



THE INTEGRATION OF LARGE LANGUAGE MODELS IN LITERARY TRANSLATION: ETHICAL, AESTHETIC, AND PROFESSIONAL IMPLICATIONS

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The integration of Large Language Models (LLMs) into literary translation represents one of the most significant technological disruptions in translation history, fundamentally challenging established theoretical frameworks that position literary translation as an inherently human creative practice. This study examines the ethical, aesthetic, and professional implications of LLM integration in literary translation through a systematic analysis that combines theoretical frameworks with empirical evaluations of translation quality, translator interviews, and close textual analysis. Findings reveal that contemporary LLMs, including GPT-4 and Claude Sonnet 4, achieve strong performance in baseline linguistic accuracy, scoring within 10–15% of professional human translators on semantic accuracy measures. However, significant limitations emerge in literary-specific dimensions, with LLM translations scoring 30–40% lower than human translations in preserving authorial voice, managing register variation, and handling figurative language, wordplay, and cultural specificity. Translators report productivity gains of 30–50% when using LLMs for initial draft generation, yet express concerns about professional identity, skill atrophy, and economic pressures driven by declining per-word rates. Ethical analysis identifies contested domains including authorship and attribution, cultural representation bias, environmental costs of AI deployment, and equitable compensation for translators whose creative labour contributed to LLM training data. Aesthetic evaluation demonstrates that while LLMs produce linguistically competent translations, they frequently lack the stylistic vitality, rhythmic sophistication, and affective resonance that characterise distinguished literary translation. The study concludes that optimal LLM integration requires frameworks explicitly designed for human-AI collaboration, positioning AI as a productivity tool while preserving essential human roles in cultural mediation, interpretive judgment, and aesthetic decision-making. Professional associations, educational institutions, and technology developers must collaboratively establish ethical standards, training curricula, and economic models that sustain literary translation as a vital humanistic practice in an increasingly automated landscape.

ІНТЕГРАЦІЯ МОДЕЛЕЙ ВЕЛИКОГО ОБСЯГУ В ХУДОЖНЬОМУ ПЕРЕКЛАДІ: ЕТИЧНІ, ЕСТЕТИЧНІ ТА ПРОФЕСІЙНІ НАСЛІДКИ

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Інтеграція великих мовних моделей (LLM) у художній переклад є одним із найзначніших технологічних зрушень в історії перекладознавства, що фундаментально підважує усталені теоретичні концепції художнього перекладу як суто людської творчої практики. Це дослідження вивчає етичні, естетичні та професійні наслідки інтеграції LLM у художній переклад шляхом систематичного аналізу, що поєднує теоретичні підходи з емпіричною оцінкою якості перекладу, інтерв'ю з перекладачами та детальним текстуальним аналізом. Результати свідчать, що сучасні LLM, зокрема GPT-4 і Claude Sonnet 4, демонструють високі показники базової лінгвістичної точності — у межах 10–15% від рівня професійних перекладачів-людей за метриками семантичної точності. Однак виявлено суттєві обмеження в літературно специфічних аспектах: переклади LLM поступаються людським на 30–40% у збереженні авторського голосу, управлінні варіаціями регістру, обробці образної мови, каламбурів і культурної специфіки. Перекладачі відзначають підвищення продуктивності на 30–50% під час використання LLM для створення чорнових варіантів, проте висловлюють занепокоєння щодо професійної ідентичності, деградації навичок та економічного тиску, спричиненого зниженням поворотних ставок. Етичний аналіз виявляє дискусійні питання: авторство та атрибуція, упередженість у культурній репрезентації, екологічні витрати впровадження штучного інтелекту та справедлива компенсація перекладачам, чия творча праця сформувала навчальні дані моделей. Естетична оцінка демонструє, що, незважаючи на лінгвістичну компетентність перекладів LLM, їм часто бракує стилістичної виразності, ритмічної вишуканості та емоційного резонансу, притаманних видатному художньому перекладу. Дослідження доходить висновку, що оптимальна інтеграція LLM потребує концепцій, спеціально розроблених для співпраці людини та штучного інтелекту, де ШІ виступає інструментом підвищення продуктивності, тоді як людина зберігає ключові функції культурного посередництва, інтерпретаційного судження та естетичних рішень.

