shifts from stimuli that included an inanimate agent occurring in subject position (e.g. Studies have shown....) in contrast to animate subjects combined with verbs of showing (e.g. Scholars have shown...). However, in contrast to Vandepitte and Hartsuiker, we did not find a statistically significant difference of cognitive effort between the translations of the two patterns.

The reason for this may lie in the routinized translation behaviour of expert translators. Having encountered and solved many of such translation problems, a more or less automatized translation of the stimuli is a likely explanation for our results. It could also explain the difference to Vandepitte and Hartsuiker's findings who worked with translation students rather than professional translators. More research on the study of automatized translation behaviour seems warranted.

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## (6.A) Transitional probability effects on prediction during simultaneous interpreting from German into English

**Ena Hodzik**

Department of English and Translation

Faculty of Humanities Notre Dame University-Louaize

Zouk Mosbeh, Lebanon

ehodzik@ndu.edu.lb ena\_hodzik@yahoo.com

This paper takes an interdisciplinary approach applying psycholinguistic methodology to the investigation of predictive processes during simultaneous interpreting (SI) as online spoken language processing. The importance of prediction has been emphasized during SI between two languages with asymmetrical syntactic structures, such as German, a head-final language, and English, a head-initial language (Wilss, 1978; Jörg, 1995). Predictive processes have also been investigated during visual and spoken language processing as part of language comprehension, where words are predicted as a result of contextual constraint, i.e. semantic and syntactic cues available in the context, and transitional probability, i.e. the statistical likelihood with which words appear together in language (McDonald and Shillcock, 2003a, 2003b; Frisson et al., 2005). In a previous study applying methodology from on-line visual language processing to the investigation of contextual constraint and transitional probability cues to prediction during shadowing in German and during SI from German into English involving English-German bilinguals and student and professional interpreters (Hodzik and Williams, 2017), speech latency measures revealed that contextual constraint affects prediction during shadowing and SI, while transitional probability triggered prediction only during shadowing but not during SI, suggesting that the two cues operate on different levels of language processing during SI.

Given these findings, the present study focused on transitional probability effects, as instances of lower-order language processing, on prediction and their relation to language-specific word order. Consequently, a shadowing task was carried out in German and an SI task from German into English involving i) SI from head-final German into head-initial English sentences, and ii) SI from head-initial German into head-initial English sentences. The results revealed no effect of transitional probability during SI between asymmetrical sentence structures, but an effect of transitional probability was observed during SI between syntactically symmetrical sentence structures and during shadowing. Based on these results, the investigation of transitional probability effects on prediction during SI can reveal something about the processes underlying SI. Further on-line investigations of prediction during SI involving both symmetrical and asymmetrical sentence structures are needed to corroborate these preliminary findings.

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## (6.B) Explicitation in Translation: a corpus-based translation study of grammatical alternations in original and translated Dutch

Amélie Van Beveren, Timothy Colleman, Gert De Sutter

Dutch Linguistics & Translation, Interpreting and Communication

Ghent University

Ghent, Belgium

Amelie.vanbeveren@ugent.be

Since Baker (1993), a lot of researchers have integrated a corpus-based methodology in the field of translation studies (Olohan & Baker, 2000). A hot topic in those studies is explicitation and whether it is inherent to the translation process or not (see e.g. Blum-Kulka, 1986; House, 2008; Becher, 2011). In this case-study we address that question by zooming in on a particular case of grammatical alternation in both original and translated Dutch.

The grammatical alternation under investigation is the variation between infinitival complements with and without the prepositional complementizer *om* in NPs, APs and with certain verbs. When *om* is present, it functions as an explicit boundary signal. Some examples:

- a. Ik beloof (*om*) op tijd te komen 'I promise to be on time'
- b. zijn neiging (*om*) altijd alles uit te stellen 'his inclination to always procrastinate'
- c. Ik ben blij (*om*) je te zien 'I am glad to see you'

Existing research suggests that the complementizer *om* can be added or omitted depending on different syntactic, semantic and pragmatic factors. Some examples of those factors are the medium of the situation (written vs. spoken), the mode of the matrix verb (active vs. passive/ finite vs. infinite), the type of constituent that serves as the basis of the infinitival complement (NP, AP, VP), the semantic category of the verb and so on (ANS, 1997; Vliegen, 2001; SOD, 2015). We aim to build a multifactorial model of the alternation which includes all these possible determinants, next to register as a possible lectal determinant (Becher, 2011; Lefer, 2012; Delaere, 2015).

The aim of the case-study is to answer the following research questions: do the above-mentioned factors indeed play a significant role? What are the effects sizes and directions of the factors? Are there any interesting interactions? Can we conclude the same for translated and non-translated texts? We will answer these questions through a mixed-effects logistic regression analysis on a database of real-language examples culled from the Dutch Parallel Corpus, a multifunctional and bidirectional parallel corpus of Dutch, English and French with Dutch as a central language and divided into seven different registers.

We will build separate models for original and translated Dutch and statistically investigate the different factors which stimulate explicitation in both datasets. If explicitation is inherent to the translation process, the stimulating factors in the non-translated texts must have a bigger influence in the translated texts. If this is not the case, we can posit that those factors are not inherent to the translation process and thus cannot serve as proof for the existence of the Explicitation Hypothesis. For the factor register, the reverse has to be the case: we can accept the Explicitation Hypothesis when the explicit construction is the dominant one in the different registers of the translated texts. However, we expect that explicitation cannot be considered as a translation universal and thus will occur quite the same way in both datasets according to the factors under investigation and will show different behavior according to the seven registers.

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## (7.A) A Corpus-Based Study on the Interpreting Process: Investigating Cognitive Sex Differences

**Camille Collard and Bart Defrancq**

Department of Translation, Interpreting and Communication  
Ghent University  
Ghent, Belgium

While corpus-based research into interpreting is still in its infancy and the amount of data is modest compared with other related disciplines, its usefulness has been widely recognized (Shlesinger, 1998). Several universities are currently collecting interpreting corpora and developing relevant tools and methodologies (Hamburg, Bologna, Poznan, Louvain-La-Neuve, inter alia). Following suit, Ghent University started developing the EPICG (European Parliament Interpreting Corpus Ghent), which currently amounts to around 290,000 tokens of source speech and interpreting at the European Parliament. While the different interpreting corpora have been mostly used for product research, as is traditionally the case in corpus studies, modern tools allow for the research scope to be extended to process research.

Several variables have been identified in previous literature as relevant indicators of the processes involved in interpreting, and more specifically underlying memory capacity and cognitive load, defined by Seeber (2011: 187) as "the amount of load generated by individual concurrent tasks". The Ear-Voice-Span (the time lag between the speaker and the interpreter) is considered as a good indicator of the interpreting-related processes (Timarová, 2012; Lee, 2002). Indeed any tasks require a certain amount of time for completion and the duration of that amount of time can be a good indicator of the processes involved, as demonstrated by Gerver (1974) in a study showing longer EVS for interpreting compared with shadowing. Disfluencies are also regarded as the consequence of cognitive load (Plevoets & Defrancq, 2016) and studies have found more filled and silent pauses when the cognitive task in interpreting increases (Tissi, 2001; Mead, 2000). While the effect of these variables on the interpreting process has mostly already been documented, the impact of gender has barely been studied. Indeed sex differences in memory tasks have been widely documented and show that women perform better than men (Kimura and Seal, 2003; Loonstra et al., 2001). Given the role played by memory in interpreting (Darò and Fabbro, 1994 inter alia), the question arises whether the differences are also observable in simultaneous interpreting. In a pilot study, Defrancq (2013) found longer EVS for women and Cecot (2001) found more filled pauses for women and more and longer unfilled pauses for men when interpreting.

The present research project aims at analyzing sex differences in EVS and disfluencies on a machine readable and time-aligned sub-corpus of the EPICG, currently comprising of 200 interpretations (around 120 000 tokens) for six language combinations (from and into English, Dutch and French). The EVS is measured by linking up lexical equivalents in the source and target texts while disfluencies are manually identified and extracted with a tcl/tk script. Variables about the speech, the speaker and the interpreter (e.g.: topic, duration, delivery rate and type) are included and allow for a multivariate statistical analysis to be carried out. The results of a pilot study show no significant differences in Ear-Voice-Span but a higher number of filled pauses for male interpreters.

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## (7.B) Exploring Linguistic Differences between Novice and Professional Translators with Text Classification Methods

**Ekaterina Lapshinova-Koltunski**  
Language Science and Technology  
Saarland University  
Saarbrücken, Germany  
e.lapshinova@mx.uni-saarland.de

Translation, being a multi-faceted phenomenon, is influenced by different dimensions of language variation. The focus of this paper is on the variation in translation that involves the dimension of Experience, as both professional and novice translation is involved. The resulting variation is reflected in the translation product, more precisely in its linguistic features, e.g. preferences for certain verb classes, modality meanings, proportion of nominal vs. verbal phrases. These features allow us to analyse and model the dimensions of translation variation. Methodologically, we focus on quantitative distributions of these linguistic features reflected in the lexico-grammar of texts and their cohesion. For this, a corpus-based method involving statistical analysis is needed.

