

Challenges and Opportunities of Legal Translation in the Context of Artificial Intelligence

Yaxuan Qi^{1, a}

¹School of Foreign Studies, Shandong University of Finance and Economics, Jinan 250002, China

^a509118080@qq.com

Abstract. In the era of rapid development of globalization and artificial intelligence technology, the importance of legal translation in international legal affairs has become increasingly prominent. Guided by international communication, this article, through case analysis, delves deeply, from the three aspects of terminological accuracy, semantic integrity, and cultural adaptability, into the adaptive transformation of legal concepts in different cultures in legal translation empowered by artificial intelligence and its impact on texts. By clarifying the direction of the development of legal translation with the assistance of artificial intelligence, it injects new connotations into the theory of legal translation and provides guidance for the rational use of artificial intelligence tools in practice, which is of great significance for promoting the sustainable development of legal translation in the era of artificial intelligence.

Keywords: Artificial Intelligence; Legal Translation; Terminological Accuracy; Semantic Integrity; Cultural Adaptability.

1. Introduction

Against the backdrop of an era marked by sweeping globalization, international exchanges in politics, economics, culture, and other domains have reached unprecedented breadth and depth. Domestically, as China's international discourse power continues to expand, there is an urgent need to accelerate the development of legal translation capabilities to enhance national soft power and foster a stronger international image. On the global stage, the increasing frequency of cross-border trade, transnational investment, and cooperation among international organizations has driven a sharp rise in the demand for legal interaction between different countries and regions. As a crucial bridge connecting diverse legal languages and systems, legal translation plays a pivotal role: its quality and efficiency directly affect the smooth progression of transnational legal affairs and are equally vital to the construction and maintenance of the international legal order.

Meanwhile, the rapid advancement of artificial intelligence (AI) technology is profoundly reshaping numerous industries. Since entering the post-AI era, breakthroughs driven by big data and the widespread application of deep learning algorithms have empowered AI with remarkable capabilities in information processing, leading to impressive achievements in natural language processing. These developments have opened up new opportunities for transforming traditional translation models. At present, various AI-based legal translation tools and platforms have emerged on the market. Trained on large-scale legal corpora, these tools can quickly generate preliminary translation results, significantly improving translation speed and partially alleviating the mounting pressure on legal translation demand.

However, legal language is highly specialized and standardized, carrying specific legal-cultural meanings and serving as a medium for cross-cultural communication. Its semantic precision, logical rigor, and complex cultural context pose formidable challenges to AI's comprehension and translation capabilities.

Therefore, an in-depth exploration of the challenges and opportunities of legal translation in the context of AI is both practically significant and academically valuable. It can offer theoretical guidance and practical insights for the sustainable development of legal translation in the AI era. This paper thus aims to objectively analyze the principles that should be followed in AI-assisted legal

English translation, identify potential problems that may arise, and examine the opportunities that lie ahead. The hope is to make a modest contribution to the field of international legal translation.

1.1. Research Objectives and Significance

1.1.1 Clarifying the Direction of AI-Assisted Legal Translation Development

The core of AI-assisted legal translation lies in identifying the optimal balance between human and machine collaboration. Artificial intelligence excels in tasks such as legal terminology recognition and text formatting, efficiently reducing repetitive labor. However, the deeper aspects of legal texts—logical reasoning, cultural context, and value judgment—still require the expertise of professional human translators. Thus, establishing a complementary mechanism that leverages the strengths of both humans and machines becomes essential: AI ensures consistency and standardization through precise computation, while human translators ensure the accurate conveyance of legal meaning through domain-specific knowledge. This synergistic model not only overcomes the efficiency bottleneck of traditional translation but also avoids overreliance on AI, which may risk the loss of nuanced legal meaning.

1.1.2 Enriching Legal Translation Theory with AI-Era Innovations

In the post-AI era, traditional theories of manual legal translation require innovation and expansion. From a procedural perspective, the integration of AI transforms translation from a purely human cognitive process into a human-machine collaborative model. This shift demands a theoretical reevaluation of the translator's role and raises questions about how to maintain translation quality within this new paradigm. In terms of translation standards, beyond the classical principles of faithfulness, expressiveness, and elegance, new criteria must be considered—such as terminological precision and semantic consistency in machine-generated outputs—providing empirical feedback to inform the ongoing development of legal translation theory.

1.1.3 Guiding the Practical Application of AI Tools in Legal Translation

AI plays an increasingly indispensable role in legal translation practice, yet many translators are still in the exploratory phase of its application. This study aims to offer concrete practical guidance. It addresses common issues found in AI-generated translations—such as terminological errors, logical incoherence, and cultural misalignment—and proposes effective human intervention strategies to achieve optimal human-machine complementarity. The ultimate goal is to enhance overall translation quality, enabling AI to more robustly support legal translation practices and to promote greater efficiency and precision **in the field**.

1.2. Research Hypothesis

Guided by the objective of enhancing international communication, this study adopts a case-based approach to examine the adaptive transformation of legal concepts across cultures through AI-assisted translation. Specifically, it investigates how AI influences translation accuracy and completeness from three key dimensions: terminological precision, semantic integrity, and cultural adaptability.

2. Theoretical Framework

2.1. Methodological Approaches in Translation Theory

2.1.1. Critique of Classical Theories and Paradigm Shifts

The evolution of translation theory has undergone a significant shift—from a focus on linguistic equivalence to an emphasis on cultural interaction. Li Huimin (2015) creatively integrated Jakobson's "tripartite model of translation" with Nida's "back-transformation theory" to develop a four-step analytical method for translating complex Chinese sentences into English, marking a breakthrough in the linguistic approach to translation [1]. Wen Hechen (2024), through a systematic critique of Nida's functional equivalence theory, highlighted its limitations in cultural interpretation and dynamic

communication, advocating for a context-sensitive model of functional equivalence. This theoretical critique has laid a foundation for methodological innovation [2].

