Syntactic Analysis of Nominal Clauses Based on Chomsky's Generative Grammar and Implications for Language Teaching

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Abstract: ***Nominal clause is a clause with nominal feature and syntactic analysis is the study of laws of sentence constructions. And Chomsky's Generative Grammar is a very useful method to analyse a sentence in an explanatory way. This paper aims to focus on how to understand a nominal clause under Generative Grammar (GG) for the explanatory adequacy. In doing so, it will give a brief explanation to the generative mechanisms of simple sentence under GG, then move on to the similar mechanisms of complex sentence, here, it will focus on nominal clauses. On the syntactic analysis of nominal clauses, there are two steps: first recognizing its position in the whole sentence, then picking a proper connective for the nominal clause. Notice this paper will analyse a complex noun sentence for two sentences, one is the whole sentence, and another is the small clause, namely, the nominal clause within the whole sentence. Thus, it can conclude a way to analyse nominal clauses syntactically, and understand their inner constructions. Furthermore, it can explain why a nominal clause form like this and have a better understanding of complex sentences. More importantly, such method can play its role in linguistics and foreign language teaching, which would help language teachers build up a better understanding of the nature of language and the process of language learning.***

Keywords: Generative Grammar; syntactic analysis; English nominal clauses; linguistics teaching.

1. INTRODUCTION

This paper will focus on why it does such work on syntactic analysis of nominal clause. Here are several reasons. First, Traditional Grammar often defines nominal clause according to its grammatical function: nominal clause can function as noun phrases in a sentence. And it can be used as a subject, object, predicative complement, and apposition in a sentence, thus, subject clause (SC for short), object clause (OC), predicative clause (PC) and appositive clause (AP), respectively (Zhang Zhenbang, 2022, 369-370). And Traditional Grammar adopts this for picking connectives within nominal clause. In this case, Traditional Grammar tends to summarize roles of its usages rather than explaining why it functions in such ways, which appears a little perspective and need to be memorized for most English learners. Furthermore, many English learners have trouble in analyzing some long and difficult sentences, for example, some of them have no idea which clause it is in a sentence and not to mention to pick a proper connective accordingly. Traditional Grammar provides a good description of the concrete facts of a specific language, and many specifically descriptive rules have been summarized. However, just as Ning Chunyan says, "there are no conditions and procedures for the use of these rules, and there is no connection between rules, and the grammatical system constructed by the rules is not systematic and operative in the strict sense of the word" (Ning Chunyan, 1996, 10).

Chomsky's Generative Grammar meets the needs for explanation, that is why this paper chooses it as the theoretical basis. According to Neil Smith, Chomsky "has produced explanatory theories that are making possible an understanding of the nature of language and, most importantly, how language is acquired" (Smith, 1994, 521). He was primarily intended to explain the procedures for the organization and functioning of the mechanisms of language in the human brain. Zhao Shikai makes sure of Chomsky's work, "The fundamental question is to answer how humans can generate and understand language" (Zhao Shikai, 2001, 11). With the explanatory adequacy, Generative Grammar can study the causes of the linguistic facts (e.g. sentences), and answer why the nominal clause can be this way and not that way, why it can only be said this way and not that way, and why sentences can be interpreted in this way and not that way. Nominal clause is a type of complex sentence, if one can have a clear understanding of it through the methods of Generative Grammar, he or she could apply such method to other clauses. With such abilities, one can better cope with the long and difficult sentences. Concerning language learning, Generative Grammer still works, He Xiaowei points out "although the study of generative grammar is not directly aimed at foreign language teaching, some of the principles and findings of the theory of generative grammar can be applied to daily foreign language teaching activities and can be used to analyse students' common grammatical errors from a new perspective" (He Xiaowei, 2004, 26). And Huang Hebin and Dai Xiuhua has

analysed some English language structures from the IP-CP analytical approach under Generative Grammar, which turns out to be true and clear. Based on this, this paper will try to analyse nominal clauses in such syntactical way. The paper consists of five chapters. The first chapter is a brief introduction, including some basic information about nominal clauses, and the reasons why this paper chooses this perspective, and the layout for the study. Chapter two is a theoretical framework concerned with the topic, presenting the definition and five stages of Generative Grammar, the syntactic functions of the syntactic variables and the generative mechanisms of simple sentence. Chapter three delineates on syntactic derivations of nominal clauses in English according to the classifications. Chapter four illustrates two steps of the generative mechanisms of nominal clauses, especially the second step for picking connectives. Guided by enough theoretical evidences — this paper will illustrate the syntactic derivation of English nominal clauses through analysis of Figures from Chapter two to Chapter four. Working out the derivation of nominal clauses in English, it will conclude the generative mechanisms to find out the universality and individuality. And Chapter three and Chapter four will give the connections between Generative Grammer and foreign language teaching. Chapter five is a conclusive part, containing the main results, limitations of the research, and suggestions for further study.