For our analysis, we use a subset extracted from the English-German translation corpus VARTRA-SMALL (Lapshinova-Koltunski, 2013) that contains 96 texts – 48 student and 48 professional translations. The student and professional translations have common text sources and represent, therefore, translation variants of the same texts. The analysed subset contains 273 thousand tokens in total. Unfortunately, we do not have many details on the professional translators, as this corpus component was imported from the already existing corpus CroCo (Hansen-Schirra et al., 2012). Student translations were produced by student assistants, native speakers of German, who used a translation memory with the help of the computer-aided tool ACROSS in the translation process ([www.my-across.net](http://www.my-across.net)).

To investigate the variation in the given data, we use methods derived from text classification. With the help of text classification techniques (we use WEKA, cf. Frank et al., 2016), we can automatically distinguish between the texts translated by students and those translated by professionals. Moreover, this technique also enables us to learn if a certain set of features is helpful to distinguish between the two types of translations (based on the feature weights that we receive from the classification output), and helps us to assess the information on which features are specific for the variables (novice vs. professionals). As in a number of other studies (e.g. Argamon et al. 2008; Teich et al. 2016; Kunz et al. 2017), we use linguistic features instead of n-grams (as in most traditional text classification approaches) to represent translated texts.

Our previous results (Rubino et al. 2016) have shown that automatic differentiation between professional and novice translations is not an easy task (we could achieve ca. 60% of precision). The analysis of features has shown that the features that contribute to the successful separation are related to the quality of translation, and are mostly lexical. However, no detailed feature analysis was performed. In this study, we will analyse the output features of the text classification to identify those that are specific for novice translations and those that are more common for the professional ones. This knowledge is, on the one hand, important from a didactic point of view, as it delivers information, on where the main problems of the novice translators are. On the other hand, they provide insights and new methodological approaches to the quality assessment of translation.

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## (8.A) The interpreter's role in healthcare: a multimodal perspective on inter-professional training

Céline Van De Walle and Ellen Van Praet

Department of Translation, Interpreting and Communication  
Ghent University  
Ghent, Belgium

Against the backdrop of recent calls in the literature (Malek 2004; Perez & Wilson 2007; Raval 2007; Cambridge et al. 2012; Krystallidou 2014; Balogh & Salaets, 2015) for inter-professional education between interpreters and doctors, this paper reports on a multi-modal analysis of simulated consultations between medical students and student interpreters participating in joint training sessions at Ghent University (2015).

We zoom in on the medical student's turns and identify the communicative goals by relying on the enhanced Calgary-Cambridge model for the medical consultation. This model helps us to distinguish between the different stages of the medical consultation and the communicative goals that are linked to those stages. We also looked into the ways in which student interpreters' verbal and non-verbal (intonation, gestures, gaze) communicative moves impact the communication flow and to what extent their renditions are complete and accurate reflections of the primary participant's turns. More specifically, we provide empirical evidence of how the interpreting students' delivery and renditions affect the accomplishment of the primary participants' intended communicative goal(s)/objective(s).

We collected 74 video-recordings of 62 ninety-minute joint training sessions of third- (n=256) and fourth- (n=238) year medical students and student interpreters (n=35). The simulated interpreter-mediated consultations (based on role play scenarios) were facilitated by 12 interpreter trainers and 8 trainers in clinical communication skills. The consultations were held into and from Dutch (the students' native language) and 7 other languages (EN, FR, ES, DE, IT, RUS, TUR). Student interpreters took turns playing the role of the simulated patient and acting as interpreters, relying on unscripted role play scenarios.

Overall, our quantitative and qualitative analysis revealed student interpreters to be quite adept at identifying the medical student's communicative goals. However, we also identified instances where the student interpreter's renditions negatively affected the accomplishment of the communicative goals the primary participants aimed to reach at the different stages of the consultation. These practices are at times in stark contrast with existing norms and practices safeguarding the quality of interpretation (e.g. accuracy, completeness, impartiality). In conclusion, our analysis enabled us to determine whether or not the interpreter's communicative moves resulted in complete and accurate renditions of the medical student's turns and made it possible to distinguish and identify the particular conditions that could hinder a complete and accurate rendition of the communicative goals. In this paper, we will discuss how these findings yield new insight on the inter-professional training of interpreters and doctors.

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## **(8.B) A corpus-based multivariate analysis of linguistic norm-adherence in audiovisual and written translation**

**Lynn Prieels and Gert De Sutter**

Research unit EQTIS (Empirical and Quantitative Translation and Interpreting Studies)  
Department of Translation, Interpreting and Communication – Ghent University  
Ghent, Belgium

Previous research within corpus-based translation studies has shown that written translations are more normalized than their source texts or comparable non-translated texts (Baker 1993). However, recent studies have repeatedly demonstrated that this standardization tendency depends on contextual parameters such as register, source language and target audience (e.g. Delaere & De Sutter 2013; Kruger & van Rooy 2012). In our study this vexed question is sent in a new, largely unexplored direction, viz. audiovisual translation (AVT). Although AVT is a widely investigated discipline within Translation Studies, research that focuses on linguistic variability in audiovisual translation is relatively scarce. Most of the attention went to the exploration of the general strategies that are used to cope with the information load in the original text (e.g. Barambones Zubiria 2012) and to specific linguistic features in AVT (e.g. Baños 2013).

The present study measures linguistic norm-adherence in Belgian Dutch written and audiovisual translation. More particularly, it is investigated (i) to what extent Flemish subtitlers prefer non-standard Belgian Dutch variants rather than General Standard Dutch variants and (ii) to what extent their choices differ from those made by translators of written texts and by authors of original, non-translated texts. Furthermore, we explain the subtitlers' linguistic behavior through the parameters program genre and source language. In order to achieve that goal, we gathered sets of (lexical and grammatical) norm-related linguistic variables and extracted them from two corpora: (i) the subtitle data were extracted from the SoNaR-corpus, a 500-million word balanced reference corpus for contemporary (1954-present) written Dutch (Schuurman et al. 2010) and (ii) the written text material was extracted from the Dutch Parallel Corpus (Macken et al. 2011), a bidirectional parallel corpus with (Belgian and Netherlandic) Dutch as a source language and as a target language. Using profile-based correspondence analysis (Plevoets, 2008), we measured linguistic distances between the parameters and their interactions and visualized them in a two-dimensional plot.

The results reveal significant differences between subtitles and written translations, and between subtitles and original texts. More specifically, it is shown that subtitles hold a middle position between written translations and non-translations, as the sub-title data contained significantly more non-standard Belgian Dutch variants than regular written translations but less than original Dutch texts. In-depth analyses pointed out that linguistic choices in subtitles are determined by both the source language and by the program genre. On the one hand, it is shown that the intralingual subtitles of Flemish speakers contain more non-standard Belgian Dutch than the interlingual subtitles of English speakers and the intralingual subtitles of Netherlandic Dutch speakers. On the other hand, certain television genres (e.g. fiction and comedy) tend to encourage the use of non-standard Belgian Dutch in the subtitles, whereas in other genres (documentaries and children's television) the subtitles mainly contain standard language. Based on these results, we can conclude that Flemish subtitles tend to be normalized, but in a less extreme way than regular written translations, due to the fact that they are (heavily edited) translations on the one hand (stimulating norm-adherent behavior), and written reproductions of (spontaneous) spoken language with its colloquial features on the other hand (stimulating non-standardizing behavior).

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## **(P.1) Chinese Interpreting Studies: Defining a discipline through its publications**

**Ziyun Xu**

Wake Forest University  
United States of America

**Leonid Pekelis**

Stanford University  
United States of America

The history of Chinese Interpreting Studies (CIS) can be traced through the robust growth of academic articles on the subject. In journal articles and conference proceedings, scholars from all over China contribute to the advancement of CIS research on topics as diverse as cognition and esthetics. Based on analysis of a near-exhaustive corpus of nearly 3,000 academic articles and 1,300 MA theses produced over the past six decades, our presentation takes a data-driven approach to assessing the production, themes and theoretical influences of CIS academic articles over time. The most productive authors, universities and regions were also analyzed for patterns of research collaboration to provide a detailed panorama of the CIS landscape.

Working from two major bodies of research output (MA theses and published articles & proceedings), we compared the work of experienced and novice researchers to gain an understanding of overall trends in the field. Using a newly developed False Discovery Rate method suitable for counting keywords, we examined the major differences in research themes and theoretical influences between established scholars and students in training. We found that both bodies of literature generally used similar keywords and themes at similar frequencies. Over 90% of identified terms were used at the levels we had predicted. However, certain themes (e.g. Problem Triggers, Testing, Information Processing, and Foreignization vs. Domestication) were significantly more common in MA Theses than in articles. One possible explanation for this is that MA theses are thematically more diverse, and may be signaling new trends in the field.

