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Abstract

This paper aims to clarify the difference(s) between infinitival clauses occuring as a verb complement and to shed light on the source of difficulty of understanding them. Moreover, it has another related purpose, which is to give an overall idea about the structural relationship between the main verb and its infinitival complement emphasizing other differences between these verbs. The idea of this paper comes to my mind as a result of continuing questions of my students in advanced grammar courses about how to analyze infinitival clauses syntactically and semantically. It seems that, although certain verbs (want, persuade, promise, tell, etc.) could have the same infinitival complement, they behave differently from each other and the infinitival complements of these verbs do not have the same analysis. It turns out that the source of misunderstanding of such structures is NP2 which could behave as an object for the main verb, as a subject for the infinitival clause or as both of these functions at the same time.

The analysis of the infinitival complements of certain verbs as in (1) causes problems for the teachers and the learners of English syntax and grammar.

1- a- I wanted *Bill to clean the car.*
    b- I ordered *Bill to clean the car.*
    c- I persuaded *Bill to clean the car.*
    d- I promised *Bill to clean the car.*
    e- I believed *Bill to clean the car.*
    f- I told *Bill to clean the car.*
    g- I wish *Bill to clean the car.*

The infinitival clause *Bill to clean the car* is used as a complement for all the above verbs in (1). The question which could be raised in this respect is 'do they have the same function and analysis ?'. It might also be asked whether the above verbs have the same sayntactic behavior since they have the same complement. The above sentences (1a-g) were given to 125 studens in the second and third years in the English Department at Mutah University-Jordan. They were selected randomly (i.e the test was given to the whole class). All of them are Arabic native speakers. They were asked to underline the object of the main verb. These verbs were selected because it is assumed that they were the most frequent ones.

After analyzing the results, 8 papers were excluded from the study because the subjects either answer randomly or they didn't give any answer. So, we were left with 117 subjects. 89 subjects (76%) gave

these sentences the same analysis. This group can be divided into four groups: The first, consisting of 62 subjects, assumed that NP2 (*Bill*) is the object of the main verb. The second, consisting of 18 subjects, assumed that the whole infinitival clause (*Bill to clean the car*) is the object of the main verb. The third, consisting of 4 subjects, underlined the infinitival clause (*to clean the car*) assuming that it is the object. The fourth, consisting of 5 subjects, underlined NP2 (*Bill*) and gave it a double function. They stated that it is the object of the main verb and the subject of the infinitival clause at the same time. The rest, 21 subject, gave these sentences different analyses. For instance, 3 subjects gave NP2 different analyses in the case of *promise* and *told*. They stated that with these two verbs NP2 is the object of the main verb and the infinitival clause is the second object, while with other verbs NP2 is the subject of the infinitival clause. 2 subjects stated that NP2, in the case of *persuade*, is the object whereas the infinitival clause is the second object. Only 3 subjects gave these verbs the correct analyses. They pointed out that the verbs *tell, promise*, and *persuade* select two objects, Bill as the indirect object whereas the infinitival clause (*to clean the car*) the direct object. The importance of these results is that only 3 subjects out of 117 subjects (2.5%) were able to analyze the above structures correctly. Most of the subjects (97.5%) analyze the above sentences erroneously; either they treat these verb in the same way or they don't identify the correct object[1]. The above results

give a clear indication that the analysis of the infinitival complements is not clear for the students. It seems that the problem lies in the function of NP2 *Bill*

That is, the basic problem is whether NP2 is the object of the main verb V1 or the subject of the infinitival clause. To say it more precisely, should we give the above sentences the structure in (2a) or (2b).

2-   a- NP1   V1   [NP2   V2   NP3]
       b- NP1   V1   NP2   [PRO   V2   NP3]

The difference between (2a) and (2b) can be clarified like this: In (2a) NP2 is the subject of the infinitival clause. NP2 in (2b) is the object of the main verb. Consequently, the subject of the embedded clause is PRO since according to Extended Projection Principle (EPP), any clause must have a subject (Haegman, 1990: 59). However, this doesn't mean that we are trying to classify the above verbs into two groups as we will see.

The traditional syntactic analysis complicates the situation since it assumes that all the above sentences could have the sme analysis. Sell (1985), for instance, assumes that NP2 (Bill) is analyzed as an object and that the complemnt is not a clause (IP), as stated above, but a VP. Consider the following tree diagram[2]

3-   S

NP   VP
I

V   NP   VP

believe,   Bill
persuade   to   VP
want, etc.

V   NP

clean

The room
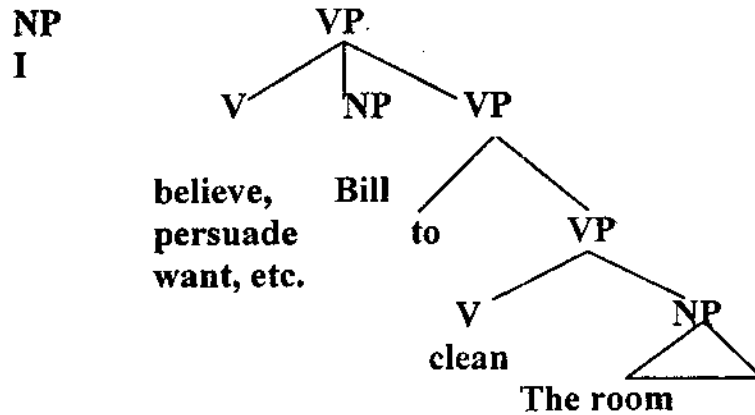
Despite their superficial similarity, a close analysis of the above sentences reveals that the verbs don't behave in the same way. Moreover, the analysis of the above infinitival clauses differs according to the main verb. As stated above, the main source of the problem is the function of NP2. It as been noted that NP2 behaves differently from verb to verb. For instance, with some verbs (i.e. order, persuade, believe), it could be passivised with the main verb. The occurrence of NP2 as a subject for the main verb in Passive could be considered as an indication for its object function. However, with other verbs (i.e. promise, want, wish) 12 NP2 can not occur in the passive structure with the main verb. For instance:

