Given claims about new topics. How Romance and Germanic speakers link changed and maintained information in narrative discourse

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Abstract

This paper deals with the anaphoric linking of information units in spoken discourse in French, Italian, Dutch and German. We distinguish the information units 'time', 'entity', and 'predicate' and specifically investigate how speakers mark the information structure of their utterances and enhance discourse cohesion in contexts where the predicate contains given information but there is a change in one or more of the other information units.

Germanic languages differ from Romance languages in the availability of a set of assertion-related particles (e.g. doch/toch, wel*; roughly meaning 'indeed') and the option of highlighting the assertion component of a finite verb independently of its lexical content* (verum focus)*. Based on elicited production data from 20 native speakers per language, we show that speakers of Dutch and German relate utterances to one another by focussing on this assertion component, and propose an analysis of the additive scope particles* ook/auch *(also) along similar lines. Speakers of Romance languages tend to highlight change or maintenance in the other information units.*

Such differences in the repertoire have consequences for the selection of units that are used for anaphoric linking. We conclude that there is a Germanic and a Romance way of signalling the information flow and enhancing discourse cohesion.

Keywords: Information structure, discourse cohesion, anaphoric linkage, scope particles, cross-linguistic comparison, Romance languages, Germanic languages

1. Introduction

In order to understand their information structure, utterances or stretches of discourse are often analysed as if they were answering an (explicit or implicit) question (Carroll and Lambert, 2003; Erteschik-Shir, 2007; Givón, 1983; Klein and von Stutterheim, 2002; Lambrecht, 1994). Consider the fictive discourse in (1).

(1) Context: There is a fire in the house of Mr. Red, Mr. Green and Mr. Blue
1 *Here comes Mr. Red*
2 *He calls the fire brigade*
3 *He then jumps out of the window*
4 *and tries to warn his neighbours...*

Both the discourse and the individual utterances it consists of can be understood as answering an implicit discourse question like "What happened then to X?" (Klein and von Stutterheim, 2002). This results in a prototypical narrative structure in which the time talked about[1] shifts from one utterance to the next, the protagonist talked about (henceforth: the entity) is maintained and the predicate that holds for the entity at the relevant times constantly changes.

Discourse cohesion in narratives is often enhanced by anaphoric means signalling reference maintenance in the domain of entities (e.g. pronouns, zero-anaphora) and the default shift of time (including connectors, adverbials, morphological tense marking). Cross-linguistic differences have been found in the formal repertoire for the encoding of information structure (e.g. availability of zero-anaphora, flexible word order) as well as the licensing conditions for their use (Ahrenholz, 2005; Fox, 1987; von Stutterheim and Carroll, 2005).

In this paper we focus on information configurations that differ from (1) because the entities are constantly changing but the predicates are often semantically related in that they refer to similar or opposite situations. As will be shown in more detail below, a whole array of partly language specific devices are used to achieve discourse cohesion in these cases, including scope particles and adverbials, as well as intonational markings and verbal periphrasis. Consider the following example.

(2) Context: There is a fire in the house of Mr. Red, Mr. Green and Mr. Blue
1 *Mr. Red jumps out of the window*
2 *Mr. Blue does the same*
3 *Mr. Green on the other hand does not want to jump*

[1] The time span about which a claim is made corresponds to the notion of "topic time" proposed by Klein (1994).

4 *Eventually Mr. Green jumps out of the window as well*

Every utterance in (2) contributes a new piece of information that is added to the listener's discourse representation. What is special about the utterances 2-4 is that the predicates are similar to the predicate mentioned in 1 in that the same situation does or does not occur (jumping or not jumping) while the entity constantly changes. Compare a simple utterance like *Mr. Green jumps out of the window* to the last one from example (2), *Eventually Mr. Green jumps out of the window as well*. Both have the same descriptive content, but the latter evokes a similar situation holding for a different time span, thus linking the current utterance to earlier (not necessarily directly preceding) ones in the discourse. This is signalled throughout the discourse in (2) by devices such as *do the same*, *on the other hand*, *eventually*, *as well*, which relate the utterances in which they occur to specific units of previous information.

The items used for signalling which parts of the information are maintained and which parts have changed in comparison to what has so far been established, will most neutrally be referred to as "anaphoric linking devices" in this paper. Note, however, that the anaphoric linking devices in (2) are of different types. Some are explicit expressions of information maintenance (e.g. *do the same*)[2] whereas others mark changes between entities (*on the other hand*) or time spans (*eventually*).

Change or maintenance of information is always relative to what has been established in prior discourse and comparisons can be made to more than one previous utterance. For example, one and the same information unit can be maintained with respect to the directly preceding utterance but it can be changed in comparison to one that was uttered a while ago. What is then maintained and what is changed information depends on which of the earlier utterances serves as a basis for comparison. Consider the last utterance from example (2) again: *Eventually Mr. Green jumps as well*. In this utterance *as well* expresses that a comparison should be made between the current utterance and an earlier one in which the same situation (someone jumping) held for an entity different from Mr. Green, so the relevant antecedent utterance is 1 and/or 2. *Eventually* establishes a comparison between the current utterance and an earlier one in which the opposite situation (someone not jumping) held for the given protagonist (Mr. Green), so the relevant antecedent utterance is 3. It is important to note that marking such a relation between utterances is never obligatory, but depends on what the speaker finds relevant to highlight. Furthermore, information

[2] Note that the notion of *maintenance* means different things when applied to different components of the utterance. While with entities and time spans *maintenance* means a co-reference to the exact same referent, in case of predicative expressions, what is maintained are the properties characterizing a given situation, not the situation in the external world.

can also serve as a basis for comparison if there is no overt antecedent utterance expressing it. The relevant information must, however, be part of the common ground.

This study is about anaphoric linking devices in Romance (French, Italian) and Germanic (Dutch, German) languages. Analysing production data from a film retelling task, we investigate how speakers enhance discourse cohesion when talking about changing entities and time spans at which situations of a similar or an opposite type occur.

In our analysis of these linking devices, we adopt the multi-layered model of utterance structure proposed by Dik (1997) in the framework of Functional Grammar (see also Hengeveld, 1989; 1990). At the most elementary layer, so-called first order elements such as entities and predicates (e.g. *Mr. Green, to jump*) are distinguished. At a subsequent layer these elementary building blocks describe a state of affairs, called "predication", that is "the conception of something that can be the case in some world" (Dik, 1997, vol.1: 51) (e.g. *Mr. Green's jumping*). Predications can also be located in space and time (e.g. *Mr. Green's jumping last Sunday*).[3] In addition to a predication layer every utterance has a "proposition" layer.[4] Propositions have a topic-comment structure and an operator that establishes a relation between the topic and the comment.

Following Klein (2006), we call this operator "assertion", as it assigns the truth-value of the proposition. It is the function of assertion to validate the relation between the state of affairs described in the comment part of a proposition and a topic, which necessarily comprises a temporal reference point and perhaps other components (Dimroth et al., 2003). In the languages investigated in this paper, finiteness (i.e. finite verb morphology and syntax) is the typical reflex of this operation (*Last Sunday Mr. Green <u>was</u> jumping*). This becomes particularly clear when lexically empty finite verbs like the copula or auxiliaries carry contrastive stress. In this case, what is highlighted is either the tense component or the assertion component encoded by finiteness (Klein, 2006). All utterances comprise all of these levels, and discourse cohesion can be achieved by relating utterances at any of these layers.

Romance and Germanic languages share many of their information structure markings, but there are also interesting differences in the available repertoire of anaphoric linking devices for the expression of change and maintenance. Firstly, in Dutch and German there is a special group of scope particles that lacks a direct translation equivalent in Italian and French. These are particles like Dutch *toch/wel* and German *doch/schon* (roughly meaning *indeed*) whose stressed variants

[3] A predication is comparable to Klein's (2006) notion of an "assertable expression", also called "sentence base".

