

# Are TERRORISM and *kongbu zhuyi* translation equivalents? A corpus-based investigation of meaning, structure and alternative translations

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## Abstract

This paper reports an investigation using large scale corpora to contrast a pair of translation equivalents – TERRORISM in English and 恐怖主义 *kǒngbù zhǔyì* in Chinese. Close similarities between the two words manifested in the lexical profile produced by Word Sketch, e.g., in terms of their top collocates and syntactic roles. However, we also observed notable differences between the two words – e.g., 恐怖主义 occurs far more frequently than TERRORISM in noun-noun constructions, in particular in the ‘X+noun’ construction (X=恐怖主义/TERRORISM). Based on evidence from the corpora, 恐怖主义 entails a relatively narrower range of semantic meaning than that of TERRORISM, and is more readily joined by another noun to convey more specific meaning. Given that the two words are not translation equivalents in certain situations, we identified a number of methods that effectively retrieved several lexical candidates from comparable corpora for alternative translations in these situations.

## 1 Introduction

The use of the word TERRORISM has been rapidly rising from the 1970s, and this probably reflects the social issues we are facing in the modern time. Authoritative English-Chinese dictionaries give the term 恐怖主义 *kǒngbù zhǔyì* ‘terror ism’ as an explanation of TERRORISM as well as its equivalent item in the Chinese language (e.g., online Cambridge English-Chinese dictionary, <https://dictionary.cambridge.org/us/dictionary/engl>

ish-chinese-simplified/terrorism). Indeed, the two words – i.e., TERRORISM and 恐怖主义 – appear to be good translation equivalents in the two languages. Examples of the words with the suffixes –ism and –主义 *zhǔyì* can be easily accessible, e.g., ‘capitalism’ and 资本主义 *zīběn zhǔyì* ‘capitalism’, ‘socialism’ and 社会主义 *shèhuì zhǔyì* ‘society ism’, and ‘nationalism’ and 民族主义 *mínzú zhǔyì* ‘ethnic nationalities ism’. However, a closer look at the –ism words and their corresponding –主义 words does suggest some difference between the two. For example, TERRORISM in English can refer to the ideology of using terror to attain goals, the acts or means by which people bring about terror, and the organizations that devise or carry out terrorist attacks. By contrast, 恐怖主义 in Chinese mainly refers to terrorist ideology, and does not effectively convey the meaning expressed by TERRORISM in certain translation situations. In examples (1) to (4), which were retrieved from online English-Chinese parallel corpora (e.g., BCC 北語雙語語料庫: <http://bcc.blcu.edu.cn/lang/bi>), the instances of TERRORISM denote terrorist acts or organizations, and were translated into various expressions other than 恐怖主义 (underlines added in examples):

- (1a) The exact suite of technologies in PROTECT, which stands for Program for Response Operations and Technology Enhancements for Chemical/Biological Terrorism, is not made public.
- (1b) 保护系统（即生化恐怖袭击的应对操作和技术强化方案）的确切技术套件尚未公诸于世。

‘terror(ist) attack/s’  
(gloss translation added for the underlined words in Chinese)

(2a) He said he has no ties to terrorism.

(2b) 他自称和恐怖组织并无关联。

‘terror(ist) organization/s’

(3a) We have liberated the whole country from LTTE terrorism.

(3b) 我们把整个国家从‘猛虎’恐怖组织中解放了出来。

‘terror(ist) organization’

(4a) E-mail terrorism

(4b) 利用电子邮件进行的恐怖活动

‘terror(ist) activities’

The Chinese sentences in (1b) to (4b) would sound either awkward or imprecise if 恐怖主义 were used in lieu of the underlined words. The examples strongly suggest that there are situations in which 恐怖主义 does not serve as a good translation equivalent of TERRORISM. At this juncture, large scale English and Chinese corpora potentially provide evidence on the differences between the two words in terms of their semantic meaning and the syntactic structures they tend to take part, and may contain lexical items that can serve as alternative translations.

This study utilizes Sketch Engine (<https://www.sketchengine.eu/>) with the large scale corpora of both English and Chinese, and also some major web-based English-Chinese translation databases to answer the following research questions:

- To what extent are TERRORISM and 恐怖主义 different from each other in their lexical profiles in terms of the semantic meaning and grammatical structures they construct?
- In what circumstances, if any, is 恐怖主义 no good translation for TERRORISM?
- When 恐怖主义 does not translate TERRORISM well, what are alternative translations?

