

A Meta-Functional Analysis of Medical English Discourse for Translation Teaching

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Received: December 5, 2025 Accepted: December 17, 2025 Online Published: December 21, 2025

The research is financed by the following projects: 1) The 2023 Anhui Provincial Quality Engineering General Teaching and Research Project titled 'A Study on the Practicality of a Teaching-Oriented Parallel Corpus in Medical English Translation Teaching', with the project number 2023jyxm0975; 2) The 2024 Anhui Provincial Key Project in Humanities and Social Sciences for Higher Education Institutions titled 'A Study on the Collaborative Mechanism of Multimodal International Communication of Xin'an Medicine in Southern Anhui Based on Translation and Writing Strategies', with the project number 2024AH052624.

Abstract

Conducting medical English translation practice requires a prerequisite understanding of the grammatical features of medical English discourse. To this end, the researchers utilized a self-constructed small-scale corpus to conduct a grammatical analysis of the lexico-grammatical layer of medical English discourse, based on the three meta-functions of Systemic Functional Linguistics. The study found that the three meta-functions of medical discourse work in synergy to shape specific stylistic features of the discourse. This feature system aligns with the objectivity and rigor of medical science, providing theoretical guidance for learners in their medical English translation practice.

Keywords: meta-functions, Functional Grammar(FG), stylistic features, corpus, medical English, translation teaching

1. Introduction

Medical English translation skills constitute one of the fundamental qualities for clinical medicine students engaging in academic activities and future career development. However, due to factors such as learners' professional backgrounds and prior knowledge structures, they often lack a profound understanding of the stylistic tendencies represented in medical English discourse and fail to grasp the underlying grammatical motivations behind these stylistic features. Consequently, they frequently struggle to appropriately handle translation techniques at the lexico-grammatical layer in translation practice. Currently, domestic research on translation styles is relatively limited. Zhou Lingshun (2020) pointed out that transformations in translation studies have given rise to corpus-based translation studies. Therefore, the researcher, through the construction of a small-scale self-built corpus, employs the meta-function theory of Systemic Functional Linguistics to analyze the grammatical motivations underlying the specific stylistic tendencies of medical English discourse at the lexico-grammatical layer, aiming to assist learners in understanding its represented stylistic features and facilitate the teaching of medical English discourse translation.

2. Research Objective and Theoretical Framework

Translation stylistics, serving as a bridge connecting linguistic forms and aesthetic values, centers on the transmission and reconstruction of textual stylistic features in cross-linguistic transformation. Its core lies in uncovering the corresponding stylistic patterns between source and target languages at lexical, syntactic, and rhetorical levels, while examining how these features are constrained by cultural contexts, text types, and translator subjectivity. In literary translation, the original metaphorical systems, rhythmic structures, or narrative perspectives often carry unique aesthetic functions, requiring translators to employ compensatory strategies to reconstruct similar artistic effects—such as preserving original imagery while adapting to target language

conventions. Conversely, in scientific and technical discourse, stylistic features manifest primarily through terminological precision, syntactic objectivity, and logical coherence, necessitating prioritization of conceptual equivalence to avoid compromising accuracy through excessive ‘literariness’.

Stylistic feature analysis provides multidimensional criteria for evaluating translation quality. Traditional translation studies often adhere to ‘fidelity’ as the ultimate standard, yet a stylistic perspective emphasizes that interpretations of fidelity vary across text types: poetic translation may permit formal variations to retain aesthetic tension, whereas legal texts demand strict syntactic compliance to uphold legal validity. Moreover, stylistic analysis reveals mechanisms underlying translator style formation—by comparing multiple translations of the same source text, quantifiable tendencies in lexical density, syntactic complexity, or rhetorical preferences can be identified, enabling exploration of cultural stances or strategic choices behind these patterns.

In the context of globalization, the research value of translation stylistics becomes increasingly prominent. It not only facilitates breakthroughs in the ‘translatability of style’ within cross-cultural communication but also provides theoretical foundations for post-editing in machine translation—by identifying stylistic markers, systems can optimize translations according to the specific target, achieving dynamic equilibrium between efficiency and quality. Therefore, a profound understanding of discourse-level stylistic differences across languages and their motivating factors constitutes a prerequisite for translation practice by translators or learners.

2.1 Research Objective

Hornby (2001) stated that style influences readers’ construction and interpretation of texts. Therefore, translation practice necessitates revealing the stylistic tendencies of discourse as a prerequisite. To help learners develop a basic stylistic awareness, it is essential to investigate why medical English discourse exhibits the specific stylistic tendencies by analyzing the grammatical motivations at the lexico-grammatical layer from a functional perspective.

2.2 Theoretical Framework

This study adopts the meta-function theory of systemic functional linguistics as its basic analytical framework, utilizing the three meta-functions—ideational, interpersonal, and textual—to analyze the grammatical motivations underlying the specific stylistic tendencies of medical English discourse at the lexico-grammatical layer. Thus, this study falls under the category of grammatical analysis rather than strict stylistic research.

According to Systemic Functional Linguistics theory, these three meta-functions are manifested through different meaning resources: the ideational function is primarily realized through the transitivity system and logical relation system, the interpersonal function through the mood and modality systems, and the textual function through the theme system (Halliday, 1994). Although the concept of meta-functions is universal, different languages employ distinct encoding methods. Therefore, analyzing different languages through meta-functions can help learners understand the essential differences between languages (He Wei & Zhong Wei, 2021).

