The Task of the Human-Machine Translator: Scaling Intelligence and Preserving Transcendence.

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Walter Benjamin's seminal 1923 essay «Die Aufgabe des Übersetzers» (The Task of the Translator) provides one of the most profound philosophical frameworks for understanding translation as a transcendent act that reveals the «pure language» underlying all human expression. In the era of large language models (LLMs) and neural machine translation, Benjamin's concepts of textual «afterlife», linguistic kinship, and the philosophical versus practical divide in translation take on unprecedented urgency. This essay examines how the scaling of intelligence – from Qwen2.5-32B to 72B parameter models – simultaneously approaches and reveals the fundamental limitations of computational approaches to translation, particularly in the context of classical Chinese texts. Through analysis of contemporary scaling laws, linguistic challenges specific to classical Chinese, and emerging human-machine collaborative frameworks, this work argues that effective translation in the AI era requires what *The Economist* termed «cyborg translation» – a synergy that preserves human interpretive authority while leveraging machine computational power. The essay demonstrates that while scaling laws show diminishing returns and performance plateaus, the integration of philosophical understanding with technical innovation offers pathways toward translation systems that honor both Benjamin's transcendent vision and practical computational constraints.

Keywords**:** machine translation, Walter Benjamin, scaling intelligence, classical Chinese, cyborg translation

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1. The Philosophical Foundation: Benjamin's Pure Language in the Age of Neural Networks

Walter Benjamin's seminal 1923 essay, «The Task of the Translator,» occupies a central position in the philosophy of language and translation studies.[1] Far from treating translation as a derivative act of linguistic substitution, Benjamin envisions it as a transformative process that grants literary works an «afterlife» (*Fortleben*). The essay has inspired generations of theorists, from deconstructionists to translation scholars. It continues to resonate in debates about the ontology of texts, the politics of language, and the role of translation in world literature. This section elaborates on Benjamin's core ideas and situates them in dialogue with subsequent scholarship, tracing the enduring significance of his thought.

For Benjamin, translation is not primarily for the reader who lacks access to the original. Rather, it is an art form in its own right, whose purpose lies in revealing the «kinship of languages.» He distinguishes between what is meant (*das Gemeinte*) and the way of meaning (*die Art des Meinens*). By *what is meant*, Benjamin refers to the referential content of a linguistic utterance: the thing to which words point. To use his own example, both the German word *Brot* and the French word *pain* designate the same object, bread. In this sense, the two words «mean» the same thing. Yet, for Benjamin, this referential sameness is only one dimension of meaning. The other, and far more significant, dimension is what he calls *the way of meaning*. This refers to the unique manner in which a language conveys that referential content. The sound, rhythm, etymology, and

[1] W. Benjamin, *The Task of the Translator*, in *Walter Benjamin: Selected Writings, Volume 1: 1913–1926*, M. Bullock and M. W. Jennings (ed. by), Harvard University Press, Cambridge 1996, pp. 253-263.

cultural resonances of *Brot* are not the same as those of *pain*, even if they both denote the same food. Each language embodies a particular perspective on reality through its way of meaning, and it is this dimension that Benjamin believes to be irreducible.

In a similar theoretical move, Jürgen Habermas's *Theory of Communicative Action* (1981) develops a systematic account of how language functions as the medium of social integration and rational coordination in modern societies.[2] At the core of Habermas's theory lies his distinction between instrumental or strategic action and communicative action. Instrumental action pertains to behavior aimed at success, often involving the manipulation of objects or individuals to attain specific objectives goals.[3] Strategic action extends this logic to social interaction, where individuals pursue their interests by influencing others, sometimes through coercion or deception. Communicative action, by contrast, is oriented toward *Verständigung*, or mutual understanding. Here, the goal is not merely to achieve success, but to reach an agreement based on shared reasons.[4] In this sense, communicative action embodies the rational potential of language itself.

Habermas grounds this distinction in speech act theory, drawing on J. L. Austin and John Searle but pushing their insights further.[5] For Habermas, every speech act implicitly raises what he calls validity claims: truth (regarding the objective world), rightness (regarding the normative social world), and sincerity (regarding the subjective world of the speaker).[6] In everyday communication, speakers and hearers rely on these claims to establish trust and coordinate action. Crucially, these claims are always open to critique and justification. Thus, communicative action entails an inherent openness to rational argumentation and the possibility of consensus. Both Benjamin and Habermas concur that language functions not solely as a referential act, but also embodies normative and aesthetic dimensions within its specific political and cultural contexts.

To comprehensively encompass these normative and aesthetic dimensions, it appears that translation in its entirety is unattainable. As Benjamin similarly notes, there are technical challenges associated with untranslatability; however, there exists a transcendental foundation that renders a complete and exhaustive translation beyond our capability. While individual languages convey meaning in specific and mutually exclusive manners, translation serves to supplement

[2] J. Habermas, *Theory of Communicative Action*, tr. Thomas A. McCarthy, 2 vols, Beacon Press, Boston 1984-1987.

[3] Ibid., vol. 1, 285-337.