We will use the functions such as Word Sketch, Concordance and Thesaurus in Sketch Engine (SkE) to gather information for answering the research questions (see 3.1 and 3.2), and devise specific methods to identify alternative translations (see 3.3). Two large-scale monolingual corpora accessible in SkE are selected for this study – i.e.,

enTenTen15 that consists of 15.7 billion words from English web 2015, with advanced genre classification and sophisticated spam removal, as the corpus for the English language (using Penn TreeBank part of speech tagset), and zhTenTen11 with 1.7 billion words crawled in 2011 mainly from the web of the Chinese Mainland for the Chinese language (using Chinese Penn Treebank standard models, Stanford Log-linear Part-of-Speech Tagger).

## 2 Trends and dictionary definitions

The word TERRORISM exhibited a sharp rise from the 1970s, according to Google Books Ngram Viewer (<https://books.google.com/ngrams>). A number of social events probably contributed to this – e.g., the Israeli-Palestinian conflict in the 1970s, the attacks on 11 September 2001 and the 2002 Bali bombings. The surge of 恐怖主义 in the Chinese language came around the late 1990s, following the rise of TERRORISM in English (see Figures 1 and 2).

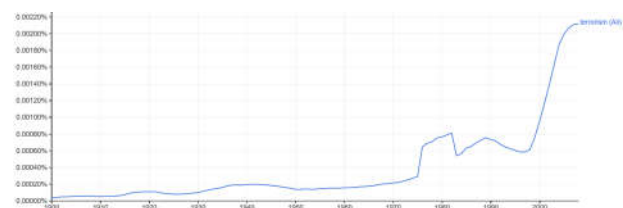


Figure 1: The frequency of TERRORISM in English: Google Books Ngram Viewer (1990-2008)

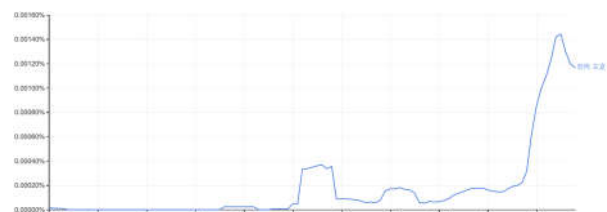


Figure 2: The frequency of 恐怖主义 in Chinese: Google Books Ngram Viewer (1990-2008)

TERRORISM is defined by English Oxford Living Dictionaries (<https://en.oxforddictionaries.com/>) as:

Noun [mass noun]. The unlawful use of violence and intimidation, especially against civilians, in the pursuit of political aims.

A similar definition for 恐怖主义 is given by the authoritative 现代汉语词典 ‘The Dictionary of Modern Chinese’ (2005: 781):

恐怖主义：蓄意通过暴力手段（如制造爆炸事件、劫持飞机、绑架等）造成平民和非战斗人员伤亡和财产损失，以达到某种政治目的的行为和主张。（underlines added for emphasis）

*Kongbu zhuyi*: the acts or ideologies that rely on deliberate use of violent means (e.g., carrying out explosion, aircraft hijacking, kidnapping and so on) to cause the casualties of civilians and non-combatants and the loss of property, in order to attain certain political aims (English translation by the investigator)

Both definitions point out the use of violence on civilians for achieving political aims. The Chinese definition also specifies that 恐怖主义 entails both 行为 ‘the act or deed’ and 主张 ‘ideology’ or ‘proposition’. While the Chinese definition gives a very reasonable explanation of what 恐怖主义 is about in social lives, large-scale language corpora would demonstrate the actual use of the word in context, providing rich information about the syntactic structures in which it occurs and the semantic meanings it conveys, which we will examine in the following section.

### 3 The results

In this section, we investigate the evidence from large scale language corpora – i.e., enTenTen15 for English and zhTenTen11 for Chinese – to contrast TERRORISM and 恐怖主义 both semantically and syntactically.

