The Operation of Constraints in Passive Voice of English (The Syntactical Analysis)

Ye Yang

Abstract—**With the development of the syntax, more and more different ideas and methods exited to solve the constraints of passive voice in English. In this paper, I will concern the operation of passive voice of English grammar by different methods and solve the problems, such as, where we can put and how to analyze the by phrase and be en in the passive voice, how to use movement, transformation and other useful rules and methods to list the syntactic structure of passive voice**

Index Terms—**syntactical analysis passive voice   by phrase be en**

I. INTRODUCTION

In order to explain it, we would like to know the term 'subject' and 'object'. From (Akmajian, Adrian, Richard A. ,1995,n.p.), It said in the semantics, The classic explanation of it is from simple sentences with action verbs,' such as the dog chased the girl, the subject the dog, is understood as the agent of the action, and the object, in the case the girl, is undergoes the action, the affected . Let's take tree diagram from (Thomas Linda.1993, p72) as an example to show the syntactic structure of 'subject' and 'object' as (1):

(1)
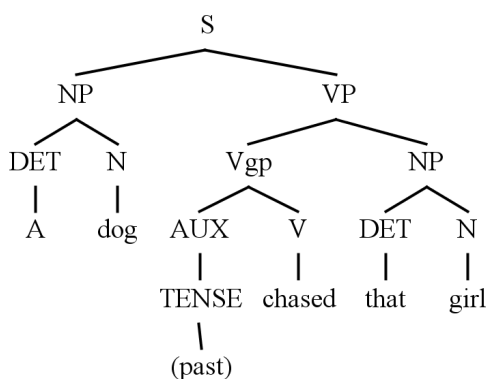
S means sentence, NP= noun phrase, VP= verb phrase, Vgp=verb group, DET= determiner, AUX=auxiliary.(NP and VP are directly dominated by S, DET groups with N attached NP, and VP divided into Vgp and NP, AUX and V

Ye Yang, Trinity College Dublin, College Green, Dublin 2, Ireland, yylich1985@hotmail.com

composed the Vgp)

From the tree (1), we can say, subject of a sentence is that NP (noun phrase) which is immediately dominated by S; the object is the NP which is immediately dominated by VP (verb phrase).But both the subject and object are the grammatical properties. And still what the passive sentences are will be answered by four main differentiations from other active sentences. (Radford, Andrew, Martin A, 1999. p333) One is that passive sentences generally contain the form of the auxiliary be, another is the verb in passive sentences is in –n past participle form, the third is passive sentences may include a by-phrase which contains the subject in the active sentences and the last is the position of the agent and the affected. As above features of the passive sentence, we can show the passive sentences of (1) as follow:

(2) The girl was chased by a dog.

As we knew, the passive sentences are only in minority and used to emphasize the object in the active sentences, so sometimes, by phrase is optional, such as (3.1) and (3.2) sentence pair from (Thomas Linda.1993 p73):

(3.1) Active

I committed a heinous crime last night.

(3.2) Passive

A heinous crime was committed last night (by me).

As active sentence (1), there is a tree diagram to analyze the grammatical structure, but how about the passive sentences? Whether we can still use the tree diagram to show the sentence structure? If this assumption is reasonable, the first problem we will face is where we can put the by phrase? For the passive sentence(2), was chased by a dog seem to function as single constituents, such as, VP in the tree diagram, as(3.3)

(3.3)
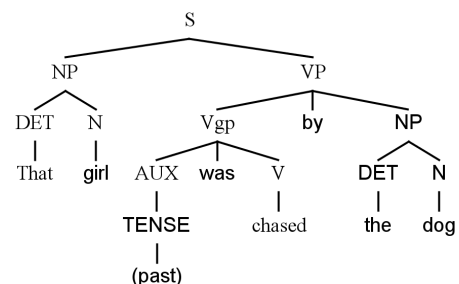
From the (3.3), the NP the dog ,is a sister(Akmajian, Adrian and Frank W.Heny.1975. p147)constitute to the Vgp.

