

A Multidimensional Comparative Study of the Register of English Translations of *Song* in *Shijing*

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Abstract

Shijing (Book of Songs, or Book of Poetry) is the earliest collection of Chinese poetry, consisting of three sections: *Feng* (ballads or airs), *Ya* (psalms or dynastic humns), and *Song* (Sung, sacrificial songs or odes). Among them, *Song* is the most solemn and refined, and exhibits distinct register features in phonetics, grammar, vocabulary, and pragmatics. In order to compare the register features of *Song* in *Shijing*, this study employs a multidimensional analysis method, utilizing the Multidimensional Analysis Tagger 1.3.3 to annotate and count 67 linguistic features in 11 English translations of *Song*, and employs regression modeling and other complex statistical methods to analyze the causes of register features. The results show that: 1) Pound's translation belongs to the "Learned Exposition" register, while the other translations are in the "General Narrative Exposition" register; 2) the informativeness and online information elaboration of Pound's translation are significantly higher than those of Xu Yuanhong's translation; 3) Regression modeling results reveal that the key linguistic features leading to the higher informativeness and online information elaboration in Pound's translation are "present tense" and "demonstratives." This study expands the research perspective on register analysis and provides insights and references for the English translation research of Chinese poetry.

Keywords

Shijing; *Song*; Register; Multidimensional Analysis.

1. Introduction

Shijing, the earliest collection of poetry in China, consists of 305 poems. It is divided into three sections: "*Feng* (Kuo Feng or Folk Songs)", "*Ya* (Odes)" and "*Song* (Odes of the Temple and Altar or Sung)". Among them, *Song* comprises 40 poems, including 31 pieces of *Zhou Song*, 4 pieces of *Lu Song*, and 5 pieces of *Shang Song*. These poems are ceremonial songs performed during royal ancestral worship or major ceremonies, and are considered the most solemn and elegant compositions. Due to their unique artistic form and cultural significance, the poems exhibit distinctive linguistic features in terms of phonetics, grammar, and vocabulary. Therefore, the study of English translations of *Song* is of great significance for the interpretation of ancient Chinese ritual culture, religious beliefs, and moral concepts. In the 18th century, *Shijing* was translated into English for the first time, and there are currently eleven complete English translations. Due to differences in translators' poetic conceptions, ideological orientations, and interpretive perspectives, each translation of *Shijing* exhibits different linguistic characteristics. Investigating the linguistic features of different English translations of *Song* not only helps us gain a deeper understanding of their features but also provides valuable insights and references for future translations and studies of *Shijing*. Therefore, this study employs multidimensional analysis and utilizes the Multidimensional Analysis Tagger 1.3.3 to thoroughly explore the linguistic features of eleven English translations of *Song*. Additionally, complex statistical methods such as regression modeling are employed to analyze the causes of these linguistic features. The aim is to comprehensively and accurately analyse the translation characteristics

and differences in different translations, thereby better promoting the dissemination of Chinese culture globally.

2. Literature Review

Currently, research on the English translation of *Shijing* can be broadly categorized into three directions. The first direction focuses on the study of translation strategies of *Shijing*. Researchers examine the translation strategies employed by translators from different theoretical perspectives and research methods [1-4]. The second direction is the study of dissemination. This kind of research analyzes how English translations of *Shijing* meet the needs of target language readers [5-7]. The third is the study of paratexts. Researchers in this area focus on the annotation, commentary, prefaces, and other non-translated content of *Shijing* [8-9]. In summary, the current research on *Song of Shijing* is limited, and the research methods used are relatively monotonous, with fewer applications of complex statistical methods.