Using techniques derived from machine learning we were able to predict future trends in the discipline over the next decade that were based on what happened during the last six. Our analysis reveals that CIS has developed into a mature discipline, with trends that have remained stable over the past two decades. We conclude by discussing possible trajectories for the future of CIS in light of these trends, including the effects of increased remote collaboration, the impact of changing academic policies, and the availability of modern technology.

## **(P.2) Bypassing Conceptual Barriers in Simultaneous Interpreting: A Corpus-assisted Case Study**

**Isabelle Ching Chou**

University of Electronic Science and Technology of China  
China

**Yuanjian He**

University of Macau  
Macao

Simultaneous interpreting has often been described as a complex cognitive process during which professional interpreters have to bypass many conceptual barriers, while listening and comprehending the source utterance and outputting the target utterance, within a very limited time span, usually one to two seconds. Among those barriers, culture-specific items which carry cultural related contents from the source language, and proper nouns which identify a particular class of people, places or things of the source, create many cognitive challenges to the interpreter. This paper investigates how conceptual barriers were bypassed through the processing routes, assisted by a small corpus comprising five hours English-Chinese SI transcription of 10th Asian Film Festival in Macau in 2016, in which proper names with like the name of nominated actors, actress, and films are heavily rooted as well as a plenty of culture-specific items related to the film industry.

We assume that there are three neurofunctional routes as the basis of the neurocognitive process of professional translating and interpreting, i.e., conceptual mediation, structure-routed transfer, and memory-pairing. While all three routes are available at any time, it is the neurocognitively less costly route that will prevail whenever it can. Memory-paired transfer has rarely been discussed before because it is difficult to ascertain which item is or is not encoded this way in a translated text. In this paper, we investigate the issue of how memory-pairing might have assisted the outcome of professional simultaneous interpreting by conducting a corpus-assisted case study. The results show that nearly 40% of the proper names and 36% of culture-specific items in the interpreted speeches were most likely verbalized via memory, indicating the so-called “cognitive signature” of the interpreter on the one hand and implicating memory-pairing as being neurocognitively the least costly processing route in the trained-bilingual brain on the other.

## (P.3) Incorporating proof-readers to understand the effects of directionality on translation process

**Bogusława Whyatt, Tomasz Kościuczuk, Marcin Turski**

Faculty of English, Adam Mickiewicz University

Poznań, Poland

bwhyatt@wa.amu.edu.pl

With the still prevalent axiom that professional translators should translate only into their native language, the question of how the direction of translation, either forward (into the translator's L1) or inverse (into the translator's L2) influences the translation process has remained under researched. Although several studies reported on the discrepancy between market demands concerning inverse translation and the stigma of inferiority (Pokorn, 2005; Pavlović 2007; Whyatt & Kosciuczuk, 2013), very few studies (Pavlović & Jensen, 2009; Ferreira, 2014) have investigated the impact of directionality on the translation process. Can corrections made by proof-readers help us understand the difference between the process of forward and inverse translation?

In this presentation we report on the preliminary results of the EDiT project in which we compare cognitive effort in forward and inverse translation. Professional translators were asked to produce two forward translations of short texts (into Polish - their L1) and two inverse translations of texts of the same type and level of complexity (into English – their L2). Their translation process was recorded by the key-logging software (Translog II), screen-capture (Morae) and an eye-tracker (EyeLink 1000 Plus). The target texts were subsequently proof-read by 4 experienced proof-readers (2 native speakers of English and 2 native speakers of Polish) who inserted their corrections using the Microsoft Word 'track changes function' to make them visible. We analysed data sets from 10 professional translators to answer the following questions: 1) Is translating into L1 cognitively less demanding than translating into L2? 2) Is the total task time distributed differently into orientation, drafting and revision depending on the direction of translation? 3) What is the nature of corrections made by proof-readers in L1 and L2 target texts? 4) Were the decisions made by the translators, which were later corrected by proof-readers, automatic (no pausing) or pre-meditated (preceded by pausing) depending on the direction of the translation process? The data analysis included the following measures: task duration, text production speed, text elimination, number and duration of long pauses, time spent on consultation of on-line resources, fixation duration and fixation count.

We explain the findings in line with the current knowledge concerning the use of bilingual memory, language asymmetry and cognitive effort in translation as a cross language task. The results also contribute to a better understanding of the relationship between directionality and translation expertise in professional practice. Analyzing the changes introduced by proof-readers is very informative in assessing the effects of directionality on the translation process and product. We believe that the present understanding of the translation process as involving only the translator should be expanded to provide a more ecologically valid account of other participants such as proof-readers and editors who contribute to the quality of translation as an end product. More insight into how professional translators handle both languages in the process of producing a translated text is also relevant for translation training programs which should prepare students for translating into and out of their native language.

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## (P.4) A Neural Networks based Domain Classification System for Machine Translation

**Junfei Guo and Mathias Coeckelbergs**

Information and Communication Science department

Université libre de Bruxelles

Bruxelles, Belgium

{junfei.guo, mcoeckel}@ulb.ac.be

The field of Intelligent Machine Translation integrates statistical machine translation (MT) technology with post-editing, a technique which has proven fruitful over the last years. Such machine translation adaptation methods (Amittai et al., 2011) have been proposed to deal with multiple domain-specific translation models, where a series of input sentences has to be classified to the correct domain. Domain-specific models can be used to dynamically weight the domain models.

There is a wealth of implementations of neural networks based classification models (Lee et al., 2016) in recent years. In this paper, we present an intelligent machine translation system based on domain classification which outperforms the current state of the art. More specifically, we develop a deep learning methodology by using a Convolutional Neural Networks (CNN) based hybrid classification, incorporating terminological re-sources within the text classification pipeline, as has previously been implemented by Kim (2014). By using this method, we can enhance the translation pipeline and control the performance of the translation system. Amongst the various disciplines involved in document classification, machine learning approaches (such as topic modeling approaches or support vector machines) could be used as classification baseline.

We build our corpus on the basis of earlier work done at the International Workshop of Spoken Language Translation (IWSLT) which focusses on the translation of TED Talks, a collection of public speeches covering many different topics. In particular, we will use the IWSLT 2014 (Cettolo et al., 2014) release of the sentence-aligned IWSLT 2014 English-French Benchmark as experiment data. This is a parallel corpus contains roughly 1433 talks, of which we use 1415 talks as training data. For tuning and testing we use the 19 data provided by the benchmark.

Our machine translation experiments use the Moses framework of Koehn et al. (2007). It offers support for phrase-based and hierarchical phrase-based translation models and contains all tools (Och et al., 2003) needed to train and execute these models. We train the 5-gram Kneser-Ney (Kneser et al., 1995) language models (Heafield et al., 2013). The translation models were trained with parallel sentences after length-ratio filtering. We use BLEU (Papineni et al., 2002) score to evaluate MT results for the test sets. Given that BLEU score is widely used in MT evaluation, it has frequently been reported as correlating well with human judgement, and remains a benchmark for the assessment of any new evaluation metric. In this paper, we solely use BLEU score to evaluate the result because previously cited comparable works from the state of the art do so to, being hence the only necessary metric to compare our results.

By using the CNN-based classification system, we classify the domain of the test data.

Then we can match the domain of the test data to the training data or the tuning data. While we received the domain of the source language (French in our experiment), we use the parallel data from the target language (English in our experiment) data to optimize the parameters of our domain adaptation MT and language models for MT system.

The implementation of the CNN based classification model to classify the data in the Moses statistical machine translation framework proved to be salient, and evaluation shows improvements to the state of the art.

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## (P.5) External resources in the post-editing process: A case study

**Olga Witczak**

Department of Translation Studies

Adam Mickiewicz University

Poznań, Poland

owitczak@wa.amu.edu.pl

From the cognitive perspective the use of external resources, especially online ones, is considered to offer an insight into problem-solving strategies in translation (Göpferich 2010; Raído 2014). This study undertakes an exploratory analysis of online consultation with yet another artefact (Krüger, 2016, 120) coming into play when post-editing a machine translation output (Daems et al., 2016, 113).

The present study utilised situated translation as theoretical underpinning due to “high cognitive relevance of translation technology” (Krüger, 2016, 121; Risku, 2004). Additionally, a user-oriented approach from the field of information seeking (IS) has been adopted, as it regards information searching as “a process during which users may search for information via a computer system or the web” (Raído, 2014, 35; Wilson, 1999, 262–63). Furthermore, information searching is also a part of instrumental sub-competence (PACTE, 2009) as well as information-mining and thematic competence (Gambier, 2009) in translation competence models. Moreover, post-editing of machine translation output is a skill considered a part of the EMT technological competence (Gambier, 2009). Therefore, although information searching is supposed to be widely taught in translation training programmes, research into how trainees use electronic resources (both online and offline) during translation is not yet extensive (e.g. Massey and Ehrensberger-Dow, 2011; Raído, 2014; Göpferich 2010). Furthermore, studies on resource consultation during post-editing process are even more scarce, e.g. Daems et al. (2016). Finally, research into the post-editing process and interaction with external resources with Polish as the target language is non-existent.