II. WHERE THE BY PHRASES CAN BE PLACED? SHOULD BY BE DIRECTLY DOMINATED BY VP OR DOMINATE BY NP THE DOG OR GROUPED WITH NP THE DOG?

From (Akmajian, Adrian and Frank W.Heny.1975.p149) there is one highly restricted structure-building operation that seems to be well motivated: namely, a transformational operation that has come to be known as Chomsky adjunction. If we illustrate that by is Chomsky-adjoined to the left of the relevant NP, it will be (3.4) resulting a new NP as a sister to the V.

(3.4)
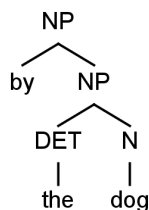
But as we see from the tree diagram (1),use NP as a higher level of DET and N, which means DET and N are directly dominated by NP, but here whether NP can be dominated by NP? They are the same level, no other differentiation. And by is a preposition, with a NP, we would say it is a prepositional phrase, which express relations of mode, place, direction, time or possession.(Thomas Linda. 1993, p30) and the by phrase like an ordinary prepositional phrases (PPs), because the whole phrase can be moved to the front of the sentence, just as other PPs:

(3.5) By the river, he trained hard.

(3.6) By a dog, the girl was chased.

So maybe, we could show the tree diagram as (3.7) (Thomas Linda. 1993, p73), we could know PP served as a single constituent, and here it functions as adverbial. So, by could not be a sister of Vgp and NP which directly dominated by S, could not directly dominated by VP.

(3.7)
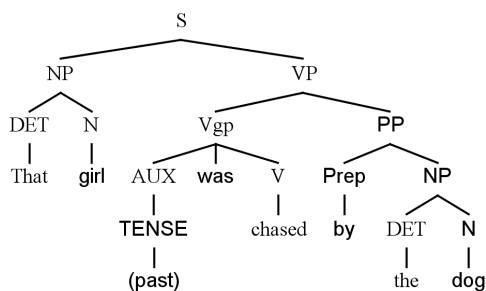
## III. ONE MORE QUESTION STILL NEED TO BE SOLVED IS WHERE WE CAN PUT BE EN ?

As we mentioned above, was chased by the dog funtion as a single constituent, we could say it is dominated by VP, Whether it attached the Vgp (4.1)or directly dominated by VP (4.2)?

From (Thomas Linda. 1993,p64), we noticed the definition of the AUX, modify the lexical verb by indicating MODALITY, ASPECT, VOICE and TENSE. As we know, passive belongs to one of the voice, therefore, here we could say be en attached Vgp, and even we could say attached AUX as (4.3)
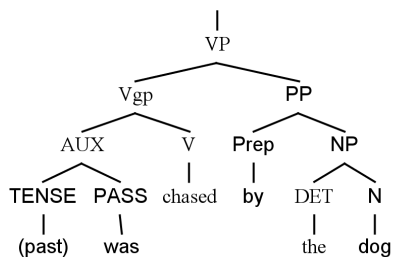
(4.1)
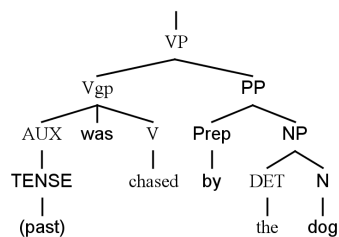
(4.2)
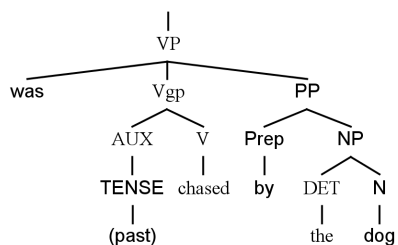
(4.3)

And another rules still can give us an clear evidence, be en is unambiguous put under AUX. I would like introduce the transformational rules, (Akmajian, Adrian, Richard A.1995, p169):