3. Overview of Multidimensional Analysis Method

Multi-dimensional Analysis (MDA), first established by Professor Douglas Biber at Northern Arizona University, utilizing the LOB and London-Lund corpora, is a method that employs factor analysis and cluster analysis to automatically identify and count the frequencies of 67 language features, as well as standardize the frequency per thousand words. These features are then merged into seven dimensions (Dimension 1: Informational versus Involved Production; Dimension 2: Narrative versus Non-Narrative Concerns; Dimension 3: Explicit versus Situation-Dependent Reference; Dimension 4: Overt Expression of Persuasion; Dimension 5: Abstract versus Non-Abstract Information; Dimension 6: On-Line Informational Elaboration; Dimension 7: Academic Hedging) based on their co-occurrence patterns within respective linguistic domains. The method generates corresponding factor scores, representing the dimension values, which can be positive or negative. Additionally, this method quantifies the language features and categorizes texts into registers. However, in practical application, Dimension 7 is often omitted due to a lack of data, making it incomparable to the other six dimensions [10]. MDA has gained significant recognition in academia and has become one of the representative methods in discourse analysis within corpus linguistics [11]. Multi-dimensional analysis of register variations has also emerged as a major research approach in corpus studies [12].

4. Research Design

4.1. Research Questions

This study aims to address three questions:

Do the English translations of *Song* in *Shijing* belong to the same register?

What are the dimensions with significant differences among the translations from different register?

What are the primary differentiating linguistic features that determine these significant dimensional differences?

4.2. Research Tools and Methods

This study utilizes the Multidimensional Analysis Tagger 1.3.3 (referred to as "MAT 1.3.3"), a multidimensional annotation and analysis tool developed by Nini (2019) for automatic annotation, linguistic feature extraction, and data statistics. The tool employs eight text types, 67 linguistic features and 6 dimensions based on Biber's [13] classification. Additionally, the tool utilizes the Stanford Log-linear Part-Of-Speech Tagger for part-of-speech tagging. MAT 1.3.3 automatically identifies and calculates the frequency and standardized frequency per

thousand words of 67 linguistic features. These features are then aggregated into six dimensions through principal factor analysis, and standardized scores are computed for each dimension. Additionally, this study utilizes SPSS statistical analysis software to conduct significance tests on the dimension scores and Z-values reported by MAT 1.3.3, and employs multiple linear regression to identify the co-occurring factors that influence register variation in each dimension, which allows for a thorough exploration of the co-occurrence patterns of the 67 linguistic features. Lastly, corpus retrieval from the parallel English-Chinese corpus of *Shijing* is performed to provide qualitative examples and support from a qualitative perspective.

4.3. Research Tools and Methods

This study selected a total of 11 complete translations of *Song of Shijing*. The specific information about these translations is as follows:

Table 1. Composition of the Corpus of English Translations of *Shijing*

Number	Year of Publication	Title	Translator	Publisher
1	1871	The Shi King, or The Book of Poetry	James Legge	Lane, Crawford & Co.; Trübner & Co.
2	1876	The She King or The Book of Ancient Poetry	James Legge	Trubner & Co.
3	1891	The Shi King - The Old "Poetry Classic" of the Chinese	William Jennings	George Routledge and Sons
4	1891	The Book of Chinese Poetry: Being the Collection of Ballads, Sagas, Hymns, and Other Pieces Known As the Shih Ching, Or Classic of Poetry	Allen, Clement Francis Romilly	Kegan Paul, Trench, Trubner
5	1937	The Book of Songs - The Ancient Chinese Classic of Poetry	Arthur Waley	Grove Press
6	1950	The Book of Odes	Klas Bernhard Johannes Karlgren	Museum of Far Eastern Antiquities
7	1954	The Classic Anthology Defined by Confucius	Ezra Pound	Faber and Faber Ltd.
8	1993	Book of Poetry	Xu Yuanchong	China Translation & Publishing Corporation
9	1995	The Book of Poetry	Wang Rongpei, Ren Xiuhua	Liaoning Education Publishing House
10	1999	The Book of Songs	An Zengcai, Tang Zihuan, Liao Qun	Shandong Friendship Publishing House
11	2019	Book of Songs in English Rhyme	Zhao Yanchun	Higher Education Press

Due to the omission of titles in Pound's translation, this study conducted a process of de-heading for all translations to ensure their comparability. The number of token in the 11 English translations of *Shijing* are as follows: 5,136, 6,374, 4,359, 5,885, 4,336, 5,107, 4,348, 3,929, 4,582, 5,915, and 3,870, with a total of 53,841 tokens. The corpus has two main characteristics: 1) a wide time span. The collected corpus for this study includes the first complete translation (James Legge's translation in 1871) and the latest complete translation (Zhao Yanchun's *Book of Songs in English Rhyme* in 2019), spanning nearly 150 years; 2) strong comparability. The de-heading process ensures that all translations are based on the same original work, but there are

certain differences among the translations due to factors such as era and poetic perspectives, which still allows for a strong level of comparability.

