Editorial

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Cognitive translation and interpreting studies – an evolving research area and a thriving community of practice

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Abstract: In this introduction we look at the evolving research area of Cognitive Translation and Interpreting Studies (CTIS) through the lens of articles which report on cutting edge research in a variety of multilectal mediated communicative events. Seven contributions in this issue expand the frame of Cognitive Translation and Interpreting Studies with detailed, empirically grounded accounts of how language and mind interact in mediated communication. The new empirical evidence challenges key concepts, such as *cognitive effort* or *translation expertise*, and sheds light on overlooked areas of translation reception and accessibility research. Although the studies vary in topic and methods, they converge on a more sophisticated view of cognition in multilectal mediated communication which underscores its complexity and dynamics. The findings point to two overarching trends in CTIS research: (1) conceptual progress and (2) methodological sophistication. The contributors to this special issue are all mid- and early-career researchers and the development of their research expertise mirrors that of CTIS as a community of practice committed to producing knowledge based on empirical evidence and enriched by meaningful collaborative exchanges with neighboring disciplines.

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1 Introduction

The junction of language and mind is a crowded neighborhood. Those who live and work here daily discern family resemblances and subtle differences across aims,

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theories, and methods more clearly than occasional passersby. Cognitive linguistics views language as a product of general cognition rather than a standalone system, focusing on how language both shapes and reflects thought. By contrast, Cognitive Translation and Interpreting Studies (CTIS) concentrates on enabling or improving communication between parties, often speakers of different languages or language varieties. Cognitive psychology explains how the mind acquires, processes, and uses knowledge, and how mental processes influence behavior. CTIS applies this understanding to train professional multilectal mediators – those who communicate across languages, dialects, and semiotic systems – and to improve communication practices, workflows, and working conditions.

Psycholinguistics and bilingual or multilingual studies live in the same block. Psycholinguistics often isolates language processing from the rest of the mind and from sociocultural constraints. CTIS, instead, approaches cognition within communicative ecosystems, where mediators perform socially embedded, goal-driven tasks. Bilingual and multilingual studies ask how additional languages are acquired, processed, and managed, and how such experience enhances mental features and skills, such as attention, memory, and problem-solving. CTIS instead examines how bilinguals and multilinguals deploy their skills and adapt to task demands to make communication possible.

CTIS shares some similarities with these fields but, beyond these contrasts, it defines itself as an applied, empirical domain that takes complexity as its starting point and that sets it apart. Translation and interpreting – paradigmatic forms of multilectal mediation – emerge from interacting processes across levels – neural, symbolic, and social. As Shreve (2018, 2020) argues, no single level suffices: translation is a complex adaptive system, shaped by variability in tasks, environments, and constraints. This explains why CTIS examines not only mechanisms or subjective experiences, but also the layered, adaptive dynamics through which mediation unfolds. It models how humans navigate exchanges across multiple semiotic codes, as in online meetings, or in complex artifacts, such as films and songs. In this light, shifting our object of study away from essentialist debates about the "nature" of translation or interpreting and moving toward the minimal factors that define the communicative events where mediation occurs is the more productive route. This shift lets CTIS accommodate the accelerating diversification of communicative tasks that warrant scholarly attention.

The complexity of our research endeavor and the diversity of tasks examined in CTIS make direct comparisons with disciplines that study phenomena in isolation less productive. At the same time, CTIS thrives on exchange: we borrow concepts and methods from our neighbors (O'Brien 2013) and, in turn, contribute detailed, empirically grounded accounts of how language and mind interact in communication. This reciprocal relationship enriches both CTIS and its neighboring fields. Yet,

CTIS is bold in asking how numerous factors shape translators' choices and behaviors, how they navigate their bilingual resources, shift attention, and achieve or improve communication for others.

Here, **Tomczak-Łukaszewska** underscores this ecological perspective by approaching translation within situated cognition. She shows how bodily states, ergonomic arrangements, and material surroundings co-constitute cognitive performance, and how attention to the end user – through reading experiences and text reception – can further illuminate translation processes. All papers in this special issue either explicitly adopt or implicitly align with situated cognition. This is not the only philosophical approach to cognition within CTIS; it is simply a fast-growing perspective that currently yields especially fruitful work, as the contributions gathered here show.

