

Reconstruction of Functional Equivalence in Literary Translation in the Era of Generative Artificial Intelligence—An Analysis Based on Translations of "The Chess King"

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Abstract. The rapid spread of generative artificial intelligence (GAI) into literary translation has sparked considerable debate among scholars. Can machines really handle texts as nuanced as literature? To address this question, functional equivalence theory is adopted as the analytical framework. This study selects passages from Ah Cheng's *The Chess King* (*Qi Wang*) that are saturated with cultural imagery and philosophical undertones—precisely the kind of material that separates good translation from mechanical substitution. A systematic side-by-side comparison is then conducted between the English output produced by ChatGPT and Bonnie S. McDougall's widely respected human translation. Two problems guide the inquiry. First, where exactly does GAI excel or stumble when functional equivalence is the goal? Second, what should translators do differently in an AI-assisted workflow to preserve literariness, cultural meaning, and aesthetic value? The results turn out to be quite telling. AI handles routine narrative well enough—fluent, fast, and grammatically clean. Yet once the text dips into culture-loaded terms, historically embedded language, or deeper literary meaning, accuracy and artistry drop off sharply. McDougall's version, meanwhile, manages cultural "functional equivalence" far more convincingly because it transmits the original essence with flexibility and interpretive depth rather than statistical guesswork. The conclusion reached is pragmatic rather than alarmist: AI can serve as a powerful assistant, yet the creative transformation that defines literary translation—shaping literariness, cultural resonance, and aesthetic value—still rests on the translator's subjective judgment and artistic recreation. These findings may offer some useful insights for bringing AI technology into current translation teaching and practice.

Keywords: Generative Artificial Intelligence, Literary Translation, Functional Equivalence, The Chess King, Translation Strategies

1. Introduction

1.1. Impact and opportunity: the transformation brought by generative AI to literary translation

Generative AI has arrived in literary translation with considerable fanfare. Large language models—ChatGPT being the most visible example—now generate bilingual corpora at scale, spanning everything from legal documents to poetry [1]. For translators, this means access to resources that would have been unimaginable a decade ago: instant drafts, parallel texts, and terminology banks. The appeal is obvious. Less obvious is the cost.

Literary translation is not, at its core, about swapping words between languages. It is about carrying over what Chinese critics call "faint emotions"—those layered undercurrents of aesthetic feeling that give a text its life. And here lies the problem. Current research agrees that GAI runs into a wall when it faces culturally specific material, historically grounded references, or genuinely original literary voice. The reason is baked into how these models work: they learn by statistical imitation, which makes them reach for the safest, most common expression every time. That produces smooth prose, to be sure, but smooth in the way of a polished stone—uniform, and stripped of individual texture. For a novel like Ah Cheng's *The Chess King*, steeped in Taoist philosophy and anchored to a specific historical moment, this kind of flattening is disastrous. The question is not whether AI can translate it; the question is how much of the novel survives the process.

So the picture is mixed. AI gives us a leap in instrumental capacity, yet its creative transformation ability remains bounded. That tension is what prompts a re-examination of functional equivalence theory—not to discard it, but to extend it. Rather than asking whether target readers respond the same way source readers do, a harder question is posed: does the translation succeed in awakening equivalent aesthetic feeling, cultural reflection, and spiritual resonance? From there, the translator's role shifts from "language mediator" to something closer to a cultural curator or ethical gatekeeper. AI, meanwhile, should be treated as what it is: a tool, not a partner.

1.2. Case and method: the comparative analysis path based on translations of "The Chess King"

To ground these theoretical questions in actual text, Ah Cheng's *The Chess King* is selected as the central case. The novel sits at the intersection of several features that make it ideal for this kind of analysis. As a landmark of "Root-Seeking Literature," it is densely packed with culture-loaded terms, language shaped by a specific historical period, and Taoist philosophical references. If translation is going to fail anywhere, it will fail here.

