Particles, *Maximize Presupposition* and discourse management

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Abstract

Additive particles are peculiar in that they are often obligatory, although they do not increase the information content of the sentence in context. Two strands of analyses have been proposed to capture this feature, one in terms of exhaustivity implicatures, and one in terms of Heim's ''Maximize Presupposition'' principle (MP). The article reviews both kinds of approaches, and offers experimental evidence in favor of an MP-based analysis. What remains to be understood is the fact that these particles—unlike other MP-ruled expressions—can also be omitted in certain contexts. The last part of the paper proposes to view MP as a principle which forces the speaker to signal the level of reliability of information in the specific text.
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1. Introduction

Particles like *again/wieder*, *auch/too* show a peculiar profile of usage and meaning. They serve to trigger ''second instance'' presuppositions which state that the same kind of event, state or proposition was already reported earlier. In spite of the fact that these words are uninformative, their use is often obligatory and omissions lead to marked discourse. While some obligatory uses serve a semantic purpose, notably when presuppositions are accommodated, not all obligatory uses can be explained by accommodation (examples taken from Amsili and Beyssade, 2006, 2009). *ø is used to signal that omission of *too/again* leads to an ungrammatical sentence (see the definition of ''compulsory use'' in Winterstein and Zeevat (2012)).

(1.) *Paul is sick. Mary is sick too/ *ø.*
(2.) *He was here yesterday. He's still/again/ *ø here today.*
(3.) *Paul made a mistake. He won't do it again/ *ø.*

Two kinds of approaches to account for these observations were proposed in the literature. Sæbø (2004) offers an analysis of obligatory *wieder/again* on basis of contrastive topic times. He suggests that assertions about subsequent topic times are interpreted exhaustively and that *again* serves to retract false exhaustiveness implicatures. Amsili and Beyssade (2009), in contrast, propose that the Maximize Presupposition principle is responsible for the obligatory use of additive particles (and other presupposition triggers like *still*, *know*, *(no) more*). Sections 2 and 3 review these analyses and some of their consequences in more detail.

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Section 4 presents a psycholinguistic study which tested the use of additive markers by native speakers of German. Subjects were requested to describe a series of activities of two protagonists, Otto and Fred. The four-picture strips were designed so as to support the use of *wieder/again*, *auch/too* and similar additive markers. Group A was requested to "tell a story, like for little children" whereas group B had the task to "protocol, like a secret agent, what persons did when you checked them at 9, 10, 11 and 12 o'clock". Group B used significantly less (indeed practically no) additive markers than subjects in group A, even though the series of events they had to describe were identical. These results pose a challenge to either of the two analyses above. Strongly salient topic times reduce the use of additive marking practically to zero, which stands against the Sæbø approach. On the other hand, we also verified that additive markers are not obligatory in the same rigid sense as, for instance, the use of definiteness marking is obligatory in languages like English or German. Our study raises the question why the imperative Maximize! can be put out of force under certain circumstances.

Section 5 proposes a modified Maximize Presupposition! (MP) analysis for the use and omission of additive markers and other presupposition triggers. We assume that MP is a principle which requires the speaker to explicate her knowledge about earlier discourse, and to thereby signal meta-information about her strategies of text production. Depending on the mode of narration, the speaker signals more or less responsibility for making information available about the identity, adjacency, distinctness and similarity of objects and events. While the analysis largely mirrors Amsili and Beyssade's proposal for those texts where the speaker *does* adhere to MP, our approach assigns violations of MP a different status which is, as we will argue, warranted by the data.

2. Topics, times, and additive marking: Sæbø (2004)

Sæbø takes his starting point from Krifka's (1999) account for stressed, sentence final *too*.

(4.)   *Peter sings tenor. Paul sings tenor, *(too)*.

Krifka (1999) assumes that *Peter* and *Paul* are contrastive topics in a sequence of assertions which address a joint question under discussion like *Who does what?* or *Who sings which voice?*. Krifka suggests that sequences of answers to such a question are organized according to a distinctness principle which requires that different contrastive topics (*Peter*, *Paul*) also have distinct properties which answer the current question (*does what?*). He proposes that additive markers carry the accent of a VERUM focus. They serve to override the current expectation in the ongoing discourse that the content of the present sentence should be false: If *Peter* has been reported to sing tenor, the reader weakly expects that *Paul* does something different (by distinctness). Additive particles under stress are needed to override the distinctiveness expectation and to thereby ensure correct processing of information (Krifka, 1999, as reported in Sæbø, 2004).

While the analysis yields correct results in all contexts which do exhibit the appropriate discourse structure, additive markers can also be compulsory at positions in a narrative where the antecedent is visibly *not* the first in an intended series of answers to a suitable question under debate. Sæbø criticizes this shortcoming and proposes the following, more flexible version.

(CI) Contrastive Implicature
For any Φ and c such that the topic of Φ, $T(\Phi)$ is defined, and there are alternatives α to that topic $T(\Phi)$ active in c, then asserting Φ implicates that $\neg\Phi[T(\Phi)/\alpha]$ in c. I.e. if we replace $T(\Phi)$ by alternative α in Φ, the context implies that Φ is not true for α. (Sæbø, 2004:214)

Distinctness implicatures only arise when the appropriate topic/focus structure is plausibly understood for the sentence. Usually, first mentions of a state of affairs (*Peter sings tenor*) are not uttered with the "dangerous" kind of information structure. The second mention, however, triggers the distinctness implicature. The additive marker *too*, added to a sentence $\Phi = P(T(\Phi))$, changes the topic $T(\Phi)$ into $(T(\Phi)\oplus\alpha)$ for that object α in the story of which P was predicated earlier. The distinctness implicature is then understood not for $P(T(\Phi))$ but for the predication $P(T(\Phi)\oplus\alpha)$. As a consequence, the dangerous implicature ('only Paul sings a tenor') is avoided and the second assertion is logically compatible with the preceding discourse.

The resulting analysis correctly captures Sæbø's two main observations about sentences with additive markers:

- Sentences like S_2, *too* refer to a preceding sentence S_1 in which a similar state of affairs had been asserted. At the point where S_1 occurs in the discourse, it is usually implausible and too strong to assume that S_1 gives rise to dangerous contrastive or exclusiveness implicatures. Contrastiveness seems limited to the utterance of S_2, *too*. It is the function of *too* to counteract these implicatures as soon as they arise.
- The antecedent S_1 to which a sentence S_2, *too* refers will often make a stronger assertion than the one in the second sentence. What is intuitively denied is only that S_2 is the only instance of the weaker property, and not that S_1 is the only instance of the stronger property.

The latter effect can be illustrated by the following made-up example (simplifying Sæbø's original example).

(5.) *Peter sings a wonderful, warm and cultivated tenor.*
       Paul is a tenor, too / *ø.

According to Krifka's analysis, as Sæbø argues, we should expect after the first sentence that no other alternative to *Peter* sings a wonderful warm and cultivated tenor. But this is not in contradiction to the assertion that Paul is a tenor. After all, Paul's tenor could be rough and rusty. Sæbø's backward implicatures ensure that presuppositions and distinctness implicatures are based on the predication of the second (S_2, *too*) sentence, and not on S_1, to which S_2 refers.

Both Krifka's and Sæbø's analysis are mainly focusing on the use of additive *too*. While Krifka contributed to a discussion on "postponed stressed particles" and adopted this limitation purposefully, Sæbø explicitly suggests that his analysis should also—modulo phonological peculiarities that determine stress patterns—extend to other particles, notably *again.* He offers one example where time points are explicitly mentioned. This is a simplified version of his example (10).

(6.) *(story about Gorbatchev): . . . He was quickly promoted from the agitprop department to be a first secretary of the Komsomol organization. (. . .) In 1958, he was promoted **again /*ø**, to be second secretary of the entire regional Komsomol.*[1]

Authors in the literature on *again/wieder* agree that the presupposition of *again* is temporally anchored. It not only refers to another, similar eventuality but to a *preceding* similar state or event. This observation is commented on in all formal analyses of *again* in its repetitive and restitutive use, and inspired Klein's seminal paraphrase that *wieder S* means that "*S* is the case, and *this not for the first time*" (Klein, 2001). Xue (2010) takes Klein (2001) as her starting point to spell out what a Krifka/Sæbø type of analysis for obligatory *wieder/again* could look like in detail. Klein proposes that *wieder/again* is hosted in a series of sentences which report information about a series of subsequent topic times (or, sequence of Reichenbachian reference times as part of a discourse representation structure). We can assume that these topic times are the potential relevant topics (in the *wieder/again* clause) or the respective alternatives in the preceding discourse. Xue (2010) limits attention to the Krifka version of obligatoriness of *again*. Somewhat imprecisely, she proposes that assertions about the existence of an event of type *P* can give rise to a distinctness implicature of the following kind (Xue, 2010:37, transl.).