2. THEORETICAL BASIS: GENERATIVE GRAMMAR

2.1 Preview and a brief introduction of Generative Grammar

As mentioned in Chapter one, Chomsky's Generative Grammar can meet the explanatory need for nominal clause, then this paper will focus on how this forms and works.

1957, Chomsky's "Syntactic Structure" was published, marking American Structuralist Linguistics at that time, and was called "Chomsky's Revolution" by John R. the beginning of "transformational generative grammar". He said Chomsky's theory "was based on the philosophy of rationalism, which was totally different from the American structuralism based on empiricism", and "the emergence of Transformational Generative Linguistics (TGL) was a great challenge to the mainstream Searle" (Searle, 1972, 198). Chomsky simply defines Generative Grammar as "a system of rules that in some explicit and well-defined way assigns structural descriptions to sentences." He holds that "every speaker of a language has mastered and internalized a generative grammar that expresses his knowledge of his language." "Thus, a generative grammar attempts to specify what the speaker actually knows, not what he may report about his knowledge" (Chomsky, 1965, 8).

From its birth to the present day, TG Grammar has seen five stages of development. The Classical Theory (1957-1965) "aims to make linguistics a science". The Standard Theory (1965-1970) "deals with how semantics should be studied in a linguistics theory". The Extended Standard Theory (1970-1979) "focuses discussion on language universals and universal grammar". The Revised Extended Standard Theory (or GB) (1979-1994) "focuses discussion on government and binding". The latest is the Minimalist Program (1995-), "a further revision of the previous theory" (Hu Zhuanglin, 2019, 307). Chomsky points out "it is far from obvious that language should have anything at all like the character postulated in the Minimalist Program, which is just that: a research program concerned with filling the gaps and determining the answers to the basic questions raised in the opening paragraph of the introduction, in particular, the question "How 'perfect' is language?" (Chomsky, 1995, 203). And this paper is based on the theory in the Minimalist Program (MP for short).

Transformational generative linguistics itself is a theory that is constantly evolving and mature, as has been seen from the above analysis of its development and changes, some people think that Chomsky is changeable, but this happens to be Chomsky's respect for science and the mastery of language research. Niu Xilai and Wang Han show positive attitudes for Generative Grammar, "the impact of conversion generation syntax is far from over and will continue to do so. The theory of transformational generative grammar has never been finalized, and more linguists are needed to add to it" (Niu Xilai & Wang Han, 2008, 113).

2.2 Syntactic functions of the syntactic variables

Chomsky assumes that "a full clause is headed by a complementizer C, hence is a CP, satisfying X-bar theory. C may have a specifier and must have a complement, a propositional phrase that we assume to be headed by another functional category I (inflection), which has the obligatory complement VP." He also refers that "specifier, complement, and adjunct are functional (relational), not categorial; thus, there is no categorial symbol Spec, but rather a relation specifier-of," and so on (Chomsky, 1995, 47-49).

About complementizer, Lu Shan has talked fully about it, and this paper will pick some parts to give a brief introduction about complementizer. After "Lectures on Government and Binding", "Chomsky assumes that a clause (S') consists of a Complementizer COMP and a propositional component (S) which is analysed as NP-INFL-VP at Logical Form". He proposes that COMP, in D-structure, should be one of the following: [+WH], [-WH] or "for". According to Lu Shan, "The element [+WH] heads an interrogative complement and is abstract that appears in direct and indirect questions. It might be base-generated with lexical content in the case of such elements as "whether". While [-WH] is spelled out as "that" in English (it may also be null) and equivalents in other languages" (Lu Shan, 2011, 6).

Radford agrees to consider "that/for/whether/if" as Complementizers and concludes their features by [±WH] and [±FINITE]. The former is to indicate whether a Complementizer is interrogative or not while the latter to indicate whether a Complementizer can introduce a finite or nonfinite Clause (or both). He uses the following four equations to further illustrate.

that = [-WH, +FINITE]

for = [-WH, -FINITE]

whether = [+WH, ±FINITE]

if = [+WH, +FINITE] (Radford, 1989, 296)

Here, in English nominal clauses, this paper will mainly focus on that/whether/if in Chapter Four, and the differences between "whether" and "if" in 4.2.2.2.

This paper will give a brief explanation to specifier. According to Chomsky, "specifiers are typically optional"; he assumes this is true of [Spec, CP]. "The Extended Projection Principle (EPP) states that [Spec, IP] is obligatory, perhaps as a morphological property of I or by virtue of the predicational character of VP" (Chomsky, 1995, 49). Then, it will move on to the last element: complement. Bresnan provided some paradigms of complement constructions: "object complementation, subject complementation, complex NP complementation, copular complementation, and adjoint complementation", and the first four are in the scope of English nominal clauses (Bresnan, 1970, 46).