As a single phrase marker alone can not account for a discontinuous dependency and that transformational rules are introduced into the theory in order to express syntactic relations between pairs of phrase markers. Transformational rules have been formalized in standard transformational theory

To illustrate the formalism used, I will introduce the Passive Transformation:

(5)

Passive Transformation
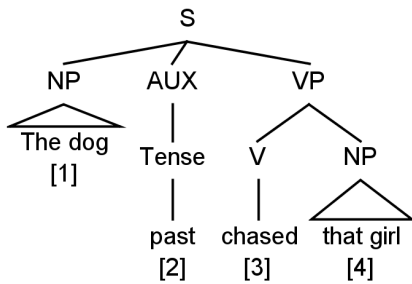
Structural Description (SD): X – AUX – V - NP

         1   2   3   4 (as 5.1)

Structural Change (SC):   4 2 be en 3 by 1

(Akmajian, Adrian and Frank W.Heny.1975. p140)

The statement of a transformation consists of (a) the structural description (SD) and (b) the structural change (SC). And as we mentioned above, the sister-adjoin here with the symbol +, and Chomsky adjunction in the SC of the passive rule with symbol #, as (5.2)

(5.2)

4 2 *be en* 3 +by #1

(5.1)

Relating the questions we mentioned above about the placement of be en, because the transformational rules separate AUX from VP, so the questions will be changed to whether it attached the VP, (5.2) or belongs to the AUX(5.3)

(5.2)

(5.3)

And we could modify the SC of (5.1) in (5.2)

(5.4) 4 2 be +en+3+by #1
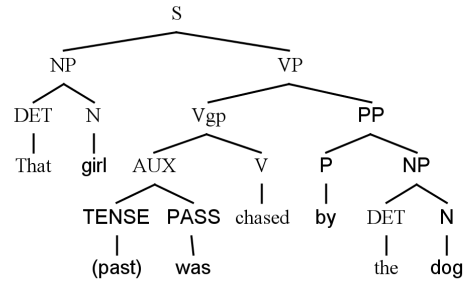
But for the (5.3), a new formal operator would be

introduced to yield this instance, that is daughter adjunction, using the symbol >,the SC of (5.1) in (5.3) would be

(5.5) 4 2 > be +en 3 +by#1

(Akmajian, Adrian and Frank W.Heny.1975. p 153)By using daughter adjunction, sister adjunction, and Chomsky adjunction, we have managed to state the SC of Passive transformation so that it will produce tree such as (5.3) in an unambiguous maner.

Therefore, let's go back to (1) the tree diagram from Thomas, we could show the tree diagram for the passive sentence as (6) and PP here function as adverbial.
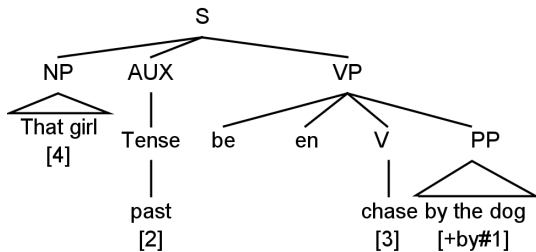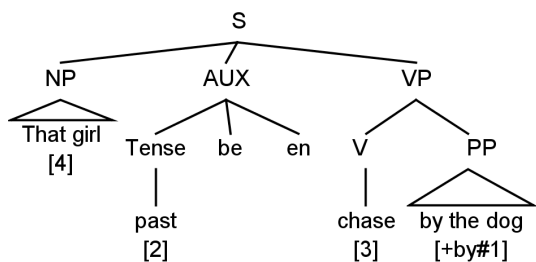
(6)

Now, we know be en can be analyzed attached by AUX, and

IV. HOW TO ANALYZE THE PASSIVE SENTENCES WITH MORE THAN ONE AUX ELEMENTS?

Such as

(6.1) The dog may have been being given a bone by that girl.