By P(e) we implicate: $\neg\ (\exists e'\ [e' < e] \land P(e')])$

Connecting the implicature to Klein's proposal about a sequence of topic times, we should more specifically employ the

(CIT) Contrastive Implicature (temporal version)
For any Φ and *c* such that t_Φ the topic time of Φ is defined, and there are alternatives t' to that topic time t_Φ active in *c*, then asserting $\Phi(t_\Phi)$ implicates that $\neg\Phi[t_\Phi/t']$ in *c*. I.e. if we replace t_Φ by alternative t' in Φ, the context implies that Φ is not true for t'.
(Sæbø, 2004:214, adapted for the case of *wieder* and times as topics)

From this definition, we could derive versions of the two older analyses which account for the obligatoriness of *again*. In a Krifka (1999) version, we would suggest that subsequent sentences report eventualities that take place at subsequent topic times. The overall discourse answers the question *What happened when?* with the subquestions *What happened next?* According to Krifka, each assertion about one topic time *t*, *P(t)* will implicate that *P* holds for no other topic time. The use of *again* serves to establish *P(t')* for a second topic time *t'*, thereby overriding the older implicature to the contrary.

A temporal version of Sæbø's, more general, analysis will look as follows: According to Sæbø, only the carrier sentence of *again* is in danger of giving rise to the fatal contrastive implicature. It will make up for this implicature by re-shaping the topic of the predication from *t'* (the later time) into $t \oplus t'$ (the sum of earlier and later topic time). *P* is asserted for $t \oplus t'$: $P(t \oplus t')$ and the implicature that *P* is not true for any other alternative *t** is limited to alternatives *t** which are distinct from *t*, *t'* and $t \oplus t'$. This version will in particular be of use in all those cases where the narration is not necessarily structured by the overall question *What happened at what time?*

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[1] The full text confirms that the version without '*too*' would be incoherent. This is also acknowledged in Sæbø's discussion.

2.1. Problems of the Krifka/Sæbø kind of analysis

Whichever version of this range of analyses we would adopt, they all share the assumption that obligatoriness of *again, too* and similar particles is rooted in discourse. This seems reasonable, as it not only captures basic intuitions which have been expressed since the first paper on the effect Kaplan (1984) but also coheres well with Zeevat's observation that at least some instances of additive markers do not allow accommodation (Zeevat, 2004). The assumption reflects the intuition that these particles refer to facts about earlier parts of the story, and not primarily to facts about the external world. Yet, the analyses raise several worries, some more technical, but some more conceptual in nature. While my technical remarks specifically address Sæbø (2004), conceptual worries extend to both Sæbø's analysis and its predecessor Krifka because both share the idea that topical times and objects form the backbone of an analysis of additive particles.

Technically, some predictions of the temporal versions are too strong and in fact falsifiable. Consider the following story. It is somewhat longer than the usual two-sentence narratives in the literature. It is still fair to raise such cases, I think, because *again* is as obligatory here as in our earlier examples and Sæbø himself, justly, complains about the too restricted range of data in the literature.[2]

(7.)   *The cat was sleeping peacefully in the living room* (t_o). *At five, Paul started to prepare dinner* (t_1). *He realized* (t_2) *that butter was missing and left the flat* (t_3), *thereby waking up the cat. He went down* (t_4) *to the shop to get butter. He also bought a newspaper at the kiosk* (t_5) *and returned to his flat* (t_6). *He turned the key in the lock* (t_7), *noticing a strange kind of smell from inside. He hurried into the living room* (t_8). *The cat was sleeping* **again** ($t_9 = t_8$). *In the kitchen, the stove was on fire* (…)

I added reference times at all major points. The one-but-last sentence reports that the cat slept at t_9 (which is identical to t_8, due to the use of the progressive, Kamp and Reyle, 1993) and refers back to the first sentence where the cat was reported to sleep at t_o. According to the K/S analysis, the last sentence in isolation should lead to the dangerous implicature that t_9 is the only reported time when the cat sleeps. The use of *again* changes the assertion into the extended 'the cat sleeps at $t_o \oplus t_9$' and softens the contrastive implicature to (CIT) 'the context entails that the cat did not sleep at any other time t^* distinct from $t_o \oplus t_9$'. This is clearly too strong for stories like the present one. Unless we believe that the cat collapses into sleep exactly at the time when Paul enters the living room, we will assume that the cat was sleeping already at t_7. We also know from the story that the cat slept at t_1 when Paul started preparing dinner. The analysis will therefore have to be adjusted so as to add up all earlier alternative times where P holds true and assert P of the sum of all these times. This is tricky, however, because at least for those times shortly before the momentary topic time t_9, the context alone will *not entail* that the cat slept: we only know this as soon as we *assert* that the cat sleeps at t_9 which, in turn, we should not do because we are in danger of raising the contrastive implicature CIT. Yet, there may be ways around this technical problem; we might adopt a criterion which requires that *P is not explicitly asserted for t** rather than *P(t*) can not be inferred from the earlier story*. I will not explore the optimal remedy at this point.

My deeper conceptual worry is this. Following Sæbø, it is the second sentence which, uttered in the context of the first, is in danger of giving rise to contrastive implicatures. It is unclear to me whether this would happen in any case (with, or without the additive particle) or whether it is only the addition of the particle which generates the necessary topical structure. If it happens in any case, we may wonder whether suitable alternative information structuring should not be sufficient to avoid the fatal implicatures. One may also wonder why the infelicitous implicature cannot be cancelled right away, given that the preceding story makes it crystal clear that the implicature is false in the present context.

Maybe the implicature is a conventional implicature carried by the additive particle and therefore harder to cancel. At least Sæbø seems to suggest an inherent link between *too* and the implicature when he observes that the topic of Φ is always the associate of *too* (and more generally, we may speculate, the associate of any additive particle). Hence, it might be due to the fact that *too/again* are added that the fatal topical structure is established and starts implicating. But still, I find it implausible to assume that a particle both has the effect of triggering inconsistent implicatures and at the same time contributes a denotation which states that exactly this implicature is not the case. We would expect that an implicature gets standardly cancelled in view of conflicting evidence. Moreover, it seems hardly functional to adopt and use words which serve no other purpose than to annulate their own pragmatic effect. Without spending more effort on elaborating the criticism, let me point out that Percus (2006) as well as Winterstein and Zeevat (2012) come to similar conclusions.

The third, empirical worry arises as a result of the empirical study which is reported in section 4.

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[2] As a reviewer observes, *again* is only obligatory due to the interruption of the cat's sleep. Otherwise, we would have to use *still*. This observation is in line with the eventual proposal in section 5 which takes {*still*, *again*, ø} as a paradigm of ontology management in discourse.

3. Maximize Presupposition!

In a series of talks and papers, Amsili and Beyssade (2006, 2009) propose an alternative explanation for the obligatory use of additive particles, along with a longer list of obligatory presupposition triggers. They specifically look at triggers which have no other function than to check whether a certain piece of information can be derived from the current discourse. Additive markers like *too* and *again* are certainly of that kind.

Amsili and Beyssade refer to Heim's Maximize Presupposition! principle (Heim, 1991; Percus, 2006 for a detailed discussion of possible versions) in order to explain obligatory uses of these particles. They start from the observation that the semantic content of *S*, and *S, too* is identical. To see an example, both (8.a) and (8.b) state that Paul likes broccoli.

(8.)   a. *Paul likes broccoli*.
         b. *Paul likes broccoli, too*.

The sentence in (8.b) differs from (8.a) in that it triggers an additional presupposition. Amsili and Beyssade assume that every (simple) sentence potentially competes with all its extended versions with additive particles (or, other presupposition triggers). Following the MP principle, a version with a presupposition will win over a version without the presupposition trigger whenever the presupposition is licensed in a given discourse context. This is why particles like *too*, *still*, *again*, etc. are obligatory, at least sometimes.

