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Combining Modal Particles in German and Dutch

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This paper is a corpus-based comparative study of modal particles in German and Dutch. We examine the special ability of Dutch and German modal particles to cluster, and demonstrate that Dutch is far more cluster-friendly than German. We also find clear differences in the behavior of cognate particles in the two languages and note that a corpus study reveals quite different patterns from those arrived at by introspection in earlier research. Finally, we suggest that in attempting to capture regularities about particle usage, it is useful to consider not just the linear ordering of particles within a cluster, but also typical non-contiguous pairings (for example, as "brackets" inside which other particles may occur). We also speculate briefly on the function of particle clusters.

1. Introduction.

This paper compares the use of a number of modal particles in German and Dutch, in written and spoken corpora, in the light of the TRANSPARENCY PRINCIPLE (*Transparenzprinzip*)—the tendency to assume that cognate words behave similarly in the two languages (see Abraham 1981, Foolen 2003). Since our purpose is to compare German and Dutch discourse particles at the level of linguistic data, we cannot address the theoretical and terminological problems surrounding this group of words.[1] Briefly, we view modal particles (MPs) as a subcategory of discourse particles. Typically, they are a phenomenon of spoken language,

[1] See Fischer 2006 and other contributions in the same volume. Note that the German term *Diskurspartikeln*—encompassing focus and modal particles—does not mean the same as the term *discourse particles* applied to English. On English discourse particles, see, for instance, Fraser 2006.

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especially of spontaneous, informal speech. They occupy the middle field, they can cluster, and they do not carry stress.[2] Modal particles cannot affect a sentence's truth value, but alter the sentence semantically and pragmatically, expressing the speaker's attitude to the propositional content of the sentence (Helbig & Helbig 1995:9, Karagjosova 2003: 335).

Given these criteria, a typical list of MPs in German consists of between 16 and 19 (as in König & Requardt, 1991:63): *aber, auch, bloß, denn, doch, eben, eigentlich, einfach, erst, etwa, halt, ja, nun (mal), mal, nur, ruhig, schon, vielleicht, wohl* (those underlined do not occur in the list of Thurmair 1991:20).[3] In Dutch, the number traditionally given is smaller, between six and nine, but typically includes *dan, nu, toch, maar, eens, even*.[4] The transparency principle might lead us to expect

[2] Here we describe the prototypical modal particle, rather than attempting a list of necessary and sufficient conditions; see Fischer 2006:15 on this distinction. Characterizations of MPs can be found in Bublitz 1978:6–10, Hartog & Ruttenauer 1982:70, Burkhardt 1982a:88, 1985:242; Doherty 1985:187, Helbig 1988:55, Vismans 1992:82, 1995:6; Foolen 1993:168–171, Weinrich 1993:841–845, Weydt 1989:330, and Weydt 1979:3. Burkhardt (1982b:153) argues that their function is dialogue control. König (1997:62) notes that modal particles can facilitate inference-making in conversation. On the emergence of modal particles in language, see Molnár 1998, 2002; Autenrieth 2002.

[3] Although these particles are identical in form to words from other classes (e.g. German *aber* and Dutch *maar* 'but', it is one of the characteristics of modal particles that they cannot be readily translated into English, which uses other strategies—e.g. intonation—instead of particles. Very roughly, the list given here might be rendered as: 'but, also, then, after all, just, actually, simply, only, for instance, just, indeed/after all, now, just, only, freely, already, perhaps, probably'.

[4] See Hulshof 1987, who examined particles in directives. De Vriendt et al. (1991), although their study was not limited to directives, restricted themselves to the same list, plus *wel* (cognate with German *wohl* 'probably'). They also noted in passing (de Vriendt et al. 1991:46–47) the possibility of *een keer(tje)* ('once') following, or more often replacing, *even*. Vismans (1994) extended his list to nine, to include *ook*, *misschien*, and *soms* ('also, perhaps, sometimes') used as particles (but without *wel* and *een keer*). The Dutch cognates of German *erst (eerst)*, and *ja (ja)*, do not feature in this list. Nor do *alleen* and *al* (semantically similar to German *nur* and *schon*). *Gewoon* ('simply, just') and

