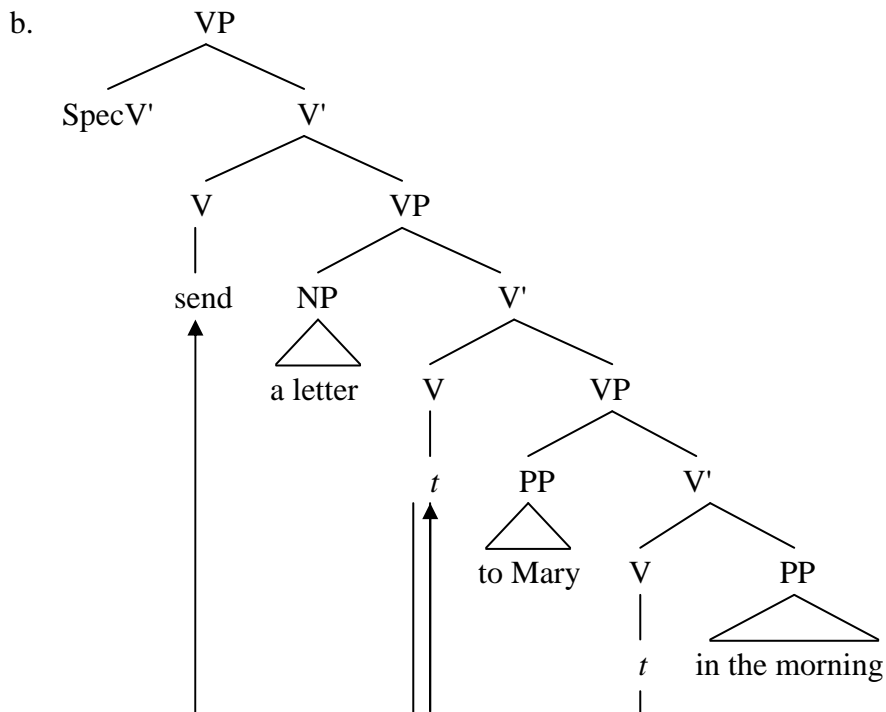# SYNTACTIC DUAL STRUCTURES

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1. Dative Construction

In his recent Minimalist Program (1992), Chomsky adopts Larson's (1988) structural analysis of the double object construction. Larson's syntactic structure, however, is rather problematic. For example, consider the following sentence:

(1) a. John sent a letter to Mary in the morning.

b.

```
                    VP
              /            \
          SpecV'            V'
                        /        \
                       V          VP
                       |       /      \
                     send    NP         V'
                            /\       /      \
                        a letter    V        VP
                                    |     /      \
                                    t    PP        V'
                                       /\      /      \
                                   to Mary   V        PP
                                             |      /    \
                                             t   in the morning
```

He assumes that, after V Raising, the VP of sentence 1a has the structure illustrated in 1b. According to 1b, *a letter to Mary*, *a letter to Mary in the morning*, and *to Mary in the morning* are analyzed as constituents, but *send it to her* is not. These results are in opposition to the standard tests for constituency that have long been adopted in the literature of generative grammar. The only syntactic argument Larson presents is concerned with coordination.

(2) John sent a letter to Mary and a book to Sue.

In his analysis, *a letter to Mary* and *a book to Sue* are both constituents, so sentence 2

can be treated as a normal coordination. Jackendoff 1990 claims that sentences like 2 are derived through the operation of Gapping. There is, however, some truth in Larson's claim that sentences like 2 are examples of coordination. Hudson 1982 argues that 2 is not an example of a gapped sentence, by showing that it has all the characteristics of the sentences that can be directly generated by 'phrasal conjunction', although the second conjunct is incomplete. He mentions the following facts, among others, which show the differences between gapped sentences (a) and phrasal conjunctions (b), and argues that (3-6)c show that sentences like 2 have all the properties of the latter and none of the properties of the former.