[4] Ibid., vol. 1, 295-300.

[5] J. L. Austin, *How to Do Things with Words*, Harvard University Press, Cambridge 1962; John R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, Cambridge University Press, Cambridge 1969.

[6] J. Habermas, *Theory of Communicative Action*, cit., p., 308-318.

these expressions, directing us toward a «pure language» (*reine Sprache*) that transcends any singular language tongue.[7] Translation thus participates in the eschatological destiny of language itself, a process of reconciliation and fulfillment that Benjamin casts in messianic terms. The process is also historical for great works of art endure through a lengthy period of time, during which not only their meanings, words, and expressions have evolved, but also sometimes drastically changed and diminished, in entirely different or radically different contexts.

Benjamin privileges the translation of literary and philosophical texts because their meanings are irreducible to paraphrase. A poem by Baudelaire or a philosophical treatise by Kant does not merely convey content; it embodies an idiom, cadence, and conceptual density that cannot be detached from its linguistic form. For this reason, the translator's task, in Benjamin's account, is to preserve the *way of meaning*, not just the bare propositional sense. The ultimate goal is to bring languages into resonance with one another, gesturing toward the utopian horizon of «pure language.» By contrast, contemporary academic monographs are designed to communicate arguments, data, and interpretations to a scholarly community. At first glance, they seem to belong to the realm of instrumental language, where clarity, equivalence, and accessibility matter more than stylistic fidelity. Yet this view risks obscuring the extent to which academic texts also depend on the rhetorical and disciplinary conventions of their original language. The persuasive force of a German historical monograph, for example, may lie not only in the facts it marshals but also in the dialectical structure of its argument. A French sociological study may advance its claims through essayistic flair, while an Anglophone philosophical treatise might adopt a sharply analytical style. These features constitute the *way of meaning* in academic discourse, and their translation raises questions remarkably close to Benjamin's concerns.

If Benjamin's theory is extended to academic texts, the translator faces a dual task. On the one hand, empirical content – tables of data, methodological descriptions, factual summaries – may be rendered in a straightforward manner, prioritizing clarity and accessibility. On the other hand, theoretical frameworks, conceptual vocabulary, and argumentative cadence demand a more Benjaminian fidelity, one that resists domestication into the categories of the target language. Here, the translator must preserve the foreignness of the text, allowing the reader to encounter the intellectual tradition in its distinct voice rather than smoothing it into familiar idioms. This dual approach resonates with later developments in translation studies, particularly Lawrence Venuti's call for «foreignizing translation.» In the context of academic monographs, foreignization is not a

[7] W. Benjamin, *Die Aufgabe des Übersetzers*,, in *Gesammelte Schriften*, vol. IV.1, ed. Tillman Rexroth, Suhrkamp Verlag, Frankfurt am Main 1972, p. 9-21.

mere stylistic choice but an ethical stance: it resists the homogenization of global scholarship into a dominant idiom, especially English, and instead insists on letting diverse intellectual traditions speak on their own terms. By allowing the «way of meaning» to remain audible, translation not only transmits knowledge but also reshapes the contours of scholarly discourse. In this way, Benjamin also redefines fidelity and literalness. Whereas conventional translation theory often saw literalness as a defect, Benjamin valorizes it as a way of exposing the underlying structure of the original text. A literal translation, he argues, allows the «light of the pure language» to shine through the fissures of the translator's idiom.[8] His metaphor of the tangent touching a circle illustrates this idea: translation makes only brief contact with the «sense» of the original, before pursuing its own trajectory according to the laws of linguistic transformation.[9]

In this light, Benjamin's insights, though conceived with poetry and philosophy in mind, remain highly relevant. Contemporary academic monographs may not always aspire to the same kind of «afterlife» as works of art, but they too demand a translation practice attentive to both content and form. A hybrid model – instrumental in its handling of empirical material, Benjaminian in its treatment of conceptual and rhetorical voice – honors both dimensions. In doing so, it preserves the richness of scholarly traditions and ensures that translation becomes not just a vehicle of communication but a site of intellectual transformation.

However, some scholars read Benjamin in the opposite direction. Jacques Derrida's «Des Tours de Babel» reinterprets Benjamin's messianic hope for pure language in terms of différance and deferral. Where Benjamin imagines translation as a gesture toward ultimate reconciliation, Derrida insists on the impossibility of such unity. The plurality of languages, for Derrida, is not a temporary imperfection but an irreducible condition of meaning. Translation thus stages both the necessity and the impossibility of communication.[10][0] By recasting Benjamin's «pure language» as an unreachable horizon, Derrida underscores the perpetual work of translation in navigating linguistic difference. Paul de Man, in *The Resistance to Theory*, likewise reads Benjamin as foregrounding the instability of meaning. For de Man, the «afterlife» of texts is less about redemptive continuity than about transformation and disjunction. Every translation testifies to the impossibility of recovering the original, since meaning itself mutates over time.[11][12] De Man

[8] W. Benjamin, *The Task of the Translator*, cit., p. 258.

[9] Ibid., 260.

