A Contrastive Study of the Grammaticalization Between "Gan Jing" and "Clean" Based on Corpus

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Abstract

Based on corpus study, this paper makes a diachronic study of the grammaticalization process of the Chinese word "Gan Jing" and English word "clean". The study shows that both "Gan Jing" and "clean" gradually lose their original meaning and change from a content word to a functional word. The mechanisms of the grammaticalization include reanalysis, analogy, semantic bleaching, metonymy and metaphor, as well as subjectivity. These changes can be attributed to the principle of economy. Though "Gan Jing" and "clean" share many similarities in grammaticalization path, mechanisms and motivations, the use frequency of them varies. The lowly grammaticalized form of "Gan Jing" is most used while the highly-intensified meaning of "clean" is used more widely.

Keywords: grammaticalization, semantic change, corpus study

1. Introduction

The most widely accepted definition of the conception "grammaticalization" is put forward by Jerzy Kurylowicz that grammaticalization exists in the process of the butch of a morpheme developing from a lexical to grammatical state. (Jerzy Kurylowicz, 1965) In other words, grammaticalization is a process of language change that involves the evolution of words or lexical expressions into more abstract and grammatical elements or function words. For example, nouns and verbs, go through the change and become prepositions or even affixes and suffixes of a word, and a content word loses its notional meaning and becomes a functional word in a sentence. By examining the ways in which words and structures become more grammaticalized, linguists can better understand the historical development of languages, as well as gain insights into how languages are structured and used. The degree of grammaticalization from low to high state constructs a cline: notional words > functional words > clitic > inflection. (Shen Jiaxuan, 1993) At the bottom of the cline are "notional words" which have more specific meanings and are used for describing a real situation. Next are "functional words" which are used for functions like connecting sentence or intensifying meaning, but don't have any specific meaning themselves. And "clitic" which is only a part of a word but still with meaning and "inflections" which are only used to indicate tense, number, or gender.

So, the degree of grammaticalization changes as words move up the cline from more specific and meaningful to more general and grammatical.

Chinese and English are two languages that have undergone considerable changes in their language forms, meanings and grammar. The process of grammaticalization has been studied extensively in both China and other countries to understand how words and expressions evolve over time. Studying the grammaticalization of words in both languages can provide insights into how this process occurs, the similarities, and differences across languages. The Chinese word "Gan Jing (干净)" and the English word "clean" have similar meaning and both experience grammaticalization over time. However, there is little study conducted on the grammaticalization process of them, as well as the similarities and differences of their grammaticalizations.

This paper will use a corpus-based approach to describe the grammaticalization process of "Gan Jing" and "Clean" explore the similarities and differences between them. By analyzing the corpus collected, the grammaticalization of the two words will be described thoroughly in the following aspects: the path, the mechanisms and the motivations. This diachronic study aims to identify the different forms and functions of "Gan Jing" and "Clean" as they have undergone grammaticalization in Chinese and English respectively and to examine the role of "Gan Jing" and "Clean" as modifiers, adverbs with the original meanings, and highly grammaticalized form with abstract meanings. Besides, a contrastive study will be made between them in terms of the grammaticalization path, mechanisms, motivations and use frequency in modern time. To some extent, by achieving these objectives, this paper can contribute to a better understanding of the process of grammaticalization in Chinese and English, the similarities, and differences between how this process occurs in different languages, and how this process shapes the evolution of language over time.

2. Literature Review

It is acknowledged that the concept of "grammaticalization" was first put forward by Chinese in 13 centuries. In Chinese traditional linguistics, "grammaticalization" is called "Xu Hua"(虚化). However, the first person to use the term "grammaticalization" is the French scholar A. Meillet who believes that the study of grammaticalization is to study the evolution of words from an autonomous word to a grammatical component. (1912: 133)

Later, many scholars gave the definitions of grammaticalization from different perspectives. Kurylowicz defines it as a process that lexical elements become grammatical components or word move from a lower grammatical position to a higher one. It can also refer to the phenomenon that lexical items or constructions come in certain linguistic contexts to serve grammatical functions, and, once grammaticalized, continue to develop new grammatical functions. (Hopper & Traugott, 2001) The grammaticalization has long been a hot topic in linguistic study. Heine and Reh wrote the book Grammaticalization and Reanalysis in African Languages (1984) and conduct a case study synchronically from the perspective of linguistics. Later, Heine, along with Claudi and Hunnermeyer published Grammaticalization: A Conceptual Framework (1991), which systematically introduces the theories of Western scholars at that time and proposed a conceptual framework to illustrate the process. Another important guide book was Grammaticalization which provides an overview of the study of grammaticalization. All those studies from Western scholars expound on the theories of grammaticalization and offer a theoretical framework for further study, which paves a road for future research.