4-   a- Bill was   { ordered }
{ persuaded }   to clean the car.
{ believed }
{ told }
{ promised }

b- * Bill was { wanted }   to clean the car.
{ wish }

Thus, the possibility of moving *Bill* from the lower clause to the subject position of the matrix verb in (4a) and that such movement is not allowed in the case of the verbs in (4b) strongly suggest two important things. First, the function of *Bill* in the case of (4a) differs from its function in (4b). Consequently, *Bill* can be considered the object of the matrix verb in the former and the subject of the infinitival clause in the latter. Second, the syntactic behavior of the main verbs in (1) is not the same.

The above analysis does not mean that these verbs can be categorized into two categories. The problem with the above bifurcation into two clases of verbs which take infinitival complement is that the disparity in behavior between the two clases does not exist. There are many grammatical differences which make such categorization impossible. For instance, NP2 becomes redundant when the infinitival clause is passivised, and NP3 takes its position with certain verbs such as (5a). Such occurrence could be taken as evidence for its function as a subject for the infinitival clause. In some cases, the infinitival clause can not be passivised as in (5b). for instance :

		{ wanted }	
		{ ordered }	
5-	a- I	{ promised }	to clean the car.
		{ believed }	
		{ wished }	
	b- * I	{ told }	the car to be cleaned.
		{ persuaded }	

However, comparing the examples in (4) with the ones in (5) indicates the complexity of the situation, or, to put it in Akmajian's and Heny's words, " There is little published material that could be tackled without considerable difficulty by the otherwise unprepared reader, since there are still many aspects of this complex area that we have not yet introduced." (ibid. 1993:307). In (4b), we assume that NP2 is not the object of the matrix verb, since it does not accept passivization with the matrix verb, which means that it is the subject of the infinitival clause. On the other hand, NP2 in (4a), which accepts passivization with the matrix clause is considered as the object of the main verb, so, it is expected that it will not become redundant when the infinitival clause is passivized. But as can be noted, NP2 becomes redundant with all the above matrix verbs *'told'* and *'persuaded'*.

Taking passive as a test to decide whether NP2 is a subject for the infinitival clause or an object for the main verb, as indicated by the above examples, could be misleading. The problem is that NP2 behaves as an object (can be passivized with the main verb) or as a subject for the infinitival clause (becomes redundant and is replaced by NP2) at the same time with verbs like *'ordered'* and *'believed'*. With these two verbs, NP2 plays the two roles. Consequently, such verbs could have the following structure :

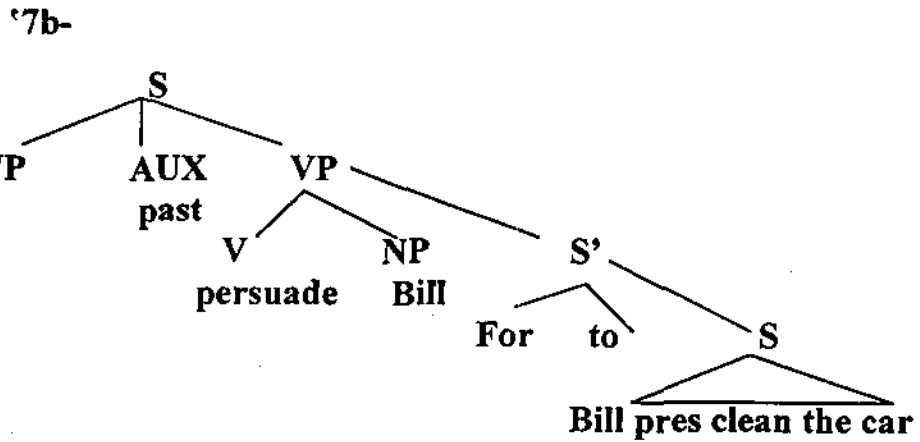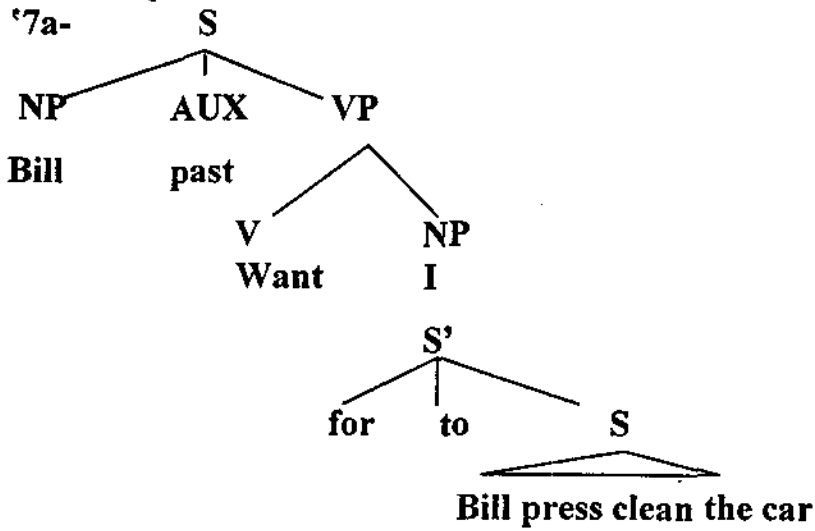5-   [NP1   V1   { NP2 }   V2   NP3]

In addition to the problem of the function of NP2, whether it is a subject or object in the above examples. The overall picture is more complicated because some of the above matrix verbs don not allow NP2 to be a non-lexical element whereas it is allowed with others. For examples :

6-   a- I wanted # to clean the car.
      b- I promised # to clean the car.
      c- I wish # to clean the car.
      d- * I ordered # to clean the car.
      e- * I persuaded # to clean the car.
      f- * I believed # to clean the car.
      g- * I told # to clean the car.

