



# Translational voice through modal stance: A corpus-based study of modality shifts in Chinese-to-English translation of research article abstracts

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## Abstract

Research on translation shifts, especially divergence in modality, that occur to English translations of Chinese research article abstracts is rare. The article aims to explore the linguistic changes in modality use, a linguistic device for expressing authors' evaluative judgement, in the abstracts of Chinese research articles and their English translations. By adopting a three-step analytical coding procedure from Systemic Functional Linguistics, the study analyses the cross-linguistic modality shifts in modal value, type and orientation in English translations of Chinese research article abstracts (RAAs) from both quantitative and qualitative perspectives. It is found that 1) quantitatively, a considerable number of modality shifts have been observed in translated RAAs on value, followed by type and orientation, in which the distributions present a stronger and more objectivised stance resulting from a loss of modality on low-value implicit proposition; 2) qualitatively, Chinese-specific lexical, syntactic, and textual factors are associated with modality shifts, including lexical ambiguity, "run-on" sentences, and implicit information structure. The findings provide evidence of how original authorial modal stance is influenced by translators and integrated into academic discourse. The study also paves the way for future investigations of possible variables (e.g., the speech-written mode) in modality shifts.

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**Keywords:** Translational voice; Modality shifts; Research article abstracts; Chinese-to-English translation

## 1. INTRODUCTION

English, as an academic lingua franca, acts as a medium of knowledge transmission to communicate and disseminate scientific knowledge in the present-day global academia (Bennett, 2013b; Hyland, 2009; Li, 2020; Olohan, 2015; Pisanski Peterlin, 2020). An increasing number of researchers from non-English speaking countries are publishing in internationally indexed English language journals with high impact factors to boost peer approval and institutional recog-

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dition (Hyland, 2009). There is no exception with Chinese scholars, who constitute a large portion of the academic community worldwide, as they ascend their academic and career ladder (Luo and Hyland, 2016).

Under the dominance of the academic English lingua franca, concerns have been raised on the linguistic and epistemic justice in academic publishing, since research seeking international readership appeal may be pressured to divorce itself from the local context to espouse global epistemologies and researchers in anglophone settings can benefit from a linguistic edge over those in non-anglophone ones (Bennett, 2013b; Piller et al., 2022; Wen, 2021). An asymmetric flow of scientific productions can be observed from the non-anglophone periphery to an anglophone centre (Csomós, 2018; Zheng and Gao, 2016). Publications outside the centre seem ancillary to the global knowledge system and may be devalued and shaded behind the English Sun (Liddicoat, 2015; Ostler, 2010; Piller et al., 2022; Salager-Meyer, 2014; Wen, 2017).

Translation practitioners are often claimed to be “unwitting agents” in the global academic publishing process (Bennett, 2013b: 169). By translating works from a non-English language into the lingua franca, non-English native scholars can disseminate their findings and theories across “lingua-culture” (Pisanski Peterlin, 2020: 176), enhancing the accessibility of their research and contributing to the construction of discursive practices in scientific knowledge dissemination (Károly, 2022; Olohan, 2015). Although Chinese is spoken by the largest population in the world, it remains on the periphery of international academia. Government-funded translation programs have been established to promote the entry of Chinese academic works into the global market (Fan, 2017; Tan, 2022). Chinese researchers with English as their additional language (EAL) in non-anglophone settings often need text mediators, such as translators, for assistance in their academic publications (Luo and Hyland, 2016, 2019).

However, despite scholarly attempts to understand the translation of academic discourse across European language pairs (e.g., Kranich, 2009; Pfau and Humble, 2019; Pisanski Peterlin, 2008, 2013b, 2020; Vandepitte et al., 2011), comparative empirical studies between English and Chinese have been scattered and limited to certain issues, such as rhetorical differences and mistranslation (e.g., Fan, 2017; He and Chen, 2015; Li, 2020). In the context of global publishing, further investigations into how Chinese academic works are rendered into English are necessary to pinpoint a more effective way of communicating Chinese scholars’ findings and theories to the worldwide academic community.

During translation between English and Chinese, “translation shifts” (Catford, 1965: 73; 2000: 141) can occur at lexical-semantic, structural, and cultural levels (Zhang and Pan, 2009) due to cross-linguistic (e.g., Chen, 2017; Li, 2003) and cultural differences (e.g., Li, 2012; Tantucci and Wang, 2018), and academic discourse is no exception. Modality, an essential linguistic device in articulating authorial stance in academic writing (e.g., Parkinson, 2020; Piqué-Angordans et al., 2002; Vilar-Lluch, 2022; Wharton, 2012; Yang et al., 2015), can express an author’s evaluative judgement on his/her assertion or proposal (Halliday and Matthiessen, 2014) and construct an interpersonal communicative relationship with the intended readers.

As a summary of the accompanying full article (Bhatia, 1993), a research article abstract (RAA) functions as an indexing tool (Salager-Meyer, 1990) and a poster to stimulate readers’ curiosity (Van Bonn and Swales, 2007). The evaluative judgement that modality conveys can allow authors to engage with and “hook” their readers (Hyland and Tse, 2005: 131). While modality shifts have been studied in diplomatic interpreting discourse (e.g., Fu and Chen, 2019; Li, 2018), the pattern of modality shifts in translation of RAAs from Chinese to English has not been fully explored. It requires scholarly attention as it relates to an effective communication of the original authors’ evaluative stance to the global academic community.

Drawing on Systemic Functional Linguistics, the study intends to contribute to our understanding of the translatorial voice conveyed through modal stance in research article abstracts (RAAs) of the applied linguistics discipline from Chinese to English. In particular, the study investigates the translation shifts of modal stance within the modality system (i.e., shifts in modal type, value and orientation). The study’s findings are expected to offer practical and theoretical insights into the authorial modal stance’s translatorial voice in academic discourse.

### 1.1. Modal stance in research article abstracts

In communicating scientific knowledge among authors and their readers, authorial stance has been defined as the “attitudes, feelings, judgments, or commitment” for the authors’ intended message (Biber and Finegan, 1989: 93) or entities that the speakers or writers evaluate (Hunston and Thompson, 2000). Studies on stance commonly examine its linguistic manifestation, particularly “the lexical and grammatical expressions” (Biber and Finegan, 1989: 93).

Although authorial stance encompasses a wider variety of metadiscursive devices, research on stance can generally be traced back to studies on modality and subjectivity in language (e.g., Ahmad et al., 2020; Biber and Finegan, 1988, 1989; Halliday and Matthiessen, 2004, 2014; Hunston and Thompson, 2000; Lyons, 1995). Modality presents “the speaker’s judgement . . . on the status of what is being said (Halliday and Matthiessen, 2014:172)”, either “on the validity of the assertion or the rights and wrongs of the proposal” (Halliday and Matthiessen, 2014: 698). The study follows

Hunston and Thompson (2000)'s definition of authorial stance, hence relating authorial stance to one's modal evaluation.

The grammatical and lexical expressions of modality have been suggested to be a rich source of epistemic, attitudinal and style stances (Biber, 2006; Biber and Finegan, 1988, 1989; Downing, 2015; Hunston and Thompson, 2000; Zamorano-Mansilla, 2015). Typical lexico-grammatical features of stance include modal and semi-modal verbs (e.g., *can*, *must*, *should*, *have to*), stance adverbs (e.g., *always*, *certainly*, *perhaps*), complement clauses led by stance verbs (e.g., *I believe/argue that...*), adjectives (e.g., *it is clear/likely that...*) or nouns (e.g., *there is a possibility that...*) (Biber, 2006).

In systemic functional grammar (SFG), the modality system can be examined through its "type," "value," and "orientation" between the negative and positive polarity of a statement (Halliday and Matthiessen, 2004, 2014; Huddleston and Pullum, 2017). Type marks an addresser's speech roles, value measures degrees of an addresser's modal commitment, and orientation addresses whether an addresser explicitly or implicitly accepts his/her modal responsibility for the evaluated message, suggesting the degree of subjectivity (Halliday and Matthiessen, 2014; Thompson, 2014).

The centrality of modality in voicing authorial stance has been recognised in academic writing (e.g., Parkinson, 2020; Piqué-Angordans et al., 2002; Vilar-Lluch, 2022; Wharton, 2012; Yang et al., 2015) as well as in RAAs (e.g., Stotesbury, 2003; Xie and Mi, 2023). Medical RA writers primarily employ modals with low (e.g., *may*, *can*) and median values (e.g., *will*, *should*), and deliver their modal assessment in implicitly subjective/objective and explicitly objective orientations, making claims in a tentative and objective manner (Yang et al., 2015). Furthermore, compared to those in hard sciences (e.g., medical science, biology, and mechanical engineering), academic articles in the social sciences (e.g., literary criticism) show preference over evaluative devices of low- or median-value modals, implying a more cautious approach in soft science knowledge construction (Shen and Tao, 2021; Vazquez and Giner, 2008; Xie and Mi, 2023).

In RAAs, a successful portrayal of authorial stance and interaction with readers, which is effectively performed by modality (e.g., Alamri, 2023; Khany et al., 2019; Pho, 2008, 2012; Salager-Meyer, 1992; Xie, 2020), can favourably promote the accompanying articles (Ngai and Singh, 2020). By employing modal resources and attitudinal languages, typically predictive, necessity, and possibility modals (Alamri, 2023; Xie, 2020), authors stress or downplay their confidence in their claim while offering an assessment of the value of their research in RAAs (Khany et al., 2019; Stotesbury, 2003). In RAAs of applied linguistics, modals are often used as evaluative linguistic devices to situate, present and discuss one's research and hypothesis (Ebrahimi and Chan, 2015; Pho, 2008, 2012, 2013; Salager-Meyer, 1992).

## 1.2. Modal stance between English and Chinese academic writings

However, comparative studies on Chinese and English academic writings normally have revealed a more confident stance from Chinese authors, as opposed to the customary cautious stance taken by anglophone authors. Hu and Cao (2011: 2802) found that RAAs in Chinese generally conveyed greater authorial "certainty, commitment and assertiveness" compared to RAAs in English. Similarly, Yang (2013) observed less frequent employment of hedges in Chinese-authored research articles and a major cross-linguistic difference in modality realisation as Chinese authors adopted modal verbs more frequently when writing in English than in Chinese. Further investigations confirm these findings, revealing cross-linguistic variations in metadiscourse resource use and authorial writing conventions between English and Chinese academic discourse (e.g., Chen and Zhang, 2017; Kim and Lim, 2013; Mu et al., 2015).

Diverse factors can contribute to such differences, and one is that modality in Chinese cannot be mapped linguistically in English. An earlier study on the modality typology in English and Chinese concluded a diverged categorisation for the seemingly equivalent modal verbs across English and Chinese (e.g., *will/would* as probability indicators in English; *要(will)* as probability or necessity indicators in Chinese) (Li, 2003). Chen (2017) found that whereas English and Chinese shared comparable lexicogrammatical strategies along the rank scale (i.e., clause, phrase/group, and word) in the use of modal markers, verbal groups that may construe implicit modality in Chinese were not available in English, and subjective and objective modality was available only in explicit orientation in Chinese.

Moreover, because modality conveys one's subjective assessments, it is contingent on one's beliefs, self-identity, and levels of knowledge, and constrained by and grounded in the specific social and cultural norms of the context (Hinkel, 1995). High-value deontic modal resources are commonly preferred in Chinese students' writing, due to the customary moral duties to family and society and the respect for authority, compared with those written by English L1 speakers (Li, 2012). More occurrences of propositional face-work, where the speakers make overt evaluations directly targeted at their recipients, are found in Mandarin Chinese (Tantucci and Wang, 2018). The deployment of modal operators and cultural themes varies between Chinese and American students' English writings, implying that linguistic and cultural patterns regulate people's knowledge construction (Tan et al., 2022).

### 1.3. Modality shifts across English and Chinese academic writings

Cross-linguistic divergence, along with cultural differences, therefore, can result in levels of change in modality when translating between English and Chinese. When investigating interpreters' mediation in reconstructing speakers' messages from Chinese to English through modal markers in diplomatic interpreting, Li (2018) found a sizable number of shifts, mostly in modal value and orientation rather than modal type, as well as an overall tendency towards "weakened", "subjectivised" and "de-obligated" messages following English communicative norms. Interpreters may employ explicit modal words without an equivalent source modality in target speeches (Fu and Chen, 2019). The use of modal verbs in interpreting English is notably higher than in original Chinese, as additional modal verbs are introduced and value changes occurred in the target speech (Zhang and Cheung, 2022).