Since 1980s when the theory of grammaticalization was introduced to China, Chinese scholars combined it with Chinese and conducted further study. Chinese scholars also make many efforts to the definition of grammaticalization. For example, Shen Jiaxuan proposes that grammaticalization refers to a process or phenomenon that a content word turns into a functional word. (1994) After him, Hu Zhuang defines it as a process by which words change into grammatical elements and their collocations, functions, and meanings change accordingly. (2003) Soon afterwards, Wu Fuxiang put forward that grammaticalization is the evolutional process of certain grammatical categories and elements. (2004) These definitions are in accordance with the previous ones in nature, but they play a vital role in localization of the concept of grammaticalization.

Based on the above theories, many case studies

are conducted in recent years. Examples include both English words like "be going to", "while" and son on, and Chinese lexicons like "X 了" and "有". From previous studies, we can know that the theories are rather complete in the area, but the cases to support these theories are not so enough. Besides, the cases are under study are usually concentrated on one language and little result is about the contrastive study of words in two languages. Considering this status quo, this paper intends to bridge the gap by the contrastive study of the grammaticalization between "Gan Jing" and "Clean". In this way, we can find the similarities and differences of the grammaticalization between English and Chinese word.

3. Research Design

3.1 Research Question

This paper intends to answer the following two questions:

1) What kind of grammaticalization path "Gan Jing" and "clean" follow?

2) What are the mechanisms and motivations that lead to the grammaticalization of "Gan Jing" and "clean"?

3) What are the similarities and differences of their grammaticalization?

Based on the grammaticalization theory, the study of the path can describe the process in details to confirm the definition of grammaticalization. It can both offer cases of the grammaticalization and recognize the semantic change of the two words as grammaticalization. Additionally, the mechanisms and motivations that drive "Gan Jing" and "clean" to the change, as well as the similarities and differences are also key points in the study.

3.2 The Source of Corpus

The study is conducted with Oxford English Dictionary (hereinafter referred to as OED) and Corpus of Historical American English (hereinafter referred to as COHA) as the source of corpus for historical use of the English word "clean" and Corpus of Contemporary American English (hereinafter referred to as COCA) as that for the contemporary use. And for the Chinese corpus, Center for Chinese Linguistics PKU (hereinafter referred to as CCL) and BLCU Corpus Center (hereinafter referred to as BCC) are used for the Chinese corpus source. It is particularly pointed out that OED is used to investigate the usage of "clean" before 19

centuries, COHA with its span of 200 years from 1810-2009 and COCA are for the study of contemporary research.

3.3 Research Method

Grammaticalization can be studied from two perspectives: a diachronic perspective, which regards grammaticalization as part of language evolution and examines the origin, formation, and development of grammatical forms; a synchronic perspective, which regards grammaticalization as a kind of hurricane and pragmatic phenomenon, and examines the various means of expressing grammatical relations in everyday language use. This paper mainly follows the perspective of diachronic method to investigate the semantic evolution off the two words. Thus, it is more logical and scientific to analyze the grammaticalization path, its mechanisms and motivations.

Contrastive study is a type of linguistic analysis that compares different languages or aspects of the same language to identify differences and similarities. It is a useful tool that can provide insights into the ways in which languages are structured and how language evolves throughout the time. The idea put forward by Shen Jiaxuan that there might be a mutual law with cognitive basic behind two languages, lays the basis for comparing and contrasting the similarities and differences of "Gan Jing" and "clean". Therefore, through the process of a contrastive study, the research can identify the differences and find the connections between the two processes.

4. Result and Discussion

4.1 The Grammaticalization of "Gan Jing"

"Gan Jing", experiencing the grammaticalization process, changes its use from an adjective meaning "a state of no dust and impurities" to an adverb intensifier.

According to CCL, there are altogether three kinds of use in modern Chinese:

(1) 在绿色发展的中国，越来越多的人能够呼吸上新鲜的空气、喝上干净的水、吃上放心的食物、生活在宜居的环境中，切实感受到经济社会发展带来的实实在在的环境效益。(People's Daily, 2022)

(2) 北约投掷在塞尔维亚的炸弹至今仍未能清除干净，投放的贫铀弹导致当地癌症和白血病发病率激增，给民众健康和生态环境造成永久性破坏。(People's Daily, 2022)

(3) 女排迅速调整到位，精神抖擞、顽强拼搏，干

<u>净</u>利落地获得了两连胜，展现了女排风采。(People's Daily, 2021)

In example (1), "Gan Jing₁" is used as adjective to modify the noun "water" which means "pure and not dirty".

In example (2), "Gan Jing₂", grammaticalizes into a degree adverb meaning "none left", to add information to the degree of the act of removing.