5. Results and Discussion

5.1. Comparison of Dimensional Differences in English Translations of *Song of Shijing*

In this study, the 11 English translations of *Song* were compiled into TXT through OCR text recognition and manual correction. These documents were then imported into MAT 1.3.3 to obtain their dimensional values, as follows:

Table 2 Register Categorization for the English Translations of *Song*

Year	Translator	Dimension 1	Dimension 2	Dimension 3	Dimension 4	Dimension 5	Dimension 6	Register
1871	James Legge	-8.25	1.48	5.82	-2.87	0.37	-1.73	General narrative exposition
1876	James Legge	-10.33	0.21	3.48	-1.19	1.28	-1.08	General narrative exposition
1891	William Jennings	-5.58	0.27	2.51	-4.93	-0.08	-1.36	General narrative exposition
1891	Allen, Clement Francis Romilly	-8.57	0.97	5.34	-1.44	-0.12	0.1	General narrative exposition
1937	Arthur Waley	-7.8	2	5.55	-4.83	-1.8	-1	General narrative exposition
1950	Klas Bernhard Johannes Karlgren	-3.1	-0.41	7.81	-5.27	-2.21	-1.62	General narrative exposition
1954	Ezra Pound	-18.17	1.87	3.91	-2.91	-1.6	-0.97	Learned exposition
1993	Xu Yuanchong	-10.43	-0.59	5.05	-0.47	-1.38	-2.55	General narrative exposition
1995	Wang Rongpei, Ren Xiuhua	-10.96	-1.22	5.76	-1.92	-0.44	-2.66	General narrative exposition
1999	An Zengcai	-9.9	-1.32	9.69	-1.74	1.82	-1.79	General narrative exposition
2019	Zhao Yanchun	-5.04	-1.22	3.49	-3.01	-1.4	-3.07	General narrative exposition

The results from MAT 1.3.3 indicate that the register of Pound's translation belongs to "Learned Exposition." Texts in this register are typically formal information expositions that focus on conveying information, such as official documents, news commentaries, and academic essays. The other translations of *Song* belong to "General Narrative Exposition." Texts in this domain emphasize conveying information through narrative, such as news reports, newspaper editorials, biographies, and science fiction novels.

5.2. Comparison of Dimensional Differences between Pound's Translation and Wang and Ren's

To further explore the register features and their forming causes in Pound's translation, this study selected *The Book of Poetry* (translated by Wang Rongpei and Ren Xiuhua) included by *Library of Chinese Classics* as a reference. The two translations were divided into 40 TXT documents and imported into MAT 1.3.3 respectively. The average dimensional values obtained are as follows:

Table 3 Analysis of the Dimensional Differences Between Pound's and Wang and Ren's Translations

Dimension	Pound's Translation (N=40)		Wang and Ren's Translation (N=40)		Mean Difference	t	Sig.
	Mean	Standard Deviation	Mean	Standard Deviation			
Dimension 1	-8.39	9.869	-3.23	11.327	5.157	-2.171	0.033
Dimension 2	1.16	8.206	-1.85	5.265	3.016	1.956	0.055
Dimension 3	2.56	5.819	5.37	9.815	2.817	-1.561	0.123
Dimension 4	-2.43	5.042	-1.02	6.268	-1.413	-1.111	0.270
Dimension 5	-1.69	2.960	0.16	7.902	1.851	-1.388	0.171
Dimension 6	-0.98	2.342	-2.70	1.704	1.720	3.755	0.000

Table 4. Analysis of Differences in Linguistic Features Calculated for Dimension 1 and Dimension 3 in Pound's and Wang and Ren's Translation of *Song in Shijing*

