The Cognitive Perspective of Yulin Yuan on Modern Chinese Grammar

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Abstract

This paper is mainly a review of Yulin Yuan's book *Cognition-Based Studies on Chinese Grammar* which, as one of the book series of Routledge Studies in Chinese Linguistics, was published by Routledge in 2017. On the one hand, Yuan's cognitive studies of and his Yuanian insight into Chinese grammar are of vital importance to those students and researchers who specialise or are interested in the Chinese language, especially modern Chinese grammar. On the other hand, his research may probably promote the development of cognitive linguistics on the whole with regard to linguistic typology.

Keywords: Chinese grammar, cognition, recontextualisation, cognitive grammar

1. Introduction

Cognitive studies on grammar began in the 1950s with an attempt to uncover the organizing principles and working mechanism of human intelligence via language. Chomsky adopts a formal rule system to handle what he believes to be the autonomous grammatical module, which leads to a decontextualisation approach to grammar matters. Confronted with its theoretical shortcomings, more and more grammarians feel the need of recuperation of contextual factors. For instance, word grammarians affirm the central role of words in syntax by treating a syntactic relation as a relation of dependency between words, cognitive grammarians advocate a meaning-centered/driven approach to grammar, and functional grammarians investigate the discursive motivation for grammatical structure. Therefore, lexicon, semantics and pragmatics are once again integrated into grammatical study, which highlights a recontextualisation of grammar (Geeraerts & Cuyckens, 2007).

In China, Yulin Yuan is one of the very first Chinese scholars who, in the early 1990s, introduced cognitive approaches into the study of Chinese grammar. In fact, he incorporates each of the above approaches for an in-depth knowledge of Chinese grammar, and above all, formalises his findings through linguistic means with the ultimate view to promoting Chinese computational linguistics. He has built up a national reputation not merely by the number of his publications but rather by his theoretical insight into Chinese grammar. In fact, as he realises, although there is no dearth of new discoveries in Chinese grammar study after Chao (1968), little thereabout has been made known to European or American linguists since most relevant papers and monographs were written in Chinese, out of international reach. Therefore he feels an urge to introduce the newest achievements in Chinese study to the West (Yuan, 1994)[1]. Guoxiang Wu translates eight of his representative works which are widely distributed and highly cited (written in Chinese during 1992-2004) and presents it as a book titled as *Cognition-Based Studies on Chinese Grammar*, which makes his 20-year-old dream come true, as a member of the book series of Routledge Studies in Chinese Linguistics.

2. Main Contents of the Book

This book consists of four parts, each containing two chapters on the same or analogous theme(s). Part one is nominal valency in mandarin Chinese. Yuan extends the concept 'valency' from verbs to Chinese nouns[2]. Chapter one examines

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[1]Most of Yuan's academic accomplishments in Chinese grammar research can be found in Yuan (2004, 2008, 2010, 2013)

[2]The concept 'verb valency' originates from Lucien Tesni ère, a French linguist, who has developed Dependency Grammar Theory of syntax (Tesni ère, 1959). From https://en.wikipedia.org/wiki/Valency_%28linguistics%29. Taylor's

the di-valent noun by developing Leech's (1983) 'down-graded predication' and formulates the semantic structure of a di-valent noun as: N<a P b>[3]. Take the semantic description of *notion/feeling* for example, notion/feeling <someone toward someone/something>, Yuan discusses the downgraded subject, downgraded object and the ensuing ambiguity due to the overlapping of their animate reference. Some related sentence patterns are distinguished: S_1: NP_a + du ì[4] NP_b + V + N<X>; S_2: NP_a + du ìNP_b + N<X> + VP; S_3: NP_a du ìNP_b de N<X> + VP. A chemical analogy is used to account for how NP_a and NP_b are upgraded as subject and object (as in NP_a V NP_b). Other three types of valent nouns are also discussed: cross-categorical verbal nouns, nominal verbs and verb-noun compounds. What they have in common is that the dependent items (subject/object) of the original verbs are transformed into the dependent items (degraded subject/object) of the corresponding nouns with the help of the preposition *du ì*