(3) a.　John drinks coffee and/or/*but Mary, tea.
　　 b.　John drinks coffee and/or/but likes tea.
　　 c.　John gave the books to Mary but the records to Sue.
(4) a.　*John drinks coffee at 11, and Mary, tea at 10:30.
　　 b.　John drinks coffee at 11 in his office with his colleagues, and eats his lunch at 1 with his friends.
　　 c.　John gave the books to Mary at Christmas and the records to Sue for her birthday.
(5) a. ?*John left at 11 and, at 12, Bill.
　　 b.　John left his office at 11, and, at 12, the library.
　　 c.　John gave the books to Mary, and to Sue the records which he'd been saving up for such a long time to buy for her.
(6) a.　John didn't see Mary nor/or/*and Bill, Sue.
　　 b.　John doesn't drink coffee nor/or/and smoke a pipe.
　　 c.　John didn't give the books to Mary and the records to Sue.

He also argues that gapped sentences are stylistically very restricted, but that sentences like 2 are no more 'formal' or 'deliberate' than any kind of sentences of phrasal conjunction. Although his acceptability judgment is rather severe (especially 4a and 5a, which are acceptable for many speakers), his arguments persuasively show that sentences like 2 are of a different kind from the Gapping construction.

　　 Jackendoff (1990:440) has pointed out as evidence against Larson's structure that 'none of the standard tests for constituency permit the object and the *to*-phrase together.'

(7) a.　*It was Harry's dog to Sue that I sent.　(Clefting)
　　 b.　*What I sent was Harry's dog to Sue.　(Pseudoclefting)
　　 c.　*Harry's dog to Sue, I forgot to send.　(Topicalization)
　　 d.　*I sent, and the post office forwarded, Harry's dog to Sue.
　　　　　　　　　　　　　　　　　　　　　　　(Right Node Raising)

On the one hand, the string in question is shown to be a non-constituent by the traditional criteria for constituency. On the other hand, Hudson's arguments are rather convincing, if not sufficient. Further, as McCawley 1988 demonstrates, it does not allow the first conjunct to be introduced by *both*, *either*, or *neither*, whereas normal phrasal conjunctions allow the use of those words.

(8) *John sent both a letter to Mary and a book to Sue.
(9) a. ??John donated both $50 to the Anti-Vivisection Society and $75 to the Red Cross.
     b. ??I didn't put either the potatoes in the pantry or the milk in the refrigerator.
                                                                    (McCawley 1988:58)

Thus, it does not have the property of 'real' phrasal conjunction in this respect. So, it seems that the string in question has the partial properties of a constituent and a non-constituent at the same time.

The string *NP to NP* also appears in the Right Node Raising (RNR) construction. The typical examples which Abbott 1976 gives to demonstrate that RNR is not a sufficient condition for constituenthood are of this kind.

(10) a. Smith loaned, and his widow later donated, a valuable collection of manuscripts to the library.
     b. I borrowed, and my sister stole, large sums of money from the Chase Manhattan Bank.

These facts seem to show that, although the string *NP to NP* in these cases are not 'perfect' constituents, they are 'partly' constituents. Due to this property, it can be coordinated by *and* and appear in RNR construction.

2. Syntactic Dual Structures

In order to represent this duality of constituenthood and nonconstituenthood, I propose that the string in question has the following phrase structures at the same time.

(11) a.
```
        VP
      / | \
     V  NP  PP
```
     b.
```
        VP
       /  \
      V    ?
          /  \
        NP    PP
```
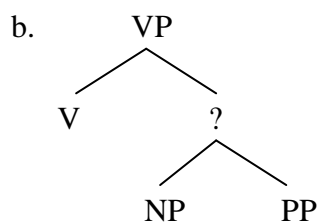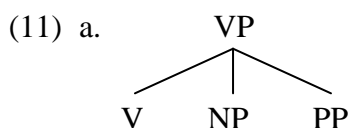
Some syntactic frames like clefting, pseudoclefting, or correlatives such as *both...and* or *either...or* require strict constituenthood of the target string, so the string which receives those operations must be a perfect constituent. On the other hand, others such as RNR or coordination by *and* require only the partial constituenthood, and if the string *NP to NP* has both of the structures in 11, it can take part in such operations because of the existence of the structure 11b. While *NP to NP* can be coordinated with *and* because of the existence of the structure 11b, but the existence of the structure 11a prevents it from being coordinated by the correlatives.

