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The Pragmatic Motivation of Atypical English *Way into/to* Construction

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Abstract

The English way construction exhibits distinct constructional meaning and semantic features; however, the prepositional slot in this construction has not received sufficient attention, and there remains a lack of comparative research regarding different prepositions in this field. This study set out to examine the semantic classification, mapping features, cognitive factors in the subcategory English way into/to construction, and to improve the algorithm of ΔP_{ratio}. The research adopted a bottom-up corpus-driven approach based on the BNC and used HAC (Hierarchical Cluster Analysis) to explore the semantic categories of the verb collexemes and compare the lexical richness in these two constructions. The results revealed that at the level of linguistic structure, coercion and metaphor, as well as family resemblance, served as legitimization methods for verb entry into the construction, while the principles of economy and expressivity disclosed the intentions and motivations behind the semantic extensions of constructions at the pragmatic level. Additionally, this research found that the latter two principles were competitive in the interpretation process of way into/to construction, providing insights into understanding the psychological and social factors in language communication.

Keywords

English way construction, ΔP_{ratio} Algorithm, Pragmatic Motivation, Cognitive Grammar

1. Introduction

After Salkoff's (1988) observation on the usage of "way", Jackendoff (1990) coined the term *way construction* and defined its prototypical meaning as a particular event construction, expressing "difficult spatial path displacement". In terms of syntactic structure, it was represented as [SUBJi[V[POSSi-way]OBL]] (Goldberg, 1995). The construction consists of one verb and three

arguments: [SUBJi], [POSSi-way], [OBL], representing the subject, possessive pronoun and an oblique prepositional phrase, respectively. Depending on the choice of different prepositions, English *way into/to construction* is considered subcategory of English *way construction*, as illustrated in example (1) and (2). When the verb itself lacks a sense of movement, especially when the argument does not indicate spatial location, as shown in example (1) and (2), the construction breaks through the inherent syntactic and semantic restrictions of the verb, forming the concept of atypical construction with a motion-meaning match.

(1) A fake doctor <u>tricked his way into</u> a hospital job.

(2) I <u>made my way to</u> this celebrated establishment.

To date, the semantic classification of the English *way construction* has emerged as a focal point of research (Levin & Rappaport, 1988). Due to diverse viewpoints on classification, formulating a unified set of criteria became challenging. Consequently, incomplete existing classification systems fail to cover exceptional and newly emerging cases. Jackendoff (1990) and Goldberg (1995) both divided the semantic meaning of the English *way construction* into means and manner senses. However, it could be easily observed in the BNC and Google search that numerous counterexamples existed (Chen, 2010; Zhou, 2016). Diachronic research on the English *way construction* has revealed a third incidental sense apart from the means and manner senses in modern English, which referred to the incidental actions that occurred as the mover progresses along a path (Israel, 1996). Some domestic studies probed into the classes of verb collexemes based on Talmy's (2000) cognitive semantic conceptualization lexicalization pattern theory (Chen, 2010; Gu & Lin, 2017). Although these studies have improved Goldberg's semantic classification of verb collexemes to some extent (Zhang & Xu, 2013; Zhou, 2016; Zhang & Liu, 2017), relying solely on constructional collocation strength as the primary criterion for classification is somewhat simplistic.

Another debate focused on the restrictive conditions for verbs entering the English *way construction*. Previous studies confined themselves to formal aspects of language, neglecting the impact of communicative contexts on its usage and thus impeding a comprehensive understanding of its pragmatic functions (Levin & Rappaport, 2005). From a generative grammar perspective, it held that only intransitive nonergative verbs other than nonaccusative verbs can be used in the English *way construction*. However, it faced multiple counterexamples. Mondorf (2010) was the first to illustrate the process of grammaticalization in the English *way construction*, in which the semantic meaning enhanced from concrete spatial entities to abstract or metaphorical non-spatial entities (Zhang & Xu, 2013). Following this line of thinking, subsequent research focused on the approach in expanding the semantic categorization network of the English *way construction* (Gu & Lin, 2017) and examining the cognitive rationale behind mapping abstract space and verb collexemes with non-movement meanings (Zhang, Yu, & Wu, 2019). Cognitive Construction Grammar emphasized that each construction should encompass syntax, semantics, and pragmatics, with pragmatic requirements serving as the fundamental driving force behind the evolution and syntactic variations of the English *way construction*. Although

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studies have employed principles such as metaphor and coercion to explain the validation of verb collexemes, limited investigation was conducted thus far into the pragmatic motivations.