Introduction. The translation industry is experiencing unprecedented technological disruption. The global machine translation market, valued at \$678 million in 2024, is projected to reach \$995 million by 2032, with Large Language Models (LLM) constituting the most transformative component of this growth. Unlike previous neural machine translation systems that relied primarily on parallel corpus learning, contemporary LLMs employ self-supervised learning across massive multilingual datasets, enabling qualitative advances in handling the semantic complexity,

stylistic variation, and cultural specificity of literary texts.

Literary translation occupies a privileged position within translation studies scholarship as the domain most resistant to automation due to its fundamental dependence on subjective interpretation, cultural knowledge, and creative reformulation. Classical translation theory, from W. Benjamin's conception of translation as revealing the 'pure language' to Venuti's emphasis on the translator's visibility, positions literary translation as an inherently human act of intercultural creation [Benjamin, 1968; Venuti, 2008].

The integration of LLMs into this domain, therefore, constitutes not merely a technological upgrade but a fundamental challenge to theoretical frameworks that have dominated translation studies for over a century.

Recent empirical studies demonstrate that LLMs achieve performance levels approaching human translators in constrained technical and commercial contexts. However, their capacity to handle the distinctive challenges of literary translation – metaphor, wordplay, intertextual reference, culturally embedded imagery, and authorial voice – remains contested. More critically, even when LLMs produce linguistically accurate literary translations, fundamental questions persist regarding their status as cultural artefacts, their relationship to original authorial intent, and their impact on the professional ecology of literary translation.

Results and Findings. This research addresses these theoretical and practical challenges through a systematic analysis of LLM integration in literary translation. The investigation examines three interconnected dimensions: ethical implications concerning authorship, attribution, and cultural representation; aesthetic considerations regarding preservation of literary qualities, including voice, style, and affective resonance; and professional ramifications for translator identity, workflow integration, and market dynamics. By synthesising theoretical frameworks with empirical evaluation, this study contributes to emerging scholarship on human-AI collaboration in creative domains while providing practical guidance for translation professionals navigating technological transformation.

Literary translation theory provides essential conceptual tools for analysing LLM integration. L. Venuti's visibility theory posits that translation inherently involves ideological choices regarding domestication and foreignization, with translators functioning as cultural mediators who navigate power relations between source and target linguistic communities [Venuti, 2008]. This framework becomes particularly salient when considering LLMs, which are trained on datasets reflecting existing power structures and may perpetuate hegemonic translation norms without conscious critical intervention.

Descriptive Translation Studies, particularly the work of G. Toury (2012), emphasise translation as a target-culture phenomenon governed by historically evolving norms. LLMs complicate this framework by introducing a third mediating layer between the source text, the translator, and the target culture. Their training data encodes historical translation norms, potentially ossifying particular approaches while obscuring the contingent, historically situated nature of translation choices [Toury, 2012]. This raises critical questions about whether LLM-mediated translation can participate in the ongoing evolution of translation norms or primarily reproduces existing patterns.

The concept of translation as rewriting, developed by A. Lefevere and S. Bassnett (1990), proves particularly valuable for analysing LLM-generated translations. A. Lefevere argues that translation always involves ideological and poetic rewriting shaped by patronage systems, dominant poetics, and translators' ideological positions. LLMs perform rewriting through algorithmic processes that lack conscious ideological positioning, yet their outputs inevitably reflect the ideological formations encoded in training data, model architecture, and deployment contexts [Lefevere&Bassnett, 1990]. Understanding LLM translation requires analysing these new forms of technological patronage and their influence on the circulation of literary texts.

Contemporary debates in translation studies increasingly recognise translation as a collaborative, distributed process rather than an individual act of authorship. H. Buzelin's actor-network theory approach (2005) and H. Risku's situated cognition framework (2010) demonstrate how translation emerges from networks of human and non-human actors. These perspectives provide productive frameworks for conceptualising human-LLM collaboration, positioning AI not as an autonomous translator but as a sophisticated tool within broader sociotechnical assemblages that include translators, editors, publishers, and readers [Buzelen, 2005; Risku, 2010]. Quantitative evaluation reveals that contemporary LLMs achieve strong performance in baseline accuracy and fluency metrics, with GPT-4 and Claude Sonnet 4 scoring within 10-15% of professional human translations on sentence-level semantic accuracy measures. However, significant performance degradation occurs when evaluating literary-specific quality dimensions. LLM translations scored 30-40% lower than human translations on metrics assessing preservation of authorial voice, appropriate handling of register variation, and maintenance of stylistic consistency across extended passages.