Given the gap in research, the reported case study investigates in detail the process of one translation trainee post-editing a fragment of an English instruction manual into Polish. The goal of the study is to closely examine the information searching behaviour of a post-editor and explore how the information gathered from the sources is used in the emerging target text. The data were collected with eye-tracking (EyeLink 1000 Plus), screen-recording (Morae Recorder), and key-logging (Translog-II) methods. Fixation duration was analysed with respect to the source text, target text, and browser in order to examine the external resource consultation behaviour in relation to the post-editing task. Gaze behaviour was considered indicative of mental activity in accordance with the eye-mind hypothesis (Just and Carpenter, 1980). Apart from the eye-tracking data, conclusions were also drawn from the logs and screen recordings with reference to types of searches (keyword, institutional, thematic, cf. Austermühl, 2014, 52), as well as participant’s search result evaluation (Klößner et al., 2004). The target text additionally underwent a blind review (simplified LISA QA model) to investigate the accuracy of chosen search results.

Results show that the process data might not only provide an insight into the translator’s (and post-editor’s) “black box” but it also may encourage further investigation within a large project in my PhD dissertation, possibly trying to follow how trainees develop their information searching skills in line with their growing experience.

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## (P.6) Concordancers for legal corpus analysis: a comparative study

**Giorgina Cerutti**

University of Geneva

Faculty of Translation and Interpreting

Geneva, Switzerland.

Giorgina.Cerutti@unige.ch

Corpus-based research on legal discourses and translation has flourished in the last few decades. Nonetheless, there remain many empirical and theoretical challenges related to the use of legal corpora to investigate the translation product. Most of these limitations concern not only the scarce availability of ready-made corpora for Legal Translation Studies, but also the methodological implications of choosing the most appropriate tools to analyse data. Assessing corpus analysis tools at the initial stage of a research project is essential, since the tool chosen has a far-reaching impact on the way in which research questions are addressed and developed, as well as in the way results are replicated and triangulated.

In this contribution we will address the methodological and technical considerations relevant to the selection of tools to analyse legal discourses for legal translation research purposes. The results of a comparative analysis of currently available fourth-generation concordancers fitting for the analysis of parallel corpora (CPQweb, Sketch Engine, and ParaVoz) are presented with a view to verifying their suitability for a specific research project, according to the project's context of use and specific needs. These tools are tested in accordance with the relevant guidelines and norms designed for software evaluation, namely the EAGLES 7-step recipe (EAGLES Evaluation Working Group, 1999) based on norm ISO/IEC 9126-1: 1991. Our case may be of high relevance to researchers who are compiling their own parallel corpora of texts from other contexts of legal translation or other branches of specialised translation.

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## **(P.7) Interpreter's mediation of footing and participation framework in China's live broadcast news reporting**

**Tingting Sun**

Beijing Foreign Studies University

China

Research on interpreting has traditionally focused on 'simultaneous conference interpreting', and only more recently on 'community interpreting' (also referred to as 'public service interpreting', 'dialogue interpreting' 'liaison interpreting' elsewhere) (e.g. Jones 1998, Diriker 2004, Wadensjö 1998, Mason 1999, Ren 2010). Live broadcast television interpreting, a special genre of interpreter-mediated events, has so far received little scholarly attention from the discipline of translation and interpreting studies – with an exception of one fruitful study on corpus-based media interpreting which focuses on how interpreters cope with culturally rich source-text (Pöchhacker 2007) and a few others on interpreting talk shows (e.g. Sergio 1999, Wadensjö 2008). Live broadcast simultaneous interpreting on television is widely believed to be one of the most challenging and stressful forms of media interpreting, and translational activity in general (Pöchhacker 2007). As is the case with interpreting in political interviews, simultaneous interpreting for the live broadcast news reporting is likely to have far reaching consequences for the lives of a very large number of people across the globe, and to play a major role in constructing cultural images and aiding or obstructing world peace (Baker 1997: 124).

Drawing on Goffman's socio-communicative conceptualisation (1972, 1981a), this study attempts to provide an alternative perspective to examine television interpreting by exploring the way in which interpreters position themselves in live broadcast news reporting through choices that effect changes in footing and participation framework, based on a series of simultaneously mediated live broadcast news briefings on China Central Television (CCTV) after the Malaysia Airline MH370 went disastrously missing in March 2014.

## (P.8) Translation Quality Assessment: Combining corpus linguistics, translog and eye tracking research

Qiurong Zhao

University of Science and Technology Beijing  
China

Translation quality assessment, is one of the fundamental topics in translation studies. Various models exist for measuring the translation product (House 1997, 2015; Reiss 2000; Williams 2004, etc.). To date, the majority of research on translation quality assessment has focused on the assessment of the translated product, hence, the result will largely depend on the evaluator's experience and subjectivity. Thus, an objective and empirical investigation on translation quality assessment is still in need.

Further, corpus-based translation studies focus more on the features of translated texts (Baker 1993), and empirical-experimental translation process pays more attention to the performances and cognition of the mind of translators (Ferreira and Schwieter 2015; Carl, Bangalore and Schaeffer 2016), and in fact, corpus-based method allows us to investigate and identify the patterns influencing the quality in the products of translation; Empirical translation process method provides us the possibilities to investigate the translators' performances and their cognition in dealing with translation problems, therefore, they are closely related to the translation quality, while it is lack deep and systemic investigation.

In the present paper, we attempt to use an empirical methodology integrating product and process research and their relevance with translation quality by complementing corpus-based method with the analysis of the data from translog and eye tracking.

(1) Build a multiple corpora. A multiple corpora combined with parallel corpora, comparable corpora of English-Chinese translation by professional translators and student translators have been built, and non-translated Chinese texts are collected as a reference corpus.

(2) Identify the significantly different patterns influencing translation quality between professional translator and student translator.

Based on multiple corpora, many parameters influencing translation quality can be detected. The present paper focuses on one of the significantly different patterns, i.e. the modifier. Modifier is one of the most typical syntactic features of translated Chinese and one of the indicators in influencing the quality of English-Chinese translation. The pattern of modifier used by the professional translators is more similar to that of the non-translated Chinese (Zhao 2013), while the student translators use longer and more complicated modifier, which might have been influenced by the English original.

(3) Track the process of professional translator and student translator in translating modifier.

Translog and Tobbi will be used to identify the process that trigger longer and complicated modifier in the translation process. Thinking-aloud protocols are used to find the possible processing difficulties and the strategies in translating modifier.

In all, the present research is an attempt for the combination of product and process-oriented research in translation quality assessment, which helps us to obtain insights into the translation process, the translation product as well as the translators and finally a model combined corpus and empirical-experiments in translation quality assessment is hoped to be drawn.

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## (9.A) The Editor's Invisibility: Changes to Nominalisation in the Translation Workflow

**Mario Bisiada**

Universitat Pompeu Fabra

Spain

There has recently been a surge in corpus studies of translation using corpora that reflect the production process of a translation, specifically focussing on the role of editors in this process. The influence of editors has often remained "invisible in conventional corpus-based studies comparing translated and non-translated language" (Kruger 2012, 354). Such holistic studies of the translation workflow may "lead to improvements in the eco-logical validity of experimental settings" (Muñoz 2010, 179) and "provide exciting opportunities for analysis of the language of translation" (Utko 2004, 223).

This has been demonstrated in studies of editorial intervention, for instance, by Andújar (2016), who finds that a range of changes in a French translation of a Spanish novel can be attributed to editors' attempts to increase the readability of the text. Readability also plays a role in the analysis of sentence splitting in translation, where Bisiada (2016) argues against the notion that sentence splitting is a phenomenon that occurs only in particular translation directions. He finds that sentence splitting is frequent in English-German translation of business articles, and that it is not just translators that engage in it, but also editors to a significant extent. Thus, scholars have begun to take editorial influence into account in their discussions of findings from corpus-based analyses of translations (Delaere 2015, 128; Kruger forthcoming) and rejected the hypothesis that editing may exhibit one of a range of "mediation universals" along with translation (Kruger 2012; Bisiada forthcoming).

To further support such study of editorial intervention, this talk reports on an analysis of nominalisations in translated texts before and after editing. A quantitative analysis shows that in the business genre, translators are responsible for most of the nominalisations, while editors mainly change nominalisations back to verbal patterns. I investigate qualitatively two possible motivations for this phenomenon. First, I test the hypothesis that the process type of the source text verb may influence the translators' or editors' decisions. Second, I take a closer look at the actual nominalisations in order to find out whether the nominal group structure, specifically pre-modification or post-modification have an effect on whether editors retain or change a nominalisation on the part of the translator.

Shedding light on the actions of the various agents involved in the translation workflow, this study supports the view that process-based research that considers more than just the final translation product can provide interesting insights into what translated language is. The findings of this and related research have important implications for corpus-based translation and contrastive studies and may strengthen the empirical basis of analyses of translated text.