The aforementioned fruitful research payed attention to investigating the interaction between the verb and the English *way construction*, but overlooked the impact of different prepositions in the oblique slot. Moreover, there was a lack of comparative studies on the English *way construction* with different prepositions. Previous research examined the frequency and preference of verbs in the *into construction* (Hunston & Francis, 2000) and classified the semantics of causative predicates (Kim & Davies, 2015). When interpreting constructions semantically, attention should be paid to the interplay between the verb and other parts of the construction (Szczsniak, 2013). Many studies then started to observe the interaction between different slots in the construction (Gries & Stefanowitsch, 2003; 2004) and analyzed the co-occurring morphemes that vary together in the *into construction* (Yang & Wang, 2010; Zhang, Liu, & Liu, 2019). Besides, the research scope started expanding to multiple corpora (Rudanko, 2005; Kim & Lee, 2013). The abundance of research on the *into construction* indicated its significance and research value. As an integral component of the English *way construction*, its interaction with the English *way construction* should not be overlooked.

In recent years, under the background of the quantitative and social turn in cognitive linguistics, construction grammar research has shown new development. Scholars such as Goldberg (1995) mainly centered on the verb slot in the English *way construction* while ignoring the interaction between the verb and the construction. Subsequent studies began to use Fisher's exact test and employed the ΔP_{ratio} method to discuss the different dominant roles played by verb collexemes and the English *way construction* in directional collocations based on large-scale corpora (Wang & Lin, 2022). However, using this method may probably lead to the occurrence of many extreme p-values. After applying this method to select the access verbs based on p-values, the semantic classification relied on the researcher's own understanding and judgment of the semantic characteristics of verbs, resulting in strong subjectivity in this introspection-based classification.

Taking into account the above shortcomings, this research is thus motivated to contribute to this line of study by conducting a comparative analysis of atypical English *way into construction* and *way to construction*, treated as individual cases to explore their underlying pragmatic motivations. Improvements to the ΔP_{ratio} algorithm will help avoid extreme values in data analysis, and HAC (Hierarchical Clustering Analysis) can allow a more comprehensive examination of verb semantics with exceptions, thereby enhancing the flexibility and precision of the classification. This study not only provides new perspectives and improves methods in the field of linguistics but also contributes to a deeper understanding of the psychological and social factors involved in language communication. Research questions in this paper are as follows:

1) What are the frequency and semantic features of verb collexemes in the two subcategories of atypical English *way construction*?

2) What is the bidirectional interaction between the two subcategories of atypical English *way*

construction and verb collexemes?

3) What are the pragmatic driving forces behind the two subcategories of atypical English *way construction*?

2. Data and Method

The research consisted of three sequential steps. Firstly, an extensive search was conducted in the BNC (British National Corpus) to locate all occurrences of *way into/to construction* to identify the verb collexemes. Secondly, a categorization of the identified verb collexemes was carried out. Finally, a comprehensive analysis of the data was conducted.

2.1 Data

In this investigation, BNC (British National Corpus), a collaborative effort between the University of Oxford and the University of Canterbury in the U.K. was applied. Access to the BNC online was available through its official website (https://www.english-corpora.org/bnc/), where the keywords "way into" and "way to" were typed in the search box. Then the obtained data were inputted into WordSmith Tools 6, followed by the application of the concordance tool in the software to identify co-occurring verb frequencies.

The findings were organized by removing static verbs, such as "be", "know", "lose" and "have" (Yu, 2015). Subsequently, this study identified high-frequency verb collexemes, each with frequencies equal to or exceeding three. Our analysis yielded a total of 528 instances of *way into construction* and 629 instances of *way to construction*. To ensure the integrity and robustness of our results, this study also included complex linguistic structures, involving instances of "verb+one's+other elements+way+into/to" as well as diversified morphological characteristics of the verb collexemes. For example, constructions such as "make its steady way into" and "buy not only her way into heaven but that of all her husband and relations" were carefully examined. Furthermore, in cases involving parallel verb collexemes, selection was placed on the verb most near to the word "way". For instance, in the expression "grinning and spinning his way into", only the verb "spin" was selected for further analysis.

2.2 Collostructional Analysis Method

Stefanowitsch and Gries (2003) introduced a groundbreaking method known as Collostructional Analysis within the framework of Cognitive Construction Grammar. This method comprises three crucial components: Collexeme Analysis, Distinctive Collexeme Analysis, and Covarying Collexeme Analysis. It offers a more objective and rigorous approach to identifying the semantic characteristics of constructions by comparing the collocational strength between constructions and lexemes. Collexemes are words that exhibit significant associations with specific slots within a given construction. Collexeme Analysis aims to investigate the interplay between constructions and the words occupying those slots. This fundamental method for examining collocational patterns relies on a 2×2 contingency table, depicted in Table 1 (Gries & Stefanowitsch, 2010).

To assess the statistical significance of the collocational strength between verb collexemes and

constructions, we employed the collostructions package in the R 4.3.3 software. The p-value was calculated with the Fisher-Yates exact test. The collocational strength shows the bidirectional attraction between the verb collexemes and the English *way construction*. The higher the values, the stronger the association between the verb and the corresponding *way construction* is.