As mentioned before, in a full clause complement is headed by I, hence, IP. E.g.

1) a. John believes [Bill to be intelligent]

b. John considers [Bill intelligent]

c. that gift made [Bill my friend for life] (Chomsky, 1995, 52)

Chomsky points out, "the embedded clauses of above contain I, hence IP; there is no evidence for any further structure." To account for the differences from the embedded CP infinitivals, he assumes that "the embedded clause is just IP", and "the embedded subject is governed by the matrix verb, a relation that suffices to assign Case, license trace, and bar PRO, as in verb-object constructions". In the examples of [1) b – c] "there is no overt functional head". For this case, he says, "assuming the phrase boundaries indicated, either there is an EC I, or the embedded phrases are projections of their predicates, so-called small clauses". Either way, Bill is "the subject of the embedded clause", behaving as in [1) a] and unlike the subject of an embedded CP (ibid., 52-53).

2.3 Conclusion: generative mechanisms of simple sentence

Chomsky has so far considered two functional categories: I and C.

A natural extension is that just as propositions are projections of functional categories, so are the traditional noun phrases. The functional head in this case is D, a position filled by a determiner, a possessive agreement element, or a pronoun. (ibid., 53).

Chomsky (1995) mentions a clause typically has the form 2):

2) [$_{CP}$ Spec [$_{C'}$ C [$_{IP}$ Spec [$_{I'}$ VP]]]] (ibid., 49)

According to Chomsky's sequence of rewriting rules, here it is 3):

3) VP→V^NP (Chomsky, 1965, 67)

Put all the above together, this paper can refer to a tree Figure (Figure 1) concerning the form of a clause, namely, a simple sentence.

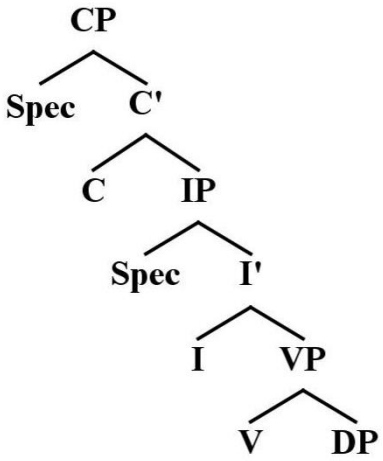

Figure 1: The generative model of simple clause

Chomsky assumes these to have the form illustrated in 2), "who" being in [Spec, CP], "has" raising to C and leaving the trace *t*, *t*w being the trace of "who", as shown in 4).

4) [CP who has [IP John *t* [VP met *t*w]]] (Chomsky, 1995, 50)

Leaving behind trace issue mentioned above, this paper just briefly explanations how the sentence "Who has John met?" can be generated and analysed. Here, "who" is the specifier of CP, and the reasons for it will be elaborated in 4.2.2.1; and "has" is raised to the Complementizer position, note here it is just raised, and does not have the real complementizer function, for this, this paper has explained what is a complementizer earlier in this section. Then, "John" is the specifier of IP, which is the subject of the whole sentence here. "Who" is the real object of this sentence, and it is raised to the specifier of CP of the sentence for the order of the interrogatory sentence here. What if this sentence is in the declarative order, that is, sentence 5).

5) John has met who.

In this sentence, "John" is the specifier of IP, "who" is the object of VP, and "has" becomes part of VP for tense (Note here will not elaborate TP, which gives tense a more proper explanation, for without this part it can still analyse the sentences to the broad sense). It can be seen that both the specifier of CP and Complementizer of CP are null in sentence 5), which is a complete sentence syntactically and semantically.

The generative mechanisms of simple sentence can also be applied to the complex sentences, and this paper will focus on that in following two chapters within nominal clauses. And Chomsky has already proved it is true. He says structures of the form 2) may also appear in embedded position, and also give syntactic analysis of sentence 6) as in the indirect question, which is with an embedded object clause.

6) I wonder who John has met. (Chomsky, 1995, 50)

So far, this paper has analysed part of sentence 6), and later it will analyse similar sentences, thus, here, it doesn't analyse more about sentence 6). For in this part, this paper focuses on the generative mechanisms of simple sentences, and it gives a brief review of the generative process, which is the basis of its later syntactic analysis of nominal clauses just like sentence 6). And after knowing well about such progress of simple sentence, it will give an easier understanding of nominal clauses that it will develop later, which can be used to conclude other types of clauses in complex sentences.

