A Corpus-based Study of Grammaticalization of the Highest Degree Adverb “Jī”

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Abstract—Researches on the grammaticalization of Chinese characters “Jī” mainly focus on motivation, but it does not involve the specific process. Traugott, an expert on grammaticalization, has put forward a theoretical hypothesis about the direction of grammaticalization. Based on this hypothesis and the Chinese corpus, this paper studies the process and motivation of grammaticalization of Chinese characters “Jī” from the diachronic perspective. It is found that the grammaticalization process of “Jī” has three stages: ideational function stage, textual function stage and interpersonal function stage, but it is against the theoretical assumption put forward by Traugott. Meanwhile, subjectification runs through the whole process of grammaticalization. Generalization, metaphor, re-analysis and analogy are only the dominant motivation in a particular stage of its grammaticalization process.

Index Terms—Jī, grammaticalization, the process and direction of grammaticalization, motivation and evolution mode

I. INTRODUCTION

According to Hopper & Traugott (1993), grammaticalization is a research framework for studying the relationships between lexical, constructional, and grammatical material in language, diachronically and synchronically, both in particular languages and cross-linguistically. Shen Jiaxuan (1994) holds that grammaticalization usually refers to a process or phenomenon that content words evolve into function words. In recent years, the research on grammaticalization has been changed from the simple theory discussion to use case study to further improve the theory of grammaticalization. This change is in line with the commitments of the “descriptive adequacy” and “explanatory adequacy” of language study put forward by Goldberg. The emerging and developing of “Jī” (極) is one of the most important changes in Chinese grammars history. The previous researches on grammaticalization of “Jī” (Zhao Jun, 2006; Wen Xu & Huang Bei 2008; Tang Xianqing & Chen Li, 2010 etc.) mainly focus on its characteristics and motivation. Although great contributions have been made, there are some problems: 1) There are no clear interpretations for the process of Jī’s grammaticalization; 2) The process of grammaticalization and its evolutionary mode are cut apart, besides, the motivation is singleness which lacks of systematicness and completeness. Therefore, this paper, within the framework of systemic functional grammar and cognitive linguistics, presents a detailed study on the grammaticalization of “Jī”, with the hope of solving the following problems: 1) how does “Jī” gain ideational function, textual function and interpersonal function? 2) what are the mechanisms and motivations of the grammaticalization of “Jī”?

II. THE HYPOTHESIS ON UNIDIRECTIONALITY OF GRAMMATICALIZATION

The hypothesis on unidirectionality of grammaticalization put forward by Traugott is as follows (Shen Jiaxuan, 1994):

$Ideational > [textual > interpersonal]$

What this inequation means is that in the process of grammaticalization, the words that have ideational function can get the textual function, and then get the interpersonal function. These three functions are in line with what Halliday (2014) refers in functional grammar, namely, ideational function textual function and interpersonal function. Meanwhile, this inequation also reflects the degree of grammaticalization. The dimensions from low to high are ideational function, textual function and interpersonal function. There are lots of such examples in English. For instance, “while” in Old English means ‘sometimes’ and only has ideational function. In Middle English, ‘while’ has the meaning of ‘when’, and then it has both ideational function and textual function. In Modern English, ‘while’ can express concession, here ‘while’ has interpersonal function. From the discussion above, it is clear that there are certain levels in the process of grammaticalization. Grammaticalization in different ages and different sources shares or competes with each other. They have some overlapping regions, namely the birth of a new grammatical form does not necessarily mean the disappearance or loss of old grammatical markers. The old and new forms coexist. This hypothesis is based on cases
study of Indo-European language family. Is it applicable for Chinese? We need more cross-language corpora to testify its scientificness.

The study of grammaticalization implies a panchronic view of language; to break the discreteness between synchrony and diachrony: (a) earlier forms may coexist with later ones. (b) earlier meaning may constrain later meanings and/or structural characteristics.

This emphasizes a fact that language is an ongoing process and that a change is only incompletely achieved at any given stage of language. According to Traugott’s hypothesis, in the grammaticalization of “Ji”, firstly it gets ideational function and textual function and then interpersonal function. Next, we will analyze how “Ji” gets its functions in different stages of grammaticalization in detail.