However, whether the same pattern of modality shifts can occur in the translation of academic writings from Chinese to English is still in question. Among European language pairs, translation distortions in RAAs have been investigated between French and English (Martikainen, 2017, 2018), and some issues concerning the translation of academic articles have been touched upon, such as metadiscourse and reformulation from Slovene to English (Pisanski Peterlin, 2008, 2013b, 2020), cultural references from Portuguese to English (Pfau and Humble, 2019), value and orientation shifts in epistemic certainty from English to French (Vandepitte et al., 2011), and epistemic uses of propositional modal verbs in English to German (Kranich, 2009), suggesting varying forms of translators' interventions.

Nonetheless, in the English-Chinese language pair, empirical scholarly attempts at translation in academic writings have been limited to scattered issues such as mistranslation (Fan, 2017; He and Chen, 2015), rhetorical differences and translation strategies (Li, 2020), translation choices of taxis (Li and Yu, 2021) and epistemic modal strength of *might* and *may* in translated Chinese literature (Zhao and Liang, 2013). Empirical comparative studies on modality shifts have been absent in Chinese to English translations of RAAs.

Translation has had a substantial influence in moulding scientific thinking in international scholarly communication (Károly, 2022; Olohan, 2016), as it enables research findings and theories from a peripheral language to reach a wider audience in the lingua franca across "lingua-cultures" (Pisanski Peterlin, 2020: 176). EAL researchers often seek help from text mediators, specifically translators, to publish globally (Luo and Hyland, 2016, 2019). A successful translation of RAAs from Chinese to English can facilitate the efficient communication of the source abstracts, which serves as an indexing and promotional tool for the accompanying full articles (Li, 2022; Morley and Ellen Kerans, 2013; Salager-Meyer, 1990; Van Bonn and Swales, 2007), to the intended global readers. Modality, a crucial linguistic device for expressing the authorial stance, deserves our attention in understanding how it is rendered from Chinese into English academic discourse.

### 1.4. Research questions

Due to sociocultural and linguistic constraints, cross-lingual rendition may result in "unmatched" pairings of renditions from source to target texts. Such linguistic changes in translation are what Catford called "translation shifts," which are "departures from formal correspondence [e.g., unit, class, elements of structure, etc.] in the process of going from the SL to the TL" (Catford, 1965: 73; 2000: 141). In addition to those in the Catford's (1965, 2000) model, shifts can further occur at the lexical-semantic, structural, and cultural levels during translation between English and Chinese (Zhang and Pan, 2009), similar to the lexicon, syntactic, and contextual levels where Vinay and Darbelnet (1958, 1995) suggest the translation procedures can operate.

The study thus aims to enhance our understanding of how the original authorial modal stance in the abstracts of Chinese research articles is "revoiced" into the English academia. It explores translators' intervention of authorial modal stance by modifying the original modal markers in type, value and/or orientation from the source texts (ST) to target texts (TT), rather than translators' agency in articulating additional modal stances. In our study, "translators' intervention" refers to the linguistic choices made by mediating with the ST authors' message (Munday et al., 2022), while "translators' agency" refers to translators' freedom of choice in translation process (Tcaciuc and Mackevic, 2017), particularly their deliberate decisions to express their modality in terms of modal addition in the TT. This study does not investigate modality amplification (i.e., addition). Drawing on systemic functional grammar (SFG), the study explores the translation shifts in modality system (i.e., modality shifts in type, value and orientation) from ST to TT and the lexical, syntactic and textual levels at which modality shifts may occur from Chinese to English in the discipline of applied linguistics. Research articles abstracts (RAAs) are collected, including ST in Chinese and TT in English, and three research questions are addressed:

RQ1: How does modality shift in type (*if any*) when translating Chinese RAAs to English?

RQ2: How does modality shift in value (*if any*) when translating Chinese RAAs to English?

RQ3: How does modality shift in orientation (*if any*) when translating Chinese RAAs to English?

## 2. ANALYTICAL FRAMEWORK

### 2.1. Modality system in systemic functional linguistics

Modality is modelled as a space of intermediacy between the polar end of “yes” and “no”, reflecting a speaker’s subjective evaluation of the intended message, and can be examined on four dimensions, i.e., type, value, orientation, and polarity, in SFG (Halliday and Matthiessen, 2004, 2014; Thompson, 2014). Modality type marks the speakers’ speech roles, (i.e., proposal or proposition); value measures the degree of modal commitment; orientation suggests forms of linguistic manifestation for subjectivity; polarity marks the choice between yes and no (Halliday and Matthiessen, 2004, 2014).

There are two types of speech evaluated by the speakers, namely, proposal and proposition. Proposal assesses the assertiveness of a command or offer (e.g., *You must leave.*), and the proposition assesses the validity of exchanged information (e.g., *The pressure can influence teachers’ teaching strategy.*) (Halliday and Matthiessen, 2004, 2014). The speaker can articulate his/her modal evaluation at three levels, i.e., low, median and high, on “a scale rather than absolute categories” (e.g., *must*-high, *should*-median, and *can*-low value) (Thompson, 2014: 73), indicating the strength of his/her modal commitment.

Modal orientation indicates how overtly speakers hold themselves accountable for ones’ evaluation in modalised linguistic forms, including four dimensions: implicit *versus* explicit, and subjective (e.g., *will, I think that*) *versus* objective (e.g., *possibly, it is likely that...*) (Halliday and Matthiessen, 2004, 2014; Thompson, 2014). It is implicit when “modality is expressed in the same clause as the main proposition” (e.g., *must, certainly*) or explicit when “expressed in a separate clause” (e.g., *I’m certain that, it is possible that*) (Thompson, 2014: 75). Additionally, although modality can be expressed by modal verbal operators and adjuncts, verbal operators are “rooted in the subjective meanings of the clause,” whereas adjuncts are “closer to the objective end of the spectrum,” expressing factual features of an event (Thompson, 2014: 75). Modal orientation is thus subjective when modal verbal operators (e.g., *can, must*) are in use and objective when adjuncts (e.g., *certainly, possibly*) are in use (Thompson, 2014).

The study examines the modality shifts in type, value and orientation. Polarity is not examined in this study as 1) shifts between the positive and negative end of modal stance defy translation ethics in the factual genre, and 2) no polarity shifts are observed in the corpus data. The following examples illustrate how value, type or orientation of modality are linguistically manifested in the compiled parallel corpus:

Example 1: Proposition (type), high (value), explicit objective (orientation)

ST: 本文认为评估译文的标准是看译文是否把这首诗的特性展现出来。

TT: **It is argued that** the criterion of evaluating translation is based on the characteristics of the poem.

Example 2: Proposition (type), low (value), implicit subjective/objective (orientation)

ST: 差异性可能源于两组教师对其授课对象的语言输入理解程度产生了认知差异。

TT: The differences between them **may** result from the divergent understandings on students’ foreign language comprehension in the process of language input.

Example 3: Proposal (type), median (value), implicit subjective/objective (orientation)

ST: 以续促学应增强学习者的自发协同。

TT: Learning by extension **should** enhance learners’ spontaneous alignment.

Example 4: Proposition (type), high (value), explicit subjective (orientation)

ST: 我们认为, 这个问题的难点在于多义词词典定义的不确定性。

TT: **we believe that** the challenge is a lack of consistency among sense definitions in dictionaries.

A cross-linguistic coding scheme is proposed to examine the modality shifts in translation of Chinese RAAs to English RAAs. The identifications of Chinese to English modal type, value and orientation are explained in the following section. The codebook is provided in Appendix, and the coding scheme is accessible via the link: <https://osf.io/wby4d>.



## 2.2. Operationalising modality shifts from Chinese to English

There are two major types of modalised statements in SFG, proposal and proposition, whose definitions are presented in Table 1 (Halliday and Matthiessen, 2004, 2014; Thompson, 2014). Considering the cross-linguistic differences (Yang, 2021a, 2021b), and the overlapping types of some modal markers in Chinese (e.g., 要; *must/will* in Table 1), we determine the type of a modal marker based on its definition and semantic context in the coding unit where the marker is located.

Shifts of modal types can occur when modal markers in TT express a different modal type from those in ST (Li, 2018). The cross-type modal shifts are examined (i.e., shifts between proposals and propositions, and loss of proposals/propositions). Two categorical modal shifts in types can occur: “de-proposal (T1)” (shifts from proposal to proposition and loss of proposal to polarity; T1 and PT1) or “de-proposition (T2)” (i.e., shifts from proposition to proposal and loss of proposition to polarity; T2 and PT2).

When locating the degrees of modal value, we agree with the scale (rather than category) descriptions in Martin and White (2005) and Thompson (2014), leaving space for discerning value based on context. The ambiguity of Chinese modality also defies the predetermined categorisation of modal value cross-linguistically (Wang et al., 2022). For example, “要” can mark a median value (i.e., *will*) if it is used in obligational expectation, or a high value (i.e., *must*) if it indicates necessity or definite obligation. A modal value thus was discerned by the contextual modal strength that the marker conveys. To operationalise shifts in value, the study follows the definition of the degrees of modal value explained by Wang et al. (2022), as it clearly identifies the strength of articulation in interpersonal interaction, from higher assertion to weaker presumption:

Table 1  
The classification of Chinese and English modal type.

Type	Definitions *	
Proposal	Obligation	degrees of compulsion, expectation or permission
	Inclination	degrees of willingness or ability to fulfil the offer
Proposition	Probability	degrees of probability of the proposition
	Usuality	degrees of usuality of the proposition
Example 1: proposal (obligation and inclination) *		
	Chi.	Eng.
Obligation	必须(must), 要(must)	must
(compulsion)	你必须去。	You must go.
Obligation	应该/应当(should), 要(should)	should, be supposed to
(expectation)	我们应该相信大夫。	We should believe in the doctor.
Obligation	可以/能(can)	can (allowed)
(permission)	我可以请假吗?	Can I take a leave?
Inclination	要(will)	will (willing)
(willingness)	我要去北京找你。	I will go to Beijing to find you.
Inclination (ability)	会(able to/can) 你会游泳。	able to You are able to/can swim.
Example 2: proposition (probability and usuality) *		
	Chi.	Eng.
Certain/always	要(must)	must
	意识要受大脑活动约束。	Language use must be constrained by human brains.
Probable/usual	应/应该(should); 经常(often)	should; often, usually
	这些观察应该是有启发意义的。	These observations should have instructive meanings.
Possible/sometimes	可/可以/能/可能 (can), 会(be likely to), 一定程度上 (to a certain extent)	can, possibly, be likely to, to a certain extent
	加工策略可能随汉语水平变化。	The processing strategy can be related to language proficiency.

\* Adapted from Halliday and Matthiessen (2004, 2014); Thompson (2014); Yang (2021a).



Fig. 1. The scale of Chinese and English modal values.

- (1) high value: authors' obligation, responsibility, and necessity to the target event;
- (2) median value: authors' will to the target event and the prediction of related events;
- (3) low value: authors' evaluation of the target event's possibility of occurrence or ability to complete the target event;

The modal maker with two outer values, high or low, can swift from high to low or vice versa, if it is negated by “不/未” in Chinese or “not” in English (e.g., 能, *can*: low value; 不能, *cannot*: high value) (Halliday and Matthiessen, 2004, 2014).

A modal marker articulating high/median/low value is coded using the numerical number 3, 2 and 1, respectively, in coding. With reference to the definition and the view of Yang (2021b), we contend that the combination of Chinese modal markers does not convey a higher-level value, but rather a reinforced low, median or high value and the first modal in these modal clusters can be the kernel of its modal strength. The clusters thus are coded using a minus/plus sign (e.g., 可能会, *possibly can*: -1; 常常/通常会/往往会, *often can*: +2; 一定会, *certainly can*: -3). As only 30 modal clusters were retrieved out of the extracted parallel texts, those with cross-level value shifts were included in the corresponding value-shift category (e.g., +2P was coded as 2P,<sup>1</sup> rather than a separate category; hence the codebook excludes the code with marked signs), and the shifts within the same level were considered unchanged. This is to avoid overcomplicating the coding scheme. Examples of cross-linguistic modal values are shown in Fig. 1.

In a scale of value shifts, two-directional shifts can occur: “weakening (V1)” or “strengthening (V2)” (Li, 2018). The former refers to modality degraded to a lower-value one; the latter refers to a lower-value modal marker enhanced to a higher-value one or losing its modality (to polarity).

It is trickier to operationalising shifts in modal orientation from Chinese to English, primarily due to the difficulties in distinguishing the subjective and objective orientation in Chinese. It is because Chinese lacks a clear-cut grammatical distinction between verbal operators and adjuncts (Li, 2018) and an equivalent finite/clausal system to English (Halliday and McDonald, 2004). Studies on Chinese modal orientation based on systemic functional linguistics have also suggested that only explicit modal orientation can trigger subjective or objective orientation in the Chinese (Chen, 2017; Yang, 2021b).

