

1.1 Additive particles

1.1.1 Initial observations

- The adverb *too* is obligatory in sentential conjunctions when there is exactly one meaning difference (Green, 1968).
- (1) a. Jo had fish and Mo did too.
b. *Jo had fish and Mo did.
- (2) a. *Jo had fish and Mo had soup too.
b. Jo had fish and Mo had soup. (Kaplan, 1984)
- Too* is a stripping adverb:

(3) a. *Abby* speaks passable Dutch, and *Ben*, too.
b. *Abby* speaks passable Dutch, AND *Ben*.
c. *Abby* speaks passable Dutch, (but) not *Ben*.
d. *Abby* speaks Dutch, but *Ben*? No way.
e. %John didn't drink coffee, but tea.
f. %John drank not coffee but tea. (Merchant, 2003)
- (4) a. Jo likes syntax and Mo likes syntax too.
b. ? Jo likes syntax and Mo likes syntax.
- (5) a. Jo had fish and Mo had soup also.
b. *Jo had fish and Mo had soup too. (Kaplan, 1984)
- In some cases the absence of *too* gives rise to inferences:
- (6) a. #Barb is seventeen, and WENDY is old enough to have a driver's license
b. Barb is seventeen, and WENDY is old enough to have a driver's license, too (Green, 1968)
- (7) [The 5000 m race was won by Gianni Romme.]
a. The 1500 m race was won by a Dutch skater.
∴ G. Romme is **not** Dutch.
b. The 1500 m race was won by a Dutch skater too.
∴ G. Romme is Dutch. (Sæbo, 2004)

1.1.2 Variability of obligatoriness

- (8) Jo_c sent Helen a note [and] Mo_c sent Helen a note
- Two coordinated sentences ;
 - Connective: *and*, or *but*
 - Two arguments that differ : contrastive topics_c CTs
 - One repeated predicate : *comment*

1.1.2.1 Reduction of the comment

- Gradation of the “reduction” of the comment:
- (9) a. sent Helen a note
b. sent her a note
c. sent her one
d. did so / it
e. did
- (10) 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.
- (11) a. Jo sent Helen a note and Mo sent Helen one (too / *∅).
b. Jo sent Helen a note and Mo did (so/it/∅) (too / *∅).

⇒ The more the comment is reduced, the more *too* is obligatory

Experimental verification preliminary data

- French doesn't allow pure repetition of identical comments:
- (12) a. *Max a offert des cadeaux à Léa et Luc a offert des cadeaux à Léa.
Max gave gifts to Léa and Luc gave gifts to Léa
b. *Max a offert des cadeaux à Léa et Luc a offert des cadeaux à Léa aussi.
Max gave gifts to Léa and Luc gave gifts to Léa too
- (13) a. (Luc) a offert des cadeaux à Léa
b. (Luc) en a offert à Léa
c. (Luc) lui a offert des cadeaux
d. (Luc) lui en a offert
e. (Luc) l'a fait
f. (Luc) ∅
- Design
 - Questionnaire experiment, on Internet. 80 subjects.
 - Mixed with other experiments, so that our sentences serve as fillers for the others.
 - Acceptability judgements, on a 10-point scale.
 - 24 examples × 10 conditions
- (14) Un étudiant a démontré ce théorème à Stéphane, et son collègue...
A student has proved this theorem to Stéphane, and his colleague...