The methodology adopted is straightforward: comparative close reading. Representative excerpts are taken from the novel, translated with ChatGPT (as a proxy for current GAI capability), and compared against Bonnie S. McDougall's authoritative English version. McDougall's translation is well regarded in Western sinology precisely because she refuses to domesticate the text; her stated aim is to stay grounded in Chinese culture rather than pander to English-reading habits [2]. That makes her work an excellent benchmark.

The comparison unfolds along several lines. The analysis begins by looking at how each version handles cultural imagery—metaphors of "chess" and "eating"—to see whether AI defaults to literal translation, free translation, or cultural substitution, and how McDougall uses foreignness-plus-annotation to achieve functional equivalence. Emotional tone and language rhythm are then

examined, particularly the parallelism of four-character phrases that Ah Cheng uses extensively. McDougall once rendered such phrases as short, symmetrical sentences to balance form and meaning [3]; it is worth observing whether AI pays more attention to surface form or to semantic fluency, and what that choice costs in literary charm. Finally, drawing on Gao's observation that McDougall's own translation may inadvertently alter narrative progression and compress thematic depth [1], an examination is conducted of whether AI amplifies that "damage"—for instance, by reducing complex spiritual quests to mundane personal hobbies, thereby bleeding the text of its symbolic weight (see Fig. 1).

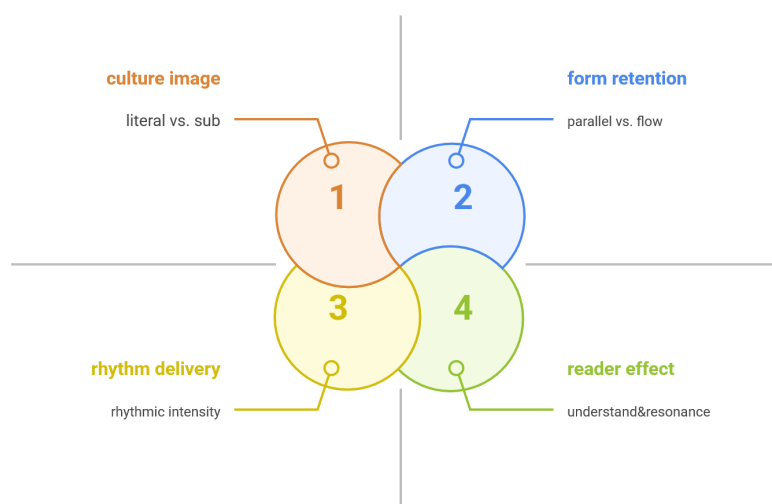


Figure 1. Version strategy chart

What follows, then, is a detailed tripartite comparison—source text, AI output, McDougall's version—designed to show where AI translation currently wins, where it hits a ceiling, and what that means for the translator's evolving role.

2. Research design and methodology

2.1. Research questions

This study is driven by two focused questions.

- (1) Where, exactly, do GAI's strengths and limitations surface when the goal is functional equivalence in literary translation—not in the abstract, but at the level of concrete textual decisions?
- (2) In a translation workflow that already involves AI, how should human translators reposition themselves to ensure that literariness, cultural depth, and aesthetic value do not get lost in the pipeline?

2.2. The core connotation of functional equivalence theory

Eugene Nida's functional equivalence theory has been around for decades, but its relevance to this particular moment is striking. Nida argued that translation should not chase word-for-word or grammar-for-grammar matching; the real goal is to produce in target-language readers a response as close as possible to what source-language readers feel. In literary work, that means crossing not just linguistic but cultural and aesthetic barriers.

Applying this framework to *The Chess King* is not a theoretical exercise—it is a necessity. The novel's core symbols, "chess" and "eating," carry philosophical weight that no literal conversion can capture. "Chess" in Ah Cheng's hands is not a board game; it is a path toward spiritual transcendence. "Eating" is not mere consumption; it encodes dignity and a philosophy of being. Functional equivalence gives us a way to judge whether a translation has carried that weight across, or whether it has dropped it somewhere along the way.