Chapter two explores the mono-valent noun based on two cognitive processes: spreading activation and default reasoning. In the formula N<a P b>, 'N' is a mono-valent noun when it is semantically co-referential to 'a'. And 'P' is an implicit binary relation between 'a' and 'b'. The presence of 'a' is supposed to activate its dependent item 'b' to license co-occurrence. For example, in *Xiǎo Wáng de bàba* (Xiao Wang's dad), a typical *de*-construction, the dependent item *Xiǎo Wáng* is activated by the mono-valent noun *bàba* which serves as the latter's referential frame. Furthermore, a mono-valent noun can be activated by the interaction between the independent item and the predicative adjective. For instance, in *Wáng Xiǎo-míng xiā le* (Xiaoming Wang goes blind), the semantic feature [eye(s)], entailed by *xiā* (blind), can be recovered from its economy-motivated omission. Consequently, the semantic spreading activation of lexical items can be employed to carry out default reasoning. In addition, Yuan investigates sentence patterns and discourse understanding related to mono-valent nouns by revealing the semantic relations between syntactic constituents. His research on nominal valency is meant to carry out a formalised semantic calculation.

Part two addresses referential rules of the *de*-construction, nominal reference and pronominal reference. Chapter three begins with a detailed analysis of 'NP + *de*' by introducing the concept 'implicit predicate' (represented by Vø), regarding the construction as the omission of either 'Vø + NP + *de*' or 'NP + Vø + *de*'. The referential rule of 'NP_1 + *de* + NP_2' goes as: only if 'NP_1 + *de*' extracts the object of the implicit predicate and the head NP_2 is an a-valent noun (or an autonomous semantic unit in cognitive grammar), can 'NP_1 + *de*' refer to the head. After discussion of 'VP + *de* + NP' and 'AP + *de* + NP'[5], Yuan further generalises the referential rule for *de*-construction at the syntactic, semantic and pragmatic level respectively. The implicit predicate can well account for syntactic deletion, semantic implication and pragmatic ellipsis in *de*-construction. *De* in the subordinate nominal construction 'X + *de* + Y' can be seen as a trans-designative nominalisation marker by means of some transformational operation, in that *de* can originally be seen as connecting X and Y in a predicative construction with the help of the so-called 'implicit predicate'. When kernal cases[6] are extracted, 'X + *de*' designates the head Y, but when peripheral cases are extracted, it just modifies the head Y.

Chapter four expounds the referential rules of nominal expressions and related pronouns. First, Yuan illustrates the relationship between two types of verb phrases (VPs) and topicalisation, namely, if the SV-construction or the VO-construction occur in the topic position, the nominal subject or object can represent the whole verbal construction. Meanwhile, he presents to readers the commonality of the referential rule for the third-person pronouns in both Modern and Classical Chinese in representing predicative constituents. Since the noun may represent the whole VP that acts as a/the topic, the related pronoun is eligible to represent not only its antecedent noun but also the VP by referential transmission, which gives rise to the fluctuation of pronominal reference. To disambiguate the pronominal reference, specific contextual cue are required.

Part three is meant to uncover grammatical processes, grammatical significance and the degree of grammaticalisation of topic structure from both synchronic and diachronic perspectives. In chapter five, the author first regards the topic structure (the subject-predicate predicate sentence) as derived from the subject-predicate sentence and then discusses some syntactic and semantic constraints for such derivation. Besides, pragmatic factors also motivate the transformation from a subject-predicate sentence to a topic structure by pre-positioning some constituent(s) which are originally in (the

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(2002: 227-28) discussion of conceptual dependence of kinship noun uncle can be deemed as mono-valent noun in that it usually requires another noun for co-occurrence in order to inform the reader/hearer of whose uncle being talked about.

[3]'N' represents the major semantic component and '<a P b>', the downgraded predication ('a' and 'b' represents the individual constants, while 'P', the predicate). For convenience, Yuan adopts '<X>' to stand for '<a P b>'. So the di-valent noun 'N<a P b>' can be rewritten as 'N<X>'.