... a démontré ce théorème à Stéphane	aussi	ful+	-obl
... a démontré ce théorème à Stéphane		ful-	
... l'a démontré à Stéphane	aussi	cpt+	
... l'a démontré à Stéphane		cpt-	
... lui a démontré ce théorème	aussi	obl+	
... lui a démontré ce théorème		obl-	
... le lui a démontré	aussi	pro+	
... le lui a démontré		pro-	
... l'a fait	aussi	vpe+	
... l'a fait		vpe-	
...	aussi	vid+	
...		vid-	+obl

• Expected results

ful+	<i>not so good, because of repetition</i>
ful-	<i>idem</i>
cpt+	} <i>bigger and bigger contrast between + and -</i>
cpt-	
vpe+	
vpe-	
vid+	<i>highest acceptability</i>
vid-	<i>lowest acceptability</i>

• Results

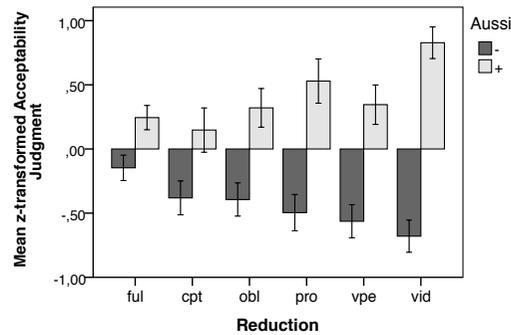


Figure 1.1: Mean Judgments of Acceptability normalized by participant: 0 denotes average answer, positive values indicate higher acceptability with 1 being one standard deviation better than the average sentence.

- English replication: 40 subjects, collected through Amazon's Mechanical Ture, with the help of Ted Gibson (MIT)

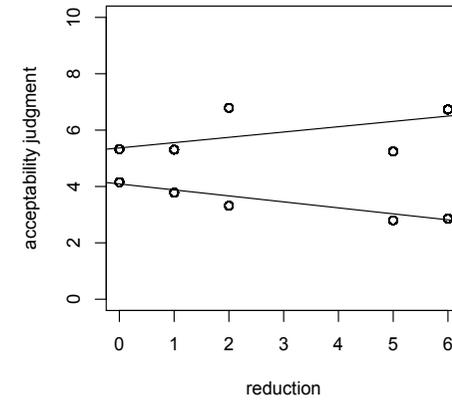


Figure 1.2: Interaction degree of reduction/presence of *aussi*. Reduction is the numeric equivalent to the conditions above: we score 1 point of reduction for each pronominalisation and two points for a complete drop. The two conditions obl and cpt are both scored 1. The plot includes dots that indicate the mean answer (absolute) for this degree of reduction with *aussi* (top) and without *aussi* (bottom) in addition to the regression lines for the two groups.

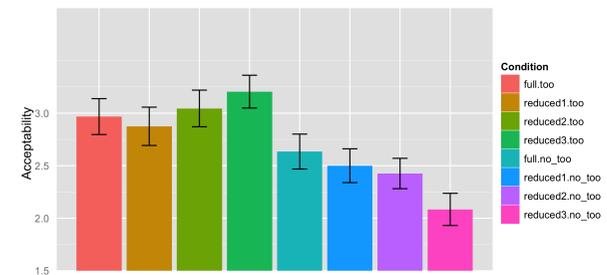


Figure 1.3: Normalized acceptability for the English version of the experiment

• Conclusions

- relatively bad acceptability of full repetition confirmed

– Kaplan’s intuition confirmed (for French): there is a gradation of acceptability

1.1.2.2 Function of the CTs

- (15) a. Jo showed the book to Fred_{tc} and she showed it to Bill_{tc} (too / * \emptyset)
 b. Jo caught_{tc} the fish and she cleaned_{tc} the fish (too / ? \emptyset)
- (16) a. Jo has lived in Philadelphia, and she has lived in San Diego (too / \emptyset)
 b. Jo sneezes because she has fever and because she’s nervous (too / \emptyset)

• Kaplan: the more central the syntactic function of the CT, the more *too* is obligatory.

• [?] Subject > Direct Object > ... > locative cpt > causal subordinate clause

- (17) a. *Max_{tc} was there yesterday, and Paul_{tc} was there yesterday.
 b. Max was there yesterday_{tc}, and he was there this morning_{tc}

1.1.2.3 Identity of senses vs. identity of references

- Sloppy vs. strict reading in ellipsis

- (18) Paul loves his wife, and so does Max.
 a. Sloppy: *Max loves his own wife*
 b. Strict: *Max loves Paul’s wife*

• *too* is (a lot more) obligatory when the identity of references is forced:

- (19) [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).