To enable a cross-linguistic analysis, the study then settles on three identifiable forms of modal orientation: explicit subjective, implicit (subjective/objective), and explicit objective orientation, which are placed on a continuum from subjective to objective end, following the orientation continuum explained by Martin and White (2005) (see Fig. 2).

In Chinese, the explicit subjective modality is found to be typically expressed in a clause led by a first-person pronoun and a thinking/saying verb (i.e., 我/笔者认为, *I believe that*), explicit objective one by an impersonal clause led by a thinking/saying verb (i.e., 可以说, *can say*), and the implicit one by modal verbs and/or adverbs alone or in combinations (e.g., 可以, *can*; 也许, *perhaps*; 应该要, *should must*; 大概也许, *probably maybe*) (Yang, 2021a).

The RAAs in this study exhibit unconventional modal constructions on Chinese explicit orientation, specifically depersonalised clausal constructions ( $n = 168$ , e.g., 本文/本研究认为, *this paper/this study believes that...*) and clauses led by a singular or plural form of the first-person pronoun ( $n = 15$ , e.g., 笔者/我们认为, *I/we claim that...*). Following the above categorisation of Yang (2021a), we classified the depersonalised Chinese clausal constructions as an explicit objective orientation, and the clausal constructions led by a collective first-person pronoun (我们, “we”) as an explicit subjective orientation. A collective first-person pronoun in a clausal construction, despite the possibility of an exclusive or inclusive reference in academic texts, is employed to foreground and endorse the stated message subjectively. Such categorisation aligns with the distinction between subjective and objective modality, reflecting whether addressers overtly uphold their modal responsibility. Fig. 2 illustrates the scale of modal orientation.

<sup>1</sup> 2P: loss of median-value modality, please see the details of codebook in appendix.

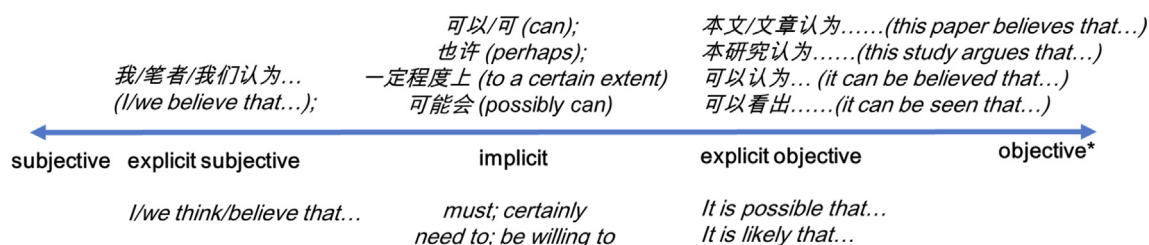


Fig. 2. The scale of modal orientation between Chinese and English. \* a factual statement with no modal assessment.

There can be two-directional orientation shifts from Chinese to English (also see Li, 2018), either “subjectivisation (O1)” (modal orientation shifts from the objective to subjective end) or “objectivisation (O2)” (modal orientation shifts from the subjective to objective end or loss of modality).

### 3. ANALYTICAL PROCEDURE

#### 3.1. Data collection

The study manually collected a three-year range of RAAs (2019–2021) in the applied linguistics discipline from the top Chinese academic journals indexed in CSSCI (Chinese Social Sciences Citation Index). We selected the discipline for two reasons: 1) it is an established discipline in humanities and social sciences, study of which is deeply rooted in its sociocultural contingency and present translators with heightened challenges in navigating ideological and cultural discrepancies across differing epistemic paradigms (Bennett, 2013b). The disciplinary discourse can offer rich source of modality in positioning, communicating and discussing one’s research (Pho, 2008, 2012, 2013). 2) Practitioners in this discipline are more prone to engaging in self-translation when preparing their bilingual RAAs given their proficiency in mediating between Chinese and English academic rhetorical conventions. This proficiency is often rooted in years of studying English as a foreign language and/or the Chinese language and being exposed to the rhetorical conventions embedded in culture and language. This sets them apart from scholars in other disciplines, such as the natural sciences. However, self-translation in academic discourse is more challenging as it involves a more constrained and formulaic language (Pisanski Peterlin, 2019). It is unclear whether and how self-translators of academic texts can show a similarly greater freedom and subjectivity as those in literary genre than other-translators (Ehrlich, 2009). Findings in this discipline may enrich our understanding of self-translation in a non-literary genre — a largely uncharted territory in linguistics and translation studies.

We first conducted a trial data collection for bilingual abstracts in the fourth issue of 2021 from a total number of 25 CSSCI-indexed applied linguistics journals, covering Chinese and China’s minority languages, foreign languages and education, and translation studies. We also collected their abstract submission requirements and found that the word limit of RAAs largely was around 200 Chinese characters. To compile a parallel corpus of RAAs with consistent standard, we excluded journals with: 1) unparallel Chinese and English RAAs or monolingual abstracts in either English or Chinese; 2) a mixture of non-research essays (e.g., non-systematic reviews, interviews, introductory notes, or research agenda) and research articles to avoid incongruent rhetorical norms, and 3) abstracts of less than a mean length of 200 Chinese characters to ensure the comparability of the abstracts in the corpus. This process narrowed down the number of journals to 13 from the total CSSCI-indexed applied linguistics journals (see Table 2 for details of the collected journals).

Among these 13 journals, we found that only three journals gave explicit instructions on the content and style (e.g., avoid self-mentioning) of RAAs (i.e., *Foreign Language Education*, *Modern Foreign Languages*, *Linguistics Sciences*) and most only specified the word limit. Without an explicit guideline, authors may have to rely on their implicit knowledge, which is grounded in “cultural-based rhetorical conventions” (Hu and Cao, 2011: 2804), to write or translate their RAAs for the journals. However, all journals, except for one (i.e., *Foreign Language Learning and Practice*), explicitly require that the bilingual abstracts are submitted by the author(s). We thus infer that it is a social norm in China that authors are responsible for preparing their bilingual abstracts in the discipline of applied linguistics, and self-translation, a common academic practice (e.g., Pisanski Peterlin, 2019), becomes a natural choice given their language and research backgrounds. To ensure the compatibility of self-translated RAAs, we only collected RAAs with at least one of the authors as a Chinese scholar by checking their name and affiliation. The collected RAAs were summaries of research articles, excluding those in non-research essays.



Table 2  
The descriptions for the collected data.

Collected Journals	No. of RAAs	Chi. tokens	Eng. tokens
当代修辞学( <i>Contemporary Rhetoric</i> )	94	24,785	14,621
汉语学习 ( <i>Chinese Language Learning</i> )	180	34,780	20,273
世界汉语教学 ( <i>Chinese Teaching in the World</i> )	99	25,103	14,330
外国语 ( <i>Journal of Foreign Languages</i> )	135	35,116	20,255
外语教学 ( <i>Foreign Language Education</i> )	203	48,865	28,289
外语教学理论与实践 ( <i>Foreign Language Learning and Practice</i> )	113	23,710	15,291
外语教学与研究 ( <i>Foreign Language Teaching and Research</i> )	177	45,419	25,243
外语界 ( <i>Foreign Language World</i> )	100	20,921	12,170
外语与外语教学 ( <i>Foreign Languages and Their Teaching</i> )	173	46,931	27,458
现代外语 ( <i>Modern Foreign Languages</i> )	177	44,087	25,090
语言教学与研究 ( <i>Language Teaching and Linguistics Studies</i> )	149	35,082	20,198
语言科学 ( <i>Linguistics Sciences</i> )	119	26,147	16,493
语言文字应用 ( <i>Applied Linguistics</i> )	121	26,246	15,661
Running total	1,840	242,520	259,586
Mean length		131.8	141.1
(Chi + Eng) total			502,106

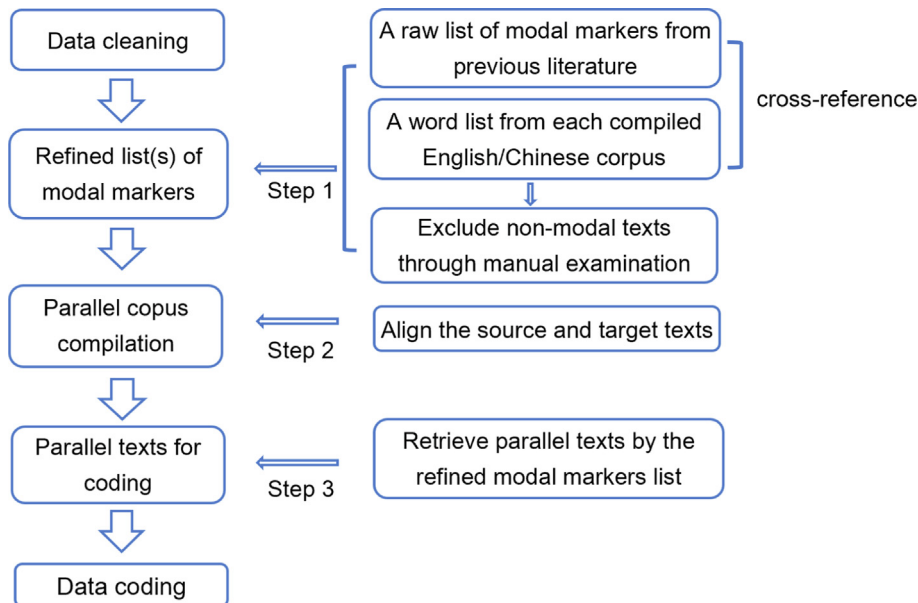


Fig. 3. A flow chart of the analytical procedure.

### 3.2. Data processing

The data processing and analytical procedure are illustrated in Fig. 3, followed by descriptions.

To prepare for further analysis, the raw data were scrutinised and cleaned for any inconsistent punctuation marks or odd calligraphical symbols that may obstruct tokenisation.

**The first step** involved a combination of deductive and inductive methods to create a preliminary list of modal markers for this study. Two raw lists of modal markers in Chinese and English were formed based on previous literature (e.g., Huddleston and Pullum, 2017; Li, 2003; Yang, 2021a), and then they were cross-referenced with the wordlists ( $f > 10$ ) generated by the monolingual Chinese and English RAAs corpora using Wordsmith 8.0. RAAs in Chinese were tokenised with the ICTCLAS-NLPIR system (Zhang and Shang, 2019), a Chinese natural language processing system, and manual checks were conducted to ensure the maximum reliability of the generated wordlists.

Table 3

The refined list of Chinese and English modal markers in RAAs.

	Word	Raw f.	Adjusted f.	Word	Raw f.	Adjusted f.
1	可以( <i>can</i> )	357	357	can	839	838
2	可( <i>can</i> )	425	350	should	233	233
3	能( <i>able to</i> )	322	310	mainly	186	186
4	一定( <i>certain</i> )	196	185	may	160	160
5	认为( <i>argue</i> )	255	183	certain	112	97
6	会( <i>will</i> )	200	174	will	107	107
7	能够( <i>able to</i> )	119	117	could	97	97
8	应( <i>should</i> )	118	111	cannot	84	84
9	可能( <i>can/possibly</i> )	131	94	often	61	61
10	要( <i>must</i> )	108	66	possible	50	49
11	应该( <i>should</i> )	51	39	argue*	49	49
12	一直( <i>always</i> )	43	39	would	44	44
13	(必)须( <i>must</i> )	42	42	might	37	37
14	常( <i>often</i> )	47	28	must	37	37
15	得以( <i>can</i> )	25	23	always	32	32
16	应当( <i>should</i> )	13	11	likely	18	18
17	经常( <i>often</i> )	13	12	support*	22	22
18				able to	17	17
19				clearly	17	17
	min. f	>10	>10		>10	>10
	total	2,462	2,141		2,202	2,185

\* “argue”: “the paper/we argue that ...”, “support”: “the study/finding supports that ...”;

\* “认为”: 本研究认为、本文认为、我们认为.....

Given the possible contextual ambiguity of modal markers, particularly in Chinese, we carefully examined all retrieved concordances in Chinese and English and excluded those with no modal implication (e.g., non-functional syntactic elements such as examples) or bearing non-modal meanings (e.g., 该: “this” instead of “should”). The final working lists of Chinese and English modal markers were established, and the descriptions were presented in Table 3.

In the second step, alignment was made by ABBYY aligner, and a parallel corpus was compiled using ParaConc. Notably, the prevailing “run-on” sentences were found in Chinese RAAs, a unique Chinese compound sentence with logical fuzziness (Wang and Zhao, 2017). This results in one-to-many renditions at the syntactic level and reconstructions of sentences at the passage level from Chinese to English (see Example 5 in 3.3 or 10–11 in 4.3); the study thus adopts a context-based, instead of sentence-based, alignment.

The number of English and Chinese modal markers show no statistical differences (see Table 3, log-likelihood = 2.46,  $p = 0.117 > 0.05$ ). As the addition of modality in target texts does not fall into the scope of the study, in the final step, the parallel texts for coding were retrieved solely based on the working list of Chinese modal markers, and the study only examines modality shifts from ST modal markers.