The last hedge deserves some more reflection. In fact, the observations concerning additive particles differ substantially from other phenomena which have earlier been analyzed by making use of Maximize Presupposition. The principle is usually taken to explain effects like the obligatory use of definiteness markers, the choice of gender and similar choices between forms within a paradigm. In all such cases, there is one and only one correct choice (which, in the case of definiteness, may depend on discourse context). This choice is not a matter of style, and it is not dependent on the kind of text that the speaker intends to produce. The use of additive marking, in contrast, is in part a matter of style and the surrounding discourse structure. For instance, Amsili and Beyssade (2009) correctly point out that the use of *too/aussi* is optional for instance in enumerations like in (9) (the original example is in French, but the same effect holds for English, as well).

(9.)   *John is sick. Mary is sick. Paul is sick. Everybody seems sick these days*.

If Maximize Presupposition were a compulsory pragmatic principle, then (9.) should be unacceptable. Given that it is not, it looks as if MP for additive particles applies in the softened version ''Maximize Presupposition whenever necessary!''. The challenge consists in spelling out the *whenever necessary* part more precisely. While most MP based accounts of *too* do not address this subtask (see e.g. Singh, 2010/t.a.), Amsili and Beyssade face this challenge and approach it in terms of SDRT. They observe that sentences as part of an Enumeration or Contrast/Parallel discourse relation (Asher and Lascarides, 1998) do not require additive markers whereas sentences in narration, or in causal connection to earlier sentences, do require additive markers. They point out that enumerations are text passages with the specific purpose to rattle off a list of properties. Hence, the marker *too* can only indicate once more what was clear from the beginning of that passage: that the speaker intended to rattle off a list of similar properties. Amsili and Beyssade propose that ''a presupposition trigger (without asserted content) is only obligatory if it brings strictly more satisfied presuppositions than the sentence without the trigger.'' (p. 121). As an illustration, they discuss the enumeration in (9.). They propose that the first sentence ''*John is sick*'' plus the Enumeration structure of the passage already entail that more persons are sick ($\exists x$ $(x \neq j \wedge \text{sick}(x))$.[3] Given this, it comes as no surprise that the next sentence names more people who are sick. Therefore the additive marker is superfluous. Amsili and Beyssade end by offering a formal count procedure which aims to spell out this very intuitive observation.

The approach offers an appealing combination of a pragmatic principle—trigger as much presuppositions as possible, or else you might signal that you believe them to be false (''antipresuppositions'', Percus, 2006)—with discourse structuring principles that can prevent the hearer from deriving such antipresuppositions. Essentially, Amsili and Beyssade seem to say that once the hearer has understood the higher aims that a speaker has in mind, and once these higher aims help her to anticipate further contents of the ongoing piece of text, she will stop drawing low level scalar inferences which might contradict these higher aims. While this opens up new and exciting perspectives in pragmatics, very little is known so far about the interaction of text structuring principles and the pragmatics at sentence level. Hence, it

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[3] Their example (38) contains this clause with identity $x = j$. I take this to be a typo, because the entailment as given in Amsili and Beyssade (2009:38) would be a logical entailment of the sentence *John is sick* and would not dependent on discourse structure.
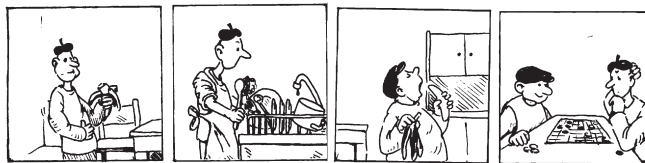
Fig. 1. Sample stimulus.

might be useful to consider some more data which might tell us more about the kind of reasoning that hearers and speakers apply at this level. Our experiment supplies such data.

4. Experimental evidence

Our experiment aimed to get more evidence for the strategies according to which speakers of German make use of additive particles and coherency marking in general when producing text. We wanted to find out why and when speakers feel the urge to use *too*-like words in German (*auch*, *ebenfalls*, *ebenso*) and *again*-like words (*wieder*, *abermals*, *nochmal*, *ein zweites Mal*) to signal the second occurrence of some kind of event in a longer story. Importantly, we wanted to test whether frequency of additive/repetition marking correlates with the kind of text production in which speakers are engaged.

4.1. Experiment design

In order to test this, we prepared sequences of four pictures in which two protagonists, Otto and Fred, are shown in everyday activities like taking a shower, having coffee, reading a book, etc. This is one example (Fig. 1).[4]

The picture series showed two kinds of stories which triggered the use of repetitive or additive marking. 10 series contained two pictures in which the same protagonist does the same thing, e.g. Otto sleeping on Picture 1, and Otto sleeping (again!) on Picture 3. We made sure that another activity intervened in each case, in order to avoid ''*x* still does α'' or ''*x* does α for a long time'' types of description. 10 series contained two pictures which showed the two protagonists do the same thing, e.g. Fred eating a banana on Picture 1, and Otto eating a banana on Picture 3. These sequences allow the use of additive markers like *auch*, *ebenfalls* (= 'also', 'too'). We added 10 filler sequences which showed no repeated activities of any kind. In total, every subject had to work on 30 picture strips, and the picture series presented were the same for each subject, modulo the presence/absence of times (see below). Pictures were presented in a horizontal sequence. Basically, we wanted to get subjects to describe the sequence, using one short sentence per picture. We had to keep data comparable and avoid inter-subject variation which arises when some but not all subjects feel inclined to enter into long elaborations and interpretations of pictures. We therefore presented subjects with training sentences where each picture was described with one, suitable basic level verb (e.g. *take a shower*, *drink tea*, *take a nap*, *read a book*, etc.).

Subjects were divided into two groups. Both had to describe what was going on in the picture strips, but the specific task was different for each group. Members of group 1 were told ''to write a story on basis of the pictures, like in a picture book for small children''. Group 2 had the task ''to imagine that you are a secret agent and have to observe two people. You are supposed to protocol what is going on at specific times, at 9 o'clock, 10 o'clock, 11 o'clock and 12 o'clock.'' The second, but not the first group, saw the times at the beginning of the lines on which they were supposed to describe what was going on in the respective picture.[5] For both groups, the training pictures contained repeated events. We had 50 subjects, divided in two groups which gave us 25 subjects for each condition. All were native speakers of German, average age 26 (17–49). Some but not all persons were students in philological subjects. We randomly assigned those to groups 1 and 2, in order to avoid an uneven distribution of persons who might aim to be professional writers.

4.2. Results

In a first step, we collected additive/repetition markers which were actually used in the responses. These comprise *auch*, *ebenfalls*, *erneut*, *nochmals*, *noch einen*, *immer noch*, *weiter*, *wieder*, *(ein) zweitesmal*, *(eine) weitere*, *(einen)*

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[4] The guy with the beret was ''Fred'' and the round boy was ''Otto''. Subjects were told that identifying the right person was not the main issue of their task.

[5] In a pilot study, we presented pictures vertically, with two lines to write on next to each picture. We hoped that this would reinforce the pattern ''one sentence per picture''. Instead, this presentation led *all* our subjects to react like those in group 2 in the final experiment. Which shows that, according to western viewing conventions, only horizontal series of pictures are perceived as storyboards at all.

Table 1
Use of additive particles.

Group	N	Mean	Std. dev.
1: ''story''	25	10.96	5.41202
2: ''protocol''	25	1	2.21736

Table 2
Use of additive particles, most frequent items.

Item	Group 1 ''story''		Group 2 ''protocol''		T	p
	Mean	Std. dev.	Mean	Std. dev.		
wieder	2.44	1.850	0.32	0.627	−5.426	0.000
immer noch	1.84	1.546	0.2	0.646	−4.895	0.000
auch	2.12	2.279	0.16	0.625	−4.147	0.000
ebenfalls	1.6	2.872	0.0	0.0	−2.785	0.008

zweiten, *(ist) noch dabei*, *noch etwas*, *wiederum*, *noch*. The most frequently used ones were *auch* (too), *ebenfalls* (also), *erneut*, *nochmals*, *wieder* (again), *weiter* (still) and *noch einen* (another one). We took care not to overlook any ways of marking repetition in the ''protocol'' condition that might be germane to that style. The following table shows the *average numbers of target words* that subjects used in either group. The difference between the two groups was significant ($p < 0.05$) (Table 1).