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considerable similarities between many German and Dutch particles, for instance, in the pairs *nun/nu, doch/toch, wohl/wel, eben/even, denn/dan*. Logically extending the transparency principle might also lead us to expect non-cognate lexemes with similar semantics to function as particles in similar ways: *(ein)mal/ een keer, schon/al*, and *nur/alleen,* for example. Yet, both assumptions are risky, as the extreme case of a cognate, the German lexeme *überhaupt,* which has been borrowed unchanged into Dutch, shows. We found in a pilot investigation of 80 tokens in both Dutch and German (from the *Corpus Gesproken Nederlands,* described in section 2.2, and the *Deutsches Spracharchiv*, held by the *Institut für Deutsche Sprache*; see note 6 below), that *überhaupt* is used far less frequently in negative statements in Dutch than in German. Occurrences in a positive statement outnumbered those in a negative statement 3:1 in Dutch, while German showed the reverse trend: three times more tokens were found in a negative than in a positive statement.

In the light of growing interest in modal particles over the last two decades, the extent to which German and Dutch MPs behave similarly is a timely research question. Ready access to spoken corpora now allows us to address this question—here with the emphasis on MP clusters.

2. Clustering of MPs in Dutch and German.

2.1. Clustering, Corpora, and Method.

The "clusterability" of modal particles is one of the features that helps distinguish them from other modal words. We cannot combine ordinary modal words to say, for example, **Er hat möglicherweise wahrscheinlich gekündigt* ('*He has possibly probably given notice'; Bublitz 1978: 37). Furthermore, in some cases, the words only become interpreted as modal particles when in a cluster. *Er geht nun weg* ('He is going away now') and *Er geht einmal weg* both have a different sense to the concession expressed by *Er geht nun einmal weg* ('Well, he's just going away [and that's all there's to it]'; Weydt 1969:80). Helbig (1988:75) allowed for clusters in German of up to four MPs together. For Dutch, Hulshof (1987), who concerned himself only with particle combinations

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weer (the latter cognate with German *wieder* 'again') have also not been considered to date. Presumably, the neglect of such particles in earlier research reflects the focus on directives.

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possible in imperative sentences, *dan, nu, toch, maar, 'es [eens],* and *even*, listed 21 possible combinations of four particles, ten of five particles, and even two six-particle clusters.

The German particles we investigated are *aber, auch, bloß, denn, doch, eben, eigentlich, halt, ja, schon, überhaupt,* and *wohl*.[5] For Dutch, we searched for the fifteen two-particle combinations listed by Hulshof (1987:86) (they are *dan nu, dan toch, dan maar, dan 'es, dan even, nu toch, nu maar, nu 'es, nu even, toch maar, toch 'es, toch even, maar 'es, maar even, 'es even*), and tallied all combinations including these clusters. We extended our list to include *al, allemaal, een keer(tje), eerst, enfin, eventjes, ja, misschien, net, pas, soms* and *weer*, as they occurred in combination with the clusters listed by Hulshof. We excluded tokens that did not function as modal particles. For instance, we discounted cases where *dan* had a comparative meaning, as in *dan nu* 'than now', or where *eens* at the end of a particle cluster had the full sense of 'once', as in *toch maar eens in de maand*, 'once a month'. There was some inconsistency in transcription of *een keer/ne keer,* and *'es/eens* in the Dutch corpus. Results for *een keer/ne keer* have been grouped together, as well as results for '*es* and *eens*.

Our German data are taken from a corpus of 51 interviews carried out in Berlin in the early 1990s (originally collected by Norbert Dittmar, Free University of Berlin) about the interviewees' recollections of the fall of the Wall and of the period thereafter. These interviews vary in length, but the majority are between thirty and sixty minutes long.[6] The Dutch data are drawn from the much larger nine-million word corpus of spoken language, the Corpus Gesproken Nederlands (CGN) compiled

[5] *Eigentlich*, although listed as a particle by König & Requart (1991), is recognized as an MP by Weydt in interrogative contexts only. Métrich & Faucher (2009), s.v. *eigentlich*, treat it as a *Satzadverb*. If we exclude the 48 combinations involving *eigentlich* from the data presented below, the number of clusters in the German data is further substantially reduced, to a total of 238 two-item clusters. Only one three-item combination includes *eigentlich*.

