Translation
Interpreting
Process
Studies

TrIPS 2026

Multimodality, Cognition and Application

Faculty of Translation and Interpretation (FTI-EII)

University of Mons

6-8 May 2026

Book of Abstracts

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Plenary Talks

Strong Foundations in Shifting Winds

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Empirical process research has often focused on small elements of the interpreting or translation process without reference to a broad framework that considers the cognition of practitioners and their interlocutors, and how they interact in context (López & Muñoz-Martin, 2022). It is true that empirical research often has a narrow focus on identifying the presence or absence of an effect in an object of study. Mixed-method approaches have regularly been suggested as a better way of grasping the bigger picture in Interpreting Studies (e.g., Pöchhacker, 2004). In this presentation, I will, however, focus on why, with well-defined theoretical underpinnings, rigorous empirical studies can make a clear contribution to understanding the fundamental processes that take place as we interpret, and why this fundamental understanding is essential as we try to see the bigger picture.

Certain basic assumptions are often implicit in cognitive translation and interpreting studies (Halverson, 2020). I will discuss two such assumptions. First, I will consider the assumption that comprehension, language switching, and production are separate steps (e.g., Moser-Mercer, 1978) or tasks (e.g., Gile, 2009; Seeber, 2011) in a modular interpreting process, and explain how this view continues to be implicitly adopted by studies that focus on language interference and language control in simultaneous interpreting. Second, I will review the influential assumption that there is a dichotomy between a semantically-mediated and a non-semantically-mediated route to interpretation (e.g., Paradis, 1994; Seleskovitch & Lederer, 1989) by discussing data and theories from psycholinguistics that show that meaning is routinely accessed during comprehension but that cross-linguistic activation and priming regularly takes place in bi- and multilingual settings.

I will then discuss how psycholinguistics methods, in particular eye-tracking in the visual world paradigm, but also recall and priming tasks, can be used to tap into the synergy between comprehension and production by using both comprehension-based and production-based measures. For instance, eye-tracking in the visual-world paradigm has demonstrated that people predict upcoming words during simultaneous interpreting – be they professional interpreters or translators (Amos et al., 2022), interpreting students (Amos et al., 2023) or untrained bilinguals (Amos et al., in prep). This shows that, with or without training, people access meaning while simultaneously interpreting. I will also explain how we can use psycholinguistics methods to examine the synergy between comprehension and production, and between the semantically-mediated and non-semantically-mediated routes in interpreting.

Viewing the process of interpreting through this new lens has implications for CTIS as a whole, allowing us to conceive of empirical studies that help build a more profound

understanding of what it is we human translators and interpreters do. We live in a time when English is increasingly used as a lingua franca, and AI technologies are being touted not just to assist, but also to replace language professionals (Pöchhacker & Liu, 2024). In these shifting winds, an understanding of what we do as we process language provides a strong foundation upon which to practice, and teach, translation and interpreting, as well as a vantage point from which to look to the future of our profession.

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Interacting with Multimodality:
Real-Time Communication & Technology

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Real-time communication is increasingly supported and mediated by technology or even produced by generative artificial intelligence (GenAI). Real-time communication between citizens and public institutions, for instance, may take place via telephone or video link, via digital tools such as chat conversations, or in a blended way that combines digital communication tools and face-to-face contact. When there are language barriers between the communication partners, mediation can be provided by professional interpreters, who can participate face-to-face or via distance interpreting. Alternatively, automated language mediation such as machine translation (MT) or GenAI can be used, and combined with other digital communication tools.

In public services in particular, real-time communication between professionals and foreign-speaking citizens is increasingly mediated by raw or unedited MT (do Carmo, 2025). With the entry of non-expert users to the domains of translation and interpreting (T&I), the complexity of T&I processes is often reduced to their rudimentary function of sole linguistic transfer (Hsieh & Ma, 2024), based on the illusion of complete and transparent equivalence between languages. At the same time – contrary to such oversimplification of T&I processes in the public opinion –, in the professional field, a growing complexity and hybridity of T&I activities is observed. This is demonstrated, for example, by the advance of live speech-to-text interpreting, computer-assisted interpreting using full-text transcriptions of oral discourse, and interception interpreting (legal translation/interpreting from audio to text). These developments render real-time communication in professional contexts – whether mediated by professional interpreters or translators, or by raw MT and GenAI in the hands of lay users – highly multimodal and cognitively complex.

In addition, traditional dividing lines are being dissolved not only within translation and interpreting, but also between T&I and other communicative practices. This is also reflected in adaptations of T&I curricula, where some institutions (whether voluntarily or involuntarily) are merging master's programmes in translation and interpreting to develop more all-round curricula, geared towards multilingualism and interculturality.

One way of regaining control of "our" domains is to apply our T&I expertise for the benefit of non-professional users of MT and GenAI. According to Bowker (2025, p. 61), the T&I community can play an important role in enhancing MT literacy among lay users by explaining to them how MT functions, what possible risks the use of MT implies and what strategies can be used to mitigate these risks. This is particularly relevant in scenarios where language mediation or post-editing by T&I professionals cannot be employed for pragmatic reasons, such as real-time chat support or medical emergencies.

In this presentation, I will explore the evolving multimodal and hybrid character of T&I activities, thereby demonstrating the need for studies that investigate how humans cognitively interact with multimodality and technology. I will also present a concrete

example of how T&I expertise can be applied to improve MT literacy of non-professional users in public services where the employment of T&I professionals is not feasible for practical constraints.

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Investigating Distributed Cognitive Systems of Translation

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Cognitive Translation and Interpreting Studies (CTIS) research increasingly steers its focus towards empirical settings and situations that involve multiple actors operating in technology-laden settings. As units of analysis are redefined from individual language professionals and students in laboratory settings to constellations of language professionals in authentic public- and private-sector workplace settings, useful methodological and theoretical approaches are consequently sought. Considerable development for the investigation and modelling of situated translatorial cognition has taken place in recent years, both theoretically (e.g., Muñoz, 2010; Risku, 2002, 2010; Risku & Windhager, 2013; Risku et al., 2013; Sannholm & Risku, 2024) and methodologically (e.g., Hirvonen, 2025; Korhonen & Hirvonen, 2021; Risku, 2017; Risku et al., 2022; Sannholm 2025).

In my talk, I will first discuss how one member of the situated approaches family (Risku & Rogl, 2020), the theory of Distributed Cognition (Hutchins, 1995, 2006) and its associated methodology cognitive ethnography, can inform research into translatorial cognition in real-life workplace settings. Distributed Cognition posits three main ways in which the distribution of cognitive processes may take place, all of which draw our attention to social interaction, human-technology interactions, and cultural practices: cognitive processes may be distributed between members of social groups, between actors and material artifacts, and across time (Hollan et al., 2000). Drawing on these tenets, I will discuss how activities in translation workplaces can be approached analytically, suggesting potentially useful complementary conceptualisations. I will also discuss what workplace studies of distributed cognition may involve in terms of data collection methods and the data produced by their use.

In the second part of the talk, I will present my ongoing research project, *Institutional Translating Systems* (TRAILS), funded by the European Commission (2025–2027) under Horizon Europe and Marie Skłodowska-Curie Actions (MSCA) (Grant agreement ID: 101205545), on workplace communication and technology use at the European Parliament. Using cognitive ethnographic fieldwork and multimodal interaction analysis of audio-visual data, TRAILS aims to explore and model distributed cognition in institutional translation, and I will show and discuss empirical examples and emerging analyses of multimodal interaction in the workplace.

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TRAILS on the web: https://www.tuni.fi/en/research/translating-institutional-systems-trails

Conference Presentations

Disentangling Cognitive Load in Dialogue Interpreting?

Tracking Task Demands and Individual Differences through Pupillometry and Working Memory Measures

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In this presentation we will report on a study with the objective to explore whether cognitive load in dialogue interpreting can be disentangled by means of pupillometry combined with working memory capacity (WMC) measurements. Cognitive load in dialogue interpreting has not yet been explored using pupillometry (Adler 2023). In this exploratory study, we used data from six interpreter participants (3 experienced and 3 inexperienced), who interpreted a simulated job counselling encounter while wearing eye-tracking glasses. Participants also took different working memory capacity tests. We wanted to explore whether different pupil response measures could potentially tap into distinct facets of cognitive load. We examined pupil response measures (mean pupil change, latency to peak, and area under curve (AUC)) during potentially challenging sequences to interpret, (labelled rich points by PACTE 2005). We also calculated participants' composite WMC score combined of updating, letter span and operation span test results. In order to examine whether that a higher WMC score may impact how much and how quickly interpreters must recruit their cognitive resources, we looked at the mean pupil change and latency to peak in relation to the composite WMC score. We predicted that latency to peak and mean pupil change may reflect individual differences in how much cognitive load the participants are able to handle. We also examined AUC in relation to the interpreting task demands since the measure also includes a time aspect, reflecting sustained cognitive load over time course of individual rich points. Our results suggest that the three pupil measures may potentially capture distinct facets of cognitive load. In our sample mean pupil change reflected stable interpreter characteristics, latency to peak was sensitive to task direction, and AUC integrated both task demands and individual differences. Together, these findings suggest that using multiple pupillometric measures to disentangle cognitive effort in complex bilingual communication is an avenue worth further exploration with larger samples.

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Tracing Strategies in Action:
A Multimodal Analysis of Interpreting from Finnish to Finnish Sign Language in Remote Higher Education Settings

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This presentation introduces an ongoing study examining multimodal interpreting strategies used by Finnish Sign Language (FinSL) interpreters when interpreting from Finnish into FinSL in a remote higher education setting. The study asks: Which interpreting strategies do FinSL interpreters use in this context, and how are these strategies manifested through their multimodal conduct?

Interpreting strategies can be understood both as transformations in the target text compared to the source and, on a cognitive level, as the reasoning that triggers these transformations (Dayter, 2021). For instance, Dayter (2021) identifies strategies such as anticipation, compression, explicitation, omission, saucissonage, stalling, trial and error, and waiting. While the analysis is data-driven, these categories provide a starting point for examining which visible, embodied actions can be analytically treated as indicators of interpreters' strategic decision-making in situated activity.

The data consist of a 25-minute recorded academic lecture segment interpreted on Zoom by fifteen professional interpreters. Using Multimodal (Inter)action Analysis (Norris, 2004), the analysis examines how semiotic resources such as sign, gaze, gesture, facial expression, and body movement function as indicators of interpreters' moment-to-moment strategic choices and decisions.

Preliminary analyses suggest that strategies such as waiting and stalling, definitions of which often rely solely on the (non)production of a (spoken) language (see, e.g., Dayter, 2021), are indicated in the data through multimodal configurations (Norris, 2004) in which semiotic resources or modes such as gaze, body movement and signed language come together. The data suggest systematic patterns in how such strategies become observable across participants, while also revealing variation in how individual interpreters deploy these resources.

Overall, a multimodal approach to examining interpreting strategies could expand on existing definitions by capturing not only strongly norm-based conventional linguistic features but also relatively non-conventional and gradient bodily expressions – such as gaze shifts or body posture changes – that contribute to meaning-making. These insights may help refine how interpreting strategies are conceptualised and, crucially, how they can be empirically investigated through multimodal data.

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When Syntax Carries Over:
A Mixed-Methods Study of Structural Priming in German-Dutch Translation

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Structural priming—the tendency to repeat recently processed syntactic structures (Pickering & Ferreira, 2008)—has been extensively studied in psycholinguistics, where evidence shows that bilinguals share abstract syntactic representations across languages (Mahowald et al., 2016). Building on this, Maier (2011) hypothesised that cross-linguistic structural priming may also shape translation. Since then, a few studies (Carl & Schaeffer, 2017; Maier et al., 2017; De Sutter et al., 2023) have shown that translation involves structural transfer during comprehension-to-production mapping, paralleling bilingual speech production. Within this framework, structural priming has been proposed as the psycholinguistic mechanism underlying syntactic "shining through" and the automatic activation of literal renderings in models such as Tirkkonen-Condit's (2005) monitor model and Chesterman's (2011) literal translation hypothesis.

Yet research on structural priming in translation is still in its infancy, and key methodological and theoretical challenges remain. Corpus studies have been criticised for their inability to conclusively demonstrate priming effects (Branigan et al., 1995), whereas controlled experiments often lack ecological validity (Gries, 2005). This calls for a multimethod approach that combines the strengths of both paradigms. From a theoretical and empirical perspective, the question of whether translation expertise modulates priming remains unresolved, as existing evidence is inconclusive (Jacob et al., 2024).

This study addresses these issues through a mixed-methods design integrating corpus-based and experimental components. The corpus analysis examines whether translators' syntactic choices align with source-text structures, focusing on voice alternation in German–Dutch translation. Around 4,000 instances will be extracted from InterCorp (V16UD) and annotated for German and Dutch voice as well as other influential grammatical predictors (e.g., genre, patient animacy, and definiteness). Including source voice as a predictor enables the identification of systematic structural alignment—an indicator of potential priming—using regression models that also account for the other predictors. Preliminary analyses on a sample (N = 700) show that source-text voice is among the strongest predictors of target-voice choice. To control for potential baseline effects of language-specific voice preferences, the corpus analysis will be extended with a distributional study of active and passive constructions in original (non-translated) German and Dutch texts, allowing comparison between native usage patterns and translation data.

Complementing the corpus study, an experiment tests structural priming effects under controlled yet ecologically valid conditions. It involves 100 native Dutch speakers with advanced German proficiency (B2–C1): 50 bilinguals without translation training and 50 translation students. Participants translate 192 authentic German sentences (64 critical items balanced for active/passive voice) drawn from fictional InterCorp texts. Sentences appear briefly before disappearing, encouraging reliance on mental representations rather than word-by-word translation. Keystrokes are logged to trace real-time

translation behaviour. Conducted in PsychoPy via Pavlovia, the experiment allows direct comparison of trained and untrained translators' susceptibility to priming. Preliminary results on 20 participants reveal clear source-to-target voice alignment, moderated by expertise: trained translators show greater control over source interference.