Table 1. 2×2 Co-Occurrence Table for a Collexeme Analysis

Word	Target constructions	Other constructions	Total
Words in slot 2	a	b	a+b
Other words in slot 2	c	d	c+d
Column Totals	a+c	b+d	N=a+b+c+d

2.3 Improvements in ΔP$_{ratio}$ Methods

ΔP method can be used to assess the association between two constituents. Ellis and Ferreira-Junior (2009, p. 202) discovered that ΔP demonstrated a near-perfect ability to predict the initial choice of verbs in constructions by learners. Expanding on this notion, Gries (2013, pp. 143-144) advocated for using ΔP as an indicator of collocational strength, emphasizing its potential under the framework of corpus linguistics. Its directional nature and computational simplicity align with the psychological and psycholinguistic realities.

The interaction between constructions and verbs not only generates a mutual attraction, but also gives rise to two distinct types of unidirectional collocational relationships (Wang, 2022). Based on the approach of constructional analysis, we further employ the ΔP method to analyze the strength of the unidirectional collocational relationship between the English *way construction* and verb collexemes. Using the phrase "due to" as an illustration, these two words demonstrate mutual collocability and directionality. The word "due" reliably co-occurs with "to", forming the commonly encountered expression "due to", whereas "to" exhibits a lower propensity to predict "due". This exemplifies a fairly typical unidirectional collocational dynamic.

Nevertheless, ΔP method, while proficient in gauging the direction and intensity of unidirectional associations, encounters difficulty when comparing the strengths of opposing unidirectional relationships in cases where one is not substantially stronger than the other. To meet this challenge, ΔP$_{ratio}$ offers a solution (Wang & Lin, 2022). In ΔP$_{ratio}$, ΔP$_{w \to v}$ shows the unidirectional attraction of the English *way construction* towards verb collexemes, whereas ΔP$_{v \to w}$ suggests the reciprocal attraction of verb collexemes towards the English *way construction*. $\Delta P_{w \to v} = \frac{a}{a+c} - \frac{b}{b+c}$ and $\Delta P_{v \to w} = \frac{a}{a+b} - \frac{c}{c+c}$. A positive sign indicates the dominance of the construction in the unidirectional relationship, whereas a negative sign suggests the predominance of the verb. The greater the absolute value of the ΔP$_{ratio}$, the more robust the unidirectional relationship's attraction is.

$$
\Delta P_{ratio}
\begin{cases}
\dfrac{\Delta P_{w \to v}}{\Delta P_{v \to w}} & \text{if } \Delta P_{w \to v} \geq \Delta P_{v \to w} \\[2em]
-\dfrac{\Delta P_{v \to w}}{\Delta P_{w \to v}} & \text{if } \Delta P_{w \to v} < \Delta P_{v \to w}
\end{cases}
$$

However, this formula suffers from an issue of exaggerated discrepancies. For instance, when comparing the ΔP_{ratio} values for "find" (151.5296066) and "barge" (0.99843015), we encounter a wide numerical range that produce extreme values. To meet this challenge, we made significant advancements to the original formula by incorporating the natural logarithm method. Specifically, our revised formula employs $\log(\Delta P_{ratio})$, where ΔP_{ratio} represents $\dfrac{\Delta P_{w \to v}}{\Delta P_{v \to w}}$. This enhancement effectively mitigates the problem of extreme values in the ratio, allowing us to determine the collocational direction between verb collexemes and constructions.

2.4 Behavioral Profile Analysis

Due to the inherent flexibility and contextual variations in the usage of verb collexemes in the English *way construction*, this study employed the BP (Behavioral Profile) analysis. The BP analysis combines manually annotated features with multivariate statistical techniques, presenting a corpus-based approach that mitigates biases arising from intuition and frequency of use (Divjak & Gries, 2009; Gries & Divjak, 2009). This methodology comprises two primary components: ID labels and behavioral characteristics. ID labels (Gries, 2006; Gries & Divjak, 2009) include diverse linguistic features like formal, semantic, and pragmatic aspects, which are identified through manual annotation of instances within a corpus.

The BP analysis involves several sequential steps. Firstly, instances were collected to create datasets that reflected the authentic usage of verb collexemes in two subcategory *way constructions*. Subsequently, the gathered sentences were manually annotated based on the construction's position, the tense of the sentence, the form of the verb collexemes, the presence or absence of an animate subject, and features of the subject mapping domain. Using the annotated data, HAC (Hierarchical Agglomerative Clustering) was employed to reveal semantic relations by visualizing hierarchical clustering. HAC served as an exploratory technique, illustrating the similarity between given forms through the identification of hierarchical clustering relationships. The resulting analysis was presented with a dendrogram.