III. THE GRAMMATICALIZATION OF “Ji”

A. Ideational Function

What Halliday means by ideational function is that language can express various experiences in the real world (including inner world). That is, language can reflect the things, people, objects, time and location involved in objective and subjective world of human beings (Hu Zhuanglin et al., 1989). Ideational function is actually composed of experiential function and logic function. Experiential function refers to how we perceive and experience what is going on; logic function refers to logical meaning between clauses in clause complex. Ideational function is realized by the system of transitivity and voice.

All corpora in this paper are from “the corpus of Peking University” and “Corpus Online”. According to the corpora available, “Ji” is first used as a noun and has referential meaning, referring to the objective things, “the ridge beam or roof of one house” and “wooden used to carry things tied on donkey” and extends to the means of the highest or end of all things afterwards. For examples:

(1) 楂，棟 也。
    Ji Dong ye.
    Ji the main beams supporting a house Ye
    “Ji means the main beams supporting a house.”

(2) 极，驢上負 也。
    Ji lv shang fu ye.
    Ji horse above wood frame Ye
    “Ji means the wood frame on horse.”

(3) 此 布衣之極，于良 足矣
    Ci   buyi zhi ji yu liang zu yi
    This ordinary people De top Yu Liang enough Yi
    “This is the highest position in society. Yu Liang should feel satisfied.”

In the examples above, “Ji” (1 and 2) is its original meanings that are “the main beams supporting a house” and “the wood frame on horse”, while in example (3), “Ji” is its extended meaning which is the top or highest point of something. The transitivity of “Ji” is as follows:

<table>
<thead>
<tr>
<th>Table 1: The Transitivity of “Ji” as a Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ji</td>
</tr>
<tr>
<td>are the main beams supporting a house.</td>
</tr>
<tr>
<td>Carrier</td>
</tr>
<tr>
<td>Ji means the wood frame on horse.</td>
</tr>
<tr>
<td>Carrier</td>
</tr>
</tbody>
</table>

The original meaning of “Ji” is a reflection of objective things in the real world, and the extended meaning is the subjective reflection of objective things, because, in general, the highest point of different things are relative and subjective. Thus, here, the noun form of “Ji” has ideational function and use active voice in sentence. At the same time, it is also the beginning of its grammaticalization.

B. The Interpersonal Function of “Ji”

Hopper (1991) has pointed out that grammaticalization itself is a gradual process, in this process, when a new form appears, the old form does not disappear immediately. The part-of-speech patterns of “Ji” also change along with the semantic evolution of “Ji”. At the very beginning, “Ji” is used as a noun, gradually, it turns into verb, adjective and then adverb.

1. “Ji” as verb and adjective

In addition to ideational function which expresses speaker’s objective and subjective world, language also has
interpersonal function that expresses the speaker’s identity, status, attitude, motivation and so on (Hu Zhuanglin et al., 1989). Through this function, the speaker makes himself involved in a certain context, to express his attitude and inference, and try to influence other’s attitude and behavior. Halliday (2014) points out that the interpersonal function is mainly realized though mood, modality, tone and other ways.

With the extension of the meaning, “Ji” has the function of verbs, adjectives and adverbs. The interpersonal function of “Ji” can be reflected from the semantic and syntactic level of these three kinds of words. For example:

1. “Ji” as a verb

From the data, it is found that, as an verb, “Ji” appears once in literature of Shang and Zhou Dynasties; in the Spring-autumn and Warring States Period, it appears 10 times; in the Qin and Han Dynasties, “Ji” has been used widely. According to Zhao Jun’s statistics (2006), “Ji” is used as verbs more than 23 times in Shi Ji, the records of the grand history of China. For example:

(6) 位 虽 极高
    Wei sui jigao
    Social position though very high
    “Though someone’s social position is very high……”

(7) 子之罪大极重
    Zi zhi zui da jizhong
    Son’s crime is big and extremely heavy
    “Son’s crime is big and extremely heavy.”

(8) 春泉极深
    Hongquan jishen
    Spring very deep
    “The spring is very deep.”