The crucial point here is that we must assume the duality of syntactic structures in order to properly capture the phenomena mentioned above, making use of so-called parallel structures much more extensively than Goodall 1987 and Ike-uchi 1988 have done. In order to examine the validity of our 'radical' SYNTACTIC DUAL STRUCTURES (SDS), let us see some other constructions which show similar properties to the dative construction.

3.1. Raising to Object

The infinitival complements of *believe*-type verbs show similar behavior to *NP to NP* in the double object construction. They can be coordinated with *and*, but not with *both...and* or *either...or*.

(12) a.   I believe [Bob to know French] and [Sally to know Spanish].
      b.   *He believes either [Melvin to be insane] or [Joan to have been giving him drugs].

The same explanation applies in this case if we assume that they have both of the following structures.

(13) a. $[_{VP}$ V $[_{IP}$ NP to VP]]
      b. $[_{VP}$ V NP [to VP]]

Notice, however, that *NP to VP* is not always unable to be conjoined with *both/either*. Although it cannot when it is in the complement position of certain cognitive predicates as in 12b, it can be conjoined with them in certain cases. The following serves as an example:

(14) For either [John to find us] or [your car to break down] would be horrible.

(McCawley 1983:279)

It may be that *NP to VP* has a high degree of constituency when it occurs immediately after the complementizer *for* and therefore can be conjoined with the correlatives.

Ishihara 1992 claims that there are some pieces of evidence which show that the Raising to Object analysis is empirically superior to the ECM analysis. Indeed I find her arguments for Raising to Object rather persuasive, especially those concerning Heavy NP Shift and Particle Movement (see Ishihara 1992 for detailed discussion). Her arguments, however, can alternatively be regarded as evidence for the existence at D-structure of structure 13b, in which V, NP, and *to* VP are in sister relationship to one another. In other words, we can assume that *NP to VP* has dual structures from the beginning of the derivation, not as a result of the application of Move α.

Contrary to our expectation, however, *NP to VP* cannot be Right Node Raised in contrast to *NP to NP* as exemplified in 10.

(15) *I find it easy to believe, but Joan finds it hard to believe, Tom to be dishonest.   (Postal 1974:128)

It is likely that some other factors are involved in this case. One such factor is that a bare S is generally hard to Right Node Raise regardless of whether it is infinitival or tensed, although there remains a degree of variability in judgments.

(16) a. *I find it easy to believe, but Joan finds it hard to believe, Tom is dishonest.   (Postal 1974:128)
     b. *He asked me whether, and John assured me that, the train was on time.
                                                          (Emonds 1985:250)

Thus, the existence of sentences like 15 does not constitute an immediate counterexample to our SDS analysis.

3.2. Small Clauses

The same observation also applies to small clause complements.

(17) a. I consider Mary honest and John stupid.
     b. *I consider both Mary honest and John stupid.
     c. *They apparently consider, and I firmly believe, John very talented.

We can assume the following dual structures for them.

(18) a. $[_{VP}$ V $[_S$ NP XP]]
      b. $[_{VP}$ V NP XP]

There is considerable evidence to show that small clauses are constituents, and, as shown in Ushie 1993, they are not S-bars but bare Ss. 17c is ruled out by the same constraint as in RNR.

Nevertheless, there are also some facts which can be easily explained if V, NP, and XP are treated as sisters. For example, consider the following sentences:

(19) a. *I want my son a good boy.
      b. I don't want you a nuisance at the party this evening.
(20) a. There was only one of them a real actor; the rest were drama students.
      b. Is there anyone here a doctor?

19a is generally judged as ungrammatical, while 19b is grammatical in British English but not in American English. Further, Hannay 1985 has observed that sentences as in 20 are acceptable in some of the British dialects. It is not clear what causes these differences between dialects, but it is at least necessary to specify that XP may or may not be an NP in order to describe these facts. Consider also the following:

(21) a. I regard him as pompous.
      b. He strikes me as honest.

