
The Translator in the Age of Artificial Intelligence: From Translator to Post Editor?

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Abstract

The rapid development of artificial intelligence (AI) and machine translation (MT) has significantly altered the technological environment in which professional translation is performed. Whereas translation has traditionally been conceptualised as an activity in which the translator independently interprets a source text and produces a target text, contemporary translation workflows increasingly involve neural machine translation (NMT), computer-assisted translation (CAT) tools, translation memories, terminology databases, and post-editing. This transformation raises an important question concerning the changing professional identity of the translator: ¿does the increasing use of AI-assisted translation transform translators from primary producers of target texts into post-editors and quality controllers of machine-generated output? This paper examines the changing relationship between human translators and AI-assisted machine translation, with particular attention to professional workflow and translation competence. It first traces the movement from earlier machine translation systems toward neural approaches and considers the technological characteristics that have enabled MT to become increasingly integrated into professional translation. It then examines how the introduction of machine-generated drafts changes the translator's workflow, responsibility, and decision-making processes. Particular attention is given to post-editing, which is distinguished from proofreading and conventional revision because the translator must evaluate machine-generated output against the source text while determining whether, how, and to what extent intervention is necessary. The paper further examines the competencies required for post-editing, including bilingual competence, revision competence, research competence, technological competence, machine-translation literacy, risk assessment, and strategic decision-making. The discussion suggests that AI-assisted translation does not simply remove the translator from the translation process. Instead, it redistributes translation activity among human and machine

agents, while increasing the importance of human evaluation, intervention, responsibility, and quality control. The emerging translator is therefore better understood not as a professional displaced by technology, but as a linguistic and technological decision-maker operating within an increasingly hybrid translation workflow.

Keywords: artificial intelligence, machine translation, neural machine translation, post-editing, translator competence, translation workflow, CAT tools, human-machine collaboration, translation technology.

Introduction

Translation has historically been understood as a complex linguistic and communicative activity in which a translator interprets a source text and reconstructs its meaning in another language. Although translation technologies have existed for decades, the relationship between the human translator and technology has changed considerably with the development of statistical machine translation, neural machine translation (NMT), and more recently AI-assisted translation systems. Machine translation is no longer restricted to experimental computational environments. It is incorporated into increasingly complex professional workflows involving translation memories, terminology databases, CAT environments, automatic quality assessment, and human post-editing.

This technological transformation has created a conceptual problem for Translation Studies. If a machine produces the initial target-language text, what exactly is the translator's role? Is the translator still primarily a translator, or is the professional role increasingly becoming that of a post-editor, reviser, evaluator, quality controller, or linguistic consultant?

The question is particularly significant because contemporary machine translation does not merely automate isolated lexical substitutions. Neural approaches model translation as a sequence-generation problem and use learned representations and contextual information to generate target-language sequences. Xu explains that the development of machine translation has moved through rule-based, instance-based, statistical, and neural approaches, with neural machine translation becoming a major contemporary approach. At the same time, NMT remains dependent on training data and can produce errors involving terminology, sentence structure, lexical ambiguity, and longer or more complex constructions. The changing technological

environment consequently does not eliminate the need for human linguistic expertise. Instead, it changes where and how that expertise is applied.

This distinction is central to the present paper. The argument is not that artificial intelligence has simply "replaced" translators, nor that human translation remains completely unchanged. Rather, AI-assisted MT changes the distribution of labour within the translation process. A conventional workflow may begin with the translator analysing the source and generating the target text. In an MT-assisted workflow, the first target-language draft may instead be generated automatically, after which a human professional evaluates, corrects, restructures, or sometimes rejects that output. The translator therefore increasingly performs activities associated with post-editing and quality assurance.

This development has already been reflected in professional standards. This specifically establishes requirements for the human post-editing of machine-translation output and identifies competences relevant to post-editors. The standard extends the terminology from "machine translation output" to "non-human translation output."