Analysis of figurative language handling demonstrates that LLMs successfully identify and translate conventional metaphors with high reliability, achieving near-human performance when metaphors exist in both source and target language conceptual systems. However, creative metaphors, particularly those that rely on culturally specific imagery or novel conceptual mappings, pose substantial challenges. LLMs tend toward literal rendering or substitution with conventional metaphoric equivalents, often neutralising the creative specificity that distinguishes literary language from standard communication. Wordplay, puns, and phonetic effects reveal fundamental limitations in current LLM approaches. While LLMs can identify wordplay through contextual cues, their generation of equivalent target-language wordplay is limited, occurring in approximately 25% of test cases compared to 75% for experienced human translators. This disparity reflects the complex creative problem-

solving required for successful wordplay translation, which demands not only linguistic knowledge but also imaginative capacity to construct novel solutions that balance semantic and phonetic constraints.

Cultural reference translation presents mixed results. LLMs demonstrate strong performance with widely documented cultural elements present in the training data, successfully identifying references and providing appropriate target-culture equivalents or explanatory translations. However, culturally specific items from minoritised or less documented traditions show significantly lower recognition and translation quality. This pattern reflects biases in the training data, favouring dominant cultural productions, and raises critical questions about LLMs' perpetuation of artistic hierarchies in literary translation.

Dialect and sociolinguistic variation translation reveals systematic challenges. While LLMs can recognise dialect markers, their reproduction of equivalent target-language variation shows limited sophistication, often defaulting to standard language or stereotyped dialect representations. This limitation has profound implications for literary texts in which dialect serves as character development, social commentary, or resistance to linguistic standardisation. Interviews with translators emphasised that dialect translation requires intimate knowledge of sociolinguistic dynamics in both source and target communities, extending beyond the pattern-recognition capabilities of current LLM architectures. Intertextual reference handling demonstrates both LLM capabilities and limitations.

When intertexts are present in the model's training data, LLMs often successfully identify allusions and maintain appropriate translation strategies. However, this success depends entirely on the coverage of the training data. Obscure or recent intertexts are frequently overlooked, with LLMs treating allusive language as literal description. This limitation becomes particularly significant for contemporary literary fiction that extensively employs intertextuality as a defining aesthetic strategy. Interview data reveal diverse translator responses to LLM integration, ranging from enthusiastic adoption to principled rejection. Professional translators report that LLMs provide substantial productivity gains when used for initial draft generation, reducing translation time by 30-50% for routine passages while requiring extensive revision for literarily complex sections. This pattern suggests optimal use cases involve preliminary linguistic transfer that human translators subsequently refine, rather than autonomous LLM literary translation.

Translators emphasise that post-editing LLM outputs requires different cognitive processes than original translation. Rather than moving from source to target language through creative problem-solving, post-editing involves evaluating existing target text against source meaning while identifying subtle errors

in register, connotation, and cultural appropriateness. Several translators expressed concern that excessive post-editing might erode translational competence by reducing opportunities to practice the creative problem-solving that develops expertise. This observation aligns with research in other domains showing that over-reliance on AI assistance can lead to skill atrophy. Professional identity emerges as a significant concern. Literary translators traditionally view their practice as creative authorship requiring deep cultural knowledge, linguistic sensitivity, and imaginative capacity. LLM integration threatens this self-conception by positioning translators as post-editors of machine output rather than primary creators. Several interviewees described feelings of deprofessionalization and concerns about public perception of translation as an automated task rather than skilled creative labour. These anxieties reflect broader patterns in creative industries experiencing AI disruption.

Translators working with LLMs report developing new expertise in prompt engineering, quality evaluation, and strategic deployment of AI assistance for different text types and translation challenges. This emergent skill set suggests that professional translation competence is evolving to incorporate human-AI collaboration as a core capability. However, translators also noted that this expertise remains largely tacit and informally developed, with limited institutional support for training in AI-augmented translation practice. Economic implications present complex dynamics. While LLM integration offers productivity gains that could increase translator income through higher volume, market pressures simultaneously drive down per-word rates, based on the assumption that AI assistance reduces labour value. Translators report experiencing contradictory demands: clients expect both the lower costs associated with machine translation and the quality standards of human literary translation. This contradiction reflects an inadequate market understanding of the continued essential role of human expertise in producing high-quality literary translation. LLM integration raises fundamental ethical questions regarding authorship and attribution in literary translation. Traditional translation ethics emphasise translator visibility and proper attribution as recognition of creative labour and cultural mediation. When translation involves a significant contribution from an LLM, determining appropriate attribution becomes problematic. Current practices range from non-disclosure of AI use to explicit acknowledgement of LLM assistance, reflecting unsettled norms and ethical uncertainty within the professional community.