From the Thomas statement (Thomas Linda. 1993,p74), all combinations are possible but it is important to remember that the order is still fixed with passive now coming after tense/modal, perfect, progressive and passive. The (6.2) will be the right tree diagram for (6.1)

(6.2)
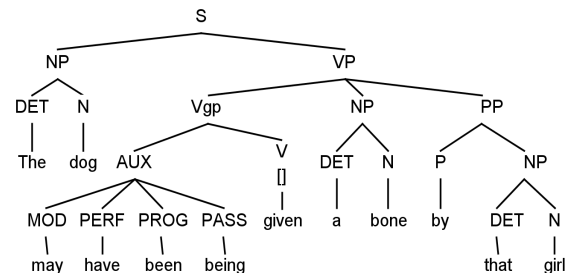
V. BUT ARE ALL THE ACTIVE SENTENCES CAN BE CHANGED INTO PASSIVE SENTENCES LIKE (3.1) AND (3.2) SENTENCE PAIR?

Let's see the sentences in (7.1) and (7.2)

(7.1) A dog chased that girl

(7.2) A dog died last night.

For (7.1) as above description, we know the passive sentence is (2),but the (7.3) seems as a passive sentence, but actually, semantically it doesn't work..

(7.3) * Last night was died by a dog.

What's wrong ? we can see from the example from (2), the object that girl in the active sentence swifts the position as a subject in the passive sentence. And a plausible illation is the verbs which can have objects can be allowed for the passive, such as the Thomas (Thomas Linda. 1993, p72) introduced, the transitive, ditranstive, complex-transitive and prepositional verbs.

VI. THE RULES SOUND CAN GENERALIZE ALL THE SITUATION OF THE PASSIVE SENTENCES, BUT MAYBE THE PROBLEM IN (8) AND (9)FROM AKMAJIAN'S BOOK (AKMAJIAN, ADRIAN AND FRANK W.HENY.1975. P93)BE EXCLUDED.

From (6), the verb admire makes sense by the animate subject, and for the passive sentence, by phrase works with animate NP.

(8.1) John admires sincerity.

(8.2) *Sincerity admires John.

(9.1) Sincerity is admired by John.

(9.2)*John is admired by sincerity.

(p94) if active-passive pairs such as (8) and (9) are to be generated y separate phrase structure rules, and not related, we have to make a new statement that the verb admire must have an animate subject in an active sentence but an animate NP in the by phrase in a passive sentence. From it, maybe we could say, for the subjects of the verb in the active sentences must be animate NP which can make a sense when in the passive sentence in the by phrase.

VII. AS WE KNOW, THERE STILL ARE MANY OTHER FORMS OF PASSIVE SENTENCES EXCEPT FOR THE DECLARATIVE FORM, SUCH AS QUESTION AND NEGATIVE FORM. SO, HOW TO DESCRIBE THE PASSIVE SENTENCES WHEN THEY ARE IN QUESTION AND NEGATIVE FORM?

Negative Insertion

(Akmajian, Adrian and Frank W.Heny.1975. p101) Given a positive declarative sentence, insert the word not immediately after the first auxiliary verb, for example(10) and (11), we could say there is no difference between the passive sentences and the other active sentences. From the transformational rules introduced above, we can summarize the rules of passive sentences in negative form in (12)

(10) That girl was not chased by the dog.

(11) The dog may not have been being given a bone by that gitl.

(12) S → NP AUX

{ Modal (not) (Have) (Be) } VP

Have (not) (Be)

Be (not)

The Interaction of The Passive and Question Rules

(Akmajian, Adrian and Frank W.Heny.1975. p99) Question sentences are another form for the sentences which move the first auxiliary verb to the left of the subject NP, if there is not, add do in the transformational rules, the SC of

question sentences could be:

(13) The dog chased that girl.
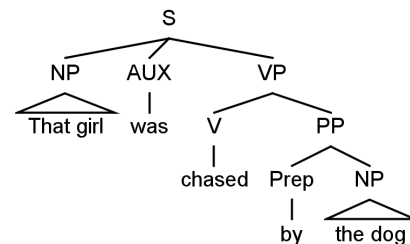
(13.1)Did the dog chase that girl?