With the deepening of the "cultural turn," Liu Fen (2012) focused on Bassnett's perspective of cultural translation, emphasizing the role of translation as a mechanism of cultural negotiation. This shifted the research focus from linguistic conversion techniques to the analysis of cultural power dynamics [3]. Zhao Haizhen (2015), through a reinterpretation of Snell-Hornby's interdisciplinary integration, illustrated the transition in translation studies from "text-centered" approaches to a "cognitive-cultural paradigm" [4]. Yan Desheng's (1993) empirical study on the principle of logical identity in Russian-Chinese translation emphasized the fundamental value of linguistic logic at the micro level [5], while Sun Feifeng (2001) introduced the principle of cultural adaptability, proposing a dynamic balance between source-text fidelity and target-culture acceptance in practical application [6]. Collectively, these studies outline a systematic research framework that bridges macro-theoretical perspectives with micro-practical applications in translation.

2.1.2. Technological Innovation and Ethical Dilemmas in Translation

Computer-Assisted Translation (CAT) tools have brought both innovation and limitations to the handling of legal texts. Liu Yang (2021), through an empirical study on criminal law terminology, identified semantic inconsistencies in current CAT systems and emphasized the necessity of human-machine collaboration in maintaining terminological consistency [7]. Li Wenlong and Zhang Falian (2022), analyzing English translations of the Civil Code, pointed out technical shortcomings of machine translation in conveying legal logic and maintaining legal force, while also acknowledging its strategic value in enhancing international dissemination efficiency [8].

At the same time, the advancement of AI has raised new ethical concerns. Wu Meixuan and Chen Hongjun (2023) systematically outlined three major ethical risks in machine translation: algorithmic bias leading to implicit cultural hegemony, data security crises caused by large-scale corpus training, and the erosion of translator agency, which poses challenges to professional ethics. They advocated for the establishment of an interdisciplinary ethical governance framework to ensure the healthy development of AI in translation [9].

2.2. Systematic Construction of Legal Translation Studies

2.2.1. Hierarchical Development of Theoretical Principles

Theoretical research in legal translation has shown a trend toward the professionalization and refinement of translation principles. Zhang Lei (2023) innovatively combined Nida's equivalence theory with principles of textual interpretation, proposing a dual standard of "semantic precision–legal validity" in the translation of the Civil Code [10]. Yin Jun (2023), focusing on international law, introduced the principle of "logical identity" as a rigid standard, demonstrating through analysis of the International Health Regulations the legal necessity of absolute structural consistency in legal texts [11].

2.2.2. Systematic Innovation in Practical Strategies

To address practical challenges, Li Yumeng (2023) proposed a compound strategy involving grammatical layering and logical restructuring, effectively resolving the structural entanglements found in long legal sentences [12]. Li Peikai (2020), drawing on functional equivalence theory, developed a "de-redundancy" model for translating EU regulation titles, creating a practical pathway for term standardization and authority maintenance [13]. Liu Yi's (2013) comparative legal study provided institutional context for the translation of specific legal concepts, identifying functional misinterpretations—such as with the term "consideration"—and proposing mechanisms to mitigate them [14]. Collectively, these studies contribute to a comprehensive solution framework encompassing terminological standardization, structural reconfiguration, and institutional adaptation.

2.3. Cross-Cultural Legal Translation in the Context of International Communication

2.3.1. Exploration of Cultural Dimensions

Business translation research has highlighted the practical value of functional equivalence. Chen Qingcheng (2024), using business texts as case studies, demonstrated the dual pathway of cross-cultural transmission of commercial intent: surface-level informational equivalence and deep-level cultural transplantation [15]. Gao Jie (2013) proposed a dynamic equilibrium model that quantifies the choice between “domestication” and “foreignization” as a function of cultural distance, offering an operational framework for intercultural communication [16].

2.3.2. Challenges of Institutional Adaptation

Conflicts between legal systems often become apparent in legal translation during processes of legal transplantation. Pei Wenrui and Zhou Li (2001), through a comparative study of Western and Chinese legislative philosophies, revealed the institutional tensions embedded in legal translation and emphasized the translator’s role as a cultural mediator in reconciling legal systems [17]. Wu Yulun (2024) found that legal translations involving foreign-related trusts face systemic conflicts between common law and civil law interpretive frameworks, and proposed a hybrid interpretive model to bridge the divide [18]. This line of research underscores that international communication must not only rely on translation technologies to ensure accurate cultural transmission, but also directly confront institutional differences in legal terminology and governance philosophies. Ultimately, it points to a path of coordinated coexistence between cultural subjectivity and regulatory compatibility in the context of globalization.

3. Theoretical Framework

3.1. Definition of Core Concepts

3.1.1. Terminological Accuracy

Terminological accuracy refers to the precise equivalence of legal terms across languages or legal systems in three dimensions: **intension** (the core legal meaning of the term), **extension** (its applicable scope), and **legal effect** (the rights, obligations, and legal consequences it entails). Gu Zhengkun (1998) emphasized that the translation of foreign legal terms must ensure conceptual accuracy, warning that mistranslations could cause confusion within academic frameworks and lead to misinterpretations in cross-cultural communication. He further argued that terminological accuracy serves as the foundation for maintaining the logical coherence of Chinese expression and the rigor and cultural autonomy of scholarly research [19].

In the context of this study, the core challenge of achieving terminological accuracy lies in the divergence between legal systems—such as the common law and civil law traditions—where identical terms may differ significantly in meaning due to variations in institutional logic, historical development, or judicial practices. As such, accurate translation must rely on functional equivalence rather than literal word-for-word rendering.

