Health Translation and Construction of Public Health Risk Knowledge

Abstract Health financial risk is a critical research and social issue in a large part of the world. Yet the linguistic translation and cultural interpretation of health financial risks represent a largely underexplored area of research. This study offers an empirical linguistic analysis of Chinese translations of global public health policy by authoritative international health agencies like the World Health Organisation. The current study intends to move away from the traditional emphasis of translation studies on the linguistic equivalence between the source and target texts, to the corpus empirical analysis of the phenomenon of translation variability, i.e. the co-existence of different possibilities of health terminological translation.

Latest statistics show that three-quarters of the world's population are non-native English speakers (Neeley 2012). Translation, which entails the transfer of information across languages and cultures, plays a critical role in the dissemination of public health knowledge and international policy guidelines (Straus et al. 2013). How important research findings and policy guidelines on health financial risks such as those provided by the WHO are translated into different languages and subsequently construed by national audiences remains unanswered or have been explored

to a rather limited extent. How and to what extent global health risk studies have informed the development of local health knowledge systems? How do local knowledge systems grow in parallel with international health risk policy research? These are some of the key questions that will be explored in this study which represents an important effort to advance current health translation studies.

The linguistic analysis is conducted in two stages to address the research questions highlighted in this study. The first stage entails the contrastive linguistic analysis between original WHO health policy materials, such as its annual global health reports which are indicative of the focus and priorities of public health research at an international level, and the official Chinese translations of these key policy documents.[1] The linguistic analysis at this stage was essentially qualitative, as it involved detailed and thorough comparison of the different semantic meaning between the original English expressions and the Chinese translations created. The contrastive linguistic analysis helps to establish the cross-lingual links and associations, appropriately or problematically, by bilingual health workers and/or professional translators between the original English materials and the Chinese target texts.

The linguistic analysis shows that in many cases, the semantic correspondence between the English health expressions and the Chinese translations is not unique. In other words, an English word may well be adapted and matched with or translated to a number of Chinese terms which are defined out of convenience as variant translations in this book. The co-existence of variant translations seems to characterise earlier and to some extent, current public health risks translation. Would the co-existence of health terminologies hinder shared understanding of public health risks among social stakeholders including policy-makers, health professionals, businesses and the public? This is a research topic which has been explored to a very limited extent by far.

To address this question, the linguistic analysis conducted at the next stage focuses on the differences between variant translations identified in original Chinese publications. Large-scale databases of research publications and printed media materials are used to examine patterns of the distribution and use in original Chinese publications of translation variations identified in the first stage of linguistic analysis. This drew upon the use of quantitative scientific publications and printed media materials in the target language over a wide time frame. In this study, the use of the Chinese Knowledge Sources Integrated Network, also known as the

CNKI database enabled the statistical analysis and modelling of the distribution of variant translations in Chinese publications between as early as the 1910s until the present day.

It was found that translations which represent important local linguistic variants co-exist and compete with translations newly introduced from international health documents. In translation studies, these health translations identified point to two sets of underlying translation principles and tactics that are known as domestication and foreignisation. However, it should be pointed out that translated terms retrieved from the parallel English-Chinese corpus of WHO public health risks (details on the process of the construction of the parallel corpus are given in this chapter) exhibit mixed features that do not suggest a binary or dichotomic approach to the study of health translation. In other words, these health variant translations can be only studied in relation to each other to enable the assessment of the levels of cultural and linguistic adaptation of source language expressions in the target language.

This widely existent localisation tendency in health translation has important implications. First of all, translations which integrate linguistic and cultural elements in the target language tend to be better represented than translations that fail to do so, particularly over a long time span. For example, (see details in Chaps. 4 and 5) the term 'health financial risk factor'—originally introduced from English health policy materials—has been used to a limited extent when compared to translations such as 'dangerous factor' and 'dangerous element' which represent culturally rooted and linguistically conventionalised translation possibilities. Despite important semantic differences—risk factors, although can lead to potential loss and harms cannot be equalled with dangers—these culturally adapted expressions are often used as variant translations to the more exact translation of 'risk factor' in original Chinese scientific and media publications. The phenomenon of health translation variation points to the lack of health risk knowledge in the target health science system at the time.