We also evaluated the use of each particle in isolation. It turns out that the items *auch* (mean use per subject: $m = 1.14$), *immer noch* ($m = 1.02$), *wieder* ($m = 1.38$) and *ebenfalls* ($m = 0.8$) were used with highest frequencies.[6] In absolute numbers, each of the highly frequent markers were used more that 40 times in our resultant total of all stories, with *wieder*, $n = 65$ and *auch*, $n = 58$ the most typical. This side result indirectly justifies the narrow focus of theoretical papers which usually restrict attention to these two additive markers. The distribution of frequent additive markers mirrored the distribution of the overall set of words. Specifically, we found significant group differences for the following items (Table 2).

In the group of less frequent markers, we found significant differences between the use in group 1 (more frequent) and group 2 (less frequent) for *nochmals* ($p = 0.004$) and *weiter* ($p = 0.022$). All others occurred numerically less frequent in group 2 than in group 1, but numbers were too small to reach significant results.

Subjects showed individual differences in their production strategies. Notably, one subject in group 2 (''protocol'') was responsible for 10 uses of target items, compared to 4 uses (by 2 subjects), 2 uses (by 2 subjects), 1 use (by 3 subjects) and 0 uses (by 17 subjects). We decided not to treat this person as an outlier as long as we have no theoretically backed ideas about the reasons for such behavior. The person might just have shown an extreme form of a behavior that is visible in others as well. (This is unlike in, e.g., reading time tasks where clearly nameable factors like 'distraction' or 'tiredness' offer independent plausible explanations for outliers.) We rather think that any eventual analysis of the use of additive markers—and we will propose a proto-version of such an analysis in section 5—should allow for different individual speaker strategies as well as intersubjective differences in text production strategies.

We finally computed to which ratio each stimulus triggered the use of a marker (in the ''story'' condition, and in the ''protocol'' condition). There was no stimulus which triggered more markers in the ''protocol'' condition. Our *wieder* stimuli, impressionistically, were slightly better triggers than our *auch* stimuli. However, we found no evident regularities that would suggest improvements of the experimental setup.

One possible improvement for future follow-up experiments concerns the presentation of stimuli. We got an occasional use of additive/repetition markers even in fillers. These uses obviously refer back to earlier stories, not earlier pictures in the same story. The example in (10) is a case in question; the pictures were such that none of Pictures 1–3 showed anyone smoking before Otto, in the last picture, smokes a cigar.

(10.)   *Fred hat einen Brief geschrieben. Otto ließt ein Buch. Fred isst etwas. Und Otto raucht wieder Zigarre.*
         (typo '*ließt*' in the original)
         'Fred wrote a letter. Otto is reading a book. Fred is eating something. And Otto is smoking a cigar, *again*.'

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[6] The low numbers are due to group 2 where subjects per average used none of the items. To compare: *weiterhin* which was used once by a group 1 subject, yields $m = 0.02$.

Given that such cross-story effects will influence all sentences in the same way, they will not change the qualitative results of the study. However, in sequel studies it will be useful to mix two entirely different tasks, possibly taken from different studies, in order to reduce cross-referencing between stories.

In a qualitative evaluation of the results, it became clear that our attempt to trigger different types of text production with our two task definitions was not entirely successful. While we managed to trigger very short activity descriptions in the ''protocol'' scenario, some subjects in the ''story'' task situation also lapsed into picture description. The following shows one of the shortest responses to a four picture strip (here a filler) in the ''story-telling'' task group. Usually, speakers minimally used temporal connectives of the type 'and then', 'afterwards', etc. to create a link between events. This speaker however has given up to create coherence between the different parts of the story.

(11.)   *Fred packt den Brief in einen Umschlag. Otto liest. Fred isst. Otto raucht eine Zigarre.*
         'Fred stuffs the letter into an envelope. Otto is reading. Fred is eating. Otto is smoking a cigar.'

As a consequence of such observations, one may speculate that a story telling task, taken seriously, might trigger additive markers with greater reliability and bring numbers up to almost obligatory use of additive marking. It is, however, difficult to keep the balance between over motivated and under motivated subjects. In pilot studies, we found that brevity and wordiness both can blur the use of additive/repetitive markers. When speakers started to describe stories in a too elaborate manner, they concentrated on the details and the interpretation of single pictures, which likewise decreases the likelihood that identical types of activity are remarked and expressed in the story. Our instructions were therefore designed to keep the balance between creativity and brevity. Given that, unlike in pilot versions, our speakers produced stories of comparable complexity, we saw no need to bring in story length (or, sentence length) as an additional parameter in the evaluation.[7] The problem of the non-eloquent subject, in our view, can only be overcome in a cross study of completely different design, e.g. when subjects are presented with ''stories''/''protocols'' for a given series of pictures and are supposed to rank the appropriateness of the text *as* a story, or protocol respectively.

4.3. Theoretical discussion

The study verifies the assumption that the obligatoriness of additive/repetitive marking depends on discourse structure. Comparing the results to the Krifka/Sæbø type of analysis of obligatory *again, too*, we can state that the result undermines the assumption that contrast or salient alternatives are what triggers the use of these markers. Notably, the ''agent'' scenario with a fixed set of time points (and a likewise small set of protagonists, namely two) would be expected to provide all necessary factors that force the use of additive markers with high salience. The ongoing discourse answers the question under debate ''*What happened when?*'', organized along a small set of relevant time points. Hence, even the theory in its most restrictive version (Krifka, 1999) would lead us to expect that additive markers are used with high frequency in this condition. In actual practice, the opposite trend was the case. Highly pre-structured discourse of this kind impeded the use of additive markers.

The study coheres with Amsili and Beyssade in that the ''protocol'' scenario matches their discourse relation Enumeration (taken liberally). Like they predict on basis of introspection, additive marking was highly infrequent. Their analysis, however, is not suited to make correct predictions for texts of the kind that we got. Our ''protocol'' is an enumeration which entails in no way that the speaker expects or plans to list *similar* eventualities. To the contrary, speakers were highly aware of the fact that the protagonists might be doing four different things at four different times, as they did in all the filler conditions. The following two responses are typical reactions in the ''protocol'' group, where (12) reacts to a filler, (13) to a stimulus which could trigger *too/auch*. (Remember that the times were given on the form and not written out by subjects.)

(12.)   *9:00 Fred ißt eine Banane. 10:00 Otto duscht. 11:00 Otto liest. 12:00 Fred trinkt Kaffee.*
(13.)   *9:00 Fred strickt. 10:00 Otto putzt sich die Zähne. 11:00 Otto liest. 12:00 Fred putzt sich die Zähne.*

When the 10 o'clock sentence is added in (13), nothing in the enumeration entails that there will be other people who brush their teeth later. Hence, we would expect that the last sentence in (13.) 'Fred brushes his teeth' is uttered in a context

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[7] One reviewer suggested an interesting variant of the task: allow for stories of arbitrary length and complexity, and compute the ratio of additive marking per number of words (or other measure for story length). From our first experiences, we would expect that this leads to an overall less consistent set of data. Longer stories could ''relax'' writers and motivate them to use more repetitive marking. However, writers might instead tell a whole little story per picture, thus reducing the use of repetitive markers that are triggered by stimuli. Instead, additive markers could show up where extra story content gives new motives to use them. It is to be feared that the link between stimuli and data would be weakened in this version of the study.

where the *too* competitor would have more presuppositions satisfied than the discourse without this sentence. The picture series which support the use of *wieder/again* are likewise unsuited to predict the omission of *wieder* in terms of Amsili and Beyssade.

(14.)   *9:00 Fred fährt Rad. 10:00 Otto raucht. 11:00 Fred schreibt einen Brief. 12:00 Otto raucht.*

Before the 12 o'clock sentence is added, the discourse (including its ''protocol'' structure) does not entail that Otto smoked more than once. Hence, the presuppositions triggered by *again/wieder*, *nochmal* would count as extra satisfied content, and the triggers should therefore be obligatory. Again, our subjects show the opposite behavior.