3.1.2. Semantic Integrity

Semantic integrity refers to the faithful preservation of the internal logic and implicit relationships within legal texts during the translation process, ensuring that the logical coherence of the target text fully aligns with that of the source. In 1790, the British translation theorist Alexander Fraser Tytler proposed the influential "Three Principles of Translation": (1) a translation should convey the complete ideas of the original work; (2) it should reflect the style and manner of the original; and (3) it should exhibit the fluency of an original composition [20]. This theory laid the foundation for modern Western translation studies and positioned semantic integrity as a top priority, underscoring that meaning must be conveyed thoroughly and precisely for faithful translation.

This study focuses on strategies to avoid disruptions in meaning caused by nested sentence structures, syntactic disparities, and context-dependent logical relations, thereby preserving the legal efficacy of the translated text in practical applications.

3.1.3. Cultural Compatibility

Cultural compatibility refers to the alignment of translated legal texts with the target culture's values, historical traditions, and legal practices to ensure accurate understanding and effective implementation. Since the late 1980s, the "cultural turn" in translation studies has reshaped theoretical discourse. Mary Snell-Hornby was among the first to bridge linguistics and cultural studies in translation theory, establishing its foundational ideas [21]. Susan Bassnett and André Lefevere (1990), key figures in this shift, formally proposed the concept of the "cultural turn," arguing that translation should be viewed as a culturally situated act aimed at meeting the needs of different social groups within specific cultural frameworks [22]. In this vein, Sun Feifeng (2001) observed that language divorced from its historical and cultural context is like a tree without roots or water without a source [6].

Accordingly, this study will analyze differences in ideology and culturally embedded terms across legal systems to explore the balance between legal conceptual embeddedness and cross-cultural universality, aiming to prevent the failure or misapplication of legal rules due to cultural misalignment.

3.2. Interdisciplinary Theoretical Support

3.2.1. Translation Theories

Zhang Lei (2023) argued that from a translation studies perspective, Chinese legislative texts should follow three core principles: the law of equivalence, the law of identity, and the law of equal authenticity, forming an organic system of legal translation standards [10]. These principles apply not only to translations from Chinese into other languages but also to the translation of foreign legislation into Chinese. Below, their application within translation theory is explored:

The Law of Equivalence emphasizes the semantic and functional equivalence between different linguistic forms. Roman Jakobson (1967) was the first to formally conceptualize "equivalence," defining it as the transmission of equivalent information between source and target texts within their respective contexts. He noted that although direct lexical matches may be absent between languages, functional equivalence can be achieved through semantic restructuring or cultural adaptation [23]. In 1964, Eugene Nida introduced the concepts of formal equivalence and dynamic equivalence. In later work, Nida renamed dynamic equivalence as functional equivalence, stressing the importance of preserving content and form so that the target audience experiences the translation in a manner as close as possible to the source audience [24]. This perspective shifts the focus from literal correspondence to a translation approach that bridges linguistic and cultural divides.

The Law of Identity mandates consistency in the translation of specific concepts, terms, and names throughout the text. Rooted in Aristotle's law of identity from classical logic, this principle has long influenced Western rational traditions and, by extension, translation practices. Jakobson's 1959 "Three Types of Translation"—intralingual, interlingual, and intersemiotic—underscore that identity in translation is not mechanical replication but rather adaptation across symbolic systems, ensuring consistency across languages and cultures [23].

The Law of Equal Authenticity is the highest principle in legislative translation. It requires that translations maintain the same legal function, conceptual framework, and cultural resonance as the original, enabling the translated text to fulfill the same normative, directive, and binding roles in the target legal system. Susan Šarčević (1997) developed a system to guide legal translation toward equal legal effect, which becomes particularly important in bilingual or multilingual jurisdictions or international organizations [25]. Thus, while the laws of equivalence and identity ensure translation fidelity, the principle of equal legal authenticity represents the ideal standard for legislative translation—aiming for legal effect equivalence (the principle of equal legal authenticity).

3.2.2. Cross-Cultural Communication Theory

In the field of cross-cultural communication, maintaining a balance between domestication and foreignization is essential. Legal translation goes beyond linguistic transformation—it entails cultural and legal conceptual integration. Legal English translation often involves a tension between these two strategies. Domestication adapts the translation to the target culture, enhancing accessibility but potentially diminishing the distinctiveness of the source legal culture. Foreignization, in contrast, preserves original legal terminology and structures, exposing the target audience to the source legal framework.

Gao Jie (2013) argued that in the context of growing global cultural convergence, foreignization has become increasingly valuable in English translation for preserving the integrity of the source culture and facilitating intercultural understanding. However, she cautioned that foreignization must be supplemented by domestication to maintain readability and contextual relevance [16].

In the age of AI-enhanced translation, human translators must strategically leverage technology to achieve a “foreignization-dominant, domestication-assisted” dynamic balance. This approach not only mitigates the risk of cultural hegemony undermining domestic legal systems but also promotes a pluralistic and inclusive model of global legal civilization.

4. Hypothesis Validation and Case Analysis

4.1. Research Methodology and Case Selection

4.1.1. Research Methodology

In exploring legal translation theory within the context of artificial intelligence (AI), three dimensions—terminology, semantics, and culture—are of critical importance. This study conducts an in-depth examination of the interrelationships among these dimensions, aiming to uncover the divergences and logical connections between AI-based translation and human translation across different levels, thereby constructing a theoretical framework for more efficient translation practice.

From the perspective of the relationship between terminology and semantics, the two exhibit distinct characteristics. Terminological translation tends to rely on relatively fixed lexical databases, rendering the process static in nature. In contrast, semantic translation requires dynamic and context-sensitive adjustments, as meaning is shaped by varying communicative environments. This distinction highlights the divide between surface-level transposition and deep-level interpretation. While terminology translation often involves straightforward symbol substitution (surface-level transfer), semantic translation demands a deeper comprehension of textual meaning and the interpretation of underlying implications—representing a logical progression from simple terminological conversion to nuanced semantic understanding.