In example (3), "Gan Jing₃" is to "describe someone as speaking or acting with clarity and decisiveness". Although similar to "Gan Jing₂", "Gan Jing₃" experiences further grammaticalization into a more general adverb which can modify more verbs like "处理 (deal with)" and "解决 (solve)".

From "Gan Jing₁" to "Gan Jing₂", the meaning change echoes the process of grammaticalization as a result of which a word turns from a content word to a functional word and its original meaning fades and its grammatical function stands out.

4.1.1 The Grammaticalization Path of "Gan Jing"

Xu Shen explained "Jing" as "unsoiled and unblemished" in Shuo Wen Jie Zi. While "Jing" appeared early in ancient Chinese, "Gan Jing" as a whole was first used in Tang Dynasty:

(4) 风梅花落轻扬扬，十指<u>干净</u>声涓涓。（卢全 《听萧君姬人弹琴》）

Here it is the use of "Gan Jing₁" as an adjective to imply that the fingers are clean and beautiful. As a modifier, "Gan Jing₁" imposes the feature of pureness and tidiness to the head which is a content word. In this way, "Gan Jing₁" is a content word which describes the clean feature of tangible objects and the feature based on physical experiences can be sensed.

Then its use began to expand from a modifier of nouns to that of verbs. Then was the appearance of the "Gan Jing₂". At first, "Gan Jing" was used after a verb as an object complement which indicates the result of the action is to make the object clean. This kind of verbs includes "打扫" (sweep), "洗" (wash), "擦" (wipe), "刷"(brush) and so on. For example:

(5) 张千做打小二科，云：卖酒的，快打扫<u>干净</u>阁子儿，酾热酒来。（元杂剧《包待制智赚生金阁》）

Then the "V+干净+N" structure began to settle down. Later, the relation between "Gan Jing" and nouns became loose and its relation with verbs strengthen. If the result of an action is

"Gan Jing", then nothing unnecessary is left. After reanalysis, "Gan Jing" gradually acquires the structure "V+干净" in which "Gan Jing₂" as an adverb can collocate with some verbs to indicate the degree. This kind of use was first found in Song Dynasty:

(6) 不上三年之内，死得一家<u>干净</u>，家财都是我掌管，那时翠莲快活几年。（南宋话本《快嘴李翠莲记》）

In example (6), "Gan Jing₂" obviously not a modifier of the noun "Jia" (family) but a degree word of the verb "Si" (die) indicating the action happens to the degree of nobody left. "Gan Jing₂" has generalized from the description of a noun's properties to a verb's degree.

In "Gan Jing₂" structure, it still keeps its original meaning which limits the choice of the preceding words. Given the meaning indicating the degree to nothing left, the word also imposes decisiveness on the verb. Examples first emerged in Yuan Dynasty:

(7) 兴哥见县主不用刑罚，断得<u>干净</u>，喜出望外。（元代话本 《蒋兴哥重会珍珠衫》）

In example (7), "Gan Jing₃" functions as a verb complement to describe the action of judging is without hesitation. "Gan Jing" here has further generalized, its collocative verbs extend to general verbs and its meaning changes into an abstract sphere. This change conforms to people's cognitive patterns from individual to general, from specific to abstract.

4.1.2 The Motivations of the Grammaticalization

P.J. Hopper and E.C. Traugott pointed out in their book Grammaticalization that ordinary words and structures in certain contexts may develop grammatical functions, and once grammaticalized, they will continue to develop new grammatical functions. From "Gan Jing₁" to "Gan Jing₃", the word "Gan Jing" develops a new grammatical function and its application scope expands from concrete action to abstract behavior.

The grammaticalization of "Gan Jing" experiences two stages: from an adjective to a degree adverb and from a degree adverb to a general adverb.

In the first stage, reanalysis plays an important role. Langacker defined reanalysis as "change in the structure of an expression or class of expression that does not involve any immediate or intrinsic modification of its surface manifestation." (1977: 58) In other words,

reanalysis is the method that changes the underlying structure while keeping the surface structure, thus causing a shift in the grammatical rules. For example, if a structure originally is analyzed as (a, b) c, due to a certain shift in cognitive perspective, it can be reanalyzed as a (b, c).

"Gan Jing" is first used in the "V+干净+N" structure, for example "打扫干净屋子". At this period, "Gan Jing" is an object complement of the noun, so it should analyzed as "V+(干净+N)". By the economic principle, when the context is clear, the noun can be omitted and the structure is shortened as "V+干净(+N)". As a result, the relation between "Gan Jing" and the verb begins to strengthen. Instead of an object complement, "Gan Jing" acquires its new grammatical function as a complement of the verb indicating the degree. The structure is thus reanalyzed as "(V+干净)+N", separating "Gan Jing" from the noun.