#### 3.1 Similarities in Word Sketch results

We first produced the lexical profile of both TERRORISM and 恐怖主义 using the Word Sketch function (<https://app.sketchengine.eu/#wordsketch>) in SkE. The profiles reveal predominant similarities between the two words in terms of their lexical collocates and grammatical relations (namely ‘gramrel’ in SkE). In terms of the words occurring in the “and/or” positions in relation to

the two words, items such as ‘extremism’, ‘crime’, ‘violence’ and their Chinese equivalents are ranked top. Both TERRORISM and 恐怖主义 tend to modify nouns such as ‘act’, ‘offences’, ‘threat’, ‘financing’ in English, and, similarly, 行为 ‘behavior’, 犯罪 ‘crime’, 威胁 ‘threat’, 融资 ‘financing’ in Chinese. In addition, both TERRORISM and 恐怖主义 occur as the object of verbs such as ‘combat’, ‘counter’, ‘defeat’, ‘condemn’ and ‘eradicate’ in English, and 打击 ‘combat’, 反击 ‘fight back/counter’, 胜过 ‘overcome’, 谴责 ‘condemn’, 根除 ‘eradicate’ in Chinese, exhibiting close similarities between the two. We also observed remarkable similarities between the two words in terms of the verb predicates of the subject X (X=TERRORISM in English and 恐怖主义 in Chinese), the modifiers of X, and the X’s Y structure.

#### 3.2 Differences in X+noun construction and its alternative structures

Apart from the similarities, we noted a conspicuous difference between the two words in terms of their tendency to take part in the ‘X + NP’ structure. In terms of lineal syntactic structure, 恐怖主义 in Chinese is very frequently followed by a noun to form a noun-noun construction, e.g., 恐怖主义犯罪 ‘terrorism crime’, 恐怖主义活动 ‘terrorism activity’, 恐怖主义威胁 ‘terrorism threat’, 恐怖主义行为 ‘terrorism behavior’. This X+noun construction accounts for 31.4% of all the occurrences of 恐怖主义 (n=5,067) in zhTenTen11, nearly triple the frequency (11.6%) of X+noun construction of all the occurrences of TERRORISM (n=435,996) in enTenTen15 (X = TERRORISM / 恐怖主义: see Table 1). Examples of this type in English are such as ‘terrorism act’, ‘terrorism financing’, ‘terrorism charges’.

A closer look at the top NPs occurring in the ‘X+noun’ construction in enTenTen15 and zhTenTen11 reveals that 恐怖主义 is most frequently joined by NPs such as 活动 ‘activity’ (3.91%), 袭击 ‘attack’ (1.87%) and 犯罪 ‘crime’ (4.91%), at frequencies far higher than those similar nouns joining TERRORISM in English, e.g., ‘activities’ (0.07%), ‘attacks’ (0.04%) and ‘offences’ (0.15%). Our intuition as native speakers of Chinese suggests that 恐怖主义

mainly denotes ideology or way of thinking, while TERRORISM entails both ideology and practice (i.e., the acts and deeds). If 恐怖主义 is narrower than TERRORISM in terms of semantic meaning, then joining another noun enables 恐怖主义 to extend the range of meaning so as to denote the acts or deeds.

	n=	%	example
<b>English</b>			
X+noun	50,429	11.6	<i>terrorism</i> act
noun+of+X	64,090	14.7	act of <i>terrorism</i>
X's+noun	109	0.03	<i>terrorism's</i> root
total	114,628	26.3	
<b>Chinese</b>			
X+noun	1,589	31.4	恐怖主义犯罪 'terrorism crime'
X+的+noun	569	11.2	恐怖主义的威胁 'terrorism <i>de</i> threat'
total	2,158	42.6	

Note: X stands for TERRORISM in English and 恐怖主义 in Chinese

Table 1: X+noun construction and its alternative structures in English and Chinese

This hypothesis is largely supported by the evidence from zhTenTen11. Instances such as 恐怖主义 活动猖獗 'terrorism activities (are) rampant' and 恐怖主义 势力猖獗 'terrorism power (is) rampant' frequently occur in Chinese, and these complex NPs would sound rather redundant if translated word for word into English. More succinct expressions are much more preferred in English, according to our data, e.g., 'terrorism is rampant', rather than 'terrorism/terrorist activities are rampant'. No instance of 'terrorism acts/deeds are/were [...] rampant' occurs in enTenTen15, while there is only one instance of 'the acts of terrorism were rampant'. Our data showed that the word TERRORISM alone clearly entails the meaning of the acts or deeds in English.