As can be noted from the above examples in (6), the absence of NP2 in (6a, b, c) does not affect the grammaticality of the sentences. Whereas, the sentences in (6d-f) are ungrammatical because of the absence of NP2. It can also be noted that sentences such as (6a, b, c) must be interpreted in such away that the subject of the infinitival clause is co-referential with the subject of the matrix sentence. The above assumption that the implicit NP2 is identical with the subject of the main verb leads us to the conclusion that NP2 in the case of the verbs (*ordered, persuaded, told* and *believed*) can not be deleted because it is not identical with the subject of the main verb. Consequently, it must be treated as the direct object of the matrix verb. According to Baker (1978:153), the sentences in (7) with verbs like *want* and those with verbs like *persuade* can be represented

respectively in (´7a) and (´7b). The examples will be repeated here for simplification :

7-   a- I wanted Bill to clean the car.
      I persuded Bill to clean the car.

'7a-
```
              S
        ┌─────┼─────┐
       NP    AUX    VP
       Bill  past  ┌──┴──┐
                   V     NP
                  Want    I
                          │
                          S'
                     ┌────┼────┐
                    for   to    S
                              ╱─────╲
                         Bill press clean the car
```

'7b-
```
               S
         ┌─────┼──────┐
        NP    AUX     VP
         I    past  ┌──┼──────┐
                    V   NP     S'
                 persuade Bill ┌──┼────┐
                              For to    S
                                     ╱─────╲
                                 Bill pres clean the car
```

Baker's analysis reflects the difference between *persuade* and *want*. In the case of want the whole structure is a complement, whereas in the case of *persude* two complements appear within the VP shell.

Kaplan (1989) points to the difference between the function of Np2 in the sentences with a matrix verb like *want* and those with a matrix verb like *persuade*. For example :

8-   a- I wanted Bill to clean the car.
   b- I persuaded Bill to clean the car.

According to Kaplan (1989 : 286), the direct object in (a) is the whole clause [*Bill to clean the car*], whereas in (b) the direct object is the NP *Bill*. To support his argument, Kaplan points to the co-occurrence of the object in wh-clefting.

9-   a- What I wanted was for Bill to clean the car.
        *b- What I persuaded was for Bill to clean the car.
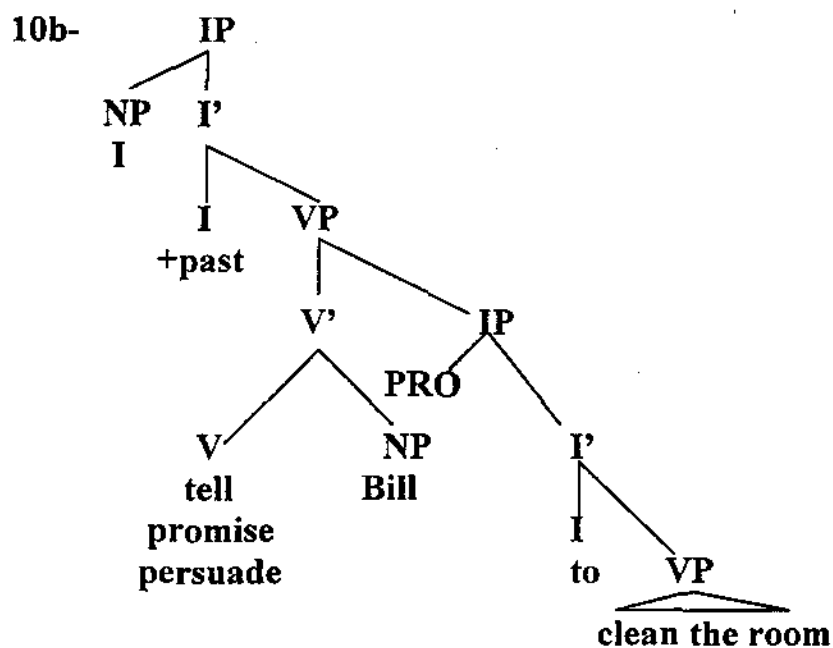Since the sentence in (a) is grammatical, while the one in (b) is not, the two sentences exhibit different underlying structures.

The rise of X-bar theory solves part of this problem. It seems to me that it is more explicit in showing the complement of the verb and distinguishing between whether it is obligatory or optional. Moreover, it emphasizes the fact that any clause must have a subject (spec, IP) whether this

subject s explicit or implicit such as PRO, and that PRO must have a co-indixation with a certain NP according to the principles of 'Binding Theory'. For instance, verbs like 'want, believe, order' can be analyzed like this:

10a-
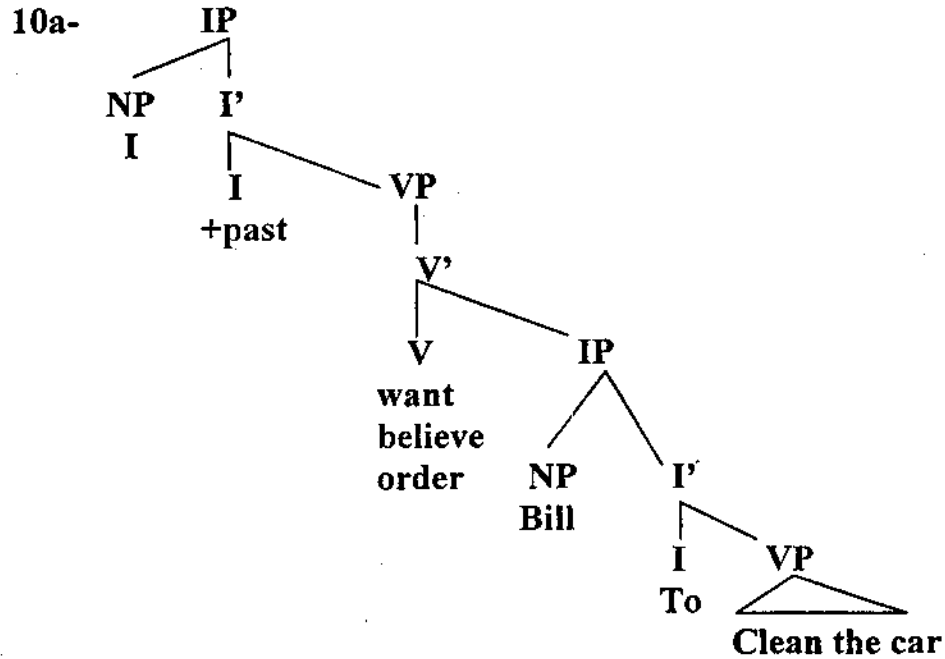
The above tree diagram shows that NP2 is the subject of the infinitival since it is the [spec] of the infinitival clause not the complement of the verb. Verbs like '*tell, promise, persuade*', on the other hand, can be represented like this:

10b-

```
            IP
          /  ⌐
       NP    I'
        I   / \
           /   \
          I     VP
        +past    |  \
               V'    \
              / \    IP
             /   \  PRO
            /     \  / \
           V      NP    I'
         tell    Bill    |  \
        promise         I    \
        persuade        to    VP
                            /‾‾‾‾\
                       clean the room
```
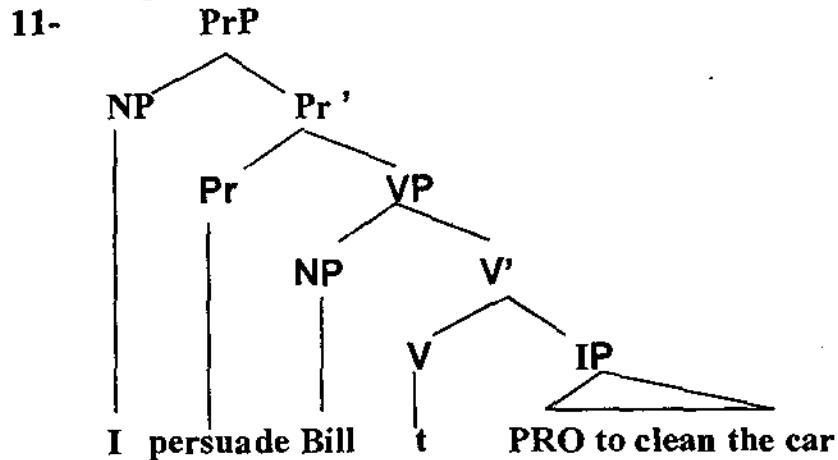
Comparing the tree diagram in (10a) with the one in (10b) reveals that we have different verbs and that NP2 receives different analysis. NP2 is the [spec] of the IP in (10a), as stated above, and it is a verb complement in (10b), The [spec, IP] in (10b) is PRO. More precisely, verbs which receive the analysis in (11a) are mono-transitive (they select one object), while those which have the analysis in (10b) are said to be di-transitive (selecting two objects).

The existence of PRO is not ignored in traditional grammar. Traditionally, part of positing PRO is semantic. It is claimed that subjectless infinitival clauses have an implicit subject which is PRO. This implicit subject becomes explicit when the

infinitival clause is paraphrased by a finite clause and generally associated with the subject of the finite clause. (for more arguments to support the existence of PRO the reader is advised to see Haegman (1991 : 237ff).

Still, the situation is not clear, since it is easy to detect a clear difference between *persuade* and *promise* although they behave in the same way in selecting two objects having almost the same analysis according to (10b). Bowers (2001:321) suggests that there is a structural difference between *persuade* and *promise*. The difference can be clarified by the following tree diagrams:

11-

```
              PrP
             /    \
           NP      Pr '
           |      /    \
           |     Pr     VP
           |     |     /   \
           |     |    NP    V'
           |     |    |    /   \
           |     |    |   V     IP
           |     |    |   |    /  \
           I  persuade Bill  t  PRO to clean the car
```

12-


```
              PrP
            /    \
          NP      Pr '
          |      /   \
          |    Pr     VP
          |    |      |
          |    |      V'
          |    |      |
          |    |      V'
          |    |     /  \
          |    |    /    IP
          |    |   V   NP  /\
          |    |   |   |  /  \
          I  promise t Bill PRO to clean the car
```
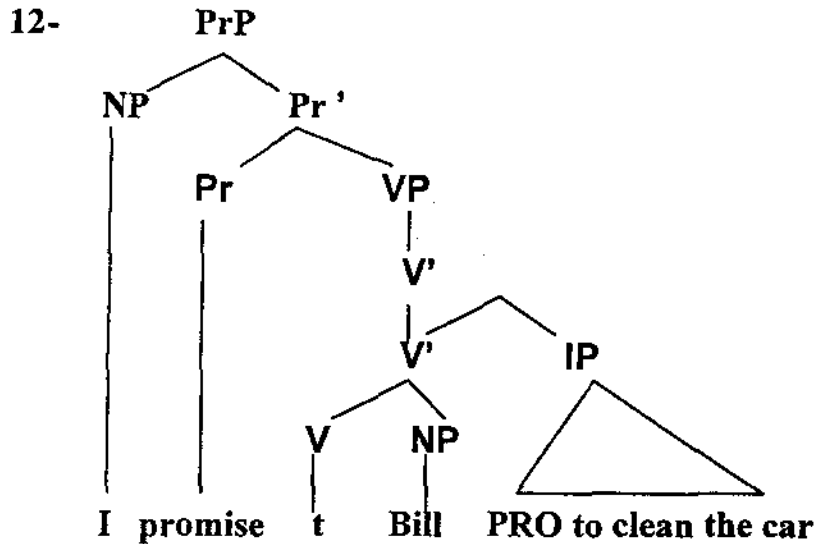
According to Bower's analysis, NP2 constitutes a different structure as can be noted from the above tree diagrams. In (11), *Bill* occupies [spec, VP] so it receives accusative case mark from the verb. Whereas in (12), *Bill* is not in [spec, VP] position, so it does not receive a case mark from the verb. Wekker, H.& L. Haegman (1985:171) point to the same issue and state that the non-lexical subject of the infinitival clause in the case of *promise* is controlled by the subject, whereas it is controlled by the object in the case of *tell*, *wish* and *persuade*.