Research question

The present paper therefore investigates the following questions:

1. How does AI-assisted machine translation alter the traditional role and workflow of professional translators?
2. What forms of human intervention and decision-making remain necessary when AI-assisted machine translation is incorporated into professional translation workflows?
3. To what extent does post-editing require different competencies from translating a text from scratch?

The central proposition developed here is that the increasing integration of AI into translation should be understood as a reconfiguration of translator labour rather than a simple disappearance of the translator. The translator increasingly becomes responsible for evaluating machine output, identifying errors that may not be immediately visible, managing translation risk, making strategic decisions about intervention, and ensuring that the final target text satisfies linguistic, cultural, textual, and communicative requirements.

Analysis

The relationship between translation and computational technology is not new. Machine translation has developed through several technological paradigms, including rule-based, statistical, and neural approaches. Each stage has altered the extent to which linguistic decisions are encoded by human programmers, derived statistically from corpora, or learned through computational models. Xu identifies

four broad stages in the development of machine translation: rule-based, instance-based, statistical, and neural machine translation. According to Xu, neural machine translation became prominent through the application of deep-learning techniques and differs from statistical systems by learning representations and mappings between source and target languages rather than depending to the same degree on manually constructed translation rules or features (67–92).

The development of attention-based NMT represented an important stage in this transition. Cho and Esipova describe NMT as an alternative to statistical phrase-based machine translation and explain that attention-based NMT uses an encoder, decoder, and attention mechanism to process source and target sequences. The significance of this architecture for translation practice is that the system does not simply retrieve a predetermined equivalent. Instead, it generates target-language sequences based on learned representations and contextual relationships. Cho and Esipova's study of simultaneous NMT provides an especially useful example of the way machine translation involves decisions about incomplete linguistic information. Their system begins producing target-language output before the complete source sentence is available. The researchers identify a measurable trade-off between translation quality and delay and report phenomena including phrase repetition and premature commitment.

Although this study concerns simultaneous translation and dates from 2016, its importance for the present discussion is conceptual rather than technological. It demonstrates that automated translation involves decision-making under uncertainty. When insufficient source context is available, a system may commit to a target-language form that subsequently becomes problematic. In their Russian examples, premature decisions about adjective agreement occurred before the system encountered the noun that determined the appropriate form. Such examples demonstrate why fluency alone cannot be treated as equivalent to translation adequacy. An automated translation can appear grammatically plausible while still containing a semantic, contextual, or grammatical problem that requires comparison with the source. This issue becomes increasingly significant as machine translation output becomes more fluent. Nitzke, Hansen-Schirra, and Canfora argue that neural MT can produce errors that are less immediately obvious than the more visible structural errors associated with earlier systems. Consequently, post-editors need to develop the ability to detect "fine-grained" problems in otherwise fluent output.

The technological improvement of MT therefore creates a paradox. The better machine-generated language becomes at appearing fluent, the less sufficient surface-level fluency becomes as a criterion for evaluating translation. Human expertise shifts from simply producing grammatical sentences to determining

whether a fluent machine-generated sentence actually communicates the source meaning accurately and appropriately.

The Changing Translation Workflow

Traditional translation can be represented relatively simply:

Source text → human interpretation → target text → revision → final text

An AI-assisted workflow introduces another stage:

Source text → machine-generated draft → human evaluation → post-editing/revision → quality assurance → final text

The difference is not merely quantitative. It changes the location of human decision-making.

Zhivitskiy and Klokova present an automated translation workflow that includes source-text processing, translation, post-processing, quality assessment, and optimisation. Their model explicitly positions post-processing and quality assessment after automated translation. Their paper should, however, be treated as a descriptive overview rather than definitive evidence of comparative system performance, because the authors themselves state that their comparative numerical data are conditional and derived from information available in open sources. The significance of this workflow is that translation becomes a multi-stage activity rather than a single act of linguistic production.