3. Results and Discussion

3.1 Collocation of verb Collexemes in the Subcategory English Way Construction

As depicted in Table 2, $\log(\Delta P_{ratio})$ values for "wheedle", "barge", "bluff", "grope" and "fumble" are all negative, indicating that the construction has less attraction from the verb collexemes compared to the verbs that attract the construction. Specifically, when considering the verb "make" in the *way into construction*, the $\Delta P_{w \to v}$ value is 0.068550771, the $\Delta P_{v \to w}$ value is 0.0002086, and the $\log(\Delta P_{ratio})$ is

2.516698713. These results suggest that the construction demonstrates a significantly stronger inclination towards the verb "make". Therefore, the construction exhibits substantial predictive power in the directional relationship with the verb "make".

It is noteworthy that despite the relatively low p-value of 17.31270 for the verb "feel", $\log(\Delta P_{ratio})$ remains remarkably high at 2.018004508. This finding underscores the predictive power of *way into construction* for the verb "feel", emphasizing its dominant role in the directional relationship. In Table 2, p-values for "con" and "wheedle" are closely aligned at 116.71664 and 102.22216, while the corresponding $\log(\Delta P_{ratio})$ values are 0.183078347 and -0.864617791. This indicates that "con" is more predisposed to enter and form the *way construction*, while "wheedle" shows greater attraction to this construction, thus making it more likely for the construction to become a typical usage of "wheedle".

Table 2. The Calculation of Collocation Strength in the English *Way into Construction*

	Verb	P-value	$\Delta P_{w \to v}$	$\Delta P_{v \to w}$	$\log(\Delta P_{ratio})$
1	Find	2714.47029	0.388362199	0.002562946	2.180497482
2	Force	520.99947	0.085986806	0.00153869	1.747280683
3	Worm	312.30307	0.034524052	0.016839179	0.311800839
4	Make	249.38957	0.068550771	0.0002086	2.516698713
5	Push	244.26610	0.03757101	0.00226123	1.220508229
6	Con	116.71664	0.014119109	0.009262515	0.183078347
7	Wheedle	102.22216	0.009418342	0.068959207	-0.864617791
8	Claw	88.04101	0.010979921	0.007635621	0.15775483
9	Edge	85.66430	0.015601097	0.00101832	1.185270767
10	Bluff	83.82977	0.009415292	0.015299812	-0.210852301
11	Smash	76.85475	0.010968741	0.003435195	0.504205449
12	Hack	76.56224	0.009412052	0.008373578	0.050773247
13	Fumble	65.66795	0.007844394	0.01009469	-0.109533617
14	Trick	61.42593	0.009393973	0.002370869	0.597941723
15	Shoulder	56.92226	0.010904328	0.000819561	1.124017473
16	Weave	56.29411	0.007836734	0.003958787	0.296572944
17	Grope	54.01718	0.006276185	0.012151725	-0.286942197
18	Buy	49.47135	0.012299577	0.000302066	1.609787611
19	Cheat	44.14088	0.006268205	0.003542916	0.247782356
20	Fight	42.19068	0.009292858	0.000468486	1.297452441
21	Work	38.61414	0.015838344	7.05417E-05	2.35126362
22	Barge	34.80789	0.004703246	0.004710641	-0.000682312
23	Ease	33.52931	0.006236897	0.000933078	0.825050499

24	Kick	31.93047	0.006227418	0.000762014	0.912344889
25	Inch	23.53587	0.004667808	0.000711363	0.817021463
26	Talk	22.30557	0.007457557	0.000121251	1.788912738
27	Feel	17.31270	0.007185385	6.89359E-05	2.018004508
28	Win	12.56807	0.004439089	0.000104529	1.628057577

As shown in Table 2 and 3, the subcategories of the English *way construction* share 11 high-frequency verb collexemes. The p-values for "make", "grope" and "fight" in the English *way to construction* markedly surpass their counterparts in the English *way into construction*, indicating their stronger association with *way to construction*. Regarding the prepositional slot, our analysis reveals that in the *way to construction*, the frequency of "make" (55.4%) overwhelmingly prevails "find", corroborating the findings of Zhang and Xu (2013). However, in the *way into construction*, we observe a notably higher frequency of "find" compared to "make", the former being 5.5 times more prevalent. "Find" indicates a discovery, yet unlike "make", it doesn't mean creating something from nothing; rather, it unveils something existing but previously undiscovered, both of which can be considered forms of creation.

It is notable that from a diachronic perspective, the word "make" has been consistently used in the English *way construction* since the 15th century, surpassing all other verbs in frequency by the 16th century. Sullivan's (2007) corpus analysis spanning the 11th to the 19th century corroborated the enduring prevalence of "make" in the English *way construction*. Nonetheless, over time, this usage has gradually waned, supplanted by verbs conveying the notion of progression along a path. Hence, it is unsurprising that the primacy of "make" in Table 2 has relinquished its top position.