McDougall's choice to render the title *Qi Wang* as "The King of Weiqi"—with explanation—rather than the more accessible "Chess King" illustrates the point. She is asking English readers to do a little more work, and in return they get closer to the cultural reality the novel is naming [2]. AI, trained on frequency-based prediction, would almost certainly choose "Chess King" because that is what the corpus says is normal. Functional equivalence theory thus serves as both lens and yardstick for everything that follows.

2.3. The construction of analytical dimensions for this study

To keep the analysis from dissolving into impressionism, it is organized around three dimensions that move from surface to depth.

The first is transmission of cultural imagery. How do the two versions handle terms like "chess" and "eating"? Does the translation trigger roughly the same cultural associations in an English reader that the original triggers in a Chinese reader? McDougall preserves foreignness and annotates; AI tends to substitute culturally familiar equivalents. The comparison tells us which strategy actually delivers functional equivalence [3].

The second dimension is reproduction of language style and emotional color. Ah Cheng's prose is famously concise and rhythmic, with "faint emotions" conveyed through action and event rather than explicit statement. A comparison is made of how each version handles the narrative rhythm, four-character parallelism, and restrained emotional tension. McDougall manipulates sentence structure to echo the original; AI, in the present observation, reaches for mechanical form-to-form mapping or pure semantic fluency, both of which distort the emotional texture.

The third dimension is reader reception and narrative effect. Translation studies has increasingly turned to narratology for answers, and with good reason. Covert progression—thematic undercurrents that run beneath the surface plot—matters enormously in a novel like *The Chess King* [4]. An examination is conducted of whether each version preserves the original's narrative time, perspective shifts, and covert thematic layering, or whether it flattens them. The implications for how English-speaking readers encounter the "root-seeking" theme are considerable [5, 6].

3. Research results and analysis: comparison between the AI translation and McDougall's translation of "The Chess King"

With the framework in place, attention now turns to the texts themselves. The three dimensions laid out above—cultural imagery, stylistic reproduction, and philosophical depth—map roughly onto the levels at which functional equivalence operates: surface symbol, mid-level style, and deep resonance. Each is examined in turn, using close comparative readings of specific excerpts.

3.1. Lexical and sentential level: the game between accuracy and "natural equivalence"

At the word and sentence level, AI and McDougall pursue different things. AI optimizes for what looks like natural English: correct grammar, smooth flow, familiar phrasing. The problem is that

"natural" here often means "generic." McDougall is willing to sacrifice a little fluency if it means keeping something essential about the original—its cultural texture, its stylistic fingerprint.

The title itself makes the point. AI produces "Chess King"—an English-friendly label that erases the specificity of weiqi and the Eastern philosophical tradition it carries. McDougall writes "The King of Weiqi" and adds explanation [7]. The result is initially less comfortable for an English reader, but it is also more accurate and more culturally honest. That is functional equivalence in action.

Another revealing case is the set of four-character phrases describing chess positions—sheng, zhe, ruo, xie. McDougall renders these as "bold," "breach," "weak," "leak," deploying alliteration and assonance to recover the phonetic rhythm that the original packs into four monosyllabic characters [8]. AI, predictably, opts for contextually appropriate English verbs that get the meaning across but lose the formal architecture. The reader understands what happened on the board; what they miss is the aesthetic experience of reading about it.

Historical and emotional vocabulary shows the same split. Where the original hints at "faint emotions" beneath a seemingly simple narrative, AI flattens the passage into neutral declarative prose. McDougall reaches for lexical choices and structural tweaks that narrow the cognitive gap between the English reader and the historical reality encoded in the text [1]. The lesson is sharp: AI's "naturalness" is a decontextualized universal; McDougall's "equivalence" is a situated, creative act.