[6] Dittmar does not estimate how many words the corpus contains, but for full details of participants and interview length see Dittmar & Bredel (1999). The corpus has since been digitized and is available as part of the *Institut für Deutsche Sprache* archive of spoken language at http://agd.ids-mannheim.de/html/korpora/korpus-bw.shtml.

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under the auspices of the Dutch Language Union and freely available to researchers.[7] The difference in size and scope of the two corpora is a methodological problem, but in our view, it is unlikely that the striking differences reported below between our German and Dutch data are entirely due to this difference.

2.2. German: Cluster size, Combinations, and Sequencing.
Relatively few combinations emerged from the German data compared to the Dutch. Table 1 presents a list of all two-particle clusters found in our corpus data, listed in order of frequency, while table 2 lists three-particle clusters. First, they show that some two-item combinations are very frequent in the German data, in particular *eben auch, eben halt* and *eben doch*. The transparency principle might lead us to expect similar patterns in the Dutch data for *even*, the cognate of *eben*, but we shall see below that *even* is typically cluster-final in Dutch (table 11), and that *even toch*, which would be the equivalent Dutch pairing of the cognates for *eben doch*, does not occur at all. Second, it is obvious that—despite Helbig's (1988:75) examples—three-particle clusters are rare in our German data set, accounting for 11/297 clusters, or only 3.7% of the total (or 10/249=4% if we exclude combinations with *eigentlich*; see note 5). Four-particle clusters do not occur at all.

Various attempts have been made to capture regularities in the ordering of German particles. Doherty (1985:114–115) suggested that German MPs tend to be ordered by their assertive power: a particle of higher assertive power will always come before one of lower assertive power, such that the order *ja* → *doch* → *wohl* cannot be altered.[8] Ickler (1994:379) argued that the leftmost MPs in clusters (that is, those appear-

[7] We chose not to use the *Institut für Deutsche Sprache* online corpus of spoken language (http://dsav-oeff.ids-mannheim.de/DSAv/) because the corpus consists of a wide variety of corpora collected at different times and places, according to varying methodologies. Furthermore, the searchable corpus of German non-dialect language is comparatively small and relatively ill-defined.

[8] Assertive power is understood as the distance of the utterance's evaluation from knowledge. The closer the evaluation comes to certain knowledge, the greater its assertive power.

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Combination	Total
eben auch	53
eben halt	29
ebend doch	21
ja doch	18
eigentlich auch	15
ja auch	15
denn auch	14
halt auch	12
ja eigentlich	11
denn halt	10
doch eigentlich	6
doch mal	6
auch eigentlich	4
eben denn	4
halt denn	4
halt doch	4
ja eben	4
ja halt	4
denn doch	3
denn eben	3
denn eigentlich	3
doch ja	3
eben ja	3
aber eben	2
auch mal	2
auch schon	2
doch auch	2
doch eben	2
doch schon	2
eben mal	2
eben schon	2
eigentlich doch	2
eigentlich mal	2
eigentlich schon	2
ja denn	2
auch bloß	1
auch denn	1
auch doch	1
auch eben	1
denn schon	1
eben bloß	1
eben eigentlich	1
eigentlich eben	1
eigentlich ja	1
halt eben	1
halt schon	1
ja schon	1
schon eben	1
TOTAL	**286**

Table 1. Two-particle combinations in the German corpus, ordered by frequency.

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ing earlier in the cluster) would have a more general, nonspecific meaning than those on the right.[9] Helbig (1988:75) grouped German particles into six sets, labeled (a) to (f), and suggested that a particle cluster would select up to one item from each set, in the order (a)–(f):

a) *denn*, *doch* (unstressed), *eigentlich*, *etwa*, *ja*
b) *aber*, *eben*, *halt*, *vielleicht*, *wohl*
c) *doch* (stressed), *schon* (though we ourselves would not include stressed *doch* in the category of MPs, which are by definition unstressed)
d) *auch*, *mal*
e) *bloβ*, *nur*
f) *noch*

denn ebend halt	3
denn aber auch	1
ebend auch schon	1
eigentlich auch schon	1
eben auch mal	1
ja auch mal	1
ja denn doch	1
ja doch schon	1
ja eben doch	1
TOTAL	**11**

Table 2. Three-particle clusters in the German data.

