

Literal and Free Translation in Medical Translation: Applications of Newmark's Theory and Ethical Framework

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Abstract: This paper provides an in-depth analysis of the application of literal and free translation in medical English translation, and based on Newmark's theories of semantic and communicative translation, discusses the challenges encountered in professional translation practice. The study emphasizes the lexical, syntactic, and expressive characteristics of medical English, along with its stringent requirements for accuracy and objectivity. It proposes appropriateness, accuracy, and fluency as the core principles of medical translation. By comparing different text types and linguistic functions, the paper explores how to appropriately employ both literal and free translation in medical contexts. Furthermore, it integrates ethical values and a normative ethical framework to guide practice, aiming to ensure the precise transmission of information and the maximization of patient welfare.

1. Introduction

With the acceleration of globalization, medical communication has become increasingly frequent. Medical translation, as a vital bridge for conveying medical information across different linguistic backgrounds, is of undeniable importance ^[1]. It not only requires the accurate transmission of complex scientific knowledge but must also ensure reliability, as any mistranslation may result in serious consequences ^[2, 3]. Therefore, how to conduct medical translation effectively—particularly how to make appropriate choices between literal and free translation—has become a critical topic in translation studies.

This paper will analyze Newmark's translation theories, especially his concepts of semantic and communicative translation, as applied to medical translation ^[4]. Through understanding literal translation, which emphasizes the exact meaning of the source text, and free translation, which seeks to produce a particular effect on the target audience, we can better grasp how to select appropriate strategies based on text types and contexts. Considering the distinct nature of the medical field, this study also introduces the ethical framework proposed by Moratto and Woesler ^[5], highlighting the

ethical responsibilities and cultural sensitivity that translators must uphold in medical translation.

By integrating these two theoretical perspectives, the paper aims to offer a more comprehensive set of guiding principles for medical translation practice, ensuring that translation meets professional standards while fulfilling the expectations and cultural needs of the target audience.

2. Literal and Free Translation in Medical English

2.1. Newmark's Semantic and Communicative Translation

Newmark made numerous contributions to translation theory and practice. He did not advocate a single translation method, but rather focused on describing and understanding the various challenges involved in translation. He proposed two core concepts: semantic translation and communicative translation^[4], offering alternatives to Eugene Nida's earlier model of formal and dynamic equivalence^[6, 7]. The main distinction between these two methods lies in their orientation: semantic translation emphasizes the precise meaning of the source text (ST)—that is, a literal translation—whereas communicative translation focuses on the effect produced on the target text (TT) audience—i.e., a free translation^[4].

While Newmark offered alternatives to Nida's model by distinguishing between source- and target-oriented strategies, both frameworks have been critiqued for implicitly privileging fluency and transparency in the target language. Lawrence Venuti^[8] notably challenged this tendency in his work *The Translator's Invisibility*, arguing that the dominance of fluent translation practices often conceals the translator's agency, and marginalizes the cultural and linguistic alterity of the source text. Venuti's critique reminds that literal and free translation decisions are not only linguistic but also ideological choices that shape how medical knowledge is localized, standardized, or resisted in translation.

2.2. Characteristics of Medical English and Translation Principles

Medical English differs from both general English and other types of specialized English in terms of vocabulary, syntax, and modes of expression. Its terminology often derives from Latin and Greek, ensuring accuracy in scientific communication. The sentence structure is typically complex and hierarchical, frequently employing passive voice and impersonal constructions to convey a formal and objective tone. To ensure clarity and precision, medical English avoids ambiguity and vague expressions. Therefore, translators must accurately convert information while preserving the precision of technical terms and scientific concepts. This requires translators to possess solid language skills as well as medical knowledge. The core principles of medical translation include:

- **Appropriateness:** Ensuring that the expression of technical terms and concepts conforms to the standards and conventions of the medical field.
- **Accuracy:** Faithfully conveying the meaning of the original text, ensuring clarity and the absence of ambiguity.
- **Fluency:** Rendering the translation smooth, natural, and comprehensible.

Due to the high demands for precision and professionalism in medical translation, there is often a preference for literal translation. However, in practice, Newmark's theory supports the concurrent use of both literal and free translation methods.

2.3. Comparative Methods of Literal and Free Translation in Medical Practice

Based on the function of language—namely its intended use—Newmark proposed three major text types:

2.3.1. Expressive Function

Case 1 (Literal Translation; adapted from ^[9])

Reconstructed source (descriptive): The source sentence (originally in Chinese) presents a formal recommendation by a professional body—the *Clinical Oncology Society*—which endorses the use of the *World Health Organization's Fracture Risk Assessment Tool* as a guideline for quantifying the risk of osteoporosis in early-stage breast cancer. The sentence structure foregrounds the authority of the recommending institution and employs a high-register, nominalized formulation typical of Chinese medical discourse.

