

Paradigm Change of Translation Studies in the Era of Big Data

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The advent of the era of big data has caused paradigm changes in translation studies, and the combination of big data technology and thinking with translation studies has further interdisciplinaryized translation studies and presented characteristics such as quantification, expansion of research horizon and scale. Scholars should pay attention to the prospect of translation studies while paying attention to corpus translation studies: the shift of research in text patterns; the spatial turn of and media integration of translation studies. In the process of translatology research in the era of big data, the limitations of digital technology and big data research are also noted.

Keywords: period of big data, translatology, new paradigm

Introduction

Since the 21st century, big data has gradually attracted attention from all walks of life. The wave of big data has had a profound impact on various industries, including translation and translation studies. In the context of big data, translation research has undergone a change in thinking, which is manifested in the interdisciplinarity of translation disciplines and a large number of introductions of quantitative analysis in studies, and the change in the scale of data has also broadened the space for the verification of classical translation theories and provided a large amount of data basis for translation research. In view of this, this paper intends to make some explorations and reflections on the changes of translation research paradigm in the era of big data, its prospects and limitations on the basis of existing researches at home and abroad.

Paradigm Change in Translation Studies in the Era of Big Data

The basic characteristic of big data is “big”, and Laney proposed the 3V characteristics of big data, namely “volume”, “variety”, and “velocity” (2001). In this era of information explosion, the speed and quantity of information generated exceeds people’s expectation, and the “data explosion” has become a distinctive feature of the big data era. In the face of countless data, the traditional translation studies appear to be time-consuming, inefficient, and lacking in logic, and the basis of empirical research is also very limited. The large amount of data provides convenience for translation research, but the selection, understanding, and identification of data become another dilemma for translation research. Under this dilemma, big data technology has become a new tool for translation research. Big data refers to “a collection of data that cannot be sensed, acquired, managed, processed, and served by conventional machines and hardware and software tools within a certain period of

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time” (Li & Cheng, 2012, pp. 641-657). Big data technology is “a series of data processing and analysis techniques that use non-traditional tools to process large amounts of structured, semi-structured and unstructured data to obtain analytical and predictive results” (Lin, 2017, p. 15). When people talk about big data, it is not only about big data itself, but also “the combination of both data and big data technology” (Lin, 2017, p. 14). The combination of translation studies and big data technology has gradually become a new paradigm of translation studies, causing a shift in research thinking, bringing new research methods, tools, and perspectives, and making the logic and science of translation studies significantly improved. Therefore, translation studies present characteristics of interdisciplinarity, quantification, broad vision, and empiricity.

Interdisciplinary Penetration of Translation Studies

Translation studies did not become an independent discipline until the 20th century, and its history is not long, but “the interdisciplinary posture of translation studies has taken shape and is maturing” (Wang, 2014, pp. 7-8). In the era of big data, the interdisciplinarity of translation studies gradually deepens, mainly in two aspects: First, the interdisciplinarity of combining translation studies with other humanities and social disciplines such as literature, history, sociology, communication, philosophy, etc., is realized by using big data technology; second, translation studies themselves are combined with digital technologies such as computer science, big data, data visualization, word frequency analysis, artificial intelligence, etc. The interdisciplinary development of combining humanities and natural disciplines has been formed.

Traditional translation studies have mostly focused on the text and the translator, studying the language of the original work and the translation, the translator’s subjectivity, the interaction between the translator and the original author, and the multiple systems that influence the translator’s behavior, and rarely on the readership of the translation. A few researchers occasionally focus on readers’ acceptance of translations, but they also seldom use data to prove the presupposition of readers’ acceptance of translations. In contrast, big data technology can sort, refine, and summarize the data information of readers of translations, which makes the study of readers in translation studies possible and further promotes the combination of translation studies and communication studies. In addition, the database, information retrieval, speech recognition, natural language processing, artificial intelligence, and other data and information processing technologies in various aspects have provided a large amount of data and examples for the empirical research of translation theory, which has greatly helped translation studies. Some scholars of translation research have also applied mathematical statistics such as statistics and applied mathematics to translation research, breaking the barriers between disciplines. This trend of technology and digitalization has gradually deepened the interdisciplinarity of translation studies and brought it to an unprecedented height.

Quantification of Translation Studies

Traditional translation studies mostly adopt the method of qualitative analysis, selecting texts for analysis and analyzing them through a certain theory to draw conclusions. In this process, the researcher’s personal preference, the collection of data samples, the special cases in translation research, and the individuality of translation subjects and objects may all lead to bias in the research and thus affect the results.