### 3.3. Coding scheme

The search retrieved a total of 2141 pairs of parallel texts. The 30 combinations of modal markers were joined as a single marker for coding. There are 37% of intra-sentential multiple markers ( $n = 791$ ) in the retrieved parallel texts due to a distinctive sentencehood in Chinese. That is, in Chinese, commas can link a series of clauses, sometimes without conjunctions, and a sentence-final period marks the semantic or meaning completeness rather than the syntactic completeness of a sentential structure (Sun and Lu, 2022).

This sentencehood is salient in Chinese academic texts, and modal constructions can appear in varied positions or clauses in one sentence, offering context-diverse modalised statements. A single Chinese sentence can therefore be translated into several sentences with possible changes in the logical order (see Example 5), or adjustments in the information structure within a sentence (see Example 6). It may result in diverse manifestations of modal stance in the target texts and makes modal markers in a single sentence to undergo different modality shifts. The following examples illustrate a diverse modality shifts in a single sentence, and we include a literal translation (LT) for reference.

### Example 5

ST: ①信息技术与外语教育的深度融合对外语学习方式产生了深刻影响, ②使开放、自由、个性化的外语学习成为可能, ③同时, 这种变化会反作用于整个外语教育生态, ④使教学方式、师生角色关系等生态要素发生改变。

LT: The deep integration of information technology and foreign language education has had a profound impact on the way foreign languages are learnt, making open, free and personalised foreign language learning **possible**; meanwhile, this change **can** backfire on the whole foreign language education ecology, causing changes in teaching methods, teacher-student role relationships and other ecological elements.

TT: It is implied that the deep integration of information technology and foreign language education makes a significant influence on foreign language learning modes, **making it possible** for foreign language learning to be open, free and individualized. Meanwhile, this change **counteracts** foreign language educational ecology, causing altering in specific ecological elements such as teaching methods and teacher-student role relations.

This source sentence has two modal markers: one in unit ② and the other in unit ③. The coordinating conjunctions “meanwhile” connects a series of topic-related units and marked by a period to indicate meaning completeness. The translator(s) separated them, leading to the loss of modality for the second Chinese modal marker (i.e., PT2, 1P, IP<sup>2</sup>). The first modal marker is kept in translation (i.e., NT, NV, NO).

### Example 6

ST: ①因此, 中国学习者的习得困难不能单纯归因于外界面, ②而可能是母语迁移、显性教学等具体因素共同作用的结果。

LT: Therefore, the acquisition difficulties of Chinese learners **cannot be** attributed to external parties alone, but **may be** the result of a combination of specific factors such as native language transfer and explicit teaching.

TT: Therefore, **apart from the difficulty of external interfaces**, variables such as first language transfer and explicit instruction **might** also affect the acquisition at the interface level in L2.

In this example, the translation reorders the information in the source text and omits the modal evaluation for the first unit in translation (i.e., PT2, 3P, IP), while the second modal stance stays functionally consistent in the target text (i.e., NT, NV, NO).

We therefore retained these intra-sentential modal markers and coded each of them in a separate coding unit. Considering the different and complex criteria of Chinese and English clauses (Chu and Wang, 2009; Cui and Sung, 2021), we coded each marker by semantic context in the linguistic construction where it appears, mainly at the clausal level, for cross-linguistic coding scheme. These constructions can be regarded as units of translation, groups of lexical elements that express a single, coherent element of thought. These linguistic elements are used as the foundation of transfer by translators during interlingual process (Vinay and Darbelnet, 1995). They can be represented by either phrasal constructions (e.g., nominal groups, adjectival phrases) or clausal structures (e.g., evaluative reporting verb clauses, subordinate constructions controlled by evaluative verbs). We do not term these units “clauses” in this study to avoid confusion for possible inequivalent clause-to-clause correspondence (see Example 6).

A coding scheme with detailed instructions was developed based on the analytical framework, which is available via <https://osf.io/m38ws/>. The codebook is provided in the Appendix. To verify the reliability of the analytical framework and the applicability of the coding scheme, we invited a co-coder who has received professional training in translation studies and literate in SFG to code a 20% sample ( $n = 430$ ) randomly drawn from the retrieved parallel texts. The first author explained the coding scheme to the co-coder, and they coded the sample independently without further discussions. The inter-coder reliability test shows a high level of agreement between the two coders (Cohen's kappa: type = 0.861; value = 0.879; orientation = 0.880). The first author then independently coded the remaining parallel texts ( $n = 2141$ ).

## 4. FINDINGS

### 4.1. Pattern and distribution of modality shifts

The overall pattern of modality shifts in type, value and orientation is presented in Fig. 4. The most prominent modal shifts lie in value ( $n = 1040$ , 48.6%), followed by modal type ( $n = 951$ , 44.4%) and modal orientation ( $n = 936$ , 43.7%).

<sup>2</sup> Code meaning for each modality shifts can be found in appendix.

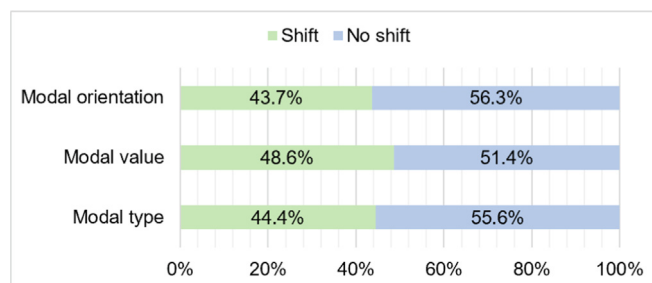


Fig. 4. The overall pattern of modality shifts in type, value and orientation.

Each dimension yields a sizable number of modal shifts since all the examined modal markers can be rendered into a corresponding English modal expression.

A closer examination of the distributions of modality shifts in each dimension suggests a noticeable tendency towards “de-proposition (T2)” on modal type, a “strengthening (V2)” degree of modal value and an “objectivisation (O2)” of modal orientation in the TT (see Fig. 5).

Modality loss is a visible contributor to such a tendency and often manifested as factual statements in the target units. The most frequent type of modal stance in ST is proposition, which expresses the authors’ judgment of the likelihood of an event, but it is markedly lost in the translated units ( $n = 710$ , 75%). Modality loss also considerably goes to the low-value modal markers ( $n = 661$ , 64%). Furthermore, the implicit modal orientation, which indexes a tacit manner of upholding one’s modal responsibility, turns out to be primarily taken in ST and yet notably restructured by non-modal statements in translation ( $n = 827$ , 88%), further obfuscating the source of modal stance and leading to heightened facticity in the translated units.

Modality shifts along a scale or between categories are infrequent in the sample. Nevertheless, shifts in modal value show a centralisation towards the median value (low-value propensity:  $n = 18$ , median-value propensity:  $n = 106$ , high-value propensity:  $n = 13$ ), and shifts in orientation mark a lexicogrammatical detachment of modal responsibility in TT (shifts to explicit subjective orientation:  $n = 18$ ; to implicit orientation:  $n = 4$ ; to explicit objective orientation:  $n = 21$ ).

Modality loss and in-group shifts indicate varying forms of changes in the original authors’ modality. These shifts may stem from lexical, syntactic and textual factors during the translation of Chinese authors’ modal evaluation to English. The subsequent sections will examine these factors on modality shifts.

#### 4.2. Modality shifts by lexical ambiguity

As Toury stated, linguistic features “pertaining to the make-up of the source text tend to force themselves on the translators and be transferred to the target text” (2012: 310). Such transfer in the sample is primarily manifested as modality shifts across scales of value or orientation, rather than under- or over-representation of certain markers. We observed the shifts in modal type, value and/or orientation on the lexical-semantic level, primarily on two items, “会” and “要”, from Chinese to English.

Considering modality as articulating authorial judgment of an intended message, we deemed two translations of “会” as the valid renditions of its modal types and values for cross-linguistic comparison: 1) “can/be able to”, expressing the speakers’ ability to fulfil an offer (Yang, 2021a; Du, 2016a), and b) “can/may/be likely to”, expressing a lower degree of epistemic possibility (Wang, et al., 2022; Du, 2016a; The Commercial Press, 2012). However, we found a out-of-context literal rendition of “会” into “will” ( $n = 34$ ) in the retrieved parallel texts, which upgrades its original modal value. For example,

##### Example 7

ST: “动词+核心论元宾语”作为原型构式会对词项产生构式压制。

LT: The “verb + coreferential meta-object” as a prototype construction **can/may/is likely to** pose construction coercion on lexical items.

TT: The “verb + core argument object” as a prototype construction **will** produce construction coercion on lexical items.

The modality shifts in value on the semantic level of “会” can be observed in this example. The original modal “会” is used to evaluate the possibility of information (i.e., *the prototype construction poses construction coercion on lexical*

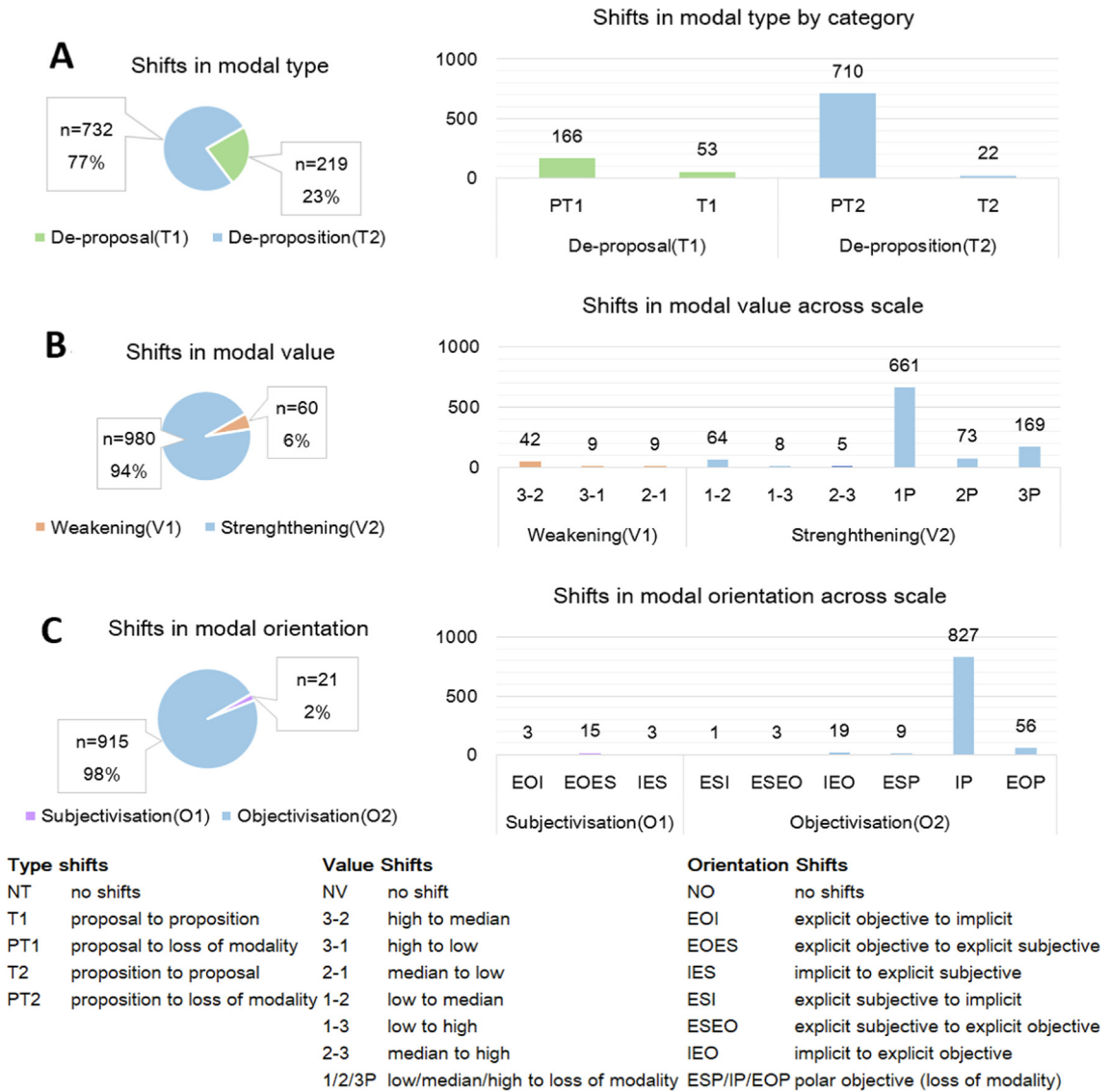


Fig. 5. Distribution of modality shifts in type, value and orientation.

items), suggesting a lower degree of epistemic possibility. Translating it as “can/may/be likely” thus can convey its original modal value and type. However, it is translated as “will” in the modalised target unit, which is commonly used to express a median to high value of “central epistemic” expectation or assumption (Huddleston and Pullum, 2017: 189). This example thus illustrates a literal rendition of “会 (can/may/is likely to)” into “will” ( $n = 34$ ), resulting in shifts from the low to a median modal value (i.e., NT, 2–1, NO; NT/NO: no shifts in type and orientation). The lexical rendition of “会” may also change its modal type, for example:

#### Example 8

ST: 学得快的学习者会在模仿基础上创造性地续用语言, 学得慢的则不会。

LT: The faster acquirer was able to use the language creatively based on imitation, while slower one cannot.