Trial translation: *The Fracture Risk Assessment Tool as an assessment tool to quantify the risk of osteoporosis in early breast cancer is recommended by the Society of Clinical Oncology guidelines.*

Reference translation: *The Society of Clinical Oncology guidelines recommend the World Health Organization Fracture Risk Assessment Tool as an assessment tool to quantify the risk of osteoporosis in early breast cancer.*

Note: The core of the expressive function lies in the author's or speaker's intention to express their thoughts and feelings. This type of text emphasizes the authority of the original author. When translating, fidelity to the author's meaning and style should take precedence, without undue concern for the response of the target-language readers. In this comparison, the reference translation's 'literal' rendering more closely aligns with the original wording.

2.3.2. Informative Function

Case 2 (Free Translation; adapted from ^[9])

Reconstructed source (descriptive): The original Chinese sentence describes the mechanism of action of bisphosphonates, emphasizing their binding to hydroxyapatite in bone, which in turn leads to inhibition of osteoclast-mediated resorption, reduced bone loss, and enhanced bone density. The structure follows a typical Chinese biomedical exposition: a sequential compound-verb construction that strings actions together without explicit causal connectors.

Trial translation: *Bisphosphonates inhibit osteoclast-mediated bone resorption, reduce bone loss and enhance bone density by binding to hydroxyapatite in bone.*

Reference translation: *Bisphosphonates inhibit osteoclast-mediated bone resorption by binding to hydroxyapatite in bone, reducing bone loss and enhancing bone density.*

Note: The core of informative texts is the authenticity of content. In translation, maintaining authenticity is more important than preserving the author's style. In this example, the reference translation transforms a complex Chinese verb chain into a causal sequence consistent with English syntax and logic, enhancing clarity without altering the factual content.

2.3.3. Vocative Function

Case 3 (Amplification; adapted from ^[9])

Reconstructed source (descriptive): The original Chinese sentence presents a brief directive targeting low-risk patients, outlining recommended preventive and therapeutic measures, including lifestyle modification and supplementation with calcium and vitamin D. The sentence adopts a concise, imperative-like form common in Chinese clinical recommendations, leaving the instructive tone implicit rather than overtly marked with modal verbs or impersonal constructions.

Trial translation: *Prevention and treatment strategies for low-risk patients: Lifestyle improvements, calcium and vitamin D supplements are recommended.*

Reference translation: *Prevention and treatment strategies for low-risk patients: It is recommended to improve lifestyle and supplement calcium and vitamin D.*

Note: Vocative texts are reader-centered and aim to persuade the reader to act, think, or feel in a

particular way. Clinical practice guidelines, product manuals, and promotional brochures fall into this category. Translators should prioritize the target reader and use the advantages of the target language to reproduce equivalent effects. The amplified inclusion of ‘it is recommended’ adds necessary formality and objectivity, making the reference translation more appropriate.

As the above examples demonstrate, literal and free translation methods can be used in parallel. “Each method emphasizes different aspects and has its own strengths”, as Newmark emphasized: “The translation process is not fixed, but evolves alongside the dominant trends in translation studies—from focusing on the author’s intention, to that of the translator, then back to the source author, and ultimately to the target audience” [4].

3. Application and Practice of Free Translation in Medical Translation

In the field of medical translation, the contexts in which free translation is applicable and how to appropriately calibrate the degree of adaptation during translation deserve further exploration. This section draws on Berman’s concept of ‘deforming tendencies’ [10], emphasizing the importance of appropriate translation to inform future studies.

3.1. Rationalization Principle and Its Application

In medical translation, rationalization in free translation is a crucial technique. It involves restructuring the original syntax to conform to the expression habits of the target language. Such restructuring may include changing punctuation, reordering sentences, simplifying complex constructions, or eliminating redundant information. For example,

Case 4 (Free Translation with Rationalization; adapted from [11])

Reconstructed source (descriptive): The original Chinese sentence presents a complex causal chain describing how autophagy supports the progression of advanced cancer by providing energy and metabolic substrates. It uses a highly compressed syntactic structure typical of Chinese biomedical texts, linking multiple processes—autophagy induction, recycling of intracellular components, adaptation to stress conditions, and metastasis—into one extended clause with minimal subordination or punctuation