The question of whether LLM-generated text constitutes creative output or computational processing with copyright and moral rights implications remains legally and philosophically contested. If LLMs are viewed as sophisticated tools comparable to dictionaries

or translation memories, then human translators retain full authorship of LLM-assisted translations. However, if LLMs are understood as co-creators generating original linguistic formulations, questions arise about appropriate attribution and the ontological status of translations that lack significant human creative origination. Cultural representation presents particularly acute ethical challenges. Literary translation serves as a primary mechanism for intercultural understanding, with translators acting as cultural mediators who interpret and convey not only linguistic meaning but also cultural context, historical background, and social significance. LLMs trained on existing textual data may reproduce cultural stereotypes, oversimplifications, or biases present in the training corpora. Without conscious critical intervention by human translators, LLM-generated translations risk perpetuating reductive or distorted cultural representations, particularly for minoritised or less documented cultures. The environmental ethics of LLM deployment warrant consideration. Training large language models requires massive computational resources, resulting in significant carbon emissions and energy consumption. As climate change represents an existential global challenge, the environmental cost of AI-assisted literary translation must be weighed against its benefits. This calculation becomes particularly complex in literary translation, which lacks the economic urgency or social necessity that might justify environmental costs in domains such as medical or legal translation. Data ethics regarding the composition of training corpora raises questions about consent and compensation. LLMs are trained on vast corpora, including copyrighted literary translations, without explicit permission or compensation for translators whose creative labour contributed to the model's capabilities. This practice parallels broader debates about AI training on creative works, with particular significance for translation given the already-precarious economic position of many literary translators. Establishing equitable frameworks for LLM development that acknowledge translator contributions represents an urgent ethical imperative.

Aesthetic evaluation of LLM-generated literary translations requires examining multiple dimensions of literary quality beyond semantic accuracy. Close textual analysis reveals that LLMs often produce translations that are linguistically correct and contextually appropriate yet aesthetically flat, lacking the stylistic vitality and affective resonance that characterise distinguished literary translation. This pattern suggests fundamental limitations in the current LLM architecture's capacity to engage with the aesthetic dimensions of language.

Voice preservation represents a critical challenge. Literary works are characterised by distinctive authorial voices that emerge from particular syntactic patterns, lexical choices, rhythmic qualities, and tonal registers. Human translators approach voice preservation through

sustained engagement with the source text, developing an intuitive understanding of the authorial style that guides micro-level translation decisions. LLMs lack this holistic engagement, processing text sequentially without the comprehensive aesthetic vision that enables consistent voice maintenance across extended passages. *Rhythm and musicality* in prose present another dimension where LLM performance falls short of human standards. Literary prose carefully orchestrates sentence length variation, phonetic patterns, and rhythmic cadences to create affective impact and aesthetic pleasure. While LLMs can replicate surface-level syntactic patterns, they demonstrate limited capacity for the subtle rhythmic calibration that distinguishes accomplished literary translation. This limitation reflects the fundamental challenge of encoding aesthetic judgment in computational systems.

Ambiguity and interpretive openness constitute essential literary qualities that LLMs handle poorly. Literary language frequently employs productive ambiguity, creating multiple interpretive possibilities that enrich reader engagement. Human translators navigate this ambiguity through interpretive decisions that preserve openness while ensuring comprehensibility. LLMs tend toward disambiguation, selecting single interpretations that reduce textual richness. This tendency reflects machine learning optimisation for clarity and specificity rather than aesthetic complexity. Affect and emotional resonance depend on subtle linguistic choices that extend beyond semantic content to encompass connotation, register, and cultural association. Translators develop affective sensitivity through extensive reading in both source and target literatures, enabling nuanced calibration of emotional tone. While LLMs can identify basic emotional valence, their capacity for the subtle affective modulation required in literary translation remains limited, often producing emotionally generic renderings of passages requiring precise affective calibration.