Table 3. The Calculation of Collocation Strength in the English *Way to Construction*

	Verb	P-value	$\Delta P_{w \to v}$	$\Delta P_{v \to w}$	$Log(\Delta P_{ratio})$
1	Make	3437.03576	0.552755648	0.001658156	2.522907893
2	Find	1231.1886	0.215253454	0.001404323	2.185482987
3	Grope	184.53171	0.019074611	0.035184446	-0.265895016
4	Fight	181.75138	0.031670148	0.001574063	1.303627901
5	Push	143.83292	0.025331363	0.001503162	1.226652884
6	Wing	117.00611	0.019023864	0.002209487	0.935007221
7	Claw	71.43034	0.009529791	0.006501362	0.166079003
8	Wend	65.62107	0.00635864	0.057136607	-0.953550178
9	Elbow	52.08505	0.007933086	0.00310128	0.407901143
10	Wind	51.16579	0.00635538	0.01009476	-0.200954448
11	Sing	44.41572	0.009451488	0.000679249	1.143471003

12	Bomb	40.04546	0.007895468	0.000924685	0.931383913
13	Fumble	35.23375	0.004764525	0.006017836	-0.101420734
14	Work	34.91860	0.016057865	7.06158E-05	2.356785677
15	Dig	34.3829	0.006327361	0.001244532	0.706216657
16	Battle	27.21635	0.006280527	0.000501235	1.097954287
17	Blast	27.09567	0.004750246	0.001551372	0.486000005
18	Power	26.97099	0.00915307	0.000149174	1.787872995
19	Bar	24.96387	0.006254491	0.000375211	1.221916402
20	Feel	20.80367	0.008874992	8.40689E-05	2.023532453
21	Dance	18.58434	0.004689062	0.000366642	1.106843197
22	Win	17.58431	0.006088784	0.000141553	1.633610507
23	Edge	17.44407	0.004671885	0.000301023	1.190892977

Owing to their fixed and conventionalized characteristics, prototypical verbs effortlessly establish collocational relationships with the English *way construction*. Verbs such as "find", "make", "force", "push" and "worm" commonly exist in the English *way construction*, displaying prominent fixed and accepted attributes. As a result, these verb meanings easily blend with the construction's meaning, emphasizing the concept of a "path" and facilitating a prototypical collocational association with the English *way construction*. However, it is worth noting that verbs in the dominant position of a bidirectional collocation relationship generally exhibit lower collocation strength and typically serve as non-prototypical verbs within the construction.

Metaphor and coercion serve as techniques for verbs to be accepted in constructions, enhancing the productivity of the English *way construction*. Even though the verbs and their conceptual domains in atypical sentences may lack spatial motion relationships, they can establish abstract collocations through noun metaphors or verb metaphors (Israel, 1996). Verbs such as "con", "bluff", "trick", "wheedle" and "cheat" are inherently associated with the meanings of "deception" and "intimidation", posing challenges to their compatibility with the notion of a path in the *way into construction*. Only when these verbs enter the construction and undergo semantic suppression can they acquire the corresponding sense of motion through metaphorical interpretation, rendering the entire sentence coherent and appropriate (Zhou & Wang, 2017; Lin & Wang, 2013; Lin & Zhang, 2020).

3.2 The Distribution and Semantic Characteristics of Verb Collexemes in the English Way Construction

HAC was applied to investigate the distribution and semantic characteristics of high-frequency verb collexemes in the English *way into/to construction*. The semantic cluster analysis for the verb collexemes in the *way into construction* are shown in Figure 1, while Figure 2 illustrates the findings for the *way to construction*. These verbs in two constructions are classified into six clusters. It is noteworthy that the *way into construction* demonstrates a broader and more prolific spectrum of verb collexemes compared to the *way to construction*. Notably, within both clustering diagrams, "work" and

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"feel", as well as "win" and "edge" are grouped together in the same cluster, suggesting analogous patterns of usage across both subcategories of the English *way construction*.
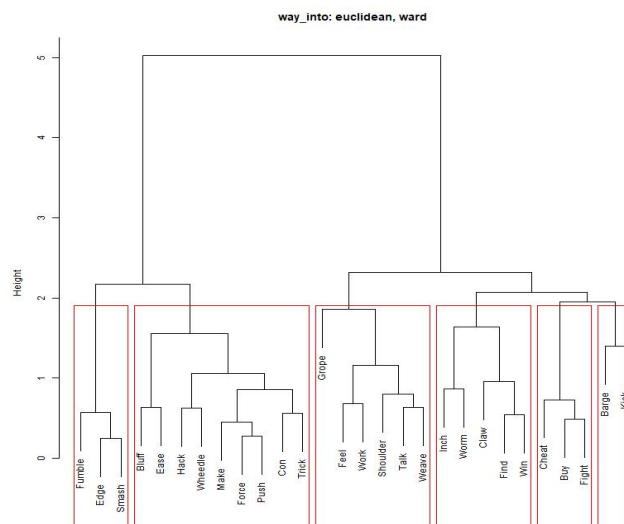

Figure 1. Semantic Clustering Graph of High-Frequency Verb Collexemes in the *Way into Construction*