From the examples above, we can find that “Jigao”, “Jizhong” and “Jishen”, these three phrases are all “Adverb + adjective” structure, using the adverb of “Ji” to modify its adjective form. In this usage, the function of “Ji” is not degree quantity but to strengthen the speaker's tone and attitude, also shows the interpersonal meaning of “Ji”. At this time, “Ji” has lost the original meaning, and is used as adverbs to modify adjective. The meanings of “Ji” are the same as most, very, very much, extremely, exceedingly and so on.

3. “predicate + Ji” structure and “predicate + Ji + Le” structure

Taitian-chenfm believes that originally “Ji” in “Le ji sheng bei” “grief often treads upon the heels of pleasure” is a verb, which means up to the extreme of something. Here, “Ji” belongs to post-conditions when it comes to syntactic position, while the syntactic function is the predicate element, which is used to highlight the degree of the subject. Wen Xu & Huang Bei (2008) holds that “Ji” in “Le ji sheng bei” “grief often treads upon the heels of pleasure” is a complement, marking a new stage of “Ji”: to be used as a complement. In modern Chinese, the complementation of “Ji” is “predicate + Ji + Le” structure. In this structure, between “Ji” and “Le”, an object cannot be inserted. This marks of complementation of “Ji” has been used widely .

“Ji” in the examples above, (4) is its verb form which means something is up to the extreme point; (5) is its adjective form which means maximal, exhaustive and highest. As a matter of fact, both of its verb form and adjective form are evolved from the original meaning of “Ji”. In the certain context of example (4) and (5), “Ji” means “sighing with emotion to the extreme” and “very brutal”, which makes speaker involved in a particular context, and express their emotional attitudes and values. As a verb “Ji”, its ideational function has gradually given way to the descriptive function. “Ji” used to highlight degree quantity has the evaluation function, which shows the speaker's perspective to make comments on something, expressing the speaker's subjective attitude and emotion, only retaining very weak proposition function(Wen Xu & Huang Bei, 2008). The degree measurement depends on the parties' attitudes and emotions. The transition form of “Ji” from noun to verb and adjective is the extension of its original meaning, and also it is the transformation from the ideational function to the interpersonal function; meanwhile, it is the result of the further deepening of the grammaticalization of “Ji”.

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embodiment of interpersonal meaning of “Ji”.

C. The Textual Function of “Ji”

No matter what kinds of function, ideational function or interpersonal function, they all will eventually be expressed through the language. At the semantic level, the textual function is the function of language organizing components into discourse. Discourse can be an extremely simple description, such as when somebody is drowning, he will shout loudly “Help! Help!”, but in many cases, the expression of discourse is relatively complex. Textual function within the framework of Systemic Functional Grammar focuses on the thematic structure, information structure and cohesion system.

In the process of grammaticalization, “Ji” is eventually evolved into the degree adverb, functioning as the complement, and the concrete manifestation can be embodied by the textual function.

1. The Theme-Rheme system

The Theme-Rheme theory originated from the Communicative Dynamism of Prague School and was developed by linguists of Systemic Functional Grammar, with Halliday (2014) as their representative. Information organization in texts is determined by theme and rhyme which is concerned with the placing of information structural unit. A sentence can be classified as theme, rhyme and transition three parts. Theme is the starting point of the topic; the goal of discourse presents the very information that is to be imparted to the hearer, and is called rhyme; transition is the main position and the connection of different components. Later, many scholars regard transition as a part of rhyme. This paper will use theme-rheme theory to analyze the grammaticalization of the Highest Degree Adverb “Ji”. When “Ji” is further grammaticalized, it is used as an adverb to express the emphasis and the response to the speaker's problem or point of view. For example:

(9) a. Zhoumo women (T) qu yuan zu ba (R)?
   b. En (T), hao ji le (R).
   a. “How about going hiking on weekend?”
   b. “well, wonderful!”