[4]Here *du ì*/对 is a preposition, meaning *toward*.

[5]Both VP and AP are predicative elements.

[6]They include nominative cases and accusative cases.

middle of) the sentence, hence topicalisation. And a multi-topic construction is generated when two or three constituents of different semantic cases are thus raised to the initial/topic position(s). Topicalisation not only changes the sentential structure, but also affects such grammatical processes as identity deletion, nominalisation and verb valency. Despite the derivativeness of topic structure, it is deemed as a fundamental pattern owing to the transformational constraints between the topic structure and subject-predicate structure, which is explored in the next chapter.

Chapter six investigates the grammatical status and degree of grammaticalisation of the Chinese topic. Considering the rarity of topic markers in written discourse, Yuan studies the distribution and functions of topic markers in Beijing dialect and observes six types of topic structure. Diachronically, the topic can be introduced initially by a clause, then by a content word, then by a function word, and finally by word order. Such a grammaticalisation process can provide a relatively reasonable explanation for a topic structure which cannot be well accounted for in terms of synchronic transformation, referred to as 'grammaticalisation of topics'. Synchronically, a syntactic constituent can be transformed into the topic by appending to it a punctuation and/or a modal particle like *ba*, *ya*, *ne*, etc., thus 'textualisation of sentence'. This Chinese-specific topicalisation process can be best explained by combination of the two perspectives, if one wishes to see the generative mechanism of various topic structures, the dualism and indeterminacy of Chinese topic (a syntactic constituent or a textual constituent).

Part four offers a cognitive explanation to word order and lexical co-occurrence. Chapter seven starts with the description for the word order of multi-attributive subordinate constructions and provides an abstract explanation in terms of semantic paradigm, i.e., an attributive with fewer opposite items goes before an attributive with more opposite items, which is further explained from the perspective of information theory – a less informative attributive precedes a more informative one. The underlying cognitive account is that the former is more processible or accessible. This rule – less informative, or old/given constituents, usually easier to process, tend to occur before more informative, or new ones, naturally harder to process – is extended by Yuan to other syntactic constituents, such as personal name[7], subject-predicate construction, appositional construction and serial-modal-verb construction.

Chapter eight is an illustration of how metaphors help us analyse the restrictions for lexical co-occurrence based on the meaning and usage differences between 'mǎn' (full) and 'quán' (whole). Yuan draws upon the concept of 'container metaphor' for 'mǎn' and 'set metaphor' for 'quán'. Owing to the topological variation of containers, he steers his metaphorical analysis into schematic analysis to embrace the common mental representation/configuration of different container metaphors. In terms of image schema, the two metaphors can be neutralised as the holistic schema yī (one). In this case, 'mǎn' and 'quán' not only co-occur co-textually but also are subject to substitution by 'yī'. Moreover, this ONE-schema can neutralise the 'one-pair schema' 'shuāng' (a pair) and the 'two-half schema' 'liǎng' (two/double), an interesting and helpful distinction for Chinese linguistics. Finally, Yuan aims to establish formalised semantic representation rules by predicate logic for his ultimate goal of converting cognitive interpretation into computational analysis.

3. A Brief Review of the Book

On the whole, this book is an equivalent translation of Yuan's original papers, meticulously and logically organised. The four seemingly independent parts are interwoven in topics and content. With regard to the former two parts, chapter one lays a foundation for chapter two, both constituting the prerequisite for discussion of chapter three. By centering on a vitally important grammatical category, the noun, part one means to probe into the syntactic and semantic features of Chinese nouns by introducing such concepts as 'valency' and 'down-graded predication' and part two focuses on two referential relations: the nouns being referred to by other constituents (such as *de*-construction, chapter 3) and the nouns (and pronouns) referring to other constituents (chapter 4), which can be ascribed to an underlying cognitive mechanism called 'metonymy[8]', hence metonymic reference. Chapters five to seven are all relevant to word order owing to its remarkable status in Chinese grammar. Chapters five and six conduct an overall study of Chinese topic and topicalisation by synchronic transformation and diachronic grammaticalisation. The study on the word order of multiple-attributive subordinate constructions (chapter seven) is extendable to many more linguistic architectures. The last chapter is relatively independent of other chapters, which draws on metaphor and image schema to analyse lexical co-occurrence and its constraints. Yuan has made an attempt to unify cognition and computation by converting the formal representation of cognitive interpretation into computational rules.