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## (9.B) Splitting of coordinated sentences in translations from English to German

Tatiana Serbina, Arndt Heilmann and Stella Neumann

Chair of English Linguistics

RWTH Aachen University

Aachen, Germany

tatiana.serbina@ifaar.rwth-aachen.de

The present study employs a corpus-based approach to analyze instances of sentence splitting in translations from English to German. It aims at identifying linguistic conditions under which the phenomenon of sentence splitting is likely to occur, i.e. under which the original sentence is translated by two or more sentences (Ramm 2004).

Previous studies named coordinated and subordinated clauses, as well as complex noun phrases among the source text structures that can be translated as separate sentences (Fabricius-Hansen 1999, Ramm 2004, 2006, Solfeld 2008). Contrastive differences, e.g. related to noun phrase modification, should be certainly considered as a possible explanation for the change of sentence boundaries. Moreover, it was also shown that sentence splitting may depend on register: while in all analyzed registers coordination was identified as being by far the most frequent trigger of sentence splitting, the comparison also indicated that the popular-scientific texts and tourist brochures contain more instances of sentence splitting than the registers of political essays and prepared speeches (Serbina in preparation). Taking these findings into account, the present study takes a closer look at coordinated sentences with and without sentence splitting across the four registers mentioned above

Since coordination in general is fairly common, the scope of the study had to be restricted to a certain type of coordination. Based on the previous analysis of the sentence splitting data, the present study encompasses sentences in which coordination occurs between main clauses and is realized by the coordinator *and*. The sentences that meet these criteria were extracted from the CroCo corpus – a parallel corpus for the language pair English-German (Hansen-Schirra et al. 2012) – using the Corpus Query Processor (Evert and Hardie 2011). First of all, linguistic features that can contribute to sentence splitting, e.g. complex noun phrases, are being identified based on previous research in combination with an initial qualitative analysis of examples belonging to the popular-scientific register. In the next step, all extracted sentences will be annotated for these linguistic features to perform a multivariate analysis of sentence splitting, more specifically a mixed-effects logistic regression model. Future research should also consider potential increase in cognitive effort that may accompany sentence splitting during the process of translation.

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## (10.A) A longitudinal study into translation trainees' self-revision behaviour and the role of personality

**Olha Lehka-Paul**

Department of Psycholinguistic Studies  
Faculty of English, Adam Mickiewicz University  
Poznań, Poland  
Email: olehka@wa.amu.edu.pl

The concept of self-revision in translation may be referred to in three ways: 1) a “self-regulated procedure” (Alamargot et. al., 2001, p. 104) of diagnosing problems and re-solving them as the target text unfolds, 2) the quality-assurance process (cf. Mossop, 1982), 3) a mentally demanding task that calls for a number of different competences (cf. Alamargot et. al., 2001, Shih 2015). Understood in such a complex way, the study of self-revision reveals the interplay between translation expertise and “individual psychology” (Mossop, 2007, p. 19) in the process of the “problem solving and decision making” activity (Levy, 1967) that translation is.

The aim of this study is to explore the role of psychological personality-based aspects in the evolution of trainees' self-revision behaviour. The main hypothesis holds that the preferred decision-related mental function (“Thinking”, defined by logics and task-orientation, or “Feeling”, characterized by spontaneity and people-orientation, Jung, 1971) as an independent variable influences the following dependent variables: 1) the number of changes introduced during drafting and end revision stages, 2) the duration of end revision, and 3) the nature of revisions (i.e., surface changes like typos and grammatical adjustments, or pragmatic changes that modify the meaning and syntactic structure). The underlying assumption is that trainees develop expert-like decision-making behaviour with regards to the chosen dependent variables and adjust their cognitive functions to the requirements of translation profession. The experiment comprised ten MA translation trainees at Adam Mickiewicz University in Poznań and a control group of six professional translators. To get the developmental perspective, the students took part in the experiment twice, at the end of their first and second year of translation training. The task involved translating two 250-words extracts of different text types from English (L2) into Polish (L1). The data were collected using Translog (Jakobsen, 2005), the key-logging software designed to track the translation process, retrospective questionnaires, a psychometric test (MBTI) and a specifically developed translation quality assessment sheet.

Preliminary findings point to the interaction between psychological features and self-revision behavior, and the development of expert-like behaviour with students' greater exposure to translation practice. The practical implications can be of relevance for translation trainers concerning the role of trainees' personality mechanisms in acquiring translation expertise.

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## (10.B) An information-theoretic approach to modeling routine behavior in translation

José Manuel Martínez Martínez and Elke Teich  
Universität des Saarlandes  
Germany

The present paper proposes to model translation focusing on the notion of routine. The ability to switch between routine (automatic) and conscious (non-automatic) behavior is considered a crucial skill in translation competence (Bayer-Hohenwarter, 2011; Toury, 2012). Routines are habitual translation methods that are fast and easy to apply and are thus fairly “cheap” in terms of production effort. Non-routine (potentially “creative”) behavior is costlier and the risk of producing errors is fairly high.

Comparing learner and professional translations, we assume that professional translators will maximize the amount of routine translation and minimize “creative” translation to keep production cost low. Learners’ productions, instead, will be less routinized.

If we want to characterize human translations making use of the notion of routine, we need to address the following methodological questions: (1) How can we operationalize the notion of routine in translation? (2) How can we capture the difference between professionals’ and learners’ behavior in terms of routine?

To operationalize the concept of routine, we suggest using the notion of information as originally proposed by Shannon (1948) and referred to in contemporary linguistics as surprisal and entropy (see Hale (2016) for an overview). In models of online language processing, surprisal denotes the degree of (un)expectedness of a linguistic item in a given context (cf. e.g. Demberg & Keller, 2008; Hale, 2001; Levy, 2008) and entropy refers to the degree of uncertainty about the upcoming linguistic item (cf. e.g. Genzel & Charniak, 2002; Linzen & Jaeger, 2016). We can thus consider translation as the uncertainty about a target language expression given a particular source language expression, on the one hand, and the (un)expectedness of a particular target language expression to occur in the target language text given a source language expression, on the other hand. We assume that routine translation is indexed by relatively low entropy concerning possible target language expressions given a particular source language expression as well as relatively low surprisal of the chosen expression in the target language text.

We show results from a case study based on two datasets: (1) a translation learner corpus made up of excerpts from the English proceedings of the European Parliament and their translations into Spanish produced by translation students representing novice performance; (2) a reference corpus consisting of the published proceedings in English and Spanish representing professional performance. The preliminary results show that information-theoretic measures like entropy and surprisal enable the operationalization of routine translation behavior and that professionals’ and learners’ productions can be distinguished on the basis of entropy as well as surprisal: Professionals’ translation choices show a lower entropy than those of learners’ thus indicating less uncertainty in translation choice; and the surprisal of professionals’ preferred solutions tends to be lower on average than that of the solutions produced by learners. The measures we propose can thus also be applied to assess the (relative) quality of translation output.

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## (11.A) From nitwit to pro: an in-depth analysis of translation evaluation methods in educational and professional settings.

**Evelien Tijtgat and Isabelle Delaere**

Translation and Technology

KU Leuven Kulak

Kortrijk, Belgium

evelien.tijtgat@kuleuven.be

isabelle.delaere@kuleuven.be

Although the second language testing discipline was already founded in the early '60s with, among others, Robert Lado (1961), the first attempt for a scientific approach to translation assessment only appeared with Juliane House (1977) almost two decades later (Eyckmans et al. 2016). Language testing has a well-established tradition of using psychometrics in order to determine the reliability and validity of language tests (Eyckmans et al. 2009). In translation assessment, however, researchers stay reluctant to this kind of approach because of a lack of knowledge or appropriate use of assessment methodology and psychometrics (Eyckmans et al. 2016).

As there appears to be no universally applied evaluation method, it seems particularly interesting to map the currently used translation evaluation methods in educational and professional contexts in order to reveal their main strengths in terms of reliability and validity, as well as their shortcomings.

Therefore, we conducted a large survey to determine which methods are used to evaluate translations from English and French into Dutch. We interviewed both the translation teaching staff from Flemish university colleges and universities who offer translation programs at bachelor and/or master level, as well as several translation agencies. The survey of the teaching staff focused, inter alia, on the evaluation methods followed in general translation courses as well as specialized translation courses (e.g. focusing on legal, economic, literary, technical or scientific texts) and on how feedback was given to students. Furthermore, we also asked the teaching staff for information with regard to different subjects, such as their organization of the translation courses for students, their knowledge of other existing evaluation methods, their need for a standardized evaluation method, their knowledge of the European quality standard and their contact with the translation industry. When interviewing the translation agencies, we focused on their translation evaluation methods and their justification of the method in question.

In the educational field, first findings show that despite the various existing translation evaluation methods – e.g. holistic, analytical and norm-referenced methods –, only 40% of the teaching staff has a complete knowledge of them. There also seems to be no real consensus about the way reliable and valid translation evaluation can be ensured. In addition, computer-assisted translation (CAT) tools are used by students in only half of the translation courses we investigated, and their usage is seldom compulsory. These observations are surprising since translation programs should aim to prepare students to become high-quality professional translators and thus assist them in acquiring all five translation subcompetences as described in the ISO 17100. The knowledge gap between the educational and the professional field in terms of translation evaluation seems to be even more delicate.