TT: The faster acquirer tended to extend the use of the linguistic target creatively on the basis of imitation whereas the slower one would not.



This example demonstrates an assessed proposal (i.e., offer/command) is changed to a proposition (i.e., information) from ST to TT. In the original Chinese modalised statement, either of the modal verbs “会” is to express the faster or slower acquirers’ ability to fulfil an offer (see Yang, 2021a). However, the translation of “会” into “tend to” or “will” (i.e., *faster acquirer **tended to** extend the use; the slower one **would not***) changes the original low-value proposal to a median-value probability for a proposition, as either is used to evaluate the information in its translated unit (i.e., T1, 1–2, NO; T1, 3–2, NO). One may notice such a change by omitting the modal in its located unit: ST is stating the acquirer’s ability to fulfil an offer whereas TT is stating the evaluated possibility of the acquirer’s behaviour. The shifts occur at the lexical-semantic level arising from the ambiguous modal meanings of “会”, leading to shifts in value and type, but not in orientation.

Similar lexical ambiguity can be observed in the rendition of the modal marker “要”, as it can express either a high-value necessity or a median-value willingness in Chinese. The renditions that are in line with the “要” marker’s types and values are: 1) “must”, the speakers’ requirement for the hearers to carry out the command or a very firm judgment (Du, 2016b; Yang, 2021a); and 2) “will”, the speakers’ spontaneous willingness to fulfil an offer (Yang, 2021a). When the necessity of “要(must)” is translated into “should” or “has to,” we may notice that its high-value modal strength degrades to a median-value strength ( $n = 12$ ).

#### Example 9

ST: 辨析的对象、辨析的方法、辨析的结果都要有实用性。

LT: The objects, methods, and results of the discernment **must** be practical.

TT: The objects, methods and results of discrimination **should** be practical.

The example demonstrates the lexical reproduction of the high-value modal verb “要” into a median-value modal marker “should”, which degrades its original modal value but does not change its type and orientation (i.e. NT, 3–2, NO). Further explanations on lexical ambiguity of “会” and “要” can be found in the coding scheme. The rendition of the high-value marker “要” into a median-value one (i.e., *should*) or the low-value “会” into a median-value one (e.g., *will*) can change the modal value and/or type with an unchanged orientation (i.e., implicit orientation) in the target texts.

### 4.3. Modality shifts in Chinese run-on sentences

Modality shifts can occur during syntactic restructuring, particularly in Chinese “run-on” sentences. In English, run-on sentences are grammatically incorrect sentences that connect two or more separate clauses with a comma rather than a conjunction (run-on sentence, 2002). However, in Chinese, they are typically viewed as a specific form of compound sentences, or “multiple-layer compound sentences” (Cui and Sung, 2021: 759), that can express a series of implicit, contextualised and intertwined logical relations among clauses with different subjects yet without conjunctions (He and Yan, 2022; Wang and Zhao, 2017).

Chinese run-on sentences are frequently found in the corpus, presumably, to express a series of logically interconnected ideas. To translate these sentences into English, translators may reconstruct the syntactic structures, segment the sentences based on their semantic coherence, and insert explicit cohesive devices in TT when necessary (Zhao and Wang, 2023). In particular, they resort to a number of techniques, such as changing or adding subjects and/or conjunctions in TT (Weng and Wang, 2018). Translators intervene by using strategies of syntactic restructuring as they jump between or across clauses to grasp the underlying logical connections in run-on sentences. This can lead to modality shifts in types, values and orientation.

#### Example 10

ST: ①从范畴的动态生成过程来看, ②态度系统中情感、裁决和鉴赏三个范畴之间的边界模糊性源自于态度范畴拓扑同化和异化动态过程中的临界点, ③采用双重标注法可以解决这种边界模糊性问题。

LT: In terms of the dynamic forming process of category, the blurring boundary between the three categories of Affect, Judgment and Appreciation in the attitudinal system stems from the dividing points in the dynamic process of topological assimilation and dissimilation of the attitudinal categories, and the use of the double annotation method **can** solve this boundary ambiguity problem.

TT: From the perspective of dynamic forming process of category, the blurring borderlines among Affect, Judgment and Appreciation derive from the dividing point in the topological assimilation and dissimilation processes of the attitude categories. Therefore, **it is suggested to** apply double annotation in discourse analysis.

The example has two layers of meaning structures in ST based on its logical links: unit ① and ② form a conditional relation, and unit ② and ③ a progressive one. The subjects of unit ② and ③ are different: the former is “.....边界模糊性” (i.e., *the blurring boundary*), while the latter is “采用双重标注法” (i.e., *the use of double annotation*). However, the third unit has a potential to be rendered as a suggested action implied by its subject (i.e., *to use double annotation*). The translator(s) split the last two units into two sentences based on his/her understanding, changing the logical relationships of the two units to a cause-and-effect relationship. The original low-value implicit proposition in the last unit thus becomes a median-value explicit objective proposal in TT (i.e., “*it is suggested to...*”; T2, 1–2, IEO).

Chinese “run-on” sentences often undergo syntactic restructuring, which causes shifts in all three modal dimensions. However, when translators rearrange the syntactic structure, they may introduce a modal marker with different value from the ST marker to the translated units. This leads to inconsistent shifts in modal type, value or orientation (e.g., a changed value with an unchanged type and/or orientation).

#### Example 11

ST: ①从认知语言学视角看, ②儿童语言习得过程中的某些句法变换, ③不宜(应)视作普通的动词初始替换, ④而应视作语言创造性应用能力实现飞跃式发展的明证。

LT: From a cognitive-linguistic perspective, certain syntactic transformations in the process of children's language acquisition **should** not be regarded as simple verb-changing, but it **should** be regarded as evidence of the leap-forward creation of children's competence of language application.

TT: In the process of children's language acquisition, some syntactic exchanges are not simply verb-changing. Based on the theory of cognitive linguistics, we **can** view those syntactic exchanges as powerful proofs of the leap-forward creation of children's competence of language application.

This example illustrates two forms of modality shifts. That is, the first modal marker in the ST unit ③ is lost in all three dimensions as the translated sentence becomes an assertive statement with no modal evaluation. However, the second translated sentence introduced a new modal marker with a different value (i.e., “应该; *should*” to “*can*”), making the rendition of the modal maker in unit ④ a shift in value, but not in type and orientation as it still expresses the authors' expectation for a proposed action (i.e., NT, 1–2, NO).

#### 4.4. Modality shifts by information restructuring

Modality shifts occur at the textual level by restructuring information in a single sentence or by combining the information units in several sentences. Understanding Chinese syntax and discourse patterns requires the examination of information structure, whereby each clause assumes its syntactic functions and forms an interclausal link to construct a topic chain (Cui and Sung, 2021; Li, 2013). In Chinese academic discourse, multiple pieces of information can be subsumed under one topical statement with a latent information focus or covert information chains. To optimise rhetorical readability, translators of academic texts may reorganize information flow from Chinese to English, which can lead to modality loss and/or in-group modality shifts.

#### Example 12

ST: 教师利用语料库讲解口译现象、评估口译质量, 要求学生模拟该口译任务进行练习, 可激发学生多种感官模态对情境化口译活动进行贴真体验。今后还可研发口译虚拟仿真实验教学, 从而提升学生的情境口译能力。

LT: Teachers use corpora to explain interpreting and assess its quality, and ask students to simulate a practicing task, which **can** stimulate students to experience contextualised interpreting in various sensory modalities. In the future, virtual simulation of interpreting training **can be** developed to enhance students' contextualised interpreting skills.

TT: In this way, multimodal-corpus-based teaching **can** help students undergo multimodal experience for interpretation learning, and it awaits the efficiency of such technology-based teaching.

In this example, there are two modal markers in the original ST units. The rendition omits the information deemed unnecessary in the ST (the second modal evaluation) and states only the central information (i.e., the first modal evaluation) in the TT. The rendition omits the second low-value modal evaluation. The modality is lost in all three dimensions in this unit (i.e., PT2, 1P, IP).

Information restructuring can also lead to inconsistent modality shifts among modal type, value and/or orientation as markers are not necessarily omitted, but may be changed in translation.

## Example 13

ST: 本文首先对题目偏差概念进行了界定, 提出《中国英语能力等级量表》(简称“《量表》”)的效度验证工作应该把题目偏差纳入其中。

LT: This paper first defines the concept of topic bias, and it proposes that the validity validation of the Chinese English Proficiency Scale (CSE) **should** incorporate topic bias.

TT: It is argued that the fairness validity of the descriptors of Chinas Standards of English Language Ability (CSE) **can** be evaluated in terms of Item Bias (IB).

In this example, the focused information changes from a proposal to an estimated possibility of the events by deleting the first piece of information in the original sentence (i.e., definition of a topic bias) and rearranging the intended message from a median-value offer (i.e., proposal) to a low-value exchanged information (i.e., proposition). This results in shifts in modal type and value, but not in orientation (i.e., T1, 2–1, NO).

Moreover, when translators choose different modality or non-modality expressions in English to translate the Chinese constructions of explicit orientation (i.e., XX “认为”: ... *argues that*...), inconsistent modality shifts can also occur.

## Example 14

ST: 我们认为, 陈述式问句判定的必要条件就是在言者使用一个非上升语调的陈述句时, 言者的认识地位低于听者。

LT: **We argue that** a necessary condition for the identification of declarative questions is that the speaker's epistemic status is lower than the listener's when the speaker uses a declarative sentence without rising intonation.

TT: Analysis of five hours of face-to-face interactions and TV programs of interviews and talk show that the declarative questions **can be** identified if the speaker uses a sentence without rising intonation and his or her epistemic status is lower than that of the recipient's.

In this example, there is no modal marker in the subordinate clause after “认为 (*argue*)” in the ST, but the modal meaning of “argue” degrades to a subordinate clause in the TT. The translator(s) foregrounded the research method as a focused information for readers in this sentence (i.e., *analysis of five hours of face-to-face interactions*...). The modality shifts from an explicit subjective high-value proposition to a low-value implicit one by information addition and sentence subject modification (i.e., NT, 3–1, ESI). The modal type remains unchanged.

Furthermore, we observed that the high-value Chinese evaluative reporting verb “认为(*argue*)”, which indicates speakers' responsibility for an intended message, was rendered into different reporting verbs in English. These verbs fall under the semantic categorisation by Charles (2006) and Kwon et al. (2018), which includes verbs of ARGUE (e.g., *suggest, assert, claim, contend*), THINK (e.g., *believe, assume, hold*), SHOW (e.g., *show, demonstrate, reveal*) and FIND (i.e., *find*). However, not all reporting verbs in English can express the original Chinese modal value (e.g., *assume*: a low-value modal expression) and the verbs in SHOW or FIND category that are used to state a fact or to know a fact (see Charles, 2006) may even lose the original modal evaluation. This leads to modality shifts from ST to TT, which can be inconsistently changed in type, value or orientation. Further details of how Chinese explicit objective/subjective orientation is changed into English are accessible on Open Science Framework (<https://osf.io/mwkg7>).

## 5. DISCUSSION

The study identifies a sizable share of translation shifts in modal value, followed by modal type and modal orientation, suggesting that the linguistic manifestation of authorial modal stance in the translated RAAs is departing from its original authorial manifestation.

Distributional patterns of modality shifts further reveal “de-proposition (T2)” in modal type, “strengthening (V2)” modal value, and “objectivisation (O2)” in modal orientation, with a loss of modality on low-value implicit proposition being the major contributor. The strengthening objectivisation in translating proposition was similarly reported in several language pairs and directionalities (English to German/French, Chinese to English) by Kranich (2009), Vandepitte et al. (2011) and Zhao and Liang (2013). However, it is inconsistent with coexistence of weakened subjectivisation and strengthened objectivisation found in diplomatic interpreting discourse (see Li, 2018). The findings of the study thus may point to a variable in modality shifts, i.e., a decision-making mechanism distinguished between speech-form interpreting and written-form translation, in contrast with the “directionality” view on modality shifts proposed by Li (2018) (i.e., modality is strengthened from English to Chinese and weakened from Chinese to English). The variable shall be further substantiated by comparative studies of modality shifts between interpreting and translation.