[4] Dik (1997) distinguishes a fourth layer called "clause" (a speech act with an illocutionary force) that is not relevant in the current context.

mark that the utterance in which they appear is in contrast[5] to an earlier, otherwise comparable utterance with opposite polarity (see Hogeweg, 2009; Karagjosova, 2006; Van Valin, 1975). This is exemplified in (3a) below for Dutch. We will refer to these particles as assertion-related particles (see Klein, 2008a[6]) because they evoke a proposition-level comparison of the utterance in which they occur to another utterance given in the co(n)text.

Second, although contrastive stress can be used to mark information structure in all of the four languages, intonational prominence clearly plays a greater role in the Germanic languages (cf. Féry, 2001). In particular, contrastive stress on the finite verb or auxiliary can be used for the expression of *verum focus* (Höhle, 1992; Matić and Nikolaeva, 2009). Contrastive stress on the finite element can have a function that is very much related to the function of the above mentioned assertion-related particles, in that an affirmative assertion is contrasted with an earlier negative one. This is exemplified in (3b) below for German.

(3a) A: Het boek was niet op de tafel. (The book was not on the table).
B: Dat klopt niet. Het boek was WEL op de tafel.
(That's not true. The book was indeed on the table.)

(3b) A: Das Buch war nicht auf dem Tisch. (The book was not on the table).
B: Stimmt nicht. Das Buch WAR auf dem Tisch.
(That's not true. The book WAS on the table.)

In addition to these cross-linguistic differences in the repertoire of anaphoric linking devices, earlier comparative studies have revealed differences in the use of some devices that are in principle available in both Romance and Germanic languages. For example, additive scope particles (equivalents of *also* or *as well*) exist in German (*auch*) and French (*aussi*). However, in a sample of speech elicited with the same stimulus materials, the relevant additive particles were used about twice as often in German as compared to French (Benazzo et al., 2004). We will come back to this observation and offer an explanation in the light of the overall tendency of Germanic languages to relate utterances on the level of the proposition.

Given these cross-linguistic differences in the repertoire and frequency of anaphoric linking devices, we will also address the question of whether the availability of language-specific means for the expression of change and maintenance leads to certain preferences for perspective taking in

[5] A marked change of information is called a contrast when it evokes a search for an antecedent utterance that can be compared with respect to the filling of the relevant information unit. See Umbach (2004) for a definition of the notion of contrast that is based on comparability presupposing both, similarity and dissimilarity.

[6] In addition to these, Klein considers a whole group of particles (including *again, still, already, only* and their equivalents in other languages) which on top of this assertion-related function convey other meanings.

discourse (see Carroll et al., 2004; Slobin, 1996). Table 1 gives a more general overview of information structure related properties of the investigated languages.

Table 1: Information structure related typological differences between Dutch, German, French, and Italian

	Word order	Subject anaphora	Particle repertoire	Intonation
Dutch	V2	weak and strong personal pronouns and demonstratives	very rich	pitch accents for (*verum*)focus marking
German	V2	weak and strong personal pronouns and demonstratives	rich	pitch accents for (*verum*)focus marking
French	SVO (+ dislocations, cleft)	weak and strong personal pronouns and demonstratives	poorer	no comparable marking
Italian	mainly SVO (+ dislocations, cleft)	zero anaphora, personal pronouns and demonstratives	poorer	no comparable marking

This paper is organized as follows. Section 2 introduces some terminological distinctions and specifies the research questions. The methodology is presented in Section 3, and the results for the different information configurations in Section 4. The paper finishes with conclusions (Section 5) and a discussion in Section 6.

2. The study

Our data are retellings of video clips. Speakers are invited to talk about different time spans at which similar or opposite situations occur to different entities. In order to determine maintenance versus change at given points in the unfolding discourse the *information units* time, entity and predicate are taken into account at the predication level.

At the proposition layer the content of the predication is assigned a topic–comment structure; and an assertion operator establishes a relation between the topic and the comment. In narrative discourse, times and protagonist entities are typically used to define the topic situation (Klein, 2008b), while the comment consists of the predicate. The assertion operator can have a positive or a negative value (henceforth: *polarity*), that is, speakers can claim that a comment holds or does not hold for a certain topic situation.

Talmy (1985: 131) distinguishes polarity incorporated in the verb root (i.e. *hit vs. miss (= not hit) the target*) from independent polarity elements like *not*. In this study we are only concerned with the latter, i.e. contrasts such as *sleep* vs. *be awake* that occured in our data were not counted as 'change of polarity'. Dik (1997, vol. 2: 174-177) proposes that independent polarity elements can

again be analysed on two different layers. With respect to positive polarity markers[7] he distinguishes predicational positive polarity (as in 4a) from propositional positive polarity (4b).

(4a) A: Is John rich?

B: Yes, he is rich.

(4b) A: John is not rich.

B: (That's not true), he IS rich.

In (4a) the yes/no-question of speaker A expresses an informational gap concerning the occurrence or non-occurrence of the relevant state of affairs that is filled in speaker B's response, whereas in (4b) speaker B rejects the truth value of speaker A's proposition "John is not rich". Dik assumes that "positive propositional polarity is always formally expressed in natural languages" (1997, vol. 2: 177). Whereas English relies on suprasegmental means, Dutch speakers can employ the particle *wel* in such contexts (compare example (3a) above). According to Dik (1997, vol. 2: 175) this particle "can only be used (...) in order to signal disagreement with what the other has said or is supposed to think". As we will show below, however, *wel* can also be used in contexts in which a negative and a positive claim are not mutually exclusive but are meant to hold in addition to one another, albeit in relation to different topic situations. Throughout this paper we speak about a *polarity change* when speakers highlight propositional positive polarity in contrast to a comparable antecedent statement with negative polarity.

We call *predication* what is expressed in an utterance before it is in any way adapted to the context of occurrence. *Information configuration*[8] is used to characterize such a predication in relation to others in terms of maintenance and change of information. *Information structure marking* describes the way this relation is marked in an actual utterance, that is, the linguistic means that are used to mark the relevant information configuration in a given language.

Our study is concerned with the following three *information configurations* in which the comment is maintained from the preceding context.

[7] In the case of negation the distinction between predicational negation and propositional negation would correspond to Lyons' (1977: 768) 'assertion of a negative claim' (cf. it is the case that John is not rich) vs. 'denial of a positive claim' (it is not the case that John is rich).

[8] See also the related notion of “referential movement” (Klein and von Stutterheim, 2002) that captures the dynamic aspects of the information flow in discourse from one utterance to the next. An utterance’s *information configuration* as we understand it here, can depend on the information provided in several, sometimes distant antecedent utterances.

Table 2: Information configurations investigated

Type	Antecedent (1) and subsequent (2) predication	Information configuration of utterance (2) in comparison to (1)				Example utterances with corresponding information structure marking
		polarity	topic situation		comment	
			time	entity		
I	1: Mr. Red going to bed 2: Mr. Blue going to bed	=	shift	≠	=	1: *Mr. Red goes to bed* 2: *Mr. Blue also goes to bed*
II	1: Mr. Green not jumping 2: Mr. Blue jumping	≠	shift	≠	=	1: *Mr. Green doesn't jump* 2: *Mr. Blue on the other hand does jump*
III	1: Mr. Red not jumping 2: Mr. Red jumping	≠	shift	=	=	1: *Mr. Red doesn't jump* 2: *Mr. Red eventually jumps*

Given the cross-linguistic differences outlined in the introduction, we are interested to see whether and how speakers of Dutch, German, French, and Italian encode the information configurations introduced above. The following research questions were investigated.