The relationship between semantics and culture reveals a fundamental difference in their underlying mechanisms. Semantic processing can be achieved through data-driven algorithms and rule-based matching systems. However, cultural translation is highly dependent on the translator’s cognitive capacity, experiential knowledge, and cultural literacy. Given the complexity and variability of cultural elements, translators must exercise contextual judgment and cultural sensitivity during the translation process. This reflects a logical shift from rule-governed semantic processing to contextualized cultural mediation.

Finally, the relationship between culture and terminology poses a particular challenge for AI systems. While AI adheres strictly to established glossaries and domain-specific terminology through its pre-trained corpora, it often fails to grasp deeper cultural connotations, revealing a clear limitation in cross-cultural communication. In contrast, human translators, equipped with cultural intuition and humanistic insight, can overcome cultural barriers, integrating cultural depth into the translation of specialized legal terms. This human touch ensures that translations not only maintain technical accuracy but also embody culturally appropriate expression.

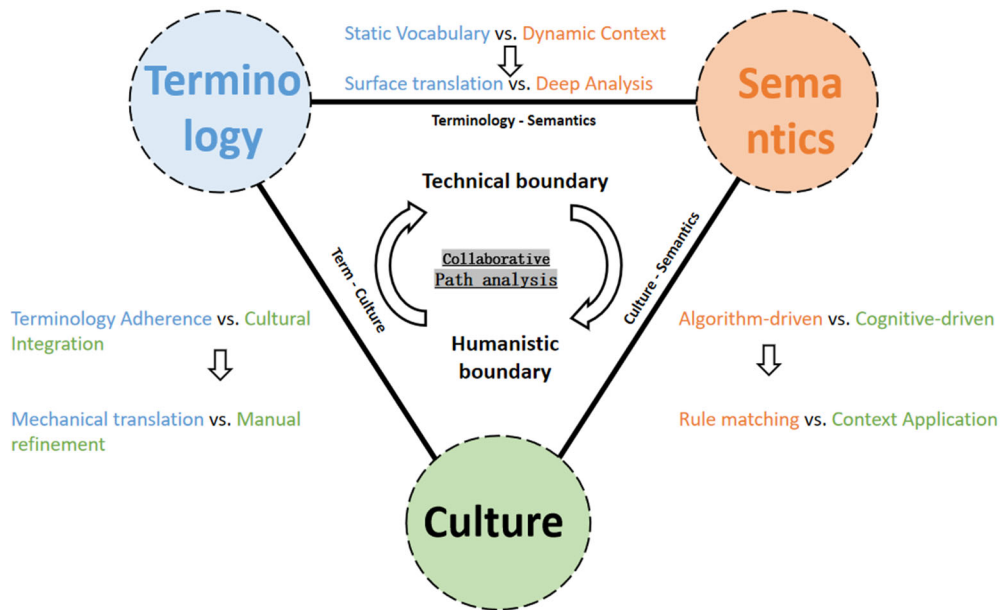


Figure 1. Analysis of the Coordination Paths between AI Translation and Human Translation in the Context of Artificial Intelligence

4.1.2. Case Selection Criteria

This study adopts two primary criteria for case selection. The first is universality—the selected cases span a broad range of legal text types, ensuring a comprehensive representation of the diversity and complexity of legal language. The second is cultural contrast—cases are drawn from both Western and Chinese legal systems, as well as from conflicts between religious and secular laws. This allows for in-depth cultural comparisons between legal systems, revealing how differing legal traditions and worldviews collide or converge in terms of values and principles of application. Such diversity offers a richer and more multidimensional perspective on the challenges and opportunities faced by legal translation in the context of artificial intelligence.

4.2. Validation of Terminological Accuracy

4.2.1. Case 1: The Cross-System Dilemma of “Trust”

Wu Yulun (2024) notes that the trust is a highly universal and flexible legal institution [18]. In the common law system, a trust is a legal relationship grounded in equity, in which a settlor transfers legal title to a trustee, who then manages the property for the benefit of the beneficiary. The structure is based on the doctrine of dual ownership—the trustee holds legal title under common law, while the beneficiary holds equitable title under equity [26].

In contrast, the civil law tradition lacks an indigenous trust system, adhering instead to the “one object, one right” principle. Influenced by civil law, China’s Trust Law locates ownership of the trust property with the settlor, granting the trustee only administrative authority and treating the beneficiary’s rights as a form of debt. This “disaggregation” undermines one of the trust’s key functions in common law—asset segregation—as the civil law system’s property registration rules are not designed to accommodate such a bifurcation.

From a terminological accuracy standpoint, the common law concept of “trust” hinges on the bifurcation of property rights under equity. Core terms such as “legal title” and “equitable title” have no direct counterparts in the civil law property framework. While the Chinese Trust Law adopts the name (xintuō), the functional implications differ: in common law, legal title enables trustees to assert rights against third parties, whereas in China, trust property is still governed by standard property transfer rules, negating the legal force of derived terms like “bankruptcy isolation” or “third-party enforceability.” Thus, the same terminology masks fundamentally different legal realities.

AI translation systems often render “legal title” directly as “Fa Ding Suo You Quan,” overlooking its legal power to bind third parties in common law. In civil law contexts, however, the same term is tied to registry-based ownership and lacks the same effect. If AI-generated translations are adopted into legal documents without doctrinal adjustment, courts in civil law jurisdictions may find the resulting trust clauses vague or invalid, thereby undermining the intended asset-protection function.

4.2.2. Case 2: Contractual Divergences between “Consideration” and “Cause”

Liu Yi (2013) asserts that the doctrine of consideration is foundational to common law contract theory. It is not merely a requirement for enforceability but the basis of the entire system [14]. In common law, consideration requires a legally recognized exchange—money, services, or promises—and contracts without such reciprocal value (e.g., gratuitous gifts) are typically unenforceable.

In contrast, civil law systems rely on the concept of “cause” (as in Article 1108 of the French Civil Code), which focuses on the lawful objective of the agreement, not the presence of reciprocal exchange.