How about the question form of passive questions? See derivation (14)-(14.2)(Akmajian, Adrian and Frank W.Heny.1975.p98), we use the order passive transformation firstly and then the question transformation. There is no evidence to show it is necessary to use the two in this order, it also can be used in opposite order as (15)-(15.2), but the problem is, there is not was in the sentence (15.1), how can it changed into the (15.2)? From it, we would say, for the passive-question transformation, passive transformation will be replied firstly.
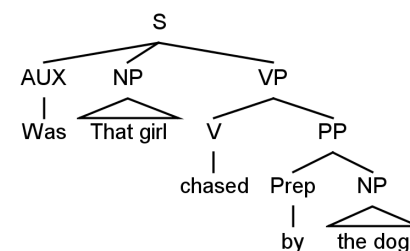
(14)
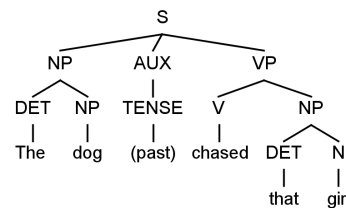
↓ Apply Passive Transformation

(14.1)

↓ Apply Question Transformation

(14.2)

(15) The dog chased that girl.

(15.1) Did the dog chase that girl?

?(15.2) Was the girl chased by the dog?

Besides the form of the passive sentences, we can still find many other sentence structure for passive from (Biber, Douglas et.al. 1999, p936**) such as (16.1) and (16.2) in non-finite construction.**

(16.1) Let us look at an example given by Baillieul.

(16.2) We know with some confidence that if greenhouse

gases continue to be emitted in their present quantities, we will experience unprecedented rates of sea-level rise.

And there is still another form comparing (16.2) (Horrocks, Geoffrey.1987.p 77)

For (16.1), as we know, there are active-passive pairs, let's find its active form firstly, from (16.1'), there is a subordination clause (Thomas Linda, 1993,p101-102) one way of joining clauses together. We can show it in square brackets (17) and in tree diagram (17.1), in order do not complicate the tree diagram, we would change let's into we which has the same function and semantic meaning in the sentence.

(16.1') Let us look at an example which Baillieul gives.

(17) [s1Let us look at an example [s2which Baillieul gives]]

(17.1)
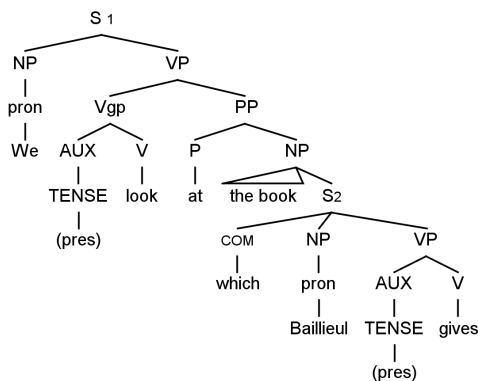
Why S2 is not dominated by VP but NP? If S2 dominated by VP, from the sister-adjoin rules, will be the sister of Vgp and PP, but S2 which is modified to the book under NP, they are not at the same level, COM here means complementiser (Horrocks, Geoffrey.1987. p 44) a word which marks the sentence in question as the complement of some lexical item such as noun the book .If this is a plausible analysis, then we could apply for its passive sentence(16.1), only the S2 changed in the sentence, so the tree diagram will only concern the structure of S2 as following:

(17.1')
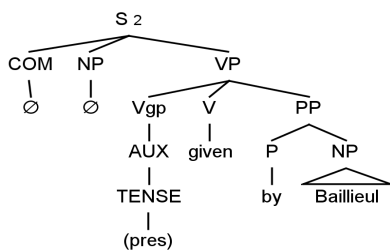
From the comparison between (16.1) and (16.1'), COM and the subject of S2 are moved, so we would say a null variant of COM and NP, the inspiration is from empty INFL (Radford, Andrew, Martin A.1999. p305). And as we mentioned above the subject was moved to the by phrase as the objective in passive sentence.