Influenced by earlier Chinese grammarians like Yuenren Chao, Shuxiang Lv and Dexi Zhu, Yuan consistently follows the research tradition in Chinese grammar and bases his research on the description and analysis of adequate linguistic

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[7]According to Yuan, the reason why the surname is placed before the given name is that there are at most four hundred surnames in Chinese, whereas there are hundreds of thousands of given names.

[8]It is a pity that Yuan didn't employ this term in his works.

acts, as observed in this book. Moreover, he develops this tradition tremendously by an inductive generalisation. What is particularly remarkable is that he introduces modern cognitive sciences, empirical approaches and computational linguistics into the study of Chinese grammar. Yet he does not confine his research to one specific cognitive approach, but resorts to case grammar, context, metaphor, image schema, whatsoever, if necessary or helpful.

Yuan dedicates himself to formalising world knowledge through linguistic and logic means for the sake of computational understanding of natural language by drawing on the concepts and methodologies of computational linguistics. For example, he adopts the concept of 'nominal valency' to transform various complex relations of different objects into syntactic and semantic relations of different nouns. Moreover, he strives to transform semantic explanations into corresponding algorithmic rules and formal representations in order to promote the development of Chinese computational linguistics. All in all, Yuan starts with description of a series of important concrete Chinese constructions, generalises abstract rules with a consideration to both the syntagmatic and paradigmatic relations within the language system and extends these rules to more similar or relevant constructions, hence a Yuanian development of cognitive usage-based model.

Inspected closely, however, there may be found some weaknesses. In regard to methodology, Yuan adopts initial description of linguistic phenomena followed by abstract generalisation of rules and finally gives a cognitive explanation. In other words, the generalisation of rules may be unjustified or even misleading if given linguistic facts are inadequate or inaccurately described, or different conclusions may be obtained by depicting different linguistic facts. For example, Yuan uses *dà māo wèi dà wǎn* (The big cat is fed with the big bowl) as an example (p132) to illustrate that the instrumental object cannot be pre-positioned as a/the topic, for *dà wǎn dà māo wèi* (The big bowl the big cat is fed) is ungrammatical. But if we choose another example: *dà rén chī dà wǎn* (Adults eat (with) big bowls), apparently, the instrumental object is qualified to be the topic of the sentence. In this case, the topic structure *dà wǎn dà rén chī* (Big bowls are for adults) is a regular transformation of the original subject-predicate structure. Secondly, such concepts as 'derivation' and 'transformation' have been employed to talk about sentential structure and topicalisation, which stimulates us to ponder over a controversial theoretical issue: Is Chinese topic structure movement-driven or base-generated? Which type is more feasible and convincing remains to be examined further and proved empirically. Finally, there are some minor reader-unfriendly problems. For instance, some subtitles as well as English translations of some examples are not quite pleasing to the eye due to its improper or irregular placement and the font size of some examples are inconsistent somewhere in the book.

However, the defects cannot belittle the virtues. In view of the extant academic excellence and vitality of the original papers, the translator Guoxiang Wu presents to international readers in book form what can be regarded as Yuanian approach to Chinese grammar. It must be admitted that this book provides a profound insight into the most fundamental Chinese grammatical issues, including the noun, referential rules, topic and topicalisation, and word order. Meanwhile, Yuan's contribution to Chinese computational linguistics should never be underestimated. So it is an excellent resource to those students and researchers who specialise or are interested in Chinese language, especially modern Chinese grammar. Moreover, Yuanian insight into Chinese grammar may probably promote the development of cognitive linguistics on the whole with regard to linguistic typology.

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