Number		Linguistic Feature	Pound's Translation	Wang and Ren's Translation	t	Sig.
1		AMP	-0.8492	-1.0400	1.771	0.084
2		ANDC	-0.0780	0.5152	-1.1335	0.186
3		AWL	-0.6370	-0.6123	-0.118	0.906
4		CAUS	-0.6500	-0.4633	-1.000	0.323
5		DEMP	-0.3625	-0.8783	2.050	0.047
6		DPAR	-0.5037	0.0440	-1.898	0.065
7		EMPH	-1.1397	-0.4283	-2.006	0.049
8		FPP1	-0.0390	0.2635	-1.059	0.293
9		INPR	-0.1213	-0.2163	0.209	0.835
10		JJ	1.4382	0.5638	1.836	0.070
11		NN	3.8897	2.5680	3.626	0.001
12	Dimension 1	PIN	-0.0170	-0.3853	1.098	0.276
13		PIT	-0.6987	-0.8227	0.372	0.711
14		POMD	-0.9865	-0.1048	-1.690	0.096
15		SPP2	-0.1680	-0.0530	-0.363	0.718
16		TTR	-6.2067	-6.5383	0.649	0.518
17		VPRT	-0.9943	0.0560	-4.827	0.000
18		XXO	-0.3612	-0.8955	1.755	0.083
19		BEMA	-0.8645	-0.7743	-0.180	0.857
20		CONT	-0.4720	-0.2323	-1.560	0.124
21		PRIV	-0.6120	-1.0967	1.895	0.062
22		PROD	-0.6277	-0.5132	-0.431	0.668
23		STPR	0.2145	-0.2383	0.994	0.323
24		THATD	-0.6098	-0.7600	1.387	0.173
25	Dimension 6	DEMO	-0.5352	-1.5615	2.426	0.018
26		THVC	-0.4467	-1.1400	2.649	0.012

According to Table 1, Pound's and Wang and Ren's translations have significant differences in Dimension 1 and Dimension 6, with p-values less than 0.05. Dimension 1 represents the interactivity and informativeness of texts. This dimension is influenced by a range of language features, such as second-person pronouns and nouns. A higher value in this dimension indicates higher interactivity, such as in daily conversations, while a lower value indicates higher informativeness, such as in academic essays. The lower score of Pound's translation in this dimension suggests that Pound's translation has stronger informativeness. Dimension 6 represents the spontaneity and finesse of information organization. This dimension is influenced by factors like noun phrases with post-modification. A higher value in this dimension indicates higher finesse in spontaneous information organization, such as in speech discourse. In Dimension 6, Pound's translation significantly outperforms Wang and Ren's translation, indicating that Pound's translation demonstrates higher finesse in spontaneous information organization. An independent samples t-test was conducted on the variables involved in Dimension 1 and Dimension 6 of the two translations to determine the significant differences in linguistic features. The results are as Table 4.

The results show that there are 4 variables with significant differences between Pound's and Wang and Ren's translation on Dimension 1, which are DEMP (demonstrative pronouns), EMPH (emphatics), NN (total other nouns) and VPRT (present tense), accounting for 16.7% of all variables on Dimension 1. The two linguistic features (DEMO, THVC) participating in the calculation under Dimension 6 also have significant differences. The following explains the factors influencing the above two dimensions.

5.2.1. Comparison of Factors Affecting Dimension 1 in Pound's and Wang and Ren's Translations of *Song*

Dimension 1 represents the interactivity and informativeness of texts, with a total of 34 linguistic features, including PRIV (private verbs), TTR (type-token ratio), VPRT (present tense), AWL (word length), etc. For some linguistic features that participate in the calculation of multiple dimensions, if their loadings on other dimensions are greater than on the current dimension, they will not be included in the calculation of the current dimension [10]. In addition, Biber [13] stipulates that factors with loadings less than 0.35 on all dimensions will not be included in the calculation. There are 5 linguistic features in Dimension 1, such as conditional adverbial clauses and locative adverbs, whose loadings on other dimensions are higher than on Dimension 1, and are therefore excluded. The linguistic feature "Present Participial WHIZ Deletions" is also excluded because its factor loading on any dimension is less than 0.35. Furthermore, Nini (2019) stipulates that linguistic features with a mean Z-score less than 1 according to Biber [13] will not be included in the calculation. Therefore, there are only 24 linguistic features actually involved in the calculation of Dimension 1 scores.