Though "Gan Jing" shifts to an adverb, the modified verbs are still restricted. In the second stage, the analogy helps the rule extend to general verbs. Compared with reanalysis, analogy changes the surface structure so as to cause the spread of the rule not the change of the rule. Reanalysis works on the syntagmatic axis while analogy on the paradigmatic axis. The structure of "V+干净" does not change, but the range of collative verbs expands. Thus, the use of "Gan Jing₃" is derived. As the examples shown above, if an action can be described as "Gan Jing₃", this action is done without hesitation. The appearance of this meaning is a result of an analogy from a visible stage to a subjective recognition. The "Gan Jing₂" indicates the result of the action is to make something clean while "Gan Jing₃" is based on one's subjective recognition. It is an evaluative vocabulary which intensifies the tone.

In conclusion, the grammaticalization of "Gan Jing" demonstrates a gradual process of semantic change and development towards a wider range of grammatical functions.

4.2 The Grammaticalization of "Clean"

There are two common uses of "clean" in modern English. The familiar meaning of the English word "clean" is use as an adjective, meaning not dirty, for example, clean air, clean water and so on. Besides, it can also be used as an adverb like "clean forget", "clean shaven" and "clean broken". From an adjective to an adverb, "clean" changes from a content word to an intensifier. During the process, the meaning of "clean" weakens and its grammatical function strengthens, echoing the process of grammaticalization.

4.2.1 The Grammaticalization Path of "Clean"

In the old English, according to Oxford English Dictionary (hereinafter referred to as OED), "clean" was first used as an adjective which is used to describe something free from dirt or filth, unsoiled or unstained. For example,

Đonne bi ð ðæt hus clæne. (Then the house is clean.)

As an adjective, "clean" is usually used as a predicative or an attribute, however, in the later development, the adverb use appears. Modeling on the study conducted by Shao Bin and Chang Yuxuan (2023), "clean" as an adverb can also be divided into low-intensified adverb and high-intensified adverb. In the structure "clean shaven" "clean forget" and "clean gone", clean as an adverb still retaining the original meaning is viewed as low-intensified adverb. It can be understood as doing something to the extent of nothing left as it is clean. On the other hand, in some collocations like "clean tuckered", "clean break", and "clean discouraged", the original meaning has already vanished and it is merely used as an adverb to strengthen degree, which equals to "completely" and "absolutely". The following study of the grammaticalization path is based on this division.

According to OED, "clean" used as an intensified adverb first appeared in 14th century, which means without anything omitted or left:

Þei chaced out þe Bretons so clene. (OED, 1330)

They drove out the British so clean.

"Clean" here is used to modify the phrase "drive out", which can also be interpreted as something is driven out to the extent of nothing left so that it is clean in the end. Therefore, "clean" initially is used as a low-intensified adverb and this kind of use can also be found in the corpus afterwards:

Somtyme is the hearing lost clene. (OED, 1561)

Similarly, "clean" is also a low-intensified adverb collocating with "lose". Here, it also can be explained as the hearing is lost completely like it is as clean as nothing left. Considering the meaning of the low-intensified use, it can be concluded that in this sense, the collocative

verbs are those containing the meaning of removal like "lose", "drive out", and "eliminate". The possible reason can be these verbs indicates the probable result of making the collocative objects "clean".

Later, "clean" goes through the process of semantic generalization. The degree "clean" referred to is a rather extreme state similar to the use of intensifiers like "completely", "entirely" and "fully", from which it acquires the high-intensified use. The process leads to the separation from its original meaning and the semantic relation with the collocative verbs loosens. For example,

1) Clene þanne þay turnde hure mod. (OED, 1380)

They clean turned their mood.

2) The squrd squaþþes in toe, his canel-bone allsoe, and cleuet his schild clene. (OED, 1420 Anturs of Arther)

The sword shatters in two, his collar-bone also, and cleaved his shield clean.

The three examples are all presented as high intensifiers. They are not used with words containing removal meaning, instead, with general verbs like "turn" and "cleave" as a common adverb. At this stage, the original meaning has completely vanished and its function of strengthening stands out. Thus, the process realizes the conversion from a content word to a grammatical function word.

The process that "clean" derives from an adjective to an adverb is a gradual process, in which the content meaning is being weaken until it is totally replaced by its grammatical use. The grammaticalization path of "clean" can be concluded as: content adjective > low-intensified adverb > high-intensified adverb.