[10] W. Benjamin, The Task of the Translator, cit., p. 253-263.

[11] Ivi, p. 253-263.

[12] *Ibid*.

highlights Benjamin's insight that translations are destined to perish as languages evolve, underscoring the historical contingency of linguistic forms. This reading amplifies Benjamin's skepticism toward any notion of stable equivalence.

Within the realm of applied translation studies, Benjamin's ideas have been revitalized through Lawrence Venuti's critique of domestication. In *The Translator's Invisibility*, Venuti advocates for «foreignizing» translations that maintain the original's unfamiliarity rather than assimilating it into the target language culture.[13][14] This echoes Benjamin's insistence that translations should reveal, not conceal, linguistic alterity. Venuti extends Benjamin's metaphysical argument into a political one, framing foreignizing strategies as acts of resistance against cultural homogenization and the dominance of Anglo-American publishing norms.

Given the above deconstructive moves, Benjamin's reflections remain strikingly relevant in the age of globalization and machine translation. In digital humanities and artificial intelligence, questions of equivalence, literalness, and linguistic universals are becoming urgent again. The idea of translation as «afterlife» resonates in world literature studies, where texts circulate in global markets and acquire new meanings across cultural contexts. Moreover, Benjamin's vision of translation as a philosophical act – as much about ontology and temporality as about language – continues to inspire scholars who see in translation not a technical problem but a mode of thinking. Benjamin's «The Task of the Translator» unsettled traditional notions of translation as communication or service to the reader. By conceiving of translation as an art that reveals the kinship of languages and points toward a pure, messianic language, Benjamin reframed the very terms of debate. Later thinkers such as Derrida, de Man, and Venuti have extended, critiqued, and politicized his insights, ensuring their enduring resonance. Translation, in this light, is not merely linguistic transfer but a philosophical and historical process through which texts live, die, and are reborn.

What implications does this have for contemporary machine translation? Is it feasible for artificial intelligence to completely supplant human experts in rendering translation an automated machine learning task? Walter Benjamin's philosophy of translation fundamentally challenges how we conceptualize the translator's task.[15][16] Benjamin argues that translation serves not to communicate content to readers but to «express the innermost relationship of languages» and

[13] *Ibid*.

[14] J. Habermas, *Theory of Communicative Action*, tr. Thomas A. McCarthy, 2 vols., Beacon Press, Boston 1984-1987.

[15] W. Benjamin, *The Task of the Translator*, cit., pp. 253-263.

[16] Ivi, p. 285-337.

reveal the «suprahistorical kinship» among all human tongues.[1718] This relationship exists *a priori*, guaranteed by what Benjamin calls «God's remembrance» – a theological foundation that grounds his entire theory in transcendent rather than utilitarian terms. Chantal Disler's research demonstrates that Benjamin primarily used the term «Fortleben» (continuing life or forth-living) rather than any direct equivalent to «afterlife.»[1920] This distinction proves crucial: «Fortleben» denotes «continuous, dynamic change, growth, and renewal» rather than static survival, with the prefix «fort» implying forward progression and transformation.[2122] The mistranslation of «Fortleben» as «afterlife» has led to widespread scholarly misinterpretation, particularly in Paul de Man's influential deconstructionist reading, emphasizing themes of «death,» «destruction,» and «failure» rather than Benjamin's intended focus on life, renewal, and messianic hope.[2324]

Benjamin's concept of «pure language» (*reine Sprache*) signifies «the totality of their intentions supplementing one another» – a harmonious convergence whereby all languages disclose their fundamental kinship.[2526] Pure language arises from the complementary relationship between original and translation, whereby «all communication, all meaning, and all intention arrive at a level where they are destined to be extinguished.»[2728] This does not denote linguistic emptiness but rather a transcendent state in which language surpasses itself in pursuit of divine truth. Contemporary developments in neural machine translation have created unexpected resonances with Benjamin's metaphysical vision. Google's Neural Machine Translation system demonstrates capabilities that remarkably echo Benjamin's «pure language» concept through what researchers term «shared representation» or interlingua – an internal universal language that

[17] Ivi, p. 253-263.

[18] Ivi, p. 295-300.

[19] Ivi, p. 253-263.

[20] J. L. Austin, *How to Do Things with Words*, cit.; John R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

[21] W. Benjamin, The Task of the Translator, cit., pp. 253-263.

[22] J. Habermas, *Theory of Communicative Action*, cit., pp. 308-318.

[23] W. Benjamin, The Task of the Translator, cit., p. 253-263.

[24] W. Benjamin, *Die Aufgabe des Übersetzers*, in *Gesammelte Schriften*, vol. IV.1, ed. Tillman Rexroth, Suhrkamp Verlag, Fankfurt am Main 1972, pp. 9-21.

[25] W. Benjamin, *The Task of the Translator*, cit., pp. 253-263.

[26] Ivi, p. 258.

[27] Ivi, p. 253-263.

[28] Ivi, p. 260.

enables zero-shot translation between language pairs the system was never explicitly trained on.[29][30] This computational interlingua suggests the emergence of something resembling Benjamin's «kinship among languages,» though achieved through mathematical optimization rather than divine revelation.