Work by Thurmair (1989, 1991) and others, such as Hentschel (1986), Ickler (1994), Rost-Roth (1998), and Dittmar (2000), has added a number of detailed claims to Helbig's schema that may be tested. Table 3 below summarizes our findings in the light of some of these predictions.

[9] Lindner (1991:195) argues that ordering may also be phonologically conditioned, claiming that *ja doch* is preferred over *doch ja* because in the second example, two fricatives with a small difference in consonant strength would collide. However, Rinas (2007:430) disputes this, contending that /x-j/ is a common combination (as in *ach ja!* or *ich mach' ja nichts*).

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Prediction	**Finding**
1. *doch wohl* is particularly frequent (Thurmair 1989:218).	No—*doch wohl* is not found in our corpus at all.
2. *ja auch* and *eben auch* are very frequent combinations (Rost-Roth 1998:309).	*eben auch* is indeed the most frequent two-particle cluster in our data, with 53/286 occurrences; *ja auch* is also relatively frequent, in the top six with 15/286 occurrences.
3. *denn* always appears in initial position in a cluster (Thurmair 1989).	*eben denn* (4x), *halt denn* (4x) and *ja denn* (2x) in our corpus suggest this claim is too strong.
4. Thurmair includes *halt eben* (but not *eben halt*) in her list of acceptable clusters, and Hentschel (1986:256) notes *halt eben* in her corpus. On the other hand, Dittmar (2000:16) notes *eben halt*, rather than *halt eben*.	It turns out that *eben halt*—not even mentioned by Thurmair—is the second most frequent two-cluster combination of all (23/286), alongside just one occurrence of *halt eben*.
5. *doch* will follow *ja* or *denn*, but is otherwise first. With *eben* and *halt,* both orderings are possible (Thurmair 1989:215).	Our data contain instances of *ja doch, denn doch, eigentlich doch, halt doch*. and *ja eben doch* that contradict Thurmair's claim, but not Helbig's (1988) more general schema, which allows for *doch* in position c), at least when stressed).
6. *ja* and *halt* cannot be combined (Ickler 1994:379).	Four instances of *ja halt* in our corpus contradict this claim, though arguably at a marginal level (4/286).
7. MPs with similar meanings are rarely combined (Thurmair 1991:27).	The high frequency of *eben halt* clusters (see 4 above) would appear to contradict this claim.

Table 3. German MP clusters: Predictions and findings.

In the light of the wide range of combinations in the data presented in tables 1 and 2, it is not surprising that table 3 reveals clusters that contravene the orders suggested by Thurmair and others. However, the data adhere, for most part, to the more general rules of Helbig. Exceptions to Helbig's orders are *eben eigentlich* 1x, *auch eigentlich* 4x (but see note 4) and *schon eben*1x (see table 1). It is noteworthy, though, that

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more than one particle from the same group in Helbig's schema (for instance, *ja* and *doch*) may occur in a cluster. For the German data, both Lindner (1991:168) and Thurmair (1989:215) considered *doch ja* unlikely, and our data confirm this: *ja doch* (18x) is by far the more frequent ordering, but we do find *doch ja* (3x) too (see 5 in table 3). The second most frequent combination of all (23x), alongside just one occurrence of *halt eben* (see 7 in table 3), is *eben halt*. This seems to contradict Thurmair's hypothesis that particles of similar meaning are rarely combined (Thurmair 1991:27). In fact, particles from the same group (admittedly not identical to Thurmair's "particles of similar meaning") seem to combine freely, albeit with a notable preference as to their order.

