Wmatrix-Based Comparative Research on Chinese Youth Metaphors

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Abstract: This study employs the semantic domain coding tool USAS from the Wmatrix corpus and the MIPVU metaphor identification procedure to examine the metaphors of Chinese youth in the English translations of To the Youth and China's Youth in the New Era. A comparative analysis is conducted on the characteristics of Chinese youth metaphors in these two texts separated by over a century. Statistical results reveal that a total of 11 metaphorical patterns of Chinese youth emerge across both texts. In the English translation of To the Youth, the source domains of youth metaphors concentrate on humans, animals and plants, competition, and warfare, with a predominantly neutral and negative semantic prosody. In contrast, the English translation of China's Youth in the New Era features source domains including humans, animals and plants, competition, architecture, and art, exhibiting an overall positive and uplifting semantic prosody. The research analysis identifies that the historical contexts in which the two texts were produced constitute a significant factor contributing to the differences in Chinese youth metaphors.

1. Introduction

Metaphor serves as a crucial cognitive mechanism through which people comprehend and express concepts [1], with distinct social eras giving rise to unique metaphorical systems [2]. Employing textual corpus methods to investigate metaphors in natural discourse can mitigate the subjectivity and limitations inherent in introspective approaches while enhancing the objectivity and social relevance of metaphor research [3]. In recent years, corpus-based metaphor studies have emerged as a prevailing trend in modern metaphor research [4].

In 1915, Chen Duxiu, a founding member of the Communist Party of China, published To the Youth in the inaugural issue of Youth Magazine, which conveyed the core ideas of enlightenment intellectuals during the May Fourth period regarding the transformation of Chinese youth. In 2022, to mark the 100th anniversary of the Communist Youth League of China, the State Council Information Office released the white paper China's Youth in the New Era, depicting the distinctive demeanor and mission of Chinese youth in the new era. Both texts hold significant guiding significance for the development of Chinese youth in two distinct historical periods. The white paper China's Youth in the New Era was concurrently published with an official English translation under the same title. As To the Youth lacks an official English version, the research team developed the English translation used in this study by synthesizing multiple existing translations based on a comprehensive understanding of the original text.

This study takes the English translations of To the Youth and China's Youth in the New Era as research corpora. It employs Paul Rayson's Wmatrix semantic domain coding tool USAS [5] and Steen et al.'s MIPVU metaphor identification procedure [6] to conduct metaphorical word retrieval, semantic domain query, and metaphorical source domain identification for Chinese youth metaphors in the two texts. The similarities and differences of Chinese youth metaphors between the two historical periods are comparatively analyzed in conjunction with their respective historical contexts.

2. Research Process and Methods

First, the English translations of To the Youth and China's Youth in the New Era were subjected to corpus cleaning and uploaded to Wmatrix in plain text format. Corpus data indicates that the English translation of To the Youth contains 4,392 tokens and 1,125 types, while the English translation of China's Youth in the New Era comprises 8,328 tokens and 2,109 types. with a type-token ratio of 0.256. As to the English translation of Chinese Youth in the New Era, it has 8,328 tokens and 2,109 types with a type-token ratio of 0.253. Though differing in scale, the above two corpora both provide sufficient data for the follow-up metaphor analysis, as their token counts meet the minimum threshold for reliable metaphor frequency statistics [7], and the stable type-token ratios indicate consistent lexical diversity across the texts, which helps avoid skewed metaphor distribution caused by repetitive wording. This data also lays the groundwork for comparing metaphor density (metaphorical tokens per 1,000 words) between the two historical periods' discourses on youth.

Second, British English 2021 was selected as the reference corpus in Wmatrix 7 to run the system, generating a list of thematic semantic domains (with $LL \geq 6.63$, $df = 1$, $p < 0.01$). Compared with the reference corpus, the English translation of To the Youth yielded 120 thematic semantic domains, and the English translation of Chinese Youth in the New Era obtained 126 thematic semantic domains. Then to generate corresponding word lists, the corpus tool "USAS tagger" was used for semantic domain annotation. Taking "Chinese youth" as the target domain, the search terms in this corpus were identified as youth, young, they, them, and their. Moreover, the term young collocates with words such as people, generation, and Chinese to refer to the Chinese youth group. Meanwhile, the pronouns including they, them, and their are used anaphorically to denote Chinese youth. After searching and screening, a total of 113 concordance lines for "Chinese youth" were obtained from the English translation of To the Youth, and 435 concordance lines for "Chinese youth" were retrieved from the English translation of Chinese Youth in the New Era.