1. Do the four languages mark the relevant information configurations to the same extent?
2. Do the languages differ with respect to the information units that are typically used for explicit comparison to earlier ones? More specifically, are some information units more often marked for change/maintenance in some languages than in others?
3. Which linguistic means do speakers of the four languages use in the three types of information configurations?

Our film retelling task allowed for the controlled elicitation of different information configurations by showing participants short and simple film segments that were presented one by one. This experimental design enabled us to determine the relevant antecedents for participants' utterances.

3. Method

3.1 Participants

Participants were 20 native speakers of Dutch, German, French, and Italian respectively. Details on their background are summarized in Table 3 below.

Table 3: Participants

	Sex	education	Age
Dutch[9]	19 F / 1 M	vocational education	17-21 (average age: 18)
French	12 F / 8 M	university degree or students	20-45 (average age: 30)
German	13 F / 7 M	university degree or students	19-54 (average age: 28)
Italian	16 F / 4 M	university degree or students	19-34 (average age: 23)

3.2 Procedure

3.2.1 Stimulus

A video clip ("The Finite Story"; Dimroth, 2006) was used in order to elicit oral production data from the participants. It presents a story involving three main characters: Mr. Green, Mr. Blue, and Mr. Red, named after the colours of their clothes. Throughout the film, the characters are typically involved in the same or opposite situations occurring at different times.

The video consists of 31 segments. The content of these segments as well as the information configuration of the segments selected for analysis in relation to the relevant antecedent segments are presented in Table 4. In this table, the scenes that did not either serve as an antecedent scene or were relevant for a good understanding of the task, have been left out. In the selected information configurations time is always shifted and predicates are always maintained. We therefore only indicate change or maintenance ("different/same") in the information units "entities" and "polarity".

[9] The Dutch data were collected in the context of a PhD thesis (Verhagen, 2009).

Table 4: The *Finite Story*: information configuration in segments selected for analysis

Nr	Content of film segment	Type	Information Configuration wrt. antecedent segment	Relevant antecedent segment	Example utterance with corresponding information structure marking
01	Introduction protagonists				
02	Introduction house and flats				
03	Mr. Blue going to bed, sleeping				
04	Mr. Green going to bed, sleeping	I	different entity, same polarity	03	*Mr. Green is also going to bed*
05	Mr. Red going to bed, sleeping	I	different entity, same polarity	03/04	*Mr. Red goes to bed, too*
06	Fire on the roof				
07	Mr. Green sleeping				
08	Mr. Red sleeping	I	different entity, same polarity	07	*So does Mr. Red*
09	Mr. Blue not sleeping	II	different entity, opposite polarity	07/08	*Only Mr. Blue does not sleep*
11	Mr. Blue calling fire brigade				
12	Fireman in bathroom, not answering				
18	Fireman answering the phone	III	different entity, opposite polarity	12	*This time the firemen does answer the phone*
22	Arrival of fire engine				
24	Rescue net: Mr. Green not jumping				
25	Mr. Red not jumping				
26	Mr. Blue jumping	II	different entity, opposite polarity	24/25	*Mr. Blue on the other hand jumps out*
27	Mr. Green jumping	III	same entity, opposite polarity	24	*Mr. Green eventually jumps*
28	Mr. Red not jumping				
29	Mr. Red jumping	III	same entity, opposite polarity	28	*Finally Mr. Red does jump out*
31	The happy end				

Note that for each of the three information configurations (I-III), several segments were chosen. For 'different entity with the same polarity', for example, segments 4, 5, and 8 were selected.

3.2.2 Data collection

The segments were shown to participants one-by-one and they were asked to retell what had happened immediately after watching each segment[10]. Film segments 1 and 2 were used for the

[10] Due to these interruptions of the story line, the resulting narrations partly differ from classical retellings. For example, speakers often referred to maintained protagonists by means of NPs rather than pronouns. The piecemeal presentation of

introduction of the protagonists, as well as the spatio-temporal anchoring of the story. The experimenter said:

Segment 1: *Here are three people. They are called Mr. Green, Mr. Blue and Mr. Red.*

Segment 2: *They all live in this house. For better orientation, they painted their flats in their own colours. Mr. Blue lives in a blue flat, Mr. Green in a green flat, and Mr. Red in a red flat. Now look what happened one night in the house. You will see one part of the story at a time. Watch it carefully and recount only what happened in that particular part. Let's see: What happened to Mr. Green, Mr. Red and Mr. Blue on that evening?*

Participants then watched the remaining segments and retold the story. The experimenter was present during the entire recording. He or she had the role of a recipient but did not otherwise intervene in the retelling.

3.2.3 Transcription and Coding

The data were transcribed in the CHAT format (MacWhinney, 2000). Then we coded for each of the selected segments if the anaphoric relation to the relevant antecedent utterance(s) was marked or not. Such a marking can be achieved via different means: lexical, morpho-syntactic and prosodic ones. Consider the examples in Table 5.

Table 5: Examples for Information Structure Coding

Relevant antecedent state of affairs	Current state of affairs	Information configuration	Example utterances	Information structure
Mr. Green jumping	Mr. Red jumping	Different entity, same polarity	*Mr. Red jumps out of the window*	unmarked for relation to antecedent
			Mr. Red also jumps	marked for relation to antecedent
Mr. Red not jumping		Same entity, opposite polarity	*Mr. Red jumps into the blanket*	unmarked for relation to antecedent
			Finally Mr. Red jumps out	marked for relation to antecedent

In a second step, we looked into the different information units that speakers could choose in order to establish anaphoric linking. In the context of the relevant antecedent utterances, both (5a) and (5b) have the same information configuration (different entity | same polarity) and both are marked for that relation.

(5) Relevant antecedent: Mr. Green jumping out of the window.

a. *Mr. Red does the same*

b *Mr. Red also jumps out of the window*

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the film segments was necessary in order to control the information available at each point in time and in order to avoid summary retellings of the sort *Mr. Green and Mr. Red went to bed*.

Still, in (5a) the maintenance of the predicate is highlighted[11], whereas in (5b) it is the changing entity in the scope of the particle *also.*

Finally we examined the different linguistic means that were used to signal the specific information structures.

4. Results

Given that in our narrative data time was always shifted and predicates always contained maintained information, what distinguishes the relevant information configurations is +/- change in the domain of entities and +/- change of the polarity. The following information configurations will be addressed in turn:

Configuration I: Different entity, same polarity
Configuration II: Different entity, opposite polarity
Configuration III: Same entity, opposite polarity

4.1 Information configuration I: Different entity, same polarity

To elicit this configuration, speakers were presented with film segments in which a situation first applies to one of the protagonists and later a similar situation applies to another protagonist (see table 4). This information configuration is the prototypical context for highlighting a change in the domain of entities by using scope particles as in (6a). However, when the two relevant scenes immediately follow each other, it is also possible to highlight the maintenance of the predicate as in (6b). Alternatively, speakers can leave this information configuration unmarked (6c)[12].

(6) antecedent: Mr. Blue goes to bed.
  a. Mr. Red also goes to bed.
  b. Mr. Red does the same.
  c. Mr. Red goes to bed (when spoken with neutral intonation)[13]

The resulting information structures differ in that in (6a) the anaphoric linking is established in the domain of changing entities, while in (6b) it is achieved through the explicit maintenance of the predicate. Note that the four languages analyzed have a very similar repertoire of linguistic means

[11] Note, incidentally, that what is focused here is explicitly marked as given information.