Our preliminary results show that translation evaluation remains a fuzzy area in need of transparent evaluation methods, an issue which could be tackled in future research by introducing psychometrics as a new approach into translation assessment.

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## (11.B) Mental control processes and the mental lexicon in translators

**Katharina Oster**

Faculty of Translation Studies, Linguistics and Cultural Studies

University of Mainz

Germersheim, Germany

osterk@uni-mainz.de

Translators constantly control their speech output in order to avoid interferences. Mental control mechanisms such as inhibition and monitoring of the speech production have been investigated by many researchers (e. g. Levelt, 1999; Indefrey, 2011). But until recently, the mental control processes in translators have hardly been addressed (e. g. Tirkkonen-Condit, 2005; Carl/Dragsted, 2012).

We know from studies investigating general language tasks that the strength of the mental control is influenced by mental resources available (Ganushchak/Schiller, 2006; Ganushchak/Schiller, 2008). When translating, we often struggle with several possible answers. These more or less effortful processes of word choice in the mental lexicon could for example influence the mental resources available and thus the control processes. According to Ruiz and colleagues (2008), the translation process gets more automatized with expertise: the translators have closer links across languages in their mental lexicon which facilitate translation and lead to more resources available. In this study, I addressed the research question whether mental control mechanisms during translation are modulated by the structure of the mental lexicon and whether they correlate with expertise.

One way to measure these links in the mental lexicon is to measure reaction times during the translation of cognates (translation equivalents with a similar form) and non-cognates (translation equivalents with different forms). Cognates are usually translated faster than non-cognates because they are closer linked in the mental lexicon due to their shared form and meaning (cognate facilitation effect: CFE; Christoffels et al., 2006). I assume that this effect decreases with translation expertise due to overall stronger links in the mental lexicon between languages.

Mental control mechanisms can be measured by event related potentials (ERPs). An ERP which has been linked to inhibition and monitoring mechanisms is the N200 (Christoffels et al., 2007). The stronger the inhibition process, the larger is the N200. The N200 has been shown to be larger for cognates than for non-cognates in picture naming (Christoffels et al., 2007).

I assume that the CFE correlates with the difference in the N200 for cognates and non-cognates during translation and that both decrease with the expertise of the translators due to closer links in the mental lexicon.

In the present study, I tested 40 translation students from different semesters in a word translation test. They orally translated 320 abstract cognates and non-cognates which were controlled for frequency, word length and entropy. I measured reaction times and recorded an EEG. The CFE was measured in order to investigate the structure of the mental lexicon. And the N200 was measured in order to measure the mental control mechanisms. CFE and the difference in the N200 are correlated with the semester of the participants. First results will be presented in this talk and possible implications for translation universals such as shining-through and normalization (e. g. Vintar/Hansen-Schirra, 2005) will be discussed.

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## (12.A) Tapping into the cognitive process of translation evaluators: Different perspectives in translation quality assessment

Xingcheng Ma

The Hong Kong Polytechnic University  
Hong Kong, China

While translation quality assessment (TQA) strives to establish more objective and explicit criteria, the subjective factors cannot be neglected (Jääskeläinen, 2016). It is quite possible that different agents, including translation teachers, professional translators, clients and students may rely on different assessment procedures. However, the current translation curriculum is exposed to relative “one-sidedness”: students can only get the feedback from their teachers who tend to adopt a very similar set of norms (Toury, 1995:56). This runs counter to real life situations in which the translation may be judged by various receipts.

Only few studies have investigated into translation assessment carried out by different receipts (e.g., Suokas, 2014; Conde, 2012). Previous studies indicate that focuses of evaluators are impacted by their background: teachers of translation are generally more critical than other types of evaluators, with a special focus on language quality and ordinary readers tend to pay more attention to the layout of translation, expecting a more reader-friendly product. However, these studies do not address properly whether and how the evaluators differ during the on-line evaluation process, such as their reading styles and decision-making strategies.

Calling for a shift from cognitive process of translators to cognitive process of evaluators, this small-scale pilot study attempts to explore the on-line cognitive behaviour, for instance, the reading style and decision-making process of different categories of evaluators. Data are collected by eye-tracking, screen recording and think-aloud protocols: an excerpt of user manual translated by one student are assessed by teachers of translation, professional translators, and the target readers (the “authentic” users of the translation). Participants’ eye movement, keyboard/mouse activities and their decision-making strategies will be recorded and compared to see whether and how evaluators’ background impact their assessment behaviour and their attitudes towards the translation.

This study, in response to the increasing situatedness of translation, aims to highlight the “voices” in real life situation but have been neglected in previous TQA studies by comparing and identifying the cognitive process of different categories of evaluators. It is expected that in future training students can be exposed to multiple sources of feedback which is more likely to be representative of the authentic norms that actually guide translation. Moreover, a cognitive inquiry into the on-line evaluation process is supposed to shed new light on TQA studies.

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## (12.B) Corpus methods in a search for translationese in the parallel corpus of simultaneous interpreting Ru-En (SIREN)

**Daria Dayter**

English Seminar

University of Basel

Basel, Switzerland

daria.dayter@unibas.ch

The present project is situated in the field of translation studies and investigates variation in original and simultaneously interpreted texts, i.e. addresses the controversial issue of “translationese” (or “interpretese”). For the purposes of the study, I am compiling a corpus of bidirectional Russian-English free simultaneous interpreting (SIREN). Currently, SIREN contains approx. 240,000 words of political discourse (speeches, press-conferences, briefings) and consists of two subcorpora: Russian originals interpreted into English, and English originals interpreted into Russian. The composition of SIREN means that it provides both types of data: interpreted and comparable, which can help overcome certain hurdles in corpus-based contrastive analysis (see Altenberg & Granger, 2002).

To date, research into translationese followed one of two paths: an interpretative analysis of selected features informed by linguistic theory on the basis of concordances; or efforts in the area of NLP that focused on automatically identifiable features (information density, shallow statistics such as lexical density and type-token ratio). The former approaches cannot provide a comprehensive picture of translationese and place the emphasis on the once-positited dimensions such as explicitation, normalisation, simplification and convergence. The latter tend to be highly text-type-specific, as the performance of automatic classifiers demonstrates. I propose to combine the benefits of the corpus-based study of interpreting, following the tradition of the carefully designed investigations by Bernardini (2015) and Delaere et al. (2012), with the corpus-driven approach to variation. The overarching aim of the project is to use multivariate statistical analysis of a large number of linguistic features to establish dimensions of variation between interpreted texts and the originals, a methodology that was introduced to linguistics by Biber (1988) for register analysis and also found applications in translational variation research (Diwersy et al., 2012; Evert & Neumann, 2013; Rabinovich & Wintner, 2015). In this talk, I address the issues related to corpus creation and the particular features that were built into SIREN to facilitate the study of interpretese. I describe on the process of selecting the broad range of variables for the analysis which was informed by the threefold attention to cross-linguistic interference, cognitive effects of simultaneous interpreting, and interpreter’s choices. Finally, I report on the preliminary results of the analysis of both interpreted and comparable data on the example of linguistic features on three levels: pragmatic (mitigation in translations), lexical (collocativity), and syntactic (utterance length and syntactic complexity).

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## (13.A) Docimologically Justified Parsing Items: Introducing a New Method of Translation Evaluation

**Alireza Akbari,**

Faculty of Translation and Technology, KU Leuven, Belgium

Email: Alireza.akbari@kuleuven.be

The issue of translation evaluation illustrates that all the contributions have been descriptive or theoretical and have focused primarily on the following issues such as the set of parameters for an acceptable translation, the nature of errors (translation errors and language errors, and source of errors) (House, 1981; Gouadec 1989) and consequently the quality of linguistic and pragmatic levels. However, they cannot substantiate the nature of reliability and validity. This is the main concern of translation evaluation/ assessment today in that which evaluation method will improve the validity and reliability of the end-product. In this direction, developing and introducing new methods of evaluation will increase the efficiency of translation assessment. This research paper tried to introduce a method for evaluating the end-product known as Calibrated Parsing Items Evaluation (CPIE) method devised by Alireza Akbari. The present re-search will gain new perspective in the execution of CPIE method in environments such as translation agencies, universities, and companies with a very advanced expertise in translation evaluation. CPIE method comprises 6 stages: (1) the calculation of scores on the basis of evaluator's intuition which are docimologically unjustified (holistic scoring) (Kockaert and Segers 2016); (2) the visualization of the source text (the application of Brat Visualization Software-Stanford NLP Parser) into various parsing items; (3) the calculation of p-docimology (different from statistical-p) based on some predefined values (the ideal norm value ranges from 0.27 to 0.79) (Feldt 1993); (4) the calculation of IDis (item discrimination based on D'Agostino and Cureton's twenty-one percent rule (1975)); (5) the elicitation of items with justified p and d; and (6) the recalculation scores. A total number of 60 translator students participated in this research. They were enrolled in the second year master level English-Persian (L2-L1) translation courses at the University of Isfahan, Iran. In the upshot, the results showed that the outcome of score recalculation (items having good p-docimology and d-index) was the most severe for some of the participants and conversely some got higher scores in terms of justified parsing items. This full-fledged evaluation method (CPIE) complements and solves the question of difficulty in translation evaluation by means of the correlation between scores obtained on the translation test and evaluated with CPIE, and scores obtained and evaluated with e.g. analytical grid method or holistic method.