13- a- [I told   [Bill]   [[ti] [to clean the car]]]
                          ↑   IP   VP

  b- [I promised   [Bill]   [[ti]   [to clean the car]]]
      ↑_____IP_____| VP

However, the problem whether the above matrix verbs in (1) are mono-transitive or di-transitive is strongly present in the literature. It is possible that the verbs which can select an NP as an object instead of the clause are (mono-transitive) whereas the ones which cannot occur in this structure are di-transitive. For instance:

14-   a- I want a book.
       b- I ordered a book.
       c- I persuaded him.
       d- I believed him.
       e- *I told him.
       f- *I wished him.
       g- *I promised him.

So, the verbs 'tell, *wish* and *promise*' cannot co-occur with one NP as an object. They could have the following structure :
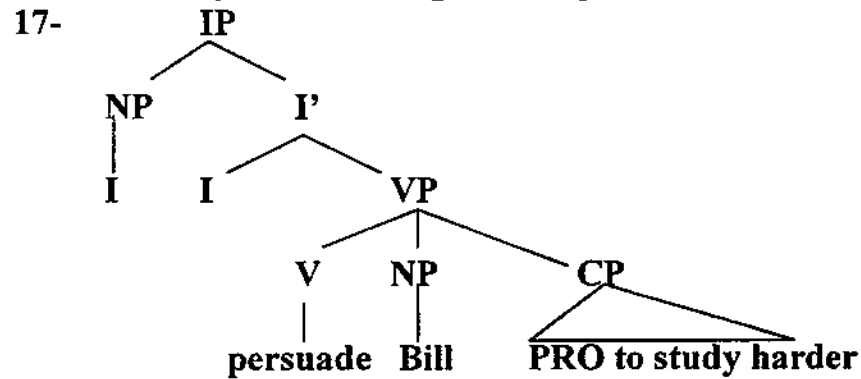
15-   *NP1 {tell} NP2
              {wish}

These three verbs are di-transitive; they have to occur in a structure containing two NPs as verb complement.
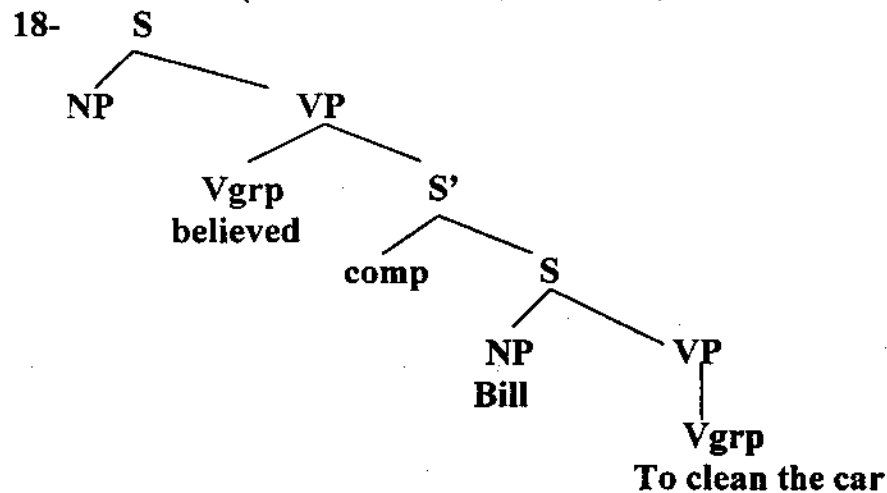
16-   a- I told him a story.
       b- I wished him a happy life.
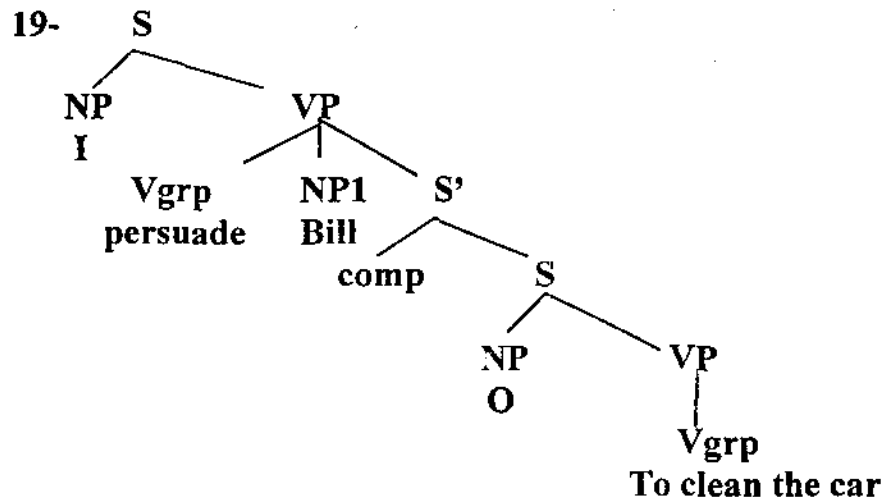   c- I promised him a book.