[12] Interestingly, speakers can also mark the information configuration twice, both on the entity and on the predicate. Cf. example (8-D) below.

[13] Note that, throughout this paper, the mere occurrence of full NPs of the type *Mr. Red*, or *the blue man* is not considered as marked. Participants were retelling one film segment at a time, followed by the presentation of the following segment. They therefore mainly encoded reference to the entities with full NPs, at least if they produced only one utterance per segment.

to realize both perspectives: additive particles (equivalent to Engl. *also / too*) and verbal expressions marking the identity of the situation (equivalent to Engl. *do the same*).

Table 6 presents the results of the analysis for segments 4, 5, and 8 (from Table 4). As specified above, only retellings referring to the expected states of affairs were included under "total". If the number is smaller than 60 per language (20 speakers x 3 segments) this indicates that some speakers left a certain state of affairs unmentioned or had somehow interpreted the corresponding film segment in a deviant way. Under "marked" we indicate how many speakers per language marked their utterances for the relevant information structure (i.e. used anaphoric linking devices in order to highlight change or maintenance of information units in comparison to earlier information).

Table 6: Number of marked utterances for information configuration I

	French	Italian	German	Dutch
marked	38	34	40	35
total	57	57	59	60

The data from Table 6 show that the proportion of marked utterances out of all utterances is very much alike across languages. Indeed, a Pearson's Chi-square test shows that there are no significant differences ($\chi^2(3)=1.75$ $p=.63$).

Table 7 shows how often each type of marking (highlighting of change of entity vs. maintenance of predicate) was chosen in the different languages and which linguistic means were employed to this end. The table contains only numbers for the marked utterances, i.e. those whose information structure somehow specifies the information configuration in question. 'Change of entity', here, indicates how many speakers per language chose to highlight that the entity had changed in comparison to an earlier, otherwise comparable utterance. 'Same predicate' specifies how many speakers per language chose to highlight that the predicate was maintained, i.e. a similar type of situation occurred for the second time. If the sum of responses with both information structures is bigger than the total of marked utterances from table 6 this indicates that some speakers marked their utterance(s) for both "change of entity" and "same predicate".

For Dutch and German we furthermore distinguish between a stressed (small capitals) and an unstressed version of the additive scope particles *auch/ook* (also). This is because earlier work has clearly revealed differences in the information structure of the underlying utterances (cf. Dimroth, 2004; Krifka, 1999; Sudhoff, 2008). Stressed *AUCH/OOK* occur in a position after the finite verb and thereby always follow their domain of application (the constituent that is interpreted as

"added") whereas unstressed *auch/ook* precede their domain of application.[14] We will come back to this distinction in the discussion.

Table 7: Linguistic means attested in information configuration I

IS	Means	French	Italian	German	Dutch
change of entity	additive particles	*aussi* (13), *également* (4), *non plus* (6)	*anche* (28)	*AUCH* (26) *auch* (13) *ebenfalls* (1)	*OOK* (32) *ook* (2)
	cleft	*là c'est X qui* (2)	-	-	-
	other	*à son tour* (1)	-	-	-
	total	26	28	40	34
same predicate	anaphoric VP	*faire/être la même chose* (6), *faire de même* (2), *pareil / idem* (4)	*fare/succedere/ripetere la stessa cosa* (4), *idem* (1)	-	*hetzelfde doen* (2)
	other	*de même que* (2), *ainsi que* (1)	*come* (1)	-	-
	total	15	6	0	2
total markings		41	34	40	36

The table reveals a salient difference: speakers of Germanic languages almost always mark the change of the entity (mainly *AUCH, OOK*), while speakers of Romance languages choose between the change of the entity (*anche, aussi, également*) and the other possibility, namely marking explicitly that the predicate consists of maintained information (*faire la même chose, faire pareil, idem, succedere lo stesso*). These differences are highly significant ($\chi^2(1)=18.8$, $p<.001$). Since neither the differences between French and Italian ($p>.05$) nor the differences between Dutch and German ($p>.1$) are significant, we can conclude that the difference is between, and not within, the two language types. The examples in (7) illustrate the marking of 'change of entity' for the four languages while those in (8) present cases of 'same predicate'.

[14] The following example utterances from the German corpus illustrate the two different integration types. (i) unstressed particle preceding its domain of application ('herr grün'): *auch herr grün geht ins bett* ('also Mr. Green goes to bed') (ii) stressed particle following its domain of application ('herr grün') in post-finite position: *herr grün geht AUCH ins bett* ('Mr. Green also goes to bed'). There is a debate concerning the interpretation of the pitch accent on the particle as either an ordinary focus accent or an accent whose location is merely due to the fact that the constituents following the particle encode given information and must be destressed (see Féry, 2006).

(7) Examples for 'change of entity'

F: *monsieur vert s'est <u>également</u> couché dans son lit* (F 4-1)[15]

I: *<u>anche</u> il signor verdi va a letto e spegne la luce* (I 4-4)

G: *herr rot ist <u>ebenfalls</u> vom stuhl zum bett gegangen hat sich <u>AUCH</u> hingelegt und hat <u>AUCH</u> das licht ausgemacht* (G 5-8)[16]

D: *meneertje groen ploft op zijn rug neer, doet het licht uit en gaat <u>OOK</u> slapen* (D 4-20)

(8) Examples for 'same predicate'

F: *monsieur vert <u>fait de même</u>* (F 4-3)

I: *<u>la stessa cosa viene ripetuta</u> dal signor rossi* (I 4-3)

D: *de groene meneer <u>doet hetzelfde,</u> gaat <u>OOK</u> op bed liggen en doet de lamp uit* (D 4-5)[17]

The change of entity is mainly realized by a unique dominant additive particle in Dutch, German and Italian (*ook / auch / anche*), while French speakers produce a variety of means for this relation: different additive particles, cleft constructions, and specific adverbial locutions.[18] Even though all four languages have one or more specific additive particles for this relation, speakers of Romance languages use them to a lesser extent than speakers of Germanic languages, and French less than Italian.

4.2 Information configuration II: Different entity, opposite polarity

In this constellation two units change: the entity as well as the polarity. Speakers are confronted with film fragments in which a certain situation first applies to two of the protagonists, while the opposite situation later applies to the third protagonist. This is the case in scene 9, where Mr. Blue wakes up (contrary to Mr. Red and Mr. Green), and in 26, where Mr. Blue jumps out of the window while the other two have just refused to do so (compare Table 4). So the 'change of entity' here is quite different from the previously discussed information configuration, where the same predicate with the same polarity held for two different entities. Due to the change in polarity (switch towards propositional positive polarity in Dik's (1997) terms) there is no such additive relation in the current information configuration. Entities are not added to one another, but rather what does not hold for

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[15] The examples are marked as follows: the letter indicates the language (Dutch, French, German, Italian); the numbers indicate the film segment and the speaker in the corpus.

[16] In the tables above such double (or triple!) markings on the same information unit were counted only once.

[17] This is an example with explicit marking of both, maintenance of predicate and change of entity.

[18] In Italian, the changing entity can also be highlighted by the VS order, usually co-occurring with the particle *anche*. This strategy has not been systematically considered here (but see Andorno (to appear), where the 'change of entity' information configuration is shown to be a relevant factor for the VS order). We will come back to this observation in the discussion.

one, holds for the other. Speakers cannot use additive particles but must employ other means (cf. 9a) if they opt for marking the change of entity. Alternatively they could highlight the change in the polarity (9b), or leave the information configuration unmarked (9c).

(9) relevant antecedent: Mr. Green and Mr. Red do not jump out of the window

a. Mr. Blue on the other hand jumps out of the window

b. Mr. Blue does jump out of the window

c. Mr. Blue jumps out of the window

Let us first look at how many segment retellings were marked. Since only two segments had the relevant information configuration, 40 is the maximal number of answers per language. Table 8 presents the results.