New work revisits key concepts for CTIS, such as *cognitive effort* or *translation expertise,* and sheds light on overlooked areas or neglected dimensions. When bibliometric analysis reveals gaps in metaphor research, it guides **Wong & Xu** in targeted hypothesis generation. When EEG data expose U-shaped skill acquisition curves, **Habig** refines existing expertise models. In this respect, CTIS aligns with the social sciences in viewing cognition as a negotiation between neural resources and environmental demands. In other words, the close neighborhood of mind, language and communication is itself only a part of an even larger polis.

As a social scientific enterprise, CTIS is defined by its commitment to cumulative knowledge. Rather than undergoing episodic "turns," as in some humanistic districts of translation and interpreting scholarship, CTIS advances incrementally, preserving useful insights while refining theories and methods through research-based evidence. For decades, researchers have employed controlled designs to trace how mediators use memory, allocate attention, juggle tasks, manage resources, and regulate effort. Controlled lab studies remain valuable for isolating variables (that is precisely their point), but most CTIS research must now address ecological validity as a constitutive feature and concern, rather than as a methodological afterthought. Current research is defined less by methods than by refined concepts, unpacked complexity, and the questioning of long-standing assumptions. This shift also makes plenty of room for tasks beyond translation and interpreting in the strict sense – for instance, audio description and other forms of mediation where communication difficulties stem not from typical features of the input but from the needs and characteristics of the addressees.

The articles in this issue draw on a range of theoretical frameworks, such as Bereiter and Scardamalia's (1987) models of writing in **Schrijver**'s present contribution. Yet these frameworks are not adopted wholesale; they are adapted, tested, and refined to fit the specifics of multilectal mediated tasks. They show that understanding multilectal mediation requires interrogating received assumptions,

disassembling processes, and recognizing variation. Ergonomic conditions, stress, and emotional regulation directly influence how mediators adapt to their environments during tasks; they are part of performance dynamics. For researchers, the message is methodological confidence paired with conceptual caution: evidence is only as strong as the concepts and models that flesh it out. For trainers and practitioners, these findings suggest that improving efficiency, comfort, and creativity depends on task design and practice routines, rather than years of experience (**Ho & Tsai**).

Together, the papers in this issue signal CTIS's maturation into a methodologically robust, theoretically integrated endeavor. They refine existing theories, introduce new methods, and provide empirical data that deepen our understanding of communicative mediation. They also demonstrate how interdisciplinary frameworks are incorporated through adaptation, testing, and refinement. **Tomczak-Łukaszewska** highlights that such refinement must remain ecologically grounded. There is no room for vague definitions of key constructs, which need to be operationalized in a clear, evidence-based manner choosing observable – and often, but by no means always – measurable correlates. Experimental studies with human participants must recognize that bodily states, ergonomic setups, and affective conditions are integral to mediation because they shape how it unfolds.

The studies in this issue vary in topic and method, yet they converge on a more sophisticated view of cognition in multilectal mediated communication. Their findings point to two overarching trends: (1) conceptual progress and (2) methodological sophistication. The following sections examine each in turn.

2 Conceptual progress

The present studies challenge long-standing assumptions about who performs best or what makes a task harder. Presumed general advantages or disadvantages prove conditional or unsupported. A common assumption has been that seasoned professionals exert lower cognitive effort than trainees or less experienced practitioners. Yet evidence depicts a more complex picture. First came the *expertise reversal effect* – the phenomenon where what makes learning easier for novices can actually increase difficulty for experts (Sweller et al. 2003; Tetzlaff et al. 2025). Then, Gile's (2009) efforts models suggested that superior performance by experienced interpreters stems from better management of cognitive resources, rather than lower effort. Ericsson's expert-performance approach, grounded in *deliberate practice* (Ericsson et al. 1993), has since faced growing empirical challenge (e.g., Hambrick et al. 2014). Here, **Ho & Tsai** show that a single semester of training can align student interpreters' reading-process profiles with those of professionals, and

that additional years of experience after training bring little further change in these basic processes.