From the perspective of terminological accuracy, although both “consideration” and “cause” serve as legitimacy grounds for contractual validity, their doctrinal orientations differ: the former emphasizes objective reciprocity, while the latter prioritizes subjective intent. If AI translates “consideration” into Chinese as “Dui Jia” without doctrinal clarification, parties in civil law jurisdictions may mistakenly believe that unilateral promises or moral obligations suffice. However, such promises are unenforceable in common law due to the absence of legal detriment. Conversely, translating “cause” as “consideration” may mislead common law practitioners to reject otherwise valid contracts for lacking proper exchange.

Such mismatches between terminological form and legal substance may cause conflicts in cross-border contract interpretation. For instance, AI may translate: “*This promise is supported by valuable consideration*” as “Ben Cheng Nuo Ju You You Xiao Dui Jia Zhi Chi” without accounting for common law precedents that quantify “value.” This could mislead civil law parties into thinking that verbal gratitude constitutes valid consideration. In contrast, a human translator would insert an explanatory clause, such as: “*Consideration refers to a mutually agreed exchange of economically measurable value,*” thereby bridging doctrinal gaps and ensuring functional equivalence in cross-system contexts.

4.3. Validation of Semantic Integrity

4.3.1. Case 3: Semantic Fragmentation Caused by Nested Sentences

Legal scholar Driedger has noted that “long sentences are a common feature of legislative drafting and formal written English.” Li Yumeng (2023) similarly observes that while both English and Chinese employ complex sentence structures, English tends to favor syntactic embedding—especially through subordinate clauses—whereas Chinese typically opts for short, sequential sentences [12]. This syntactic divergence often leads to semantic fragmentation when translating legal texts.

Legal documents, particularly in common law systems, frequently employ deeply nested compound sentences, containing layers of relative clauses, parentheticals, and conditional modifiers. Direct translation of such structures into Chinese can obscure the logical focus and muddle causal relationships.

Consider the following example from **Section 2-615 of the U.S. Uniform Commercial Code**:

“A seller’s delay in delivery or non-delivery in whole or in part does not constitute a breach of his duty under a contract for sale if performance as agreed has been made impracticable by the occurrence of a contingency the non-occurrence of which was a basic assumption on which the contract was made or by compliance in good faith with any applicable foreign or domestic governmental regulation or order whether or not it later proves to be invalid.”

Analysis: This sentence contains **three levels of nesting**—a negative main clause, a conditional clause, and a set of parallel justifications.

While technically correct, this structure **buries the core legal conclusion** (“not a breach”) under layers of conditions. The positioning of the conditional “if” clause at the end, as in English, obscures the causal logic for Chinese readers. Additionally, the parenthetical clarification severs the connection between “contingency” and “contractual assumption,” potentially causing misinterpretation.

A better strategy is to **de-nest** the sentence and restructure it into a clear “condition → action → exception” logic chain

This revised structure restores logical clarity and preserves the legal function of the original sentence in the target language.

4.3.2. Case 4: Cross-Cultural Differences in the Expression of Implied Legal Logic

In international business cooperation, the interpretation and application of contractual clauses often encounter friction due to differences between legal systems. Consider, for example, a Sino-American joint venture agreement containing the clause: “Unless otherwise provided by law, Party A shall not be liable for any consequential damages.” Under the framework of the common law system, where the principle of “everything which is not prohibited is permitted” prevails, such an exemption clause would generally be deemed valid unless explicitly prohibited by Chinese law.

However, the Chinese party may cite Article 506 of the Civil Code of the People’s Republic of China, which states that “a clause excluding liability shall not exempt a party from liability for personal injury,” and argue that the clause is partially invalid because it does not explicitly exclude liability for personal injury.

The root of this divergence lies in differing assumptions regarding implied legal logic in the two systems. In the common law tradition, the default assumption is that clauses are valid unless specifically forbidden by law. In contrast, civil law systems adopt the logic that provisions are invalid unless expressly authorized—thus requiring that exemption clauses clearly enumerate the legally permissible scope of limitation.

In this case, the arbitral tribunal applied Article 10 of China’s Law on the Application of Law in Foreign-related Civil Relations, which mandates the direct application of mandatory provisions, and concluded that the clause violated the prohibition on excluding liability for personal injury under the Civil Code. It was therefore deemed invalid.

This case highlights the necessity of a dual-validation mechanism to resolve cross-cultural conflicts in implied legal logic: a clause must conform to both the logic of the source legal system and the mandatory rules of the target system.

Artificial intelligence, in its current form, often fails to perceive such embedded legal assumptions and tends to focus on literal surface meaning. In contrast, human translators trained in comparative law can incorporate system-specific reasoning and provide clarifying interpretations—thereby preventing miscommunication that could lead to the invalidation of contracts or legal texts.

4.4. Validation of Cultural Adaptation

4.4.1. Case 5: Ideological Interpretation of “Rule of Law” and “Yifa Zhiguo” (Governing the Country in Accordance with Law)

In Western discourse, the “Rule of Law” is rooted in classical liberal traditions. Its core principle lies in institutional checks and balances—typified by the separation of powers under the U.S. Constitution, and mechanisms such as judicial independence. For instance, the European Court of Human Rights interprets Article 6 of the European Convention on Human Rights to guarantee the right to a fair trial. These ideals find philosophical foundation in Aristotle’s notion of “rule by good laws,” which emphasizes the independence of law from political authority [27].

In contrast, China’s concept of “Yifa Zhiguo” (governing the country in accordance with law) is a core expression of socialist rule of law, firmly grounded in its constitutional framework. Article 1 of the Constitution of the People’s Republic of China stipulates the unity of legal norms with the leadership of the Communist Party and the sovereignty of the people. This principle is also reflected

in the legislative rationale of the Civil Code, which states that the law is formulated in accordance with the Constitution—indicating a close alignment between legal texts and the political system.