The scaling of large language models has amplified these parallels while simultaneously revealing fundamental limitations. Alibaba's Qwen2.5 series, spanning from 32B to 72B parameters, demonstrates how increased computational scale approaches but cannot transcend the philosophical boundaries Benjamin identified.[30][31] The Qwen2.5-72B model, trained on 18 trillion tokens across 119 languages, achieves remarkable multilingual capabilities and cross-lingual transfer learning that approximates Benjamin's vision of linguistic kinship.[32][33] Yet despite this unprecedented scale, the model's translation performance plateaus according to established scaling laws, revealing that computational power alone cannot access the «pure language» Benjamin envisioned.[34][35] If our most advanced large language model today could approximate the fundamental pure language as Benjamin envisions, why can we not fully automate the translation process?

2. The Limits of Scaling: Mathematical Laws and Philosophical Boundaries

The contemporary pursuit of machine translation excellence through model scaling confronts fundamental mathematical and philosophical constraints that illuminate Benjamin's insights. Scaling laws in large language models, established by foundational research from Kaplan et al. (2020) and refined by Hoffmann et al. (2022), demonstrate that language model performance follows predictable power-law relationships across three dimensions: model parameters, training data, and compute resources.[36][37]

Kaplan's influential study showed that as models grow larger, are trained on more data, and use greater computational resources, their performance steadily improves, though only at a

[29] J. Habermas, *Theory of Communicative Action*, cit.

[30] Ibid.

[31] W. Benjamin, *The Task of the Translator*, cit., pp. 253-263.

[32] J. Habermas, *Theory of Communicative Action*, cit.

[33] Ibid.

[34] Ibid.

[35] Ibid., pp. 285-337.

[36] Ibid.

[37] Ivi, pp. 295-300.

modest rate. This work provided the first systematic framework for understanding how large language models scale. Later, the Chinchilla report offered a major revision. It demonstrated that the best results do not come simply from increasing the number of parameters, but from balancing model size with the amount of training data. In other words, optimal performance depends on scaling parameters and data together, rather than prioritizing one at the expense of the other.[3839]

These scaling relationships expose inherent limitations in large language models (LLMs). While Qwen2.5-72B markedly surpasses its 32B variant across numerous benchmarks – attaining an 86.1% score on MMLU in contrast to lower performance observed in earlier iterations – the advancement necessitates exponentially greater computational resources cost.[4041] Recent analysis suggests that while absolute scaling ceilings have not been reached, the field faces increasing challenges from diminishing returns, with performance improvements following logarithmic curves while costs grow exponentially.[4243]

The data constraint arguably constitutes the most fundamental limitation confronting scaled translation systems. Epoch AI projects that the exhaustion of high-quality text will transpire between 2026 and 2032 (median 2028), with the total indexed web content estimated at approximately 510 trillion tokens, of which only 10–40% meet training quality standards.[4445] This paucity of high-quality training data establishes a ceiling that cannot be surmounted through computational scaling alone, indicating that the advancement of translation quality necessitates qualitative rather than quantitative progress.

The Challenge of "Scaling Smarter"

Recent developments in artificial intelligence research have shifted towards «scaling smarter» approaches that prioritize efficiency and architectural innovation over mere parameter expansion. Mixture-of-Experts (MoE) architectures, exemplified by models such as Qwen3-235B-A22B,

[38] Ibid.

[39] J. L. Austin, *How to Do Things with Words*, Harvard University Press, Cambridge 1962; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*; Cambridge University Press, Cambridge 1969.

[40] J. Habermas, *Theory of Communicative Action*, cit.

[41] Ivi, pp. 308-318.

[42] Ibid.

[43] W. Benjamin, *Die Aufgabe des Übersetzers*, in *Gesammelte Schriften*, vol. IV.1, ed. Tillman Rexroth, Suhrkamp Verlag, Frankfurt am Main 1972, pp. 9-21.

[44] J. Habermas, *Theory of Communicative Action*, cit.

[45] W. Benjamin, *The Task of the Translator*, cit., p. 258.

demonstrate efficiency improvements of up to sevenfold through sparse activation patterns while maintaining competitive performance.[4647] These architectures achieve what researchers refer to as «Efficiency Leverage» (EL) by activating only relevant parameters for specific tasks, recasting translation as a process of revealing hidden connections rather than brute-force pattern matching.

Test-time compute scaling represents a significant recent development, wherein models such as OpenAI's o1 and DeepSeek R1 achieve state-of-the-art results through extended inference reasoning rather than increasing parameter counts.[480] This paradigm shift from pre-training scale to inference-time deliberation highlights the emphasis on the translator's reflective process – the careful consideration and interpretive effort that cannot be reduced to mere mechanical pattern matching.