3.2. Discourse and stylistic level: the reproduction of narrative style and authorial voice

Zoom out from individual words to paragraphs and voice, and the differences become even harder to ignore. AI weaves source paragraphs into seamless English narrative. The prose is coherent, but the original's distinctive rhythm—its art of omission, its pregnant silences—often disappears in the weaving. McDougall pays closer attention to discourse architecture. She adjusts sentence length, mimics the original's pacing, and sometimes keeps syntactic fragments that would never appear in a composition textbook but are essential to Ah Cheng's voice.

Consider the novel's many scenes of silence and terse dialogue. Ah Cheng uses short sentences and deliberate omission to build atmosphere and to let "faint emotions" seep through without naming them. Faced with this, AI adds conjunctions, fills logical gaps, and tightens the text into conventionally cohesive English paragraphs. The narrative becomes readable, yes, but conventional in exactly the way the original refuses to be. McDougall takes a different route. She imitates the original's sentence length and pauses, even preserving fragments that look odd on the page, because she is building a comparable rhythm and a comparable contemplative space for the English reader [2]. The reading gets harder, but the aesthetic payoff is real.

Authorial voice shows the same pattern. Ah Cheng narrates with a kind of restrained detachment—observing, evaluating, but never emoting. AI tends to absorb that voice into a neutral narrative stream, stripping away the subtle evaluative stance. McDougall, on the other hand, uses precise lexical selection and shifts in transitivity to preserve it. A simple material process like "he glanced" becomes a more static, descriptive formulation that foregrounds the observer's calm, watchful presence [2]. Scholars have noted the unusual lexical diversity and written-language texture of McDougall's prose, which situates it closer to the source language's aesthetic register than to standard English [2]. At this level, AI simply does not have the artistic awareness to compete.

3.3. Cultural-aesthetic and philosophical level: the conveyance of deep meaning

The deepest level is where the gap between human and AI translation becomes a chasm. The Chess King is not primarily a story about playing chess; it is a vehicle for Taoist thought, a meditation on existence, and an aesthetic of silence. These are not concepts that statistical language modeling handles well.

Take the description of Wang Yisheng's chess-playing state as *dai ru mu ji*. The phrase comes from Zhuangzi. It describes a condition of absolute, cultivated stillness—not stupidity, despite what the literal words might suggest. AI renders it as "as still as a wooden chicken" or "dumbstruck," managing to capture the surface image while entirely missing the philosophical reference and the spiritual transcendence it signifies. McDougall's approach is different: she builds contextual solemnity around the moment and supplies annotation, guiding the English reader toward the realization that this is a state of supreme concentration and inner focus. What she reconstructs, in other words, is not the words but the philosophical shock [3].

The "eating" motif, which threads through the entire novel, exposes the same limitation. For Ah Cheng, eating is never just eating. It is ritual, dignity, survival, and philosophy compressed into a single repeated action. AI collapses these rich descriptions into "eat" or "have a meal," turning existential drama into physiological routine. McDougall spreads the semantic load across "devour," "consume," "partake of"—each choice calibrated to preserve the gravity and ritual significance that make "eating" a key to understanding character and history [3]. English readers who encounter McDougall's version get a hint of the "faint emotions" the original embeds in mealtime; readers of the AI version get lunch.

At the deepest register, AI also fails to carry across the intertextual fusion of "chess" and "the Way" that structures the novel's Eastern spirituality. *Qi dao* is not merely "the way of Go" or "chess strategy"—it is a metaphor for spiritual freedom sought through alignment with cosmic order under difficult conditions. McDougall's strategy is holistic: by retaining "weiqi" and layering spiritual significance onto the chess-playing scenes throughout the narrative, she allows "chess" to accrue philosophical weight as the translation proceeds. Existing scholarship confirms that McDougall's translation prioritizes faithful transmission of traditional Chinese thought [3]. What she achieves—and what AI currently cannot—is functional equivalence not at the word level but at the level of cultural awakening.