From this example, in sentence (a), the theme is “Zhoumo women”, and the rest part is rhyme; in sentence (b) the theme is “En”, “Hao ji le” is the rhyme. At this time, “hao ji le” is a response to a specific context, which reflects the speaker's internal perspective, and focuses on the contribution of different components. Later, many scholars regard transition as a part of rhyme. This paper will use theme-rheme theory to analyze the grammaticalization of the Highest Degree Adverb “Ji”. When “Ji” is further grammaticalized, it is used as an adverb to express the emphasis and the response to the speaker's problem or point of view. For example:

(10) Zhe dao cai weidaozen me yang?
    a. Hao ji le!
    b. zhe dao cai weidao hao ji le.
    a. “How about this dish?”
    b. “This dish is wonderful!”

In examples above, to answer “how about this dish?”, (a) is composed of a new information only; while answer (b) is composed of the new information “Hao ji le” and given information “this dish”. The division of the old and new information needs the support of the context. For this point, the speaker's understanding is a kind of evaluation or modified perspective, with the greatest degree of subjectivity, and the listener's understanding of its meaning can only be inferred from the text. In the sentence, “hao ji le” is the affirmation and approval of the idea of “go hiking”, which can only be understood by context.

2. Information structure

Information structure is the structure of organizing language to become “information unit”. Given information refers to the information that the listener has learned and known or the information which can be judged by context. New information refers to the information that has not yet appeared in the context or its composition is difficult to determine. The form of the information unit is: (the given information) + new information. That is to say, in the discourse, there must be new information, and given information can be optional. For example:

(11) a. Dui yu hzhe ge wenti de huida ni hai manyi ma?
   a. “Are you satisfied with the answer to this question?”
   b. (Zhe ge huida) hao ji le!
   b. “(the answer) is great!”

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Here “hao ji le” plays a role of cohesion. In this sentence, the answer is a subject and is ellipsed, but we can understand this sentence because of the specific context. This ellipsis makes it concise and easy to understand the whole conversation.

From the above analysis, we can find that the trajectory of the grammaticalization of the highest degree adverb “Ji” is roughly as follows:

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<table>
<thead>
<tr>
<th>Noun</th>
<th>Noun</th>
<th>Verb</th>
<th>Adjective (the top of something)</th>
<th>Adverb</th>
<th>Predicate +Ji (degree)</th>
<th>Predicate +Ji+ le (complement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(the main beams supporting a house)</td>
<td>(the top place of something)</td>
<td>(to the top point of something)</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

There are four stages of grammaticalization of the highest degree adverb “Ji”. At the beginning, “Ji” is used as a noun, which means the main beams supporting a house, and then it is extended to the top place of something, also used as a noun. The second stage is used as a verb that means to reach the top place of something and then evolves into an adjective, which means the top of something and finally is used as an adverb. It is found that the semantic evolution of “Ji” is a process of continuous Grammaticalized process. In different stages, it has different evolution mechanisms and evolution modes.

IV. THE MECHANISMS AND EVOLUTION MODES OF THE GRAMMATICALIZATION OF “Ji”

The evolution of language is motivated both in form and meaning. There are various kinds of motivation mechanisms and evolution modes, such as reanalysis, syntactic position change, context effect, change of word meaning (Liu Jian, Cao Guangshun, Wu Fuxiang, 1995), metaphor, generalization, absorption (Shen Jiaxuan, 1998) etc. After analyzing the process the grammaticalization of “Ji”, we will explain why “Ji” evolves in this way.

A. Generalization

Generalization is the dominant mechanism in the ideational function period of the grammaticalization of “Ji”. Generalization refers to a word, at the very beginning, can only have its lexical meaning, but because of pragmatics, gradually it is used to refer to other things, causing its lexical meaning or original meaning gradually disappears. The original meanings of “Ji” are “the ridge beam or roof of one house” and “wooden used to carry things tied on donkey”, but gradually it is generalized to “the highest part of something or someplace”, which makes its lexical meaning lost. Generally speaking, to anyone, the top of something is subjective and relative. This lexical change provides the necessary condition for “Ji” transmitting to interpersonal function.