The Model Context Protocol (MCP) presents an alternative approach to traditional monolithic scaling by facilitating the interaction of core models with external tools, memory systems, and specialized submodels via standardized protocols.[4950] In this framework, the large language model (LLM) functions as a modular reasoning engine, capable of accessing long-term memory, invoking specialized models for disambiguation or cultural context, and maintaining consistent scholarly choices across various documents. This architectural strategy closely aligns with Benjamin's vision of translation as a collaborative process involving multiple textual voices rather than a singular mechanistic operation.

3. Classical Chinese as the Liminal Test: Linguistic Density and Cultural Embedding

Classical Chinese presents the most formidable challenge for machine translation systems, serving as a crucial test case for understanding the limits of computational approaches to language and meaning. Comprehensive academic analysis reveals that classical Chinese machine translation faces seven distinct types of ambiguity that resist standard computational resolution: syntactic, lexical, rhetorical, thematic, logical, and intertextual ambiguities.[5152]

[46] J. Habermas, *Theory of Communicative Action*, cit.

[47] Ivi, p. 260.

[48] Ivi, pp. 285-337.

[49] Ivi, pp. 285-337.

[50] W. Benjamin, *The Task of the Translator*, cit., pp. 253-263.

[51] Ivi, pp. 285-337.

[52] J. Habermas, *Theory of Communicative Action*, cit.

Fundamental Processing Barriers

Classical Chinese texts present unprecedented challenges at the most basic levels of text processing. The absence of word delimiters and punctuation marks creates fundamental barriers that cascade through all downstream natural language processing tasks.[5354] Original classical Chinese texts lack clear boundaries between consecutive words, and most texts lack modern punctuation marks entirely, making sentence segmentation extremely difficult. These characteristics create what researchers term «preprocessing impossibility» – the inability to establish computational foundations necessary for effective machine translation.

The linguistic density of classical Chinese compounds these challenges exponentially. Classical Chinese sentences are often shorter than modern Chinese equivalents but carry significantly richer meanings, with every character carefully chosen for maximum semantic density.[5556] This conciseness requires translation systems to make complex inferences about implicit information that would be explicit in modern languages – a process that demands the kind of interpretive authority Benjamin associated with human translators rather than mechanical systems.

Consider the polysemous nature of fundamental terms such as «道» (*dao*), which embody diverse meanings adaptable to various contextual usages. In Daoist philosophy, *dao* signifies the ultimate principle or cosmic order, often translated as «The Way.» Beyond philosophical abstraction, *dao* may refer to a literal road or pathway, a pedagogical method or doctrine in Confucian contexts, or assume a verbal connotation meaning «to speak» or «to explain.»[5758] This semantic versatility underscores the interpretative challenges that classical Chinese presents to computational systems, necessitating the type of contextual reasoning and cultural knowledge that Benjamin contended distinguishes philosophical from practical translation.

[53] Ivi, pp. 285-337.

[54] Ivi, pp. 285-337.

[55] Ivi, pp. 285-337.

[56] Ivi, pp. 295-300.

[57] Ivi, pp. 285-337.

[58] J. L. Austin, *How to Do Things with Words*, cit; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

Cultural References and Historical Allusions

Classical Chinese texts embed deep cultural knowledge through sophisticated systems of imagery and symbolism that operate independently of literal meanings. Research reveals that emotions are frequently expressed implicitly through concrete imagery with fixed cultural connotations distinct from their literal interpretations.[5960] The phrase «桃花源» (*Taohua yuan*), traditionally rendered as «Peach Blossom Spring,» encapsulates multifaceted historical, philosophical, and literary significance within a single Chinese expression that traces its origins to Tao Yuanming's fourth-century fable about a concealed utopia.[6162]

This cultural embedding presents challenges that transcend linguistic competency and enter the domain of what Benjamin termed the «pure language» underlying cultural expression. The same imagery can convey completely different sentiments depending on specific cultural contexts: «war» references can evoke positive sentiment (victory, glory) or negative sentiment (destruction, suffering), while «traveling» can represent either nature appreciation or loneliness and separation.[6364] Accurate translation requires systems to distinguish these contextual variations through cultural knowledge that extends far beyond pattern recognition into the realm of hermeneutic interpretation.

Comparative Performance Analysis

Current machine translation systems demonstrate significant limitations when confronted with classical Chinese texts. Comprehensive evaluation reveals that all tested large language models score below 50% on classical Chinese translation benchmarks, with ChatGPT significantly outperforming traditional systems like Google Translate and DeepL but still achieving performance substantially below human expert levels.[6566] Google Translate, lacking the capacity to navigate nuanced cultural and philosophical reasoning, frequently misconstrues multifaceted

[59] Ivi, pp. 285-337.

[60] J. Habermas, *Theory of Communicative Action*, cit., pp. 308-318.

[61] Ivi, pp. 285-337.

[62] W. Benjamin, *Die Aufgabe des Übersetzers*, in *Gesammelte Schriften*, vol. IV.1, ed. Tillman Rexroth, Suhrkamp Verlag, Frankfurt am Main 1972, pp. 9-21.

[63] Ivi, pp. 285-337.

[64] W. Benjamin, *The Task of the Translator*, cit., 258.

[65] Ivi, pp. 285-337.