Such ideological divergences frequently surface in international legal interactions. For instance, the World Bank’s Worldwide Governance Indicators translated China’s “Yifa Zhiguo” simply as “Rule of Law,” a move heavily criticized by Western scholars such as Randall Peerenboom, who argued that this translation ignores or even undermines the constitutional core of checks and balances in the Western context. During the 2016 Sino-U.S. Bilateral Investment Treaty (BIT) negotiations, the U.S. proposed a clause requiring China to accept “independent judicial review,” which clashed fundamentally with China’s political principle of “judicial service to the broader national agenda.” The stalemate underscored that the real tension lay not in surface-level terminological equivalence, but in deep-seated differences in civilizational order.

AI-based translation systems, primarily reliant on corpus-matching algorithms, lack the ability to accurately grasp the dialectical relationship between Party leadership and legal authority embedded in “Yifa Zhiguo.” This calls for the expertise of human translators, who—through nuanced understanding of political context and institutional comparison—can construct compensatory expressions such as “socialist rule of law with Chinese characteristics”, enabling legal texts to be understood appropriately across cultural boundaries.

4.4.2. Case 6: Translating Culturally Loaded Terms in Religious vs. Secular Legal Systems

As Sun Feifeng (2001) observed, religious cultural differences arise from divergent beliefs and ideological worldviews among peoples [6]. Take, for example, the term “excommunication” in Christian canon law, which is often translated literally into Chinese as “逐出教会” (expulsion from the church). However, this superficial translation fails to capture the historical and social implications of excommunication. In medieval Europe, excommunicated individuals were often barred from commercial activities, and others avoided interaction with them due to religious restrictions. If AI translates this term literally without contextual explanation, the reader may misunderstand its significance within both religious law and broader medieval society—potentially leading to serious misinterpretation of church regulations.

Similarly, the term “Jihad” in Islamic law is frequently mistranslated in Western media as “Holy War”, thereby amplifying its militant connotation and fueling widespread misconceptions. In reality, Jihad encompasses not only the defense of faith but also inner spiritual struggle and moral self-discipline. For example, everyday practices such as obeying religious commandments or assisting others are also considered forms of Jihad [29]. Translating it simply as “Holy War” strips it of its multidimensional meaning and fosters a distorted understanding of Islam.

In the context of Buddhist law, the term “清规” is often mistranslated by AI as “clear regulations,” a rendering that fails to convey its actual function. “清规” refers not to general rules, but to a set of strict monastic codes governing the daily life and religious practice of Buddhist monks. For instance, the Baizhang Qinggui outlines detailed prescriptions for daily routines, rituals, and temple management—from early morning prayers to resource allocation [30].

These examples demonstrate that translating culturally loaded legal terms requires a functional explanation combined with cultural annotation. “Cultural adaptation” in this context does not mean erasing legal differences, but rather emphasizes the importance of making legal concepts intelligible across systems by softening cultural boundaries and institutional asymmetries. In an era where globalization and localization coexist, the balance between cultural subjectivity and universal legal values must be preserved.

4.5. Challenges and Opportunities

4.5.1. Challenge 1: Structural Differences between Civil Law and Common Law Systems

In the context of AI-assisted legal translation, a fundamental challenge arises from the institutional divergence between civil law and common law systems—particularly in terms of legal sources, terminological frameworks, and reasoning logic.

Civil law systems are grounded in codified statutes, exemplified by systematic legal codes such as the German Civil Code and French Civil Code, and rely on deductive reasoning, with judges adhering strictly to the letter of the law. In contrast, common law systems are primarily case-based, with legal rules dynamically shaped through judicial precedent under the doctrine of *stare decisis*, favoring inductive reasoning and analogical interpretation. This divergence leads to deep structural untranslatability in legal texts. For instance, the trust system, a hallmark of Anglo-American equity law, involves a dynamic tripartite relationship among settlor, trustee, and beneficiary. While civil law jurisdictions may adopt the terminology of trust through statutory legislation, the absence of judicial precedent renders concepts such as fiduciary duty rigid and inadequately contextualized—necessitating extensive annotation in translation to bridge conceptual gaps.

As a result, AI systems face three major limitations in cross-system legal translation:

Misinterpretation of legal logic: As discussed earlier, exemption clauses in common law jurisdictions follow the presumption of *permissibility unless explicitly prohibited*, whereas civil law systems require *express legal authorization* for validity. AI models often fail to differentiate these foundational assumptions, risking misclassification of contractual enforceability.

Terminological ambiguity: While AI may correctly identify *consideration* as “对价” instead of “考虑,” it typically lacks the capacity to recognize its foundational role in common law contract formation. It also fails to explain how it fundamentally diverges from the *cause* principle in civil law systems—undermining terminological precision and potentially invalidating legal interpretation.

Cultural-legal barriers: Civil law systems, shaped by rationalist legal philosophy, emphasize universal principles and legal abstraction, while common law systems, grounded in empiricism, emphasize case-specific adaptability. AI lacks cultural and contextual awareness, often producing **false semantic equivalence** where legal terms appear similar in form but differ significantly in substance.

4.5.2. Challenge 2: Syntactic Complexity Leading to Semantic Discontinuity

Legal texts are inherently technical and tightly structured—especially in common law jurisdictions, which frequently employ multi-layered syntactic constructions. As Chinese linguist Wang Li once stated: “English is a language of legal order” [31]. Influenced by the characteristics of English as its dominant language, the common law system tends to utilize embedded clauses, parentheticals, and complex conditional structures.

From a linguistic perspective, English is a hypotactic language, relying heavily on connectors and subordination to build complex structures. Chinese, by contrast, is more paratactic, preferring short, meaning-driven sentences. For instance, as discussed in the analysis of Article 2-615 of the Uniform Commercial Code, the original English sentence features triple-nested clauses. A literal Chinese translation risks burying the legal conclusion under layers of conditional phrases, disrupting logical flow and obscuring the main proposition.