• When *too* is optional, there is a reading difference:

- (20) I bought a car so that I could stay out late, and I bought one so (that) I could get to school (too / \emptyset)
 (Kaplan, 1984, ex(10))

• More on identity of the comment

- (21) a. Paul est allé au MacDonald’s, et Léa a sifflé.
 b. #Paul est allé au MacDonald’s, et Léa a sifflé aussi.
Paul went to McDonald’s, and Léa whistled (too)
- (22) a. Paul est allé au MacDonald’s, et Léa a fait un mauvais repas.
 b. Paul est allé au MacDonald’s, et Léa a fait un mauvais repas aussi.
Paul went to McDonald’s, and Léa had a bad meal (too)
 (Pulman, 1997; Winterstein, 2010)
- (23) a. Paul aime sa femme et Max est amoureux.

- b. Paul aime sa femme et Max aussi est amoureux.
Paul loves his wife and Max (too) is in love
- (24) a. Paul est sorti pour voir et Max est sorti.
 b. Paul est sorti pour voir et Max est sorti aussi.
Paul is gone out to watch, and Max is gone out (too)

1.1.2.4 Role of the conjunction

• Kaplan: *too* is more obligatory when sentences are conjoined with *but* than when they are conjoined with *and*.

- (25) a. Jo hit a homer and Mo did too.
 b. Jo hit a homer $\overline{\text{AND}}$ Mo did \emptyset
 c. Jo hit a homer but Mo did too.
 d. *Jo hit a homer $\overline{\text{BUT}}$ Mo did \emptyset
- (26) a. *Jean a mangé de la soupe mais il a mangé du dessert.
Jean ate soup but he ate dessert
 b. *Jean a mangé de la soupe mais Max en a mangé.
Jean ate soup but Max ate some
 c. Jean a mangé de la soupe mais Léa a mangé du dessert.
Jean ate soup but Léa ate dessert
- (27) *Jo hit a homer but Mo did.
 (28) Jo hit a homer but Mo did too.
 (29) a. The administration wants to eliminate 50 faculty positions, but the faculty does too!
 b. #The administration wants to eliminate 50 faculty positions, but the state legislature does too!

• Further investigation needed

1.1.2.5 Taking stock

- Specific paradigm
- Obligatoriness \Leftrightarrow Resemblance
- Role of discourse structure

1.1.3 Corpus studies

1.1.3.1 When there is no contrastive topic

• “That is, *too* is obligatory when we need to emphasize what is important about the content of a two-clause text, when what is important is that the same thing is predicated about two contrasting items.”
 (Kaplan, 1984)

- (30) a. What did Mo and Jo have ?
 b. Mo had fish.
 c. Mo and Jo had fish.

- d. Mo had fish, and Jo had fish, too.
- (31) — I want to see Son-of-Thunder. Fetch him. So Good Care rose, fetched the newborn boy and held him out before his dying father. Swift Deer opened his eyes for the very last time, . . . (Sæbø, 2004, ex(7a))
- (32) — I want to see Son-of-Thunder. Fetch him. So Good Care rose, fetched the newborn boy and held him out before his dying father. Swift Deer opened his eyes for the very last time, and Son-of-Thunder had his eyes open #(too). (Sæbø, 2004, ex(7b))
- (33) So now you see what I meant about Lego blocks. They have more or less the same properties as those which Democritus ascribed to atoms. And that is what makes them so much fun to build with. They are first and foremost indivisible. Then they have different shapes and sizes. They are solid and impermeable. They also have ‘hooks’ and ‘barbs’ so that they can be connected to form every conceivable figure. These connections can later be broken so that new figures can be constructed from the same blocks. [...] We can form things out of clay #(too), but clay cannot be used over and over, because it can be broken up into smaller and smaller pieces. (Sæbø, 2004, ex(8))
- (34) 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. (i) To the north lay the yellow-brown desert, a low belt of green cactus-covered ridges and distant blue mountain ranges with sharp peaks. (ii) To the south (# \emptyset / too) he could see mountains.
- (35) When the gods arrive at Jotunheim, the giants prepare the wedding feast. But during the feast, the bride—Thor, that is—devours an entire ox and eight salmon. He also drinks three barrels of beer. This astonishes Thrym. But Loki averts the danger by explaining that Freyja has been looking forward to coming to Jotunheim so much that she has not eaten for a week. When Thrym lifts the bridal veil to kiss the bride, he is startled to find himself looking into Thor’s burning eyes. This time, too, Loki saves the situation, explaining that the bride has not slept for a week for longing for Jotunheim. (Sæbø, 2004, ex(9))