Using SPSS statistical analysis software, a stepwise regression analysis was conducted on the 24 linguistic features of Pound's and Wang and Ren's translation in Dimension 1. The results are as follows:

Table 5. Parameter Table of the Top 5 Variables with the Best Predictive Strength in the Stepwise Regression Models for Dimension 1 in Pound's and Wang and Ren's Translations

Model	R	R Square	Adjusted R-square	Standard Error of Estimate
Pound's Translation	0.924	0.853	0.832	4.04640
Wang and Ren's Translation	0.900	0.810	0.782	5.29458

Table 6. Stepwise Regression Coefficients for Dimension 1 in Pound's and Wang and Ren's Translations

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
Pound's Translation	(Constant)	-3.475	1.242		-2.797	0.008
	AWL	-3.446	0.651	-0.375	-5.293	0.000
	XXO	2.878	0.439	0.440	6.563	0.000
	VPRT	3.408	0.745	0.316	4.572	0.000
	POMD	1.724	0.435	0.268	3.965	0.000
	BEMA	1.137	0.324	0.240	3.511	0.001
Wang and Ren's Translation	(Constant)	-0.286	1.023		-0.280	0.781
	FPP1	2.493	0.678	0.326	3.678	0.001
	BEMA	1.764	0.420	0.372	4.202	0.000
	POMD	1.191	0.320	0.307	3.718	0.001
	CAUS	3.285	0.858	0.343	3.828	0.001
	TIME	1.303	0.436	0.233	2.991	0.005

As can be seen from Table 6, the regression results show that the five most explanatory linguistic features for Dimension 1 of Pound's translation are AWL, XXO (analytical negation), VPRT, POMD (possibility modals) and BEMA (be as main verb). These 5 variables can explain 85.3% of the variance in Pound's translation on this dimension ($R^2=0.853$). The standardized regression equation is: Dimension 1 (Pound's translation) = $-3.446*AWL+2.878*XXO+3.408*VPRT+1.724*POMD+1.137*BEMA$. Among them, the regression coefficients of XXO, VPRT, POMD and BEMA are positive, while that of AWL is negative, indicating that the more analytical negation, present tense, possibility modals and be as main verb are used, the higher the interactivity of the text is; the longer the average word length, the more informative the text. The first 3 variables contribute over 0.05 to the change in R-square, indicating that compared with possibility modals and be as main verb, average word length, analytical negation and present tense are more explanatory for the strong informativeness of Pound's translation. Combined with Table 4, it can be seen that there are no significant differences in the use of average word length, analytical negation, possibility modals and be as a main verb between Pound's translation and Wang and Ren's translation ($p>0.05$). Therefore, the most distinctive linguistic feature that can explain the higher informativeness of Pound's translation is present tense.

The five variables that contribute the most to the explanation of Wang and Ren's translation are "FPP1" (first-person pronouns), "BEMA," "POMD," "CAUS" (causative adverbial subordinators), and "TIME" (temporal adverbial). These five variables can explain 81.0% of the variance in this dimension ($R^2 = 0.810$). The standardized regression equation for this dimension is as follows: Dimension 1 (Wang and Ren's) = $2.493*FPP1+1.764*BEMA+1.191*POMD+3.285*CAUS+1.303*TIME$. The regression coefficients of the five linguistic features are all positive, indicating that the more first-person pronouns, be as main verb, possibility modals, causative adverbial subordinators, and temporal adverbials are used, the higher the interactivity of the text is. The first two variables contribute a change in the R-squared value of more than 0.05, indicating that compared to possibility modals, causative adverbial subordinators, and temporal adverbials, the use of first-person pronouns and be as main verb has a stronger explanatory power for the higher interactivity of Wang and Ren's translation. Combining the regression coefficients of VPRT, it can be observed that Wang and Ren's translation uses more present tense significantly compared to Pound's translation, thus contributing more to the interactivity of Wang and Ren's translation, which

makes Pound's translation being more informative while Wang and Ren's translation more interactive.