   Generally, the study suggests various interesting follow-up studies. First, the experimental setup should minimize cross-referencing between stories. Second, movie-based stimuli would make the story-task yet more natural. Finally, an oral task (''tell a story'' rather than ''write a story'') could bring out phonetic coherency marking like topic-focus accenting. In fact, one pilot study showed promising data of this kind but we dismissed the setup to minimize methodological problems in assessing the results.[8]

   Evidently, Amsili and Beyssade's basic intuitions and our results match more closely than the Krifka/Sæbø approach and the present results. Our ''agent protocol'' task was more similar to the enumeration structure than our ''story telling'' task, and the former indeed triggered less uses of additive markers than the latter, as expected by Amsili and Beyssade. However, the reasons *why* non-narrative structures do not trigger additive marking are not captured correctly by the Amsili/Beyssade analysis. The second part of the paper therefore outlines an alternative Maximize Presupposition! based approach.

5. Additive particles and discourse management

   This part sketches an alternative analysis of the use and non-use of additive and other particles. In the first section, I suggest to focus attention on *markers of identity and distinctness.* These include additive markers like *too* and *again*, but are more restricted than the class of particles addressed by Amsili/Beyssade. In the second section, I argue that *Maximize Presupposition!*, applied to these markers, reflects the speakers' commitment to offer sufficient ontological information about the discourse universe in question. Speakers who maximize presuppositions adhere to what could be called *Maxim of ontological clarity.* The third section demonstrates that this Maxim can be *flouted* and that flouting gives rise to typical literary effects. The final section summarizes and outlines how the proposal should be sharpened and tested further.

5.1. Identity, distinctness and similarity

   The presuppositions of additive and repetitive markers have been thoroughly studied over the last years (Beck, 2006; Xue, 2010). There is one aspect, however, that has received little attention so far. Consider repetitive particles like *wieder*, *abermals*, *nochmal* in German, or *again*, *once more*, *once again* in English. Formal analyses of *again/wieder* usually assume something like the following presuppositions:

- *S* describes an event *e* or a transition into a result state *s*.
- *again S* presupposes that a similar state *s* or event *e* as the one denoted by *S* has occurred once before.

   Actually, the information content of *again S/wieder S* is richer. We typically understand that the first eventuality (*e*, or *s* respectively) and the second occurrence are *not the same*. Depending on case and analysis, this is sometimes predicted, and sometimes not. For instance, restitutive uses of *again/wieder*, like '*open the door again*' in the sense of '*re-open the door*', logically require an interruption between first and second state. The first s_1: the door being open is separated from s_2: the door being open by a phase where the door is closed. Repetitive uses of *again/wieder* often get an analysis which does not force difference between first and second occurrence. According to most analyses, the little text ''*When I left home, my hamster was sleeping. When I returned, he was sleeping again.*'' does not logically entail that the hamster was awake in-between.

   In actual fact, however, *again/wieder* and their alternatives *abermals*, *nochmal/once again* entail that presupposed and reported eventuality count as *two different eventualities*. The particles in question compete with *still/immer noch*, which presuppose the occurrence of an earlier eventuality and express its continuation. If none of these particles is used, the speaker volitionally leaves it open whether an earlier eventuality and a later eventuality are the same or different.

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[8] It was encouraging to see a similar proposal made in a review of an earlier version of this paper.

(15.)   *Paul was reading the newspaper. I left the room to make a phone call. When I returned <after xx time>, . . .*
   a. *. . . Paul was reading the paper again.*
   b. *. . . Paul was still reading the paper.*
   c. *. . . Paul was reading the paper.*

All continuations in (15.a)–(15.c) presuppose that there was an earlier event e_1 of Paul reading the newspaper which took place *before* the one e_2 reported by the sentence. The sentence in (15.a) suggests that there was something going on between the earlier event e_1 and the present one e_2. We get a report of two readings which normally should be interrupted by Paul doing something else. This becomes clear when we specify *xx time* by a short interval. It would be odd to state that ''*When I returned five minutes later, he was reading the paper again.*''

When the time span expressed in *<after xx time>* is very short, the continuation in (15.b) is more natural. The speaker witnesses Paul reading in e_1 and Paul reading in e_2 and knows, or assumes, that these are both parts of the same overall event of Paul reading the newspaper. The two different messages ''e_1 and e_2 are distinct'' vs. ''e_1 and e_2 are part of the same event'' arise solely by the use of *again* vs. *still.* It is important to stress this because in many examples in the literature, there are other pieces of information which likewise entail distinctness of events, or sameness of events. (15) confirms that in the absence of other information, we derive distinctness and sameness from the use of particles.

The continuation in (15.c) as part of the given narrative is marked. The paradigm in (15) shows that the problem is not the absence of *again* but the absence of any information as to whether the first reading e_1 of the paper, and the second e_2 are identical or different. In terms of discourse representation theory, the text introduces two discourse referents e_1, e_2 of the same type READ but fails to tell whether they refer to the same event or not. The true competition is one between bare *S* and '*S, <identity marking>*' where the speaker will have to choose the appropriate identity marker: *same eventuality* or *different eventuality*. The observations extend to German *wieder*, *noch einmal*, *abermals* (non-identic events) and *(immer) noch* (continued same event). I will not attempt to classify different ways in which events can be non-identical.

Interestingly, the data replicate a well-known paradigm in the nominal domain, the use of indefinite NPs, definite NPs and indefinite NPs with the qualification *a second*, *another*, *a further*, *one more*.

(16.)   *This morning, the shop was empty until 9 when a customer entered. I left the front room to make a phone call. When I came back <after xx time>, . . .*
   a. *. . . another customer was just leaving.*
   b. *. . . the customer was just leaving.*
   c. *. . . a customer was just leaving.*

Like in (15), the initial sentence has introduced a discourse referent d_1 and the condition CUSTOMER(d_1). Each of the three sentences (a.)–(c.) introduces a second discourse referent d_2 and the condition CUSTOMER(d_2). The example in (a) conveys that $d_1 \neq d_2$. Example (b.) conveys that $d_1 = d_2$. Example (c.) is underspecified in this context. Identities are left open and have to be inferred, for instance by looking at the time span *xx time*. When the phone call takes 10 or 15 minutes, we tend to infer that the two customers are different. When the call takes 2 minutes, we will infer that the speaker did not see properly or has a bad memory for people and is unable to tell whether the first and the second customer are the same. Notably, if the speaker knows that the customers are different, she should use (a.). Again, this suggests that the pragmatic competition is not one between *a* and *the* but between *another* and *the*, in all stories where a first exemplar of a given kind is already part of the story. It is hence unclear whether *a/the* are in fact synonyms (apart from different presuppositions), as their analysis along Maximize Presupposition! suggests. The indefinite (*an N*) is clearly the only possible choice when no other discourse referent *d* of kind *N* has been introduced. If there is such a first *d*, however, the use of another indefinite does not automatically entail that two distinct d_1, d_2 are in play, but that the speaker *doesn't care about the first one.*

Let me finally take a look at obligatory additive particles like *too*, *as well*. Additive particles do not report on the identity or non-identity of objects, persons or events. They convey that two entities are of the same kind, i.e. share a property. These entities may be persons or objects, but likewise times or places. A more comprehensive characterization of the full spectrum of *too* structures is given in Winterstein and Zeevat (2012) and Umbach (2012).

(17.)   <u>*Anna*</u> *owns a Porsche.* <u>*Isobel*</u> *owns an expensive car, too*.

Whatever larger story (17.) may be a part of, the speaker signals that she is aware of the fact that Anna and Isobel share the property of being the owner of an expensive car. The hearer might guess that the plan for the communication as a whole is an argument about women millionaires, or a comparison between Anna and Isobel. The implicatures conveyed in (18.) are different.

(18.)   *Anna owns a Porsche. Isobel owns an expensive car*.

For one, the speaker of (18.) could believe that Porsches are not expensive cars, or she could intend to correct herself: it is not Anna, but *Isobel* who. . .. I will disregard these interpretations for the moment and focus on a situation where speaker and hearer are both aware of the fact that '*own a Porsche*' is a subproperty of '*own an expensive car*'. Possible discourse contexts for (18.) are very limited (as already noted by Amsili/Beyssade). The example in (18.) in particular creates the impression that the speaker ''all of as sudden sees herself surrounded by women with expensive cars'' and, suddenly taking notice, wants to comment on that: ''. . . *and I am the only girl in town left with a rusty Opel*''. We will investigate such impressions more thoroughly in section 5.3 and see that they systematically emerge whenever the speaker avoids the necessary use of presupposition triggers like *the*, *again*, or *too*.