Although X+noun construction – e.g., 恐怖主义 活动猖獗 'terrorism activities (are) rampant', 恐怖主义 势力猖獗 'terrorism power (is) rampant' – frequently occurs in zhTenTen11, there are also many instances in which 恐怖主义 stands alone as the NP, e.g., in 恐怖主义(日益/尤爲)猖獗

'terrorism (increasingly/particularly) rampant'. Using 恐怖主义 without a noun following it tends to be interpreted as referring to ideology, e.g., 恐怖主义思维(模式)/思潮猖獗 'terrorism thinking (mode)/trend of thoughts rampant'. Having said this, we also found a few instances in which 恐怖主义 is used to refer to the acts and deeds, e.g.,

- (5) 9·11 恐怖袭击事件发生后, 恐怖主义被国际社会视为针对全人类的严重犯罪, 完善、加强打击恐怖主义立法成为世界范围的立法潮流 (from znufe.edu.cn).

After the event of terrorist attacks of 9.11, terrorism has been considered a serious crime against the whole humanity by the international community, and perfecting and strengthening anti-terrorism legislation has become a worldwide legislative trend (translation into English by the investigator)

Example (5) suggests that the meaning of 恐怖主义 extends to denote terrorist acts, a move of converging to the scope of meaning of TERRORISM in English.

Our finding that 恐怖主义 is more frequently joined by a noun to form complex NP than does TERRORISM will not be convincing if we overlook the alternative structures to the X+NP construction, e.g., NP+of+X in English and X+的+noun in Chinese. Table 1 includes such alternatives, with the total numbers tallied for both words in English and Chinese. The results were obtained from Corpus Query Language (CQL) queries under the Concordance tab, e.g., [tag="N.\*"] [word="of"] [word="terrorism"] for the 'noun of X (terrorism)' structure.

The overall results indicate that 恐怖主义 (42.6%) occurs in these complex NPs 1.6 times as frequently as TERRORISM does (26.3%). Table 1 also shows that, to form complex NPs, TERRORISM tends to occur in the 'noun of X' structure more than in the 'X+noun' structure, while in Chinese, 恐怖主义 occurs predominantly in the 'X+noun' structure.

It is noteworthy that we obtained the key finding that 恐怖主义 constructs the complex NPs 1.6 times as frequently as TERRORISM does based on the percentages these NPs account for in the total

occurrences of 恐怖主义 and TERRORISM respectively. At this point, we need to be aware of fact that TERRORISM occurs 9.8 times as frequently in enTenTen15 (23.71 per million, n=435,996) as 恐怖主义 occurs (2.41 per million, n=5,067) in zhTenTen11. To confirm the relatively much lower frequency of 恐怖主义 compared to that of TERRORISM, we also investigated Chinese web 2017 (i.e., zhTenTen17, simplified Chinese), which is the most recent and largest Chinese corpus (13.5 billion words) accessible at SkE, in which 恐怖主义 occurs at a moderately increased frequency – i.e., 3.53 per million (n= 58,634). However, our key findings remain valid – i.e., (a) 恐怖主义 in Chinese still occurs far less frequently than TERRORISM does in English, and (b) when 恐怖主义 does occur, it exhibits a markedly stronger tendency to be complemented by a noun to form a complex NP than TERRORISM does.

The primary reason for TERRORISM being used much more frequently than 恐怖主义, we would argue, lies in the fact that TERRORISM is a rather versatile word that readily entails a wide range of meaning and domains – e.g., terrorist acts, behaviors and organizations – while 恐怖主义 is much less so. Another reason for the low frequency of 恐怖主义 has to do with the blending and shortening of the lexical chunks that contain 恐怖主义, since concise expressions tend to be much preferred in Chinese. For example, the shortened expressions such as 恐怖袭击 ‘terror attack’ and the blended form 恐袭, are more commonly used than the full expression 恐怖主义袭击 ‘terror ism attack’. Similarly, 恐怖组织 ‘terror organization’ is far more frequently used and sounds more idiomatic than the full expression 恐怖主义组织 ‘terror ism organization’. In general, expressions with the ‘恐怖主义+(的)+noun’ construction tend to be shortened into ‘恐(怖)(主义)+noun’, reducing 恐怖主义 to a lesser translation equivalent of TERRORISM in terms of frequency and versatility.