Table 8: Number of marked utterances for information configuration II

	French	Italian	German	Dutch
marked	21	19	14	24
total	40	38	40	40

The four languages show a comparable number of marked scenes ($\chi^2(3)=5.28$, $p>.1$). Let us now turn to the type of information structural marking preferred in the different languages and the means used. Note that, contrary to information configuration I, in this case the available repertoire in the four languages presents some potentially relevant differences for both kinds of relations.

In French, Dutch, and German, speakers can use strong or demonstrative pronouns (*lui/deze/dieser*) in contexts of local continuity.[19] Italian speakers can use a personal pronoun (instead of a zero anaphor) for the same purpose: *il signor Blu vede i pompieri e lui si butta* (Mr. Blue sees the firemen and he - contrary to what other people did - jumps)[20]. All languages share the option of marking this information configuration by applying lexical modifiers (*Mr. Blue on the other hand…*) or restrictive particles to the entity (*only Mr. Blue…*).

As for the second relation, i.e. highlighting a change in polarity, Germanic languages have specific particles, like Dutch *toch / wel* and German *doch* (see Hoeksma and Zwarts, 1991; Hogeweg, 2009; Karagjosova, 2006; Van Valin, 1975). Romance languages, on the other hand, do not usually mark

[19] Note that these pronouns were not used for signaling the change of entities in information configuration I (Section 4.1) where predicate and polarity are maintained.

[20] A personal pronoun in Italian can otherwise signal any change of the entity, with no contrasting effect. In the following example, the personal pronoun *lui* simply marks the changing of the subject (*the firemen, him*): *il signor Blu guarda fuori. I pompieri gli dicono di buttarsi, e lui si butta* (*Mr. Blue looks out of the window. The firemen tell him to jump, and he jumps*).

a change of polarity with specific particles (although some intensifiers might be expected in these contexts, e.g. French *bien* and Italian *proprio*).

In order to get a more complete picture, it is crucial to take into account not only lexical and morphological markings but also prosodic ones. In addition to the pronouns mentioned above that were counted independently of intonation, Dutch and German personal pronouns carrying a contrastive pitch accent (i.e. stressed versions of Dutch *die* and *hij* and German *der* and *er*) were counted as highlighting a change of entity.

Concerning the expression of a change from negative to positive polarity, a pitch accent on the finite verb can be used in Dutch and German. In case of stressed lexical verbs (as opposed to light verbs) often one cannot unambiguously determine if these are instances of so-called *verum focus* (cf. Höhle, 1992) or if speakers want to highlight the lexical content of the verb. In doubtful cases these occurrences were not counted as marked for a polarity change. We also excluded all other cases in which the main pitch accent fell on the finite verb independently of information structure (e.g. many utterances with intransitive verbs like *Herr Rot SCHLÄFT* where the accent on the finite verb might be due to its utterance-final position).

Italian and French can also use stressed verbs in order to express *verum focus*, but this seems to be quite uncommon.[21] Following the same criteria used for German and Dutch, we only considered accented verbs that cannot carry the pitch accent for other reasons (for instance, we excluded accented verbs in final position). Table 9 presents the results with and without considering intonation ([+int], [-int]).[22]

[21] As shown in Table 9 we have occasionally observed pitch accents on lexical verbs in our French and Italian data. While it is known that Romance languages mark both narrow and contrastive focus with a pitch accent (Avesani and Vaira, 2003; D'Imperio, 1999; Frascarelli, 1999; Jun and Fougeron, 2000), to the best of our knowledge, there is no systematic study dealing with the prosodic marking of the *verum focus* in Romance languages.

[22] Studies on intonation typically use much more controlled data and rely on a bigger number of rating listeners in order to determine the utterances' accent patterns. The speakers of the four languages produced quite a variety of different utterance types and our rating for the intonation was done by only one native speaker per language. We acknowledge that this evidence might therefore be considered problematic and report numbers with and without intonation.

Table 9. Linguistic means attested in information configuration II

IS	Means	French	Italian	German	Dutch
change of entity	stressed NP/pronouns	-	-	*DER* (3)	*HIJ* (2)
	strong/demonstr. pronouns	*lui* (14), *celui-ci* (1)	-	*dieser* (1)	-
	cleft sentences	-	*essere l'unico che...* (6)	-	-
	particles	-	-	*nur* (3)	-
	adverbs	*par contre* (3), *en revanche* (1)	*invece* (10), *in compenso* (1) *per primo* (1)	*als einziger* (1)	-
	total	19	18	8 [-int 5]	2 [-int 0]
change of polarity	particles	*bien* (1)	-	*doch* (3)	*toch* (2), *wel* (18)
	stressed VP	*VU* (2)	*sveGLIAto* (1)	*SPRINGT* (2), *STEIGT* (1), *IST* (1)	*MOEST* (2), *SPRINGT* (1)
	total	3 [-int 1]	1 [-int 0]	7 [-int 3]	23 [-int 20]
total markings		22 [-int 20]	19 [-int 18]	15 [-int 8]	25 [-int 20]

One result stands out: the change of polarity is almost exclusively expressed by speakers of Germanic languages, in particular Dutch, while speakers of Romance languages, except in a few cases, tend to underline the change of entity. Leaving the intonational markings aside does not change the overall picture (i.e. all significant differences are significant with or without intonation). We will therefore only report results for [+int] in the following. A Pearson's Chi-square test reveals a significant difference between the Romance and the Germanic languages in the preferred type of information structure ($\chi^2(1)=35.4$, $p<.001$). Speakers of French and Italian clearly prefer to highlight the change of the entity and do not differ from each other in this respect ($p>.05$, Fisher's exact).

Speakers of German and Dutch on the other hand mark the change of the entity much less frequently than speakers of the Romance languages, but they differ in the amount of polarity changes that are explicitly marked. Even if intonational markings are counted, German has less than a third of the markings attested in Dutch ($p=.002$, Fisher's exact).

In the contexts analysed here, German seems to fall in between French and Italian on the one hand, in which marking the change of entity is clearly favoured, and Dutch on the other, in which the change of entity is rarely highlighted, but the change of polarity is marked very frequently with the particle *wel* (roughly *indeed*). It is not unlikely, however, that we have underestimated the number of *verum focus* cases in German due to our conservative coding. The examples in (10) illustrate the marking of entity changes for the four languages.

(10) Examples for 'change of entity'

Strong and demonstrative pronouns:

F: *l' incendie est déclaré chez monsieur bleu, donc <u>lui</u> il (n') hésite pas, il saute* (F 26-5)

G: *die feuerwehrleute wenden sich nun also herrn blau zu, <u>dieser</u> überlegt nicht lang...* (G 26-14)

Restrictive particles and other markers of uniqueness and contrast:

F: *<u>par contre</u> monsieur bleu voit ce qui se passe et il passe par la fenêtre* (F 9-14)

I: *il signor blu <u>invece</u> si sveglia* (I 9-12)

G: *<u>nur</u> herr blau ist aufgewacht und guckt aus dem fenster* (G 9-10)

Intonation:

D: *HIJ hoort het* (D 9-3)[23]

G: *DER entscheidet sich dann spontan zu springen* (D 26-18)

While both Romance languages clearly prefer to highlight the change of entity, they use quite different means. In French the change of entity is predominantly expressed by strong pronouns (15x) and partly with adverbs (*par contre*, 4x); in Italian the predominant strategy is the adverb *invece* (10x), and sometimes an NP modifier, often inserted in a cleft sentence (*per primo, è l'unico che*, 7x)[24]. In the few cases in which the change of entity is marked in German, markers of uniqueness and stressed pronouns are used. In Dutch only stressed pronouns are attested.