Then, MIPVU [6] was applied to identify metaphors in the words surrounding "Chinese youth" in the concordance lines. The main steps of metaphor identification are as follows:

1) Determine the basic meaning and contextual meaning of the word;

2) Judge whether there is a difference between the basic meaning and the contextual meaning of the word;

3) Examine whether there is a similarity relationship between the referents of the word's basic meaning and contextual meaning. If a similarity relationship exists, the word can be identified as a metaphorical vehicle [8].

To reduce subjectivity and avoid ambiguity, this study referred to the Macmillan English Dictionary for Advanced Learners and the Online Etymology Dictionary in determining the basic and contextual meanings of words. The following example of "environment" illustrates the usage of MIPVU identification:

Excerpt (1): They are not adapted to the environment in which they are struggling to survive (From To the Youth).

Excerpt (2): ..., the current young generation enjoys an enabling environment for development (from Chinese Youth in the New Era).

The basic meaning of the term   "environment" refers to the natural environment consisting of soil, water, plants, etc. In the two example sentences, the contextual meaning of environment refers to the social environment where humans live and work. This usage maps the adaptation of animals to the natural environment onto the adaptation of humans to the social environment, forming a partial similarity mapping between the two domains. This meets the MIPVU identification criteria and environment is thus identified as a metaphorical term.

3. Research Findings and Discussion

3.1. Metaphorical Types of Chinese Youth

With the help of the Wmatrix USAS tool and   MIPVU metaphor identification procedure,   the distribution of metaphorical source domains and their linguistic realizations across both texts can be

achieved as shown in Table 1:

Table 1. Partial Alignment between Source Domains and Metaphorical Carriers for Chinese Youth

Metaphor Category	Semantic Source Domain	Metaphorical Carrier Words	
		To the Youth	**Chinese Youth in the New Era**
Human Beings	S2 [People]	slaves(2), awaken, expelled, begging, enslave, wandering	dreams(6), shoulder(4), stand(4), rise(3), vision(2), uphold(2)
Objects	O[Substances]	shallow(2), clean(2), old(2), tiny, knife, sink, transform	new(17), energy(2), hone(2), vibrancy, bright, broader, deeper
Competition	S7.3[Competition]	development(2), struggling(2), achieved(2), compete, aim	development(14), develop(7), strive(4), pursue(4), partners(3)
Warfare	G3[Warfare]	fight(4), eliminate(3), retreat(2), seize(2), survival, enemies	force(2), protected(2), combat(2), mission(2), vanguard
Movement	M1[Moving]	moving(2), accelerate(2), follow, stepping, halfway	path(2), movement, orientation, forward, closer, beyond
Living Things	L1[Living Things]	stale(7), fresh(5), rotten(5)	grow(9), growing(4), fields(2), grassroots(2), prosper(2)
Architecture	H1[Architecture]	constructed	building(3), support(3), shape(2), foundation(2), channels(2)
Health/Disease	B2 [Health& Disease]	germs, poisons, infected	healthy, healthily
Time	T [Time]	spring, sunrise, early	spring
Arts/Sports	K[Arts & Sports]	play	role(3), performed(2), display(2)
Economy	I [Money& Commerce]	—	workforce(2), producer, bonus, exchange, leverage, beneficial

Note: Numbers in brackets indicate frequency of occurrence in the corpus. Absence indicates a single occurrence.

The analysis reveals that both texts exhibit a high density of metaphorical references relative to their respective lengths, spanning eleven distinct conceptual domains including human, object, competition, warfare, and movement metaphors. This multidimensional mapping underscores the complexity of discursive constructions of youth identity.