If we assume that *regard* and *strike* take a small clause as their complement, and that as-phrase is a PP which serves as the predicate XP of the small clause, it should be specified that the predicate XP of the small clause complement of these verbs is a PP. Thus we must extend the possibility of strict subcategorization, that is, we must permit a verb to strictly subcategorize for the elements within the embedded complement clause as well as its sisters. If we assume, on the other hand, that these small clause complements have the structure 18b as well as 18a, 19-21 can be handled by means of the regular strict subcategorization, that is, the specification of the categories of the sister complements.

3.3. Pseudo-relatives

McCawley 1981 refers to sentences like 22 as pseudo-relative clauses, and argues that they differ from ordinary restrictive relatives in various respects. See McCawley 1981, 1988 and Ushie 1987 for detailed discussion.

(22)   There are many Americans who like opera.

Again, there seem to be many properties which become easier to deal with if we assume that pseudo-relatives have both of the structures in 23.

(23) a   [$_{VP}$ V [$_{NP}$ NP CP]]
     b. [$_{VP}$ V NP CP]

For example, consider the following:

(24) a. ??Many Americans who distrust politicians there have always been.
     b.   ?Many Americans there have always been who distrust politicians.
     c.   *Many fish, Bill ate that I caught.

The low acceptability of 24a shows that pseudo-relatives have the structure 23a rather 'weakly' relative to the structure 23b, but owing to the existence of 23b it is not fully unacceptable. By contrast, the stronger status of 23b makes 24b nearly acceptable. 24c is utterly unacceptable because it has only the structure 23a.

The Complex NP constraint excludes extraction of material from an ordinary restrictive relative clause. 25a, however, sounds far more normal than 25b, though it sounds somewhat odd.

(25) a. ?Which persons do you think there are many Americans who distrust?
     b. *Which books did John praise the person who wrote?

This fact can also be counted as another piece of evidence which supports the existence of the structure 23b.

3.4. Relative Pronoun *Whom* as Subject

Even in Present-day English, the relative pronoun *whom* is sometimes used instead of *who* in such sentences as 26.

(26)   I met a man whom I thought __ was a lunatic.

This suggests the existence of the structure 27b, which enables us to explain the use of *whom* by some speakers, because the NP occupies the position of the object NP of the immediately preceding verb.

(27) a. [$_{VP}$ V [$_{CP}$ NP [Aux VP]]]
     b. [$_{VP}$ V NP [Aux VP]]

4. Conclusion

This paper has been an attempt to show the necessity of syntactic dual structures. Of course, there are many problems to be solved in order to develop the SDS analysis into a full-fledged linguistic theory. In particular, when we take the SDS analysis seriously, it is inevitable to answer the following questions.

(28) a. What kinds of dual structures are possible and in what circumstances?
     b. Which of the dual structures are relevant to which of the principles, constraints, and rules of the grammar?

As for 28a, it is clearly not the case that any kind of dual structures is allowed in any circumstance. On the contrary, it is quite reasonable to suppose that some specific kinds of dual structures should be allowed in some particular circumstances. Thus, we must make clear what the general principles are that govern the possible combinations of them.

Another important question is 28b. We must clarify to which structures a particular rule (principle, constraint) applies when a sentence has simultaneous dual structures. It may be that one of the two structures is relevant to some rules, and the other is relevant to some other rules, or both of them might be relevant to some processes as in the case of coordination. It is to be desired that the relevant structure(s) should not be stipulated for each rule but automatically chosen according to the properties of the rule in question or some other factors. We must make the SDS approach a restricted linguistic theory with explanatory power by answering these questions, among others.

Even at this point, however, we have probably got a clue to the general theory of SDS. There is something in common among the constructions we have considered so far to support the SDS analysis, that is, all the cases mentioned above involve a verb and the object NP immediately following it in some way. It seems that this fact is not a coincidence, but that it shows one possible general subclass of SDS. The existence of that pattern may be attributable to the process of language acquisition. Suppose that the acquisition of English grammar proceeds as follows: At some stage of the language acquisition the fundamental structure as in 29a, in which VP (or more accurately V') consists of a verb followed by an object NP, is established. At the next stage it becomes possible for some element XP to occur within VP immediately after the object NP, as

shown in 29b. When the acquisition proceeds further, the NP and the following XP may come to form a single constituent probably based on the semantic relationship between them, producing the structure 29c.