The translator's intervention may now occur at several points:

1. deciding whether MT is appropriate for the text;
2. selecting or configuring the appropriate system;
3. preparing source material;
4. evaluating machine output;
5. correcting lexical and grammatical errors;
6. checking terminology;
7. identifying omissions and additions;
8. checking cultural and pragmatic appropriateness;
9. deciding when machine output should be substantially rewritten;
10. conducting final quality assurance.

Consequently, the translator's role can become more strategic.

Nitzke, Hansen-Schirra, and Canfora argue that decisions concerning MT and post-editing should take into account text type, translation risk, MT quality, turnaround time, translation lifespan, data security, and the degree of post-editing required. Their decision model therefore places an important form of human judgment before post-editing itself: the decision about whether MT should be used at all. This point complicates the idea that post-editing simply means "correcting machine translation." A professional translator may first have to determine whether

the machine is an appropriate participant in the workflow. For example, a highly repetitive technical text may provide conditions under which MT output can be efficiently post-edited. By contrast, a text involving literary creativity, cultural nuance, highly consequential terminology, or substantial ambiguity may create different risks. Nitzke, Hansen-Schirra, and Canfora specifically emphasise the importance of text type and risk when determining whether MT and post-editing are appropriate.

Thus, AI-assisted translation creates a new preliminary question: Should this text be translated by the machine in the first place? That question belongs neither entirely to traditional translation nor entirely to computational processing. It belongs to the human professional who understands the communicative purpose of the text and the consequences of translation failure.

From Translator to Post-Editor?

The paper asks whether the translator is becoming a post-editor. The answer requires a distinction between replacement and role transformation. The evidence examined here does not support a simple conclusion that translators are disappearing. Instead, it demonstrates the emergence of additional tasks around machine-generated translation. Xu explicitly identifies post-editing and quality-control positions as emerging activities associated with machine translation. He argues that the development of NMT has created new forms of demand for human intervention, particularly where machine-generated text must be checked or improved. However, describing the translator simply as a "post-editor" is also insufficient.

A post-editor does not merely proofread the output. The requirements for full human post-editing of machine translation output and for post-editor competences. The distinction is important because proofreading normally focuses on surface-level correctness, whereas post-editing requires comparison between source and target and may involve substantial linguistic intervention. Nitzke, Hansen-Schirra, and Canfora make this distinction particularly clear through their post-editing competence model. They identify risk assessment, strategic competence, consulting competence, and service competence as core competences, supported by bilingual, extralinguistic, instrumental, research, revision, translation, machine-translation, and post-editing competences. The post-editor, therefore, is not merely someone who repairs defective sentences. The post-editor must determine which defects matter, which corrections are necessary, what quality level is required, and when intervention should stop. This creates an important change in professional responsibility.

In conventional translation, the translator can generally explain a translation decision as their own linguistic choice. In MT-assisted translation, the professional must often evaluate a decision that was generated by another system. The translator

therefore assumes the role of an evaluator of machine-generated linguistic choices. This is particularly important because MT output can produce a dangerous form of apparent correctness. Cho and Esipova's experiments demonstrate that NMT can produce output affected by repetition and premature commitment, while Xu identifies difficulties involving out-of-vocabulary items, low-resource languages, and long or difficult sentences.