4.2.2 The Mechanisms of the Grammaticalization

In the grammaticalization process of "clean", metonymy and metaphor play an important role. Metonymy and metaphor are concepts about human's way to understand world in cognitive linguistics. Metonymy is an intra-domain mapping, emphasizing the contiguity and relevance between things within the same cognitive domain. (Shao Bin & Chang Yuxuan, 2023) The evolution of "clean" first undergoes the process of metonymy and then metaphor. In the grammatical process of "clean," its "cleanliness" sense is first mapped onto a low-intensified word. Stoffel (1901: 1) argues

that most intensifiers are adverbs derived from adjectives with extremity. By clean things, we mean the pure things that the dirt is removed completely. The cleanness is a measure of the completeness of the removal. The similarity and relevance between the original meaning of clean and the completeness of am action pave way for metonymy. Thus, the use of "clean" as a description of a noun is mapped to an indication of the degree of a verb. However, in the low-intensified stage, the original meaning retains which limits the collocative verbs to the category meaning removal. With the help of metaphor, the meaning of the adverb "clean" is extended to a larger domain. Since "clean" as an adverb can be used to describe actions that were done with nothing left, it can also be mapped to the domain which conveys a meaning of "thoroughly" and "completely", thus intensifying its meaning. For example, in "They clean turned their mood." The original meaning of "clean" is lost, and the semantic feature of "thoroughness" is highlighted, indicating a high degree.

The shift of "clean" from a low-intensified to a high-intensified adverb can also be attributed to semantic generalization. Semantic generalization refers to a process of loss of semantic content, which is described by the metaphor of "fading" or "bleaching". The loss of semantic meaning can involve the partial disappearance of a semantic element of a word, resulting in an expansion of its usage scope. (Shen Jiaxuan, 1998) From the low-intensified structure like sweep clean, clean shaven and wipe clean, to the high-intensified structure like clean broken and clean discouraged, the original meaning of "clean" has been lost and "clean" has totally become a functional word. Thus, the use of "clean" has also been expanded to modify general adjectives and verbs.

Subjectivity is also a significant factor in the process of grammaticalization. Not only does language convey information, but it also expresses the emotions and viewpoints of the speaker. The process of semantic change which incorporates the speaker's opinions and beliefs into a word is considered subjectification. Subjectification is reflected in four aspects: from propositional function to discourse function; from objective meaning to subjective meaning; from non-epistemic modality to epistemic modality; from non-subject of a sentence to subject of a sentence; from subject of a sentence

to speaker as subject; from free form to affixed form. (Zhan Quanwang, 2009) The grammaticalization of "clean" reflects the second aspect of subjectification from objective meaning to subjective meaning. Initially, "clean" as an adverb is used to modify certain verbs like "remove" and "eliminate". "Clean" here is used to describe the real result of the verb, i.e. the real situation in the real world. This meaning belongs to the objective meaning. Later, its meaning generalizes and acquires the function of expressing the feeling and attitude of the speaker. For example, the sentence "they clean turned their mood" is not just a portrayal of the real world but also indicates the attitude of the speaker like astonishment or surprise. Thus, the meaning of "clean" realizes the shift from the objective meaning to the subjective meaning.

4.2.3 The Motivations of the Grammaticalization

As mentioned above, the principle of economy is a salient principle of human language. To communicate information effectively, language users tend to use the concrete, understandable and describable language form to express those phenomena that are abstract and difficult to understand and describe. In a word, language forms with lower lexical or grammatical components are used to express functions with higher levels of grammaticalization. (Heine, 2003) It is because so that the word "clean" acquire the high-intensified meaning. The low-intensified "clean" is used to modified situation that nothing is left. This situation is a state of extremity and completeness. As a result, language users use the concrete word "clean" to signal the abstract meaning of completeness.

5. Contrastive Study

5.1 Similarities

5.1.1 Similarities in the Path of Their Grammaticalization

Both "Gan Jing" and "clean" experience the similar grammaticalization path from a content adjective to a functional word. Additionally, in their respective processes, there is an intermediate state when the word is not entirely grammaticalized and still has the original meaning.

Though "Gan Jing" and "clean" come from different languages, the grammaticalization path of the two words show some shared rules of grammaticalization. Hopper (1991) proposed five rules of grammaticalization: divergence,

specialization, persistence, layering and decategorization. Then Shen Jiaxuan (1994) added four which are delaying, graduality, frequency and cycling. In the process of their grammaticalization, the three rules of persistence, graduality and cycling are most significant.

Persistence refers to a situation when a lexical word changes into a functional form, it more or less includes certain factors of the old lexical word. When the first grammaticalization happens on "Gan Jing", it changes into an adverb but still retain the original meaning of being clean. At this stage, "Gan Jing" as an adverb means something is done with the result of being clean. Examples includes "打扫(sweep)干净" and "死(die)干净". However, it is the existence of the original meaning that the use of "Gan Jing" is limited to a certain category of verbs like "打扫" (sweep), "洗" (wash), "擦" (wipe) and "刷"(brush). The case is similar in the English word "clean". When the low-intensified use appears, it as well keeps the original meaning which indicates the collocative words has semantic relation with cleanness like "sweep", "remove" and "shaven". The source of functional words is often traced back to these residual characteristics, and these remaining features also impose certain restrictions on the specific usage of function words. (Shen Jiaxuan, 1994) The adverb use of "Gan Jing" and "clean" derives from their original meanings and in turn the remaining original meaning also limits the usage to a certain group of words.