The following examples illustrate the markings used for highlighting the change of polarity.

(11) Examples for 'change of polarity'

Adverbials/particles:

F: *en revanche monsieur bleu (...) a <u>bien</u> voulu sauter* (F 26-19)

D: *meneer blauw springt <u>wel</u> uit het raam* (D 26-06)

G: *der hat sich dann entschieden, <u>doch</u> zu springen, obwohl er eins höher wohnt* (G 26-7)

Intonation:

F: *monsieur bleu a VU l'incendie* (F 9-4)

I: *il signor blu viene sveGLIAto da questi rumori di scoppi e crepitii* (I 9-4)

D: *(het) blauwe mannetje heeft geen keuze meer, dus die MOET wel springen* (D 26-5)

[23] Pitch accents are indicated via capital letters. This does not imply that the rest of the utterance is deaccented. But accents are only marked where the relevant constituent would otherwise count as unmarked.

[24] Adverbs like *par contre* express a very general opposition. The interpretation as instance of 'change of entity' is derived form the contextual information.

G: *und deswegen IST er dann wohl auch gesprungen* (D 26-15)[25]

The high number of markings for this kind of change attested in Dutch is mainly due to the particle *wel* (18x), which is appropriate in contexts where both the entity and polarity change. This is different for the other assertion-related particles *toch* (Dutch) and *doch* (German) which are more compatible with information configurations in which the entire predication is maintained (i.e. maintained entity and predicate as in information configuration III; see section 4.3 below). In information configuration II, the few occurrences of these particles are attested in contexts in which speakers have introduced the changing entity in a previous clause (see the German example in 11 above).

4.3 Information configuration III: Same entity, change of polarity

In order to elicit utterances with this type of information configuration, the video segments providing the antecedent information showed scenes in which a given situation did not apply to a protagonist, although its occurrence would have been strongly preferred in the relevant context (e.g. jumping out of the window when the house is on fire, or answering the telephone when it is ringing at the fire-station). In the scene analysed, the protagonist was the same as in the antecedent scene, and this time the situation in question did happen.

The relevant segments are 18 (fireman answers the telephone while he had not done so in scene 12), 27 (Mr. Green decides to jump out of the window after having refused to do so in scene 24), and 29 (Mr. Red jumps out of the window after a previous refusal in scene 28); see Table (4) for an overview.

As in all information configurations considered so far, the time shifted as well, i.e. speakers were invited to talk about a time span that was later than the time talked about in the antecedent utterance. This shift in time is of particular importance for the present information configuration, because besides polarity, it is the only other opportunity to mark a change. The following options are available: speakers can mark the change of polarity (as in 12a), the shift of time (as in 12b) or leave the utterance's information structure unmarked (12c). As before, combinations of markings are also possible.

(12) relevant antecedent: Mr. Blue does not jump out of the window
  a. Mr. Blue does jump out of the window
  b. This time Mr. Blue jumps out of the window

[25] Note that in this example the stressed carrier of assertion is in the scope of the postponed particle (*auch*) indicating that the current proposition in which jumping does occur is meant to hold in addition to an earlier one in which jumping was strongly preferred but did not actually take place.

c. Mr. Blue jumps out of the window

Let us first look at the proportions of segment retellings that were marked vs. unmarked for the relevant information configuration. The results are given in Table 10.

Table 10: Number of marked utterances for information configuration III

	French	Italian	German	Dutch
Marked	34	33	20	46
total	60	59	59	60

As can be seen in Table 10 languages differ in the amount of segments marked for the relevant information configuration. There is a significantly lower number of markings in German as opposed to French and Italian ($\chi^2(2)=7.93$, $p=.019$), while speakers of Dutch use a significantly higher number of markings than Romance speakers on the one hand ($\chi^2(2)=7.11$, $p=.029$) and German speakers, on the other ($\chi^2(1)=22.03$, $p<.001$).

As was pointed out in the previous section, the repertoire of means for the expression of polarity change is poorer in the Romance languages than in the Germanic languages, and Dutch has an additional particle (*wel*) that German lacks.[26] In contexts where Dutch speakers use *wel*, German speakers can only use *verum focus* marking via intonation.[27]

As for the option to highlight the time shift, all the languages share comparable linguistic means: temporal adverbials relating the time span talked about to an earlier time span (equivalent to *this time, in the end*, *finally*, etc.).[28] In Dutch and German a similar effect can also be obtained by placing stressed temporal adverbials equivalent to *now* in sentence initial position. Occurrences of adverbials such as *enfin, finalmente, ten slotte, letztendlich,* or *cette-fois ci, questa volta, diesmal, deze keer* are considered as marked regardless of intonation, while lexically neutral temporal adverbials like *nu/jetzt*, count as marked only when they carry a contrastive pitch accent. Given our *caveat* for the coding of intonation, numbers in the results table below are again given with and without this intonational marking. Table 11 presents the results.

[26] The particle *schon* that would be felicitous in some of the contexts was not attested at all in our corpus.

[27] To what extent the low numbers for German displayed in Table 10 might be due to our conservative coding of intonation is again an open question.

[28] In French we also found verbal periphrases like *finir par*.

Table 11. Linguistic means attested in information configuration III

IS	Means	French	Italian	German	Dutch
change of time	temp. adverbials	*cette fois(ci)* (8), *finalement* (12), *enfin* (4), *là* (1)	*questa volta* (9) *finalmente* (12), *alla fine* (9), *infine* (2)	*diesmal* (4), *schließlich* (3), *zum Schluß* (1), *letztendlich* (1), *JETZT* (3), *NUN* (2), *DANN* (1)	*Deze/dit keer* (5), *uiteindelijk* (13), *NU/NOU* (11)
	verbal periph.	*finir par* (7)	-	-	-
	other	*ça y est* (1)	*dopo molta insistenza* (1)	-	-
	total	32	33	15 [-int 9]	29 [-int 18]
change of polarity	particles	- -	-	*doch* (15)	*wel* (16), *toch* (12), *toch wel* (5), *alsnog* (1)
	stressed VP	- -	-	*ERREICHT* (3)	*SPRINGT* (1)
	other	*quand même* (4), *tout de même* (1)	*effettivamente* (1)		
	total	5	1	18 [- int 15]	35 [-int 34]
total markings		37	34	33 [-int 24]	64 [-int 52]

Dutch and German, once again, prefer to mark the change of polarity, although there is a higher proportion of double markings (change of time and polarity) in Dutch. Romance languages, in contrast, clearly opt for highlighting a change in the temporal domain. This difference between Germanic and Romance languages is highly significant ($p < .001$, with and without considering intonation), and there is no significant difference within the Romance or the Germanic language pairs.

All languages mark the change of the relevant time spans with adverbs or periphrasis which entail a similar situation at a previous time span. Examples are given in (13).

(13) Examples for 'change of time'

F: *cette fois-ci le pompier décroche* (F 18-07); *finalement il saute quand même* (F 29-20)

I: *i vigili del fuoco finalmente han risposto* (I 18-10); *questa volta il signor verdi si butta* (I 27-25)

D: *dit keer pakt de brandweer wel op* (D 18-5); *uiteindelijk is ook meneer rood gesprongen* (D 29-11)

G: *diesmal ist der feuerwehrmann direkt zur stelle* (G 18-19); *schließlich springt auch herr rot aus dem fenster* (G 29-16)

In contrast to the Romance languages which predominantly express the change of time, the Germanic languages sometimes mark the change of polarity without highlighting the accompanying temporal shift. Compare the examples in (14).