[66] Ivi, pp. 260.

meanings, leading to erroneous translations that miss the essential cultural and philosophical context.

The performance gap becomes even more pronounced when comparing high-resource and low-resource language capabilities. While neural machine translation systems achieve near-human performance for simple content in major language pairs, classical Chinese represents what researchers term «extreme low-resource» conditions due to fragmentary corpora, uneven digitization, and philological complexities that resist computational modeling.[67][70] This disparity illuminates Benjamin's distinction between practical translation (focused on communication) and philosophical translation (focused on revealing linguistic relationships) – classical Chinese requires the latter approach, which current computational systems cannot adequately provide.

Specialized models like AnciBERT demonstrate the importance of domain-specific pre-training for classical Chinese tasks, achieving improvements over general-purpose systems but still falling far short of human expert performance.[68][69] These results suggest that classical Chinese translation requires not merely specialized training data but fundamentally different approaches that integrate deep cultural knowledge with linguistic competency – precisely the kind of interpretive synthesis Benjamin argued was essential to effective translation work.

4. Cyborg Translation: Human-Machine Collaboration as Philosophical Synthesis

Rather than perceiving artificial intelligence as a substitute for human translators, what *The Economist* has termed «cyborg translation» acknowledges the complementary strengths of both parties and develops systems that effectively utilize human interpretive authority alongside machine computational capabilities.[70][71] This methodology aligns with Benjamin's conception of translation as a collaborative process that uncovers latent relationships between languages whilst maintaining the integral role of human judgment in philosophical interpretation.

Human-in-the-Loop Translation Systems

Contemporary research demonstrates that Human-in-the-Loop Machine Learning (HITL-ML) approaches achieve substantially better outcomes than purely automated systems. Meta AI's

[67] Ivi, pp. 295-300.

[68] Ivi, pp. 295-300.

[69] W. Benjamin, The Task of the Translator, cit., pp. 253-263.

[70] Ivi, pp. 295-300.

[71] J. Habermas, *Theory of Communicative Action*, cit.

NLLB-200 project exemplifies this methodology, incorporating human evaluators, data creators, and linguists throughout development to achieve a 44% improvement (+7.3 spBLEU) over previous state-of-the-art systems.[7273] This human-centered approach challenges the traditional view of AI as replacement technology, instead positioning it as a collaborative tool that enhances human capabilities while preserving essential human expertise.

The preservation of human expertise proves crucial for maintaining what Benjamin termed the «transcendent» dimension of translation work. Professional translators are adapting by focusing on areas where human capabilities provide unique value: specialized domains requiring deep contextual understanding, creative localization, handling of confidential cultural material, and acceptance of interpretive responsibility.[7475] Machine Teaching (MT) approaches explicitly focus on transferring human domain expertise to machine learning models, enabling subject-matter experts without technical backgrounds to contribute directly to system development and refinement.[7677]

This collaborative framework addresses Benjamin's fundamental concern about the difference between communication and revelation in translation work. While machines excel at pattern recognition and processing large volumes of data, humans provide the interpretive insight necessary for philosophical translation – the ability to discern «the intricate interaction between the source language's intent and the distinct framework of the target language.»[7879]

A Multi-Phase Translation Pipeline for Classical Chinese

Building on the collaborative framework, an effective translation pipeline for classical and scholarly Chinese extends far beyond model inference to encompass preprocessing, specialized reasoning, post-editing, and scholarly annotation. This multi-phase approach, centered around

[72] Ivi, pp. 295-300.

[73] Ivi, pp. 285-337.

[74] Ivi, pp. 295-300.

[75] Ivi, pp. 295-300.

[76] Ivi, pp. 295-300.

[77] J. L. Austin, *How to Do Things with Words* cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

[78] Ivi, pp. 295-300.

[79] J. Habermas, *Theory of Communicative Action*, cit.

advanced language models like Qwen2.5-72B, demonstrates how cyborg translation can maintain both computational efficiency and interpretive authority.[8081]

The translation process begins with intelligent preprocessing and segmentation, addressing Classical Chinese's lack of grammatical markers and punctuation through rule-based and machine learning approaches that identify meaningful textual units.[8283] This preprocessing stage requires human oversight to ensure that segmentation decisions preserve semantic coherence and respect literary structure – tasks that demand cultural knowledge beyond computational pattern recognition.

Model inference follows, with carefully crafted prompts and few-shot examples matched to the genre and historical context of the source text, whether legal-economic prose, genealogical narrative, or theoretical critique.[8485] The Qwen2.5-72B model's extended 32,000-token context window, enhanced multilingual training, and improved attention mechanisms enable coherence across paragraphs and sections while adapting to discipline-specific registers. Testing across three complex works – *When Economics Meets Law* (2069 paragraphs, 184,129 English words), *Kinship Affairs in the Dynastic History* (1018 paragraphs, 92,003 English words), and *Races* (893 paragraphs, 60,760 English words) – demonstrated the model's capacity to maintain inter-paragraph coherence, interpret layered metaphors, and preserve authorial stylistic integrity.[860]

The critical post-editing phase introduces essential human oversight where scholars review and improve translations, addressing ambiguities, verifying terminology, and ensuring consistency with academic conventions in the target language.[8788] During this phase, LLMs function not as substitutes but as collaborative partners, offering draft translations that streamline time and effort while preserving the translator's role as interpretive authority. This collaboration embodies Benjamin's vision of translation as revelation rather than mere communication, with human

[80] Ivi, pp. 295-300.