The empirical analysis shows that translation variants tend to exhibit distinct collocation or lexical co-occurrence patterns that reflect their specific and subtle use in the target social, cultural and textual contexts. As a result, readers of health policy translations may unconsciously or consciously interpret these expressions in different and even contrasting manners. Without due consideration of this translation process, which is of particular relevance for the cross-cultural interpretation of health

policy-making that often involves important consensus building among multisectoral stakeholders, an indiscriminative use of linguistic terms or translation variants may well mislead the reading and the subsequent construal of highly specialised source texts by the target audiences.

Secondly, few translation studies touched on the research issue of the complex process underlying the systematic cultural assimilation and uptake of translated health policy concepts and terms in the target language and society. The extent to which the translation of new health knowledge is understood by the target readership and is subsequently represented and built into the target health knowledge remains largely understudied. This has overlooked the important fact that translation is first and foremost a cross-lingual and cross-cultural communication tool; and the significance of translation, especially specialised translation of health knowledge, needs to be evaluated in terms of the social impact and uptake of the translation produced.

The research goal that has driven the design of this study is to explore different approaches to and methods of the translation of health concepts and key terminologies that can be effectively understood by the target readership and thus assimilated into the target health system to catalyse the development of new health knowledge in the target society. This research design is aided by the use of large-scale corpus resources and textual mining tools to process and analyse naturally occurring texts afforded by quantitative research publications and widely circulated media materials in the target Chinese language.

Without an in-depth study of the uptake of translated health expressions in the target language and knowledge system, it would be difficult to appreciate and assess the social impact and the relevancy of global health research and policy recommendations as perceived by distinct national audiences. The present study makes a first effort to explore this issue from a quantitative cross-lingual perspective, which is enabled by the availability of large-scale national publication databases like CNKI— the largest digital publication database in the PRC—and the statistical indicators which have been developed as part of the database to facilitate and monitor the search and retrieval of information by end-users.

A highlighted methodological contribution of this study to health translation is that it takes advantage of large-scale international and national digital publication databases including policy materials, research and media materials to investigate the process which underlines the translation, diffusion and variation of health financial risk concepts,

specifically from English to Mandarin Chinese used in mainland China. The design of this empirical study represents a methodological innovation in health document translation (Harkness et al. 2008). It fills in a gap in the study of the dissemination of key health concepts and terminologies in international health policy materials via translation. This study provides an empirical study of the impact of the translation of international health policies such as those from the WHO on local societies and social sectors, e.g. the academia and media at the turn of the twentieth century.

This purposely designed corpus-driven translation study sheds new light on the complex process of the translation, dissemination, the cultural selection and linguistic variation of health knowledge by using digital bilingual (English and Chinese) and original Chinese corpora. The empirical research findings illustrate how important global health research was decoded and recoded in the translation process and eventually influenced the growth of public health knowledge at a national level. From the perspective of health translation studies, the corpus analysis identified some existing factors such as the lack of effective translation techniques which have limited or hindered the dissemination of international health research, as well as influencing and informing the public understanding of health risks in national contexts.

This study aims to advance our understanding of the complexity of the process of the language translation and cultural adaptation of health risk concepts. The empirical data analysis revealed that national health knowledge systems, in this case the PRC, grew in parallel to research by authoritative international health agencies such as the WHO. This was evidenced in the high level of use of culturally loaded translation variations when compared with health terms and expressions that were introduced and translated from international health policy-making materials without undergoing the cultural and linguistic adaption and modification process.

The current study adopts a problem-focused approach to the comparison between Chinese translation variants of English health concepts and terminologies. Firstly, bilingual publications, i.e. original WHO health resources and their translations, were used to identify conceptually linked expressions of an inputted English keyword. The bilingual term pair extraction was based on statistical algorithms that are widely used in machine translation which can identify and retrieve word pairs according to their distribution patterns in the English source and the Chinese

target texts. Secondly, despite their different collocation patterns, these conceptually linked expressions or translation variants of health terms as defined in the current study were examined closely to find out the underlying health concept which was then used to label this particular group of associated Chinese translation variants.