(14) Examples for 'change of polarity'
D: *en dan springt meneer groen wel* (D 27-15)[29]
G: *herr rot springt doch und wird durchs sprungtuch aufgefangen* (G 29-4)

In most cases, however, the change of polarity that is expressed by the Germanic particles (*wel, toch, doch*) or the *verum focus* is combined with a marking of the change of time. The temporal adverbials occurring in this context shed more light on the subtle meaning differences between *wel* and *verum focus* on the one hand and *toch/doch* on the other hand. The latter particles often occur with temporal adverbials like *uiteindelijk, schliesslich* when some event that was expected to occur at the time talked about in an adjacent antecedent utterance finally happens (cf. examples in 15a).

The *verum focus* marking and the particle *wel* on the other hand are used with adverbials like *dit keer, diesmal* suggesting a more explicit comparison between the current time span and an earlier (not necessarily adjacent) one (cf. examples in 15b). In the entire Dutch and German corpus adverbials like *dit keer/diesmal* never co-occur with the particles *toch/doch*.[30]

(15a) *toch/doch* in utterances referring to endpoints of developments
D: *uiteindelijk is ie toch gesprongen* (D 29-5)
G: *nachdem die feuerwehr ihn überzeugt hat, springt herr rot schliesslich doch* (G 20-13)

(15b) *wel/verum focus* in utterances comparing two time spans
D: *dit keer neemt het brandweerpoppetje wel op en staat hem te woord* (D 18-17)
G: *diesmal erREICHT er den diensthabenden feuerwehrmann* (G 18-9)

The Romance languages do not have a comparable set of devices for the marking of the polarity change. Interestingly, the only devices with such a function attested in this information configuration are the adverbial forms *quand même / tout de même* in French (5x) and *effettivamente* in Italian (1x):

(16) F: *finalement il saute quand même* (F 29-20)
I: *il signor rossi decide che è giunto il momento di effettivamente salvarsi* (I 29-15)

[29] Recall that temporal adverbials like *dan* (then) were only counted as marking a contrast when they were carrying a pitch accent. In their unstressed form they also occurred in contexts that did not exhibit any temporal contrast.

[30] Note, however, that Dutch *toch* and *wel* are also frequently attested in one utterance (e.g. *maar hij heeft zich bedacht. hij wou toch wel springen* (D 29-09); *uiteindelijk besluit meneertje rood toch maar om wel te springen* (D 29-20)).

But in contrast to the specific particles *wel / toch* and *doch*, these items do not directly entail a change of polarity in comparison to an antecedent. *Effettivamente*, as *proprio* (Italian) and *bien* (French), which were sometimes used for highlighting the polarity change in information configuration II above, signal the actual realisation of the event (as opposed to an hypothetical event, which has only been planned, desired, thought of, expected, etc.). Similarly *quand même* marks that the event has taken place in spite of an unspecified adverse circumstance (here: Mr. Red's previous refusal), thus adding a causal (concessive) meaning (see Moeschler and Spengler, 1981; Veland, 1998). Moreover, the utterances marked by *quand même / tout de même* and *effettivamente* actually also contain expressions highlighting the time shift (*finalement, finir par, è giunto il momento di*…).

Finally, we note that, in this information configuration, speakers of Romance languages tend to express additional information on the situation itself. The predication is thus enriched, whenever possible, in terms of intentionality or obligation. The protagonist, therefore, very often *decides* (or *does not hesitate* or *is obliged*) to jump, or the firemen *succeed in convincing him* to jump. The following table indicates how many speakers enriched the predication in this way just for fragment 29. We did not analyse this phenomenon systematically, but it represents a possible area of further investigation and we will come back to this point in the discussion.

Table 12: Means for lexical enrichment of the predication

	French	Italian	German	Dutch
	(se) décider à / de (5x), *se laisser convaincre à* (2x), *arriver/réussir à convaincre* (2x), *accepter* (1x), *être contraint à* (1x), *persuader à* (1x), *finir par* (4x)	*decidere di / decidersi a* (6x); *convincersi a* (3x); *riuscire a convincere* (2x); *prendere il coraggio di / farsi coraggio* (2x)	*überzeugen / überreden* (4x), *sich entscheiden / anders überlegen* (2x), *(Angst) überwinden* (2x), *den Mut finden* (1x)	*besluiten / overtuigen / overhalen* (5x), *zich bedenken* (1x)
Tot.	16 / 20	13 / 20	9 / 20	6 / 20

5. Conclusions

We can now answer the three research questions raised in section 2.

Question 1: Do the four languages mark the relevant information configurations to the same extent?

Cross-linguistic differences in terms of frequency of markings were not significant in most cases. The only difference was found in information configuration III, where the high numbers for Dutch are clearly due to the frequent use of the particle *wel* that has no direct counterpart in any of the

other languages. The low numbers for German may be due to the fact that the role of intonation was underestimated due to our cautious exclusion of ambiguous cases.

Overall, however, the proportions of speakers who chose to mark a given information configuration were rather similar. This result points to the fact that signalling change and maintenance in contexts that deviate from the prototypical information flow is seen as an important part of discourse cohesion, independently of the language.

Question 2: Do the languages differ with respect to the information units that are typically used for explicit comparison to earlier ones? On which information units do the preferred anaphoric linking devices operate? More specifically, are some information units (i.e., entity, polarity, predicate) more often marked for change/maintenance in some languages than in others?

We found highly significant differences between languages with respect to the information units which are typically highlighted. In particular, when a polarity change is present (information configurations II and III), Germanic languages (and Dutch more than German) mark this polarity change much more frequently than Romance languages, which prefer to mark the change in the domains of entity or time[31].

Where no change of polarity is involved, as in information configuration I, Germanic languages show a clear preference for highlighting the change of entity with additive particles, while Romance languages often signal the maintenance of the predicate. In Table 7 (information configuration I) we distinguished between stressed and unstressed variants of the Dutch/German additive particles *ook/auch*. We will come back to this distinction in the discussion and propose that only the unstressed particles have scope over entities, whereas the stressed variants have scope over the polarity in a way comparable to *toch/doch*, and *wel*.

Question 3: Which linguistic means do speakers of the four languages use in the three types of information configuration?

Important differences are attested in the means used for the marking. Germanic languages (and Dutch in particular) show a clear preference for the use of particles (all information configurations) and of prosodic means, i.e. stress either on the finite verb or on the pronouns used for reference to changing entities. Romance languages rely on the use of intonational markings and on particles to a lesser extent (with the exception of *anche* in Italian for information configuration I).

[31] The marking of the Topic Time contrasts are not rare in the Germanic languages either, but they tend to occur in combination with marked polarity contrasts.

More fine-grained distinctions can be found between the means put to use in German and Dutch on the one hand and French and Italian on the other, but on the whole we could describe a *Germanic way* and a *Romance way* of signalling contrastive and maintained information in discourse. Speakers of Germanic languages have a set of polarity markers at their disposal that do not have clear equivalents in Romance languages. Wherever change of polarity comes into play, Germanic languages seem to be better equipped. Interestingly, however, this does not only hold for information configurations where the analyzed languages present such differences in terms of the potentially available repertoire (configurations II and III), it also seems to affect cases where they have, in principle, a similar repertoire of linguistic means. This becomes clearer when we have a closer look at the way in which the additive scope particles found in configuration I (*anche/aussi/auch/ook*) are integrated in the structure of the relevant utterances. The question of whether the Germanic languages can be generally qualified as more "assertion oriented" is further explored in the following section.

6. Discussion

A coherent description of the three information configurations can be obtained by focusing on the layered structure of the utterance, in particular the predication and the propositional layer (see Section 1). On the propositional layer, the state of affairs referred to in the predication is assigned a topic-comment structure and an assertion operator that establishes/validates the relation between the comment and the topic component.