B. Metaphors

Metaphor plays a key role in the interpersonal function period of “Ji”. From the cognitive linguistics point of view, metaphor acts as a cognitive instrument, which means metaphor is not just a stylistically attractive way of expressing ideas by means of language, but a way of thinking about things. We usually use object A to explain or conceptualize object B. Object A is called source concept and object B is called target concept. Generally speaking, both object A and B are from two different categories, they have some similarities. The mapping scope from source concept to target concept is from concrete to abstract, from simple to complex, from the near things to the distant things, form familiar things to the unfamiliar things. Some cognitive linguists believe that there are some roles of human cognitive domain. The mapping regularities and rules are as follows:

<table>
<thead>
<tr>
<th>People&gt; Process&gt; Space&gt; Time&gt; Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>The main beams supporting a house(N) &gt; The top place of something (N) &gt; To the top point of something(V) &gt; The top of something (Adj)</td>
</tr>
<tr>
<td>Physical domain</td>
</tr>
</tbody>
</table>
“Ji” originally is used as a noun, expressing the main beams supporting a house, by generalization, and it becomes the highest point of all things; and then is grammaticalized as a verb that means to reach to the top of something. Finally, “Ji” is grammaticalized as an adverb to modify adjectives and verbs. The grammaticalization of “Ji” is from physical domain to spatial domain, then to time domain and then to the mental domain.

C. Reanalysis and Analogy

Hopper & Traugott (1993) hold that the main mechanisms for grammaticalization are reanalysis and analogy. Reanalysis happens in the syntagmatic level. It refers to the change of internal structure of a sentence due to pragmatic and other reasons, such as the change of syntax, semantic, phonological, lexical and so on. Reanalysis will lead to the change and fusion between the various structural components. “Ji” is originally used as a noun, expressing the main beams supporting a house, by generalization, it becomes the highest point of all things; and then is grammaticalized as a verb that means to reach to the top of something. Finally, “Ji” is grammaticalized as an adverb to modify adjectives and verbs. According to Zhao Jun (2006), “Ji” first collocates with psychological verb which expresses people’s subjective feelings and attitudes with very weak action and time property. It is different from general verbs that express a specific action. In syntactic structure, “Ji” can also be composed of other forms, such as: “Ji+V” structure, “V+Ji” structure, “V/A + Ji” structure and “V/A + Ji + Le” structure, etc.

Analogy occurs in paradigmatic level. It refers to some new structure gained from internal structure of a sentence by analogy methods, such as we can get “V/A+Ji” from “V+Zhi+Ji” and get “V/A + Ji + Le” structure from “V/A+Ji”. All this are analogy.

D. Subjectivity and Subjectification

Subjectivity is a feature of language that addressers make utterances and at the same time show their position, attitudes and feelings, which leave the mark of self in discourse (Finnegan, 1995:1; Shen Jiaxuan, 2001). Subjectification is an evolution process of subjectivity to achieve corresponding performance structure of the form or experience. Wen Xu & Huang Bei (2008) once used Traugott and Langacker’s subjectivity and subjectification framework (1990), from diachronic and synchronic perspectives, to testify the grammaticalization of “Ji” which is also a process of subjectification. The study of subjectivity and subjectification mainly focuses on three aspects: 1) the speaker's perspective; 2) the speaker's emotion; 3) the speaker’s knowledge (Shen Jiaxuan, 2001). Perspective is the starting point of a conversation, which is the focus of people's attention. “Ji” as the highest point of all things is subjective, for each person's judgment is different. Emotions can be regarded as a kind of “social reference”. People get emotional information from the environment around them and help understand uncertain information, act correspondingly. “Hao ji le”and “Bang ji le” represent a very positive attitude and the listener's subjective belief, which shows the listener agree with what the speaker said. From the perspective of people’s knowledge, “the main beams supporting a house” has clear referential meaning and certain objectivity, but with the deepening of grammaticalization, “Ji” in “hao ji le” has the function of discourse, which is regarded as a higher level of subjectivity.

V. CONCLUSION

This paper studies the process and motivation of grammaticalization of Chinese character “Ji” from the diachronic perspective. It is found that the grammaticalization of “Ji”, indeed, has ideational function, textual function and interpersonal function, which is against the theoretical assumption put forward by Traugott. The correct inequation is: Ideational> [Interpersonal > textual]. Besides, subjectification runs through the whole process of grammaticalization. Generalization, metaphor, re-analysis and analogy are only the dominant motivation in a particular stage of its grammaticalization process. However, there still further study for Ji, for instance, how to understand “V/A+Ji+Le” construction?

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