

# Parameters on the obligatoriness of ‘*too*’

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## 1 *Too* is obligatory (?)

### 1.1 Basic Data

#### Basic observation

- **Standard view:** In many cases the presence of the adverb *too* appears obligatory (Green, 1968; Kaplan, 1984; Krifka, 1999).
  - (1) a. Jo had fish and Mo did *too*.  
b. \*Jo had fish and Mo did.
  - (2) a. Reagan frightens Jo but he does Mo *too*.  
b. \*Reagan frightens Jo but he does Mo.
  - (3) *A:* What did Peter and Pia eat?  
*B:* Peter ate pasta, and Pia ate pasta, *too*.  
*B':* \*Peter ate pasta, and Pia ate pasta.
- The observation extends to a whole class of additives particles: *again, still...*
  - (4) Jo was fishing, and he is fishing #(again, still).

#### A more convincing example

- The previous examples could conceivably be saved by prosody, especially in enumeration cases.
- This is harder for (5).
  - (5) Swift Deer could see pine-clad mountains on the other side of the Rain Valley. Far away to the east and west the dry prairies stretched out as far as the eye could see. *To the north* lay the yellow-brown desert, a low belt of green cactus-covered ridges and distant blue mountain ranges with sharp peaks. *To the south* #(too) he could see mountains. (Sæbø, 2004)

#### Unwanted inferences

- Sometimes the absence of *too* creates unwanted inferences:
  - (6) a. Barb is seventeen, and WENDY is old enough to have a driver's license, *too*.  
b. #Barb is seventeen, and WENDY is old enough to have a driver's license (Green, 1968)

- (7) [The 5000 m race was won by Gianni Romme].
- a. The 1500 m race was won by a Dutch skater too. ∴ G. Romme is Dutch.
  - b. The 1500 m race was won by a Dutch skater. ∴ G. Romme is **not** Dutch. (Sæbø, 2004)

## Existing accounts

- Basic description (after Horn (1972)):
  - (8) a. *too* has no asserted content by itself: it does not change or contribute to the main content of its host sentence.
  - b. *too* presupposes that there exists an element distinct from its associate that satisfies the same predication.
- Rough generalization: if *too* can be used, it must be used, if its conditions of use are not met, its presupposition cannot be accommodated.
- Accounts based on a principle of the *Maximize Presupposition!* type motivate this prediction (e.g. Singh (2008)).

## 1.2 Empirical issues

### Empirical issues

The previous picture proves problematic for at least two reasons (Winterstein & Zeevat, 2012).

1. In some cases, even though an antecedent is available for its presupposition, *too* cannot be used:

(9) #John was almost on time. Paul was late too.

2. In other cases, the use of *too* appears entirely optional:

(10) Hartmann's joy was apparent in his beautifully cut hair, his expensive suit, his manicured hands, the faint aura of cologne that heralded his approach; in his mild and habitually smiling face, *too*, his expressive walk, in which the body, leaning slightly forward, seemed to indicate amiability.

### Goals of this work

Investigate the optional cases in French.

1. Quantify the optional cases: ⇒ corpus study.
2. Determine the influence of one of the parameters that bears on the obligatoriness of *aussi* (*~too*): ⇒ experimental study.

## 2 Annotation study

### 2.1 First attempt

#### One-man study

#### Is *too* removable?

- **Principle:** extract literary samples containing *aussi* and test whether its use is obligatory by leaving it out and judging the resulting sentence.
- Study about *too* briefly mentioned in (Winterstein & Zeevat, 2012):

“A small probe of this kind by one of the authors on the English utterances of the Oslo Parallel Corpus gives obligatory cases and optional cases in roughly the same frequencies”
- Reproduce the study in French in a more systematic way.

#### Description of the study

#### Method

- extraction of all the occurrences of additive markers;
- deletion of the marker;
- classification along the following lines:
  - no difference in interpretation (**optional** cases)
  - extract becomes agrammatical (**obligatory** cases)
  - extract gives rise to new and unwanted inferences (**inferential** cases)

**Corpus** *Cinq semaines en ballon* (Jules Verne, 1863, J. Hetzel et Compagnie, 259 p). About 82.000 words.

**Results** Approximately 2/3 of obligatory cases 1/3 of optionals.

#### Results

- Total additive particles:

|  |       |
|--|-------|
| <i>aussi</i> (10), <i>non plus</i> (1) | 11    |
| <i>également</i>                       | 7     |
| <i>de nouveau</i>                      | 9     |
|  | <hr/> |
|  | 27    |

- Classification:

|            |               |        |
|------------|---------------|--------|
| Optional   | 9             | 33 %   |
| Obligatory | ill-formed 11 | } 66 % |
|            | inference 7   |        |