The professional translator therefore remains necessary as a critical reader of machine output. Nitzke, Hansen-Schirra, and Canfora explicitly argue that some aspects of post-editing resemble translation from scratch, while other considerations and competences differ. Similarly, research on translation revision and post-editing competence has treated post-editing as sufficiently distinct to warrant separate investigation and measurement. A translator working from scratch begins with a source text and produces a target text. A post-editor begins with two texts: the source and a machine-generated target draft. The target text is therefore simultaneously a resource and an object of evaluation. This changes the cognitive relationship between the translator and the target text. The translator may accept, reject, modify, or completely replace a machine-generated segment. This means that post-editing involves continuous evaluation of whether the machine's proposal should be retained. The second difference concerns error anticipation. Traditional translators are primarily responsible for generating solutions to translation problems. Post-editors must additionally understand the characteristic weaknesses of machine-generated output. Nitzke, Hansen-Schirra, and Canfora identify machine-translation competence as a specific component of post-editing competence and argue that post-editors need to understand possible MT pitfalls. This is especially important with NMT because machine errors are not necessarily obvious. A visibly malformed sentence immediately attracts attention. A fluent sentence with a subtle semantic omission may not. Consequently, post-editing requires a form of controlled scepticism toward machine output.

The third difference is risk management. A translator working from scratch must already consider audience, purpose, genre, terminology, and cultural context. A post-editor must additionally evaluate whether the machine-generated draft creates unacceptable risks. Nitzke, Hansen-Schirra, and Canfora argue that risk assessment should occur throughout the MT and post-editing process, including consideration of data security, text type, MT quality, and the consequences of translation errors. The fourth difference concerns technological competence. The post-editor must be able to operate within a technological environment involving CAT tools, MT systems, translation memories, terminology resources, and quality-assurance mechanisms. Nitzke, Hansen-Schirra, and Canfora explicitly include instrumental competence and

machine-translation competence within their proposed model. The fifth difference is strategic intervention. A post-editor must determine whether a machine-generated segment requires a minor correction, extensive rewriting, or complete retranslation. Excessive editing wastes time, while insufficient editing can compromise quality. Post-editing therefore involves a constant negotiation between intervention and restraint. This is one of the most important distinctions between post-editing and conventional translation: the professional must learn not only how to translate, but also when not to change the machine's output.

The changing workflow consequently requires a broader understanding of translation competence.

A contemporary translator working with AI-assisted MT requires at least six interconnected areas of competence. The basic ability to understand the source language and produce an appropriate target language remains fundamental. Machine translation does not eliminate this competence because post-editing itself requires comparison between source and target. Nitzke, Hansen-Schirra, and Canfora specifically emphasise the need for proficient knowledge of both languages in post-editing. The translator must still understand genre, register, audience, purpose, cultural references, and translation strategies. Post-editing is therefore not independent of translation competence. Rather, it presupposes it. The post-editor must read a text that they did not originally produce and identify significant problems. This resembles revision more closely than conventional first-draft translation. Nitzke, Hansen-Schirra, and Canfora identify revision competence as an important component because the post-editor must consciously evaluate another agent's textual decisions. The translator must understand the tools through which MT is delivered. This includes CAT environments, translation memories, terminology databases, and integrated MT systems. Machine-translation literacy involves understanding what MT systems can and cannot reliably do. It also involves recognising characteristic machine errors and understanding that apparent fluency is not sufficient evidence of correctness. The translator must determine whether MT should be used, what degree of post-editing is appropriate, what risks are acceptable, and when additional human review is necessary.

A 2024 study of translator competence in legal and institutional translation similarly found that contemporary competence models need to account for AI and MT-related changes in professional workflows. The study validated a revised competence descriptor through a survey of 474 translation professionals from 24 international organisations and retained strategic/methodological competence, including revision and post-editing, alongside language, thematic, cultural, and

professional competences. The implication is significant as it proves that AI-assisted translation does not reduce competence; it redistributes and expands it.