By integrating corpus-based evidence of translation patterns with experimental data on online processing, this study offers a comprehensive view of how structural priming operates in translation. It highlights priming as both a cognitive mechanism and a usage-based phenomenon, bridging experimental psycholinguistics and translation studies.

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Which Language Was That?

A Longitudinal Study of Language Use in Consecutive Note-Taking among Interpreting Students

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Conference interpreting students face a daunting task: master simultaneous interpreting and consecutive interpreting with all their components in as little as nine months. One component that has received little discussion is how these students adapt their multilingual language control mechanism to two new multilingual language tasks. While previous models have discussed how language control is achieved during simultaneous interpreting (Christoffels & De Groot, 2005), less attention has been placed on how language is controlled during consecutive interpreting. Here, a key indicator of language accessibility may be found in the language in which notes are taken. Many prescriptive papers exist discussing which language should be used (e.g., Rozan, 2004; Gile, 2009). These papers often center their argument around the effort needed for the language conversion task. Others have examined what interpreters actually do (e.g., Dam, 2004; Szabó, 2006). These studies have found a variety of factors to influence the language used, including source/target language, A/B language, and language economy. Few of these investigations though have looked at students, and none longitudinally. A cross-sectional study by Abuín González (2012) does provide a starting point. That study examined beginning and advanced interpreting students, as well as professional interpreters, and found that the use of the target language in notes increases with more interpreting experience. Calling on Gile's Effort Models, she suggests that language conversion is an extra effort that the students do not yet have the resources for. This view frames language coactivation as deliberate and effortful, and therefore misses the potential for facilitatory effects, which were recently highlighted for simultaneous interpreting (Amos & Pickering, 2025).

The goal of the present study is to examine the developmental trajectory of language use in note-taking during consecutive interpreting among interpreting students as a window into their adapting language control processes. To this end, we collected data from four students in a Master's of Conference Interpreting program over an eight-month span. The students were all native Swedish speakers and had no substantial prior experience with interpreting. At each data collection timepoint, the students submitted a video recording of their note-taking during a speech delivered in English and consecutively interpreted into Swedish. In total, 62 recordings were submitted across 18 data collection timepoints (participation in each data collection was voluntary). Data processing and analysis are ongoing and include transcription of the notes followed by categorization of the note units according to Dam (2004). The categories of words and abbreviations are further classified by language. Results will present the overall trend in language usage across the eight-month training period, including in relation to periods of explicit instruction in note-taking. Individual curves will also be presented. The results will be discussed in relation to the students' adapting language control processes.

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Systematising Transcreation:
From Workflow Materialisation to Pedagogical Implementation

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The transcreation of marketing and advertising texts—a hybrid practice combining translation and copywriting (Benetello, 2018)—presents distinctive cognitive challenges. Functioning as copywriters working across languages, cultures, and markets, transcreators have to "maximise the appeal to and the impact on the target readers" (Ho, 2024, p. 19). To fulfil a brief's persuasive objectives, transcreators may opt for anything from a close rendition to an entirely new original (Benetello, 2017), with both ends of the spectrum constituting valid output as long as they result from professional judgement rather than default choices (Benetello, 2021). Yet how do transcreators establish what best serves the brief? I argue this requires strategic thinking and decision-making, cognitive dimensions that remain under-documented in creativity-focused transcreation research.

Based on two decades of transcreation practice, I systematised the transcreation workflow into nine steps (Benetello, 2024b): Briefing; Cultural Insight; Analysis; Brainstorming; Selection; Backtranslation; Comments and Rationale; Feedback, Amends, and Sign-off; Voice Casting and Voiceover Direction. Leveraging over ten years of experience as a transcreation trainer, I materialised this workflow as the *Dropinka Deck for Transcreation* (Benetello, 2024a). This methodological tool includes 52 poker-size cards that serve as tangible artefacts, with each card providing cognitive scaffolding within workflow phases. While the deck can be framed within multi-stage transcreation models (Carreira, 2021) and risk management theory (Pym, 2015), I did not design it with pedagogical frameworks in mind. However, the breakdown of transcreation into workflow phases connects it with process-centred and task-based approaches to translator training (e.g. Kelly, 2014). Moreover, its prompts reflect constructivist principles of experiential learning (Kiraly, 2018).

When university instructors independently adopted this tool for BA and MA modules in autumn 2025, an opportunity arose to examine their observations of transcreation processes in pedagogical contexts. This qualitative study involved a total of six instructors across four European universities (Aarhus University, Denmark; University of Calabria, Italy; University of Granada, Spain; Cologne University of Applied Sciences, Germany), with a multiple-case study design allowing them to adapt the tool to their pedagogical approaches. Data collection comprised pre-implementation questionnaires and post-implementation interviews.

The deck was integrated in different ways, from one-time usage to repeated activities, with one notable non-linear implementation appearing to foster adaptive expertise (Angelone, 2022). Instructors reported the cards stimulated discussion, engaging all group members and not only the most vocal. They also confirmed the methodology supported strategic thinking and decision-making without constraining creativity. One instructor observed that physical interaction with the cards created discussion pauses which triggered multiple layers of meta-cognitive reflection: tool understanding, process awareness, and meta-strategic thinking. Professional agency developed progressively, with students evolving from intuitive justifications to choices grounded in reasoning,

suggesting internalisation of systematic methodology. Where students used GenAI, they either relied primarily on deck-guided structured thinking or abandoned AI upon discovering it could not maintain strategic coherence. These preliminary findings suggest that materialising tacit transcreation processes through physical prompts can make them teachable across diverse educational contexts, scaffolding learning in ways consistent with process research on how tools mediate complex cognitive tasks (Risku, 2014).

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Multimodality in Simultaneous Interpreting:
The Effect of Visual Support on Cognitive Processing and Performance

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Simultaneous interpreting (SI) is a complex cognitive activity that involves the concurrent execution of language comprehension, production, and monitoring. Increasingly, SI takes place in technologized and multimodal environments, where interpreters process verbal input alongside various visual supports. These may include materials intended for the audience (e.g., slides with or without captioning) and computer-assisted interpreting (CAI) tools designed for the interpreter (e.g., terminology software).

Despite their potential to facilitate performance, such supports may also increase cognitive load, and the balance between their benefits and costs lacks empirical investigation. This project addresses this gap by examining how multimodal information affects interpreters' performance, visual attention, cognitive load, stress, and user experience.

To this end, a within-subject experimental study with 18 professional interpreters will be conducted in January and February 2026. Participants will perform 6 tasks involving SI with or without visual support, and thus, in 6 different conditions in total. Study 1 focuses on visual supports for the audience under three conditions: (1) SI without support (baseline), (2) SI with slideshow, (3) SI with slideshow plus intralingual captioning, (4) SI with CAI tool, (5) SI with slideshow and CAI tool, and (6) SI with slideshow plus intralingual captioning and CAI tool. During the tasks, speech rate, a major problem trigger in SI, is manipulated (2 rates) to measure its effect in relation to the support type.

The project combines objective and subjective data collection and analysis with mobile eye tracking, heart rate monitor, and post-task interviews, to generate profound fundamental knowledge on multimodality and cognition will be combined to provide an integrated account of multimodality and cognitive processing in SI. The study aims to advance theoretical understanding of multimodality in SI and to inform evidence-based interpreter training and professional practice.

The ABC Framework of Translation Dynamics

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Emerging theories in cognitive science (Kirchhoff & Kiverstein, 2019; Ramstead et al., 2020; Risku & Rogl, 2021) suggest that mind and cognition are best understood as embodied and situated activities arising from dynamic interactions between brain, body, and environment, rather than as operations over internal symbolic structures. On this view, translation is not primarily the manipulation of mental representations that map source to target languages, but a form of skilled, context-sensitive coordination enacted in real time.

Carl (2025) develops an ABC (Affective, Behavioral, Cognitive) framework grounded in extended mind theory, enactivism, and Active Inference (Parr et al., 2022). The ABC model conceptualizes translation as an enacted process in which meaning emerges through the continuous coupling of three interdependent layers: affective processes that provide evaluative and motivational signals, behavioral processes that realize embodied skills and routines, and cognitive processes that support active sense-making and norm-sensitive reflection.

Within this framework, translators operate with a "*generative model*" of the task. However, this model is not a symbolic or pictorial representation of an external reality. Rather, it consists of temporally extended patterns of organism–environment attunement that encode expectations about how perceptual, linguistic, and motor engagements are likely to unfold in time. Translators do not literally re-present the source text or its meaning inside their heads; instead, they regulate their own activity — what they read, write, attend to, and revise — so as to keep their interaction with text, tools, and context within workable bounds of uncertainty. Prediction–error minimization is thus enacted through ongoing embodied, affective, and environmental coupling.

We adopt the formal apparatus of Active Inference (Parr et al., 2022) as a mathematical description of this self-organizing agent–environment coupling. In this setting, the generative model should be understood as an operational construct that tracks regularities in action–perception cycles. Its function is to enable hierarchical prediction-error minimization across multiple timescales and layers of organization.

To capture how this process unfolds moment by moment in translation, we introduce the notion of a Field of Relevance (FoR, Carl, 2023): a dynamically evolving control field over possible actions and interpretations. The FoR is a landscape of expected effort, risk, and payoff shaped by precision-weighted prediction errors across the ABC layers. Priming, affect, and context bias this field by modulating precision, thereby making some continuations feel easy and promising, and others costly or unstable. Only when normative or communicative stakes increase does this fluid control regime give rise to stabilized representational commitments, such as explicit judgments about adequacy, correctness, or interpretive resemblance.

From this perspective, translation does not proceed by first building an internal model of the source text and then transforming it into a target text. Instead, translators engage in continuous sense-making, guided by a shifting landscape of relevance that integrates

lexical, syntactic, affective, and pragmatic cues. The model that guides this process is distributed across the translator, the text, their tools, and the surrounding sociotechnical environment.

We illustrate the ABC framework through keystroke-logging and eye-tracking data from the CRITT TPR-DB using English–Japanese translation sessions (Mizowaki et al., 2026), which reveal distinct behavioral patterns such as "head-starters" and "large-context planners" (Dragsted & Carl, 2013). These patterns can be understood as different strategies of uncertainty regulation: some translators reduce entropy through rapid, exploratory action, while others delay commitment until confidence has increased. Crucially, these strategies are shaped by the affective layer, whose phenomenological signals of urgency, confidence, or unease modulate precision and thereby restructure the Field of Relevance.

In this way, the ABC account reframes translation as skillful participation in a norm-governed, sociocultural practice rather than as the manipulation of internal symbols. Meaning is not transferred from mind to mind but emerges through the coordinated regulation of uncertainty, relevance, and commitment across embodied agents and their environments.

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Visual Dominance Under Time Pressure: When Captions Override the Ear in Simultaneous Interpreting

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The growing integration of real-time captioning, automatic speech recognition and machine translation is reshaping the cognitive environment of conference interpreting. These tools are designed to facilitate comprehension, yet they also introduce multimodal complexity, as interpreters must manage competing auditory and visual inputs. Although captions are intended to reduce working memory load, they may divert attention from the auditory channel, especially under time pressure. Grounded in cognitive load theory (Gile, 1995; Seeber, 2011) and recent research on multimodal processing (Chmiel et al., 2020; Li & Fan, 2020), this study examines how executive control mechanisms modulate the effects of mismatched captions on audiovisual processing.

To investigate these dynamics, an experimental study was conducted with 22 professional interpreters working from French into English and from English into French. Participants performed a computer-assisted interpreting task based on a prepared EU-level institutional policy speech on energy transition. The material was divided into five consecutive segments, each corresponding to an experimental condition: (1) a baseline without support, (2) a congruent captioning scenario, and (3-5) three incongruent ones involving numerical, terminological, and named-entity mismatches in the captions displayed by the AI-based booth assistant. Each incongruence was weighted for strength (degree of deviation) and plausibility (likelihood of acceptance).

To quantify individual variability, participants completed six standardized assessments of working memory, inhibition, dual-task coordination, and verbal fluency. Eye-tracking (fixations, saccades), physiological measures (electrodermal activity, heart rate variability), and linguistic indicators (disfluencies, strategies, error patterns) were collected to measure cognitive–emotional load and attention allocation during the task.

The analysis follows two complementary strands. The first examines participants' cognitive and emotional responses, testing whether stronger mismatches increase processing effort, particularly among those with lower inhibitory control. The second explores how performance patterns relate to interpreters' attitudes toward AI assistance, analyzing whether efficient conflict management aligns with more positive perceptions of the technology.

Preliminary findings suggest that captions exert a strong attentional pull even when speech remains reliable, consistent with a Colavita-like visual dominance effect, and that disengagement from the visual channel is delayed under time pressure. Ongoing statistical modelling will further examine how mismatch strength, physiological activation, error patterns and executive profiles interact.

By integrating multimodal data within a unified cognitive framework, the study aims to refine our understanding of how interpreters adapt to visual input in technologically mediated settings. It also contributes to discussions on cognitive ergonomics and AI-

assisted interpreting, emphasizing the need to design assistive tools that complement, rather than compete with, human processing capacities.

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The Impact of Directionality on Gesture Production in Dialogue Interpreting

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Dialogue interpreters often present asymmetrical proficiency in their working languages (Tiselius & Englund Dimitrova, 2019), which may lead to differences regarding cognitive load (Adler, 2023), fluency (Lin et al., 2018), and overall performance quality (Chou et al., 2021) between L1 and L2 renditions. In line with the 4AE framework, treating cognition as embodied, embedded, enactive, and extended (Risku & Rogl, 2021), studies applying a multimodal lens demonstrate that elevated cognitive load in interpreting assignments may be alleviated through the production of co-speech gestures and adaptors (Cienki & Iriskhanova, 2020; Stachowiak-Szymczak, 2019).