3. CLASSIFICATIONS OF NOMINAL CLAUSES

3.1 Preview: the general method of the classification

This Chapter will introduce how to classify nominal clauses according to Chomsky's Generative Grammar, more specifically, analysis of CP-IP under the Minimalist Program. And it will begin with a brief review about the definition of nominal clause. As illustrated in Chapter one, Traditional Grammar often defines nominal clauses according to its position and function, thus, it refers to subject clause (SC), object clause (OC), predicative clause (PC) and appositive clause (AP). As a further explanation for 2.2, Chomsky defines subject and object under MP: the specifier of IP is the subject of IP ([Specifier, IP]); the nominal complement of VP is the object of VP. He says, "we take these to be functional rather than categorial notions" (Chomsky, 1995, 49). Here this paper adopts the traditional definition of English nominal clause and apply it under Chomsky's Minimalist Program. All in all, in a sentence, noun phrases can occur in two positions: specifier of IP and nominal complement of VP, functioning as part of or the whole subject or object in the whole sentence. Adding Bresnan's types of complement constructions concerning with nominal clauses in 2.2, this paper will divide English nominal clauses into three parts according to their positions and functions. There are the specifier/subject of IP in the whole sentence, the object/nominal complement of VP in the whole sentence and the equivalent of the subject of IP or the object of VP in the whole sentence.

3.2 Classifying nominal clauses under Generative Grammar

3.2.1 Functioning as the specifier/subject of IP in the whole sentence

This section will focus on when noun phrase occurs at the specifier of IP, functioning as the whole subject of IP. In Traditional Grammar, it is called subject clause (SC). E.g.

1) **Whether she comes or not** doesn't concern me.

2) **That AI should have married his cousin** is not at all surprising.

(Zhang Zhenbang, 2022, 370)

In these two examples, all the words printed in bold are subject clauses. In sentence 1), "whether she comes or not" is already a complete sentence within itself, which has its own subject, predicate and object, and at the same time, it serves as a subject in the whole sentence. Also, in sentence 2), "that AI should have married his cousin" conveys the complete meaning itself, then, it is the subject of IP.

Sometimes, in order to avoid top-heavy sentences, the formal subject "it" is often used instead of the subject clause as the formal subject is placed at the beginning of the sentence, and the subject clause is placed at the end of the sentence. The predicate verb after the subject clause is generally in the singular form. E.g.

3) It is quite clear **that the crime was done deliberately**. (ibid., 370)

In sentence 3), "that the crime was done deliberately" is the real subject in the whole sentence, but compared to the whole sentence, it appears too long and not so easy to get the point "clear". To avoid this, it is usual to put the subject clause at the end of the whole sentence.

3.2.2 Functioning as the object/nominal complement of VP in the whole sentence

The same is true when the nominal clause comes to the nominal complement of VP, functioning as the whole object of VP, which is often called as object clause. E.g.

4) I haven't decided yet **which would be the best thing to do**. (ibid., 370)

5) We never doubt **that he is honest.** (ibid., 370)

Here, the printed bolds follow after the transitive verb "decided" and "doubt", serving as object in each whole sentence. In sentence 4), "which would be the best thing to do" is complete in meaning and syntax itself, functions

as object in sentence 4). Likewise, in sentence 5), "we" and "doubt" is the subject and predicative verb respectively, and the complete sentence "that he is honest" serves as the object.

When the transitive verb is replaced by the linking verb, the small clause turns into predicative clause. Note both object clause and predicative clause are the whole part of the nominal complement of VP, namely, they are in the same position and have nearly the same function in the sentence, that's why they are put into the same classification. E.g.

6) The fact is **that he didn't notice the car until too late.**

7) The question is **why he likes the place so much.** (ibid., 370)

In sentence 6) and 7), the linking verb "is" precedes the predicative clause, which serves as the whole part of the nominal complement of the linking verb. It's clear that "that he didn't notice the car until too late" and "why he likes the place so much" are separately complete sentences, and functions as copular complement according to Bresnan in 2.2.

3.2.3 Functioning as the equivalent of the subject of IP or the object of VP in the whole sentence

Both 3.2.1 and 3.2.2 focus on when a nominal clause servs as the whole part of the subject of IP and the nominal complement of VP, but how about a nominal clause is just a part of the two positions? Then it comes to the appositive clause which follows a noun phrase and serves as a further explanation of the noun phrase. E.g.

8) They had to face the fact **that the nearest filling station is 30 miles away.**

9) My original question, **why he did it at all**, has not been answered. (ibid., 370)

The printed bolds are two complete small clauses, which are equivalents to the object of VP and the subject of IP. In sentence 8), the main clause "they had to face the fact" is already equipped with the necessary elements of a sentence; the small clause "that the nearest filling station is 30 miles away" further explains the object of VP, "the fact". Similarly, in sentence 9), "why he did it at all" is an explanation of the subject of IP "my original question". If the object of VP "the fact" is deleted in sentence 8), the new sentence is syntactically and semantically right; if such deletion occurs to its equivalent, the new sentence can still function. Thus, they turn out to be sentence 10) and 11). E.g.