Here we used the analysis of subordination clause from

Thomas with the term null variant to solve the problem when passive voice is in the sentence as a complement of a noun.

How about the (16.2) in the infinitive form? In order to solve this problem, I would like to introduce another useful term, PRO: the empty subject of infinitive clause. (Radford, Andrew, Martin A, 1999, P 311)For example:

(18)

a. The president hopes [to be re-elected.]

b. The president hopes [he will be re-elected.]

The fact is that the bracket clause in (18b) contains a overt subject makes it plausible to suppose that the bracket clause in (18a) has a null PRO subject. The same situation was in (16.2). We know ······if greenhouse gases continue to be emitted ······, Here with the influence of the analysis of (16.1), and to be re-elected can function as he will be re-elected as a sentence with a null PRO subject, I would like to combine the subordination clause rules as (16.2'). Here S2 attached directly to VP, because here that clause is a complement of the verb. And why infinitive to under AUX, because from Thomas, the definition of infinitive is the form of the verb which appears after a modal, and there are two forms of infinitive, one is with modal ,the other one is with to which has the same function as modals, furthermore for modals are under AUX, it could be believed that to could still be put at the same place.

(16.2')
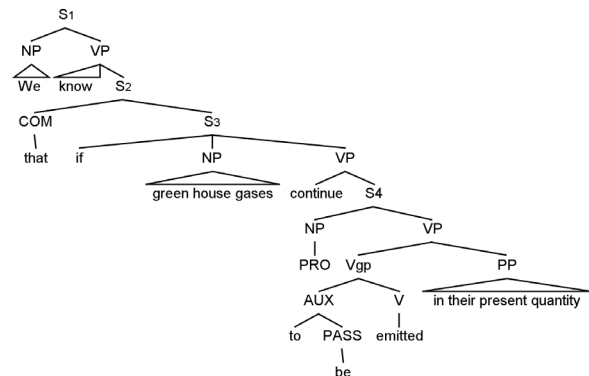
VIII. CONCLUSIONS:

From the analysis of the paper, we could believe that, for the passive sentences, by could not be a sister of Vgp and NP which directly dominated by S, could not directly dominated by VP but can be put under the PP which is the sisiter of Vgp. And for the passive symbol be en, It can be unambiguous put under AUX. When we want to analyze the passive sentences with more than one AUX elements, it's important for us to remember that the order is still fixed with passive now coming after tense/modal, perfect, progressive and passive. But not all the sentences can change into the passive voice, they need the transitive, ditranstive, complex-transitive and prepositional verbs and the subjects of the verb in the active sentences must be animate NP which can make a sense when in the passive sentence in the by phrase. If we want to change the forms of passive voice sentences, there is not a big difference in the negative rules, add not after the first

auxiliary in the sentence, but for the question form, the questions rules need to yield the passive rules, which means, sentences need to be change into the passive voice and then front the first auxiliary front turned to be question form. For the other passive sentence structures, such as passive voice in infinitive sentences, we could combine PRO, empty subject in infinitive clause, and Thomas' subordinated clause analysis method to solve the problem.

REFERENCES

[1] Akmajian, Adrian, Richard A. Demers, Ann K. Farmer, and Robert M.Harnish. Linguitics: An introduction to language and communication. 1995. 4th ed. London: MIT Press.
[2] Akmajian, Adrian and Frank W.Heny. An Introduction to the principles of transformational syntax. 1975. London, MIT Press
[3] Radford, Andrew, Martin Atkinson, David Britain, Harald Clahsen, and Andrew Spencer. Linguistics: An introduction. 1999. Cambridge: Cambridge University Press
[4] Thomas Linda. Beginning Syntax. 1993. Oxford:Blackwell
[5] Biber, Douglas Longman Grammar of Spoken and Written English 1999. London: Longman
[6] Horrocks, Geoffrey. Generative Grammar.London:Longman 1987