3.2. Comparative Analysis of Youth Metaphors

(1) Metaphorical Pattern Parallels and Divergences

On the one hand, Table 1 indicates that the two texts share 10 common categories of conceptual metaphors about Chinese youth, reflecting similarity in their conceptualization of Chinese youth. Specifically, Chinese youth are metaphorically described as spring (i.e., the spring season) symbolizing renewal, urging them to advance, emphasizing development, and portraying struggle as path to achievement in both texts; meanwhile, both discourses call on Chinese youth to move forward, develop, and strive, as these actions are framed as prerequisites for achieving achievements.

On the other hand, To the Youth employs "health and disease" metaphors with greater frequency. For instance, "germs and poisons" in it is used to characterize Chinese youth who were apathetic and dispirited living in those unstable historical times, revealing the author's implicit disapproval. Whereas Chinese Youth in the New Era exhibits greater richness in the semantic source domains of metaphors for Chinese youth, especially in the realms of architectures, performance, and economy. For example, Chinese youth were praised as "model roles", who are further expected to serve as the workforce driving economic growth in nowadays China. Another significant disparity lies in the

absence of economic metaphors in the earlier text's translation, reflecting evolving sociopolitical priorities.

(2) Semantic Prosodic Variations

At the macro-level, the conceptual metaphor patterns of Chinese youth in the English translations of To the Youth and Chinese Youth in the New Era overlap to a great extent, with recurring patterns such as "Chinese youth are plants", "Chinese youth need to fight" and "Chinese youth should keep advancing". However, significant micro-contextual disparities can be identified in semantic prosodies. Following Li & Wei's definition, semantic prosody refers to "attitudinal meaning emerging from the integration of search terms, semantic orientation, and collocational context"[9]. These prosodies manifest along a tripartite spectrum: positive, negative, or neutral.

For example, within the plant metaphor cluster ("youth are plants"), stark contrast emerges: the early text's rendering in To the Youth employs decay-associated lexemes (decay, rotten, stale), collectively conveying a negative semantic prosody. Conversely, Chinese Youth in the New Era utilizes vitality-infused terms (fresh, growing, thrive), projecting an unequivocally positive semantic prosody. The positive (+) and negative (-) markers in the semantic domain tagging of the Wmatrix corpus facilitate the identification of semantic prosody. Taking person metaphors as another example, the semantic source domains of Chinese youth metaphors in the English translation of To the Youth (e.g., slave [S7.1-], spurned [X7-], retire [I3.1-], hide [A10-], idle [A1.5.1-]) generally exhibit a negative semantic prosody. By contrast, the English translation of China's Youth in the New Era contains terms like uphold [S8+], rise [N5+], lead [S7.1+], delight [E4.1+], and make [X9.2+], all of which reflect a positive semantic prosody.

The vehicle words of Chinese youth metaphors, when combined with term collocations and specific contexts, construct distinct portrayals of Chinese youth and convey intense, rich emotional connotations. For example, in the English translation of To the Youth, on the one hand, metaphors with vehicle words such as ferocious, stale, rotten, and decaying are employed to severely criticize the ignorant, apathetic, retreating, and reclusive Chinese youth of that era; on the other hand, metaphors featuring vehicle words like fresh, growing, sprouting, and leap are used to express the hope that Chinese youth would awaken, pursue knowledge, be brave, and forge ahead.

(3) Comparative Analysis of Historical Contextualization of Youth Metaphors

Metaphors constitute pragmatic linguistic phenomena shaped by sociocultural milieus, bearing intricate interrelations with historical backgrounds [10]. Separated by a century, To the Youth (1905) and Chinese Youth in the New Era (2022) reflect disparate era-specific characteristics in their respective youth metaphorizations. Table 2 below juxtaposes their temporal contexts to elucidate foundational disparities driving metaphorical divergence:

Table 2. Sociohistorical Parameters of Textual Production

Criterion	To the Youth	Chinese Youth in the New Era
Publication Year	1905	2022
Historical Period	Turbulent Pre-New Democratic Revolution	Flourishing Socialist Modernization
Social Status Quo	Closed-door policy; frail statehood; existential crisis	Reform & opening-up; rapid economic growth; sustained social stability
Historical Mission	Safeguarding territorial integrity; reviving Chinese nationhood	Building a great modern socialist country; realizing the great rejuvenation of the Chinese nation
Youth Status	A minority: fresh and vibrant; a portion: world-avoiding and reclusive; the majority: dispirited and listless	Pioneering and innovative, standing at the forefront of the times; resolute in reform, striving and forging ahead; radiant demeanor and bold passion
Youth's Political Orientation	In a state of confused choice	Reserve force and assistant of the Communist Party of China (CPC)
State Youth Policies	Absent	Prioritized development for youth