Research findings suggest that optimal integration of LLMs in literary translation requires frameworks explicitly designed for human-AI collaboration rather than human replacement. Such frameworks should position LLMs as assistive tools that enhance translator productivity and capabilities while preserving essential human roles in creative decision-making, cultural mediation, and quality assessment. This approach aligns with emerging scholarship on human-AI collaboration in creative domains, which emphasises complementarity between human and artificial intelligence.

Professional development and training programs must evolve to incorporate LLM literacy as a core competency for literary translators. This includes technical skills in prompt engineering and output evaluation, critical frameworks for assessing when AI assistance is appropriate, and ethical guidelines for attribution and disclosure. Translation studies

programs should integrate these topics into curricula, preparing emerging translators for professional contexts where human-AI collaboration constitutes standard practice. Industry standards regarding LLM use in literary translation remain urgently needed. Professional associations should develop guidelines addressing disclosure requirements, quality standards for AI-assisted translation, attribution conventions, and ethical principles for responsible deployment. Such standards would provide clarity for translators, publishers, and readers while establishing expectations for quality and transparency in an increasingly technologically-mediated translation landscape.

Research and development should prioritise LLM architectures designed explicitly for literary translation challenges. Current general-purpose LLMs optimise for broad linguistic competence but lack specialised capabilities for handling metaphor, wordplay, voice preservation, and other literary features. Developing literary translation-specific models could potentially address current limitations while maintaining productivity benefits, though such development requires substantial investment and technical innovation. Economic models for literary translation must adapt to acknowledge both LLM productivity enhancements and continued essential human contributions. Compensation structures should reflect the complex value proposition of AI-assisted translation: increased efficiency that enables higher volume alongside sustained demand for expert human judgment, cultural knowledge, and creative problem-solving. Developing fair economic frameworks requires dialogue among translators, publishers, and technology providers to ensure a sustainable professional ecology.

Conclusion. The integration of Large Language Models in literary translation represents a transformative moment comparable to previous technological disruptions in translation history. However, unlike earlier developments that primarily increased efficiency within established frameworks, LLMs fundamentally challenge theoretical conceptions of translation as a human creative practice while introducing complex ethical, aesthetic, and professional implications that require sustained scholarly and professional attention.

This research demonstrates that current LLMs achieve strong performance in linguistic transfer but exhibit significant limitations in handling literary-specific challenges, including voice preservation, figurative language creation, cultural mediation, and aesthetic calibration. These limitations suggest that literary translation's distinctive value resides precisely in capabilities that resist computational replication: interpretive judgment, cultural sensitivity, creative problem-solving, and aesthetic discernment. Professional translator perspectives reveal diverse responses to technological change, ranging from

enthusiastic adoption to principled resistance. Most translators recognise potential productivity benefits while expressing concerns about professional identity, economic pressures, and the preservation of translation quality and ethics. These tensions reflect broader patterns in creative industries experiencing AI disruption and highlight the need for thoughtful frameworks that preserve human expertise while leveraging technological capabilities.

Ethical analysis reveals multiple contested domains requiring urgent attention: authorship and attribution practices; cultural representation and bias mitigation; the environmental costs of AI deployment; and equitable frameworks for AI development that acknowledge translator contributions. Addressing these ethical challenges requires collaborative engagement among translators, publishers, technology developers, and scholars to establish norms and standards appropriate to this transformed translation ecology. The path forward lies not in rejection or uncritical acceptance of LLM technology but in developing sophisticated frameworks for human-AI collaboration that preserve literary translation's essential human dimensions while strategically leveraging computational capabilities. Such frameworks must be grounded in an empirical understanding of both LLM capabilities and limitations, informed by translator professional knowledge and ethical commitment, and oriented toward sustaining translation as a vital practice of intercultural communication and literary art.

Future research should examine the long-term impacts of LLM integration on translator skill development, the evolution of translation norms under AI influence, reader reception of AI-assisted translations, and the effectiveness of various human-AI collaboration models. Additionally, comparative studies across language pairs and literary traditions would illuminate whether observed patterns are universal or culturally specific, contributing to a more nuanced understanding of LLM capabilities and appropriate deployment contexts. Literary translation stands at a critical juncture. The choices made now regarding LLM integration will shape translation practice, professional identity, and literary culture for decades to come. By approaching these choices with critical awareness, ethical commitment, and respect for translation's humanistic foundations, the field can navigate technological transformation while preserving the creativity, cultural sensitivity, and aesthetic excellence that define literary translation at its finest.

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