Trial translation: *Autophagy could provide the energy and materials for metabolism required for continuous growth of cancer cells at advanced stages through autophagy induction and intracellular components recycling, which in turn promotes tumor cells to adapt to limiting nutrients and hypoxic conditions and facilitate tumor metastasis.*

Reference translation: *Autophagy can provide advanced cancer cells with the metabolic energy and substances required for continued growth by inducing autophagy and recycling intracellular components, thereby enhancing the ability of tumor cells to adapt to limited nutrients and hypoxic conditions and promoting tumor metastasis.*

Note: Compressing such complex pathophysiological mechanisms into a single sentence poses inherent challenges, often leading to unclear meaning or structural imbalance, which makes translation more difficult. In the comparison, the reference translation converts ‘induction’ and ‘recycling’ from nominal to verbal forms, aligning better with English norms while preserving the scientific content.

3.2. Clarification Principle and Its Application

Clarification involves making unclear parts of the source text explicit in the target text. For example,

Case 5 (Clarification; self-constructed example)

Reconstructed source (descriptive): The original Chinese sentence reports a statistically significant finding from a clinical study, stating that a new drug prolonged OS in cancer patients compared to a control group ($P < 0.05$). The abbreviation “OS” (overall survival) is used without expansion, reflecting a common convention in Chinese clinical literature, where domain-specific abbreviations are often left undefined, especially in abbreviated formats like slides or summaries.

Trial translation: *This study found that the new drug prolonged the OS of cancer patients, compared to the control group ($P < 0.05$).*

Reference translation: *This study found that the new drug prolonged the median overall survival (OS) of cancer patients, compared to the control group ($P < 0.05$).*

Note: When an abbreviation like “OS” is first used, its full form should be provided. Moreover, abbreviations are best avoided in abstracts to enhance clarity.

3.3. Expansion Principle and Its Application

Expansion means that the target text is usually longer than the source text due to added explicit information. However, this may disrupt rhythm or lead to overtranslation, which can diminish clarity. The author remains cautious about overtranslation, as fidelity to the original is the baseline norm in medical translation—only in rare cases should additions be made.

Again, referring to Case 5:

Trial translation: *This study found that the new drug prolonged the median overall survival (OS) of cancer patients, compared to the control group ($P < 0.05$).*

Reference translation: *This study found that the new drug significantly prolonged the median overall survival (OS) of cancer patients, compared to the control group ($P < 0.05$).*

Note: Since the original text indicated statistical significance ($P < 0.05$), adding "significantly" aligns the translation with publication norms in scientific literature.

3.4. The Principle of Ennoblement and Its Application

Ennoblement refers to the translator’s tendency to rephrase the original using a more elegant or refined style. While AI-based tools such as ChatGPT may sometimes over-polish texts, this can distort the author’s original intent. According to Berman, such distortion erases the rhetorical charm and dialogic richness of the original^[10]. On the other hand, translations that are overly ‘plain’ may fall short of the language standards expected in academic publishing. This often appears in manuscripts written by students with little submission experience. Hence, translators must strive to both remain faithful to the original and enhance the linguistic quality—a demanding task.

3.5. Destruction of the Network of Signification

Translators must maintain the underlying consistency and semantic network of vocabulary within the text. This is especially crucial when translating official national health policy documents, where semantic coherence and authoritative tone must be preserved.

3.6. Destruction of Syntactic Patterns

The systematic structure and patterns of the source text may be disrupted during translation, as translation tends to systematize. Translators often apply a range of techniques—rationalization, clarification, expansion—all of which standardize the target text and may cause the loss of syntactic patterns and stylistic variation in the original. It is essential to preserve as much of the original content as possible and be cautious of unauthorized changes.

3.7. Destruction of Idioms and Expressions

Berman believed that replacing idioms or proverbs in the source language with ‘equivalents’ in the target language reflects ethnocentrism: ‘Manipulating equivalence is an attack on the discourse of foreign works’^[10]. For example, when translating names of Chinese healthcare institutions, one should consult official English translations rather than resorting to informal substitutions.

Other deforming tendencies such as impoverishment of meaning, quantitative impoverishment, disruption of rhythm, destruction of vernacular networks or exoticization, and elimination of linguistic stratification, occur less frequently in medical English translation and will not be elaborated here. It is important to note that all translation strategies are relative, not absolute. Therefore, studying text functions, authorial fidelity, literal versus free translation, and the practical utility of the translation in the target culture remains essential.