Another obvious feature in their grammaticalization processes is graduality. Graduality is the phenomenon that there is always a middle state when a word grammaticalizes. The grammaticalization processes of "Gan Jing" and "clean" changing from expressing content meaning into intensifying degree are suitable examples for this point:

1) 风梅花落轻扬扬，十指干净声涓涓。[content meaning]

2) 不上三年之内，死得一家干净，家财都是我掌管，那时翠莲快活几年。[content meaning, intensifying degree]

3) 女排迅速调整到位，精神抖擞、顽强拼搏，干净利落地获得了两连胜，展现了女排风采。[intensifying degree]

4) Then the house is clean. [content meaning]

5) They drove out the British so clean. [content meaning, intensifying degree]

6) Sometimes the hearing is lost clean. [content meaning, intensifying degree]

7) They clean turned their mood. [intensifying degree]

For "Gan Jing", without (2), from (1) to (3), it is an abrupt change from a content adjective to an adverb intensifying degree. However, with the addition of (2) which the content meaning and intensifying meaning coexist, the change seems to be more gradual. In the evolution of clean, the same is true. (4) is the original use as an adjective and (7) is the use as an intensifier after evolution. However, the change is not sudden, instead, it experienced the (5) and (6) when it used as a low intensifier which both has content meaning and intensifying function. That is to say, between the original word and the grammaticalized word, there lies a middle ground where the two uses both exist, showing the graduality feature of grammaticalization.

Unidirectional cycling is a concept in the study of grammaticalization that refers to the general trend that grammaticalization proceeds in one direction. It means that a grammar element, which is a more concrete expression of meaning, gradually evolves into something more abstract and grammatical. Unidirectionality also implies that grammatical elements can acquire new grammatical meanings but cannot revert back to their earlier stages of concrete or lexical meanings. However, there are also rare examples that evolve in the reverse direction from the abstract to the concrete meaning. In the grammaticalization of "Gan Jing" and "clean", they show the feature of unidirectionality and share the similar direction of evolution. They both change from a content word to a functional word while in the process it exists a middle stage where the original meaning still affects their uses.

The grammaticalization of "clean" and "Gan Jing" shows that they have both undergone similar paths of grammaticalization, expanding their meanings and functions beyond their original usage as adjectives. Both words have acquired new meanings, and evolved to meet new needs in communication and changes in social and cultural contexts.

5.1.2 Similarities of the Grammaticalization Mechanisms

The grammaticalization of "Gan Jing" and "clean" more or less experiences the semantic generalization. At first, they are adjectives with concrete meaning, then they experience the grammaticalization and their content meaning fade and bleach. During the process, "Gan Jing" and "clean" lose their content meaning of bring pure and not dirty and meaning become abstract, grammatical function strengthening. This process is called semantic generalization. Also, the content meaning does not disappear abruptly the semantic bleaching experiences a transitional state, which means the semantic generalization is a gradual process.

This generalization process can also be attributed to metaphor or metonymy. According to Shen Jiaxuan (1998), generalization can be used to describe the process of grammaticalization, but whether generalization itself can be considered a mechanism of grammaticalization is still uncertain. It might be merely the result of other mechanisms like inference and metaphor, or it could be composed of a series of smaller inferences or metaphors. For "Gan Jing", it is considered that the change from "Gan Jing$_2$" to "Gan Jing$_3$" is result of metaphor, a mapping from a concrete domain to an abstract domain. "Gan Jing$_2$" meaning "nothing left" is a visual sense, which makes people connect with decisiveness of an action. This associative meaning gives birth to "Gan Jing$_3$". Similarly, "clean" also experience the process of metaphor when generalizing into a high-intensified word, mapping from concrete domain to the abstract. As a low-intensified word, "clean" is used to modify verbs related to action. When generalizing into high-intensified words, it is applied to the description of subjective cognition or feeling. The domain of action is more abstract compared with the domain of feeling. Therefore, metaphor is the process that language users tend to use the concrete words to understand the abstract world.

The reasons why the two words have similar grammaticalization mechanisms are many, but the most significant one is the cognitive reason. Since "clean" and "Gan Jing" have the same original meaning, they reflect the cognition of the same phenomenon. Regardless of differences in language, people have similar experience in understanding the world. Thus, people can apply the words to the description of similar situations, which derives new meanings and

functions. Therefore, semantic generalization, metonymy or metaphor are all a kind of cognition change that leads to the semantic change.