Based on the data presented in Table 4, the type-token ratio in the sixth category of the *way into construction* accounts for 28.6% of the total, with the second, third, and fifth categories following closely and the fourth category has the lowest proportion, comprising only 1.8%. The distribution of the type-token ratio in the *way to construction* has a similar pattern. Notably, when considering the 11 shared words between both constructions, the *way into construction* demonstrates a significantly higher usage of inanimate subjects compared to the *way to construction*. This disparity is particularly notable for verbs like *"make", "find", "fight", "push"* and *"fumble"*, yielding a substantial increase in the number of mappings to the abstract domain in the *way into construction* compared with the *way to construction*. This observation suggests an expansion of the mapping domain in the *way into construction*, extending from physical space to abstract space.
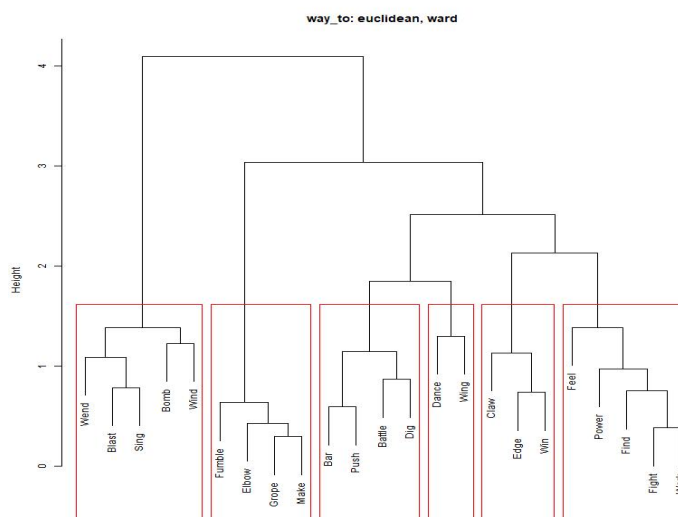
Figure 2. Semantic Clustering Graph of High-Frequency Verb Collexemes in the *Way to Construction*

Some verbs of the second category in the *way into construction* and the third category in *way to construction* associate with coercive control, such as "hack", "force", "bar" and "battle". Additionally, the second category of *way into construction* also includes manipulative words like "bluff", "wheedle", "con" and "trick", but there are no equivalents in the *way to construction*. Both coercion and manipulation are means to achieve specific aims. While coercion typically involves direct and forceful actions, manipulation tends to use psychological and informational tactics to influence others' cognition or behavior, which reflects a nuanced selection of control methods. Consequently, the verbs in the *way into construction* exhibit a tendency towards abstraction and expansion along psychological pathways.

Table 4. Clustering Categories of the Verb Collexemes in two Subcategories of *Way Construction*

	The Englsih *way into construction*	Type-token ratio	The English *way to construction*	Type-token ratio
1	Inch (3), worm (22),claw (7),find (248),win (3)	1.8%	Fumble (3), elbow (50), grope (12), make (349)	1.4%
2	Bluff (3), ease (4), hack (6), wheedle (6),make (45), force (55), push (24), con (9), trick (6)	5.7%	Feel(6),power(6),find(136),fight(20),work(11)	2.8%
3	Grope(4),feel(5),shoulder(7),talk(5),weave(5),work(11)	16.2%	Bar(4),push(16),battle(4),dig(4)	14.3%

4	Fumble(5),edge(10),smash(7)	13.6%	Dance(3),wing(12)	13.3%
5	Cheat(4),buy(8),fight(6)	16.7%	Wend(4),blast(3),sing(6),bomb(5),wind(4)	22.7%
6	Barge(3),kick(4)	28.6%	Claw(6),edge(3),win(4)	23.1%

There are a total of 79 instances in the *way to construction* that enter the non-physical domain, accounting for 12.5% of the total. In contrast, out of the 349 instances of the verb "make", only 22 cases enter the non-physical domain. While in the *way into construction*, there are 193 instances where "into" is followed by a non-physical domain, accounting for 36.5% of the total. Among the words on the right side of "into", the words related to the mental domain are the most abundant (e.g., "heart" 8 instances, "consciousness" 6 instances, "affection" 6 instances, "confidence" 7 instances, "mind" 4 instances), followed by the economic domain (e.g., "job" 8 instances, "business" 4 instances, "account" 4 instances, "employment" 1 instance) and the legal domain (e.g., "final" 7 instances, "system" 7 instances, "side" 6 instances, "position" 5 instances). The investigation found that in the *way into construction*, the verb "find" and "worm" had a significantly higher number of instances enters the non-physical domain, with 110 and 20 instances respectively, much higher than the other entry verbs. Especially, the word "worm" forms idiomatic expressions such as "worm one's way into one's heart" (6 instances) and "worm one's way into one's confidence" (4 instances), thus enhancing the productivity of the *way into construction*.