With the help of the bilingual parallel corpus of *Shijing*, we conducted a retrieval. Here are the example:

Example 1:

Source text:

振鹭于飞，于彼西雝。我客戾止，亦有斯容。在彼无恶，在此无斁。庶几夙夜，以永终誉。

Pound's Translation: Egrets to fly to this West Moat, guests at my portal be such cause for joy. No hate roots there, and here in court no irk, but as the seeds of motion are to all their folk, early and late cause praise.

Wang and Ren's Translation: A flock of egrets fly To the western marsh nearby. Here come my honoured guests; In egret white are they dressed. There at home, they ne'er do harms; Here abroad, they have their charms.

This is a hymn praising the rulers of Qi and Song States, the descendants of the kings in Xia and Shang dynasty, who came to assist in the sacrificial ceremony at the ancestral temple of the Zhou dynasty. The poem praises the virtuous conduct and dignified appearance of the guests who came to Zhou, possibly performed as a song to entertain the vassals who came to pay homage to the Zhou King [14]. The meaning of the source text is as follows: "Flocks of white egrets fly in the waters to the west. When my guests arrive, they also display such grace. In that country, no one dislikes them, and here, no one rejects them. They are diligent from dawn till sundown, so they maintain their reputation forever." [15].

Pound, as the initiator of the imagist poetry movement, emphasizes the significant role of imagery in poetry. He believes that "it is better to present a single image than to write thousands of books". His poetic theory is characterized by "emotional presentation through imagery, concise and modern language, and natural and smooth rhythm" [16]. In his English translation of "Zhen Lu" (振鹭), Pound directly translates some of the imagery, such as rendering "西雝" as "West Moat," in order to recreate the original poem's artistic conception. He also transforms and expands some of the imagery by introducing new elements to convey deeper emotions and artistic connotations. For instance, he uses "the seeds of motion" to replace the original phrase "庶几夙夜", symbolizing the perseverance and expressing the expectation for the everlasting reputation of the ruler. The translation as a whole is flexible and imaginative, deepening the artistic conception and emotions of the original poem, and displaying the distinctive characteristics of imagist poetry.

Wang Rongpei, as a master translator of Chinese classics, advocates the translation philosophy of "conveying the meaning in its full flavor." "In its full flavor" refers to conveying the essence of the original work, including its form, tone, imagery, and figures of speech. "Conveying the meaning" emphasizes expressing the meaning of the original work, particularly its deep meaning, while also taking into account the surface meaning [17]. In the translation of the above poem, Wang and Ren's translation respects the original work while maintaining a regular syllable pattern, harmonious rhythm, and concise and clear sentence structures. Their translation makes precise restorations of the original work's form, imagery, and charm. This results in a more vivid and powerful translation that is emotionally direct, authentic, and highly interactive, which allows readers to easily comprehend and appreciate the profound meaning and charm of the original poem and facilitates emotional resonance with readers, thereby achieving successful cross-cultural communication.

5.2.2. Comparison of Factors Affecting Dimension 6 in Pound's and Wang and Ren's Translations of *Song*

Dimension 6 distinguishes on-line informational elaboration and consists of 9 variables, including THAC (that adjective complements), DEMO (demonstratives), TOBJ (that relative clauses on object position), THVC (that verb complements), STPR (stranded preposition), EX (existential there), DEMP (demonstrative pronouns), WHOBJ (WH relative clauses on object position), and PHC (phrasal coordination). Among these, EX and DEMP have factor loadings below 0.35 in all 7 dimensions. STPR has a higher loading in dimension 1. WHOBJ and PHC have larger loadings in dimension 3. The average Z-scores for THAC and TOBJ are less than 1. Therefore, only two variables, namely DEMO and THVC, are actually involved in the calculation of dimension 6. With the assistance of SPSS, a stepwise regression analysis was performed on DEMO of Pound's and Wang and Ren's translations in dimension 6. The results are as follows:

Table 7. Parameter Table of the Top 5 Variables with the Best Predictive Strength in the Stepwise Regression Models for Dimension 6 in Pound's and Wang and Ren's Translations

Model	R	R Square	Adjusted R-square	Standard Error of Estimate
Pound's Translation	0.724	0.525	0.512	1.63540
Wang and Ren's Translation	1.000	1.000	1.000	0.00000

Table 8. Stepwise Regression Coefficients for Dimension 6 in Pound's and Wang and Ren's Translations