The above classifications in (13&14), which is enhanced by (16), are challenged by the analysis of *persuade*. Although the examples in (13&14) could lead us erroneously to the conclusion that *persuade* is a mono-transitive verb, the situation is different. *Persuade* is

a ditransitive verb (Kaplan, 1989:286, X 286: Jwakura, 1990:131; Bowers, 2001:321; among others). Jwakura (1990:131), applying binding theory and case marking, argues that *persuade* selects two objects, NP2 and a CP as clarified by the following tree diagrams:

17-

```
              IP
            /    \
          NP      I'
          |      /  \
          I     I    VP
                    / | \
                   V  NP   CP
                   |   |   /\
              persuade Bill  PRO to study harder
```

Almost the same argument is raised by Burton-Robert (1997) who distinguishes between *believe* and *persuade* although they could show the same syntactic behavior in (13&14). The following tree diagrams show the difference (Burton-Roberts, 1997:271).

18-

```
          S
        /   \
      NP     VP
            /   \
         Vgrp    S'
        believed /  \
             comp    S
                    /  \
                  NP    VP
                  Bill   |
                       Vgrp
                   To clean the car
```

19-

```
              S
           /     \
         NP       VP
         I      / | \
           Vgrp  NP1   S'
        persuade Bill  / \
               comp     S
                      /    \
                    NP      VP
                    O        |
                           Vgrp
```

To clean the car

Actually, as can be noted from the above tree diagrams, Burton-Robert divides the verbs which take infinitival clauses into two types according to the function of NP2. The first type, verbs like *believe* which take the whole clause as a complement, in this case NP2 is the subject of the infinitival clause (18). Whereas, the second type takes NP2 as an indirect object and the infinitival clause as the direct object (19).

It has been suggested that in the case of verbs like *believe* there is 'subject-to-object' raising (see Chomsky, 1973; Postal, 1974; Baker, 1978; Baltin, 2001). Subject-object raising means that the subject of the infinitival clause is raised to be the object of the matrix clause. Accordingly, the underlying structure of the sentence in (a) is the one in (b).

20-   a- I believed Bill to clean the car.
       b- I [believe [Bill I] [ti to clean the car]]
            VP   IP

On the other hand, in the case verbs like *promise*, we have subject-to-subject raising. That is, the subject of the infinitival clause is raised to be a subject of the matrix clause. Chomsky (1981) suggests that in the case of *promise* we have PRO condixed with the subject of the main clause (see Harbert, 1995:218). For example:

21- a- I promised Bill to clean the car.
    b- I i promised Bill [ti to clean the car].

However, Subject-subject and subject-object raising are so controversial in the literature.[3]

The co-occurrence of the above verbs with *that-clause* can be used to categorize these verbs. For instance, verbs like '*believed, told, ordered, promised, persuaded*' can take *that-clause* as a complement. '*wanted, wished*', on the other hand, cannot occur with '*that-clause*'.

22- a- I believed that he went home.
    b- I promised Bill that I would leave early.
    c- I ordered that they should leave early.
    d- I told him that I would leave early.
    e- I persuaded him that he cleaned the car.
    f- * I wanted that he would leave.
    e- * I wish that he would leave.

Still, the categorization of these verbs according to whether they occur with that-clause or not cannot stand for a long time if we think of the co-occurrence of some of these verbs with prepositional phrases. Some of these verbs such as *want, order, wish*, and *promise* allow

'for' whereas other verbs such as *believe* and *persuade* do not allow 'for' complement.

23-   a-I wanted for Bill to clean the car.
       b- I ordered for Bill to clean the car.
       c- I promised for Bill to clean the car.
       d- I told for Bill to clean the car.
       e- I wish for Bill to clean the car.
       *f- I believed for Bill to clean the car.
       *g- I persuaded for Bill to clean the car.

So, *want*, for instance, can occur with *for* but not with *that-clause*. Whereas, *ordered* can occur with both structures. Some scholars (Dixon, 1991:34) assume *for* is original with certain verbs and that the deletion of it leaves the clause introduced by "*to*". He calls it the "Modal (For) To complement"(ibid.35ff, 83ff). The same argument is almost mentioned by Bach (1974:117ff) although he gives a different structure. For instance, he states that the sentences in 24 are derived from those in (25):

24-   a- He wanted Bill to clean the car.
       b- He persuaded Bill to clean the car.
25-   a- He wanted [for- to Bill clean the car].
       b- He persuaded [for – to Bill clean the car].

It seems that it is not easy to categorize the above verbs into two categories. Rutherford (1998:69ff) argues for three verb categories having three distinct structures.

26-   a- I believed [Bill to clean the car].
                            IP
       b- I wanted [e   [Bill to clean the car]
                      CP   IP
       c- I persuaded Bill [e   [PRO to clean the car]
                             CP   IP

Thus, *believe* selects an IP as a complement, *want* selects a CP with or without an overt complementizer, and *persuade* selects NP and a CP. He arrives at this categorization according to certain syntactic behavior. For instance, verbs like *want* and *believe*, but not those like *persuade*, select *that-clause* as a direct object (see 23 above). Second, verbs like *persuade* but not those like *want* and *believe* select NP and *that-clause* like (23). Third, verbs like *want* accept the complementizer *for* as a complement, whereas the *believe* and *persuade* group do not. For examples :