AI-based translation systems often struggle with syntactic flexibility. Heavily dependent on pattern matching and predefined algorithms, they lack deep understanding of contextual logic. In translating such complex sentences, AI may mechanically convert syntax and vocabulary without adapting to the target language’s logic or expression norms. This leads to semantic fragmentation, compromising the accuracy and authority of the translated legal text—an especially critical flaw in legal communication.

4.5.3. Challenge 3: Value Conflicts Rooted in Legal Culture

Law, as a system of social regulation, is deeply rooted in cultural tradition. Legal translation is therefore not merely linguistic conversion, but an act of cultural negotiation. The civil law tradition, shaped by rationalist philosophy, emphasizes systemic coherence and logical consistency in codification—prioritizing legal stability and abstract rules. In contrast, the common law tradition, grounded in empiricism, stresses responsiveness to socio-legal contexts and judicial evolution through precedent—valuing equity and adaptability.

These contrasting value systems lead to conceptual divergence in seemingly identical legal terms. For example, as previously discussed, “Rule of Law” in Western discourse is anchored in classical liberalism, advocating checks and balances through separation of powers and judicial independence. In contrast, China’s “Yifa Zhiguo” (governing the country in accordance with law) is constitutionally linked to Party leadership and the sovereignty of the people. Translating the two terms as equivalents without accounting for their underlying ideological contexts may provoke misinterpretation and conflict in international legal practice.

Cultural-loaded terms in religious and secular legal systems further exacerbate this challenge. For instance, *excommunication* in Christian canon law cannot be accurately rendered as merely “being expelled from the church”—it historically implied severe social and economic consequences. *Jihad*, often mistranslated as “Holy War,” ignores its broader connotations of inner spiritual struggle and ethical conduct. The Buddhist term “*Qing Gui*”, translated literally as “*clear regulations*,” obscures its role as a comprehensive monastic code governing daily life and religious practice.

AI systems, constrained by corpus-based matching algorithms, lack the cultural cognition necessary to accurately interpret such terms. This results in skewed translations that misrepresent legal meaning, impair cross-cultural legal comprehension, and highlight the persistent challenge posed by legal value conflicts in translation.

4.5.4. Opportunity 1: Narrowing the Information Gap

One of the most transformative strengths of AI in legal translation lies in its ability to dramatically reduce the information gap through rapid retrieval and large-scale data integration. In today’s fast-evolving legal landscape, traditional translation approaches often struggle to keep pace with the latest developments, as human translators are limited by personal expertise, access to resources, and time constraints. These limitations increase the risk of translation errors due to outdated or incomplete information—potentially resulting in serious miscommunication.

As Ren Xueting (2019) noted, AI technologies excel in information retrieval, a capability directly transferrable to legal translation [32]. She compares legal data acquisition to site mirroring and smart surveillance in intelligent knowledge systems. AI systems effectively replicate key legal texts and precedents from global databases and monitor updates in real time, ensuring the information used in translation is current and accurate. Moreover, intelligent agent systems can tailor corpora to specific cultural and legal contexts, automatically filtering and prioritizing relevant legal content.

With these capabilities, AI can help translators quickly locate and contextualize key legal information, reducing inconsistencies and enhancing translation precision—especially in cross-jurisdictional contexts where differences in legal terminology and practice can lead to significant misunderstandings.

4.5.5. Opportunity 2: Enhanced Multilingual Legal Processing Capabilities

While AI-powered legal translation faces challenges in multilingual, multicultural environments, these complexities also present unprecedented opportunities. The increasing volume of multilingual legal documents highlights the need for efficient, accurate translation solutions—an area where AI offers significant promise.

As Cai Shushan (2024) pointed out, the role of language in human cognition has undergone profound shifts across philosophical eras—from inquiries into the origin of the world in ancient philosophy, to the study of subjectivity in modern thought, to the focus on language and mind in contemporary theory. The linguistic turn in the 20th century laid the groundwork for linguistic intelligence, a domain now central to the development of AI in language processing [33].

Modern AI translation systems, equipped with advanced natural language processing (NLP) and deep learning algorithms, are capable of analyzing multiple languages simultaneously with remarkable speed and accuracy. AI can efficiently parse complex syntactic structures across languages and accurately match legal terminology—thanks to vast multilingual corpora and specialized legal termbases. As AI continues to learn from large volumes of legal text, its translation

models become increasingly optimized, producing translations that are both fluent and legally accurate.

While many of these applications remain theoretical or developmental, the potential for AI to enhance multilingual legal communication is considerable. Its growing capacity for cross-linguistic analysis and semantic interpretation holds great promise for international legal cooperation and multilingual legislative processes.