The days are gone when we believed that there are simple, linear models that are necessary to fully capture cognitive processes. For instance, early work linked pause length to processing difficulty (Schilperoord 1996) and pupil dilation to cognitive load (Just and Carpenter 1993). We know by now that both measures are context-dependent: pauses serve multiple functions (Leijten and Van Waes 2013), while pupil size reflects not only processing demands, but also discourse-level factors, arousal, emotional states, and even lighting conditions (Beatty and Lucero-Wagoner 2000; Hyönä et al. 1995).

This critique extends to the very metaphors used to describe cognitive effort. As Cañas (2017) argues, the traditional view of "load" as depletion of a finite mental fuel cannot account for observed patterns: accidents tend to cluster when resources should be intact, and performance can remain stable across long tasks. His findings suggest that compensatory mechanisms triggered by task complexity help sustain activation, indicating that the load metaphor itself requires reconceptualization.

In this light, it becomes clear why CTIS studies repeatedly show that difficulty and effort are not fixed properties but depend on the circumstances and the people who experience them (Embrey et al. 2023, 2024; Gheza et al. 2023). The impact of regional accents on interpreter stress, for example, might be expected to be significant. However, **Korpal & Mellinger**'s community-interpreting study find that regional American English accents (Midwestern vs. Southern) did not on their own increase stress. Spoiler: The principal stressor was task onset – the first assignment of the day. Results underscore the adaptive nature of expertise and call for further research on how accent is conceptualized and how it affects performance.

Another common assumption is that creative language uniformly enhances audience engagement. **Ramos et al.** show that, while audiences report preferring a creative, metaphor-rich audio description, their physiological responses indicate greater effort and arousal when listening to it – especially in the unfamiliar setting of contemporary dance. The dissonance between subjective judgments and objective measures is not uncommon in language studies. Kretzschmar et al. (2013) used concurrent EEG and eyetracking evidence to show that older adults who expressed a preference for reading paper pages over e-books exhibited significantly lower cognitive and neural effort when reading on a tablet. In each case, simplistic claims such as "X is always better" or "Y automatically makes it harder" give way to situated variability (e.g., Spitzer et al. 2025). The efficacy or impact of a factor (experience, accent, creativity) depends on training, task characteristics, and familiarity rather than on static status markers like years of practice, native versus non-native accent, or stylistic richness in the abstract and on interactions between stimulus-level factors and participant-level variables.

Multilectal mediation thus emerges as time-sensitive and adaptive, with mental processes unfolding over the course of the task. Breedveld (2002) argued that translators engage in different activities at different times, and multilectal mediation tasks likewise consist of interconnected processes with distinct aims and distributions of activity. Production processes (e.g., planning, motor control, assessment) vary with individual, situational, and environmental factors (Muñoz 2016). As a result, cognitive activity evolves through the mediator's interaction with texts – or other communicative artifacts – and the environment.

In this issue, **Habig**'s longitudinal EEG study shows that neural indicators of effort first rise and then decline during training, tracing an inverted U-shaped trajectory of intensification followed by automation. **Schrijver** observes that translation students often begin with literal renderings but shift to paraphrasing as they adapt to summarization constraints, illustrating real-time regulation of strategies. **Korpal & Mellinger** find that interpreter stress spikes at the start of a session and diminishes on repetition, regardless of accent, confirming that adaptation can occur within minutes. Taken together, these studies portray cognition as dynamic – responsive to timing, task demands, and learning curves – rather than a static attribute of the individual. **Tomczak-Łukaszewska**'s ecological account adds to this view by showing that mediation also depends on embodied and affective resources and is distributed to involve the proofreader and the reader of the target text.