Additionally, lexical, syntactic, and textual factors specific to the Chinese language were identified to be involved in the decision-making course of mediating modal stance in translated texts. Logical fuzziness in Chinese “run-on” sentences, for example, necessitates translators' intervention in the original logical links due to frequent absence of con-

junctive items and logical meanings between clauses (He and Yan, 2022; Wang and Zhao, 2017). This normally requires translators to reconstruct the syntactic structure by segmenting sentences in the light of semantic coherence and inserting explicit cohesive devices (Zhao and Wang, 2023). The interwoven implicit information structures in the original Chinese texts also entail translators to reconfigure the information focus in translated texts, and similar contextualised choices are expected for the lexical ambiguity in some Chinese markers (e.g., “会”). These factors imply source-language constraints responsible for strengthened objectivisation of the original modal stance in translated RAAs, altering source authors' intended subjective evaluation.

In the growingly English-language-dominant academic world, academic journals in non-anglophone settings publish bilingual versions of articles to enhance the global visibility of their local research and foster multilingualism (Morley and Ellen Kerans, 2013; Olohan, 2015; Salager-Meyer, 2014). Publishing bilingual RAAs is a more viable option with less labour, time and cost as it can act as translation-on-demand for readers to assess the relevance and value of the full piece (Li, 2022; Morley and Ellen Kerans, 2013). High-quality translation of RAAs from peripheral language into English, which offer credible information and well-articulated arguments of original authors, can facilitate the global scientific community to access research findings and insights from peripheral languages and cultures (Salager-Meyer, 2014). Authors are often expected to submit these along with their manuscripts (Olohan, 2015), as illustrated in the study.

The modality shifts observed in the study can undermine the original authors' intended interpersonal and evaluative stance in RAAs, which shall be taken with caution. As encapsulation of the full articles (Bhatia, 1993), abstracts function both in offering indexing information and in promoting the articles (Salager-Meyer, 1990; Van Bonn and Swales, 2007). To “hook” their readers, authors express their judgement and construct interpersonal relationship with readers by employing varying linguistic devices, including modal resources (Hyland and Tse, 2005: 131; Stotesbury, 2003). Communicating rhetorically appropriate modal stance to target readers therefore is crucial in both original and translated RAAs, as they share the same role in informing, engaging and persuading readers the value of the source piece (Li, 2022; Morley and Ellen Kerans, 2013). The strengthening objectivisation of original modal stance may undermine the original authors' interpersonal, evaluative and promotional intentions in the translated RAAs (Hyland and Tse, 2005; Van Bonn and Swales, 2007).

Nonetheless, isolating the target text readership from this discussion is unfair, as the purpose for translating academic writing or, more precisely, mediating the original authorial message in a RAA is to allow its source to reach the wider academic audience. Therefore, recontextualising ambiguous lexical items, or restructuring logical and information flow from ST to TT, despite being constrained by source language factors, is to serve the readers from the target academic community, where English serves as the *lingua franca*. Such target community culture is different from the traditionally defined, nation-bounded target culture in translation studies (e.g., Toury, 2012). Instead, the target community that the translated academic texts serve is claimed to be “culture-free” or “interculture” (Pisanski Peterlin, 2013a: 198) with shared communicative expectations and norms, rather than within a national culture (Bennett, 2013b). To ensure a comparable status as an original RAA in the ELF academic community, a “covert translation” is desired for a localisation oriented towards anglophone norms and values (Bennett, 2013a; House, 1997: 69; 2013: 284); otherwise, the translated research articles may be rejected (Bennett, 2013a; Károlyi, 2022). Translators of academic discourse thus are expected to adhere to the rhetorical norms of this community and act as “cultural mediators” to facilitate communication between the source-text authors and the target-text readers (Bennett, 2013a: 93).

In this study, only three out of 13 collected journals give explicit instructions on the content and style of RAAs, so authors are likely to be compelled to rely on their implicit knowledge of “cultural-based rhetorical conventions” (Hu and Cao, 2011: 2804) to write or translate their RAAs. However, anglophone and Chinese rhetorical conventions stem from diverged epistemological value that fosters different discursive preferences. The anglophone rhetorical norms privilege discursive practices that adhere to rigorous logical reasoning and rebuttal to attain clarity and validity of their assertions (Bennett, 2009; Peng and Nisbett, 1999). Chinese rhetorical conventions, on the other hand, rooted in Confucian and Taoist traditions, cultivate a sociocognitive view that verbal debate and argumentation are futile for understanding the truth and reality, which are self-evident without argument (Bodde, 1991; Hu and Cao, 2011; Peng and Nisbett, 1999). Chinese written academic discourse thus becomes an arena for proclaiming knowledge and asserting truth where authority is assumed to be conferred upon Chinese academic writers, who are inclined to use a tone of certainty to express authority and credibility (Hu and Cao, 2011).

Consequently, translators are advised to be mindful of the differences between Chinese and anglophone rhetorical norms, and be alert of a strengthened, objectivised original modal stance in translated RAAs, which may challenge the conventional cautious stance dominant in anglophone academic discourse, particularly in humanities and social sciences (e.g., see Shen and Tao, 2021; Vazquez and Giner, 2008; Xie and Mi, 2023). A smaller token-based mean length of original and translated RAAs in this study (see Table 2) than that of original English RAAs (e.g., see Hu and Cao, 2011; Friginal and Mustafa, 2017) lends an indirect support for the confident stance in the original Chinese and translated English RAAs compared to cautious stance from anglophone authors in other studies (e.g., Chen and

Zhang, 2017; Hu and Cao, 2011). However, as modality shifts were found to largely result from a loss of modal stance and yet no significant differences were found between the number of Chinese and English modal markers between the original and translated RAAs (see Table 3), it implies that some markers were added in the discursive units of translated RAAs to serve certain rhetorical functions (e.g., to emphasize a certain viewpoint, create a specific tone, or appeal to the target audience) in target texts. Further studies are warranted to examine whether the co-construction of added and changed modal markers in the translated RAAs conforms to the original English RAAs' rhetorical modal conventions.

It is also worth noting that bilingual RAAs in applied linguistics are highly likely to be self-translated or at least endorsed by author(s). Previous studies on self-translators, mostly in literary genre, suggest that self-translators have more freedom, subjectivity, and intervention than other-translators (Ehrlich, 2009). Shifts in modal stance observed in this study challenge our assumptions on the ethical consideration of translating factual genres, even though they aim to convey truth and facts, but may still undergo significant translation shifts or "distortions" (Martikainen, 2017: 106; 2018: 917). The intervention from self-translators of academic texts enriches our understanding of how self-translators act as cultural mediators who disseminate scientific knowledge to the global academic community with self-reflexivity and ideological empowerment across literary and non-literary genres (Tymoczko, 2007).

## 6. CONCLUSION

The study follows a three-step analytical coding procedure to identify cross-linguistic modality shifts and illustrates quantitatively and qualitatively how the original Chinese modal stance in academic research abstracts is mediated and contextualised by translators in English. Drawing on systemic functional linguistics, the study examines the translation shifts on three dimensions of modality system, namely modal type, value, and orientation.

The study observed a notable share of modality shifts in value, followed by modal type and orientation, suggesting a departure from the original authorial modal intention in the linguistic strength and manifestation of authorial modal stance in translated RAAs. The distribution of modality shifts further imply that the source authors' intended modal stance, if changed, becomes stronger and more objectivised in translated texts, mainly due to a loss of modality on low-value implicit propositions. The study does not examine the amplified modal stance made by translators, but it reveals a potential rhetorical discrepancy in articulating authorial modal stances between the original Chinese and translated English research article abstracts. Translation practitioners may take note of this finding and incorporate it in their academic translation practice. Furthermore, the study finds Chinese-specific lexical, syntactic, and textual factors that are potentially involved in the modal stance mediation, including lexical ambiguity, "run-on" sentences, and implicit information structure.

Despite its disciplinary singularity, the study offers findings that may lead to future investigations. Some markers were added to the translated RAAs and they are not examined in this study. However, translators intervene in the process of uttering subjectivity to the target scholarly audience, so their conscious and unconscious decisions lead to a combination of authorial and translatorial messages in the final products (Munday et al., 2022). Follow-up studies can further our understanding of translators' purposeful intentions by deciphering the rhetorical functions that the added modal markers may serve or by detailing what types, values and orientations of modal resources are amplified in the final products. An original English RAAs corpus can be introduced to provide insights into how the translated English RAAs may depart from the intended original academic language norms. It is acknowledged that one study cannot consummate the investigation of authorial stance reconstruction in the translation of academic discourse.

In addition, as English is a lingua franca in the science community, it is expected that self-translators' translation presents traits of textual rendition (i.e., translation) and linguistic production (i.e., second language writing) to a certain extent. It falls into a broader scope of discussion on constrained and mediated communication (e.g., Kajzer-Wietrzny, 2022). Incorporating data from other disciplines of RAAs thus can benefit further discussions on how authorial presence is mediated by translators in academic discourse.

The qualitative findings in the study may also point to the possibility of further empirical investigations into lexical, syntactic and textual properties pertaining to academic translational discourse (e.g., see Li and Yu, 2021; Liang and Sang, 2022). Syntactic complexity, hinted by the Chinese "run-on" sentences, for example, can be further explored by locating its possible relation with the reconstruction of authorial stance in translational language. Information restructuring may also merit an investigation as it can be associated with passive-active voice restructuring in translational discourse.

Furthermore, the study tentatively proposes a possible variable in modality shifts: the speech-written mode diversity. A larger-scale investigation across soft and hard science disciplines, incorporating both translation of speech- and written-form academic discourse, can bring more diverse insights into how translators or interpreters mediate the original Chinese modal stance to a broader scope of academic readership. The adjusted cross-linguistic modality frameworks can also be usefully applied in subsequent studies to examine modality shifts in translation or interpreting.



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## DATA AVAILABILITY

Coding data and scheme concerning the study are publicly available on Open Science Framework (<https://osf.io/m38ws/>).

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## APPENDIX A. CODEBOOK OF MODALITY SHIFTS

Codes in Type Shifts		
Hypothesis	Shifts	Code
No or in-group shifts	obligation ↔ inclination	NT
	probability ↔ usuality	NT
De-proposal (T1)	proposal to proposition	T1
	proposal to loss of modality	PT1
De-proposition (T2)	proposition to proposal	T2
	proposition to loss of modality	PT2
Codes in Value Shifts		
Hypothesis	Shifts	Code
No shifts	no shifts	NV
Weakening (V1)	high to median	3–2
	high to low	3–1
	median to low	2–1
Strengthening (V2)	low to median	1–2
	low to high	1–3
	median to high	2–3
	low/median/high to loss of modality	1/2/3P
Codes in Orientation Shifts		
Hypothesis	Shifts	Code
No shifts	no shifts	NO
Subjectivisation (O1)	explicit objective to implicit sub/objective	EOI
	explicit objective to explicit subjective	EOES
	implicit sub/objective to explicit subjective	IES

Objectivisation (O2)	explicit subjective to implicit sub/objective	ESI
	explicit subjective to explicit objective	ESEO
	implicit sub/objective to explicit objective	IEO
	polar objective (loss of modality)	ESP/IP/EOP