10) They had to face the fact.

11) They had to face that the nearest filling station is 30 miles away.

Sentence 10) is a simple sentence, with "the fact" as its object. While sentence 11) is a complex sentence with an object clause, namely, the small clause "that the nearest filling station is 30 miles away" serves as the object in the whole sentence. And putting these two sentences together, a more well-equipped sentence can be concluded as shown before, that is, sentence 8). Obviously, it can be inferred that the small clause "that the nearest filling station is 3 miles away" have the function as an object. Together with the original object "the fact", it can get a complex object "the fact that the nearest filling station is 30 miles away". Likewise, it can conclude how sentence 9) is formed with its two related sentences.

12) My original question has not been answered.

13) Why he did it at all has not been answered. (Zhang Zhenbang, 2022, 370)

Based on previse conclusion, it's quite clear that "my original question" and "why he did it at all" are subjects in each sentence. After combining, that is, sentence 9), the latter is can be seen as a further explanation of the former.

3.3 Conclusion: a Figure about the classification of nominal clauses

This chapter has divided English nominal clauses into three parts according to the position and function under MP. Up to now, it has been a primary outline of its work as shown below in Figure 2. (Notice SC and N+A_sC in [Spec, IP] and OC, PC and N+A_oC in [DP, VP] are just options, which can only occur separately in each set.)

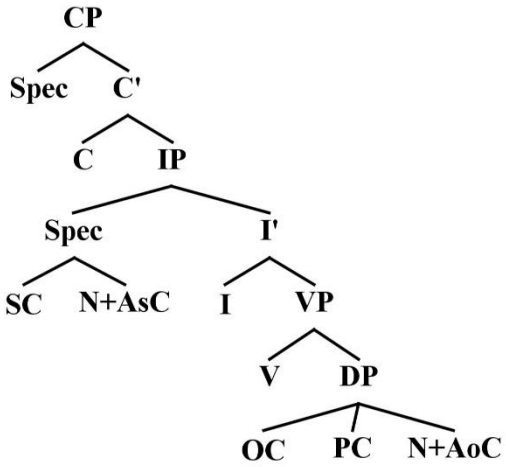

Figure 2: The classification of nominal clauses

Generally speaking, a nominal clause can occur in two positions in general: the specifier of IP and the DP/complement of VP. Then, if it is the former, which functions as the subject of the whole sentence, it is the subject clause; for the latter, which functions as the object of the whole sentence, it is the object clause (the predicative clause, if follows a linking verb). And, if the nominal clause follows a noun phrase in either position, usually the abstract noun, which functions as the equivalent of the specifier of IP and the object of VP, it is an appositive clause.

To a broader sense, such generative mechanisms can help teachers figure out what to teach and how to teach. For example, in this section, the former is the classifications of nominal clauses based on Generative Grammer, and the latter is Figure 2 which shows the syntactic analysis of the classifications of nominal clauses. Yang Zhong emphasizes that "At the operation level, the language teacher is faced with an abundance of variables. His understanding of the nature of language and the process of language learning influences his thinking about what to teach and how to teach. Whether one is aware of it or not, a view of language and language learning underlies one's decisions about teaching" (Yang Zhong, 2022, 216). Generative Grammer's explanatory adequacy meets the needs for understanding the nature of language. Just as S. Pit Corder pointed that "If we teach language, the way we approach our task will be influenced, or even determined, by what we believe language to be, by the particular informal theory or theories we have about it which seem to be relevant to the particular problem we are faced with" (Corder, 1973, 19).

4. SYNTACTIC ANALYSIS OF NOMINAL CLAUSES

4.1 Preview: the syntactically analytical process

Chapter 3 has analysed how to recognize a nominal clause within the whole sentence under MP; and this Chapter will mainly focus on how to pick a proper connective for the nominal clause in the same way. Also, it will illustrate the generative mechanisms of nominal clauses step by step at the same time. There are two steps for the mechanisms: recognize the nominal clause' position in the whole sentence, then pick a proper connective for the nominal clause.

4.2 Two steps in generative mechanisms of nominal clauses

4.2.1 Step one: recognizing its position in the whole sentence
As explained in chapter 3, the primary step has reached, namely, the generative mechanisms of nominal clauses according to the classification. That is, whether it is the specifier/subject of the IP, or the nominal complement/object of VP, or the equivalent to the above two in the whole sentence.