3 Methodological sophistication

Multi-method designs have characterized CTIS for over two decades (cf. Alves 2003). Technically, this is not new. What has changed is that they have become indispensable. A hallmark of the studies in this issue is precisely this integration. None relies on a single instrument. **Ramos et al.** combine physiological measures (heart rate variability, galvanic skin response) with self-reports to examine audience responses to creative audio description. **Schrijver** aligns keystroke logs with annotated texts to trace how summarizing translations evolve. **Ho & Tsai** combine eyetracking with qualitative observation to identify distinct strategies in sight translation. **Habig** interprets EEG patterns alongside behavioral performance scores to chart trajectories of interpreter training. **Wong & Xu** pair bibliometric maps with classification schemes to identify gaps in metaphor research.

Integration is not mere thoroughness; it enables cross-validation and captures otherwise inaccessible complexity (e.g., Du 2024). The cognition of the participants involved in multilectal mediation is multi-dimensional, and phenomena such as

comprehension difficulty or cognitive effort leave varied traces – eye movements, neural signals, heart rate changes, subjective feelings – so that only by examining these facets together can we grasp the whole. This aligns with **Tomczak-Łukaszewska**'s call for designs that integrate ecological validity, so that distributed and affective dimensions of mediation are not stripped away by reductionist methods. Her study combines eye-movement measures to show how text factors (translation quality) and reader factors (L2 proficiency) jointly modulate reading.

Multi-method integration also reframes contradictions as insights. In **Ramos et al.**'s study, interviews showed a preference for creative style, while physiological measures pointed to greater effort – a divergence that would have remained invisible with a single method. In **Korpal & Mellinger**'s accent-and-stress study, questionnaires revealed no effect of accent, but interviews showed that interpreters felt most pressure at the start of a session and under evaluative gaze. By combining methods, the researchers identified that performance onset – not accent – was the main stressor.

Beyond these individual paradoxes, the studies in this issue collectively illustrate how methodological innovation sharpens CTIS inquiry. Eyetracking is no longer limited to fixation counts but extended to clustering and scan-path metrics that uncover distinct reading processes. EEG data combines with behavioral performance scores to show how trainees develop expertise over time by selectively adapting their cognitive strategies. Keylogging is enriched with textual annotations and observations to reveal planning and revision strategies. Physiological and self-report measures expose preference–reception mismatches in audience studies, while bibliometric mapping identifies theoretical blind spots and guides experimental agendas. Methodological sophistication is less about adding sophisticated instruments than about protocols that make complex dynamics empirically visible.

This emerges when fine-grained analyses link behavioral, physiological, and neural correlates with participant profiles (Whyatt et al. 2025). Source-language proficiency modulates eye movements during meaning integration (**Tomczak-Łukaszewska**). Cardiac deceleration, as a momentary biomarker of emotional experience when audiences follow audio description of modern dance, may be affected by familiarity with different AD styles (**Ramos et al.**). Voltage changes in the P300 time window become observable as trainees gain experience in simultaneous interpreting (**Habig**). These methodological refinements, coupled with rigorous study designs, uncover previously unnoticed aspects of both production and reception in multilectal mediated communication and yield insights with implications for theory, training, and neighboring fields.

4 The contributions and their implications

The seven papers in this issue embody the conceptual and methodological advances outlined above. Each challenges received assumptions while showing how multimethod designs capture adaptive complexity. Below, we summarize their key findings and implications.

Ho & Tsai dismantle the assumption that reading is a single, uniform skill. Their study of sight translation shows that reading is composed of multiple processes – skimming, rauding (normal-pace reading), two forms of problem-solving, and anchoring – that interpreters shift between depending on local task demands. Training alters the distribution of these processes, bringing students closer to professional patterns, but without collapsing them into one mode. Reading in mediation thus emerges as differentiated and strategic rather than unitary. This reveals that expertise develops not through standardization but through flexible orchestration of multiple cognitive resources, suggesting that training programs should cultivate strategic adaptability rather than uniform proficiency across all reading modes.