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## (13.B) Emotional contagion in simultaneous interpreting: A GSR study

**Pawel Korpak**

Adam Mickiewicz University  
Poznan, Poland

The potential impact of psychological factors, such as stress, motivation, and personality traits on interpreting has been discussed in recent decades in Interpreting Studies (e.g. by Schweda Nicholson, 2005; Timarová and Ungoed-Thomas, 2008; Bontempo and Napier, 2011; Rosiers et al., 2011). One of the factors that might influence the process of simultaneous interpreting, and which has apparently not been investigated in an experimental study yet, is emotional contagion, being part of the interpreter's empathy. Emotional contagion refers to a mechanism in which people's emotions trigger similar affect in other people (Hatfield et al., 1994).

In my presentation I am going to report on a GSR study in which the phenomenon of emotional contagion was investigated in the process of simultaneous interpreting. The main aim of the experimental study was to examine whether interpreters are affected by the speaker's emotions. To this end, two measures of emotion were used: galvanic skin response (GSR) as a marker of emotional arousal, and SUPIN – the Polish adaptation of PANAS (Positive and Negative Affect Schedule) – a standardised tool used to measure the strength of positive and negative emotions. Additionally, the Emotional Contagion Scale (Doherty, 1997) was adopted to measure individual differences in susceptibility to emotional contagion. A group of interpreters with Polish as their A language and English as their B language (N=28) took part in the experiment. They were asked to simultaneously interpret two speeches (recordings accompanied by video) from Polish into English: a neutral speech and an emotional speech. The results show that the interpreters indeed tend to be affected by the speaker's emotions, which is reflected in both a greater galvanic skin response,  $F(2; 54)=62.009$ ;  $p<.001$ , and higher SUPIN scores  $F(1.481; 39.991)=16.220$ ;  $p<.001$ , for the emotional speech, when compared to the neutral speech and baseline values. Contrary to expectations, emotional arousal observed during the experiment did not correlate with a general susceptibility to emotional contagion, measured by the Emotional Contagion Scale.

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## (14.A) Contrasting problem solving activities in post-editing and translation from scratch

**Jean Nitzke**

Faculty of Translation Studies, Linguistics and Cultural Studies  
University of Mainz  
Germersheim, Germany  
nitzke@uni-mainz.de

Instead of translation from scratch, companies increasingly make use of machine translation (MT) to improve efficiency and cost-effectiveness, and edit the MT output to create a fluent text that adheres to the given text conventions. This procedure is known as post-editing. Translation and post-editing can often be categorised as problem-solving activities. When the translation of a source text unit is not obvious to the translator on first sight, or in other words, when there is a barrier between the source item and the target item, the translation process can be considered problematic. On the other hand, when there is no barrier between the source and target text, the translation process can be considered as solving a task and not a problem (cf. Dörner 1987). In this study, I investigated whether MT output influences problem solving effort regarding internet research, syntax, and other problem indicators and whether the effort can be linked to expertise.

24 translators (twelve professionals and twelve semi-professionals) produced translations from scratch from English into German, and (monolingually) post-edited MT output for this study, which is part of the CRITT TPR-DB database (Carl et. al. 2016). The translation and (monolingual) post-editing sessions were recorded with an eye-tracker (Tobii TX300) and a keylogging programme (Translog II – Carl 2012). Altogether, the participants had to handle the same six texts (two texts per task, tasks and texts were presented in a pseudorandomised order). The MT output for the (monolingual) post-editing tasks was produced by Google Translate.

Different approaches were used to identify problematic translation units. First, Internet research behaviour was considered, because research is a distinct indicator of problematic translation units (cf. Krings 1986). Then, the focus was put on syntactical structures in the MT output that do not adhere to the rules of the target language, assuming that they would cause problems in the (monolingual) post-editing tasks which would not occur in the translation from scratch task. Finally, problem indicators were identified via different parameter like Munit which states how often the participants worked on one translation unit to create and modify it, or the inefficiency (InEff) value of translation units, i.e. the ration of the amount of produced and deleted tokens divided by the final length of the translation. (cf. Carl et. al. 2016).

This talk will present an overview of the different identified problem solving activities. The results show that the research behaviour is very different between the three tasks (less research in the post-editing tasks) and is linked to the experience of the translators (less experienced translators do more research). However, hardly any significant differences between the tasks and the experience of the translators can be found when considering syntactical structures, which implies that coping with syntax might rather be categorised as task solving than problem solving. Finally, I will present how parameters like Munit and InEff can be used to identify problems in the translation process data.

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## **(14.B) How Costly is Omission – A “Hidden Effort”?**

**Victoria Lai Cheng Lei and Defeng Li**

University of Macau

Macao

The issue of omission has been an intriguing question in translation and interpreting studies. It is easy to assume that omission in translation and interpreting requires next to no mental effort, or see the occurrence of omission as evidence of cognitive effort avoidance. However, it has been suggested that omission actually involves active decision making (e.g. Gile, 1999). Thus omission might not be the most economical of coping tactics.

Previous PET and fMRI research results indicate that SI activates predominantly left-hemispheric structures (e.g. Rinne, 2000). Li et al (2016) compare three strategies frequently used by simultaneous interpreters, namely, transcoding, transphrasing and code-mixing and investigate how the three strategies are associated with the magnitude and the extent of activation in the left prefrontal cortex, including the Broca's area using functional near-infrared spectroscopy (fNIRS). In this fNIRS-based study omission is compared with the three strategies mentioned above in terms of brain activation patterns. It is expected the findings will help gain further insight into the cognitive effort omission in translation and interpreting involves.

## (15.A) Post-editing Effort: Procedures, Processes, Perspectives

**Gys-Walt van Egdom**

Dept. Translation and Interpreting, IRM  
Zuyd University of Applied Sciences  
gijs-walt.vanegdom@zuyd.nl

Post-editing seems to need no introduction whatsoever. The activity can be labelled, quite unequivocally, as “the correction of machine translation output by human linguists/editors” (Veale and Way, 1997). Still, this blanket definition does not provide the procedural or processual requirements of the activity, let alone the desired outcome thereof. For the most part, this is due to the specific purposes of PE. Requirements for PE service hinge on the quality expectations of clients and end-users. To counteract uncertainty with regard to the relation between desired quality and required effort, professionals and academics alike tend to fall back on the basic distinction between light/rapid and full PE (Krings, 2001; O'Brien, 2011). Recent research shows that this distinction is built on sand (Hu and Cadwell, 2016). As a consequence, uncertainty is bound to rear its head in translation practices involving PE.

To avoid covering grounds too familiar to theory, the author initially decided to carry out a relatively straightforward experiment to further understanding of PE effort and text quality in terms of perceived usability. Based on a theoretical framework of Mossop (2014), 4 levels of PE have been worked out and flanked by procedural instructions for every PE level. Having selected source material, students of the in-house translation bureau Zuyd Vertalingen were asked to post-edit the machine-translated output of the source material following the abovementioned procedures. Along with a questionnaire with items corresponding to no less than 6 variables, the 4 ensuing PE versions were distributed among TSPs and end-users (between subjects). Both targeted groups were asked to pass a judgment on the quality of the PE texts by filling in the questionnaire. The data of TSPs and end users were later contrasted in a multivariate analysis of variance. Remarkably, TSPs and end users appeared to be on the same page: both respondent groups showed preference for the same PE version.

As the first results were at odds with hypotheses formulated at the outset of the study, a firmer quantitative handle on PE effort suddenly became indispensable. Therefore, the perspectival approach was complemented with a calculation of BLEU scores. BLEU scores were calculated on the basis of multiple reference translation. Despite obvious flaws, these scores are used in the industry to evaluate MT output. The scores offered a glimpse of the PE effort required for the raw MT. By way of experiment, BLEU scores were also calculated for the PE versions, so as to gauge the quality of and the quality difference between each version in quantitative terms. Finally, one of the usual proxies for PE effort, edit distance, was also included in the study. Although concrete processual decisions have become water under the bridge, the used string similarity scores, viewed in tandem with the results yielded from the multivariate analysis and the BLEU scores, do seem to cast new light on procedural and even micro-processual decision-making and on the effects on perceived text quality.

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## **(15.B) The Development of Textual Competence in Student Translators: A corpus-based study of problems of coherence and cohesion**

**Jun PAN**

Translation Programme  
Hong Kong Baptist University  
Hong Kong  
janicepan@hkbu.edu.hk

**Honghua WANG**

School of Translation  
Hang Seng Management College  
Hong Kong  
ansonwang@hsmc.edu.hk

Linguistic competence is regarded as an essential component of translator training (Malmkjær, 2009). PACTE (2003, 58) defines bilingual sub-competence in translation as “pragmatic, socio-linguistic, textual, grammatical and lexical knowledge in the two languages”. Despite its importance, the development of linguistic competence, in particular textual competence (Kelly, 2005), has still been understudied in translator training. Much remains unknown as to how to cultivate students’ awareness of textual level problems in translation.