27-   a- I wanted *for him to be brave.*
       *b- I   { believe } *for him to be brave.*
            { persuaded }
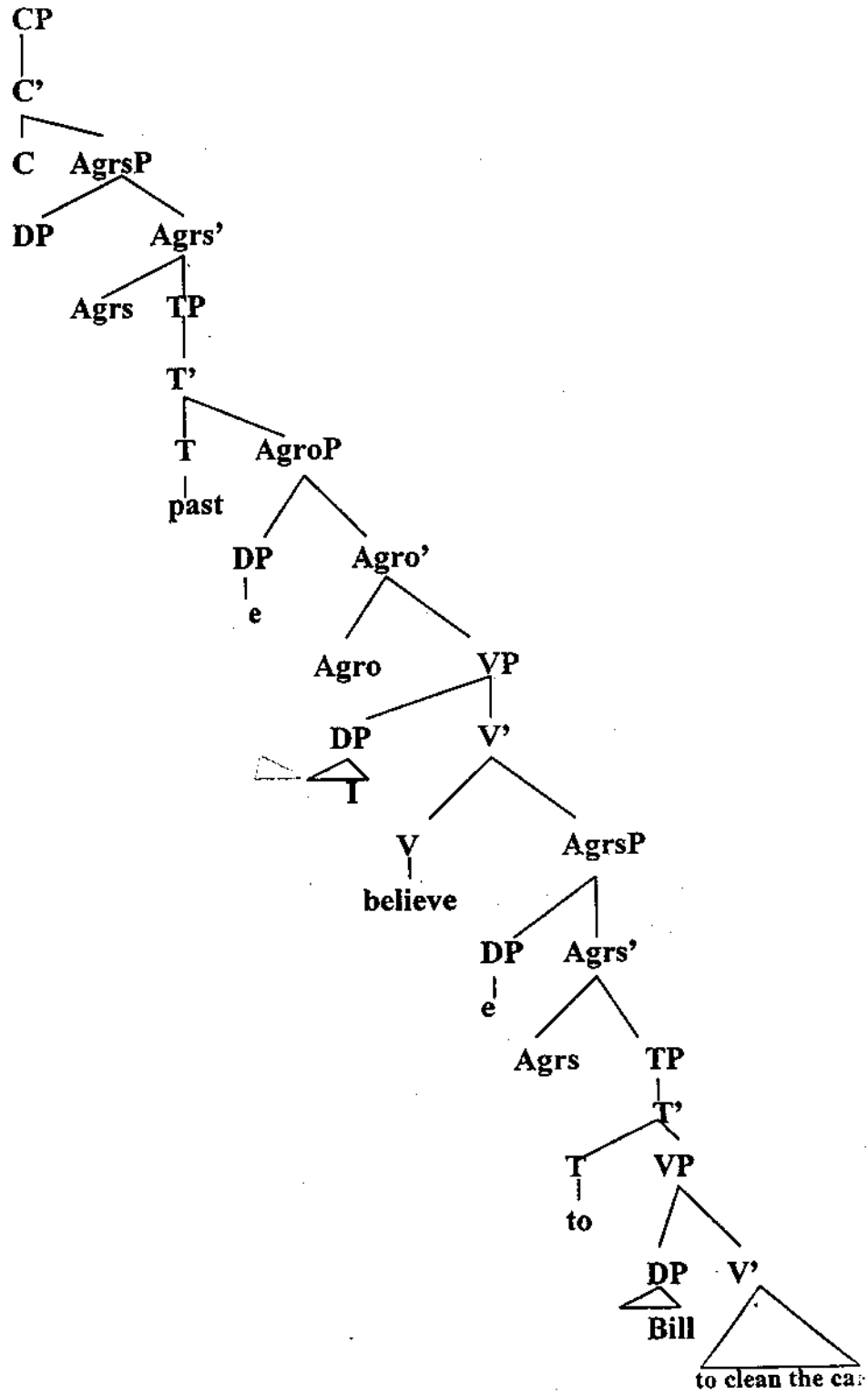
Finally, the *want* group occurs in pseudo-clefting. For instance :

28-   a- What I wanted was for him to be brave.
       *b- What I { believed } was for him to be brave.
                  { persuade }

Baltin (1995) provides a more reasonable analysis of these verbs within the minimalist program. The soul of Baltin's analysis is to find out the source of the case mark which is assigned to NP2. However, his analysis shows that NP2 in the case of the verbs like (*want,*

order, *persuade*, and *believe*) is base generated in [spec,VP] within the infinitival clause as represented in (29a), whereas NP2 in the case of the verbs (*promise*, *wish*, and *tell*) is base generated in a complement position of the main verb as represented in (26b).

29-a

```
               CP
               |
               C'
              /
         C  AgrsP
           /    \
         DP     Agrs'
               /   \
            Agrs    TP
                    |
                    T'
                   /  \
                  T   AgroP
                  |   /    \
                past DP    Agro'
                     |    /    \
                     e  Agro    VP
                           /     \
                          DP      V'
                                 /  \
                                V   AgrsP
                                |   /    \
                             believe DP  Agrs'
                                     |   /    \
                                     e  Agrs   TP
                                              |
                                              T'
                                             /  \
                                            T    VP
                                            |   /   \
                                           to  DP    V'
                                               |
                                              Bill  to clean the car
```