The central issue is therefore not whether the machine or human "does the translation." The more productive question is where human agency remains within an increasingly automated workflow. AI can generate a target-language proposal, but the human professional remains responsible for evaluating whether that proposal satisfies the communicative purpose of the translation. This becomes particularly important when the source contains ambiguity, culturally embedded meaning, domain-specific terminology, or stylistic choices that cannot be assessed solely through surface linguistic fluency. The cultural differences remain important because language functions as a carrier of culture and because translation involves more than transferring linguistic forms. This is particularly relevant to literary and culturally complex translation, although Xu's discussion should be understood as a general theoretical argument rather than evidence that machines categorically cannot translate literary texts. Where risk is too high or the machine output is inadequate, the workflow may return to human translation from scratch. This is crucial because it challenges the assumption that technological integration necessarily means greater automation at every stage. The mature AI-assisted workflow is not:

Human → machine → human

It is better represented as:

Human planning → machine generation → human evaluation → human intervention
→ human responsibility

The transformation from translator to post-editor should consequently be understood as a transformation in professional positioning. The traditional translator has often been imagined primarily as a producer of linguistic artefacts. The AI-assisted translator increasingly performs a broader role involving evaluation, quality assurance, technological mediation, and strategic decision-making. This does not mean that writing ability becomes unimportant. On the contrary, strong linguistic competence becomes necessary precisely because the professional must recognise when a machine-generated formulation is inadequate and produce a better alternative. The professional translator therefore occupies an intermediary position between automation and human linguistic judgement. This intermediary role can be conceptualised through three functions:

Evaluator: determines whether machine output is accurate and appropriate.

Editor: modifies the output where intervention is necessary.

Decision-maker: determines whether the machine should be used, how much intervention is required, and when the final text meets the required quality level.

Discussion

AI-assisted MT changes the traditional workflow by introducing machine-generated target-text production before human revision. The translator therefore spends less of the workflow necessarily generating every target-language segment from an empty page and more time evaluating and modifying existing output. Yet, human intervention remains necessary at multiple levels. Human professionals determine whether MT is appropriate, evaluate its output, manage risk, resolve linguistic and cultural problems, and take responsibility for the final product. The existence of a machine-generated draft does not remove these decisions. Therefore, the post-editing requires overlapping but partly distinct competencies. The post-editor begins with a machine-generated hypothesis about what the target text should be and evaluates that hypothesis. At the same time, the existence of post-editing should not be interpreted as evidence that all translation will follow this model. The suitability of MT depends on text type, quality requirements, risk, resources, language pair, domain, and intended use. Nitzke, Hansen-Schirra, and Canfora explicitly present MT and PE as decisions that must be evaluated according to such factors rather than applied universally. Hence, a more appropriate formulation is AI-assisted translation professional: a professional who can translate independently but can also operate, evaluate, supervise, and critically intervene within machine-assisted workflows.

Conclusion

Artificial intelligence is changing translation not simply because machines can generate target-language texts, but because machine-generated text changes the organisation of human translation labour. The evidence examined in this paper demonstrates that neural machine translation has introduced increasingly sophisticated forms of automated text generation, while research on NMT continues to identify problems involving context, premature commitment, repetition, lexical coverage, long sentences, and other forms of error. The professional response to these developments has been the expansion of workflows involving post-editing and quality control. Post-editing is not equivalent to proofreading because it requires comparison with the source text, linguistic and cultural judgement, risk assessment, and strategic decisions concerning the extent of intervention. Contemporary competence models therefore include technological and machine-translation competences alongside established linguistic, translation, revision, research, and thematic competences. The phrase "translator to post-editor" captures an important transformation, but it is ultimately incomplete. A post-editor is not merely a person correcting machine errors. The professional must decide whether machine translation is suitable, determine the required level of intervention, identify errors that may be

concealed by fluent output, protect the communicative purpose of the translation, and accept responsibility for the final text.

The emerging professional is therefore simultaneously translator, post-editor, reviser, evaluator, technology user, and linguistic decision-maker. The future of professional translation may therefore be characterised less by a simple opposition between human and machine and more by increasingly differentiated forms of human-machine collaboration. The translator's expertise remains central, but its location within the workflow changes. Instead of necessarily being concentrated in the initial production of every target-language sentence, expertise is increasingly distributed across selection, evaluation, correction, risk management, cultural interpretation, and final quality assurance.

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