4.2.2 Step two: picking a proper connective for the nominal clause

After recognizing its position in the whole sentence, it's necessary to pick a proper connective for the nominal clause. First, there is a brief review for how Traditional Grammar divides the connectives in nominal clauses, which will help a lot for next sections. Traditional Grammar often divides the connectives in nominal clauses into three classifications: "subordinating conjunctions, conjunctive adverbs and conjunctive pronouns" (Zhang Zhenbang, 2022, 369). According to Cheng Zhong (Figure 3), it can see the different functions of connectives, as well as the different components and contents of the connectives in the clauses:

连词		所代内容		所代成分	功能
连接词	that	无		无	1. 引导名词性从句 2. 在名词性从句中不代替任何成分
	whether/if	是否		无	
疑问词	what	疑问的内容	什么	主语、宾语、表语	1. 引导名词性从句 2. 在名词性从句中代替不同的成分
	which		哪一个	主语、宾语	
	who		谁	主语、宾语	
	whom		谁（宾格）	宾语	
	when		什么时候	状语	
	where		什么地方		
	why		为什么		
	how		怎么样		
	whose		谁的	定语	
"无论…"	whatever	无论什么		主语、宾语	
	whichever	无论哪一个		主语、宾语	
	whoever	无论谁		主语、宾语	
	whomever	无论谁（宾格）		宾语	
	whenever	无论何时		状语	
	wherever	无论哪里			
	however	无论怎样			

Figure 3: The classifications of connectives in nominal clauses by Cheng Zhong (Cheng Zhong, 2012, 95)

Thus, the connectives can be arranged in this way: subordinating conjunctions (that, whether/if), conjunctive adverbs (when, whenever, where, wherever, how, however, why, because, etc.) and conjunctive pronouns (what, whatever, which, whichever, who, whoever, whom, whomever, whose) And the subordinating conjunctions don't replace any of the components in the nominal clauses; while conjunctive pronouns and conjunctive adverbs can replace different components in the nominal clauses, with the former replacing the subject, object, etc., and the latter just replacing the adverbs in the nominal clauses.

Later on, this paper will find their positions within MP. Briefly, they have two positions: the specifier of CP and Complementizer of CP in the nominal clause. More specially, conjunctive pronouns and conjunctive adverbs function as the former, and subordinating conjunctions function as the latter.

This paper will explain the first position: functioning as the specifier of CP in the nominal clause at first.

Chomsky assume that "in general, overt movement of the question words is to the [Spec, CP] position, and the same is true of other constructions" (Chomsky, 1995, 50). He raises the feature Q for question words: "the strong feature of Q must be checked by $F_{Q=}$[wh-]. The structure must therefore contain a wh-phrase with a wh-feature that adjoins covertly to Q. The wh-phrase might be the subject, the object, or an adjunct, an IP lacking C at the point of Spell-Out but interpreted as a wh-question at logical form" (declarative intonation throughout). (Chomsky, 1995, 269) Thus, both conjunctive pronouns and conjunctive adverbs have the wh-feature, which have the same position, namely, [Spec, CP], but differ from their functions. It can be inferred that conjunctive pronouns can serve as (part of) DP in the nominal clause, and conjunctive adverbs are adjunct of VP in the nominal clause. This paper will illustrate them one by one.

Concerning to connective pronouns, there are four pairs which can serve as the whole DP, and "whose" can serve as the determiner part of DP. The four pairs are what(ever), which(ever), who(ever) and whom(ever), and [-ever] refers to anything in general. Furthermore, the first three pairs can serve as both the subject and object, and what can even serve as the predicative part. Last but not the least, whom(ever) can only serve as the accusative. E.g.

1) I haven't decided yet **which would be the best thing to do**.

2) Eat **whichever one you like** and leave the others for whoever comes in late.

3) Can you tell us **who is responsible for the fire**? (Zhang Zhenbang, 2022, 370)

In sentence 1), the printed bolds is the object in the whole sentence, thus, it is object clause. In this nominal clause, its original order is "the best thing to do would be which", obviously, "which" is the object of the object clause. As mentioned earlier in this section, wh-movement is to the [Spec, CP] position, then, "which" is raised to the specifier of CP in the object clause. It is the same in sentence 2), one difference is that "whichever" can mean anything, but "which" means a specific thing under "the best thing". In sentence 3), "who" is the subject of the object clause within the whole sentence.

Talking about conjunctive adverbs, they have the same position and function (adjunct of VP in the nominal clause) and they will raise to the [Spec, CP] in the nominal clause. The point is choosing the one needed according to its meaning and reference. That is, "when(ever)" for time, "where(ever)" for location, "how(ever)" for means, "why" for result and because for cause. E.g.

4) **Why he left so abruptly** is not known to any of us.

5) Have you any idea **how soon they are coming**?

6) Please explain **why this is impossible**.