5.2. Why Maximize Presupposition?

In spite of its predictive adequacy, the function of Maximize Presupposition! (MP) as a speaker maxim has always been somewhat unclear. MP obliges the speaker to be redundant and hence appears to violate Grice's maxim of quantity. In particular, MP cannot be justified as an instance of scalar implicature. Let me briefly recapitulate Percus' (2006) argument. After offering a careful survey of versions of the MP maxim, Percus speculates about the origins of the principle. The following (MP) is one of his versions:

(MP) *If sentence S and S^+ have the same literal content*,
　　　S^+ counts as a life competitor of S (e.g. arises by adding a particle to S, or by replacing one determiner for another in S, etc.)
　　　S^+ gives rise to a presupposition Φ but S does not, and
　　　the current context c supports $Φ$[9]
　　　then *you have to utter S^+ instead of S*.

Percus observes that one might propose that (MP) is simply a variant of Grice's scalar implicatures.

　　Is MP a scalar implicature?
　　The hearer hears the speaker utter *S* instead of S^+. Hence, the hearer will believe that the speaker believes that ¬Φ. To avoid this, speaker has to utter S^+.

This reconstruction of (MP) is bound to fail, according to Percus. The most puzzling uses of presupposition triggers like *the*, *too, again* are those where the presupposition Φ of S^+ is clearly supported by context. A clause like ''the hearer will believe that the speaker believes that ¬Φ'' describes how the hearer draws an inference. In drawing such inferences, the hearer will use all information available. Specifically, the hearer will know that the speaker just uttered something which entails the presupposition Φ of S^+. In view of this fact, the hearer can hardly infer that the speaker believes that ¬Φ. Therefore, as Percus argues, the alleged hearer inference will in fact never occur and hence does not have to be blocked by anything like (MP). For example, when parsing the second sentence in (19), the hearer will be aware of the fact that the speaker can hardly intend to convey the antipresupposition ¬Φ = ''*no one else is sick*'' because the speaker has just asserted information to the contrary.

(19.)　　*John is sick. Paul is sick, *(too)*.

Hence, the force of MP cannot be derived from the speakers' aim to avoid anti-presuppositions. Remember that one objection against Sæbø's analysis was that it assumes exactly this kind of irrational hearer behavior. In a sense, Percus' side remark anticipates my criticism.

What does the speaker communicate when she uses S^+ with presupposition Φ, instead of *S* without presupposition, in a context which visibly supports Φ anyway? I propose that the speaker communicates *meta-information about her knowledge* rather than information about the world. Let us disentangle the messages of *again* in (20).

(20.)　　*Peter read the newspaper. Then he made a phone call. Later, he read the newspaper again*.

In the third sentence in (20), the speaker does not remind the hearer that Peter read the newspaper before. The hearer will already know this. What the speaker conveys is the following:

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[9] It would be too weak to require entailment, because Φ might contain anaphoric elements which need to be resolved.

- I, the speaker, *remember* that I told you about e_1: Peter reading the newspaper
- I am also *telling* you *that* I remember having told you about e_1.
- I *signal* that I am designing my story in a mode in which you can rely on me giving you information as to whether similar events are distinct, resumptions, or the same event going on.

In the example in (20.), the extra information is that first and second reading e_1 and e_2 are distinct. This information is redundant (because the interruption is mentioned in the text). What is not redundant, however, is the information that the speaker *is keeping track.* A similar message can be derived from the use of *another* versus *the*.

(21.)   *A bird was pecking corn on the lawn. Later, another/the bird stole my wallet.*

In the two versions of the second sentence, the speaker informs the listener whether the first and the second bird were distinct or the same.[10] What the speaker signals in the second sentence is the following:
- I, the speaker, *remember* that I told you about x_1, a bird
- I am also *telling* you *that* I remember having told you about a bird
- I *signal* that I am designing my story in a mode in which you can rely on me giving you indications as to whether individuals of the same kind are identical or distinct.

Finally, by making use of additive markers like *too*, the speaker expresses that she remembers her earlier utterance and, in particular, that this utterance was logically parallel to the current one.

(22.)   a. *Anna owns a Porsche.*
          b. *Polly owns an expensive car, too.*

The function of this signal is to offer a clue about the point of the communication. A sentence like (22.a) can be the opening of various kinds of discourse. It could be the first sentence of a story about Anna, it could lead to a discussion about Porsche cars, it could comment on the income of Anna, and many more. The second sentence adds another piece of information. The information does not change when the speaker utters '*too*'. However, by using the additive marker, the speaker conveys information about herself. To the assertion that $P(\textbf{polly})$ = 'polly owns an expensive car' she adds:

- I *remember* that I told you something that entails $P(\textbf{anna})$
- I am also *telling* you *that* I remember having told you that $P(\textbf{anna})$
- I *signal* that what is important about the two propositions—for the purpose of my story—is that **anna** and **polly** share property P.

The last part conveys to the hearer that the speaker will most likely compare Anna and Polly, derive other shared properties from the fact that they both own expensive cars, or—possibly—add more persons and talk about whether they should own expensive cars as well. At that point, it will be clear that the story will *not* be one about Porsches in particular.

Let us see how this hypothesis relates to the results of the study in section 4. Speakers who were engaged in the task of telling a story took much more care to explicate repetitions and parallels than those who believed that they were taking a protocol. The ''story'' task increased the speakers' inclination to adhere to MP and use *wieder/auch*. The ''protocol'' task decreased the speakers' inclination to adhere to MP almost to zero.

In the ''story'' task, it is the speaker's responsibility to decide which events, states and facts she wants to report. Thinking about series of events, each new sentence in a story could be justly introduced by ''*and the next thing that happened was* …'' If the speaker needs to tell more about the same eventuality, it will be her responsibility to communicate to the hearer that she is referring to an eventuality that is already known. Similarly, when a speaker is telling about persons and things, it is usually both important as well as necessary to make it clear who is who, and whether two objects are the same or different things. It is also the speaker's decision and responsibility to report whether people share properties, or are different in interesting ways. If the speaker adheres to MP, this will force her to offer constant feedback to the listener, signaling to the listener that she is responsible for, and in control of the self-chosen entities and events in the story.

The ''story'' task in the study was already artificial in the sense that subjects were presented with a given choice of actions, so their responsibility was reduced. The task would be even more realistic if subjects could watch a movie and decide by themselves which events are worth being reported. Nevertheless, they signaled more control over

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[10] In this case, the use of indefinite *a bird* expresses that the speaker cannot tell whether the birds were identical or not.

identity/distinctness of eventualities and used higher rates of *wieder*, *nochmals*, *abermals*, etc. We had purposefully excluded *noch/still* scenarios. When we had presented those in pilot studies, subjects had tended to summarize the content of two pictures in one sentence, thereby producing unevaluable material. More elaborate stimuli could trigger the use of *still*.

The "protocol" task for the speaker is an entirely different task. When a speaker takes a protocol, the choice of time points is given, it is not her own. Likewise, the choice of events that are worth being reported is no longer the speakers' choice. The task, instead, is to answer "*what did the guys do at time X?*" for a given set of four time points *X*. The events at each respective time point are not reported because they are worth being reported, or an important part in the overall action, but because taking a protocol requires the speaker to do so. The aim of the speaker is not to report a sequence of events which, taken together, yield a noteworthy story. Consequently, it is no longer of importance whether people share properties, or whether the same kind of activity is performed more than once. The speaker can stop adhering to MP, at least with respect to event individuation. This is what we observed in the experiment.

We cannot assume that speakers in the "protocol" situation started to protocol with the expectation that people shared properties, or that a person would do the same thing twice. They were exposed to 20 stories without shared property vs. 10 stories with a shared property, and to 20 stories without repeated action vs. 10 stories with repeated action. Hence, if any, they would adopt a weak bias against either kind of repetition. This confirms that Amsili and Beyssade's proposal to account for the omission of additive marking in enumerations does not capture the essence of MP violation.