Habig traces how interpreter training unfolds over time through longitudinal EEG and behavioral data. She identifies an inverted U-shaped trajectory in which effort first intensifies and later gives way to automation, with P300 amplitudes peaking and then declining, while N200 responses show individual variability. This pattern reveals selective adaptation rather than wholesale efficiency gains, challenging the assumption that experience uniformly reduces effort. For training design, this suggests that periods of heightened effort signal productive learning rather than failure, and that individual variation in neural adaptation should be expected rather than corrected. Expertise emerges through personalized pathways of selective automation, not universal efficiency gains.

Korpal & Mellinger investigate interpreter stress in relation to regional American English accents. Contrary to expectations, accent (Midwestern vs. Southern) does not itself increase stress. Instead, the decisive factor is task onset: interpreters experience the most stress during their first assignment of the day, especially under evaluative gaze. The findings reposition stress as situational and temporal rather than tied to stable linguistic features. This underscores that stress management training should focus on task initiation protocols and evaluative settings rather than accent familiarity, revealing how ecological timing shapes cognitive load more than linguistic complexity.

Schrijver focuses on summarizing translation to show that condensation depends critically on paraphrasing and revision. Keylogging aligned with source-text annotations uncovers distinct phases of planning, drafting, and revising. Literal

patchwork strategies contrast with paraphrasing, which carries greater moment-to-moment effort but enables genuine condensation. Revision emerges as the linchpin that allows summarization to succeed. This demonstrates that effective summarization requires strategic effort allocation across distinct cognitive subtasks, challenging training approaches that treat revision as peripheral editing rather than fundamental cognitive work.

Ramos et al. uncover a preference–reception paradox: although 86 % of participants prefer creative, metaphor-rich audio description, physiological data indicate heightened arousal and processing effort. This divergence demonstrates that reception operates across multiple levels simultaneously and that self-reports alone cannot capture its full complexity. Training and evaluation protocols need to integrate both subjective preferences and objective processing measures to capture the full complexity of mediated communication.

Wong & Xu use bibliometric synthesis to chart six decades of cognitive metaphor research. They show that the field is overwhelmingly dominated by text-based studies and by Conceptual Metaphor Theory, with behavioral studies – and especially those focused on interpreting – accounting for only a small fraction. They propose Deliberate Metaphor Theory – which emphasizes speakers' conscious metaphor use – as a framework for expanding CTIS experimentation, highlighting where new empirical work is most needed. This systematic mapping reveals how theoretical dominance can create empirical blind spots and demonstrates that field development requires not just new studies but strategic attention to underexplored methodological and theoretical territories.

Tomczak-Łukaszewska makes the case for extended cognition in CTIS. By examining how translator choices shape textual products, she argues that cognition and mediation cannot be reduced to abstract mechanisms or decontextualized tasks. In communicative events, production and reception must instead be analyzed as situated activity, distributed across mind, body, and environment. This perspective reframes research design, and training should likewise replicate the distributed, embodied conditions of professional practice.

Taken together, these studies demonstrate that variability is not noise but a constitutive feature of multilectal mediation that highlights the adaptive, situated nature of cognitive expertise. Rather than seeking universal principles, CTIS advances by modeling how individual differences, task features, and environmental constraints interact to shape performance. This complexity framing connects CTIS with broader developments in situated cognition and embodied interaction, positioning the field to contribute distinctive insights about how cognitive activity adapts within the temporal, spatial, and social constraints of real-world communication.

CTIS provides both a testing ground and a source of conceptual innovation for allied fields. Yet, beyond theoretical and methodological advances, the maturation of

CTIS also depends on the growth of its research community and shared practices. This final section highlights how research expertise develops within that community and how institutional spaces support its consolidation.

5 Developing research expertise

This special issue emerged in the aftermath of a panel organized during one of the largest gatherings of linguists worldwide – the 21st International Congress of Linguists that took place in Poznań (Adam Mickiewicz University) in September 2024. The idea behind the focus stream on CTIS was to showcase our work to linguists by inviting participants who represent a diversity of CTIS research areas and are involved in creating new knowledge based on empirical evidence (Muñoz Martín 2025).