The goal of the present paper is to bridge the emerging field of multimodal interpreting studies with Cognitive Translation and Interpreting Research (Muñoz Martín & César, 2021) by investigating how directionality affects gestural patterns in dialogue interpreting (DI). The study draws upon earlier findings from the CoGCIn Project (2024), correlating gesture production with cognitive load, fluency, and perception of performance – hence contributing to the socio-cognitive trend in interpreting studies.

We hypothesise that L2 production in DI induces: (1) increased production of co-speech gestures, dominated by those of a pragmatic type; (2) proliferation of adaptors; and (3) less frequent occurrence of representational and deictic gestures in comparison with renditions delivered in L1.

The participants (N = 57) were recruited from three European Master's programmes in translation and interpreting, offering a cross-examination among language pairs including English (L2 in all cohorts) – Polish (N = 34), – Spanish (N = 13), and – French (N = 10). Striving to ensure maximum ecological validity (Mellinger & Hanson, 2022), the experiments implemented simulated police and medical interactions. Both scenarios used for dialogue interpreting relied on symmetrical video stimuli (descriptions of an assault and an accident) designed to elucidate the activation of mental imagery and simulation of bodily actions, drawing on the Gesture-for-Conceptualisation Hypothesis (Kita et al., 2017), which posits gesture production as a key embodied resource in conveying spatio-motoric content. Stimulus scenarios included equal numbers of scripted gestures; nevertheless, interpreters' gestural activity during the tasks was spontaneous and not manipulated by any instructions. Recordings constituting the multimodal corpus were pre-processed and annotated in ELAN for speech and gesture production.

The results indicate that the L1 → L2 direction indeed displays an increased frequency of gestures per minute across language combinations; nevertheless, the trend is on the verge of statistical significance ($p = 0.05$). The usage of adaptors appears insensitive to language direction, placing them as part of the primarily manual activity of interpreters regardless of language combination. Finally, the distribution of different gesture types remains almost identical in L1 and L2 renditions, with the dominant role of pragmatic gestures, marginal use of representational gestures, and a slight increase in deictic gestures in L2. The findings show that gesture production remains very similar regardless of the direction of interpreting, suggesting that activating this resource of embodied

cognition is a key strategy for coping with the high demands of dialogue interpreting tasks, hence offering crucial insights for interpreting pedagogy and practice.

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The Impact of Professional Experience on Audio Description Scriptwriting: An Eye Tracking and Keylogging Study

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Audio description (AD) has attracted growing attention as a key media accessibility feature for blind and partially sighted audiences, largely driven by evolving policy frameworks worldwide. Despite this increasing interest and importance, Translation Studies has yet to investigate the *process* of writing AD scripts. As such, the fundamental knowledge concerning the relationship between a describer's expertise, cognitive demands, and output quality remains unknown. The present study, embedded in the broader ADEQUACY project on AD expertise and quality, explores how professional experience modulates observed and perceived workload during AD scriptwriting in terms of attention allocation, time management, and production fluency.

Framing AD as intersemiotic translation (Jakobson, 1959/2021)—transforming visual content into verbal and then audio—reveals a severe dearth of research within Cognitive Translation Studies (CTS). While Jankowska's (2021) case study offered a first look into the process and identified phases of AD scriptwriting, the cognitive factors underlying these phases remain unclear. The study bridges this gap through an experimental setting informed by CTS and Writing Research to compare workload patterns among describers as a function of professional experience.

Eye tracking, keylogging, and self-report data were collected from 23 describers of varying levels of professional experience as they wrote AD scripts in English for a short film. Attention allocation was inferred from dwell time, gaze transitions between areas of interest, and between-word pauses (Muñoz & Apfelthaler, 2022). Time management was examined through phase durations and time spent consulting external resources. Production fluency was measured by the duration, length (in keystrokes), and frequency of P-/R-bursts (Chenoweth & Hayes, 2001, 2003), alongside revision frequency. Perceived workload was triangulated using the NASA Task Load Index (Hart & Staveland, 1988).

Findings indicate that experience does not reduce overall task time but rather manifests as more efficient attention control and time management. Compared to novices, experienced describers consulted external resources less frequently, focused more consistently on their emerging text relative to the visual input, switched gaze less often, and paused for shorter durations. These observed behaviors corresponded with lower self-reported cognitive load, supporting the validity of the process measures. Building on this baseline, the ADEQUACY project will next identify the behavioral patterns associated with high-quality AD scripts, thereby informing a more robust theoretical account of AD expertise that links process and product (cf. Ericsson et al., 1993; Jääskeläinen, 2010; Ericsson, 2018).

By mapping how experience modulates the distribution of effort in intersemiotic translation, this study advances CTS and offers empirical insight into the AD scriptwriting process. The observed differences between novices and experienced audio describers resonate with patterns previously identified in Translation Process Research, deepening theoretical understandings of AD and providing implications for refining training and professional practice.

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Influence of Prompting Strategies on Lexical Variety and Syntactic Equivalence: Does Prompting Influence Students' PE Processes?

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In the last few years, large language models (LLMs) and generative AI have been adopted more and more widely in professional translation (Farrell, 2024). One of the main reasons for this is the need for increased productivity on a highly competitive market. At a time where LLMs for machine translation (MT) show impressive results (Kocmi et al., 2024), prompting strategies have been explored as a means to optimise the output for a given purpose, e.g. creativity, cultural transfer, or adequacy as measured by automatic metrics (Du et al., 2025; Yamada, 2024; Vilar et al., 2023). Amidst fears related to the emergence of so-called post-editese where "PE texts are simpler and have a higher degree of interference from the source language" (Castilho and Resende, 2022, p. 4), prompting LLMs to mitigate the lexical variety loss and increased syntactic equivalence observed in machine-translated texts (Hansen & Esperança-Rodier, 2022; Vanmassenhove, 2021) could help post-editors achieve "an adequate level of lexical diversity and syntactic naturalness" (Volkart & Bouillon, 2024, p. 393), thereby reducing post-editing (PE) effort.

In the present study, we aim to study two prompts and the raw MT results they provide under the lens of process research. A representative 600-word editorial in English will be submitted to ~12 Master's students in translation, who will be given two hours to post-edit it into French. Half the group will post-edit based on the MT output produced by ChatGPT using a straightforward prompt, while the other half will post-edit the MT output produced by the same tool, but using a prompt designed to counteract MT artifacts, i.e. to achieve higher lexical variety and lower syntactic equivalence. First, both raw MT outputs will be evaluated for lexical diversity and syntactic equivalence using MATTR (Covington & McFall, 2010) and ASTrED (Vanroy et al., 2021). Accordingly, we will calculate how the prompts influence the degree of lexical richness and syntactic equivalence in the ChatGPT-produced MT of these editorial texts. Then, both metrics will be analysed in the post-edited versions produced by both student groups. A comparison between each PE version and its respective raw MT candidate will enable us to determine whether working on a raw MT with a higher lexical variety and/or lower syntactic equivalence reduces PE technical and temporal efforts (Krings, 2001) as measured by the computed HTER (human-targeted translation edit rate) and PE time, respectively.

In a nutshell, this study will bridge the gap between lexical and syntactic metrics, post-editese, and PE effort with a view to determining whether the use of correctly engineered prompts could 1) increase lexical variety and reduce syntactic calques in students' PE texts, and 2) result in lower edit rates and PE time, implying lower technical and temporal efforts. This way, we will be able to determine if higher lexical variety and lower syntactic equivalence in MT leads to a lower PE effort for students.

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Cognitive Effort in Compound Translation: Insights from Translation Process Data

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The translation of compounds poses one of the greatest challenges for translators, as it requires navigating language-specific differences in morphology, semantic ambiguity, and lexical conventionalisation (Krein-Kühle, 2003). Compound words in English and German are built up differently, which results in several translation variants: English multiwords can be translated with a German one-word compound (*mitigation efforts – Klimaschutzmaßnahmen* ["*climate protection measures*"]) or they can be explicitated, i.e., "unpacked" into a prepositional phrase that specifies the meaning and relations between constituents (*mitigation efforts – Bemühungen um den Klimaschutz* ["*efforts on climate protection*"]). Furthermore, compounds can be simplified, i.e., a more general non-compound word is chosen (De Metsenaere, 2020), as in *mitigation efforts – Schutz* ["*protection*"]. Following Klaudy and Károly (2005), this structural simplification can be regarded as implicitation.

When compounds do not have a direct equivalent in the target language, translators need to search for a good approximation, resulting in numerous translation variants. Alternative translations can be semantically related, i.e., there is a taxonomy in which words can be superordinate or subordinate to each other or, in other words, being more general or more specific. If no semantically closely fitting equivalent is available, translators have to select an alternative from this taxonomy. Based on cognitive studies (Lin et al., 2009), we assume that the decision for implicitations, i.e., words that are more general in their meaning and more frequent in the network activation, reduce processing effort, as compared to more specific, less frequent words (explicitation).

We present results from two studies in which we investigate the cognitive effort associated with these strategies and the extent to which implicitation optimises processing effort during translation. We determine product and process features that impact cognitive effort during translation. In our first study, we use translation process data from the CRITT Translation Process Research Database to analyse how English compounds are rendered in German across three task modes: translation from scratch, post-editing of machine translation, and monolingual editing. Eye-tracking measures, production data, and word translation information (ITra) serve as indicators of cognitive load. We complement these behavioural data with an analysis of the translated compounds, classifying each instance as equivalence, implicitation, or explicitation.

In a follow-up study, we investigate how English compounds presented in *specialized* texts are translated, and whether there is a relationship between text complexity (expert-lay vs. expert-expert) and the strategy for compound translation.

In both studies, results indicate that translators usually opt for structural equivalents and that choosing an implicit or explicit translation leads to higher effort. This is explained by the fact that equivalents can be easily activated whereas changing the structure and using a less typical translation increases the processing costs. Also, implicitations and explicitations had a higher ITra, underlining their status as less predictable solutions. In the next steps, we plan to investigate the translation behaviour and effort for German

compounds for which the target language does not offer a structural equivalent (*Handschuhe* vs. *gloves*) and for compounds with a deverbal component (*forecasting models*).

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Do Our Eyes Stick to Words?

An Eye-Tracking Analysis of English-French Sight Translation

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Few researchers have examined what happens when we produce an immediate translation such as in sight translation, in which the written source text is read and the target text is produced orally and without delay. This hybrid activity lies halfway between translation and interpreting, combining the written modality of the source text and the oral modality of the target text. Sight translation now forms part of most translation training programmes, but it remains a challenging task in which students often struggle with fluency as well as grammatical and syntactic accuracy. However, lecturers cannot rely on a strong scientific basis that demonstrates any recommended sequence of operations used by professional translators. When and what do professionals look at? When do they start producing the translation? What do they focus on while speaking? This aspect of sight translation has received little attention, and certainly not for the English-French language combination.

To address this gap, this small-scale exploratory study combines voice recording and eye tracking in order to capture the real-time process of sight translation. Based on Just and Carpenter's eye-mind hypothesis (Holmqvist, 2011), which posits a close temporal link between visual fixation and cognitive processing, gaze plots can be analysed to determine reading and decoding procedure applied to the source text. Combined with an analysis of the concurrent audio recording, this allows us to identify the stages at which the sight translation is formulated.

The analysis seeks to test three theories of the translation process, namely Annette De Groot's horizontal and vertical procedures (1997) and Janet McDonald's parsing or chunking procedure (1981). Under the horizontal procedure, construed as transcoding, each linguistic structure in the source text is systematically replaced by its counterpart in the target language. Under the vertical procedure, as advocated by Danica Seleskovitch (Lederer, 2016), a full comprehension of the text precedes the formulation of the target. Under the chunking hypothesis, sentences are segmented into constituent units before being processed.

Because the purpose of the study is to analyse basic English-French sight translation procedures, only plain, ordinary sentences built on canonical English structures are used. These sentences do not contain specific problem triggers. Nine experienced English translation instructors are asked to sight translate an excerpt from a newspaper article after reading a preparatory text on the same subject. Preliminary results of the analysis support McDonald's chunking account. Participants produce consistent segments separated by pauses, and high-frequency eye tracking recordings reveal fixations with both progressive and regressive saccades within sentence chunks. De Groot's horizontal and vertical procedures also appear to be involved, suggesting a combination of techniques. Several processing scenarios are observed, but one common feature is the systematic back-and-forth movement of the eyes during reading and articulation of the translation. This articulation may coincide either with fixations on words later in the sentence or with fixations on the corresponding words in the source text.

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Eyes on Feedback: A Multimodal Analysis of Cognitive Peer Feedback in Collaborative Interpreting Learning

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Peer feedback is a key component of collaborative learning in interpreter training (Lee, 2018). Existing research has largely focused on learner perceptions (e.g. Domínguez Araújo, 2019), offering limited insight into how trainees jointly construct feedback episodes in real time. As a result, we still know little about how such feedback is organised interactionally and multimodally in real time.

This exploratory case study treats peer feedback as a cognitive and interactive activity and examines cognitive peer feedback as an interactional and multimodal process in collaborative interpreting practice. Drawing on mobile eye-tracking data and multimodal interaction analysis, we analyse feedback discussions from two triads of MA interpreting students (N = 6) engaged in three-party role-play practice. Informed by feedback literature in interpreter training (Schweda Nicholson, 1993) and conversation-analytic work (Schegloff, 2007), peer feedback discussion was segmented into episodes oriented to specific issues in the interpreting performance and coded for recurrent cognitive feedback moves (e.g. problem identification, clarification, explanation, suggestion, evaluation), alongside gaze behaviour and responses to feedback. Gaze is treated as a participation resource in this triadic interaction and analysed for its role in the peer feedback, with attention to its sequential and temporal coordination with verbal feedback actions.