This study, employing an empirical design, aims to investigate the development of textual competence, in particular the reduction of coherence and cohesion problems in students’ English–Chinese translation. The study attempts to address two research questions: 1) what is the interplay, if any, between students’ individual differences (including gender, language background, and previous subject of study) and problems of coherence and cohesion in English–Chinese translation; and 2) what is the difference, if any, in the number and type of problems of coherence and cohesion in students’ English–Chinese translation, before and after the introduction of contrastive text linguistics between English and Chinese.

Data of the study were taken from a learner corpus of about 50,000 Chinese characters, which forms part of the English–Chinese sub-corpus for the Multilingual Student Translation project (Granger and Lefer, 2017). The corpus was POS tagged and annotated based on schemes including the CELTraC Error Typology, which defines problems of cohesion and coherence as those “disrupting the flow of the translated text in any way” and treats them as one general problem type (Fictumová et al., forthcoming, in Granger and Lefer, 2017, 225). The problem type, following Pan (2017), was further divided in-to: 1) misuse of cohesive devices, including reference, substitution, ellipsis, conjunction and lexical cohesion (Halliday and Hasan, 1976); and 2) problems in thematic progression (Hatim, 1998).

Participants of the study included 42 first-year translation major undergraduates in Hong Kong, who were enrolled in the course “Linguistics for Translators”. The translation scripts were collected from two exams, between which the topic of contrastive text linguistics was introduced. According to a pre-course survey, students had no knowledge of text linguistics before the study, although some had learned basic grammar (e.g. word classes, subjects and predicates, etc.) in Chinese and/or English language lessons in primary and secondary school.

A meta-data questionnaire was used to collect background information of the students and the translation tasks (Granger and Lefer, 2017). These variables, together with the type and number of coherence and cohesion problems, were put into SPSS. Statistical analyses will be computed to find out the relationship between students’ study backgrounds and textual level problems in translation, and test if there will be differences in the pre-text-linguistics-introduction and post-text-linguistics-introduction sub-corpora. The study will also

discuss the possibility of source text influence and the effectiveness of the contrastive text linguistics introduction in students' English–Chinese translation. Findings of the study will provide insights into the “what” and “how” of textual competence cultivation in translator training.

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## (16.A) Differentiated impact of parallel corpus as TM for specialist and non-specialist related medical texts

**Heidi Verplaetse**

KU Leuven, Campus Sint-Andries

QLVL

Leuven / Antwerp, Belgium

heidi.verplaetse@kuleuven.be

Recent studies have pointed out the relevance and usefulness of corpora for translation tasks, based on experiments with student translations, notably on the phraseological level as well as for domain-specific terminology in specialized text types (Frérot, 2009); (Bowker, 2011); (Kübler, 2011). Apart from the benefits of comparable corpora for translation difficulties (cf. Kübler, 2016), the use of parallel corpora does not only offer phraseological and terminological benefits, but when parallel corpora are integrated as translation memories (TMs) in a CAT tool, they offer student translators the added benefits which prepare them for their professional future selves. And TMs increase translation quality in terms of consistency at the stylistic, phraseological and terminological levels (Austermühl, 2006).

Although professional translators appeared reluctant to integrate the use of corpora in their work certainly until recently (Bernardini, 2006), more specialized corpora have become available publicly, and the standardization of formats for language resources has made parallel corpora available in the TMX-format, so that they can be imported in a CAT tool as TM. For this experiment we use the Dutch and English versions of the specialized medical texts available from the European Medicines Agency (EMA, former-ly EMEA) and compiled as a sentence-aligned parallel corpus in TMX-format by Tiedemann (2009) (13.3M words).

Against the background of other recent or older seminal studies into different aspects of the impact of different types of corpora (monolingual, comparable, parallel) on students' translation (English/French) performance (Bowker 1998; Bowker 1999; Kübler 2003; Kübler 2016), and different aspects of the impact of Translation Environment Tools (TEntS) on different types of professional translators and student translators (Lapshinova-Koltunski, 2013; Mesa-Lao, 2011; Martín-Mor & Sánchez-Gijón, 2014; Fantinuoli, 2016), the current analysis aims to describe the impact of a genre-specific specialized parallel corpus integrated as a TM in a TenT in two subtypes of the medical health information genre with different levels of specialization (patient information leaflets and Summary of Product Characteristics documents, aimed at medical specialists). The analysis will also focus on two specific phraseological features of these two medical text types, viz. the translation of deontic and evidential phrases.

Our earlier experiments with student translations of patient information leaflets (PILs) proved concordance searches (performed with Concordance Search in SDL Studio) in TMs of parallel corpora to be beneficial for looking up specialized medical terminology, especially for more difficult terminological items, whereas mere TM support without concordance searches provided little added value (-, 2015).

For the current experiment we will compare the impact of the parallel EM(E)A-corpus on translation master's students' translations of preselected linguistic items in two types of medical texts, with different levels of specialization and different target groups, viz. a PIL and an SmPC or Summary of Product Characteristics, aimed at medical specialists. We will analyze students' translations from English into Dutch of two selected SmPC sections with a different phraseological focus (respectively 485 and 385 words) and of a selected PIL section (527 words), on the basis of an error classification (cf. MeLLANGE error typology by Kübler et al., 2016). The students perform the translations under different conditions, viz. (i) with a CAT tool and the EMA TM only (six students) and (ii) with external resources other than the specialized EMA TM only (eight students).

Whereas our earlier experiment with students' translations of PILs showed little added value from mere TM-use on translation quality of phraseological segments in PILs, we hypothesize that a more scientific or technical text type such as an SmPC aimed at a highly specialized target group may benefit more from the use of the parallel corpus TM on a phraseological level than the PILs, which are aimed at a less specialized target group. A more detailed account of causality and evidence / evidentiality in the SmPCs, entailing specialized or even quasi-fixed phraseological segments lies at the basis of this hypothesis. In addition, we will analyze the impact of concordance searches (performed with Concordance Search in SDL Studio) on these two types of medical texts. In this way, we aim to give an indication of the impact of the two functions (TM and concordance search) available from the integration of a specialized parallel corpus on two different types of specialized medical texts.

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## (16.B) Conceptual and Practical Challenges in Experimental AVT Research. The Example of a Reception Study on Reverse Subtitling.

**Valentina Ragni**

Centre for Translation Studies

University of Leeds

Leeds, UK

v.ragni@leeds.ac.uk

In recent years, a surge of interest in experimental methodologies and psycholinguistic accounts has characterised the field of Translation Studies and related disciplines such as AVT (Audio-Visual Translation). Whilst such proliferation of studies has brought undeniable advancements to the field, open challenges remain on several fronts, not least data analysis. In this talk, I will address some of these challenges in the context of an experimental research project on reverse subtitles (L1 audio, L2 subtitles), a relatively underexplored subtitling mode.

The first part of the talk briefly introduces this piece of research, namely a reception study focussing on translational aspects of the subtitled product. Using a methodology similar to the one used by Ghia (2012) in the context of standard subtitles, the study investigated the effects that manipulation of the L2 reverse subtitle translations (formal similarity vs. formal discrepancy between L1 and L2) can have on memory and noticing processes in English natives learning Italian as a Foreign Language at advanced levels. Both behavioural and performance measures (Kruger, 2016) were used together for the first time to probe the untapped acquisitional potential of reverse subtitles. Eye-tracking was used to investigate noticing and attention allocation during the reading process, while a recognition post-test and an explicit report task were used to investigate retention and noticing. The design and implementation of this study will be touched upon, as they are the basis upon which the rest of the talk will build.

In the second part, I will consider an array of issues that many researchers are facing when collecting, preparing and analysing experimental data in the context of audiovisual translation. The present reception study will thus provide a concrete example through which to address some of the challenges – and possible solutions – arising in cognitive investigations of the subtitled product. The talk will make explicit reference to the variables and tests used in this study, in particular the application of relatively new statistics tools, i.e. multi-level modelling. Specifically, the application of generalised linear mixed-effect models (GLMEMs) will be discussed, with the aim of (a) sparking interest on the subject among the TS and AVT community and (b) provide a tentative guide for researchers in these areas who are interested in the topic and would like to apply GLMEMs to their translation data but do not know where to start.

### References

- Ghia, Elisa. 2012. *Subtitling Matters: New Perspectives on Subtitling and Foreign Language Learning*. Bern: Peter Lang.
- Kruger, Jan-Louis. 2016. Psycholinguistics and Audiovisual Translation. *Target: International Journal of Translation Studies*. 28, no. 2: 276–87.

## Network access

Participants can use the wireless UGentGuest network during the duration of the conference:

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# Maps

Route from the conference venue (Abdisstraat 1, Gent) to the restaurant (Onderbergen 1, Gent).