References

- [1] Li Huimin. An Exploration of the "Four-Step Analysis Method" in the Process of Translating Difficult Chinese Sentences into English — Based on Jakobson's "Threefold Classification of Translation" and Nida's "Back-Translation Theory" [J]. *Overseas English*, 2015(16): 103-104.
- [2] Wen Hechen. Research Status and Shortcomings of Nida's Functional Equivalence Theory at Home and Abroad [J]. *Comparative Study of Cultural Innovation*, 2024, 8(32): 180-184.
- [3] Liu Fen. A Review of Susan Bassnett's Translation Turn in Cultural Studies [J]. *Journal of Qiongzhou University*, 2012, 19(03): 81-82.
- [4] Zhao Haizhen. A Review of the Research That Brings a New Turn to the Translation Field — A Re-evaluation of Snell-Hornby's "The Turns in Translation Studies" [J]. *English on Campus*, 2015(22): 252-253.
- [5] Yan Desheng. The Application of the Law of Identity in Russian-Chinese Translation [J]. *Foreign Language Research (Journal of Heilongjiang University)*, 1993(02): 48-57. DOI: 10.16263/j.cnki.23-1071/h.1993.02.011.
- [6] Sun Feifeng. The Principle of Cultural Adaptability in Translation and Its Practical Exploration [J]. *Journal of Shaoguan University (Social Science Edition)*, 2001(02): 81-84.
- [7] Liu Yang. The Dilemmas and Countermeasures of Computer-Assisted Translation in the English Translation of Chinese Laws — Taking the Terms in the "Criminal Law" as an Example [J]. *China Information Technology*, 2021(04): 109-111.
- [8] Li Wenlong, Zhang Falian. An Exploration of Legal Translation Thinking from the Perspective of International Communication — Taking the English Translation of the "Civil Code" as an Example [J]. *Foreign Languages and Their Teaching*, 2022(06): 122-132 + 149. DOI: 10.13458/j.cnki.flatt.004909.
- [9] Wu Meixuan, Chen Hongjun. Ethical Issues of Machine Translation in the Age of Artificial Intelligence [J]. *Foreign Language Research*, 2023(06): 13-18. DOI: 10.16263/j.cnki.23-1071/h.2023.06.002.
- [10] Zhang Lei. The Application of the Law of Equivalence and the Rule of Literal Interpretation in Legal Translation — Taking the Translation of the General Provisions of the Civil Code as an Example [J]. *The Science Education Article Collects*, 2023(17): 70-73. DOI: 10.16871/j.cnki.kjwh.2023.17.019.
- [11] Yin Jun. On the "Law of Identity" in the Translation of Legal Documents of Inter-Governmental International Organizations — Taking the "International Health Regulations" as an Example [J]. *Chinese Translators Journal*, 2023, 44(01): 134-141.
- [12] Li Yumeng. Translation Problems and Solutions of Long Sentences in the Chinese-English Translation of Legal Texts [D]. *Liaoning Normal University*, 2023. DOI: 10.27212/d.cnki.glnsu.2023.000886.
- [13] Li Peikai. A Practical Report on the Translation of the Titles of EU Laws and Regulations from the Perspective of Susan Šarčević's Translation Theory [D]. *Guangdong University of Technology*, 2020. DOI: 10.27029/d.cnki.ggdgu.2020.002148.
- [14] Liu Yi. The Consideration System in the Anglo-American Legal System [J]. *Legal System and Economy (Late Edition)*, 2013(11): 10-11.
- [15] Chen Qingcheng. The Application of the Functional Equivalence Theory in Business English Translation [J]. *Jiaying Literature*, 2024(24): 96-98.
- [16] Gao Jie. On the Assimilation and Dissimilation in English Translation from the Perspective of Cross-Cultural Communication [J]. *Overseas English*, 2013(18): 122-123.

- [17] Randall Peerenboom, Zhou Li. The Rule of Law and Administrative Legislation Reform in China [J]. *Studies in Law and Business (Journal of Zhongnan University of Economics and Law)*, 2001(05): 138-144. DOI: 10.16390/j.cnki.issn1672-0393.2001.05.018.
- [18] Wu Yulun. The Dilemmas and Improvement Paths of the Application of Law in China's Foreign-Related Trusts [J]. *Journal of Taiyuan University (Social Science Edition)*, 2024, 25(02): 30-40. DOI: 10.13710/j.cnki.cn14-1294/g.2024.02.013.
- [19] Gu Zhengkun. The Translation of Foreign Terms and Academic Issues in China [J]. *Journal of Peking University (Philosophy and Social Sciences Edition)*, 1998(04): 44-51.
- [20] Alexander Fraser Tytler. *Essay on the Principles of Translation*. Beijing: Foreign Language Teaching and Research Press, 2007.
- [21] Mary Snell Hornby. *Translation Studies: An Integrated Approach* [M]. John Benjamin Publishing Company, 1995.
- [22] Susan Bassnet, Andre Lefevere. *Translation, History and Culture* [M]. London: Pinter, 1990.
- [23] Jakobson, R. On linguistic aspects of translation. In L, Venuti (Ed.), *The translation studies reader*. London and New York: Routledge, 1967:113—118.
- [24] Nida, E.A. *Language, Culture and Translation* [M]. Shanghai: Shanghai Foreign Language Education Press, 1993: 52–57.
- [25] Susan Šarčević. *New Approach to Legal Translation* [M]. Netherlands: The Hague: Kluwer Law, 1997.
- [26] Chen Pu. Trust as a Form of Ownership Movement — A Theoretical Attempt to Solve the Problem of the Ownership of Trust Property [J]. *Hebei Law Science*, 2010, 28(12): 86-93.
- [27] Li Tao. Aristotle on the Rule of Law, Rule of Virtue and Rule of Man [J]. *Journal of Yunnan University (Social Sciences Edition)*, 2022, 21(03): 14-21. DOI: 10.19833/j.cnki.jyu.2022.03.014.
- [28] Sun Feifeng. The Principle of Cultural Adaptability in Translation and Its Practical Exploration [J]. *Journal of Shaoguan University (Social Science Edition)*, 2001(02): 81-84.
- [29] Ma Er. A New Exploration of the Islamic "Jihad" [J]. *China Muslim*, 2001(02): 12-14. DOI: 10.16293/j.cnki.cn11-1345/b.2001.02.004.
- [30] Liu Zilu, Chen Xiaodan, Huang Yahui. The "Baizhang Qinggui" and Japan's "Dai Ken Shingi" and the Origins of Temple Tea [J/OL]. *Tea Communication*, 1-6 [2025-04-22]. <http://kns.cnki.net/kcms/detail/43.1106.s.20240517.1503.019.html>.
- [31] Wang Li. *Modern Chinese Grammar* [M]. Beijing: Beijing United Publishing Company, 2019
- [32] Ren Xueting. The Application of Artificial Intelligence in Network Information Retrieval in the Big Data Era [J]. *Information Technology and Informatization*, 2019(01): 95-97.
- [33] Cai Shushan. I Speak, Therefore I Am: Also on the Two Types of Linguistic Intelligence of Humans and Computers [J]. *Foreign Languages in China*, 2024, 40(04): 11-32.