Preliminary results will be reported in this presentation. Through this study, we aim to shed light on the interactional foundations of peer feedback in interpreter training and to contribute to a process-oriented perspective to research on collaborative interpreting practice.

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Adaptation to Simultaneous Interpreting: Audio-Visual Evidence from the Voices and Gaze of Interpreters

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Simultaneous interpreters demonstrate unique multitasking capability to perceive inputs from multimodal sources, produce interpretation, and seamlessly listen to the presenter. Research shows that incongruent visual and auditory inputs modulate interpreters' gaze allocation and accuracy in simultaneous interpreting (SI) with text (Chmiel et al., 2020). However, evidence on how interpreters respond to ecologically valid audio-visual inputs remains limited, particularly the interplay between the view and changing speech loudness of a presenter. In SI, the presenter's speech (source language, SL) and interpretation (target language, TL) continuously overlap, reducing speech intelligibility of both for the interpreter. In daily communications, talkers typically enhance their intelligibility by speaking louder, slower, or at a higher pitch. Listeners sometimes look at a talker's face more, grasping informative cues to recognise words (e.g., lipreading). Likewise, interpreters may mimic the talker-listener adaptive behaviours in SI, or they may be too occupied with multitasking to adjust their voices/gaze. This study thus investigates whether and how interpreters adapt to audio-visual presentations in SI, addressing two questions: **(Q1)** Do interpreters adjust their voices and/or gazes to adapt to the SL loudness and visual informativeness of a presenter? **(Q2)** Are specific facial areas of the presenter so informative for speech recognition that attract interpreters' gaze more?

Fifteen trainee interpreters from Newcastle University completed English-Chinese SI tasks in a 2x3 factorial design, crossing three SL loudness (quieter/medium-baseline/louder) with two visual informativeness of the presenter (facial image/video of a talking head). Interpreters' productions (TL), reflecting all four Mandarin tones, were segmented for acoustic analysis of intensity, fundamental frequency (F0, perceived as pitch), and duration. Their eye movements were tracked throughout SI to examine fixation patterns and pupillometric responses across the six conditions, identifying the main effects and interactions of SL loudness and visual informativeness on interpreters' speech and eye-movement measures.

Initial acoustic analysis showed that both SL loudness and visual informativeness significantly modulated interpreters' TL intensity. Relative to baseline TL intensity (58.73 dB), interpreters' intensity increased under louder SL (+0.91 dB, $p = 0.004$) and with the presenter's video (+0.74 dB, $p = 0.006$), but decreased under lower SL (−0.80 dB, $p = 0.012$). It suggests that interpreters adjust TL intensity to achieve an 'optimal' TL-to-SL ratio for SI, preserving an audible and intelligible TL against SL. The relatively smaller intensity increase with video suggests that seeing the presenter talk may reduce the extent of required vocal adjustments. Data from F0 and duration have not revealed significant adaptive patterns, but on-going analysis of the full set of word tones alongside eye-tracking measures will help clarify whether the observed adjustments reflect interpreters' adaptive mechanisms and the audio-visual effects.

By quantifying interpreters' adaptations with acoustic and eye-tracking data, this study provides behavioural evidence that interpreters adopt specific adaptive patterns, even

amidst the intense demands of SI. In addition to enriching multimodal processing theories, our findings demonstrate practical benefits of training interpreters in controlled sensory conditions to improve their adaptive resilience – a capability increasingly essential to interpreting performance, professional sustainability, and interpreters' irreplaceable contribution in technology-mediated contexts.

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Multimodality in Signed-to-Spoken Interpreting: A Study of Recurrent Gestures

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Research on interpreting between two languages (spoken or signed) has traditionally focused on what the interpreters said, i.e., the words or signs that they uttered/articulated. However, it is well known that human beings use their different anatomical resources to convey meaning (Kendon, 2004). Old models of interpreting, such as the conduit model, considered interpreters "invisible" (Solow, 1981) and therefore their use of bodily actions was neglected. Although interpreters may not always be present in the same place as interlocutors (e.g., remote interpreting, interpreting in a booth, etc.), interpreters do not only use their voices but also their bodies when they interpret into a spoken language (McNeill, 2005). Consequently, the study of interpreting adopting a multimodal perspective in which all anatomical resources are included is very much needed for a comprehensive picture of the interpreting task.

Interlocutors rely on the interpreters' bodily actions, if interpreters are visible. This is particularly the case in sign language interpreting. Regardless of the direction, the interpreters' movements of the hands and other body parts are not only relevant when the target signed discourse is produced, but they are also important when the target spoken discourse is uttered. When interpreting into a spoken language, interpreters' bodily behavior conveys information to both hearing and deaf users (Paulus & Hosemann, 2023). Nevertheless, the use of gesture in signed-to-spoken language interpreting remains largely unexplored with only some recent and sparse initiatives (Bø, 2024, 2025; Gabarró-López, 2024, 2025), albeit being an important aspect for the successful unfolding of interpreted situations.

This paper aims to contribute to this endeavor by describing recurrent gestures in LSFB (French Belgian Sign Language)-to-French interpreting. Recurrent gestures are defined as conventionalized forms with stable meanings that recur across different contexts. These gestures serve pragmatic functions and are shared across cultures (Ladewig, 2014a, 2024). Four interpreters were recorded while interpreting two LSFB dialogues into French, one on childhood memories and another on deaf-related issues. Each interpreter's rendition lasted 10 minutes, resulting in a 40-minute dataset. Drawing on these data, we study (i) the forms of recurrent gestures produced in target French, (ii) their frequency in target French productions, (iii) their use across interpreters, (iv) their functions in interpreted discourse, and (v) their source, that is, whether the gesture was produced on the interpreter's initiative to support their target discourse or if the gesture was produced as a copy of the signer's source discourse.

There are 219 recurrent gestures that have 13 different forms in our dataset. Palm-up gestures are the most frequent form with 153 tokens (Gabarró-López, 2024), followed by away gestures (25 tokens) and cyclic gestures (16 tokens) (Bressem & Müller, 2014; Ladewig, 2024b). The use of recurrent gestures across interpreters is varied in terms of frequency and forms. The functions of palm-up are by far the most varied as compared to the other recurrent gestures. Furthermore, palm-up is most frequently produced on the interpreter's initiative, whereas other recurrent gestures are mostly copied from the

source discourse. Hence, the role of recurrent gestures is different in the interpreting process: palm-up works at a more meta-cognitive level of discourse structure, helping interpreters build their discourse, whereas the other recurrent gestures tend to visually complement what has been said in the source discourse.

These findings have several implications for research on the interpreting process. On the one hand, they pave the way for more research on the mental processes involved when interpreters reproduce, adapt, or generate different types of gestures. On the other hand, these findings provide additional evidence to the fact that the analysis of the spoken target discourse cannot solely focus on the verbal output, as this may overlook important aspects of how interpreters manage discourse in real time. Therefore, gesture analysis must be integrated into experimental, corpus-based, and ethnographic approaches to the interpreting process in order to fully capture its complexity.

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Emotional Labour and Decision-Making in Simultaneous Interpreting: A Socio-Cognitive Perspective on Role Negotiation

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In the context of rapid technological developments in interpreting, particularly the increasing use of AI-driven systems, questions about the *uniquely human aspects* of interpreting have gained renewed relevance (AIIC, 2025; Defrancq et al., 2024; Horváth, 2022; O'Hagan, 2019; Quintanero Raposo, 2024). While machine interpreting continues to advance, scholars argue that human interpreters still possess irreplaceable competences rooted in reflection, intuition, and emotional awareness (Braun, 2019; Defrancq et al., 2024; Fünfer, 2014; Horváth, 2022). Building on this debate, the present study explores **emotional labour** as a key component of the decision-making process in simultaneous interpreting.

Drawing on **Hochschild's** (2012/1979) concept of **emotional labour** and **role theory** (Dahrendorf, 2006; Schulz-Schäffer, 2024; Zwischenberger, 2013, 2017), this research examines how interpreters consciously perform **emotional labour**, i.e. regulate and manipulate their emotions, while making strategic decisions. It conceptualises interpreting as a **socio-cognitive process** in which emotional, cognitive, and social dimensions are interwoven. This framework highlights the interpreter not merely as a linguistic mediator but as an active social actor negotiating professional norms, interpersonal relations, and affective demands under high cognitive load (Ayan, 2020; Carstensen & Dahlberg, 2017; Korpal & Jasielska, 2019; Koskinen, 2020; Rojo López & Ramos Caro, 2016; Ruiz Rosendo, 2021; Tekgül, 2020).

Empirically, the study employs **retrospective protocols** as a qualitative method to capture interpreters' own reflections on decision-making immediately after the interpreting task (Englund Dimitrova & Tiselius, 2010; Ivanova, 2010; Tiselius et al., 2025). Six advanced MA students in conference interpreting participated in the data collection, each interpreting a 19-minute authentic speech from English into German. Immediately after completing the task, participants engaged in an unguided retrospective monologue, prompted by the source-text transcript. The retrospective data were analysed using **qualitative content analysis** (Mayring, 2022) focusing on the interplay between **emotional labour**, perceived role expectations, and strategic choices such as **additions**, **omissions**, and the use of **inclusive language**.

The study seeks to identify *how interpreters articulate emotional motivations* behind their strategic choices and how these motivations intersect with normative expectations and perceived audience needs. By examining interpreting as a situated socio-cognitive activity, the research aims to foreground the **human affective and ethical dimensions** that underlie decision-making processes. In doing so, it contributes to ongoing discussions about the boundaries between human and machine interpreting and the future of interpreter training in technologically mediated contexts. By showing how interpreters' strategic decisions (e.g. omissions, additions, and the use of inclusive language) are motivated by perceived role expectations and audience-oriented considerations, the study advances a holistic understanding of interpreting as a situated and socially embedded process.

Theoretically, the study employs **emotional labour** as a productive and innovative lens within T&I process research, bridging the gap between cognitive and sociological approaches. Methodologically, it highlights the value of retrospection for accessing interpreters' subjective reasoning and affective engagement, complementing product-oriented and technologically focused research paradigms. Overall, the project argues that understanding **emotional labour** is essential for capturing the *complex, embodied, and socially situated nature* of interpreting processes and for preserving the distinctly human core of professional interpreting practice in an era increasingly shaped by automation.

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A Critical Review of Cardiovascular, Electrodermal, and Systemic measures in CTIS

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The autonomic nervous system shapes peripheral physiology through coordinated sympathetic and parasympathetic control. Its effects leave observable signatures at the surface of the body, most clearly in cardiovascular dynamics (e.g. heart rate, heart-rate variability, blood pressure) and electrodermal activity (e.g. tonic and phasic skin conductance), alongside slower systemic biomarkers (e.g. salivary cortisol, IgA). Over the last decades, these psychophysiological measures have been increasingly adopted in cognitive translation and interpreting studies (CTIS) to examine different constructs such as stress, effort, engagement or cognitive load across translation, interpreting and audiovisual contexts.

In this presentation, we offer a critical review of three measure families now common in CTIS: cardiovascular, electrodermal, and systemic. The review identified 252 publications mentioning at least one of the measures, of which 40 studies were selected after exclusion. Drawing from this corpus, we distinguish constructs from measures (signal families) and metrics (derived indices), and assess how constructs are operationalized, how often multiple metrics and measures are combined, and how completely key reporting details are documented. As with meta-analyses more broadly, our review provides a cumulative overview that highlights inconsistencies in the use and reporting of physiological measures, while clarifying where consensus exists, where methodological gaps remain, and where standardization is most urgently needed (Gurevitch et al., 2018). Results show widespread use but heterogeneous operationalization, frequent metric omissions, and a tendency toward multi-method design rather than mixed methods. The results also show an increase in sample size compared with earlier research, particularly in audiovisual translation. Alongside these results, we address additional trends and outline practical recommendations to improve the design, analysis, and reporting of CTIS physiology studies.

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Why Interpreters Spell it Out:
Using the Method of Retrospection to Study Explicitation Behaviour of Professional Conference Interpreters

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The present study investigates the explicitation behaviour of professional conference interpreters and explores the potential of retrospection as a methodological tool in process-oriented research. Explicitation is understood here as a translational shift from an implied proposition in the source text to its explicit rendition in the target text, as well as a shift from an already explicit rendition to one receiving greater prominence through focus, emphasis, or lexical choice. Our analysis examines explicitation in terms of frequency, consistency, and distinctiveness, aiming to determine how frequently interpreters explicitate, whether consistent patterns of explicitation emerge within their outputs, and to what extent this behaviour distinguishes individual interpreters. Both inter-subject and intra-subject analyses are conducted to capture individual variation and group tendencies.

The data come from an experimental study involving 34 professional conference interpreters with Polish as their A language and English as their B language. Each participant interpreted four approx. 18-minute English speeches into Polish under controlled laboratory conditions. After each task, interpreters participated in a retrospective session and a semi-structured retrospective interview designed to elicit reports on their decision-making processes. This combined procedure allows us to explore not only what explicitating shifts occur but also why they occur – whether they are process-oriented (used to manage cognitive load) or product-oriented (used to enhance communicative clarity).

Central to this study is the method of retrospection, a subjective process research method originating in psychology (Ericsson & Simon, 1993; Ericsson, 2003) and adapted in translation and interpreting studies (e.g. Ivanova, 2000; Englund Dimitrova, 2009; Gumul, 2020; Herring & Tiselius, 2020). Retrospective methods, unlike concurrent verbalization, are non-intrusive, ensuring that the interpreting process itself remains unaffected by data collection. Retrospection offers indirect but valuable access to interpreters' mental processes, allowing researchers "to articulate what remains silent or unseen using other methods" (da Silva, 2015: 177).