3. Overall Design and Research Process

3.1 Design

The research selects discourse from a self-constructed small-scale corpus of medical English literature and analyzes several clauses from the perspectives of the ideational, interpersonal, and textual meta-functions to uncover their grammatical motivations.

3.2 Research Process

Firstly, the ideational function's ‘transitivity’ subsystem is employed to analyze the grammatical motivations of clauses. Medical literature predominantly describes objective processes such as experimental operations, pathological changes, and physiological functions, resulting in a high proportion of material processes in the discourse. Active voice is often used to emphasize the direct connection between the agent and the action, while passive voice is employed to weaken subjective intervention and highlight the objectivity of descriptions and experimental results, as illustrated in the following examples:

[1] *The lung receives its blood supply from two vascular systems...*

[2] *The human kidneys are automatically positioned in the retroperitoneal space at the level...*

Secondly, the interpersonal function highlights the different role relationships and communicative purposes between readers and authors in medical discourse. Since medical literature authors are typically researchers reporting findings to peers, their wording tends to be formal and specialized, emphasizing teamwork. Medical discourse frequently uses declarative sentences to state viewpoints (opinions) and conclusions, such as “The results

show...” or “We conclude...” reflecting the certainty of scientific conclusions. However, expressions like ‘It is suggested that...’ are sometimes used instead of direct commands to embody academic collaboration. Relatively speaking, modal words such as may/perhaps/possible are used cautiously to avoid excessive subjective inferences.

Thirdly, the textual function employs cohesive devices to ensure information coherence. Pronouns (they/them, etc.), demonstratives (this/that, etc.), and comparatives (more/less/as...as, etc.) are frequently used for cohesion. Additionally, logical connectors (but/therefore, etc.) are also common. Furthermore, medical discourse sometimes utilizes multimodal elements such as images and tables to collaboratively convey meaning with text.

[3] *Pathology is not synonymous with morphology of diseased tissues; this is an outmoded perception.*

The above examples merely illustrate some instances demonstrating the grammatical motivations of clauses at the lexico-grammatical layer in medical English discourse. Due to the synergistic effect of the three meta-functions (Fig-1), medical English discourse exhibits a pronounced tendency towards grammaticalization, which translators must pay particular attention to in English-Chinese translation practice.

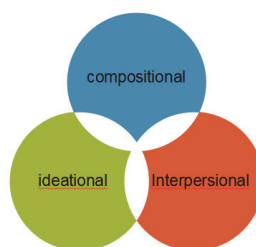


Figure 1. Ideational, interpersonal, and textual effects in synergy

Medical English, as a language for specific purposes, has a close and unique interactive relationship with translation studies in terms of its stylistic features. From the perspective of stylistic features, medical English is notably objective, precise, and normative. At the lexical level, it frequently employs specialized medical terms, which have single and unambiguous semantic references. Syntactically, medical texts often feature long and complex sentences that rigorously elaborate on causes, pathologies, diagnostic and therapeutic methods, ensuring the accurate transmission of knowledge. At the discourse level, medical literature adheres to a fixed format and logical framework, with sections such as introduction, methods, results, and discussion interconnected in a highly systematic manner.

These stylistic features impose specific requirements on translation studies. In lexical translation, it is essential to ensure the precise correspondence of specialized terms to avoid medical misunderstandings caused by semantic deviations. For instance, ‘tumor’ should not be casually translated as “肿块” but accurately rendered as “肿瘤”. Syntactically, translators need to analyze sentence structures and adjust word order reasonably to make the translation conform to the target language’s expressive habits while preserving the original information. In discourse translation, attention should be paid to overall coherence and logic, following the format norms of medical literature in the target language. Conversely, translation studies also promote a deeper understanding of the stylistic features of medical English. By comparing different translations, the unique characteristics of medical English at lexical, syntactic, and discourse levels can be further clarified. Feedback from translation practice, such as discussions on the optimal translation of certain terms in different contexts, can encourage more detailed classification and research on the stylistic features of medical English. Therefore, the stylistic features of medical English and translation studies mutually reinforce and complement each other, jointly striving to enhance the accuracy and effectiveness of cross-language transmission of medical information, laying a solid foundation for global medical communication and cooperation. Hence, the relationship between translation and stylistic features serves as a prerequisite for this study.

4. Conclusion

Through the aforementioned analysis, the researcher discovered that the ideational function provides an objective basis for the interpersonal function while organizing information through discourse structure. The interpersonal function reinforces the objectivity of the ideational function through mood selection and guides readers in understanding logic through cohesive devices. The textual function constrains the expression modes of the ideational and interpersonal functions through standardized structures, ensuring that the discourse adheres to academic norms. This study delves into the field of corpus-based translation stylistics, and the academic

community believes that the method of combining corpus analysis is worth continuing to adopt in the future (Chen Youxun, 2024). Therefore, research on the teaching of medical English discourse translation can continue to utilize corpora for functional stylistic analysis. Future research on the stylistics of medical English discourse translation should leverage the advantages of corpora, describing objects through various paths such as high-frequency words, unique words, keywords, lexical bundles, keyword bundles, lexical density, and average sentence length (Wang Feng & Liu Xueqin, 2017).

Acknowledgments

This research was supported by the two projects above-mentioned, to which the authors express sincere gratitude: Anhui Provincial Education Department. It is due to these supports that the present research could only be completed.

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