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Pound's Translation	(Constant)	-0.542	0.267		-2.026	0.050
	DEMO	0.823	0.127	0.724	6.478	0.000
Wang and Ren's Translation	(Constant)	1.140	0.000		2.054E8	0.000
	DEMO	1.000	0.000	1.000	4.137E8	0.000

The regression results (Table 8) show that the most significant linguistic feature for explaining the scores in Dimension 6 of Pound's and Wang and Ren's translations is DEMO, namely demonstrative pronouns. The linguistic feature accounts for 52.5% of the variation in Pound's translation ($R^2 = 0.525$) and 100% of the variation in Wang and Ren's translation ($R^2 = 1.000$) in this dimension. The standardized regression equations are as follows: Dimension 6 (Pound's translation) = $0.823 \cdot \text{DEMO}$; Dimension 6 (Wang and Ren's translation) = $1.000 \cdot \text{DEMO}$. The positive regression coefficients for this language feature indicate that as the usage of demonstrative pronouns increases, the information organization precision of the texts also increases. Cohesion in unplanned informational discourse relies heavily on demonstratives. [13] The more demonstrative pronouns are used, the closer the cohesion of the text. Combining with Table 4, we can see that Pound's translation utilizes demonstrative pronouns significantly more than Wang and Ren's translation, which is the main reason for the higher on-line informational elaboration in Pound's translation.

With the help of the bilingual parallel corpus of *Shijing*, we conducted a retrieval. Here are the example:

Example 2:

Source

text:

於赫汤孙！穆穆厥声。庸鼓有斲，万舞有奕。我有嘉客，亦不夷怍。自古在昔，先民有作。温恭朝夕，执事有恪，顾予烝尝，汤孙之将。振鹭于飞，于彼西雝。我客戾止，亦有斯容。在彼无恶，在此无斲。庶几夙夜，以永终誉。

Pound's translation: Tangs might is terrible with a sound as clear and sane as wind over grain. Steady drum going on, here be guests of state to us all one delight. From of old is this rite former time's initiate, calm the flow early and late from sun and moon concentrate in the heart of every man since this rite began. Attend, attend, bale-fire and harvest home, Tangs heir at the turn of the moon.

Wang and Ren's translation: Ah, renowned Tang's scion, The music is so sublime. The sounds of bells and drums rise high; The grand performance is on display. Here my worthy guests stand by, All of them happy and gay. In days gone by, the ways of the rite Were already fixed by former men. Mild and pious day and night, They held the service time and again. May our ancestors heed the offering Tang's scions prepare and bring.

This is a ceremonial song performed by the Duke of Song during the Spring and Autumn period to worship his ancestors [14]. The meaning is as follows: "Ah, the illustrious descendants of King Tang, with the harmonious and beautiful music! The harmonious sound of bells and drums, and the dances appear divine. I assist in the sacrificial rites with hospitality, and I also appreciate harmonious melodies. Since ancient times, our ancestors have acted in this manner, being respectful and cautious from morning till night. I bear in mind my responsibility in conducting the winter and autumn rituals, as a collaborator among the descendants of King Tang" [15].

Pound's translation uses "this rite" twice, clearly indicating the referent and emphasizing the uniqueness and importance of the ritual. The use of the demonstrative pronoun "this" enhances the expressiveness and semantic precision of the text, resulting in higher information organization. On the other hand, Wang and Ren's translation focuses on capturing the original meaning, rhythm, and emotions. The sentences are concise and flow smoothly, catering to the habits and preferences of modern readers. Additionally, the use of adjectives and adverbs as modifiers highlights the solemnity and grandeur of the ritual, providing readers with a deeper cultural experience.