To address the methodological challenges of retrospection, particularly memory decay and veridicality, our study employs a two-stage procedure (alongside triangulation with the product and NASA TLX). First, participants engage in self-retrospection cued only by the source-text transcript, which stimulates recall while minimizing researcher influence. In the second stage, semi-structured interviews follow, allowing further exploration of interpreting habits and decision rationales. This design builds on previous work validating the procedure (Gumul, 2020 Gumul & Herring, 2022) and ensures that retrospective data complement the product analysis without compromising ecological validity.

Preliminary results indicate that professional interpreters exhibit lower overall explicitation frequencies than trainees and employ explicitation predominantly as a product-oriented strategy. While intra-subject variation is limited, inter-subject

differences are pronounced, suggesting that explicitation may serve as an individual stylistic marker among professional interpreters.

By combining detailed product analysis with rigorously designed retrospective protocols, this study demonstrates how retrospection can yield robust insights into the cognitive processes of simultaneous interpreting, thereby strengthening its position as a valuable method in process-oriented translation research.

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Translating Cultural Specificities: The Case of Sign Names in LSFB

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In French-speaking Belgium, the BA in Translation and Interpreting in French Belgian Sign Language (LSFB) opened a decade ago, in 2014, followed by the MA in 2017. At this level, students must choose whether to specialise in translation or interpreting. Although studies on signed language interpreting began in the 1960s (Napier & Roy, 2015), research on sign language translation remains limited. Furthermore, studies in this field focus primarily on translation from spoken language to signed language and less on translation from signed to spoken language (Fernandes & Rosa, 2014). Consequently, young sign language translation programmes still suffer from a lack of pedagogical materials.

One way to improve translation curricula is to analyse errors in learner translation corpora (Kunilovskaya et al., 2022). Error analysis can help to identify areas of difficulty faced by several students when translating a specific subject field and source languages (Bowker & Bennison, 2003; Granger & Lefer, 2020). As for sign language translation, specific translation difficulties can be expected. Indeed, spoken and signed languages can be considered as distant languages (cf. Nida, 1945), both linguistically, through specific grammatical and discursive properties identified by linguists (Vermeerbergen & Herreweghe, 2023) and culturally, as anthropologists recognise Deaf culture and identity (Delaporte, 2002). One cultural specificity of Deaf culture is the use of sign names whereby an individual is assigned a sign by the Deaf community in addition to their civil name. Delaporte (2002) identifies three main categories of sign names: metonymic names, number names and names derived from civil names.

This presentation reports on the translation of sign names from LSFB into written French. It relies on a parallel corpus consisting of source videos taken from the LSFB Corpus (Meurant, 2015), alongside their French translation produced by MA Translation and Interpreting students and professional translators specialising in LSFB. Two source videos (Tasks 0302 and 1102), feature two native signers discussing their sign names and explaining their origins and what they think about them, introducing metalinguistic aspects to discourse. Two other source videos (Tasks 4403 and 4703) feature two signers sharing childhood memories involving the names of others. The source videos are between two and four minutes long, and all of them have been translated by between seven and ten professionals. Task 0302 has also been translated by seven students.

For Task 0302, previous work based on an error-annotation methodology (Heylens et al., accepted) found that students experienced difficulties with the translation of sign names due to metalinguistic aspects and cultural adaptations. The objective of this presentation is to shed light on the challenges encountered by students and the translation solutions used by professionals to overcome them. These solutions encompass a range of approaches, including the use of copying morphology, generalisation, and intersemiotic explanations (cf. Pym, 2016, 2018). In addition, the remaining three tasks translated by experts revealed numerous examples of translation solutions for dealing with this cultural and linguistic specificity in autonomous French translation. This parallel corpus represents valuable empirical examples of translation strategies in context for the training of future translators and interpreters in sign language.

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The Effect of the Remote Environment on Gesture Use in Interpreter-Mediated Counselling Interactions

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Dialogue interpreting (DI) has become more established as demand in public services has grown, supported by legislation such as European Directive 2010/64/EU (Tipton & Furmanek, 2016). Traditionally face-to-face, DI has increasingly moved to remote formats, a shift intensified by the COVID-19 pandemic (Amato et al., 2018; Cheung, 2022).

Despite this rapid technologization, little is known about how the remote environment shapes multimodal conduct in interpreter-mediated encounters. Gesture plays an important role in scaffolding meaning, managing interaction, and sustaining intersubjectivity (Bavelas et al., 1995; Philipsen & Trasmundi, 2019; Clough & Duff, 2020), yet most gesture-focused research has only examined simultaneous conference interpreting (e.g., Galvão, 2015; Arbona et al., 2023) or exclusively on-site DI (e.g., Chwalczuk, 2021; Beukeleers et al., 2025), with most studies focusing solely on the interpreter. Consequently, the question remains: how are the gestures of all participants affected by the move to remote? This study addresses this gap by asking, for all participants present:

RQ1: *What is the effect of the remote environment on gesture rates?*

RQ2: *Does the remote environment alter the distribution of gesture types?*

RQ3: *How does gesture type influence its degree of visibility in the remote setting?*

A corpus of twelve Russian and Italian interpreted counselling conversations was compiled, with each triad participating in both face-to-face and video-remote modalities, thus following a within-subject study design. Gestures were annotated in ELAN using a fine-grained typology (e.g., parsing, metaphoric, deictic gestures) and visibility coding (visible, reduced, invisible), based on established gesture studies theory (McNeill, 1992; Kendon, 2004; Streeck, 2009). Descriptive analyses summarised gesture frequency, gesture-type profiles, and visibility patterns for each participant role.

The findings reveal that **(RQ1) the remote environment does not exert a uniform effect across roles**. Interpreters gesture substantially less in remote settings (≈30% reduction), counsellors show a smaller decrease (≈10%), and students gesture somewhat more (≈16%).

(RQ2) For the gesture type distributions, the **group-level pattern suggests little to no overall shift** in how gesture types are distributed between face-to-face and remote conditions. At the individual level, there are tentative shifts in the balance between deictic and metaphoric gestures across conditions.

(RQ3) Gesture type predicts visibility, but this mapping is **systematically moderated by role**. In the remote condition, interpreters' gestures frequently fall outside the head-and-shoulders frame — crucially, this includes a substantial portion of more semantically rich (metaphoric, depictive, deictic) gestures. Phatic, dialogue-managing gestures form a partial exception, tending to stay at least partially in view. By contrast, primary participants' gestures are predominantly highly visible.

In sum, remote DI reshapes how much different participants gesture and profoundly alters whether interpreters' gestures can be seen, even while the underlying gestural repertoire remains stable for all roles. Preliminary findings of a forthcoming qualitative analysis indicate that topic shifts and repair sequences may help explain some of the quantitative patterns.

Conference Interpreting as a Hybrid Task: An Empirical Investigation of Multimodal Processing and Cognitive Load Management in Increasingly Technology-Mediated Settings

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The recognition of a subtle yet steady increase in the number of studies dedicated to the multimodality of the translation and interpreting (T&I) process (Adami, 2017; Seeber, 2017) comes at a time of growing – and arguably urgent – need for a deeper understanding of the multiple factors that hold the potential to impact the quality of interpretation (Albl-Mikasa & Tiselius, 2021; Cronin, 2012; Moser-Mercer, Künzli & Korac, 1998), even though the notion itself remains notoriously hard to define (Gile, 2005). With hybrid practices garnering more attention (Chmiel & Lijewska, 2023), it may be argued that contemporary simultaneous conference interpreting has itself evolved into a hybrid communicative task in its own right.

It can be argued that today's conference interpreters face a considerably higher workload than that shared by previous generations of conference interpreters, including the pioneers of the profession (Gaiba, 1998), be it in traditional set-ups or in case of meetings covered by remote simultaneous interpretation (RSI). Interpreters are required to divide, prioritise, and continuously repartition their attention across several channels and directions. They are often called upon to monitor both the speaker and the audience, while simultaneously tracking multiple real-time visual feeds (Chmiel, 2021), sometimes across two or more screens and devices, with potential repercussions on the overall cognitive load and their ability to concentrate (Defranq, 2024). This additional layer of cognitive complexity (Amos, Seeber & Pickering, 2022; Rennert, 2015) comes at a risk of overstressing an already demanding process (Cross, 2021; Korpal, 2021; Zafirah, Hamshaw, & Dyer, 2020), often compounded by the ergonomic and technical challenges imposed by RSI and other hybrid configurations (Bujan & Collard, 2022; Noël, 2021).

To explore these dynamics, we take a more targeted look at the findings of the study conducted by means of semi-structured interviews as part of our doctoral research (completed in 2025), featuring over 60 practicing conference interpreters, to further investigate how attention is managed and sustained in the aforementioned multimodal settings, and how interpreters adapt their strategies to cope with these new formats and demands. A follow-up study has also been conducted since to provide additional statistical data.

As technology evolves and AI-based solutions permeate the T&I profession (Fantinuoli, 2018), we are made increasingly aware of the related challenges and the relevance of empirical insights into hybrid interpreting tasks and practices. It is our premise that, by integrating socio-cognitive, ergonomic, and technological perspectives, this study will contribute to a broader understanding of conference interpreting as a multimodal activity, and the aims of the upcoming conference. Ultimately, the findings of our research, to be presented in the proposed paper, will offer actionable implications both for the professional conference interpreting community, and the various interpreter training programmes across Europe, currently under pressure to realign their pedagogical paradigms with the changes in interpreting-mediated communication.

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Smarter Edits?
Post-Editing Translations with LLM Suggestions

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Generative large language models (LLMs) have demonstrated remarkable proficiency not only for machine translation (MT) but across several translation-related tasks, among which assessing MT quality (Kocmi and Federmann, 2023), fine-grained error detection and automatic post-editing (APE) (Fernandes et al., 2023; Lu et al., 2024). Despite the growing interest in explainable MT evaluation, the usefulness of such features in augmenting translators' workflows has not been explored. Could error detection and correction suggestions enhance productivity by helping translators edit machine-translated texts more quickly and efficiently? As MT outputs improve in quality and errors become increasingly difficult to spot, could such features assist translators in detecting errors, resulting in higher-quality translations? What is the optimal amount of information to best support translators without disrupting the editing process? What impact do LLM suggestions have on their confidence and decision-making process?

This project explores these questions by incorporating automatic error annotations and correction suggestions in post-editing workflows. A study was conducted where eight professional translators (English->Dutch) post-edited machine translated texts in three conditions: 1) simple post-editing, 2) post-editing with error span annotations, 3) post-editing with correction suggestions.

The data for the PE task comes from two domains found challenging for translation and QE systems: biomedical and news. The biomedical texts come from the QE4PE corpus (Sarti et al., 2025), while news texts were selected from the WMT24 news shared task. Four 200-word English excerpts per domain were first translated into Dutch using xTower (Treviso et al., 2024). Then, xCOMET-XXL (Guerreiro et al., 2024) was used to automatically identify error spans (condition 2). The error spans obtained from xCOMET were subsequently input into xTower to generate translation corrections (APE). The raw MT was compared against the APE and textual differences (computed by edit distance) were provided as translation corrections (condition 3). The PE task was conducted in a simple online interface which logs editing time and keystrokes (see Figure 1). Process data was triangulated with questionnaires and interviews on text difficulty, MT quality, perceived quality and usability of error span annotations and correction suggestions, editing choices and self-reported confidence.

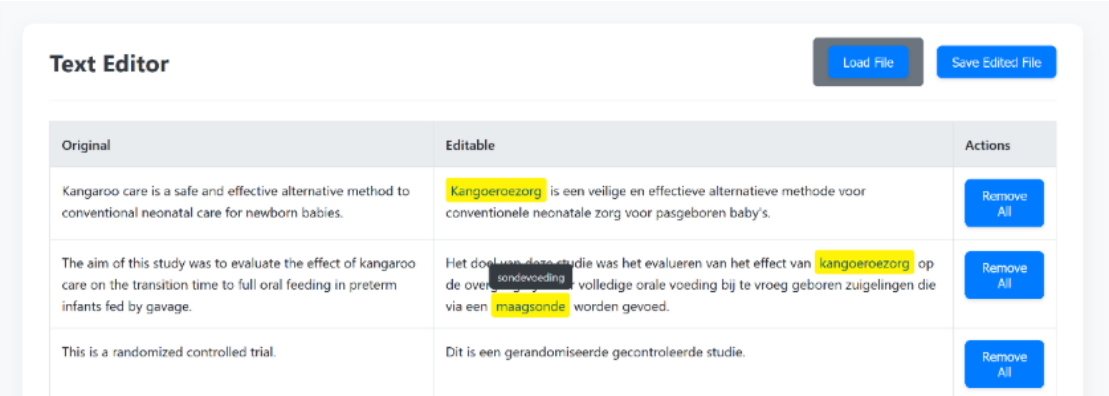

Figure 1: Post-editing interface for condition 3. Potential errors are highlighted in yellow (minor) and correction suggestions appear in the black box. Translators can accept them by clicking on the black box.

The results align with previous work (Sarti et al., 2025) in that post-editing with error annotations did not lead to productivity gains (time, keystrokes) compared to simple PE. However, PE with correction suggestions (condition 3) led to a slight reduction in temporal and technical effort. While error annotations were not perceived as accurate or useful and often were a distraction, translators found correction suggestions useful in reducing effort, improving fluency of final translations and helping them come up with translation solutions. This shows that not all forms of fine-grained feedback support translator efficiency equally, but solution-oriented assistance can reduce effort even when error-focused annotations do not. Translators were willing to adopt LLM suggestions but stressed the importance of optionality and agency in selecting among different types of assistance.