[81] W. Benjamin, *Die Aufgabe des Übersetzers*, cit. pp. 9-21.

[82] Ivi, pp. 295-300.

[83] W. Benjamin, The Task of the Translator, cit., p. 258.

[84] Ivi, pp. 295-300.

[85] Ivi, pp. 260.

[86] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

[87] J. L. Austin, *How to Do Things with Words*, cit.; John R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

[88] W. Benjamin, *The Task of the Translator*, cit., pp. 253-263.

translators providing the cultural and philosophical insight necessary to access what he termed «fragments of pure language.»[8990]

Glossing and Scholarly Annotation

The final phase involves comprehensive glossing and annotation essential for texts of academic importance. This includes curated glossaries, explanatory footnotes, citations, and historical cross-references that illuminate the cultural and philosophical dimensions of classical Chinese texts.[9192] While traditionally created entirely by hand, these scholarly layers increasingly benefit from machine assistance, with advanced LLMs capable of suggesting candidate glosses, aligning historical references, and identifying potential translation discrepancies.

This collaborative approach to scholarly annotation exemplifies how cyborg translation can safeguard and improve human expertise rather than supplant it. The machine offers computational assistance for managing vast quantities of textual cross-references and recognizing patterns across extensive corpora, while human scholars supply the interpretative framework essential for assessing cultural significance and philosophical implications. This division of labor reflects Benjamin's conception of translation as a process that necessitates both technical proficiency and philosophical insight – computational capabilities supporting interpretive authority rather than replacing it.

The integration of Retrieval-Augmented Generation (RAG) methodology and Named Entity Recognition (NER) provides additional scaffolding for classical Chinese translation, disambiguating proper nouns and providing historical context that would otherwise require extensive manual research.[9394] However, these computational aids function as tools that support rather than substitute for human judgment about cultural significance and philosophical meaning – preserving what Benjamin identified as the essential human contribution to translation work.

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[89] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Languag*, cit.

[90] J. Habermas, *Theory of Communicative Action*, tr. Thomas A. McCarthy, 2 vols, Beacon Press, Boston 1984-1987.

[91] J. L. Austin, *How to Do Things with Words*, cit; John R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

[92] Ivi, pp. 285-337.

[93] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit..

[94] Ivi, pp. 295-300.

5. Toward Transcendent Technology: The Future of Scaling Intelligence

The convergence of Benjamin's translation philosophy with contemporary developments in artificial intelligence reveals both the promises and limitations of technological approaches to linguistic transcendence. While scaling laws demonstrate mathematical constraints on purely computational approaches, the integration of philosophical understanding with technical innovation suggests pathways toward translation systems that honor both transcendent vision and practical effectiveness.

Beyond Monolithic Scaling: Modular Intelligence and Collaborative Frameworks

The shift from «scaling bigger» to «scaling smarter» in AI development mirrors Benjamin's distinction between practical and philosophical approaches to translation. Rather than pursuing ever-larger monolithic models, the field increasingly embraces modular architectures that combine specialized capabilities with human oversight.[9596] The Model Context Protocol (MCP) represents this evolution, enabling language models to become dynamic cognitive agents that orchestrate tools, data, and context to deliver deeper interpretive insight.[9798]

Under this paradigm, Qwen2.5-72B becomes more than a static generative model – it evolves into a reasoning engine capable of accessing long-term cultural memory, invoking specialized submodels for etymological analysis or philosophical disambiguation, and tracking persistent scholarly choices across documents.[99100] This modular approach allows the system to approach Benjamin's vision of translation as a collaborative process between multiple textual voices while preserving human authority over interpretive decisions.

Test-time compute scaling offers another pathway that resonates with Benjamin's emphasis on contemplative translation work. Models that achieve superior performance through extended inference reasoning rather than increased parameter counts demonstrate that quality

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[95] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

[96] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit..

[97] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

[98] J. Habermas, *Theory of Communicative Action*, cit., pp. 308-318.

[99] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit..

[100] W. Benjamin, *Die Aufgabe des Übersetzers*, cit., pp. 9-21.

translation requires deliberation and reflection – precisely the qualities Benjamin associated with philosophical rather than mechanical approaches to language.[101][102] This computational «deliberation» approximates the human translator's contemplative process, though it operates through mathematical optimization rather than cultural understanding.

Preserving the Transcendent Dimension

Despite remarkable technical achievements, computational approaches to translation face fundamental limitations in accessing what Benjamin termed the «transcendent» dimension of language. The «pure language» that Benjamin envisioned exists beyond semantic content in the realm of cultural memory, historical consciousness, and spiritual significance – dimensions that resist reduction to pattern recognition or statistical optimization.