In the era of big data, quantitative analysis is increasingly used in translation studies as an effective means. Quantitative analysis method refers to extracting data about the research object and examining and

analyzing the data to determine the quantity index about the characteristics of the research object or to find out the law of change of the amount between factors (Hu, 2018, pp. 24-26). In translation studies, big data technology can process the huge amount of data and then derive the law of variation among the data to derive the results of the study. Such an approach can effectively avoid the subjective factors and bias of sample collection in traditional qualitative translation research. The data, patterns processed through big data technology cloud computing may also produce research results that the researcher did not anticipate. In translation studies, the research method of quantitative analysis plays a helpful role in widening the research space and broadening the researcher's vision.

Expansion of Translation Studies

Traditional translation studies usually analyze certain limited data, and mostly “rely on intuition, epiphany and discernment, analyzing individual translation phenomena or translation facts, and researching relevant translation issues based on relevant theories” (Hu, 2018, pp. 24-26). Translation criticism is also mostly “‘perceptive’ empirical critique, and word translation evaluation, good translation appreciation, mistranslation judgment, and translation comparison under the traditional literary view are still the main ways of translation criticism” (Lan & Mu, 2010, pp. 21-26). Traditional translation research is based on sampling verification, and the small scale of data samples prevents macro and comprehensive research on translation theory, which is one of the shortcomings of traditional translation studies.

The translation research in the era of big data is based on objective and detailed data and combined with the technology of natural science, which greatly reduces the uncertainty in traditional research and can describe the research object comprehensively, objectively, and accurately. The systemic and macroscopic issues of translation in the past such as the study of the adaptability of Western translation theory in China, the macro comparison study of Chinese and Western translation theory, and the study of the universality of translation theory between multi-text conversions have also been broken through.

The Prospect and Limitation of the New Paradigm of Translation Studies

The Prospect

In traditional translation studies, researchers mostly adopt the method of intensive work on texts, while in the era of big data researchers go beyond the barriers of individual texts and use databases and measurement techniques to focus on the entire digital “microtext” (Hu & Zhang, 2016, pp. 31-36), so as to examine the trends and developments of the research object, which cannot be found from individual texts or detailed analysis. In the digital information era, only by integrating technical means with traditional methods, textual readings with big data technologies, can we further expand the advantages of research.

The diachronic paradigm of traditional translation studies ignores the spatial representation and imagery of translation studies, and cannot reveal the inner mechanism of spatial reproduction function and space construction in translation. Pictorial thinking has played an increasing role in translation studies, and its intuitive, visual, and interactive presentation can help researchers present complex information and describe the results of research conveniently and effectively. In translation studies, visual knowledge mapping is heavily used, and more and more scholars present their respective researched topics in a graphical way. With the further development of visualization technology, we can envision a wider use of visualization elements such as pictures, videos, and streaming media in translation studies.

Digital technology has made the integration of multiple media and textual materials a reality. The currently popular “photo translation” and “voice translation” seem to be purely digital technology and the conversion of information presentation, but in fact they are the free integration between different media. The circulation, reproduction, and free transformation of information in a new environment in a heterogeneous form means that the digitization and mobility of “text” as a research object are greatly enhanced. Texts and sounds can be converted into digital codes, and can be accessed, shared, and processed in many different ways on many platforms, which are presented in graphics, video, or other forms. This free transformation of information between heterogeneous media can be considered as another form of translation. Besides, native online digital objects, such as photos, videos, web pages, mainstream media, and blogs may become first-hand research materials, thus facilitating new ways of translation research.

The Limitation

Big data technology and digital research can certainly clear the “blind angle” in translation studies and reach the frontiers and boundaries that traditional translation research has not reached, but there are still limitations. Firstly, the overly digital translation research lacks the necessary rich meaning and humanistic concern in humanities, and the digital humanistic research in translation studies even risks becoming a subordinate of database research; secondly, the big data in translation studies still cannot encompass the variables in the research. Although textual data, multimodal data, and experimental/induced data (Huang, 2018, pp. 102-112) basically cover the big data samples in translation studies, certain qualities of the research objects in translation studies still cannot be fully measured by data. Political topicality, poetic awareness, patrons and personal education of translators, translation attitudes, values, and even economic status all influence the translation process and results all the time, but these factors cannot be presented with explicit data and digital information. Therefore, if the variables are not effectively controlled, the seemingly unbiased data-based research is inevitably biased.

Conclusion

The era of big data has brought profound changes to translation studies, and the massive amount of research materials and new ways of presenting and organizing knowledge have put forward higher requirements for translation research, making researchers have a greater demand for big data technology and digital research tools. The interdisciplinary, quantitative, and large-view research characteristics of digital research and big data technology fit the vision of “scientific” development of translation studies. As a new academic breakthrough, the research paradigm of big data brings new academic concepts and directions to translation studies, which makes translation studies promising in terms of textual patterns, spatial turn, and media integration. At the same time, we should also pay attention to the problems that may be brought by over-reliance on big data and digital technology.

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