4. Conclusion

4.1. Research findings and theoretical reconstruction

What emerges from this comparative analysis is a fairly clear picture of generative AI's duality in literary translation. On routine narrative and basic information transfer, AI is fast, fluent, and reliable. The grammar is clean, the vocabulary appropriate, the reading smooth. Yet as soon as the task demands something more—culture-loaded terms, historically embedded references, distinctive stylistic features, or philosophical depth—the output degrades. AI reaches for high-frequency, generic expressions from its training data, and the result is cultural oversimplification, emotional flattening, and a loss of literary texture. Deep functional equivalence remains out of reach.

McDougall's translation, by comparison, succeeds through a cluster of creative strategies: keeping culturally specific terms and annotating them, restructuring sentences to echo the original rhythm, and deploying a varied vocabulary that preserves emotional nuance. The aesthetic

experiences she awakens in English readers are recognizably close to what Chinese readers feel (as shown in Table 1).

Table 1. Text translation comparison analysis table

Comparison Dimension	Generative AI Translation	McDougall's Human Translation
Conventional Narrative & Basic Info Conversion	Efficient, linguistically fluent, conforms to English grammar norms	Accurate and fluent, balancing semantics and style
Handling of Culture-Loaded Terms	Often simplified or mistranslated, leading to loss of cultural imagery	Retains culture-specific items, achieving cultural functional equivalence
Conveyance of Historical Context & Philosophical Meaning	Deep meaning easily overlooked, emotional color weakened	Precisely conveys philosophical connotations, awakens similar aesthetic experience
Stylistic Features & Language Rhythm	Tends toward general expressions, loses original sense of rhythm	Adjusts sentence structures to imitate original rhythm, enhances literariness

These findings prompt a theoretical refinement. Traditional functional equivalence asks whether target readers respond similarly to source readers. In an era where AI is doing some of the responding, that definition is no longer sufficient. It is proposed that functional equivalence be reconceptualized as follows: does the translation succeed in stimulating aesthetic feeling, cultural reflection, and spiritual resonance in the target culture that are genuinely equivalent to those of the source? Under this definition, the core task of literary translation is not AI-driven replication. It is human-driven creative transformation—carried out by translators acting as cultural curators and ethical gatekeepers. AI can assist, speed up, and resource. But the decisions that matter—about "faint emotions," about spirit—still belong to the human translator.

4.2. Summary and outlook

This study has mapped the capability boundaries of AI in literary translation and confirmed what many translators already suspected: human judgment and artistic recreation are not optional extras; they are the center of the enterprise. The analysis shows that AI handles conventional narrative well enough, but when the text is culturally dense, stylistically distinctive, or philosophically ambitious, AI's statistical optimization produces the wrong kind of fluency—generic rather than situated, safe rather than artful.

McDougall's work offers a positive model. Through culture-specific retention, creative structural adjustment, and holistic cultural-context building, her translation stimulates aesthetic experiences and cultural resonances that genuinely resemble the original. That confirms what is at stake: in the creative transformation of literariness, cultural depth, and aesthetic value, the translator's subjective judgment, cultural literacy, and artistic sensibility remain irreplaceable.

Looking forward, generative AI will certainly find its place in translation practice and pedagogy. It will speed up workflows, enlarge corpora, and handle routine tasks that once consumed hours of human labor. But these findings also carry a caution. As these tools are adopted, translation education needs to double down on what makes human translators valuable: literary sensitivity, cross-cultural interpretive skill, and creative problem-solving. The goal is not to produce students who operate AI systems, but students who can use AI while consistently transcending its limits. The translator of the future should be a cultural curator, not a machine operator; an ethical gatekeeper,

not an efficiency maximizer. Technology has not eliminated the art of translation. If anything, it has made the art more urgently necessary.

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