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Entrenchment Embedded in Corpus Data:
A Case Study on English-Japanese Translation of Light Verb Constructions

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This research conducts a corpus-based analysis of light verb constructions in English-Japanese translation, focusing on how translations of certain constructional patterns become entrenched both across and within translators. Through the observation of corpus data, it aims to explore how such entrenchment relates to human experiential knowledge, or embodiment.

The term *entrenchment* was first popularized by Langacker (1987). In the context of translation, it is understood as the phenomenon where frequently used lexical items or constructions become more likely to be chosen unconsciously by a translator. Among various models of the translation process, Gravitational Pull Hypothesis (Halverson, 2003, 2017) applies this cognitive-linguistic concept to model how translation is induced, and accounts for the over- or underrepresentation of specific linguistic items in translated texts. However, aside from frequency as a major factor, it remains insufficiently clear how these connections between source and target language items are strengthened within a translator's lexical and syntactic network.

In this study, we focus on light verb constructions (LVCs). LVCs consist of a semantically light verb and a predicative noun (e.g., *give a hug*), which require complex mapping operations between syntax and semantics to process (Wittenberg et al., 2014). By combining these components, LVCs exhibit a metaphorical nature, and as Gradečak-Erdeljić (2009, pp.13–14) describes, they provide “deeply, experientially and perceptually rooted channels for motivating their creation and use.” From this perspective, LVCs serve as useful data in this analysis, allowing us to observe how embodied experience, embedded in language, influences translation.

Following the discussion of previous studies (Stojanovska-Ilievska, 2025; Marco et al., 2024), we classify LVCs according to the predicative noun. Specifically, we distinguish abstract LVCs (e.g., V + *thought*, *fear*) from eventive LVCs, which include bodily actions (e.g., *smile*, *scream*) and physical interactions (e.g., *wipe*, *push*). We employ a corpus-based approach to quantitatively examine the degree of entrenchment in English-Japanese translation across LVC types. For our dataset, we use the NICT English–Japanese Translation Corpus (Uchiyama et al., 2003), which consists of literary texts of about 800,000 words. In this study, we interpret entrenchment as the degree of variation in translation, assuming that higher consistency of translation indicates stronger entrenchment, and we calculate this variation using translation entropy (Carl et al., 2016). We focus on *source concentration*, defined as “the percentage of all occurrences of a TL [Target Language] item that are translations of a specific SL [Source Language] item” (Halverson, 2017, p.30). We extract English LVCs with their Japanese translations and lemmatize the components, while coding context to control for semantic variation. We then examine whether abstract and eventive LVCs differ in translation variation and discuss how bodily or physical expressions affect the ease of translators’ entrenchment.

Our analyses indicate differences in translation variation across source LVC items, with some terms showing more stable mappings and others exhibiting greater competition

among candidate renderings in English–Japanese translation. These patterns provide corpus-based evidence for differential degrees of entrenchment in LVC translations, suggesting that abstractness of the predicative noun may modulate the level of entrenchment.

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Reading in Multimodal Contexts: From Subtitles to ASR-Supported Simultaneous Interpreting

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Reading in multimodal settings is rarely linear. In subtitle viewing, gaze alternates between image and text, producing scanning, corrective refixations, crossovers and frequent regressions. Two early-stage latencies are especially informative: (i) time to first fixation (delay from subtitle onset to first glance) and (ii) processing latency (time to begin progressive reading after initial corrections). Both reflect the cost of programming a saccade from the image to the subtitle and locating a viable launch point for reading. Since subtitle reading is also supported by information in the soundtrack and visual cues on the image, eye movement patterns in this context differ substantially from the linear patterns characteristic of static text reading. In particular, readers lean towards skimming and keyword checking.

We extend this lens to simultaneous interpreting (SI) with on-screen automatic speech recognition (ASR). In SI with ASR, the interpreter must reconcile multiple latencies along the pipeline (from speech onset through ASR processing to display) before integrating the information in the transcript with the speech and their own production. Prior work suggests that latency can shift attention allocation across channels and reshape timing and strategy, raising practical questions about when ASR helps and when it hinders.

Our study asks whether interpreters can exploit ASR output in simulated naturalistic conditions and how latency modulates that benefit. We analyse non-numeral tokens and numerals separately, given ASR's tendency to delay multiword spoken numerals rendered as single digits (e.g., "three hundred and seventy" → "370"), which inflates onset delays. We predict that longer word-level transcript latency will increase skipping and reduce local reading depth (fixation count and dwell) in ASR trials, while at the global level longer latency will increase regression rate, lengthen forward saccades, reduce linearity, and raise global skipping; at the performance level, we test whether ASR presence improves accuracy and whether latency degrades it relative to 0-latency.

We use a within-subjects design with three conditions: No-ASR, ASR-0 (0-latency transcript), and ASR-Lat (natural latency), counterbalanced across three ~600-word talks. Word-level latencies in ASR-Lat come from the natural empirical distribution of observed (non-numeral) latencies, with a monotonic display constraint and a minimum inter-word gap to prevent visual "bursts." Numerals retain their natural latencies; they are never advanced and are only lifted to preserve order. Outcomes include trial-level interpreting accuracy (primary), ASR-only local gaze (e.g. skip, fixations, dwell) for non-numerals, ASR-only global gaze (regression rate, forward saccade length, linearity, global skipping), and numeral correctness modelled against display onset relative to speech and spoken-span length.

By bridging evidence on subtitle reading with SI with ASR, we characterize how multimodal reading routines adapt under realistic, time-locked constraints and identify latency regimes under which ASR is likely to be usable, ignorable, or disruptive for

professional interpreters. Findings will inform technology design (e.g., stability vs. speed trade-offs), interpreter training, and methodological standards for studying human–AI collaboration in naturalistic settings.

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Machine Translation as a Tool when Translating Questionnaires: Analysing Product and Process Data of a Post-Editing Study with Translation Practitioners and Social Scientists

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Automatic translation tools like machine translation (MT) systems, and recently generative AI, have been used for professional translation processes for decades. The automatically generated translations usually need to be post-edited. The post-editing (PE) process is understood as "the correction of raw machine translated output by a human translator according to specific guidelines and quality criteria" (O'Brien, 2011, pp. 197–198). Successful PE requires translation competences like bilingual and domain-specific competences as well as PE-specific competences such as efficient error-handling and knowledge of the technology (Nitzke & Hansen-Schirra, 2021). Studies have also investigated the relationship between translator's attitude towards MT & PE and their PE efficiency (Álvarez Vidal et al., 2020).

In cross-national survey research, a field relevant for sociologists, political scientists or economists to study societal developments (Johnson et al., 2018), questionnaires need to be translated accurately and in a culturally and linguistically appropriate way to ensure comparability of the results in all language versions. The *TransBack* project investigates how different backgrounds and competences influence the quality of the translations of English questionnaires into German. For this, keylogging data of 16 translation practitioners and 16 social scientists were collected while they were translating questionnaire items. One focus is to investigate how the use of MT as a basis for PE impacts the quality of the final product. Therefore, the translations were partly done as PE tasks (MT system: DeepL, 2024) and partly as translations from scratch. Further, a background questionnaire collected detailed participant data. Errors were coded (and harmonized in case of discrepancies) by two translation scholars using a modified MQM scheme.

In this presentation, we will focus on the product and process data of the PE task. First, we will analyse the error distribution per participant group. For the project, both the MT output as well as all the post-edited translations were error-coded, allowing us to investigate the target text quality in general and in relation to the initial MT output. The results show amongst others that translators and social scientists make similar mistakes in the PE task with the exception that social scientists make less survey-specific mistakes, e.g. concerning the measurement related terminology. We will further present results on group differences in successful corrections of the MT output, number of preferential changes, deterioration occurrences, and differences in the keylogging data, i.e. edit distances and duration.

In the second part of the presentation, we will dive deeper into how the product and process data relate to the characteristics of the participants by investigating how experience with working with MT and performing PE (as measured by items in the background questionnaire asking for frequency of MT/PE-related activities) as well as the

attitude towards working with automatic translation tools influences the process and product. Our data set shows, for example, that the experience with and the attitude towards MT and PE influences how many preferential changes were made by the group of practising translation practitioners.

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Translators' Affective Complexities in Engagement with Texts, Technology, and Team Dynamics: Insights from a Cognitive Ethnographic Study

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Extended cognition (EC) provides a productive starting point for the study of translation (Risku & Rogl, 2020), as it accounts for both the synchronic and diachronic dimensions of cognition and conceptualizes cognitive processes as emerging from the interplay between translators' lived experience, material and social resources, and culturally pre-structured environments – all of which are central to contemporary translation practice. However, EC – which conceptualizes cognition as distributed across brain, body, and environment (Clark & Chalmers, 1998; Menary, 2007; Sutton, 2010) – has largely overlooked the role of affective experience, despite the growing recognition in cognitive science that affect and cognition are inseparable. This neglect constitutes a significant theoretical gap for understanding translation as a situated, socio-material, and affect-mediated activity. Although translation studies increasingly acknowledge that emotions shape translators' decision-making (Risku & Meinx, 2021), comparatively little attention has been paid to how affect operates within distributed systems of interaction involving texts, technological tools, and collaborators.

Grounded in the framework of extended affectivity (Colombetti & Krueger, 2015) – understood here as an extension of extended cognition – this study conceptualizes affect as relational and bidirectional, co-constituted through engagement with socio-material networks. Translation is thus understood as a distributed, affectively mediated cognitive practice, where emotions both emerge from and actively shape interaction with texts, technological tools, and social agents.

Using a cognitive ethnographic approach, the study examines three English–Chinese collaborative translation projects within the *Yeeyan Gutenberg Project* – *Waifs and Strays*, *If I Were a Man*, and *Rolling Stones* – drawing on data collected from screen recordings, retrospective verbal protocols, and semi-structured interviews to capture process-oriented affective-cognitive dynamics.

Findings indicate that translators' affects operate bidirectionally across three domains: (i) Textual interaction: Emotional responses were elicited by source texts, particularly regarding gender, race, and social justice, and in turn guided lexical and interpretive choices, illustrating affective modulation of textual engagement; (ii) Technological interaction: Machine translation (MT) outputs could trigger disempowerment or disengagement, while translators' emotional states (e.g., pride, satisfaction) influenced their willingness to rely on or reject MT, highlighting the mutual shaping of affect and tool use; (iii) Interpersonal interaction: Feedback from team members elicited tension or satisfaction, and translators' affective states guided adjustments to maintain collaboration, demonstrating that emotions both respond to and regulate social interaction.

Overall, these findings underscore that affect is not a passive byproduct of translation; it is co-constitutive and regulatory, dynamically mediating the translators' engagement with texts, technologies, and collaborators. By foregrounding the entanglement of affect,

cognition, and sociality, this study portrays translators as embodied, socially situated, and affectively engaged agents.

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Effects of Comprehension, Cross-Linguistic Transfer and Production Difficulty on Filler Particle Occurrence in Simultaneous Interpreting

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The occurrence of filler particles *(*FPs*, euh, hum, hm)* in spontaneous speech is often attributed to difficulties in language planning. Previous studies on simultaneous interpreting (SI) have operationalised cognitive load as the rate and duration of FPs (and other disfluencies) and linked it to variables like presence of numbers, delivery rate and lexical density (e.g. Chmiel et al., 2023; Plevoets & Defrancq, 2016, 2018), which are thought to increase interpreting difficulty. This study takes an information-theoretical approach to quantifying interpreting difficulty.

Surprisal is a measure rooted in information theory (Shannon, 1948) that captures the (un)expectedness of a given word based on its probability in context derived from a language model. It is considered to be an indicator of cognitive effort (Hale, 2001), where unexpected (high surprisal) words are associated with, e.g., longer word durations (e.g. Malisz et al., 2018) and longer reading times (e.g. Wilcox et al., 2023). Surprisal is thought to reflect pre-activation of words and structures in language comprehension and production: the start of an utterance activates likely continuations, with strong pre-activation and facilitated retrieval in low-surprisal contexts and low pre-activation and more taxing retrieval in high-surprisal contexts (Huettig et al., 2022).

Research suggests that FPs precede high-surprisal words (Dammalapati et al., 2021; Raoof et al., 2024; Zámečník, 2019). In a previous study, we replicated this effect in interpreting, finding that higher surprisal of upcoming target words increases the probability of FP occurrence. Unlike monolingual production, interpreting involves simultaneous activation of both source and target languages, along with cross-linguistic activation. To capture difficulty from these three processes, the present study employs three surprisal measures, reflecting source comprehension, cross-linguistic transfer, and target production, and examines which best predicts FP occurrence.

We analyse data from the bidirectional German ↔ English part of the EPIC-UdS corpus (Przybyl et al., 2022). Each target word is annotated with surprisal values from monolingual GPT-2 language models (Radford et al., 2019; Schweter, 2020) for production difficulty, and neural machine translation models (Tiedemann et al., 2020) for cross-linguistic transfer difficulty. For comprehension difficulty, we annotate source words with monolingual GPT-2 language models and link them to the target word via automatic word-alignment.

For statistical analysis, we fit separate mixed-effects logistic regression models for German→English (SI_EN) and English→German (SI_DE), with random intercepts for interpreters and documents. Our unit of analysis are all target words in the corpus, with the models' response variable indicating whether a target word is preceded by a FP (1) or not (0). The predictor variables are the three surprisal values associated with the word.