Metaphor serves as a crucial cognitive mechanism for comprehending and expressing concepts,

functioning within specific sociocultural contexts to facilitate communication and interaction. The differences in historical contexts presented in Table 2 constitute the primary reason for the divergent metaphors of Chinese youth in the two texts. For instance:

Excerpt (1): Now our country is not awakened, still dreaming, stagnating and conservative. (from To the Youth)

Excerpt (2): China's...composite national strength keep growing, which offers a sound foundation for China's youth to develop... (from Chinese Youth in the New Era)

The metaphors in Excerpts (1) and (2) reflect the distinct social eras in which the metaphors of Chinese youth emerged. Specifically, To the Youth was published in the late Qing Dynasty and early Republic of China (early 20th century), a period characterized by backwardness, conservatism, and stagnation. In contrast, China's Youth in the New Era was created in the new era of the 21st century, during which the People's Republic of China has been undergoing sustained development and continuous enhancement of its comprehensive national strength.

Excerpt (3): ...nine-tenths with both their brains and bodies stepping into old age. (from To the Youth)

Excerpt (4): With a global vision, they stand at the forefront of the time (from Chinese Youth in the New Era)

Excerpts (3) and (4) employ metaphors to illustrate the distinct spiritual outlooks of Chinese youth across different social eras: specifically, 90% of Chinese youth in the early 20th century are metaphorically portrayed as having "brains and bodies that have entered old age"; in contrast, Chinese youth in the 21st century are depicted as possessing a global perspective and standing at the forefront of the era's development.

Excerpt (5): I hope that our fresh and lively youth will awaken themselves and fight ! (from To the Youth)

Excerpt (6): China's mainstream youth are confident about their future, and dream of and pursue a beautiful life. (from Chinese Youth in the New Era)

In the early 20th century, China was in a critical moment of national survival; accordingly, excerpt (5) conveys Chen Duxiu's urgent desire to awaken the "dormant" Chinese youth and inspire them to fight for national defense. In contrast, excerpt (6) reflects the Chinese government's enthusiastic call for the new generation of 21st-century Chinese youth to pursue the beautiful dream of a happy life. These two examples each embody a distinct and profound historical and era-specific character.

4. Conclusion

This research employed the semantic domain tagging function USAS of the Wmatrix online corpus and the MIPVU metaphor identification procedure to conduct a comparative analysis of the similarities and differences in Chinese youth metaphors between the English translations of To the Youth and Chinese Youth in the New Era, two texts separated by a century. Corpus data reveal that the English translations contain a relatively high frequency of metaphorical expressions for Chinese youth, with these conceptual metaphors covering multiple domains and exhibiting rich content.

Specifically, the conceptual metaphors of Chinese youth in the English translation of To the Youth are concentrated in the semantic domains of "human beings", "plants and animals" and "combat" with a predominantly negative semantic prosody and emotional tendency. In contrast, those in the English translation of Chinese Youth in the New Era focus on semantic domains such as "human beings", "plants and animals", "architecture" and "art" characterized by a positive semantic prosody and emotional inclination. Further analysis indicates that the two texts share similarities in terms of macro-level conceptual metaphor patterns for Chinese youth, while significant differences exist at the micro-level, specifically in the mapping of concrete metaphorical concepts and the dimension of semantic prosody.

Two limitations were identified in this corpus-based metaphor study: first, the selection of concordance line length may have led to the omission of potential metaphorical vehicle words; second, during the MIPVU-based metaphor identification process, manual judgment remains necessary for determining metaphorical vehicle words. Differences in the interpretation of the basic meanings and

contextual meanings of a small number of metaphorical vehicle words may result in divergent outcomes, highlighting the need for more specialized criteria to define such terms.

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