## References

- Ahmad, M., Mahmood, M.A., Farukh, A., 2020. Use of modals as stance markers: A corpus-based study on Pakistani English newspaper editorials. *Asia Pacific Media Educator* 30 (1), 108–125. <https://doi.org/10.1177/1326365x20945424>.
- Alamri, B., 2023. A Multidimensional Comparative Analysis of MENA and International English Research Article Abstracts in Applied Linguistics. *SAGE Open* 13 (1). <https://doi.org/10.1177/21582440221145669>.
- Bennett, K., 2009. English academic style manuals: A survey. *J. Engl. Acad. Purp.* 8 (1), 43–54. <https://doi.org/10.1016/j.jeap.2008.12.003>.
- Bennett, K., 2013a. The translator as cultural mediator in research publication. In: Matarese, V. (Ed.), *Supporting Research Writing*. Chandos Publishing, pp. 93–106. <https://doi.org/10.1016/B978-1-84334-666-1.50006-0>.
- Bennett, K., 2013b. English as a Lingua Franca in Academia. *The Interpreter and Translator Trainer* 7 (2), 169–193. <https://doi.org/10.1080/13556509.2013.10798850>.
- Biber, D., 2006. *University language : a corpus-based study of spoken and written registers*. J. Benjamins.
- Biber, D., Finegan, E., 1988. Adverbial stance types in English. *Discourse Process*. 11 (1), 1–34. <https://doi.org/10.1080/01638538809544689>.
- Biber, D., Finegan, E., 1989. Styles of stance in English: Lexical and grammatical marking of evidentiality and affect. *Text & Talk* 9 (1), 93–124. <https://doi.org/10.1515/text.1.1989.9.1.93>.
- Catford, J.C., 1965. *A Linguistic Theory of Translation: An Essay in Applied Linguistics*. Oxford University Press.
- Catford, J.C., 2000. Translation shifts. In: Venuti, L. (Ed.), *The Translation Studies Reader*. Routledge, pp. 141–147.
- Charles, M., 2006. Phraseological patterns in reporting clauses used in citation: A corpus-based study of theses in two disciplines. *Engl. Specif. Purp.* 25 (3), 310e331. <https://doi.org/10.1016/j.esp.2005.05.003>.
- Chen, S.-K., 2017. From explicit to implicit orientation: mapping rank scale to modality in English and Chinese. *Functional Linguist.* 4 (1), 1–20. <https://doi.org/10.1186/s40554-017-0049-1>.
- Chen, C., Zhang, J.L., 2017. An intercultural analysis of the use of hedging by Chinese and Anglophone academic English writers. *Appl. Linguist. Rev.* 8 (1), 1–34. <https://doi.org/10.1515/applirev-2016-2009>.
- Chu, Z., Wang, W., 2009. 现代汉语小句的判断标准[Rules for determining Chinese clauses]. *J. Ningxia Univ. (Humanities & Social Sci. Ed.)* 31 (04), 28–35.
- Csomós, G., 2018. A spatial scientometric analysis of the publication output of cities worldwide. *J. Informet.* 12 (2), 547–566. <https://doi.org/10.1016/j.joi.2018.05.003>.
- Cui, S., Sung, K.-M., 2021. *A Reference Grammar for Teaching Chinese: Syntax and Discourse*. Springer. [https://doi.org/10.1007/978-981-33-4207-1\\_5](https://doi.org/10.1007/978-981-33-4207-1_5).
- Bodde, D., 1991. *Chinese Thought, Society, and Science: The Intellectual and Social Background of Science and Technology in Pre-modern China*. University of Hawaii Press. <https://doi.org/10.1515/9780824846954>.
- Bhatia, V.K., 1993. *Analysing Genre: Language Use in Professional Settings*. Routledge. <https://doi.org/10.4324/9781315844992>.
- Wen, Q., 2017. Dilemmas Faced by Chinese Applied Linguists in Academic Globalization and Proposed Solutions. *Foreign Languages Their Teaching* (01), 9-17+145. <https://doi.org/10.13458/j.cnki.flatt.004322>.
- Downing, A., 2015. *English Grammar: A University Course*. Routledge. <https://doi.org/10.4324/9781315750040>.
- Du, R., 2016a. 要(yao). In *新世纪英汉大词典[New Century Chinese-English Dictionary]*, 2<sup>nd</sup> Edition, Foreign Language Teaching and Research Press, p. 2010.
- Du, R., 2016b. 会(hui). In *新世纪英汉大词典[New Century Chinese-English Dictionary]*, 2<sup>nd</sup> Edition, Foreign Language Teaching and Research Press, p. 719.
- Ebrahimi, S.F., Chan, S.H., 2015. Research article abstracts in applied linguistics and economics: functional analysis of the grammatical subject. *Austral. J. Linguist.* 35 (4), 381–397. <https://doi.org/10.1080/07268602.2015.1070660>.
- Ehrlich, S., 2009. Are self-translators like other translators?. *Perspectives* 17 (4) 243–255. <https://doi.org/10.1080/09076760903404050>.
- Fan, L., 2017. English as Lingua Academica: The case of the Chinese Translation Fund for the Humanities and Social Sciences. *Translator (Manchester, England)* 23 (4), 428–440. <https://doi.org/10.1080/13556509.2017.1385944>.
- Friginal, E., Mustafa, S.S., 2017. A comparison of U.S.-based and Iraqi English research article abstracts using corpora. *J. Engl. Acad. Purp.* 25, 45–57. <https://doi.org/10.1016/j.jeap.2016.11.004>.
- Fu, R., Chen, J., 2019. Negotiating interpersonal relations in Chinese-English diplomatic interpreting: Explication of modality as a case in point. *Interpret.: Int. J. Res. Practice Interpreting* 21 (1), 12–35. <https://doi.org/10.1075/intp.00018.fu>.

- Halliday, M.A.K., McDonald, E., 2004. Metafunctional profile of the grammar of Chinese. In: Caffarel, A., Martin, J.R., Matthiessen, C.M. (Eds.), *Language Typology: A Functional Perspective*, pp. 305–396.
- Halliday, M.A.K., Matthiessen, C.M.I.M., 2004. *An Introduction to Functional Grammar*. Hodder/Arnold.
- Halliday, M.A.K., Matthiessen, C.M.I.M., 2014. *Halliday's Introduction to Functional Grammar*. Routledge.
- He, W., Yan, Y., 2022. 汉英的主客融合及分离特质——以流水句及其英译为例 [Integration and Separation of Subject and Object between Chinese and English — A Case Study of the Translation of Chinese Run-on Sentences]. *Shanghai J. Transl.* 01, 34–39.
- Hinkel, E., 1995. The use of model verbs as a reflection of cultural values. *TESOL Q.* 29 (2), 325–343. <https://doi.org/10.2307/3587627>.
- House, J., 1997. *Translation Quality Assessment: A Model Revisited*. Gunter Narr Verlag.
- House, J., 2013. English as a Lingua Franca and Translation. *Interpreter Translator Trainer* 7 (2), 279–298. <https://doi.org/10.1080/13556509.2013.10798855>.
- Hu, G., Cao, F., 2011. Hedging and boosting in abstracts of applied linguistics articles: A comparative study of English- and Chinese-medium journals. *J. Pragmat.* 43 (11), 2795–2809. <https://doi.org/10.1016/j.pragma.2011.04.007>.
- Hunston, S., Thompson, G., 2000. *Evaluation in Text: Authorial Stance and the Construction of Discourse*. Oxford University Press.
- Hyland, K., Tse, P., 2005. Hooking the reader: a corpus study of evaluative that in abstracts. *Engl. Specif. Purp.* 24 (2), 123–139. <https://doi.org/10.1016/j.esp.2004.02.002>.
- Kajzer-Wietrzny, M., 2022. An intermodal approach to cohesion in constrained and unconstrained language. *Target: Int. J. Transl. Stud.* 34 (1), 130–162. <https://doi.org/10.1075/target.19186.kaj>.
- Károly, K., 2022. Translating academic texts. In: Malmkjær, K. (Ed.), *The Cambridge Handbook of Translation*. Cambridge University Press, pp. 340–362. <https://doi.org/10.1017/9781108616119.018>.
- Khany, R., Aliakbari, M., Mohammadi, S., 2019. A model of rhetorical markers competence in writing academic research articles: a qualitative meta-synthesis. *Asian-Pacific J. Second Foreign Lang. Educ.* 4 (1). <https://doi.org/10.1186/s40862-018-0064-0>.
- Kim, L.C., Lim, J.-M.-H., 2013. Metadiscourse in English and Chinese research article introductions. *Discourse Stud.* 15 (2), 129–146. <https://doi.org/10.1177/1461445612471476>.
- Kranich, S., 2009. Epistemic modality in english popular scientific texts and their german translation. *Trans-kom* 2 (1), 26–41.
- Kwon, M.H., Staples, S., Partridge, R.S., 2018. Source work in the first-year L2 writing classroom: Undergraduate L2 writers' use of reporting verbs. *J. Engl. Acad. Purp.* 34, 86–96. <https://doi.org/10.1016/j.jeap.2018.04.001>.
- Li, R., 2003. *Modality in English and Chinese: A Typological Perspective*. Universitaire Instelling Antwerpen (Belgium).
- Li, X., 2012. 英汉道义情态跨文化研究 [A Contrastive Study on English-Chinese Deontic Modality: A Cross-Culture Perspective]. *J. Southwest Univ. Polit. Sci. Law* 14 (04), 124–130. <https://doi.org/10.3969/j.issn.1008-4355.2012.04.18>.
- Li, C., 2013. The logic of Chinese syntactic structure. *J. Chinese Linguist.* 41 (2), 273–291 <http://www.jstor.org/stable/23754816>.
- Li, X., 2018. Mediation through modality shifts in Chinese-English government press conference interpreting. *Babel. Revue internationale de la traduction/Int. J. Transl.* 64 (2), 269–293. <https://doi.org/10.1075/babel.00036.li>.
- Li, X., 2020. Mediating cross-cultural differences in research article rhetorical moves in academic translation: A pilot corpus-based study of abstracts. *Lingua* 238. <https://doi.org/10.1016/j.lingua.2020.102795> 102795.
- Li, X., 2022. Translation-mediated bilingual publishing as a development strategy: A content analysis of the language policies of peripheral scholarly journals. *Linguistica Antverpiensia, New Series — Themes Transl. Stud.* 21. <https://doi.org/10.52034/lanstts.v21i.724>.
- Li, X., Yu, H., 2021. Parataxis or hypotaxis? Choices of taxis in Chinese-English translation. *Lingua* 251. <https://doi.org/10.1016/j.lingua.2020.103026>.
- Liang, Y., Sang, Z., 2022. Syntactic and typological properties of translational language: A comparative description of dependency treebank of academic abstracts. *Lingua* 273. <https://doi.org/10.1016/j.lingua.2022.103345>.
- Liddicoat, A.J., 2015. Multilingualism research in Anglophone contexts as a discursive construction of multilingual practice. *J. Multicul. Discourses* 11 (1), 9–24. <https://doi.org/10.1080/17447143.2015.1086361>.
- Luo, N., Hyland, K., 2016. Chinese academics writing for publication: English teachers as text mediators. *J. Second. Lang. Writ.* 33, 43–55. <https://doi.org/10.1016/j.jslw.2016.06.005>.
- Luo, N., Hyland, K., 2019. "I won't publish in Chinese now": Publishing, translation and the non-English speaking academic. *J. Engl. Acad. Purp.* 39, 37–47. <https://doi.org/10.1016/j.jeap.2019.03.003>.
- Lyons, J., 1995. *Linguistic Semantics: An Introduction*. Cambridge University Press.
- Martikainen, H., 2017. A functional approach to translation quality assessment: Categorising sources of translational distortion in medical abstracts. *Linguistica Antverpiensia*. 16, 106–121. <https://doi.org/10.52034/lanstts.v16i0.435>.
- Martikainen, H., 2018. Modal Markers as Potential Sources of Distortion in Translated Medical Abstracts. *Kuram ve uygulamada eğitim bilimleri*. 18 (4), 917–934. <https://doi.org/10.12738/estp.2018.4.0299>.
- Martin, J.R., White, P.R.R., 2005. *The Language of Evaluation: Appraisal in English*. Palgrave Macmillan.
- Morley, G., Ellen Kerans, M., 2013. Bilingual publication of academic journals: motivations and practicalities. In: Matarese, V. (Ed.), *Supporting Research Writing*. Chandos Publishing, pp. 121–137. <https://doi.org/10.1016/B978-1-84334-666-1.50008-4>.
- Mu, C., Zhang, L.J., Ehrich, J., Hong, H., 2015. The use of metadiscourse for knowledge construction in Chinese and English research articles. *J. Engl. Acad. Purp.* 20, 135–148. <https://doi.org/10.1016/j.jeap.2015.09.003>.