In both language directions, target-language surprisal (production difficulty) was a strong predictor of FP occurrence ($\beta = 0.33$, $z = 14.00$, $p < .001$ for SI_DE; $\beta = 0.47$, $z = 17.00$, $p < .001$ for SI_EN). Neither machine-translation surprisal (transfer difficulty) nor source-language

surprisal (comprehension difficulty) reached significance in the SI_DE model ($p > .05$), while in SI_EN source-language surprisal showed a small negative effect ($\beta = -0.06$, $z = -2.07$, $p = .039$). We plan to complement these findings with an analysis of the influence of surprisal on the duration of FPs and surrounding pauses.

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Investigating MTPE Training in China: An Empirical Study of Problem-Solving Patterns and Quality across Translation Directions

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Machine Translation and Post-editing (MTPE) is now integral to professional workflows with neural MT (Nitzke et al., 2019). Despite the expansion of Master of Translation and Interpreting (MTI) education in China since 2007, MTPE training remains limited and under-resourced (Wang & Liu, 2022; Gao & Hu, 2024). Research has examined MTPE processes and effort (e.g., Carl et al., 2015; Jia et al., 2019), but translation direction has mostly been studied in phonetic language pairs (e.g., English–French) (e.g., Vieira, 2014). Prior works often focus on a single direction, usually English-to-Chinese (E–C) (e.g., Wang, 2020; Wang et al., 2021). Bidirectional MTPE with structurally distant languages underexplored. Post-editing is a problem-solving process involving MT error detection and correction and entails distinct cognitive challenges compared with revision (O'Brien, 2002; Jakobsen, 2018), yet problem-solving in PE—especially across directions—remains insufficiently examined (Mitchell, 2015; Nitzke et al., 2019). Evidence also suggests translation directionality influences cognitive effort and product quality (e.g., Jia et al., 2023; Yang et al., 2023), but Chinese MTI students' MTPE engagement across both Chinese-to-English (C–E) and English-to-Chinese (E–C) directions is still insufficiently understood.

This study addresses these gaps through an empirical investigation of MTPE training in China. The objectives are to examine the current state of MTPE training, observe students' problem-solving and efficiency in C–E and E–C post-editing, analyse post-edited output quality and problem types and corresponding solutions, and explore the effects of translator expertise on efficiency, quality, and problem-solving. The dataset currently includes 57 MTI students (30 second-year, 27 first-year), with 20–25 third-year students being recruited. Data collection triangulates pre- and post-task questionnaires (to capture participants' expertise background and post-task perceptions), keystroke logging and screen recording (to analyse problem-solving behaviour and efficiency), and product analysis (to analyse output quality and expertise effects). Post-edited outputs are evaluated through double human annotation using the DQF-MQM framework, with inter-rater agreement checks to ensure reliability; automatic metrics complement the analysis.

Preliminary findings indicate direction-dependent task difficulty. In C–E, over 60% reported peak cognitive load mid-task, whereas E–C demands were more evenly distributed, although more participants rated it as very difficult. This partly diverges from prior claims that C–E is consistently harder (Sun et al., 2025), suggesting that text genre, student profile, and MT quality may influence directionality effects. Across both directions, terminology and coherence problems were most frequent; style and culture issues were more common in E–C, while grammar problems prevailed in C–E. Students mainly relied on reflective, resource-supported editing, with more spontaneous edits in E–C and more trial-and-error strategies in C–E. Analyses of post-edited quality and expertise effects are underway. Training implications are: Over 90% agreed that MTPE improved translation competence and quality, supporting its inclusion in MTI curricula. Students prioritised

tool use, quality standards, error identification, and real-world case analysis, indicating that effective MTPE training in China should integrate systematic tool use, explicit quality criteria, and hands-on practice across both directions to inform MTI curriculum design.

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Machine Translation Use and Revision of Human Translations from a Mixed-Method Approach

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Interviews and questionnaires are commonly used in Translation Process Research (TPR), but they are most often employed as post-task instruments. In this presentation, I will argue that these research methods can be useful to study the process of translation and revision.

The term 'mixed methods' refers to research designs that combine quantitative and qualitative approaches, mostly within a single study (Morse, 2010; Tashakkori, Teddlie, & Johnson, 2015). In my research, I first conducted a stand-alone qualitative study, which was followed by a stand-alone quantitative study, namely a survey, the items of which were informed by the findings of the initial study (on interviews and surveys in TIS, see Böser, 2016; Dorer et al., 2025; Sun, 2016). The interview study involved 42 translators and revisers, mainly in-house (Riondel, 2023, online first). The questionnaire was distributed in institutional settings and among freelancers, and the resulting data set comprises 458 answers from seven contexts, including the Swiss Confederation, the DGT of the European Commission, and members of three different professional associations in Switzerland, Belgium and Canada.

One aim of the survey was to examine how Machine Translation (MT) is used and how the revision of human translations is carried out, with a view to refining the definitions of MT-assisted translation and revision of human translations (hereafter: revision). A preliminary analysis of the responses shows that both MT-assisted translation and revision are widespread, but the way both tasks are carried out can differ from one context to another. For instance, MT may be used to produce a complete draft or merely as an occasional aid, while revision may be monolingual or bilingual (in the former case, revisers focus primarily on the target text and consult the source text only occasionally; in the latter, revision involves a systematic comparison of the source and target texts).

In this presentation, the survey results will be analysed and methodological reflections will be proposed. In particular, the differences between an inductive, qualitative approach and a deductive, quantitative approach will be discussed (Creswell, 2009; Golafshani, 2003).

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Cognitive Load and Stress in Simultaneous Interpreting with Text: A Mixed-Method Study

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Simultaneous interpreting (SI) is cognitively complex since language comprehension, production, and monitoring take place concurrently. In cases where interpreters are provided with a transcript of the speech, so-called SIMTXT, this complexity may be increased, according to conceptual models of SIMTXT. Gile (2020), for example, suggests that, in SIMTXT, the reading effort competes with the listening effort for cognitive resources. Seeber (2017) also points to competition in input between auditory-verbal and visual-verbal channels, which may lead to increased cognitive load in SIMTXT compared with SI. However, these conceptual models still lack empirical evidence. In addition, some of the (scarce) empirical studies on SIMTXT lack ecological validity due to artificial experimental (lab) conditions, using a fixed eye tracker on a screen, while the speech was provided by audio-only without visual input from the speaker (e.g., Chmiel et al., 2020), or exclusively used subjective measurements (Cammoun et al., 2009). Moreover, most of the studies (e.g., Chmiel et al., 2020; Ma & Cheung, 2020) focus on effects of SIMTXT on the interpreting performance, and few studies looked into process-related aspects. This paper attempts to fill this gap by investigating the effect of the use of text in SI on cognitive load and stress, while also looking at the impact of other variables such as speech rate, speech difficulty and visual attention to the transcript. 12 professional simultaneous interpreters performed a SI and a SIMTXT task in quasi experiments reproducing real-life conditions. Data were collected via a mixed-method design combining eye-tracking glasses (visual attention), wristbands (heart rate as a measure of stress), NASA-TLX (self-reported cognitive load; see Hart and Staveland, 1988) and STAIS-5 (self-reported stress; see Zsido et al., 2020) questionnaires, as well as retrospective interviews with the purpose of collecting individual component factors (Seeber, 2015). In this paper, we will report on quantitative and qualitative results and show to what extent these results are convergent. These results provide important insights into cognitive processing in SI and demonstrate the added value of a multi-method design in cognitive translation and interpreting studies.

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Translating Between Belief and Text:
How Ideological Congruence Guides Translation Choices

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Process research in translation has raised questions about how translators manage cognitively and affectively demanding content. Translators' beliefs and values can shape how they approach a text, affecting both interpretation and processing, and previous studies have shown that ideologically charged content elicits measurable cognitive and affective reactions. Building on prior work showing that translators adjust strategies depending on ideological and emotional congruence (Rojo López & Naranjo, 2021; Meseguer Cutillas, Rojo López & Paiva, in press), the present study examines how translation students handle ideologically charged content and how congruence influences their translation choices.

Participants translated a total of 84 English sentences, including 56 ideologically charged items ending with an evaluative adjective that positioned the sentence in either a progressive or a conservative stance. Sentences were presented word by word on a screen, after which students provided an immediate oral translation into Spanish. The experimental design combined online measures of cognitive and emotional engagement—EEG recordings and response times—with product-based analysis of the translations. Self-reports of ideological stance, emotional reactions and personality traits were also collected, providing an additional perspective on individual differences.

The resulting corpus of translations was analysed both qualitatively and quantitatively. Translations were coded using the Appraisal Framework (Martin & White, 2005), specifically the gradation subcategory, to capture how participants modulated evaluative meaning in response to ideological congruence through intensification and mitigation. Intensification occurs when the force of the adjective or evaluative element is strengthened (e.g., "politicians lying a lot" → "mienten tanto" [lying so much]), whereas mitigation reduces it (e.g., "sexual assault" → "acoso sexual" [sexual harassment]). This approach captures both the ideological content and its inherent emotional load.

Preliminary analyses provide an initial picture of participants' choices. Attenuation was more frequently used when sentences aligned with participants' ideological stances. Then, considering all strategies together, early analyses show that congruence also significantly influenced translation choices: participants tended to adjust their translations more frequently when the sentence was congruent with their own ideology. Personality traits, particularly Openness to experience and Neuroticism, also appeared to modulate these patterns, suggesting that individual differences influence how translators manage ideologically charged material. These findings highlight that ideological congruence leaves a measurable trace in translation behaviour, subtly shaping how evaluative meaning is rendered.

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Does Higher Accuracy Equal Higher Quality?
Comparing Performance Metrics in ASR-Supported Simultaneous Interpreting

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Performance plays a fundamental role in simultaneous interpreting. It is central to interpreter training, serving as an indicator of skill development; it is also important in interpreting studies, assumed to be an indicator of interpreters' cognitive load (Chen, 2017; Gieshoff & Albl-Mikasa, 2024). In experimental research, performance has been analyzed using various approaches. Two of the most common ones are accuracy analysis (e.g., Defrancq & Fantinuoli, 2021; Pisani & Fantinuoli, 2021), which focuses on the rendition of single items such as numbers or proper names, and propositional analysis (e.g., Bartłomiejczyk, 2010; Gieshoff & Albl-Mikasa, 2024), which assesses the completeness and sense of the interpretation relative to the source text. Although both methods are widely used, they have so far been applied separately, and little is known about whether local gains in accuracy are reflected in overall interpreting performance.

This study examines the impact of automatic speech recognition (ASR) on performance in simultaneous interpreting. Building on previous research showing that ASR-based support has a facilitating role for the accuracy of problem triggers (e.g., Defrancq & Fantinuoli, 2021; Yuan & Wang, 2023), the study seeks to determine whether these benefits extend to other aspects of interpreting performance. 24 professional interpreters were asked to interpret three comparable speeches from English into Polish in three conditions: without technological support, with partial ASR support (offering the transcription of numbers and the transcription and translation of proper names), and with full ASR support (offering the transcription of the entire speech, the transcription of numbers, and the transcription and translation of proper names). Performance was assessed through accuracy analysis to evaluate the correctness of rendering numbers and proper names, as well as propositional analysis (Gieshoff & Albl-Mikasa, 2024) combined with error analysis (Bartłomiejczyk, 2010) to assess the overall quality of interpretations.

In line with previous studies, preliminary findings show that problem trigger accuracy was the lowest during interpretation without technological support (M=66%) and increased thanks to access to both partial (+25% on average) and full ASR support (+21% on average). Yet, propositional analysis scores reveal that the overall completeness of interpretations was high even in the no ASR support condition (M=81%), with modest improvements when partial (M=88%) and full ASR support (M=84%) was available. Error scores show a similar trend, as the number of penalty points was only slightly lower in the partial ASR support condition (-18 points on average) and the full ASR support condition (-16 points on average) compared to interpreting without access to technology. Interestingly, while the distribution of most error types was similar across conditions, the biggest difference was observed in delivery errors, which were more frequent in ASR-supported conditions than the no ASR support condition. The above results indicate that the tested metrics capture different aspects of interpreting performance and demonstrate the value of using multiple assessment methods to investigate the possible gains and trade-offs in ASR-supported simultaneous interpreting.

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Intonation and Irony in Simultaneous Interpreting: An Acoustic and Perceptual Analysis

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In simultaneous interpreting, the voice assumes paramount importance and carries full responsibility for delivering a complete interpretation (Collados Aís, 1998). To achieve comprehensive communication, interpreters are expected to convey the content of the original speech faithfully and fully while transmitting the emotion and intention of the speaker's message—doing so without recourse to nonverbal cues and under the time pressure inherent in simultaneous interpreting. The present study adopts this perspective and seeks to equip professional and trainee interpreters with prosodic skills to meet this challenge.

More precisely, we analyse the melodic features associated with the expression of irony, a pragmatic phenomenon in which intonation plays a decisive role in both its definition and identification (Padilla García, 2011). Our overarching objective is to examine how trainee and professional interpreters convey irony to (1) detect potential gaps which may hinder the effective transmission of the ironic effect and (2) observe and describe the repertoire of melodic features which professional interpreters, drawing on their experience and expertise, mobilize to convey irony.

To this end, we conduct an acoustic analysis of the intonation of 224 excerpts interpreted into Spanish by five professional interpreters and eleven trainee interpreters, based on two French speeches prepared and recorded specifically for this study. For the intonation analysis, we follow the Melodic Analysis of Speech model (Cantero Serena, 2002) and use the Praat software (Boersma & Weenink, 2025), a specialized tool for the phonetic analysis of speech sounds. The acoustic analysis is complemented by a two-pronged perceptual analysis comprising, on the one hand, self-assessments by the participating professional and trainee interpreters and, on the other hand, evaluations by external assessors who estimate the extent to which irony is perceived in the interpreted speeches.