When assessing the validity of a verb's integration into the construction, two primary considerations may come into play: the application of metaphor and coercion. The degree of similarity between new words and previous terms is also a criterion for speakers to judge the entry of verbs into construction (Suttle & Goldberg, 2011). Furthermore, recognizing an integrated knowledge network involves continuously refining and expanding existing cognitive frameworks by reinforcing or introducing new connections and conceptual representations, while also adjusting previously established associations in response to new experiences (Goldberg, 2019).
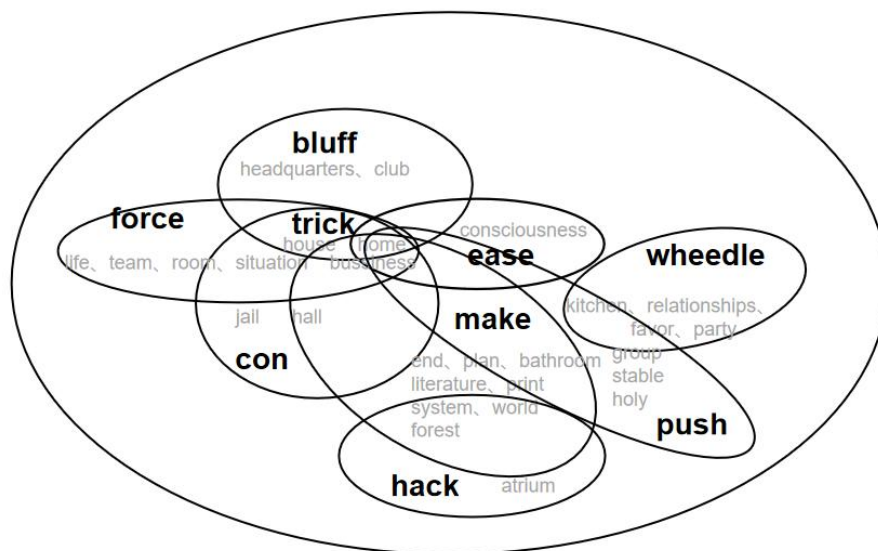
Figure 3. The Semantic Network of the Second Category of the verb Collexemes in the W*ay into Construction*

The productivity of the *way construction* is possibly triggered by two main factors. Firstly, certain verbs attract others of the same semantic feature into the construction. For instance, verbs like "shoulder" and "elbow" have p-values of 56.92226 and 52.08505 respectively, with log(ΔP_{ratio}) values of 1.124017473 and 0.407901143. Since "shoulder" belongs to the category of body parts, another body part "elbow" becomes easy to enter the construction.

Secondly, the mapping domain of a construction forms a semantic network. Larger networks having more interconnection and associations. For a verb to enter the construction, it depends on the degree of overlap between its mapping domain and those already existing in the construction. The greater the overlap, the easier it is for the verb to enter the construction. As shown in figure 3, when speakers assess whether a verb can enter the construction, they compare the similarity between the characteristics of its mapping domain and a prototype. This similarity can include all members of a category or just some members. In the latter case, category consistency arises from family resemblance. The typical mapping domain of the *way construction* consists of concrete spatial entities such as "home, "house" and "room", with abstract or metaphorical non-spatial entities like "job", "life" and "favor" extending from this foundation as atypical mapping domains.

3.3 Pragmatic Motivation of Atypical English Way Construction

Conventional expressions often fall short in accurately and vividly conveying the speaker's intended meaning. To address this problem, individuals continually introduce constructions like the English *way construction*, which provides a concise and efficient means of expressing emotions while underscoring the significance of conveying precise meaning.

From a pragmatic perspective, people strive to use more concise, innovative or universal linguistic units to meet the needs of communication and expression. It can be imagined that without constructions

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like example (3) and example (5), people would need to use sentences like example (4) and example (6), which contain more words to express similar meanings. Both example (3) and example (4) describe the achievement of economic success or wealth through increased spending. "Spending our way" implies the initiative and effort exerted by the subject, emphasizing that individuals or governments need to take proactive action to promote economic growth and prosperity. In contrast, "achieve economic success or wealth by increasing spending" only states the goal of achieving economic success or wealth through increased expenditure, without emphasizing the proactive nature or effort involved. At the same time, although both example (5) and example (6) can express a slow and effortless manner, the word "ease" better conveys the leisurely and relaxed mood of the elderly lady, adding a more delightful expressive effect.

(3) The big government theory says we can hamstring business and tax and spend our way to prosperity.

(4) The big government theory says we can hamstring business and tax and achieve economic success or wealth by increasing spending.

(5) An elderly lady eased her way into the compartment.

(6) An elderly lady walked slowly, less painfully into the compartment with less effort.