2.3. Dutch: Cluster Size, Combinations, and Sequencing.
To what extent do Dutch MPs behave similarly to their German counterparts? Table 4 gives an overview of our results from the Dutch corpus for all the two-item clusters considered by Hulshof (1987), including the frequency with which they feature as part of a larger cluster. Tables 5, 6, and 7 list the three-, four- and five-item clusters that we found. It is immediately evident that larger clusters of particles are far more frequent in the Dutch than in the German corpus. The largest clusters in our German data were three-particle clusters, and they were rare (3.7%, or 4%, excluding *eigentlich*). In contrast, three- to five-item clusters make up more than 20% (1169/5710) of all Dutch clusters. Three-item clusters make up the bulk of this: 999/5710=17.5%. Four-item clusters make up only 2.6%, with five-item clusters making up 0.3% of the total. Even allowing that the smaller German corpus may mean we have missed less common clusters that can occur, the difference between the two data sets is striking.

A second significant finding with respect to the Dutch data is the considerable range in frequency amongst the combinations deemed possible by Hulshof. Of the three-item clusters, *dan toch maar* is most frequent (42x), but thirteen out of the 24 combinations occur less than five times, and two do not occur at all: *nu dan 'es, nu dan maar*. Of the 21 possible four-item clusters listed by Hulshof (1987), only seven are attested in the data (table 6). The remaining 15 in Hulshof's list are not attested at all in our data. They are *nu toch 'es even, dan nu 'es even, nu dan 'es even, dan nu maar even, nu dan maar even, dan nu toch even, nu dan toch even, nu toch maar 'es, dan toch maar 'es, dan nu maar 'es, nu*

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dan maar 'es, dan nu toch 'es, nu dan toch 'es, dan nu toch maar, nu dan toch maar. However, many other four-item clusters besides those listed by Hulshof do occur. The top 17 four-item clusters in our data are given in table 7, which lists all those that occurred twice or more—another 42 combinations occurred just once each. Finally, none of the ten five-item combinations listed by Hulshof occur in our data (as listed in table 8). Instead, there are 17 other such five-particle clusters in the data (table 9).[10] Hulshof lists two possible combinations of six particles, but these were not found in our data either: *dan nu toch maar 'es even* and *nu dan toch maar 'es even*.

Particle pairings sorted by frequency of the pairing (alone or as part of a larger cluster)						
	two-item cluster	**three-item cluster**	**four-item cluster**	**five-item cluster**	**total**	**two-item clusters as % of all clusters**
dan toch	789	316	53	8	1166	68%
eens even	912	203	27	5	1148	79%
dan maar	571	62	3	0	676	84%
maar even	459	84	10	0	553	83%
toch maar	388	52	5	0	445	87%
nu toch	200	113	13	4	330	61%
dan nu	180	34	4	2	224	80%
maar 'es	123	60	17	1	201	61%
nu maar	149	29	2	0	180	83%
dan 'es	148	21	3	0	172	86%
nu even	159	0	0	0	159	100%
toch 'es	130	16	2	1	149	87%
dan even	133	1	0	0	134	99%
nu dan	94	2	1	0	97	97%
nu 'es	64	5	1	0	70	91%
TOTAL	4499	998	148	22	5710	

Table 4. Frequency of all two-item clusters from Hulshof's list in the CGN Dutch corpus.[11]

[10] This figure does not tally with the total of 22 given in table 4 because in table 4 some clusters belong in more than one category and are counted twice.

[11] Note that this table does not include all two-item clusters. See table 10 for *nu dan*.

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dan toch maar	42	
dan maar even	20	and 2x …eventjes
dan maar ‘es	20	
toch maar even	17	and 3x …eventjes
nu maar ‘es	14	
toch maar ‘es	12	
dan toch ‘es	12	
maar ‘es even	8	
dan ‘es even	7	
nu maar even	7	
nu ‘es even	6	
dan nu even	5	and 1x… eventjes
nu toch ‘es	5	
dan toch even	4	
nu toch maar	4	
toch ‘es even	3	
dan nu maar	3	
nu toch even	2	
dan nu ‘es	2	
nu dan even	1	
dan nu toch	1	
nu dan toch	1	
nu dan ‘es	0	
nu dan maar	0	
TOTAL	200	

Table 5. Frequencies in the CGN Dutch corpus of the three-item clusters listed by Hulshof.