Drawing on the acoustic and perceptual data, we triangulate the results to determine the extent to which the melodic features highlighted by the acoustic analysis are associated with positive or negative perceptions of irony. We also examine interpreters' awareness of transmitting irony and analyse whether they employ prosody for compensatory purposes—either to reinforce the ironic effect or to compensate for content not conveyed verbally.

The results allow us to describe a repertoire of melodic and linguistic features through which professional interpreters transmit the ironic effect more frequently and more effectively than the trainee interpreters in our sample. Moreover, the findings show that, in many instances, melodic and linguistic features converge in the transmission of the ironic message. Ultimately, this exploratory study seeks to lay the groundwork for future research addressing training needs in prosody and, in the longer term, to develop a pedagogical proposal that integrates prosody into interpreting curricula.

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Child Interpreting and Cognitive Development in a Simulated Medical Consultation: Strategies, Agency, and interactional Insights

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Research in translation and interpreting process studies has increasingly examined naturalistic and semi-controlled settings to understand how mediation competence emerges and develops in interaction. Drawing on work on natural translation and child language brokering (CLB), this case study examines the interpreting behaviour of two Moroccan–Spanish bilingual siblings (aged 13 and 8) acting as ad-hoc interpreters in a simulated medical consultation between a Spanish-speaking physician and an Arabic-speaking mother.

The study contributes to debates on natural versus professionally trained interpreters by focusing on how age, experience, and developmental maturity shape interpreting strategies, accuracy, and agency in a high-stakes institutional encounter. A scenario-based design was adopted to ensure ethical safeguards while keeping communicative demands constant. Each child interpreted the same scripted consultation individually; interactions were audio-recorded, transcribed verbatim, and analysed qualitatively using a taxonomy of interpreting strategies and inaccuracies adapted from Hu and Nassaji (2014) and Antonini (2010). The analysis centres on verbal output and interactional processes such as turn management, clarification requests, and coordination with the physician.

The findings reveal clear developmental contrasts alongside shared strategic tendencies. Both children actively negotiated meaning, managed lexical gaps, and positioned themselves as interactional agents rather than passive conduits. The 13-year-old produced more complete and accurate renditions, demonstrated greater control of medical terminology once acquired, and used clarification requests strategically to support the mother's understanding. By contrast, the 8-year-old relied more heavily on simplification, lexical approximation, and telegraphic structures, enabling communicative continuity but occasionally resulting in omissions or meaning shifts, particularly when modality and negation were involved. Overall, the results suggest that while a rudimentary translational ability may be present early, more reliable interpreting competence develops through cognitive maturation, experience, and interactional scaffolding.

A further process-oriented dimension concerns the physician's evolving perception of the children's performance. Expectation and post-interaction evaluations showed notable increases (43% for the younger child and 60% for the older), indicating that observing interpreting processes in action can reshape professional assumptions about child language brokers and highlighting the co-constructed nature of interpreting effectiveness.

As a single simulated case study, the findings are not statistically generalisable. Nevertheless, they offer situated insight into how interpreting strategies and agency vary across developmental stages within the same family, contributing to socio-cognitive approaches to translation and interpreting process studies.

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ASR-generated Number Cues in Simultaneous Interpreting:
Measuring Cognitive Load in a Multi-modal Working Environment

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We will present the results of an experiment designed to explore the impact ASR-generated cues on the cognitive load experienced by simultaneous interpreters. In a controlled laboratory environment, 24 professional interpreters completed two SI tasks, one with and one without ASR-cued numbers. Cognitive load was measured subjectively (NASA TLX) and objectively (pupil dilation, blink frequency, skin conductance, heart rate). Performance was assessed by blind judges.

The preliminary analysis of our results, based on half of our sample, shows that participants are not consciously aware of any additional cognitive load due to ASR stimuli, which is consistent with results from Li and Chmiel (2024). As expected, and line with previous research on this topic (Defrancq & Fantinuoli, 2020; Desmet et al., 2018), interpreters make fewer mistakes in number rendition with ASR prompts. As for the overall quality of simultaneous interpreters' output, content was scored higher for the condition with ASR cues, indicating that ASR prompts for numbers improve accuracy not only for numbers but also for the content in general. Scores for style and presentation do not differ significantly between conditions.

Our preliminary results suggest no significant difference in pupil size-based load between ASR and NoASR conditions at the speech level. However, at the sentence and cue level, we can observe higher load in NoASR. It is worth noting that on the cue level after approximately 1s, when the number appears on the screen, pupil size decreases significantly. It might indicate a local decrease in cognitive load, but it could also indicate the pupillary light reflex. Blink rate increases with ASR at the cue level but not at the sentence level which also indicates a local increase in cognitive load. Similar results were obtained for heart rate. GSR tonic data showed an increase in the ASR condition on the speech and on the cue level. This suggests an increase in interpreters' engagement; however, it is impossible to determine the valency of this engagement (positive or negative) given the null result of the subjective evaluation of load and its sub-categories using the NASA TLX.

In summing up, our physiological data obtained so far do not indicate any ASR-cue related changes in cognitive load at the macro level, thus across entire speeches or entire sentences. However, at the cue level we observed an increase in local cognitive load when ASR prompts are provided. We will present the final results of the experiment at the conference.

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(Retrospective) Think-Aloud Protocols as a Tool for Exploring the Translator's "Black Box": The Case of the Translation of Contrastive Markers (From Dutch Into French) by Professional Translators and Translation Students

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Understanding translation "from inside the translator's mind" (Mossop, 2011, p.57) was once regarded as a true "black box" (Muñoz Martín & Marín García, 2022)—that is, "the thought processes which take place when someone is translating a text", a field which has arguably fascinated scholars for as long as translation itself (Jääskeläinen, 1998, p.265). The application of cognitive science to translation, or *Cognitive Translation Studies* (Muñoz Martín, Sun & Li, 2021), has in recent years developed a number of methodological tools designed to shed light on these opaque areas and to model the mental processes involved in translation. Among these, think-aloud protocols. Borrowed from cognitive psychology (Xiao, 2025), they "consist of the verbalisation of the reasoning used to address a specific topic" (Riera Tubón & Paredes Rodríguez, 2023, p.10).

In this study, we combine a retrospective think-aloud protocol with a translation task. Twelve professional translators (according to PACTE criteria, 2008) and nineteen second-year Master's translation students from the Faculty of Translation and Interpreting at the University of Mons were asked to translate the same authentic Dutch journalistic text (of about 500 words) into French. The text contained several contrastive discourse markers, including twelve occurrences of *maar* (Dutch equivalent of *but* in English). Participants were unaware of the study's specific focus and none of them guessed it during the task. Once they were ready with the translation of the text, participants were asked to complete a reflective questionnaire inviting them to analyse retrospectively their translations of the contrastive markers of the original text. The main instruction on the form, which we will focus on in this study, is: "*Please give a written explanation of the reasons that led you to translate the contrastive markers as you did*".

This paper analyses and compares the retrospective think-aloud answers of the professional translators and the students. Although analysis is still in progress, preliminary results reveal notable tendencies: professional translators expressed significantly more regret than students when reflecting on their translation choices ($p = 0.004$ according to Fisher's exact test), using formulations such as *"I could have chosen another option in some cases"* or even apologising (*"Sorry, once again, that was a very spontaneous choice"*). Students, by contrast, more frequently explained their translation choices through reference to prescriptive norms and academic conventions, giving sometimes the impression of self-justification (such as: *"We were taught that it is better to avoid beginning a sentence with a conjunction"*). The final aim of this study is to provide an exhaustive list and a classification of the reasons given by participants in the reflective forms, in order to then be able to compare the similarities and differences between professional translators and students when it comes to explaining and justifying their own translation choices that take place in their "black box".

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From Conceptualization to Transconceptualization: Cognitive Reconfiguration in Multimodal Translation Practice

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Recent advances in translation process research have emphasized the need for a more holistic understanding of translators' cognition as a situated, multimodal, socially embedded activity (Halverson, 2021). While existing cognitive models have provided valuable insights into interlingual decision-making and problem-solving, they have devoted comparatively limited attention to how conceptual meaning is stabilized and reconfigured across linguistic, visual and cultural modalities. This study addresses this gap by introducing *transconceptualization* as a higher-order cognitive process through which conceptual structures are transferred, transformed, and integrated across semiotic systems, and by proposing *transconceptual competence* as the capacity to orchestrate such integration in professional translation practices.

The paper presents a concept-driven qualitative inquiry situated within the socio-cognitive strand of translation process research (Risku & Rogl, 2021; Sannholm & Risku, 2024). Its primary contribution is theoretical and is supported by an illustrative empirical analysis. Cognitive transformation is operationalized here as observable shifts in framing, salience selection, and semiotic integration across iterative translation and naming decisions, rather than introspectively accessed mental states. In this sense, transconceptualization captures forms of multimodal reasoning that extend beyond interlingual meaning construction toward a distributed cognitive design.

The empirical illustration draws on naturally occurring, publicly accessible linguistic and semiotic artifacts produced within European Capital of Culture (ECoC) projects, including published naming solutions and their multimodal realization. No elicited participant data are used. Analytical attention is directed toward the distribution of conceptual meaning across translators and mediating artifacts, such as project briefs, visual identity constraints, and institutional framing. The analysis follows a qualitative, process-oriented approach aligned with practice-based and distributed cognition perspectives in translation research (Risku, 2016).

The study addresses three research questions:

(1) How does conceptualization evolve into transconceptualization in multimodal translation contexts?

(2) How is cognitive activity distributed across translators and mediating semiotic artifacts during this process?

(3) How can this evolution inform a model of transconceptual competence?

The shift from conceptualization to transconceptualization is illustrated through a concise naming example derived from ECoC practice, with the *EuroPOinT* label serving as a representative illustration. Used here solely as an explanatory example rather than as a full case study, it demonstrates how conceptual meaning is reconfigured through semiotic synthesis: *Euro* evokes European identity, *PO* indexes local specificity, and *inT* signals international interconnectedness. The example highlights the move from interlingual equivalence toward multimodal conceptual integration.

The findings suggest that transconceptual competence functions as a higher-order integrative construct that bridges linguistic, cultural, and semiotic knowledge. It complements existing competence models, including linguistic, cultural, and strategic frameworks (European Commission, 2022), and offers a conceptual vocabulary for researching and teaching multimodal translation practices. By grounding theoretical development in authentic professional artifacts, this study responds to current calls for empirically informed and practice-relevant translation process research (Rojo & Muñoz, 2022).

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Parallel, Hybrid, or Serial?

Processing Patterns in Simultaneous Interpreting with Text under Varying Intermodal Congruency Conditions

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Simultaneous interpreting with text (SIMTXT), where interpreters have concurrent access to both the auditory input of a speech and its written transcript (Setton, 2015), entails complex cognitive demands due to the integration of multimodal inputs. A central issue concerns the processing patterns interpreters adopt when managing overlapping auditory and textual streams. While research on multimodality in interpreting has grown, specific mechanisms underlying SIMTXT remain insufficiently examined. One key factor influencing SIMTXT processing patterns is intermodal congruency, defined as the degree of semantic alignment between auditory and textual inputs (Ihnaini et al., 2024). Variations in congruency may elicit distinct processing modes, including parallel or serial (Ferreira et al., 2020; Zou & Guo, 2024). In addition, the role of interpreting expertise on processing patterns remains inconclusive (e.g., Yang et al., 2025; Ma & Wang, 2025), particularly regarding how professionals and trainees differ in efficiency and flexibility with which they shift among these patterns.

To address these gaps, this study examines the effects of intermodal congruency and interpreting expertise on processing patterns in SIMTXT. We employed a triangulated research design, incorporating multiple data sources, including eye-tracking, interpreting output, and retrospective interviews. Thirty-four professional interpreters and forty-two student interpreters completed three SIMTXT tasks representing distinct levels of intermodal congruency: exact match, high congruency, and low congruency. These levels were operationalized through quantitative measures of semantic overlap between the audio and visual texts.

The findings provide strong evidence that intermodal congruency is a decisive factor shaping processing patterns in SIMTXT. Serial processing under low congruency reflects interpreters' tendency to resolve cross-modal conflicts by prioritizing the visual channel before shifting to the auditory one, thereby reducing cognitive interference. By contrast, hybrid processing in high-congruency tasks suggests a more flexible strategy of alternating between the two modalities to maximize informational gain while maintaining processing economy. Parallel processing under exact-match conditions demonstrates that full alignment of auditory and textual inputs enables simultaneous interpreting, minimizing the need for costly attentional shifts. These findings resonate with previous studies, which found that alignment across different modalities facilitates parallel uptake, whereas incongruence necessitates sequential strategies (Chmiel et al., 2020; Seeber et al., 2020).

Meanwhile, the expertise effect highlights the role of experience in managing multimodal input. Professionals exhibited greater flexibility in transitioning between processing different modalities and demonstrated more stable attention-switching, consistent with accounts of professional interpreters' superior attentional control and adaptive resource allocation (Xing & Yang, 2023). In contrast, students' less consistent processing patterns and unstable attention shifts point to underdeveloped strategies for resolving intermodal tension.

This study makes both theoretical and practical contributions. Theoretically, it advances understanding of how interpreters adapt their processing patterns under varying multimodal conditions and highlights the role of professional experience in fostering cognitive flexibility and stable attentional control. Practically, the findings suggest that interpreter training should incorporate multimodal tasks with different levels of intermodal congruency to promote adaptive processing strategies. Moreover, the results have implications for AI-assisted interpreting, indicating that the semantic accuracy of automatically generated captions can critically shape interpreters' processing patterns, thereby underscoring the importance of caption quality and accuracy in technology-mediated interpreting environments.

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Acknowledgements

We would like to thank our sponsors whose endorsement, financial contributions, and organisational support have helped make this conference possible.

Financial support

Grant number J.0090.25

CRECH action 9

Endorsement

Organisational support