29-b
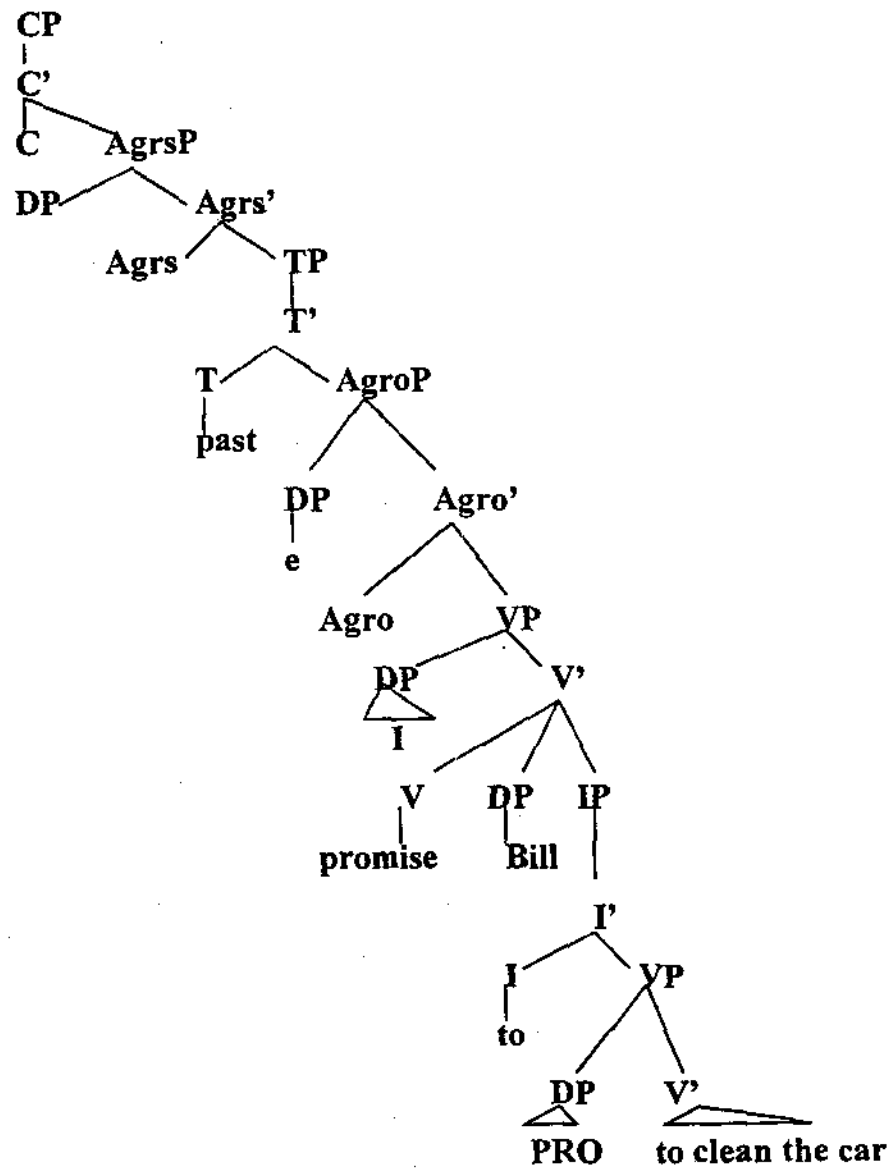
According to this account, which assumes the VP-internal subject hypothesis, NP2 (Bill), in the case of

believe, should move to embedded [spec, Agrs] of the infinitival. While in the case of *promise*, NP2 is the complement of the verb and PRO is the spec of the infinitival clause.

Chomsky (1997:122ff) assumes that NP2 *Bill* in the case of *believe*, according to VP-internal subject hypothesis, is base generated within the VP as in (a) and raised to subject position [spec, IP] yielding the S-structure in (b)

30- a- I believe [e to [Bill clean the car]]

                           VP

  b- I believe [Bill to [t clean the car]]

Conclusion:

Above, I have shown that categorizing verbs which select infinitival clauses into certain categories is not easy. Such categories are not fixed and changeable according to the syntactic test we apply, i,e. used with one or two NPs as a complement, co-occurrence with *that-clause*, the co-occurrence with *for* complementizer, etc. It turns out that the more classes you have, the more accurate your analysis is. However, it seems that it is not a difficult process to find out the function of NP2 (which is the basic problem for the students). The function of NP2 can be analyzed according to substitution. That is, if we can use one pro-form (such as *that* or *something*) for the whole clause including NP2 can be treated as a subject for the infinitival

clause. Otherwise, NP2 can be treated as an object for the main verb. For instance:

31- a- I wanted that
     b- I believed that
     *c- I told that
     *d- I persuaded that

Still, we have to admit that the above criterion cannot be applied to *promise*, since we can say "I promise that" and NP2 with promise is definitely not the subject of the infinitival clause. It seems to me that if we want to be more accurate we have to categorize the above seven verbs into 7 groups since it is difficult to find any two verbs having the same syntactic behavior as discussed above and summarized in the following table. The following table summarizes the co-occurrence of these verbs with certain test we apply to distinguish between them. (NO means does not occur, YES means it occurs).

	That-clause		Occur with One-NP2	Implicit NP2	Passive of matrix V	Passive Infinitival clause
Want	NO	YES	YES	YES	NO	YES
Order	YES	YES	YES	NO	YES	YES
Persuade	YES	YES	YES	NO	YES	NO
Promise	YES	NO	NO	YES	NO	YES
Tell	YES	YES	NO	NO	YES	NO
Believe	YES	NO	YES	NO	YES	YES
Wish	NO	YES	NO	YES	NO	YES

Also, the above analyses shed light on the fatal problem of analyzing infinitival complement in the literature. For instance, Baker (1978:153) treats it as an NP (see 6a above), Bach (1974:164) treats it as a VP (see 3 above); Haegman (1991) treats it as an IP (see 9 above); Bowers (2001) gives it a CP analysis (see 17 above), and so on. By presenting different types of analyses of infinitival clauses and NP2, I hope that I clarify the basic problem which is ' what is the function of NP2 ? ' and also 'what is the function of the infinitival clause? . I tried to avoid complicated discussions involving case marking and binding for simplification and to make this paper easy to handle by students.

Notes

[1] Since the aim of this paper is not data analysis and the data presented here just to shed light on the difficulty of infinitival clause, I will not go on discussing the data.

[2] For more discussion see Bach, 1974: 164ff.

[3] The interested person is referred to (Chomsky, 1973; Postal, 1974; Lasnik and Saito, 1991; etc.

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