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dan maar ‘es even	3
dan toch ‘es even	2
dan toch maar even	2
toch maar ‘es even	1
nu maar ‘es even	1
dan toch maar ‘es	1
nu dan toch ‘es	1
TOTAL	12

Table 6. Frequency in the CGN Dutch corpus of the four-particle clusters listed by Hulshof.[12]

dan toch ook wel	14
misschien nog eens even	8
dan toch nog wel	5
dan toch wel even/effe[=1]	5
ook nog eens even	4
dan toch nog even	3
dan toch nog maar	3
ook wel eens even	3
toch maar een keer	3
dan nu nog maar	2
dan toch ‘es [eens] even	2
dan toch maar even	2
dan toch nog eens	2
dan toch wel eens	2
nu toch ook wel	2
nu toch wel eens	2
toch nog eens even	2
42 further combinations, 1x each	42
TOTAL	106

Table 7. The top 17 four-item clusters in the CGN Dutch corpus.[13]

[12] Those with no occurrences are not listed.

[13] Those with just one occurrence each are grouped under one heading.

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dan nu maar ‘es even
dan nu toch ‘es even
dan nu toch maar ‘es
dan nu toch maar even
dan toch maar ‘es even
nu dan maar ‘es even
nu dan toch ‘es even
nu dan toch maar ‘es
nu dan toch maar even
nu toch maar ‘es even

Table 8. The ten five-item clusters postulated by Hulshof (1987), none of which are attested in our data.

dan toch nog eens ne keer	2
nu toch ook ja nog	1
dan nu misschien ook toch	1
dan nu nog maar ne keer	1
dan toch kennelijk nog wel	1
dan toch altijd nog wel	1
dan toch nog eens even	1
dan toch nog wel even	1
dan toch ook nog wel	1
nu toch al seffens [=eens evens]	1
nu toch eindelijk eens een keer	1
nu toch ook nog eens	1
soms nog wel eens even	1
toch eens nog eens even	1
toch nog wel eens even	1
toch ook nog eens even	1
dan toch wel eens een keer	1
TOTAL	18

Table 9. Five-particle clusters found in the CGN Dutch corpus.

There is a considerable discrepancy between the particle combinations that Hulshof (1987) found by introspection and those in our corpus

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data. First, many—especially of the larger clusters—are not attested at all. Of course, caution is called for here: even many of those attested occur only once, and a corpus of nine million words is still just a sample of the language, not a complete range of all possibilities. It is possible that the CGN corpus does not include a sufficiently high number of directives to allow all the clusters postulated by Hulshof to occur, though the subjective impression from our trawl of the data was that many directives did occur. Second, there is considerable variation in frequency among those clusters that are attested. We found a similar variance in frequency for the German clusters, where the most frequent two-item cluster (*eben auch*) accounts for 18.5% of all such clusters (53/286). Such striking frequency differences in our data suggest that future studies of particle ordering and particle combinations must account not just for what is permissible, but also for the fact that some permissible combinations are very frequent, while others are marginal.

De Vriendt et al. (1991) propose the following principles for the sequence of Dutch particles. Deictic-anaphoric particles (*nu, dan*, or *toch*) tend to come first in a cluster, near the thematic end of the utterance, since they relate to the context, that is, to what is already known. The existentially quantifying particles *eens, even, een keer(tje)* will tend to come at the end, in the position for the rheme (that is, new information). In between come the downtoning particles *maar* (with an essentially restrictive illocutionary force) and *wel* (with an essentially affirmative illocutionary force). *Maar* and *wel* cannot occur together.[14]

As with German, our Dutch data are interesting with respect to the co-occurrence of particles from the same group. The two particles *dan* and *nu* both belong to the group of deictic-anaphoric particles identified by De Vriendt et al. (1991) that typically occur first in a particle cluster. Hulshof (1987) did not allow for *nu dan* as a stand-alone cluster, only *dan nu*. According to Hulshof, *nu dan* could, however, occur as part of a larger cluster, before *even*, *'es, maar* and *toch*. The CGN data do not support this claim. Only three out of the 16 *nu dan …* possibilities that Hulshof listed are actually attested in our data, and only once each, making *nu dan* as part of larger clusters very marginal (table 10). In contrast, the stand-alone two-item cluster *nu dan* is far from marginal,

[14] See also Vismans 1994:76–77 on the order of Dutch MPs.

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even if it is outnumbered about 2:1 by *dan nu* (the exact ratio is 180:94, as can be seen in table 4).