To sum up, we have observed differences between 恐怖主义 and TERRORISM in their tendencies to construct certain complex NPs, probably reflecting their different ranges of semantic meaning. Given the differences between the two words, we examine the occasions on which

恐怖主义 does not serve as good translation equivalent for TERRORISM, and what (alternative) translation/s can be used in 3.3.

### 3.3 Alternative translations

In our quest for alternative translations for TERRORISM, we first tried to identify the occasions in which the instances of TERRORISM are not translated into 恐怖主义. We searched for examples in major online English-Chinese translation databases. For example, at the portal of BCC (北语双语语料库), we queried the word ‘terrorism’ and searched through the instances of English-Chinese translation to identify examples similar to (1) to (4). These examples are crucial for highlighting the situations in which TERRORISM and 恐怖主义 do not stand as good translation equivalents to each other.

In (1), for example, ‘chemical/biological terrorism’ should better not be rendered as 生化恐怖主义 ‘bio-chemical terrorism’ in Chinese, which would obscure the meaning. Since 生化恐怖主义 does not translate ‘chemical/biological terrorism’ well, we need to ask if there are other expressions that do. In other words, we are interested in discovering the alternative expressions that Chinese speakers would naturally use when they talk about ‘chemical/biological terrorism’ matters. Large scale Chinese corpora are reasonable resources that potentially contain such expressions. We selected zhTenTen11 at SkE, which stands as a comparable corpus to enTenTen13 in this study.

To construct the textual context about ‘bio-chemical terrorism’, we attempted the following CQL query on zhTenTen11 under the Concordance tab in SkE:

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[word="生物"] []? [word="恐怖"]
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The query returned 312 results, on which we performed KWIC search under the Frequency tab, revealing 生物恐怖 ‘biology terror’ (n=305) as the predominant expression and five other much less frequently used expressions, e.g., 生物化学恐怖 ‘biology chemistry terror’ (see Table 2).

Based on the Chinese collocations we have identified in Table 2 on the ‘chemical/biological terror(ism)’ matters, we further investigated the words occurring immediately to the right of the

KWIC (see Table 3), from which we removed the noise such as conjunctions and punctuations. Examining the Chinese expressions in Tables 2 and 3 together allows longer lexical chunks on the topic to emerge.

	KWIC (with gloss)	Frequency
1	生物 恐怖 'biology terror'	<b>305</b>
2	生物 化学 恐怖 'biology chemistry terror'	4
3	生物的 恐怖 'biological terror'	1
4	生物 武器 恐怖 'biology weapon terror'	1
5	生物 拥有 恐怖 'biology has terror'	1

Table 2: Query results of “生物” and “恐怖”

	Word (with gloss)	Frequency
1	袭击 'attack'	<b>109</b>
2	事件 'event'	<b>55</b>
3	活动 'activity'	9
4	防范 'prevention'	7
5	威胁 'threat'	6
6	制剂 'preparation'	5
7	材料 'material'	3
8	攻击 'attack'	3
9	因子 'factor'	3
10	分子 'agent'	3
11	防护 'protection'	2
12	行动 'action'	2

Table 3: The First word to the right of the KWIC of the query of “生物” and “恐怖”

We can see that the most commonly used expressions in Chinese on the topic include (cf. Tables 2 and 3) 生物(化学)恐怖袭击/事件/活动, 'biology (chemistry) terror attack/event/activity'. These expressions are valuable lexical candidates for translating 'chemical/biological terrorism' into Chinese. On the other hand, it is noteworthy that 生物(化学)恐怖主义 'biology (chemistry) terror ism' never occurred in zhTenTen11, strongly suggesting that it is not a likely translation equivalent of 'chemical/biological terrorism'.

Given that 生物化学 'biology chemistry' is often shortened into 生化 'bio-chem(istry)' in Chinese, we performed a CQL (corpus query language) query on “生化” and “恐怖”:

[word="生化"] []? [word="恐怖"]

obtaining 21 results similar to those in Tables 2 and 3. Queries into the comparable corpus therefore led to the discovery of the frequently-used expressions in Chinese for discussing the subject matter.