#### Examples

- Optional case:

- (11) Il se munit de trois ancres en fer bien éprouvées, ainsi que d’une échelle de soie légère et résistante, longue d’une cinquantaine de pieds. Il calcula ÉGALEMENT le poids exact de ses vivres;  
*He took three solid iron anchors as well as a silk ladder both light and resistant, some fifty feet long. He ÉGALEMENT calculated the exact weight of his food.*

## Examples

- Obligatory case:

- (12) — Si nous étions à bonne portée, dit le chasseur, je m’amuserais à les démonter les uns après les autres.  
— Oui-da ! répondit Fergusson; mais ils seraient à bonne portée AUSSI, et notre Victoria offrirait un but trop facile aux balles de leurs longs mousquets ;  
— *If we were at good range, said the hunter, I would enjoy taking them down each at a time.*  
— *Truly! answered Fergusson; but they would be at good range AUSSI, and our Victoria would offer too easy a target for the bullets of their long rifles;*

## Examples

- Inferential cases:

- (13) — (...) ces peuplades sont considérées comme anthropophages.  
— Cela est-il certain ?  
— Très certain; on avait AUSSI prétendu que ces indigènes étaient pourvus d’une queue comme de simples quadrupèdes; mais on a bientôt reconnu que cet appendice appartenait aux peaux de bête dont ils sont revêtus.  
— (...) *these folks are said to be man-eaters.*  
— *Is this certain?*  
— *Quite certain; it was AUSSI said that these natives had a tail like simple quadrupeds; but soon it was recognized that this appendage belonged to the skins that they wear.*

## 2.2 Group annotation

### Annotation task I

- Same task as before, but:
  - Limited to 17 cases (*aussi, non plus, également*)
  - Distributed to 10 people.
  - A **confidence** score was also asked.
- Results:
  - Very poor inter-annotator agreement ( $\kappa = 0.22$ ).
  - The confidence on the *inferential* category is significantly lower than for the other two.
  - For those items where agreement is strong we have 6 optional cases and 3 obligatory ones.

### Annotation task II

#### Second attempt

- 15 raters (undergrad students), 47 samples extracted from 3 novels.
- Two categories (optional/obligatory).
- Very poor inter-annotator agreement ( $\kappa = 0.24$ ).

⇒ the inferential case may not have been the issue.

- Three cases of complete agreement, all of them obligatory.

### Main conclusions

- *Too* is not always perceived as being obligatory, a significant number of its uses appear optional to speakers.
- The task appears hard: indirect methods should be favored in this domain.

## 3 Experimental investigation

### Kaplan (1984)

- Which factors affect the use of *too* and the pressure to use it?
- General form of the examples studied by Kaplan:
  - Two coordinated sentences
  - Two distinctive elements: *contrastive topics*
  - A repeated predicate: the *comment*

(14) Jo<sub>ct</sub> sent Helen a note and Mo<sub>ct</sub> sent Helen a note too.

- The pressure on the use of *too* is conditioned by (at least) four parameters:
  1. Anaphoric/elliptical reduction of *too*'s host.
  2. Grammatical function of *too*'s associate.
  3. Identity of sense *vs.* identity of reference in *too*'s host and antecedent.
  4. The use of *but vs. and* to introduce *too*'s host.

### Effect of the elliptical reduction

- **Intuition:** the contrast between the versions with/without *too* is stronger if the comment is reduced:
  - (15) a. Jo sent Helen a note and Mo sent Helen a note too.
  - b. ?Jo sent Helen a note and Mo sent Helen a note.
  - (16) a. Jo sent Helen a note and Mo sent Helen one (too / \* $\emptyset$ ).
  - b. Jo sent Helen a note and Mo did (so/it/ $\emptyset$ ) (too / \* $\emptyset$ ).

⇒ Can we say that the more the *comment* is reduced, the stronger is the contrast between the versions with/without *too*?

- What is the role of repetition in those examples?

## Experimental study

- Acceptability judgment task, run online (IbexFarm).
- 80 French native speakers participants.
- Ratings of acceptability on a scale from 1 to 10.
- Two factors:
  1. Presence / Absence of *aussi* (*too*)
  2. Degree of reduction of the comment part: 6 levels  
⇒ 12 conditions in all (24 different item sets).
- Item sets were distributed in two different studies.
- Items were presented using a latin square technique.
- Use of fillers coming from two different experiments run at the same time.