<table>
<tr><th>NU DAN</th><th>in two-item cluster</th><th>in three-item cluster</th><th>in four-item cluster</th><th>in five-item cluster</th><th>total</th></tr>
<tr><td rowspan="2">*nu dan* (possible according to Hulshof (1987) before *even*, ‘*es, maar* and *toch*)</td><td rowspan="2">94</td><td>*nu dan even* 1
nu dan toch 1</td><td>*nu dan toch ‘es* 1</td><td>0</td><td rowspan="2">97</td></tr>
<tr><td colspan="3">10 out of the 13 3- or 4-item clusters listed by Hulshof (with a following *even, toch, ‘es* or *maar*) did not occur at all in the data.</td></tr>
</table>

Table 10. Frequency of *nu dan* in the CGN corpus.

Despite some contradictions of Hulshof’s (1987) predictions, our data show that some cluster sequences are clearly more robust than others. Given that *nu dan, dan nu, dan toch,* and *nu toch* are all frequent in the data, we might logically expect the other two possible combinations from the “deictic-anaphoric” group to be frequent too: *toch dan* and *toch nu*. Yet *toch dan* does not occur at all, and *toch nu* is fairly marginal, with just 15 occurrences. (Recall the oft-cited standard ordering *dan nu toch maar ‘es [eens] even*). This suggests that, as far as ordering is concerned, the “deictic-anaphoric” group of De Vriendt et al. is in fact two groups: *dan*/*nu*, followed by *toch* (as De Vriendt et al.’s discussion of them separately does in fact imply).

There is also some good news for language judgements arrived at by introspection like Hulshof’s particle clusters. The cluster-final combination *eens even* is very robust. As table 11 shows, *eens even* occurs just twice in non-final position, when it is followed by *een keer*.

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EENS EVEN as two-item cluster	**Ending three-item cluster**	**Ending four-item cluster (incl. 1x *eens eventjes*)**
912	203 as follows: nog eens even (44) nou eens even (29) maar'es even (40) wel eens even (27) misschien eens even (12) dan'es/eens even (7) gewoon eens even (5) nu'es/eens even (5) toch'es/eens even (4)	25 as follows: misschien nog eens even (8) ook nog eens even (4) ook wel eens even (3) dan toch'es[=eens] even (2) toch nog eens even (2) maar nog eens even (1) nou misschien eens even (1) nu maar'es/eens even (1) ook maar eens even (1) toch eens even even (*sic*; 1) toch maar'es/eens even (1)

In four-item cluster, followed by *een keer*	**In five-item cluster**	**total**
2 as follows: nu eens even een keer nog eens even een keer	5 as follows: dan toch nog eens even soms nog wel eens even toch eens nog eens even toch nog wel eens even toch ook nog eens even	1148

Table 11. Distribution of *eens even* in the CGN Dutch corpus.

3. Discussion: Which Clusters of Modal Particles, and Why?

Our corpus investigation has revealed tendencies and preferences, rather than absolute rules for clusters. We can identify other regularities too with respect to cluster-formation, based on the concrete data. Let us consider *maar*, *dan*, *toch*, *even*, and *eens* as examples (see tables 12–15). One set of regularities takes the form of linear pairings. The frequent *dan toch* captures 52% of occurrences of *toch* in a cluster (table 13); *maar even* and *eens even* together capture 77% of occurrences of *even* in clusters (table 14); and *eens even* also captures 51% of occurrences of *eens* in a cluster (table 15).

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Moreover, our data also offer a new avenue for future research, for they suggest that some regularities govern *non*-contiguous pairings. For example, *dan […] maar* captures 39% of all occurrences of *maar,* including also examples such as *dan toch maar*, the most frequent three-item cluster of all (see table 12). A similar, if less striking, pairing is *toch […] even* (table 13). Most strikingly, over a quarter of the *dan*+*even* combinations (48/181) occur with a third particle in between (table 14). Further research may reveal, then, that the huge variety of orders possible in a cluster can be captured by a much smaller number of basic preferences (or constraints, in an optimality theory approach) that allow for non-contiguous as well as contiguous pairings.