Let me stress that I do not claim that "protocol" texts generally decrease adherence to MP. Plausibly, object individuation is still important in protocols. The set time points just determine the choice of eventualities. Whether or not a faithful record of persons and things is important seems to be an independent question. The data that we gathered are not suited to shed light on MP in determiner use. Pictures were not designed to introduce several different objects of the same kind within one story. It might also be interesting to think about other kinds of narration tasks where object individuation could be of lesser importance, such as a phone call protocol by people in a call center. We might speculate that authors of such a report will take less care to use definite articles or second instance indefinites and use indefinites across the board, instead.

(23.)   *A man calls and complains about a razor. — A woman calls and checks her orders. — A man calls and wants to book a flight. — Next, a woman calls and orders cat food. . . .*

For one thing, the speaker might not be able to recognize whether she listens to the same or different people. More importantly, she does not report about people of her own choice—because they are interesting individuals or groups—but because this is what the tape recorded.

I propose that MP, as far as it applies to markers of identity and distinctness, is a maxim that requires the speaker to *confirm control over ontology*. It is plausible that different modes of text require different levels of control. It is also plausible that "control" can be a local principle which is confined to short paragraphs or adjacent sentences. If presuppositions Φ were introduced much earlier in the text, the speaker might be free to decide whether "control" extends to distal parts of text. Likewise, it has been observed that languages differ with respect to their use of additive markers (Fabricius-Hansen, 2005). Again, it is plausible that different languages set different levels of "control". Whereas the conventions of language use in German require a high density of ontology control, languages like English or Norwegian demand less speaker control, as corpus evidence in Fabricius-Hansen (2005) shows.

The most striking evidence in favor of MP as a principle to signal ontological control is offered by examples where speakers *flout* MP in a text production task which would normally require ontological control. The final section serves to survey such data. In a sense, they go beyond the empirical domain of the present paper. However, the effects are too entertaining to be left untouched, even though they require more thorough analysis than I can offer presently.

5.3. Flouting MP

In this section, I review cases of MP violation in the choice of determiners, in the use of additive marking (*too, as well*) and in the omission of identity/distinctness marking of events (*still*, *again*, *once more*). It will turn out that these violations all give rise to similar effects. The reader always get the impression

- that the speaker produces text in a situation of loss of control
- that the speaker wants to separate bare, uncommented facts and her conclusions on basis of these
- that the speaker presents *random* choice of reference times/places (whereas MP signals the *volitional* selection of things and events to be reported)
- of quasi-universal statements.

In section 5.1, I suggested that *indefinites* are under informative when used in a context where a first referent of the given kind is known. In such a context, *another* serves to indicate difference of discourse referents, whereas *the* indicates identity. For instance, when a text reports the existence of a chicken and another chicken, then the speaker has to mark the second chicken as "a further chicken in the story". *Another* is semantically identical to *a(n)* but carries the additional presupposition that the referent is the second-mentioned of its kind. Adhering to MP, the use of *another* should be compulsory if the text supports its presupposition.

The following text *flouts* MP in the way it reports about chicken.

(24.)   *I entered the old farm yard and didn't believe my eyes. There was a chicken in front of the door. There was a chicken next to my car, there was a chicken behind me, and a chicken on the dung heap …*

The impression created by this text is one of "chicken all over the place". From the second chicken on, the speaker signals that she does not remember or care about that she already mentioned one chicken, and that if she remembers, she will not indicate this to the addressee.[11] The addressee will understand that "chicken individuation" is not reliable in this part of the story. As a secondary effect, a *quasi-universal reading* arises: 'For all places you look at, there is a chicken'. The song 'Old McDonald' toys with this effect.

(25.)   *… and on his farm he had some chicks, I-A-I-A-O. With a chick-chick here, and a chick-chick there, here a chick, there a chick, everywhere a chick-chick.*

The chicken are not mentioned because the speaker wants to tell a story about them. They were mentioned to report that in a random choice of reference spaces, each of these points was such that a chicken resided there: *everywhere a chick-chick.* Quasi-universal readings will turn out to be a typical effect of flouting MP.

Can speakers flout MP by using an indefinite instead of a definite? While such uses are rare, there is a classical example of a use of indefinites for definites in German folk literature, the poem of the *Bucklig Männlein* ('hunch-backed little man')

(26.)
Will ich in mein Gärtlein gehn,	'when I want to go to my garden
will mein Zwieblein gießen,	want to water my onions
*steht **ein bucklig Männlein** da,*	**a hunch-backed man** is standing there
fängt gleich an zu niesen.	and starts to sneeze
Will ich in mein Küchel gehen,	when I want to go into my kitchen
will mein Süpplein kochen,	want to cook my soup
*steht **ein bucklig Männlein** da*	**a hunch-backed man** is standing there
hat mein Töpflein brochen.	has broken my pot
Will ich auf mein Boden gehn,	when I want to go into my attic
will mein Hölzlein holen,	want to get my wood
*steht **ein bucklig Männlein** da,*	**a hunch-backed man** is standing there
hat mir's halber g'stohlen.	has almost stolen it from me
…	…
Geh ich in mein Kämmerlein	when I go into my chamber
will mein Bettlein machen	want to prepare my bed
*steht **ein bucklig Männlein** da*	**a hunch-backed man** is standing there
fängt gleich an zu lachen	and starts to laugh
Will ich an mein Bänklein knie'n,	when I want to kneel at my bench
will ein bisschen beten,	want to pray a little
*steht **ein bucklig Männlein** da,*	**a hunch-backed man** is standing there
fängt gleich an zu reden:	and starts to talk:
"Liebes Kindlein, ach, ich bitt',	"Dear child, ach, I beg you,
Bet' für's bucklig Männlein mit"	pray for the (!) hunch-backed man, as well"

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[11] It may be interesting to note that this *speaker puzzlement* can shift from the narrator to the protagonist in free indirect discourse. Hence, if we change (24.) into a third person narrative *When she entered the yard, she didn't trust …* etc., we understand that the referent of *she* is the person who is puzzled by the multitude of chicken.

At the end of the poem at latest, it becomes clear that the hunch-backed men mentioned in all earlier verses are indeed the same person. The speaker violates MP. Either she believes that all these men are different, in which case she should refer to them by ''another hunch-backed man''. Or else, she believes that they are all the same, in which case ''the hunch-backed man'' would be required. The repeated violation of MP—which would also require the use of *again*, or *once again*—creates the effect that the presence of ''ein bucklig Männlein'' is conveyed more like the apparition of a ghost than like the presence of a physical being. If there is no entity to which ''ein bucklig Männlein'' refers, then the question whether a second and third apparition is identical or different to the first does not even arise. In other words, the language use of the speaker leaves it open whether lost souls have an independent ontological status or exist only in our minds.

Flouting MP by omitting 'again': The following example illustrates the omission of *again/wieder*. The text was inspired by a longer scene from the German children book *Gepäckschein 666*.

(27.) *(Francis, telling about his stay in a fancy hotel)* ''*You know, then the footboy entered my room. He bowed and said ''Good day, Sir''. I asked for a glass of water. He bowed, and fetched one from the bathroom. I said I had all I needed. He bowed and left the room*.

Francis seems to convey a quasi-universal statement like ''Whenever the boy does anything, he always bows beforehand''. Omission of '*again*' is an instance of a wider kind of flouting MP by omission of *identity marking for events.* The speaker can omit particles or adverbs which entail that the present eventuality is a continuation of, or different from an earlier eventuality. In principle, the speaker might fail to use *again/still* because she simply does not know. However, even in cases where this could count as the reason for not using any marker, omission can also lead to the ''random choice of reference times'' effect. Consider the following example.

(28.) *When I passed Old Bob in the morning, he was reading the newspaper. When I returned at night, he was reading the newspaper. . . .*

(28.) strongly suggests that the speaker suspects that Old Bob does not do anything else but reading the newspaper: *whenever* the speaker passes him, Old Bob is reading the newspaper. It is tempting to continue on (28.) in this sense, and it offers a further example of a quasi-universal statement which emerges by flouting MP. Plausibly, the speaker violates against MP because she wants to present her encounters with Old Bob—always reading the newspaper—as a random series of experiences.[12] Random series of events, all of the same kind, suggest that Old Bob reading is a universal state, not incidental individual events which the speaker witnessed on two or three occasions.