7) **Wherever he once lived** is well preserved. (Zhang Zhenbang, 2022, 370)

In the above sentences, all the bolds are complete sentences without the conjunctive adverbs, then function as the adjunct of VP in the nominal clauses. In sentence 7), "wherever he once lived" is the subject clause in the whole sentence and the specifier of CP in the nominal clause, namely, "wherever" is the adjunct of the VP "lived".

Then, this paper will move on to another position: functioning as the Complementizer of CP in the nominal clause. As known in 2.2, there are four complementizers: that, if/whether, and for. And in nominal clause, this paper adopts the first three. Radford illustrates these complementizers by interrogative or not and finite or nonfinite, thus, it has the followings: that = [-WH, +FINITE], whether = [+WH, ±FINITE], if = [+WH, +FINITE]. Here, "that" lacks the wh-feature, and "if" cannot be nonfinite, and "which" are the differences among them.

Within the MP, the functional category C in the head position of CP carries the uninterpretable features [Q], [EPP] and [TNS]. The complementizer carries [-Q] feature, that's why in echo questions the wh-phrases cannot move to the C position ofthe sentence. So [± Q] feature carried by C can distinguish the declarative and interrogative force of sentences. The features within the wh-word are an uninterpretable [wh] feature and interpretable feature [Q]. MP stipulates that the uninterpretable features must be checked and deleted in LF before the spellout to make sure the derivation convergent. (Gao Zheng, 2021, 31).

There are some examples to better understanding this mechanism. E.g.

8) Do you know **if/whether any decision has been arrived at**?

9) **Whether she comes or not** doesn't concern me.

10) We never doubt **that he is honest**. (Zhang Zhenbang, 2022, 370)

In sentence 8), the bolds is the object in the whole sentence, and it is finite with the present perfect "has been arrived", that's why both "if" and "whether" can be applied in the object clause for the interrogative need. It's

known that only “whether” can be nonfinite, which is the reason that only “whether” is picked in some sentences such as sentences 9).

In sentence 10), “he is honest” is already complete in meaning and syntax, but serves as the object of the whole sentence together with the complementizer “that”, the whole sentence is totally complete. Sometimes “that” can be null. Object clauses with or without that are not equivalent. Therefore, it is believed that when two (or more) that-object clauses are connected in parallel, it is better not to omit that, so that they are equal in scope and meet the conditions of parallelism; “or to omit the second that if it does not cause any misunderstanding, and then the connected ones can be regarded as two IPs, and are not one CP and one IP connected in parallel” (Huang Hebin and Dai Xiuhua, 1999, 26). They give us an example:

11) He would find his ceilings were too low and that his casements admitted too much wind. (Huang Hebin and Dai Xiuhua, 1999, 26)

In sentence 11), instead of two object clauses, the conjunction “and” parallels two main clauses. This can be interpreted as an omission before “that” in the second clause, omitting the main clause “He would find”. Since “He would find” is an IP, and parallelises two equivalent categories.

4.3 Conclusion: A Figure about the generative mechanisms of nominal clauses

This section is going to summarize the generative mechanisms of English clauses according to the two steps mentioned in this chapter. Before merging a nominal clause within a sentence, it’s necessary to make sure which type it is, for example, if it is a subject clause, then it will be put into the subject/specifier of IP in the whole sentence. Talking about how to recognize the position of the nominal clause, two positions are the specifier/subject of IP and the nominal complement/object of VP in the whole sentence. Then, in these two positions, if it is just the equivalent of the subject or object, the appositive clause can function; if not, subject clause in the specifier of IP and object clause (after linking verb, it is predicative clause) in the object of VP.

Next, inside this nominal clause, step two needs to pick a proper connective for it, such as if the subject clause mentioned before which need a subject/specifier of CP, then this will turn to the conjunctive pronouns as in 4.2.2.1. This part has been explained enough in 4.2. And simply, each connective has two optional positions: the specifier or complementizer of CP in the nominal clause. For the [Spec, CP], conjunctive pronouns function as the DP in the nominal clause and conjunctive adverbs just serve as the adjunct of VP in the nominal clause. While in [C, CP], the subjunctive connectives don’t have the actual influence on the nominal clause, and they can be distinguished by two features ([±WH], [±FINITE]). To provide a better clue, this paper will illustrate it in Figure 4 as below:

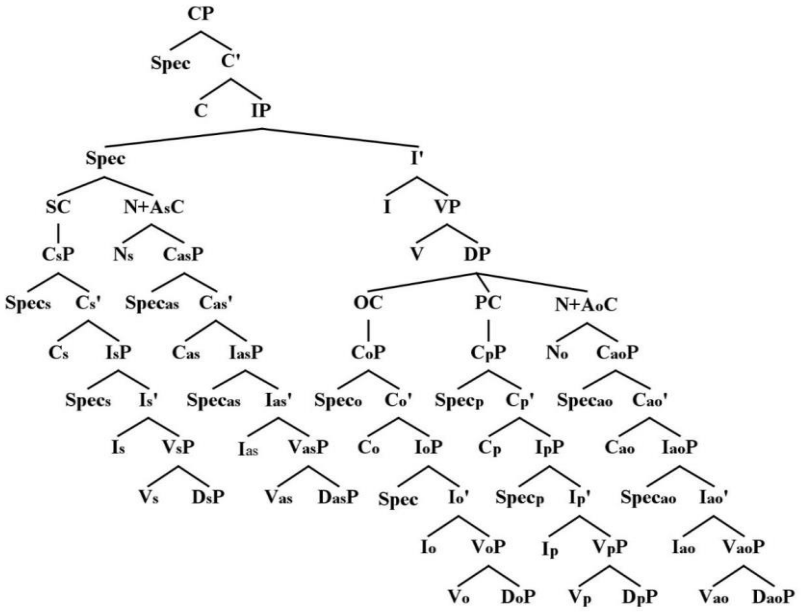

Figure 4: the generative model of nominal clauses

Notice, there are just five options which doesn't cooccur within each subset. Obviously, it can only have a subject clause or a noun plus an appositive clause in the specifier of IP in the whole sentence, it is also true when it comes to the nominal complement of VP in the whole sentence. But it can both have a nominal clause in the two positions. It can also merge a nominal clause randomly to have a better review, for instance, step one, it will be an appositive clause in the object of VP within the whole sentence; step two, it will be a conjunctive adverb, which shows the degree, as the connective. Eventually, it can get sentence 12).

12) I have no idea how much of a scholar he is. (Zhang Zhenbang, 2022, 370)

Merging and syntactically analysing are two similar and complementary ways in better understanding the formation of a nominal clause. That is, if one knows how to merge a nominal clause according to the two steps below, then he or she can also give any nominal clause a syntactic analysis in the same way. The former is to set conditions for the unknow new nominal clause, while the latter is to analyse how these conditions work in the given nominal clause. It can be inferred that, actually, they are the same process. After having merge sentence 25 under two setting conditions, then what if one need analyse it directly? Following the two steps is enough. First, "I have no idea" is the main clause, and "how much of a scholar he is" is the appositive clause of the noun phrase "idea" after the main verb, which is equivalent to "idea". Second, in this appositive clause, "he is of a scholar" is already complete syntactically, but "how much" questions for the degree, which is a conjunctive adverb. It's known that a conjunctive adverb takes the place of the specifier of CP in such circumstance after so many conclusions. Obviously, the two processes are extremely same, and one can infer to the one, the reverse is also true. With this, English learners can truly understand the mechanisms of nominal clauses, explain and analyse it syntactically and adequately. And, some learners can also apply this to the complex sentences, thus, the seemingly long and difficult sentences may seem not so long and difficult.

The application of generative grammar theory to foreign language teaching is based on the following considerations. To begin with, Generative grammar adopts formal methods to study language, such as the use of tree Figures can make sentence structure more intuitive, this can be seen in Figure 4. Furthermore, the study of generative grammar is rigorous in its reasoning and analyses, and is highly logical and inductive. In this way, the rules and schematic methods derived from the study of generative grammar can be used directly in teaching. More importantly, Generative grammar reflects the process of sentence production, and its findings can contribute to the teaching of grammar by helping to resolve controversial issues in traditional grammar, such as the deletion of "that" mentioned in analyzing sentence 10) (He Xiaowei, 2004, 26-27).

5. CONCLUSION

This paper has concluded a generative mechanism of English simple sentences and further proposed generative mechanisms of English nominal clauses based on Chomsky's Generative Grammar, which provides a syntactic way to explain how a nominal clause is merged and can be analysed. And with this explanatory adequacy, it has figured out how to fully understand a nominal clause under GG. Furthermore, it has drawn a general format about the whole syntactic analysis, which helps a lot in better understanding the generative mechanisms of nominal clauses with two steps. And it has provided some implications for linguistics and foreign language teaching during analysis, which can play its role in the professional development of language teachers.

But there are still some shortcomings in this paper, for example, it just briefly illustrates the syntactic analysis so that some special cases mentioned in Traditional Grammar is left behind, in this case, there may be some parts needed to be explained though some learners can solve this problem by their own. In the next step, this paper will generate and explain these special cases under the generative mechanisms which may find some violations for the model. Furthermore, it will apply this model to other types of clauses and see if it can work or need some promotions. Step by step, English learners could have a broader and better understanding of the long and difficult sentences. And language teachers could have a deeper thinking about the nature of language.

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