5.2 Difference in Use Frequency

According to the principle of layering, while the new meaning of a word appears, the old forms would not disappear. The old form and the new form will coexist in a period of time. So, it is the same with "Gan Jing" and "clean". Nowadays, their original meanings and their grammaticalized meanings all have played important roles in exchanging information. However, the use frequency of the meanings that have different degree of grammaticalization varies between the two words.
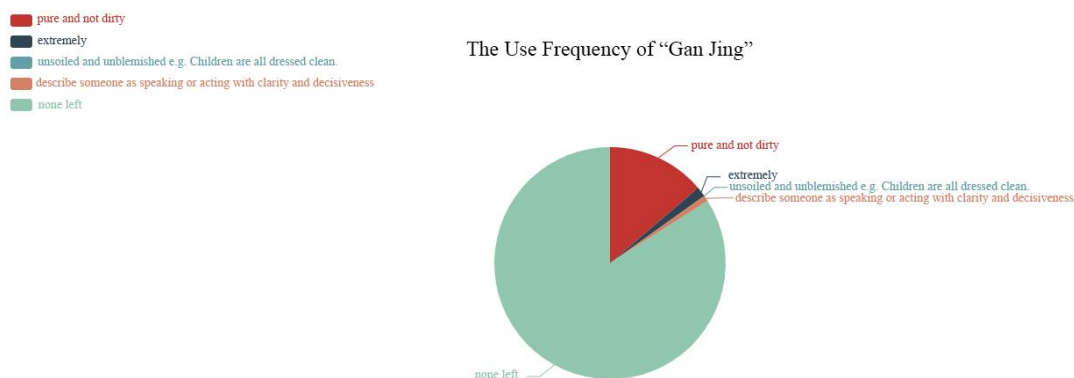

Figure 1. The use frequency of "Gan Jing"

Though "Gan Jing" and "clean" experience similar grammaticalization path, there is a huge difference in the usage of them. In modern Chinese, according to BCC, "Gan Jing" has three common uses: Gan Jing$_1$ (referring to being pure and not dirty), Gan Jing$_2$ (meaning none left) and Gan Jing$_3$ (meaning speaking or acting with clarity and decisiveness). Though in different context they derive some branches of meanings, the most common and basic meanings are the three.

As the Figure 1 has shown, the most commonly used meaning is Gan Jing$_2$, the next is Gan Jing$_1$, the original meaning, and Gan Jing$_3$ the most grammaticalized meaning is less used in modern Chinese. It can be concluded that though "Gan Jing" has grammaticalized, the most widely used meaning is the middle stage meaning. Differently, the grammaticalized meaning of "clean" is widely use in contemporary English. Take the construction "verb + clean" for example. According to COCA, there are 6377 items of "verb + clean" construction. After removing the uncorrelated data, there still are 3114 items about the low-intensified and high-intensified meaning for which high-intensified use accounts 1755, up to 56.35%. As the data shows, the high-intensified use is used more widely than the low-intensified. In summary, the grammaticalization of Chinese word "Gan Jing" has an insignificant influence on modern Chinese while the highly grammaticalized form of "clean" is more common and more widely used.

6. Conclusion

The grammaticalization of "Gan Jing" and "clean" shows a change from content adjectives to functional adverbs, each evolving through distinct yet comparable stages. Both words start by describing a physical state of cleanliness and purity. Through a process of semantic shift, they progressively lose their original, concrete meanings and gain new grammatical functions.

Initially, "Gan Jing" functions purely as an adjective, modifying nouns or serving as a predicative to convey a state of being free from dirt. Over time, its usage expanded to act as a degree adverb, intensifying the action of verbs, particularly those related to cleaning. This transition is evident in structures from "V+干净+N" (e.g., "打扫干净屋子" — "sweep clean the house"), where "Gan Jing" first appears as an object complement and then as an adverbial modifier indicating completeness. This shift from an object complement to a verb complement signifies its grammaticalization into "Gan Jing$_2$", retaining some of its original

meaning but starting to function as an adverb. The final stage sees "Gan Jing₃" as a general adverb that modifies a broader range of verbs, indicating clarity and decisiveness without the original connotation of physical cleanliness. During the process, reanalysis and analogy are two influential mechanisms. Reanalysis change the part of speech of "Gan Jing" into an adverb, strengthening its connection with verbs. And analogy acts on its collocation and enlarges its usage to general verbs.