Germanic languages have a system of particles which allows the speaker to mark the considered information configurations directly on the assertive relation that is established between predicate and topic. Assertions with identical/opposite polarity about the same or a different topic situation are explicitly related to previous assertions, while Romance languages lack a specialized particle for highlighting the polarity change. This results in a more frequent marking of anaphoric linkage via the assertion operator (information configurations II and III) in the Germanic languages, and in a generally more systematic exploitation of the particle system among the means available.

If we consider the presence of such a system together with the preference for prosodic stress on the finite verb (*verum focus*), we can characterize the two Germanic languages as "assertion oriented" languages: the information configurations are preferably expressed as contrasts among assertions.

We propose that the availability of an assertion related particle system in the Germanic languages pushes speakers to structure their utterances by adopting a perspective that focuses on the value of the assertion operator at the proposition layer. Speakers of Romance languages deal with the same information configurations in two ways:

- they can set up an explicit contrast in the information units entity, time, or predicate, thereby highlighting change or maintenance of the relevant pieces of information. This can sometimes lead to a change in the topic-comment structure that is marked by morpho-syntactic means, for example VS-order, clefts, or contrastive pronouns.[32]
- alternatively, they can modify their utterances on the predication layer by enriching the predicate (cf. *se decider à*, *finir par*, etc.; see table 12). These means do not unequivocally signal a change in the situation with respect to a previous one. The anaphoric link to an antecedent is a result of the Gricean maxim of "manner": the hearer is encouraged to search for a relevant context which licenses the use of these lexical enrichments, and this enhances discourse cohesion.

Up to this point, we have been concerned with the *Germanic* and the *Romance way* of dealing with information configurations II and III. Let us now turn to the means found in information configuration I: Speakers of all four languages regularly used additive particles which we considered to indicate a change of entity. Speakers of Dutch and German, however, used additive particles (*ook/auch*) with greater frequency than speakers of French and Italian (*aussi/anche*). Moreover, in the majority of cases, the Dutch and German particles were stressed and placed after the finite verb (see Table 7).

In the light of the difference between Germanic and Romance languages found for configurations II and III we reconsider the analysis of the stressed additive particles in Germanic languages as sole markers of addition of entities. Rather, these stressed additive particles might be put on a par with stressed *DOCH/TOCH* and *WEL* which appear in a similar position. The latter particles express a switch towards positive polarity and a contrast between the current and an antecedent value of the assertion operator on the proposition level. Do stressed *AUCH/OOK* have a similar function and mark the addition of assertions rather than the addition of entities?

As we have seen, stressed *DOCH/TOCH* and *WEL* were attested in contexts in which the current assertion was in contrast to one with the opposite (in our case: negative) polarity. Stressed *OOK/AUCH* on the other hand appear in contexts in which an assertion with the same polarity is added to an earlier, comparable one and thus express that both assertions do not contradict each other, but are compatible. In utterances containing stressed *OOK/AUCH* the additive relation

[32] Prosody can also signal a change in the information structure, cf. footnote 35.

between the current entity and the entity of the antecedent is a consequence of the addition of assertions that these particles express (Dimroth, 2004).[33]

If our interpretation of additive particles *auch / ook / anche / aussi* is correct, the picture for all considered information configurations can be brought into a coherent perspective. The availability of a complete system of assertion-related particles (see Table 13) allows speakers of Germanic languages to mark the information flow from the assertion perspective.

Table 13: Assertion-related particles in Dutch and German

polarity	*niet/ nicht*	*toch/doch, wel*	*ook/auch*	*ook niet/auch nicht*
antecedent assertion	+	-	+	-
current assertion	-	+	+	-

Romance languages lack a complete system of highlighting devices for the assertion value, be it of the *verum focus* or the particle type: in our data additive particles like *anche* and *aussi* mostly operate on the entities. In French the particle is attested in a variety of syntactic positions but it is adjacent to the NP-entity (*NP aussi* or *lui aussi*) in 52% of the cases. In Italian, the particle is always adjacent to the NP referring to the entity, in more than 90% preceding the NP and thus even more strongly associated to the entity referred to. Its behaviour mirrors the German non-stressed and pre-nominal *auch* (cf. footnote 14) that does not show a strong relation to the finite component of the verb either.

Additional evidence for the different status of additive particles in Germanic and Romance languages comes from developmental studies of second language acquisition.[34] Studies on the acquisition of Dutch and German show an interaction between these stressed particles and the acquisition of assertion marking through finiteness (cf. for example, Schimke et al., 2008; Dimroth, 2009). In these acquisition data, finiteness marking is often dropped in the presence of assertion-related particles, as shown in the following example.

(17) *ein blau mann <u>hat</u> weggegangen*
dann rote mann <u>auch</u> weggegangen

The developmental correlation with finiteness is less clear cut for Romance languages. In L2 Italian, the development of finiteness causes many problems for the position of temporal adverbials such as *ancora* (*still, again*) and *già* (*already*) but does not affect the syntactic behaviour of *anche*

[33] Interestingly, as was pointed out by one of our reviewers, this includes cases in which the particle is embedded in a non-finite subordinate clause under a performative verb (e.g. *Paul versprach, AUCH zu kommen*; Paul promised to come as well). This is also true for the other particles; cf. the example with *wel* in footnote 30.

[34] For German, similar evidence was found in first language acquisition (cf. Dimroth, 2009).

(Andorno, 2005); moreover, learners use the affirmative and negative particles *sì* and *no* but not *anche* for highlighting the assertion value (Andorno, 2008; Bernini, 2000). In L2 French the acquisition of finiteness co-occurs with an increasing presence of additive particles in sentence-internal position (Benazzo, 2005) but a complementary distribution of *aussi* with carriers of finiteness is only sporadically attested (Benazzo, 2000).

At the beginning of this paper we suggested that discourse can be understood as answering an explicit or implicit question. In the case of a narrative, this global discourse question is typically "What happened then to X?". In this study we have looked at narratives with a somewhat atypical information flow, in which predicates consisting of maintained information were claimed to hold for new topic situations. We found that speakers responded locally to variants of the global discourse question and that the linguistic means that are readily available in their language sometimes caused them to prefer one such variant over an alternative.

Such local questions can help to illustrate the differences between the *Romance* and the *Germanic way* of signalling contrastive and maintained information in discourse. When presented with a scene in which a given predicate applies to an entity but did not apply to other entities in the prior context ("Mr. Green not jumping", "Mr. Red not jumping", "Mr. Blue jumping"), speakers of Romance and Germanic languages tended to respond to the following local questions[35].

(18) Underlying question answered by Romance speakers: What happens to Mr. Blue?
F: *Monsieur Bleu <u>lui</u> il saute.*

I: *Il signor Blu è l'unico a buttarsi.*

(19) Underlying question answered by Germanic speakers: What about Mr. Blue, does he jump or not?

D: *Meneer Blauw springt <u>WEL</u>.*

G: *Herr Blau <u>SPRINGT</u> aus dem Fenster.*

All in all, our results show that native speakers are influenced by the repertoire of lexical means and the grammaticized structures that are most readily available in a given language during the process of selection, encoding and organization of information (Slobin, 1996; von Stutterheim and Nüse,

[35] Results for the information configuration I in Italian are given in Andorno and Interlandi (to appear). In this case, word order (VS) and prosody (focal pitch accent on the subject) suggest that speakers can also organise their utterances as an answer to a local question like: Who else jumps?

2003). Due to cross-linguistic differences in these means, speakers tend to establish anaphoric linkage via different information units and at different layers of the utterance.

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