

COORDINATION AND COORDINATION AND COORDINATION

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This is the abstract. We will now summarize our main findings. First of all, we should say that we enjoyed very much working together on this subject, which has shown to be very intriguing. It was also new for both of us. Building on previous work by e.g. Van Zonneveld (1992, 1994, 1995, 1996, 1998, 2000a, 2000b), we concluded that $((Gr^{er}) Gr_k^{ie} Gr^{er} Gr_m^{ie})^n$, where $\sum(k+m)/2 = n$.^{*}

1. INTRODUCTION. In this article we will investigate the phenomenon called “coordination” in some detail. In order to make the reader familiar with the construction at hand, we will start by citing an interesting example from Van Zonneveld (1992, 1994, 1995, 1996, 1998, 2000a, 2000b), which is in Dutch. See the phrase in number (1) below:¹

- (1) Jan en Piet
Jan and Piet
‘Jan and Piet’

We should state right away that this construction is not a peculiarity of Dutch. A cross-linguistic search showed that it exists in at least three languages, but probably in more. A similar example in German is given in (2):

- (2) Jan und Peter
Jan and Peter
‘Jan and Peter’

Finally, the construction exists in English as well, witness (3):²

- (3) John and Mary

Now let us go back to the original example in (1), which is repeated in (4) for convenience.

^{*} The authors’ names are listed in alphabetical order. This research was supported by our loving family. We are grateful to Ron van Zonneveld and anonymous referees.

¹ As a policy, we do not translate names. The closest equivalent to *Jan* in Dutch is probably *John* in English.

² Notice that *Mary* in (3) is female, but *Piet* ‘Piet’ and *Peter* ‘Peter’ in (1) and (2), respectively, are male. We do not think that this is relevant in any sense. Future research will have to show if this claim can be upheld.

- (4) Jan en Piet
 Jan and Piet
 ‘Jan and Piet’

The phrase in (4) can be divided into three parts. The first part is the name *Jan* ‘Jan’. The second part is the element *en* ‘and’, which can be considered to be a functional element. The third part is the name *Piet* ‘Piet’. The functional element indicates that the first part and the second part are to be considered to be a group, i.e. a collection of entities with cardinality greater than one. Henceforth, we will call the functional element the grouper, and the first and the third part the groupies. For reasons we do not understand the construction as a whole is called coordination. These basic notions are summarized in Table 1 below:

ID	name	example
part 1	groupie 1	<i>Jan</i> ‘Jan’
part 2	grouper	<i>en</i> ‘en’
part 3	groupie 2	<i>Piet</i> ‘Piet’
parts 1+2+3	coordination	<i>Jan en Piet</i> ‘Jan and Piet’

TABLE 1. Basic terminology.

Before we go on, we will show that the phrase in (4) is indeed a constituent, which is a necessary prerequisite for any construction to be syntactically relevant. There are several tests for this, i.e. constituenthood. We will apply three of them, i.e. these tests, here.

First, the supposed phrase in (4) can be isolated. This is shown not only in Dutch in (5a), but also in German and US English in (5b/c):³

- (5) a. Jan en Piet
 Jan and Piet
 ‘Jan and Piet’
 b. Jan und Peter
 Jan and Peter
 ‘Jan and Peter’
 c. John and Mary.

³ Note again that *Mary* in (5c) is female, whereas *Piet* ‘Piet’ and *Peter* ‘Peter’ in (5a) and (5b), respectively, are male. We do not think that this is relevant; compare footnote 2 above.

Second, the phrase can be preposed as well as extraposed. This is shown in (6) directly below:⁴

- (6) a. Jan en Piet
 Jan and Piet
 ‘Jan and Piet’
 b. Jan und Peter
 Jan and Peter
 ‘Jan and Peter’
 c. John and Mary.

Here, (5a) is Dutch, (5b) is German, and (5c) is US English.

Thirdly and finally, the phrase can be replaced by a pronoun. This is exemplified in (7):

- (7) a. zij
 they
 ‘they’
 b. sie
 3PL.NOM
 ‘they’
 c. they

We think that (5) through (7) contain solid and convincing arguments that the construction called coordination involves a constituent (which, as we showed, consists of three parts; see Table 1 above).