The contributors to this special issue are all mid- and early-career researchers and the development of their research expertise mirrors that of CTIS as a community of practice. They work in strong research hubs that are contributing to our visibility: Hong Kong Baptist University, Johannes Gutenberg-Universität Mainz, Queen's University Belfast, the University of Antwerp, the University of Murcia, the University of North Carolina at Charlotte and the host, Adam Mickiewicz University in Poznań. Their studies cover diverse topics, from sight translation and community interpreting to the still under-researched audience reception of creative translations, showcasing part of the field's methodological and theoretical range.

New empirically grounded knowledge is not only cumulative but also emerges from interactions and discussions, from generous exchanges of ideas between the more and the less experienced members of the research community during conferences, in both formal and informal settings. Digital communication is useful, but it is not the same. The panel at the 21st International Congress of Linguists in Poznań provided such a forum for presenting and discussing cutting-edge CTIS research, enabling us to understand and share our commitments to exploring mediation-related processes and phenomena in a socially responsible and ethical manner.

Several major inroads lead into this scholarly community, and some are becoming cornerstones of CTIS. Just as an example, newcomers can find their way into our academic life and shared values by attending the flagship conference series of the international research network *Translation, Research, Empiricism, Cognition* (TREC) on Translation, Interpreting and Cognition (ICTIC). Another way is attending one of the editions of the MC2 Lab's International CTIS Summer School. Co-directed by Ricardo Muñoz as head of the MC2 Lab, the series has so far held three editions: the first was online – in 2021, during the pandemic – and co-directed by Maureen Ehrensberger-Dow (ZHAW); the second was hosted at the Polytechnic University of Cartagena, Spain, in 2023 and co-directed by Ana M. Rojo López (University of

Murcia); and the third, in 2025, at Adam Mickiewicz University, Poznań, was co-directed by Bogusława Whyatt. Endorsed by the TREC network and the European Society for Translation Studies, these editions welcomed many outstanding PhD students and postdocs. In fact, some contributors to this issue attended the 2023 Cartagena edition.

Organizing summer schools is a common practice in many research communities that care about the continuity of interest in a research area and the maintenance of high standards of academic progress. CTIS is no exception in this respect. Learning the ropes of how to network, design studies, and apply for funding is a vital part of developing expertise and requires mutual support from other members – collaboration enriches scholarly progress in ways that competition cannot. Beyond training, the schools are also opportunities for networking within our growing invisible college. A fourth MC2 Lab International CTIS Summer School is planned for 2027 at the Universidade Federal de Minas Gerais (Brazil), co-directed by Fabio Alves.

CTIS, like many applied domains, is an ambitious field of inquiry because of the object of study itself. Building on this foundation, researchers in our field must grapple with complex questions about research expertise development. A key one is how to conceptualize the expertise needed to design studies that push the boundaries of knowledge while remaining aligned with the logic of the research process (Halverson 2009). Wray and Wallace (2015) conducted a study among 31 social scientist informants to explore how such expertise can be conceptualized, how it develops throughout one's academic life, and how it can be supported. Their key findings highlight "the importance of being willing to work at the boundaries of one's knowledge, the capacity to communicate one's ideas effectively, and the role of a good quality research environment for developing knowledge, skills and confidence."

The papers in this issue exemplify these principles. They report on empirical research that pushes the boundaries of existing knowledge about translation, interpreting, accessibility, and translation reception. Designed with conceptual clarity and methodological rigor, the studies were first shared in a live, face to face academic forum. Feedback and discussions provided room for improvement before submission, and the peer review process further refined the presentation of ideas until they were considered ready for publication in this special issue.

Through iterative cycles of research, presentation, dialogue, and revision, the contributors have advanced our collective understanding of cognitive processes in multilectal mediated communication. We trust readers will find these studies as stimulating and instructive as we did. As CTIS continues to mature within its crowded neighborhood, the work assembled here demonstrates both the field's distinctive contributions and its productive exchanges with neighboring

disciplines. We look forward to continued dialogue within and beyond our thriving community of inquiry.

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