

Into the Parallax: Harnessing Abundance, Plurality and Divergence in AI Translation of Ancient Texts

Greg Baker¹, Shirley Chan², Vanessa Enriquez Raido³, Greta Hawes⁴

¹Computing, Macquarie University

²International Studies, Macquarie University

³Linguistics, Macquarie University

⁴History & Archaeology, Macquarie University

Translation is an inherently situated, purposive practice: every rendering reflects particular choices made for a particular purpose in a particular context (Vermeer 1989; Nord 1997). Expert translation competence is correspondingly generative, involving the production and selection of alternative renderings rather than the mechanical retrieval of a single correct translation (Pym 2003). Readers receive a single translation. But this is merely the residue of a plural process that remains invisible, since readers only encounter the selected output, and not the hypothesis space from which it was drawn. This invisibility is intensified by fluent, domesticating translation, which tends to reduce the visibility of linguistic and cultural difference (Venuti 1995). Retranslation theory (Berman 1990) further reminds us that no single rendering can claim finality; multiplicity is constitutive of translation (Gadamer 1989; Toury 1995).

AI does not automatically address this phenomenon. If anything, it intensifies it. Neural machine translation (NMT) systems generate abundant output, but they also tend to reduce lexical richness and diversity (Vanmassenhove et al. 2019) and hallucinations and other critical errors remain a serious concern (Guerreiro et al. 2023). For low-resourced ancient corpora where source texts may be fragmentary or encode culturally specific concepts, these tendencies create a particular vulnerability. Apparent fluency conceals uncertainty precisely where interpretive caution is most needed. Our concept of ‘the Parallax’ proposes that AI abundance, if deliberately structured, could be used to externalise the range of plausible renderings that expert translators ordinarily navigate. Rather than replacing one canonical translation with one AI translation, we present readers with structured translation packs that foreground interpretive choice. Readers are able to actively make use of multiple renderings not as approximations of a single stable meaning, but as differently situated renderings whose divergence is itself informative.

Our case studies are the *Hanshu Dilizhi* 漢書地理志 and Stephanos of Byzantium's *Ethnica*. Neither has yet been published in an English translation. This is methodologically significant: it reduces dependence on a pre-existing canonical English rendering; and it places readers and semi-expert translators in a condition where trust, reliability, and interpretive agency become operationally salient. For each passage, we generate a translation pack comprising variants that deliberately span the foreignisation-domestication spectrum (Schleiermacher 1813, trans. Bartscht 1992; Venuti 1995): literal, readable, interpretive, uncertainty-marked, and adversarial challenge renderings. These packs are designed not as a single “official” translation, but as structured sets of diverse renderings accompanied by lightweight cues for inspection, including source-segment alignment, named-entity treatment, and marked ambiguity points. We test them across three use cases: richer interpretive reading; better draft-stage decisions by

semi-expert translators working without a stable reference standard; and greater reliability-assessment agency for readers with no source-language competence. We also examine how such a transparent, auditable translation process can be documented within the published text itself, so that the editorial apparatus shaping reception becomes recoverable rather than concealed. At AI4AS we present the theoretical framework, corpus rationale, and preliminary pilot findings.

References

- Berman, A. (1990). Retranslation as a space of translation. *Palimpsestes*, 4, 1–7.
- Gadamer, Hans-Georg, 1900-. (1989). *Truth and method* / Hans-Georg Gadamer. New York : Crossroad.
- Guerreiro, N., Voita, E., & Martins, A. (2023). Looking for a needle in a haystack: A comprehensive study of hallucinations in neural machine translation. In *Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2023)*, pp. 1059–1075, Dubrovnik, Croatia. Association for Computational Linguistics.
- Moorkens, J., Castilho, S., Gaspari, F., & Doherty, S. (Eds.) (2018). *Translation Quality Assessment: From Principles to Practice*. Cham: Springer.
- Nord, C. (1997). *Translating as a Purposeful Activity: Functionalist Approaches Explained* (1st ed.). Routledge. <https://doi.org/10.4324/9781315760506>
- O'Brien, S. (2021). Post-editing. In Y. Gambier & L. van Doorslaer (Eds.), *Handbook of Translation Studies*, Vol. 5 (pp. 177–183). Amsterdam: John Benjamins.
- Pym, A. (2003). Redefining translation competence in an electronic age: In defence of a minimalist approach. *Meta*, 48(4), 481–497.
- Schleiermacher, F. (1813/1992). On the different methods of translating. Trans. W. Bartscht. In J. Biguenet & R. Schulte (Eds.), *Theories of Translation. An Anthology of Essays from Dryden to Derrida*. Chicago: University of Chicago Press.
- Toury, G. (1995). *Descriptive Translation Studies — and Beyond*. Amsterdam: John Benjamins.
- Vanmassenhove, E., Shterionov, D., & Way, A. (2019). Lost in translation: Loss and decay of linguistic richness in machine translation. In *Proceedings of Machine Translation Summit XVII: Research Track*, pages 222–232, Dublin, Ireland. European Association for Machine Translation.
- Venuti, L. (1995). *The Translator's Invisibility: A History of Translation*. London: Routledge.
- Vermeer, H. J. (1989). *Skopos and Commission in Translational Action*. Helsinki: Oy Finn Lectura Ab.