- (17) Jean a montré sa voiture à Paul, et Léa...  
*Jean has shown his car to Paul and Lea...*
- ful ... a montré sa voiture à Paul aussi  
... a montré sa voiture à Paul  
... *has shown her car to Paul (too)*
- cpt ... l'a montré à Paul aussi  
... l'a montré à Paul  
... *it has shown to Paul (too)*
- opl ... lui a montré sa voiture aussi  
... lui a montré sa voiture  
... *him has shown her car (too)*
- pro ... la lui a montré aussi  
... la lui a montré  
... *it him has shown (too)*
- vpe ... l'a fait aussi  
... l'a fait  
... *it has done (too)*
- vid ... aussi ... (too)

## Expected results

- ful+ *not so good, because of repetition*  
ful- *idem*  
cpt+  
cpt-  
pro+  
pro-  
vpe+  
vpe-  
vid+ *highest acceptability*  
vid- *lowest acceptability*
- } *bigger and bigger contrast between + and -*

## Results

- Linear Mixed Model:
  - Degree of reduction mapped to a value between 0 and 6.

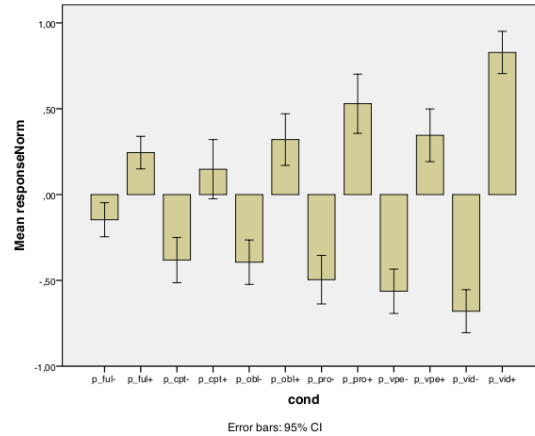


Figure 1: Mean Judgments of Acceptability normalized by participant: 0 denotes average answer, positive values indicate higher acceptability with 1 being one standard deviation better than the average sentence.

- Presence / absence of *aussi*.
- Random effects on participants and items.
- **No effect** of the Reduction factor alone.
- However: a strong interaction between Reduction and Aussi:
  - In the conditions with *aussi*, higher reduction led to a higher acceptability.
  - In the conditions without *aussi*, higher reduction led to a lower acceptability.

## Results

## Results

# 4 Conclusions

### Taking stock

- Optional cases are real, and form a significant part of the uses of the additive *aussi*.
- The reduction of the comment leads to a gradual decrease of acceptability in the examples without *aussi*: this cannot be captured by a boolean account of the distribution of *aussi/too*.

⇒ Why is it so?

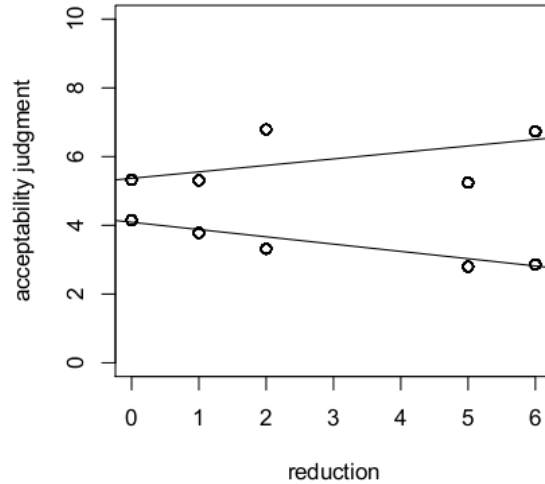


Figure 2: Interaction degree of reduction/presence of *aussi*.

### The discursive function of *too*

- Besides its presupposition, *too* is also a marker of discourse similarity (Amsili & Beyssade, 2009; Winterstein, 2010; Winterstein & Zeevat, 2012):
  - It marks that its host and antecedent answer the same question in distinct ways.
  - It marks that its host and antecedent have similar argumentative properties.
  - ...
- When the perceived degree of similarity of host and antecedent is higher, the incentive to use *too* is stronger.
- Why is similarity higher in the reduced versions?
  - Using a pronoun rather than repeating an NP enforces identity: anaphora is a stronger mark of identity than lexical repetition.
  - The same goes for ellipsis.

### Future work

- Extend the study to English.
- Test Kaplan's other parameters, and first the parameter relating to the identity of senses vs. identity of references.

- (18) [Jo wrote an article to debunk Chomsky's claim, ]
- a. ... and she wrote  $\left\{ \begin{array}{l} \text{one} \\ \text{an article} \end{array} \right.$  to improve her tenure file (*too* /  $\emptyset$ ).
- b. ... and she wrote  $\left\{ \begin{array}{l} \text{it} \\ \text{the article} \end{array} \right.$  to improve her tenure file (*too* /  $*\emptyset$ ).



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