- Munday, J., Pinto, S.R., Blakesley, J., 2022. *Introducing Translation Studies: Theories and Applications*. Routledge.
- Ngai, C.-S.-B., Singh, R.G., 2020. Relationship between persuasive metadiscourse devices in research article abstracts and their attention on social media. *PLoS One* 15 (4), e0231305. <https://doi.org/10.1371/journal.pone.0231305>.
- Olohan, M., 2016. *Science, Translation and the Mangle: A Performative Conceptualization of Scientific Translation*. Meta (Montréal) 61, 5–21. <https://doi.org/10.7202/1038682ar>.
- He, K., Chen, Y., 2015. A Study of Chinese Translation of Academic Works in English: A Panorama in China. In: *Translation and Cross-Cultural Communication Studies in the Asia Pacific*, vol. 42, pp. 167–188. [https://doi.org/10.1163/9789004299245\\_012](https://doi.org/10.1163/9789004299245_012).
- Huddleston, R., Pullum, G.K., 2017. *The Cambridge Grammar of the English Language*. Cambridge University Press. <https://doi.org/10.1017/9781316423530>.
- Hyland, K., 2009. *Academic Discourse: English in a Global Context*, 1 ed., Bloomsbury Publishing Plc. <https://doi.org/10.5040/9781474211673>.
- Olohan, M., 2015. *Scientific and Technical Translation*. Taylor & Francis Group. <http://ebookcentral.proquest.com/lib/polyu-ebooks/detail.action?docID=4015594>.
- Ostler, N., 2010. *The Last Lingua Franca: English Until the Return of Babel*. Allen Lane.
- Parkinson, J., 2020. Stance and modals of obligation and necessity in academic writing. *Register Stud.* 2 (1), 102–130. <https://doi.org/10.1075/rs.18012.par>.
- Peng, K., Nisbett, R.E., 1999. Culture, dialectics, and reasoning about contradiction. *Am. Psychol.* 54 (9), 741–754. <https://doi.org/10.1037/0003-066X.54.9.741>.
- Pfau, M., Humble, P., 2019. Translation analysis of academic texts in the Human Sciences: a case study. *Cadernos de tradução* 39 (2), 146–165. <https://doi.org/10.5007/2175-7968.2019v39n2p146>.
- Pho, P.D., 2008. Research article abstracts in applied linguistics and educational technology: a study of linguistic realisations of rhetorical structure and authorial stance. *Discourse Stud.* 10 (2), 231–250. <https://doi.org/10.1177/1461445607087010>.
- Pho, P.D., 2013. *Authorial Stance in Research Articles Examples from Applied Linguistics and Educational Technology*. Palgrave Macmillan, Basingstoke.
- Piller, I., Zhang, J., Li, J., 2022. Peripheral multilingual scholars confronting epistemic exclusion in global academic knowledge production: a positive case study. *Multilingua* 41 (6), 639–662. <https://doi.org/10.1515/multi-2022-0034>.
- Piqué-Angordans, J., Posteguillo, S., Andreu-Besó, J.-V., 2002. Epistemic and Deontic Modality: A Linguistic Indicator of Disciplinary Variation in Academic English. *LSP Professional Commun.* 2, 49–65.
- Pisanski Peterlin, A., 2008. Translating metadiscourse in research articles. *Across Languages Cultures* 9 (2), 205–218. <https://doi.org/10.1556/Acr.9.2008.2.3>.
- Pisanski Peterlin, A., 2013a. Attitudes towards English as an Academic Lingua Francain Translation. *Interpreter Translator Trainer* 7 (2), 195–216. <https://doi.org/10.1080/13556509.2013.10798851>.
- Pisanski Peterlin, A., 2013b. Translation as a Paradigm Shift: A Corpus Study of Academic Writing. *ELOPE (Tiskana izd.)* 10 (1), 127–137. <https://doi.org/10.4312/elope.10.1.127-137>.
- Pisanski Peterlin, A., 2019. Self-translation of academic discourse: the attitudes and experiences of authors-translators. *Perspect. Stud. Translatol.* 27 (6), 846–860. <https://doi.org/10.1080/0907676X.2018.1538255>.
- Pisanski Peterlin, A., 2020. Translation of academic discourse from and into the lingua franca. In: *Academic Writing from Cross-cultural Perspectives: Exploring the Synergies and Interactions*. Ljubljana University Press, pp. 174–194.
- Pho, P.D., 2012. Authorial stance in research article abstracts and introductions from two disciplines. In: *Subjectivity in Language and in Discourse*, vol. 10, pp. 97–114. [https://doi.org/10.1163/9789004261921\\_006](https://doi.org/10.1163/9789004261921_006).
- Run-on sentence, 2002. In: Hirsch, E.D., Kett, J.F., Trefil, J.S., (Eds.), *The new dictionary of cultural literacy*, 3rd ed., Houghton Mifflin. [https://search-credoreference-com.ezproxy.lb.polyu.edu.hk/content/entry/hmndcl/run\\_on\\_sentence/0](https://search-credoreference-com.ezproxy.lb.polyu.edu.hk/content/entry/hmndcl/run_on_sentence/0).
- Salager-Meyer, F., 1990. Discoursal flaws in Medical English abstracts: A genre analysis per research- and text-type. *Text & Talk* 10 (4), 365–384. <https://doi.org/10.1515/text.1.1990.10.4.365>.
- Salager-Meyer, F., 1992. A text-type and move analysis study of verb tense and modality distribution in medical English abstracts. *English Specific Purposes (New York N.Y.)* 11 (2), 93–113. [https://doi.org/10.1016/S0889-4906\(05\)80002-X](https://doi.org/10.1016/S0889-4906(05)80002-X).
- Salager-Meyer, F., 2014. Writing and publishing in peripheral scholarly journals: How to enhance the global influence of multilingual scholars?. *J. Engl. Acad. Purp.* 13 78–82. <https://doi.org/10.1016/j.jeap.2013.11.003>.
- Shen, Q., Tao, Y., 2021. Stance markers in English medical research articles and newspaper opinion columns: A comparative corpus-based study. *PLoS One* 16 (3), e0247981.
- Stotesbury, H., 2003. Evaluation in research article abstracts in the narrative and hard sciences. *J. Engl. Acad. Purp.* 2 (4), 327–341. [https://doi.org/10.1016/s1475-1585\(03\)00049-3](https://doi.org/10.1016/s1475-1585(03)00049-3).
- Sun, K., Lu, X., 2022. Predicting native Chinese readers' perception of sentence boundaries in written Chinese texts. *Read. Writ.* 35 (8), 1889–1910. <https://doi.org/10.1007/s11145-022-10272-8>.
- Tan, H., 2022. Who translate Chinese academic works of the humanities and social sciences: a survey of the academic background of the government-funded translators. *Asia Pacific Transl. Intercultural Stud.* 9 (3), 334–360. <https://doi.org/10.1080/23306343.2022.2152910>.

- Tan, T.X., Fan, X., Braunstein, L.B., Lane-Holbert, M., 2022. Linguistic, cultural and substantive patterns in L2 writing: A qualitative illustration of MisLevy's sociocognitive perspective on assessment. *Assess. Writ.* 51. <https://doi.org/10.1016/j.asw.2021.100574>.
- Tantucci, V., Wang, A., 2018. Illocutional concurrences: The case of evaluative speech acts and face-work in spoken Mandarin and American English. *J. Pragmat.* 138, 60–76. <https://doi.org/10.1016/j.pragma.2018.09.014>.
- Tcaciuc, L.S., Mackevic, V., 2017. Translators' agency in translating economic metaphors in European Union institutions: the case of the European Central Bank. *Perspectives: Stud. Translatol.* 25 (3), 417–433. <https://doi.org/10.1080/0907676X.2017.1287205>.
- The Commercial Press, 2012a. 会(hui). In *新华字典[Xinhua Dictionary]*, 11th ed., p. 206.
- The Commercial Press (2012b). 要(yao). In *新华字典[Xinhua Dictionary]*, 11th ed., p. 508.
- Toury, G., 2012. *Descriptive Translation Studies and Beyond*. John Benjamins Pub. Co..
- Van Bonn, S., Swales, J.M., 2007. English and French journal abstracts in the language sciences: Three exploratory studies. *J. Engl. Acad. Purp.* 6 (2), 93–108. <https://doi.org/10.1016/j.jeap.2007.04.001>.
- Vandepitte, S., Vandenbussche, L., Algoet, B., 2011. Travelling certainties: Darwin's doubts and their Dutch translations. *Translator* 17 (2), 275–299. <https://doi.org/10.1080/13556509.2011.10799490>.
- Vazquez, I., Giner, D., 2008. Beyond mood and modality: epistemic modality markers as hedges in research articles. A cross-disciplinary study. *Revista Alicantina de Estudios Ingleses* 21 (Nov), 171–190. <https://doi.org/10.14198/raei.2008.21.10>.
- Vilar-Lluch, S., 2022. Representing behavioral pathology: the importance of modality in medical descriptions of conduct, ADHD as Case Study. *Health Commun.*, 1–9. <https://doi.org/10.1080/10410236.2022.2129649>.
- Vinay, J.-P., Darbelnet, J., 1958. *Comparative Stylistics of French and English: A Methodology for Translation*. John Benjamins.
- Vinay, J.P., Darbelnet, J., 1995. *Comparative stylistics of French and English: A methodology for translation*. John Benjamins Publishing.
- Wang, S., Liu, R., Huang, C.-R., 2022. Social changes through the lens of language: A big data study of Chinese modal verbs. *PLoS One* 17 (1). <https://doi.org/10.1371/journal.pone.0260210>.
- Wang, W., Zhao, C., 2017. 论汉语流水句的句类属性[On the syntactic categorisation of Chinese Run-on sentences]. *Chinese Teaching World* 31 (02), 171–180. <https://doi.org/10.13724/j.cnki.ctiw.2017.02.002>.
- Wen, Q., 2021. 我国应用语言学研究国际化面临的困境与对策[On the Role of Language in International Academic Discourse Power: The Status of Chinese]. *Chinese J. Language Policy Plann.* 6 (03), 76–85. <https://doi.org/10.19689/j.cnki.cn10-1361/h.20210306>.
- Thompson, G., 2014. *Introducing Functional Grammar*, 3 ed., Routledge. <https://doi.org/10.4324/9780203431474>.
- Tymoczko, M., 2007. *Enlarging Translation, Empowering Translators*. St. Jerome Pub. <https://doi.org/10.4324/9781315759494>.
- Weng, Y., Wang, J., 2018. 语言学视角下的译者主体性研究——以《二马》流水句的两个英译本对比为例 [A study of translator's subjectivity in the framework of linguistics — A comparison of the English translation of paratactic sentences in the two English versions of Mr. Ma and Son]. *Foreign Lang. Literat. Stud.* 03, 276–291. <https://doi.org/10.19716/j.1672-4720.2018.03.05weng>.
- Wharton, S., 2012. Epistemological and interpersonal stance in a data description task: Findings from a discipline-specific learner corpus. *Engl. Specif. Purp.* 31 (4), 261–270. <https://doi.org/10.1016/j.esp.2012.05.005>.
- Xie, S., 2020. Multidimensional analysis of Master thesis abstracts: a diachronic perspective. *Scientometrics* 123 (2), 861–881. <https://doi.org/10.1007/s11192-020-03408-6>.
- Xie, S., Mi, C., 2023. Promotion and caution in research article abstracts: The use of positive, negative and hedge words across disciplines and rankings. *Learned Publ.* <https://doi.org/10.1002/leap.1515>.
- Yang, Y., 2013. Exploring linguistic and cultural variations in the use of hedges in English and Chinese scientific discourse. *J. Pragmat.* 50 (1), 23–36. <https://doi.org/10.1016/j.pragma.2013.01.008>.
- Yang, S., 2021b. A Systemic functional study of the system of modality in Chinese. *SAGE Open* 11 (3). <https://doi.org/10.1177/21582440211040075>.
- Yang, A., Zheng, S.-Y., Ge, G.-C., 2015. Epistemic modality in English-medium medical research articles: A systemic functional perspective. *Engl. Specif. Purp.* 38, 1–10. <https://doi.org/10.1016/j.esp.2014.10.005>.
- Yang, S., 2021a. *A Systemic Functional Study of Modality in Modern Chinese*. Springer. <https://doi.org/10.1007/978-981-16-8020-5>.
- Zamorano-Mansilla, J.R., 2015. *Thinking Modally: English and Contrastive Studies on Modality*. Cambridge Scholars Publishing.
- Zhang, Y., Cheung, A.K.F., 2022. A corpus-based study of modal verbs in Chinese-English governmental press conference interpreting. *Front. Psychol.* 13. <https://doi.org/10.3389/fpsyg.2022.1065077>.
- Zhang, M., Pan, L., 2009. Introducing a Chinese Perspective on Translation Shifts. *Translator* 15 (2), 351–374. <https://doi.org/10.1080/13556509.2009.10799285>.
- Zhang, H., Shang, J., 2019. NLPPIR-Parser: An intelligent semantic analysis toolkit for big data. *Corpus Linguist.* 6 (1), 87–104.
- Zhao, Q., Liang, M., 2013. 认识型情态动词may和might汉译强度变化研究[The modal strength of epistemic verbs may and might in English-Chinese translation]. *Shandong Foreign. Lang. Teach.* 34 (06). <https://doi.org/10.16482/j.sdwy37-1026.2013.06.020>, 96–99+108.



- Zhao, C., Wang, W., 2023. Structural Transformation Strategies in English Translation of Chinese Run-on Sentences: A Perspective on the Differences in the Strengths and Weaknesses of Spatio-Temporality in English and Chinese [汉语流水句英译的结构转换策略:英汉时空性强弱差异视角]. *Foreign Lang. Educ.* 04, 15–22. <https://doi.org/10.16362/j.cnki.cn61-1023/h.2023.04.003>.
- Zheng, Y., Gao, A.X., 2016. Chinese humanities and social sciences scholars' language Choices in international scholarly publishing: A ten-year survey. *J. Sch. Publ.* 48 (1), 1–16. <https://doi.org/10.3138/jsp.48.1.1>.