The economy principle, proposed by Leech (1983) and supported by Langacker (1999; 2008), suggested that the optimal grammar employs the fewest symbols necessary to achieve its communicative objectives. Streamlining text without losing information reduces the cognitive load in both encoding and decoding processes. Nevertheless, an overly pursuit of economy may render the text cryptic and challenging to comprehend. Hence, while striving for temporal and cognitive efficiency, a balance must be struck between brevity and clarity. Leech (1983) further advanced the expressivity principle, advocating for the richness and adaptability of linguistic expression. Language not only conveys factual information but also the speaker's emotions, attitudes, and personality, going beyond mere utility in saving time and energy.

The English *way into construction* and *way to construction* simultaneously encompass the principles of economy and expressivity. In the two subcategories of *way construction,* although both principles are considered, whether they are competitive or not needs further verification. In this paper, accordingly, expressivity is operationalized as the sentiment score from Sentiment R, ranging from -1 to +1. Negative values indicate negative sentiment, positive values indicate positive sentiment, and values close to zero indicate neutral sentiment. The operational definition of the economy principle is the average sentence length, with shorter sentence lengths reflecting a more pronounced economy principle. Additionally, higher absolute values of sentiment scores reflect a more pronounced expressivity principle.

As outlined in Table 5, a detailed comparison of 11 shared verb collexemes in both *way into construction* and *way to construction* unveils that verbs such as "make", "find", "claw", "push", "work", "win", "fight", "grope" and "fumble" have higher sentiment scores in the *way into*

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construction. Based on annotated factors, this investigation demonstrates that verb collexemes with a greater prevalence of abstract mapping domains within distinct subcategories of the English *way construction* show elevated sentiment scores, underscoring the dominance of the expressivity principle in linguistic competition. For instance, the verb "find", when utilized in the *way into construction*, allocates 44.3% of its usage to abstract domains, in contrast to the mere 8.1% observed in the *way to construction*. Likewise, the verb "make" exhibits a distribution of 24.4% towards abstract domains within the English *way into construction*, compared to a modest 6.3% in the *way to construction*. Conversely, the sentiment scores for "feel" and "edge" manifest an opposite trend. In the *way into construction*, "feel" attributes 40% of its usage to abstract domains, while this percentage rises to 60% in the *way to construction*. Similarly, "edge" accounts for a mere 10% in the *way into construction*, yet comprises 100% in the *way to construction*. This observation suggests that the dominance of the expressivity principle, characterized by a higher prevalence of abstract mapping domains, is markedly evident across two subcategories of the English *way construction* when using the same verb.

Table 5. The Average Sentence Length and the Average Absolute Value of Sentiment Scores for the 11 Shared Verb Collexemes in Two Subcategory Constructions

Way into	Average sentence length	Sentiment score	*Way to*	Average sentence length	Sentiment score
Make	17.04444444	0.126297055	Make	18.32276657	0.114017961
Find	17.65725806	0.238655621	Find	17.79411765	0.153328287
Claw	14.71428571	0.230895941	Claw	16.66666667	0.135035261
Push	16.50000000	0.140305302	Push	17.12500000	0.135412583
Work	15.18181818	0.247997764	Work	18.54545455	0.243387568
Feel	15.60000000	0.12909944	**Feel**	14.66666667	0.201795839
Win	17.66666667	0.236558413	Win	18.67833383	0.177215432
Fight	20.33333333	0.278138105	Fight	20.95000000	0.194049491
Grope	15.25000000	0.284471516	Grope	16.91666667	0.146041269
Fumble	18.75000000	0.21891145	Fumble	19.00000000	0.181405004
Edge	14.20000000	0.074503436	**Edge**	17.33333333	0.152883752

Moreover, upon closer examination within the same construction, it is evident that, with the exception of "edge" in the English *way into construction*, the remaining verbs demonstrate higher sentiment scores than "make". This difference implies a greater intensity in the expression of emotions, consequently enhancing perceptibility and emotional resonance in communication. A fundamental goal of human discourse and expression revolves around conveying emotions and portraying sensory experiences related to the world. By using words imbued with strong emotions, a vividness in

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emotional expression can be achieved.

3. Conclusion

This study, drawing upon the BNC, employed a cognitive construction grammar approach to identify verb collexemes and examine their unidirectional interaction in two distinct subcategories of the English *way construction*. By expanding the analysis scope to encompass the prepositional slot, it found cognitive and pragmatic driving forces underlying complex and atypical English *way into/to construction* instances. Furthermore, the study enhanced the ΔP_{ratio} method originally proposed by Wang and Lin (2022) and applied HAC analysis to grope verb collexemes into semantic categories. By studying the collocation strength and directional tendencies between core verbs and *way construction*, this investigation revealed that verb collexemes in *way into construction* typically demonstrated higher productivity compared to their counterparts in the English *way to construction*. Moreover, the higher level of abstraction, the conspicuous influence of the expressivity principle becomes. People chose emotional words to express ideas in a more vivid manner, which serves as one of the pragmatic motivations. Subsequent research on collocational constructions could make more efforts in considering contextual nuances, target audience specifications, and cultural backgrounds, recognizing that sentiment analysis alone does not capture the entirety of emotional expression.

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