6. Conclusion

This study employed the method of multidimensional analysis and utilized the tool of Multidimensional Analysis Tagger 1.3.3 to classify the register of 11 English translations of *Song of Shijing*. It was found that Ezra Pound's translation exhibited distinct register compared to other translations. To further explore the factors influencing the register, this research conducted a comparison between Pound's translation and the translation by Wang Rongpei and Ren Xiuhua across six dimensions. The results shows that Pound's translation has significantly lower score in Dimension 1 compared to Wang's translation, and higher score in Dimension 6. This suggests that Pound's translation demonstrated stronger informativeness and on-line informational elaboration, while Wang and Ren's translation exhibited greater interactivity. Regression modeling of the two translations in Dimensions 1 and 6 revealed that Wang's translation made greater use of the present tense, leading to higher interactivity, while Pound's translation employed more demonstrative pronouns, resulting in higher information organization. The method of multidimensional analysis is effective in distinguishing variations in register and revealing the linguistic features influencing such differences. This approach

holds significant value for quantitatively describing the styles of multiple translations [10]. However, further exploration is required to investigate the various factors influencing translation styles, such as translator subjectivity, ideology, and poetics. In light of this, additional research is planned to gain a deeper understanding of the multiple factors influencing translation styles and their relationship with register variation.

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References

- [1] Li Yuliang. Deviations in Translating Vernaculars in *Shijing* Poems and Variation of Their Poetic Function - With Special Reference to the Translation of Guanju, Shandong Foreign Language Teaching Journal, (2014) No.1, p91-96.
- [2] Qin Fangfang & Chen Shujun. Difficulties and Solutions to the English Translations of Plant Metaphors and Images in the Book of Poetry, Journal of Hubei Minzu University(Philosophy and Social Sciences), (2018) No.5, p170-175.
- [3] Zhang Guangfa & Wenjun. The Dynamicity of the Strategies for the Translation of Classical Chinese Poetry: A Case Study of The Book of Poetry Translated by James Legge, Foreign Language and Literature (Bimonthly), Vol 37 (2021) No.1, p95-104.
- [4] Feng Quangong & Dong Wenjie. On James Legge's Translation Revision in His Retranslation of *Shijing*: With Emphasis on the Analysis of His Two English Versions of Guofeng, Chinese Culture Research, (2021) No.4, p160-169.
- [5] Zuo Yan. The Narrativization of Lyric Poems in Romilly Allen's Translation of the *Shih Ching*, Chinese Translators Journal, (2019) No. 5, p48-56.
- [6] Wang Hongjuan. The Spread of The Book of Songs in the English World and the Mode of Communication of Classical Poetry, Journal of Harbin Institute of Technology(Social Sciences Edition), Vol 22 (2020) No. 4, p123-129.
- [7] Li Guangwei: On the English Translation and Dissemination of *Shijing* or The Book of Poetry from the Perspective of Hermeneutics. (Fujian Normal University, Fujian 2021).
- [8] Cai Hua. Situating Covert References and Overt Inferences in Western English Translations of Chinese Classical Poetry, Foreign Languages and Their Teaching, (2016) No. 1, p107-115+149.
- [9] Teng Xiong & Wen Jun. A Study of the Three English Translations of the Subtext of James Legge's *Shijing*, Foreign Language Teaching, (2017) No.3, p79-85.
- [10] Zhao Chaoyong. Using Corpus-based Multidimensional Analysis for the Comparative Description of Translator's Style, Foreign Language Learning Theory and Practice, No. 3, 67-73, 84.
- [11] Jiang Jinlin & Xu Jiajin. A Corpus-based Multi-dimensional Analysis of Business English Registers, Foreign Language Teaching and Research, (2015) No.2, p225-236.

- [12] Li Tao, Zhao Kun & Xu Hai. New Developments in Corpus Research - A Corpus-based Bibliometric Analysis of the CL2019 Abstracts, *Foreign Language Research*, (2022) No.4, p1-10.
- [13] D. Biber: *Variation across Speech and Writing* (Cambridge University Press, Britain 1988), p.683-685.
- [14] Cheng Junying & Jiang Jianyuan: *Commentary on Shijing* (Zhonghua Book Company, Beijing 2017).
- [15] Zhou Zhenfu: *Interpretation and Annotation on Shijing*. (Zhonghua Book Company, Beijing 2002).
- [16] Liu Xiaomei & Li Linbo. Plant Imagery of Pound's English Translation of Shih Ching. *Foreign Language Education*, Vol 37 (2016) No.6, p101-104.
- [17] Wang Rongpei. *After the Translations of the Six Dynasties of Han and Wei*, *Foreign Languages and Their Teaching*, (1997) No.2, p38-42.