Let me finally turn to the omission of *additive markers* like *too*. I repeat the example from above.

(29.) *Anna drives a Porsche. Isobel owns an expensive car*.

(29.) could be used in an enumeration when the speaker rattles off the list of car owners and their cars. In such a task, the speaker can violate MP. This is *not* because there is a general expectation that more than one person owns the same cars (Amsili/Beyssade). It is so because the hearer already *knows* the reason why the speaker might attribute the same property to different people: It is because the speaker is rattling off a list. In essence, the explanation is similar to the one given by Amsili and Beyssade, but the perspective taken is much more general.[13]

If used outside a list environment, another undertone of (28.) can be this: 'Thinking about the people around me, it strikes me how many of them own expensive cars. *Whoever comes to mind*, they own expensive cars'. In the second sentence the speaker signals that she does not remember, or does not intend to reveal whether she remembers that Anna also owns an expensive car. The speaker creates the impression of being overwhelmed with facts of the type *x owns an expensive car*. The speaker does not relate these facts to one another (because she fails to use

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[12] One might be tempted to argue that the speaker avoids *still* and *again* because she is uncertain whether Old Bob did or did not interrupt his reading. Two facts stand against this. First, (28.) has a generic feel to it which can not be explained by this analysis—it suggests that Old Bob reads *all day, every day*. Second, to my feeling, *still* can be used in a sense where the speaker leaves it open whether interruptions took place. Without going into the details, I think that these observations prohibit an epistemic analysis.

[13] I suspect that their analysis predicts that the definite article is never compulsory—because any context in which exactly one *x* such that *P* exists will entail that $\exists!x.P(x)$, no matter whether this is called for as a presupposition or not. This would clearly be wrong.

too). Perhaps, this invites the hearer to follow the speaker's inductive conclusion—based on independent evidence—that all friends, in fact ''everybody'', owns an expensive car. Once again, flouting MP invites to draw quasi-generic inferences.

In summary, the present section reviewed various cases of MP flouting. The overall kind of text (narrative, non-list) required the speaker to adhere to MP in order to signal that she keeps a faithful track record on ontology. In each passage, the speaker failed to adhere to MP. Almost each example gave rise to an undertone of the speaker not planning her narrative beforehand but reporting objects and events as they struck her. Often, the effect was a quasi-universal statement. We could call this the Old McDonald effect of MP flouting. In these cases, it is a change in the speaker's narrative situation, rather than a change of text genre, which changes the standard of MP adherence. The observed effects match the proposed function of MP as a principle to signal control over ontology.

6. Summary

The paper addressed presupposition triggers without propositional content, notably repetition markers like *wieder/ again* and additive markers like *auch/too*. These are weakly obligatory: In certain examples, they have to be used and omission leads to a marked text. In other uses, and in certain kinds of text, however, they can easily be omitted. Their level of obligatoriness seems to differ from language to language. Finally, in certain situations their omission gives rise to literary effects like the Old McDonald effect.

In the first part of the paper, I reviewed two proposals to account for this effect, the one by Krifka (1999) refined in Sæbø (2004), and a recent proposal by Amsili and Beyssade (2006, 2009). Both analyses showed minor theory-internal weaknesses. A more serious challenge, however, is posed by experimental evidence, which was reported in section 4 of the paper. It showed that speakers' aptness to use additive and repetitive marking in text production depends on the kind of text production task that they are engaged with. In a protocol-like situation where times serve as contrastive topics, subjects tend to use almost no additive marking. In producing stories, subjects used a significantly higher number of additive markers. This behavior can neither be explained in terms of the Krifka/Sæbø analysis, nor in terms of the Maximize-Presupposition (MP) based account by Amsili/Beyssade. In section 5 of the paper, I aimed at modifying the MP theory of particle use such as to account for the observations. I argued that MP serves the purpose to inform the hearer about the speakers' knowledge and awareness of preceding utterances in discourse. The cases that we looked at covered, more specifically, earlier mention of objects (= individuation and determiner choice), earlier mention of eventualities (repetition/continuation marking) and earlier mention of similar predications. The speaker has to signal a reliable track record particularly when she is herself responsible for the choice of objects talked about (= determiners), the choice of events to be talked about (= repetition, continuation) and the choice of property attributions (= additive marking, which should more appropriately be called *parallel marking*). Adherence to MP, in these specific cases, is tantamount to the following:

> Ontological explicitness:
> Whenever the text introduces a discourse referent d_j and condition $P(d_j)$ and the current section of text contains d_i; $P(d_i)$, the speaker has to explicate whether $d_i = d_j$. This holds both for discourse referents introduced by nominals or verbs.
> Whenever the text entails that $P(d_i)$ and the speaker asserts $P(d_j)$ for $d_i \neq d_j$, the speaker has to explicate whether $P(d_j)$ corrects $P(d_i)$ or holds in addition.

The greater the responsibility of the speaker for the choice of contents in a certain domain, the more compulsory she has to adhere to MP to signal responsible text management. This explains the different behaviors that we observed in the experimental setting. It also offers a viable starting point to understand other MP violations, notably those where the ''speaker lost track'' in section 5.3. As a result in German and English texts, we often get a quasi-universal statement. I proposed to call this the Old McDonald effect. The exact link between ''losing track'' and this effect remains to be investigated.

I want to add one final observation which supports the view that the delineated data warrant a systematic analysis. So far, we looked at presuppositions that were supported by previous discourse. However, MP can also be triggered by presuppositions which are part of world knowledge. In this case, non-use of the presupposition trigger does not show effects of MP flouting. In this case, MP turns into a robust principle. Stable cases occur, most prominently, where the definite article must be used because there is only one possible referent of the NP, no matter whether this referent has been mentioned before or not. Hence, it is ungrammatical or at least requires fictitious worlds and reinterpretations if we talk about *a strongest man of Mexico*, *a moon rose over the horizon* or *a mother of Peter*. Such indefinites do not give rise to side messages that ''there were so many that speaker lost track or interest''. This is to be expected, given that Peter by

necessity has only one (biological) mother and there is nothing to lose track about here.[14] German *wieder/again* likewise shows obligatory uses when a sentence reports that a natural state of origin, ideally one that is normally irreversibly lost, has been reached again. I owe the following example, taken from the Oslo Multilingual Parallel Corpus OMC, to Cathrine Fabricius-Hansen.

(30.)   *Ich hätte die Rechnung ohne den Wirt gemacht, schrieb er,*
         *wenn ich glaubte, ich könne **wieder/*ø** zum Junggesellen werden und mich vor*
         meinen ehelichen Verpflichtungen drücken.
         (. . . if I thought I could turn myself into a bachelor again and escape my matrimonial responsibilities.)

Germans will confirm that this instance of *wieder* is obligatory. An omission of *wieder* in (30.) will not create a sense of puzzlement or indicate specific modes of text production. It will simply suggest that the speaker does not know that young adult males are bachelors in the sense of male virginity, a state that cannot be gained but only *re*-gained. The English literary translation of the passage in (30.) does not use *again* in the original. Such examples show that ontological explicitness/MP has different weight in different languages.

The informal ideas in section 5 leave many questions for further research. More empirical studies should assess a more fine-grained range of text production tasks, and produce evidence about the use of *the/a, still/again* which were not covered by stimuli so far. A formal spell-out of the effects of ''losing track'' should further clarify the parallel between the (non)use of *too* and other markers of identity and distinctness. Finally, it will be interesting to ask which kind of speaker reliability is indicated by MP in other cases (gender, *belief/know*, *even/ø*, German *ja/ø* and other particles which serve to introduce presuppositions). Hopefully, we will gain a theory of *Maximize Presupposition!* which reveals the true communicative value of the maxim.

Author's contribution

Regine Eckardt is responsible for the theoretical background, the outline of the experimental design in section 4 and for the visual stimuli. Manuela Fränkel considerably improved the design, conducted the experiments and provided the statistical evaluation. Eckardt takes responsibility for the contents in general, including all shortcomings, errors and unclarities.

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[14] I do not consider the school meeting use of ''a mother of Paul'' here, in the sense of ''one of all these mothers, who moreover claimed to be the mother of Paul''. While the speaker does seem confused as well, it is essential that the extension of *mother of Paul* is enlarged to the extension of *person who calls herself mother of Paul.*

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