(29) a. [$_{VP}$ V NP]
       b. [$_{VP}$ V NP XP]
       c. [$_{VP}$ V [NP XP]]

At that stage, however, the structure 29b is not completely replaced with 29c, but is somehow preserved. This leads to the syntactic dual structures of the sorts we have seen above.

It seems reasonable to suppose that the relative strength between the two structures vary among the constructions according to the strength of the motivations which trigger the transition from 29b to 29c. The difference of the strength between certain dual structures may also exist among speakers. For example, while most speakers judge 30 ungrammatical, Abbott finds it grammatical.

(30) John gave a Ford to Mary and Harry, a Cadillac to Susan. (Abbott 1976:642)

It may be that she keeps something like the structure 11b very strongly in her mind instead of 11a, and that it permits the application of Gapping even in 30.

We have only suggested the new direction in the investigation of the linguistic structures, and much further investigation is required to decide whether our SDS approach to syntax is correct or not. However, if our SDS analysis is on the right track, it casts serious doubts on Chomsky's approach to possible phrase structures, in which he only assumes simple binary branching structures (see Chomsky and Lasnik (1991:29) and Chomsky (1993:9, 33), for example). Syntactic structures are not so rigid but 'fuzzy' in a certain sense.

REFERENCES

Abbott, Barbara. 1976. Right Node Raising as a test for constituenthood. Linguistic Inquiry 7.639-42.

Chomsky, Noam. 1992. A minimalist program for linguistic theory. MIT Occasional Papers in Linguistics #1.

_____, and Howard Lasnik. 1991. Principles and parameters theory. To appear in

Syntax: An international handbook of contemporary research, ed. by J. Jacobs, A. von Stechow, W. Stemefeld, and T. Vennemann. Berlin: Walter de Gruyter.

Emonds, Joseph. 1985. A unified theory of syntactic categories. Dordrecht: Foris.

Goodall, Grant. 1987. Parallel structures in syntax: Coordination, causatives, and restructuring. Cambridge: Cambridge University Press.

Hannay, Michael. 1985. English existentials in functional grammar. Dordrecht: Foris.

Hudson, Richard. 1982. Incomplete conjuncts. Linguistic Inquiry 13.547-50.

Ike-uchi, Masayuki. 1988. Tougoron ni okeru heikou-kouzou ni tsuite [Parallel structures in syntax]. Eigo Kyoiku [The English Teachers' Magazine] 37.8.66-69; 37.9.73-75; 37.10.66-69.

Ishihara, Yuki. 1992. Some arguments for Raising to Object. Linguistic Research 10.1-28. Tokyo University English Linguistic Association.

Jackendoff, Ray. 1990. On Larson's treatment of the double object construction. Linguistic Inquiry 21.427-56.

Larson, Richard. 1988. On the double object construction. Linguistic Inquiry 19.335-91.

McCawley, James D. 1981. The syntax and semantics of English relative clauses. Lingua 53.99-149.

_____. 1983. What's with with? Language 59.271-87.

_____. 1988. The syntactic phenomena of English. Chicago: University of Chicago Press.

Postal, Paul. 1974. On raising: One rule of English grammar and its theoretical implications. Cambridge, MA: MIT Press.

Ushie, Kazuhiro. 1987. 'Giji-kankeisetsu' no hasei: *There* koubun ni okeru saikouzouka [Derivation of 'pseudo-relatives': Restructuring in *There*-construction]. The English Teachers' Magazine 35:12.64-66. Tokyo: Taishukan.

_____. 1993. X-bar riron ni okeru S to small clause [S and small clause in X-bar theory]. Bulletin of Saitama University, Faculty of Education (The Humanities and Social Sciences) 42:1.1-18.