4. Ethical Values and Frameworks in Medical Translation

Translation is not only a linguistic activity but also an ethical one. In modern multilingual and multicultural contexts, ethics has become increasingly central to translation practice. Moratto and Woesler^[5] emphasize that translation is a moral act requiring a broader ethical perspective beyond the traditional focus on equivalence and readability. The emergence of large language models, such as ChatGPT, further heightens the need for ethical considerations in medical translation, particularly when handling sensitive health data or transmitting scientific conclusions.

4.1. Ethical Orientation in Translation Theory and Ethical Frameworks

While Newmark’s translation theory has faced various critiques, his ethical consciousness remains noteworthy. He stressed that evaluating translation appropriateness should not rely solely on semantics, grammar, and audience comprehension but must also incorporate humanistic values, including dignity and ethics^[4]. Although Newmark did not develop a detailed operational model, Moratto and Woesler^[5] expanded upon these ideas and proposed a functional ethical framework: a dynamic tool that evaluates translation quality from four dimensions—textual function, fidelity to the source text, appropriateness of literal versus free translation, and acceptability in the target culture.

This ethical framework encourages integrating multiple theoretical approaches to suit different translation contexts. It reaffirms the translator’s responsibility to uphold human dignity and ethical standards, especially when balancing institutional mandates and user needs. It also proposes evaluating translations not just by technical accuracy or reader comprehension but also by cultural and ethical appropriateness.

4.2. Ethical Considerations and Frameworks in Medical Translation

Medical translation is distinct from other disciplines due to the sensitive nature of its content. Translators must consider not only language accuracy and stylistic clarity but also ethical and normative compliance. Errors in translation may mislead patients or clinicians, resulting in potentially serious consequences. For example, misleading translations in clinical trial materials could affect patient consent or compromise treatment safety^[3].

Translators must maintain cultural awareness and ethical integrity throughout the translation process, ensuring transparency, respect, and accuracy. The ethical framework proposed by Moratto and Woesler^[5] emphasizes evaluating each translation through multiple perspectives and balancing the needs of authors, translators, readers, and institutions. When conflicts arise, translators should uphold ethical principles as their primary guide.

4.3. Practical Ethical Principles in Medical Translation

Based on the ethical framework and Newmark's appropriateness theory, medical translators should adhere to the following principles:

- Protection of subject privacy: When translating manuscripts involving human or animal research, translators must ensure content does not reveal personal identifiers or sensitive information.
- Respect for research ethics: For manuscripts involving human research, translators should confirm that the methods comply with ethical standards and should reflect these appropriately in the target text, including study aims, methodology, informed consent, and data confidentiality.
- Prevention of misinformation: Translators must avoid inserting personal interpretations or introducing distortions, as this could mislead the reader.
- Intellectual property protection: For texts involving patent filings or proprietary data, translators must follow legal and ethical norms to avoid violations.

These practical principles reflect how appropriateness theory and the ethical framework converge in medical translation, requiring that translators balance fidelity and clarity with broader ethical responsibilities.

5. Conclusion

This study explored the balance and application of literal and free translation in medical translation, guided by Newmark's translation theory. It analyzed typical cases and deforming tendencies based on Berman's framework and integrated ethical values proposed by Moratto and Woesler. It emphasized that literal and free translation are not mutually exclusive opposites; rather, they should be flexibly employed in specific contexts. Moreover, ethical values in translation—particularly in the medical field—should not be ignored. Translators must adhere to principles of accuracy, appropriateness, and fluency, while also maintaining human dignity and respecting ethical norms. Only through comprehensive consideration of linguistic, functional, and ethical dimensions can translators ensure the integrity and professionalism of medical translation.

This paper has explored the application of literal and free translation in medical English translation through the lens of Newmark's theories and the ethical framework proposed by Moratto and Woesler. Considering medical English's lexical, syntactic, and stylistic features—and its strict demands for precision and objectivity—this study has emphasized the translation principles of appropriateness, accuracy, and fluency. By comparing Newmark's semantic and communicative translation approaches, it illustrated how literal and free translation strategies can be integrated in practice depending on text type and function.

Furthermore, this paper incorporated the ethical framework to highlight the ethical responsibilities involved in medical translation. Translators must navigate multiple pressures from source authors, journal editors, institutional review boards, and the target audience. In this regard, the ethical framework serves as a guiding tool for translation decisions, ensuring that translators maintain not only linguistic fidelity but also uphold principles of transparency, professionalism, and human dignity. The case examples presented in this study demonstrate that literal and free translation strategies can co-exist, and that their application should be flexible, ethically informed, and responsive to the communicative intent of the source.

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