Like the two CQL queries above, we discovered that querying “verb + noun (恐怖)” under the Concordance tab can be fruitful as well. For example, the CQL query

[word="打击"][] {1,2} [word="恐怖"]

returned 107 results. The KWIC list generated by this query and the list of the first word on the right of the KWIC contain translation alternatives that closely overlap with the expressions in Table 3.

Coming to back to the question of whether TERRORISM has other translation equivalents in Chinese apart from 恐怖主义, we sorted out a method for gathering potential candidates as follows. We first queried the synonyms and similar words of 恐怖主义 using the Thesaurus tab in SkE, and identified 极端主义 'extreme ism' as the top synonym, which tends to be present in the co-text of 恐怖主义. We proceeded to run the following two CQL queries,

[word="极端主义"][] {1,3} [word="恐怖"]  
[word="恐怖"] [] {1,3} [word="极端主义"]

using 极端主义 to construct the co-text in which expressions with 恐怖\_\_\_\_ occur. The queries returned candidates including 恐怖活动/袭击/手法/组织 'terror activity/attack/means/organization', which would potentially serve as alternative translations for TERRORISM.

#### 4 Discussion and future studies

This study uses large scale corpora to contrast a pair of translation equivalents – TERRORISM and 恐

怖主义 – across languages, revealing similarities between the two words, and more importantly, pinpointing some fine differences between the two, semantically and syntactically.

Word-level (non-)equivalence has been a central topic in translation studies (Baker 2018: Chapter 2). In translation practice, translators also need to identify translation equivalents and be aware of the extent to which the equivalents entail the same meaning in context. The advancement in language corpora and concordancing techniques to date has brought unprecedented amount of materials and tools to translators and lexicographers, making available information about word meaning and usage far richer than what conventional dictionaries can offer (cf. Section 2). From the results of the present study, we advocate the potential and value for translators and lexicographers to use corpus-based tools (e.g., SkE) for resolving translation problems and sorting out lexical puzzles, e.g., about near synonyms.

The present study echoes previous studies that use corpus tools to uncover unarticulated differences between near-synonyms (e.g., Chief et al. 2000; Tsai et al. 1998; Wang and Chu-Ren 2017; Xiao and McEnery 2006), and extends this line of study to examine translation equivalents across languages (cf. Li, Dong and Wang forthcoming).

This study shows that **TERRORISM** and 恐怖主义 are the closest translation equivalents to each other in a wide range of situations, based on evidence gathered by the sophisticated concordancing tools working on the large scale corpora in SkE. Both words occur in the structures such as the ‘and/or’, ‘subject-verb’, ‘modifier-NP’ constructions, in which they collocate with words of similar meaning between English and Chinese.

However, the most interesting and perhaps important findings of our investigation rest on the differences between the two words pinpointed by the corpus evidence. We noted from English-Chinese parallel corpora that **TERRORISM** is not translated into 恐怖主义 from time to time, suggesting that the semantic meanings of the two words do not totally overlap. We also found their difference in semantic meaning contributes to the grammatical relations in which they participate, e.g., 恐怖主义 is heavily present in the X+noun construction (cf. 3.2).

Finally, we were able to identify alternative translations of **TERRORISM** other than 恐怖主义. Using Corpus Query Language (CQL), translators/investigators can create new queries to track down potential candidates for translation equivalents through different paths (cf. 3.3). Corpus-based queries allow the investigator to form new hypotheses, test his/her language intuition, drawing on vivid examples and distribution patterns to attempt new findings.

In terms of the balance between (or the integration of) corpus-based evidence and the investigator’s original thinking and intelligence, we hold that the latter should still play a central role. Modern concordancing platforms such as Sketch Engine provide very comprehensive, sophisticated (built-in) lexical profiling devices, generating a huge amount of (preliminary) analysis results. The staggering information can be extremely valuable, but, unfortunately, can also be overwhelming to (novice) investigators. We underscore the importance that investigators should exercise their agency, use their own language intuition and draw on their experience as translator (cf. Wang and Lim 2017), interpreter or lexicographer, to identify the key issues to pursue and sort out (new) paths of investigation meaningful to their professional practice or intellectual interests (cf. Lim 2019). In terms of methodology, triangulating the evidence from both comparable and parallel corpora was fruitful for the present study, and would be worth attempting in subsequent studies.

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