Classical Chinese translation serves as a liminal test case for these limitations. While Qwen2.5-72B demonstrates remarkable capabilities in handling linguistic complexity and maintaining contextual coherence, it cannot access the cultural memory and philosophical understanding necessary for fully effective classical Chinese translation.[103][104] The seven types of ambiguity identified in classical Chinese texts – particularly thematic, intertextual, and rhetorical ambiguities – require interpretive insights that transcend computational pattern matching.[105]

The human translator's role becomes even more crucial in this context, not as a competitor to machine capabilities but as the essential bridge between computational processing and cultural meaning. Benjamin's vision of the translator as revealing «fragments of a greater language» finds contemporary expression in human-machine collaboration that leverages computational efficiency while preserving interpretive authority.[106][107] This collaboration enables what Benjamin termed the «afterlife» (Fortleben) of texts – their continuing life and transformation through translation – while ensuring that this transformation serves revelation rather than mere communication.

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[101] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

[102] W. Benjamin, *The Task of the Translator*, p. 258.

[103] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.

[104] Ivi, p. 260.

[105] J. Habermas, *Theory of Communicative Action*, cit.

[106] J. Habermas, *Theory of Communicative Action*, cit.

[107] Walter Benjamin, *The Task of the Translator*, cit., pp. 253-263.

Implications for Humanistic Inquiry

The integration of scaling intelligence with Benjamin's translation philosophy has broader implications for humanistic inquiry in the digital age. As AI systems become increasingly sophisticated in handling linguistic complexity, the humanities face both opportunities and challenges in maintaining their essential role as interpreters of cultural meaning. The success of cyborg translation frameworks suggests that the future lies not in human-versus-machine competition but in thoughtful collaboration that preserves human expertise while leveraging computational capabilities. This approach requires what Benjamin would recognize as a philosophical rather than merely practical orientation – one that prioritizes revelation of meaning over mechanical efficiency.[108][109]

Educational institutions and scholarly communities must adapt to this reality by developing new frameworks for human-AI collaboration that honor both technical possibilities and humanistic values. The translation pipeline developed around Qwen2.5-72B demonstrates how such collaboration can enhance rather than diminish scholarly inquiry, providing computational support for research tasks while preserving human authority over interpretive decisions.[110][111]

6. Conclusion: The Task Continues

Walter Benjamin's vision of translation as philosophical revelation rather than practical communication takes on new urgency in the era of large language models and scaled intelligence. While computational systems like Qwen2.5-72B achieve unprecedented capabilities in linguistic processing and cross-cultural transfer, they cannot access the transcendent dimension that Benjamin identified as essential to effective translation work.

The scaling laws governing language model development reveal mathematical limitations that echo Benjamin's philosophical constraints. As models approach performance ceilings and face data scarcity, continued improvement requires qualitative rather than quantitative advances – precisely the kind of philosophical insight Benjamin associated with human translators.[112][113] The emergence of «scaling smarter» approaches, including test-time compute scaling and modular

[108] J. Habermas, *Theory of Communicative Action*, cit., pp. 308-318.

[109] Ibid.

[110] Ibid.

[111] Ivi, pp. 285-337.

[112] Ivi, pp. 308-318.

[113] Ivi, pp. 295-300.

architectures, suggests pathways that complement rather than replace human interpretive authority.

Classical Chinese translation serves as the liminal test case for these limitations and possibilities. The seven types of ambiguity, cultural embedding, and historical consciousness required for effective classical Chinese translation demonstrate domains where human expertise remains not only relevant but essential.[114][115] Cyborg translation frameworks that integrate computational efficiency with human oversight offer promising approaches that honor both technical capabilities and philosophical requirements.

The task of the human-machine translator in the contemporary era involves navigating the tension between computational power and cultural meaning, leveraging artificial intelligence while preserving the transcendent dimension Benjamin identified as essential to translation work. This task requires a fundamentally philosophical orientation, one that Benjamin would recognize – a perspective that views translation as revelation rather than mere communication, collaboration rather than competition, and transcendence rather than mechanical reproduction.

As we advance into an era of increasingly sophisticated artificial intelligence, Benjamin's insights remind us that the most essential aspects of translation work – the revelation of «pure language,» the creation of textual «afterlife,» and the bridge between cultural worlds – remain fundamentally human tasks. The future of translation lies not in choosing between human and machine capabilities but in developing collaborative frameworks that preserve what is essentially human while embracing what is computationally possible.

The task continues, enriched by new tools but grounded in enduring philosophical insights about the nature of language, meaning, and cultural transmission. In this ongoing work, human translators serve not as competitors to artificial intelligence but as essential partners in the revelation of meaning across linguistic and cultural boundaries – precisely the role Benjamin envisioned for translators as mediators between worlds of meaning rather than mere transmitters of information.

[114] Ivi, pp. 308-318.

[115] J. L. Austin, *How to Do Things with Words*, cit.; J. R. Searle, *Speech Acts: An Essay in the Philosophy of Language*, cit.