2. DISCUSSION. Let us start by summarizing the main points from the previous section. Coordination exists in several languages. It consists of three parts, called *groupie 1*, the *grouper* and *groupie 2*, respectively. Furthermore, we proved that coordination involves a constituent.

3. A DISCOVERY. By a sheer instance of serendipity, we came across a very interesting example (P. de Vries, *personal communication*). We will cite it right away and comment on it afterwards. The example is in Dutch; see (8):⁵

⁴ The examples (6a) and (6b) are especially interesting from the point of view of V2 (verb second) and V-fin (verb final), which exist in both Dutch and German.

⁵ Notice that *groupies 1* and *2* in this example do not equal *groupie 1* and *2* in (1), respectively. However, we believe that the structure is sufficiently similar to warrant our conclusions below.

- (8) Joop, Jaap en Joep
 Joop, Jaap and Joep
 'Joop, Jaap and Joep'

In order to exclude the possibility of personal likes and dislikes, we tested the acceptability of the phrase in (8) with a panel of twelve randomly selected people. All subjects are aged between 3 and 81; their surname is *de Vries*; their native tongue is Dutch. The result is that (8) is considered significantly acceptable ($p = 0.005$).

The phrase in (8) shows that if a grouper and a comma join forces, the cardinality of the group of groupies can be greater than two. Of course we wanted to test if this spectacular possibility exists in the other languages as well. Our findings are still preliminary, but the answer seems to be positive. Two relevant examples are given in (9):

- (9) a. Jan, Peter und Karl
 Jan, Peter and Karl
 'Jan, Peter and Karl'
 b. John, Mary and Jane.

Here, (9a) is German; (9b) is US English.

On the basis of these data we formulate the following hypothesis, which we call the second law of coordination:

- (10) THE SECOND LAW OF COORDINATION
 Cross-linguistically, there can be three groupies in a coordinate structure.

The other discoveries are treated in the next section.

4. FURTHER RESEARCH. We will now present a further piece of data. We should warn the reader beforehand that only the first author of this article was able to judge the acceptability of this example, as the second author's abilities are limited to 5-word utterances (cf. De Vries, to appear).

- (11) Joop, Jaap, Joep en Klaas
 Joop, Jaap, Joep and Klaas
 'Joop, Jaap, Joep and Klaas'

In (11), which is in Dutch, it seems that if the grouper joins forces with two commas, the cardinality of the group of groupies can be four.

We have not been able to test whether a construction like (11) is available in the other languages yet, but we will nevertheless formulate the following generalization:

(12) THE CARDINALITY HYPOTHESIS

$$\#Gr^{ies} = |\{Gr^{er}\} \cup \{,1\dots ,n\}| + 1$$

In words: The number of groupies in a coordinate structure equals the cardinality of the set of groupers unified with the set of commas, plus one.

Table 2 shows that (12) gives the correct results for all examples in Dutch in this article:

example	#Gr ^{ies}	\{Gr ^{er} \} \cup \{,1\dots ,n\} + 1	correct?
(1)	2	2	√
(4)	2	2	√
(5a)	2	2	√
(6a)	2	2	√
(8)	3	3	√
(11)	4	4	√

TABLE 2. Testing the cardinality hypothesis.

In the conclusion we will even go beyond (12).

5. CONCLUSION. In this article we investigated the phenomenon called coordination. We showed that this construction is very interesting from a cross-linguistic point of view. Furthermore, we derived the second law of coordination in (10). We also put forward the cardinality hypothesis in (12). At this point, we wish to go one step further and propose (13), which is the main conclusion of this article:

$$(13) ((Gr^{er}) Gr_k^{ie} Gr^{er} Gr_m^{ie})^n, \text{ where } \sum(k+m)/2 = n.$$

Here, Gr^{er} is a grouper and Gr^{ie} is a groupie. The indexes *k* and *m* indicate a variable linear groupie number; the power *n* is the total amount of substructures.

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