MAAR	***dan maar***	***maar even***	***toch maar***	***maar eens***
total=1785	636 +56 *dan […] maar*=692	553	445	201
106%*	39%	31%	25%	11%

Table 12. *Maar* and its favored cluster combinations.[15]

TOCH	***dan toch***	***toch maar***	***nu toch***	***toch even***	***toch eens***
total=2235	1166	445	330	154 +4 *toch nog even* =158	149
101%*	52%	20%	15%	7%	7%

Table 13. *Toch* and its favored cluster combinations.[16]

[15] Note that 49 instances are counted in both in *dan … maar* and in *toch maar* categories (for instance, *dan toch maar*). They have been counted only once in the final total. Hence the sum of % totals exceeds 100%.

[16] Some instances belong in two categories, for example, *toch maar eens*.

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EVEN	***maar even***	***eens even***	***dan even***	***toch even***
total=1403	553	534	133 +23 *dan maar even* +25 other *dan (…) even*=181	158
101%*	39%	38%	13%	11%

Table 14. *Even* and its favored cluster combinations.[17]

EENS	***eens even***	***maar eens***	***dan eens***	***toch eens***
total=1053	534	201	172 +4 *dan (…) eens*=176	149
101%	51%	19%	17%	14%

Table 15. *Eens* and its favored cluster combinations.[18]

Finally, the frequency of particle clusters observed in spontaneous speech, especially in Dutch, must raise the question of their function. Is their force compositional, that is, do clusters fulfill two or more functions at once, one for each particle? The observation that particles of similar meaning are rarely combined (Thurmair 1991:27) might constitute evidence that the meaning of clusters is compositional. Even occurrences of apparently synonymous pairs such as *eben halt* may fulfill two different functions, if we accept Métrich & Faucher's (2009:462–463) observation that—despite the regional distribution of the two—*eben* and *halt* are not strictly interchangeable. Alternatively, it may be that large clusters are not compositional in meaning, but are a conversational strategy for expressing speaker attitude that differs from non-clustered particles or from

[17] Twenty-three instances of *dan maar even* are counted in two categories, but only once in the total.

[18] Seven instances of *dan eens even* are counted in two categories, but only once in the total.

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smaller clusters.[19] Finally, a third plausible explanation for the existence of particle clusters is a diachronic one: as one particle (or particle cluster) becomes weakened in force through frequent use, another particle is added in support. A similar analysis is commonly offered for the development of negation in the Germanic languages (as in *ni* > *ne* > *ne niht* > *niht*), known as Jespersen's Cycle (see Breitbarth 2009). Modal particles should be very susceptible to this process because they do not carry stress. For example, one might postulate a process such as the reduction of *eens* to *'es*, to which *even* is then added; *eens even* in turn is reduced to a pronunciation approximated by the spelling *seffen* (transcribed as a single word on the CGN orthographic tier at least once), which is strengthened in its turn, either by the addition of the diminutive (*eens eventjes*) or by an additional particle, whether following it (*een keer*) or preceding it within the cluster. Such an explanation would account well for the range of clusters involving these MPs in the Dutch data.

4. Conclusion.

Clearly, the function and meaning of particle clusters merits further investigation. Our corpus study of Dutch and German modal particles has, however, shown the following:

- Dutch is much more cluster-friendly than German: larger clusters occur, and they are far more frequent.
- The transparency principle does not hold as a rule when applied to Dutch and German particles. There are clear differences in how cognate particles behave in the two languages.
- It has been fruitful to extend the focus on particles beyond the range typically found in directives, revealing many combinations in Dutch not predicted by Hulshof (1987).

[19] One hypothesis at the outset of this study was that longer clusters might signal greater speaker emotion, but an initial inspection of the data (considering intensity, pitch, tempo, vocabulary and subjective impression) showed that there was no support for this hypothesis. Compare, however, Harden (1983:68), who noted that MPs may be combined in crisis situations, and Braber (2006), who suggested that certain combinations of particles in German may be associated with speaker emotion.

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- Corpus linguistics can contribute significantly to introspection: some of Hulshof's suggested orderings are not attested at all, while others, not listed in his study, are frequent.
- It is useful to consider non-linear pairings of particles when capturing regularities of how particles cluster.

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