As a result of the corpus search and grouping method, linguistic expressions of specialised health concepts within the same conceptual cluster include both translations derived from and/or modelled on culturally loaded target language expressions and conventionalised lexical constructs, and newly introduced health terms apparently without such as a cultural and linguistic translation process. These health translation variants *compete for visibility and importance* in a largely developing health knowledge system in the target culture and society.

To better understand this translation phenomenon that has been discussed extensively in descriptive translation studies (Toury 1995, 2012), in the next stage, an essentially quantitative and corpus-driven analysis was conducted to explore the patterns of the use of these linguistic synonyms or translation variants. The new analytical framework designed assisted the study of the social impact of *competing translations* which encompass both existing health concepts and newly translated and introduced health topics and research focuses in the Chinese language, cultural and knowledge system.

In this study, the corpus-driven analysis led to the development of statistical indicators which measure the performance of linguistic or translation variations forming a conceptual cluster of health knowledge. An empirical assessment instrument was developed for the study of health translation variants. The assessment tool includes three new indicators which are the academic growth rate (AGR), academic dissemination rate (ADR) and media dissemination rate (MDR) of specialised terms. The new empirical assessment tool developed in this book represents the first effort in empirical translation studies to evaluate different health translation variants in international health policy documents, particularly the English and Mandarin Chinese language combination for translation is concerned.

The first two indicators, i.e. AGR and ADR, are strongly linked with and can be deployed to measure the development of specialised scientific knowledge through the volume and growth rate of academic research and publications in large-scale original Chinese databases over specific periods of time. In the current study, AGR and ADR are used to describe

the aggregation and the cross-reference of academic publications in Chinese which contain linguistic and translation variations of highlighted health concepts, i.e. health financial risks. The third empirical indicator MDR is used to gauge the level of the media dissemination of linguistic variations clustering around a specific health concept. The empirical study shows that culturally loaded linguistic and lexical expressions tend to be picked up by the media more frequently when compared to highly technical terms and less familiar health translations, despite the fact that both conventionalised linguistic expressions and newly created translated terms contribute to the development of new health concepts.

The linguistic analysis has been designed to suit the development, testing and verification of new hypotheses in the corpus data processing and modelling process. For example, it was hypothesised at the outset of the corpus analysis that linguistic expressions and translation variants may be classified into the high-performance vis-à-vis the low-performance categories of health terminologies in the target language. High-performance linguistic or translation variations should, in theory, register high scores across the three empirical indicators developed, i.e. AGR, ADR and MDR. Furthermore, despite the different sets of health financial risk terms studied, for instance, some are related to risk sharing and pooling and some are related to risk-adjusted capitation, balancing and equalisation; across these health conceptual clusters, it was hypothesised that lexical expressions and translation possibilities belonging to either the high-performance category (or showing proven high uptake in the media and scientific research publications) or the low-performance (i.e. low uptake in the media and scientific research publications) category may well share important features in terms of the patterns of their computed scores across the three empirical indicators.

For this purpose, statistical analyses were used to explore any potential relationship between these three empirical indicators in an effort to ascertain whether high-performance public health terms in publications circulated in one societal sector, e.g. the academia would necessarily report similarly high dissemination rates in another societal sector, i.e. the printed and digital media.

As the corpus analysis shows in the following chapters, health expressions labelled within the same conceptual cluster exhibit different patterns of dissemination in Chinese academic publication and media resources, and within each sector across time. This empirical finding suggests that the translation of public health documents is a sensitive

process, as the choice of words may well have an impact on the reach of the international health documents translated, and their acceptance by the target readership. Such results of the corpus data analysis yield valuable and much-needed insights into the (lack) of interaction between different social sectors in the generation and dissemination of health knowledge. It points to the need for improved understanding of the limits of current health translation practice whose instrumental role in the development and dissemination of international health agencies like the WHO to national audiences remains to be fully explored and investigated.

NOTE

1. The WHO website offers both the original English materials and some selected translations of these materials into its other four official languages, i.e. Chinese, Spanish, French and Russian at http://www.who.int/publications/en/.

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