There are two common uses of "clean" in modern English. The familiar meaning of the English word "clean" is use as an adjective, meaning not dirty, for example, clean air, clean water and so on. Besides, it can also be used as an adverb like "clean forget", "clean shaven" and "clean broken". From an adjective to an adverb, "clean" changes from a content word to an intensifier. The grammaticalization path of "clean" can be concluded as: content adjective > low-intensive > adverb > high-intensive adverb. Three mechanisms advance the grammaticalization process. Initially, metonymy allows "clean" to shift from describing a physical state to indicating completeness in actions. Later, metaphor enables it to generalize their meanings, moving from concrete to abstract uses, thus functioning as intensifiers. Subjectivity further drives this grammaticalization, enabling it to reflect the speaker's attitudes and emotions. With the help of efficiency motivation, the meaning of "clean" weakens and its grammatical function strengthens, echoing the process of grammaticalization.

The grammaticalizations of the two words display similar rules in the grammaticalization path including persistence, graduality and cycling, with the shared mechanism of semantic bleaching. However, the use frequency of them varies in modern society, which indicates the different degree of their grammaticalization.

Fund Project

References

Cao Xiaoya. (2012). A comparative study of Grammaticalization of "die" and "death" in English and Chinese. Master's Thesis of Jilin University.

Heine, Bernd & Tania Kuteva. (2003). On contact-induced grammaticalization. *Studies in Language, 27*(3).

Heine, Bernd, and Mechthild Reh. (1984). *Grammaticalization and Reanalysis in African Languages.* Hamburg: Helmut Buske.

Heine, Claudi & Hunnermeyer. (1991). *Grammaticalization: A Conceptual Framework.* Chicago: University of Chicago Press.

Hopper, J.P. & Traugott, E.C. (2001). *Grammaticalization.* Cambridge University Press & Foreign Language Teaching and Research Press.

Hopper, P. J. (1991). On Some Principles of Grammaticalization. In Traugott & Heine, *Bernd*, (1), 16-37.

Hu Zhuanglin. (2003). Some problems in the study of grammaticalization. *Modern Foreign Languages*, (1), 85-93.

Kurylowica, Jery. (1965). The Evolution of Grammatical Categories. *Esquisses Linguistiques*. Munchen: Fink, (2), 39-55.

Lackoff, G. & M. Johnson. (1980). *Metaphors we Live By*. Chicago: The University of Chicago Press.

Liu Danqing. (2001). Updating, strengthening and superimposing in grammaticalization. *Studies in Language and Linguistics, 02*, 71-81.

Liu Guoqing. (2018). A comparative analysis of "die" and "die" from the perspective of Chinese as a foreign language. Master's thesis of Hunan University.

Meillet, Antoine. (1912). L'evolution des Formes Gra, aticales. *Scientia*, (12).

Shao Bin, Chang Yuxuan. (2023). A study on semantic evolvement of English negative emotion reinforcement words. *Foreign Languages and Their Teaching, 06*, 86-95.

Shen Jianxuan. (1994). An overview of the study of Grammaticalization. *Foreign language teaching and research, 04*, 17-24.

Shen Jianxuan. (1996). English and Chinese contrast grammar three questions. *Foreign language teaching and research, 04*, 8-13.

Shen Jianxuan. (1998). A review of the mechanism of notional word virtualization:

An Evolved Grammar. *Contemporary linguistics*, (03), 41-46.

Shen Jianxuan. (2004). Pragmatic principles, pragmatic reasoning and semantic evolution. *Foreign language teaching and research*, *04*, 243-251.

Song Qing. (2022). Study on semantic evolution of adverb "Jing". *Sinogram Culture*, *17*, 52-55.

Stoffel, C. (1901). Intensives and Down-Toners: A study in English Adverrbs. Heidelberg: Carl Winter's University at sbuchhandlung.

Sun Chaofen. (1994). Review of the Theory of Virtuality. *Foreign linguistics*, *04*, 19-25.

Wen Xu. (1998). Introduction to Grammaticalization. *Contemporary linguistics*.

Wu Fuxiang. (2003). On the unidirectional problem of grammaticalization. *Contemporary linguistics*, *04*, 307-322.

Wu Fuxiang. (2004). Research progress in grammaticalization in recent years. *Foreign language teaching and research*, (1), 18-24.

Wu Fuxiang. (2021). The mechanism and motivation of grammaticalization are also discussed. *Linguistic Research*, *02*, 1-12.

Xiang Mingyou, Huang Lihe. (2008). The study of Chinese Grammaticization — from nounization to grammaticization theory. *Chinese language learning, 05*, 78-87.

Xing Bokai. (2023). A study on the diachronic evolution of English adjective intensifiers. Master's Thesis of Beijing Foreign Studies University.

Zhan Quanwang. (2009). English enhancers terribly subjectivize — a corpus-based study. *Journal of Foreign Languages, 05*, 38-46.

Zhang Hongguo. (2014). Semantic evolution and grammaticalization of "Enough". *Language Teaching and Linguistic Studies, 04*, 84-91.