1.1.3.2 Is *too* removable?

A couple of examples from Zeevat

- A corpus study only alluded to in (Winterstein & Zeevat, 2012):

Method Collect literary samples with additive particles, remove the additive ;

Corpus Oslo Parallel Corpus (English-Norwegian section)

Results “Half obligatory, half optional”

- “The obligation to put in *too* in the positions where one finds it in a corpus of utterances can be tested by trying to leave it out. 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. The texts are literary in this corpus and only short pre-contexts were considered, though this never meant

that an antecedent could not be identified. The optional cases all can be described as cases where it is optional to see the host as dealing with a question that was already addressed before.” (Winterstein & Zeevat, 2012)

- (36) a. 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.
- b. To Yvette the story had no resonance except as a novelette, the kind of which she believed implicitly, despite her relative sophistication, and this *too* was a common position among women in the days that preceded enlightenment.

- Optional: cases where it is not obvious that there is a link between the host and the antecedent
- Salience plays a role

Unpublished study (Amsili, 2012)

Method

- collect all occurrences of additives ;
- remove the additive ;
- decide whether
 - there is no difference
 - it becomes agrammatical
 - it gives to new inferences

Corpus Novel from the French writer Jules Verne, *Cinq semaines en ballon*, published in 1863 (J. Hetzel et Compagnie), (259 p.). About 82 000 words.

Results Roughly, 2/3 obligatory, 1/3 optional

- Total number of occurrences of (some) additive particles:

<i>aussi</i> (10), <i>non plus</i> (1)	11
<i>également</i>	7
<i>de nouveau</i>	9
<i>ainsi que</i>	4
<i>de plus</i>	3
	34

- Classification of the 27 occurrences studied:

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

Optional

- (37) d’une année à l’autre, ces marais, couverts de roseaux et de papyrus de quinze pieds, devient le lac lui-même ; souvent aussi, les villes étalées sur ses bords sont à demi submergées, (...)

- (38) 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;

- distance between host and antecedent
- sloppy identity between host and antecedent
- discourse necessity: in (38), a discourse topic becomes salient “the preparation of the journey”

Obligatory

- Real feeling of ill-formedness
- (39) — Espérons que rien de semblable ne nous arrivera, dit le chasseur; jusqu'ici notre traversée ne me paraît pas dangereuse, et je ne vois pas de raison qui nous empêche d'arriver à notre but.
— Je n'en vois pas non plus, mon cher Dick;
- (40) 1g — 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 ;
- identity of the forms (same words)
 - Short distance
 - Dialogic/contrastive effects

Unwanted inferences

- (41) Le gouvernement anglais a mis un transport à ma disposition; il a été convenu également que trois ou quatre navires iraient croiser sur la côte occidentale vers l'époque présumée de mon arrivée.
- (42) Et il plongea rapidement, mais pas assez pour éviter le contact d'un corps énorme dont l'épiderme écailleux l'écorcha au passage; il se crut perdu, et se mit à nager avec une vitesse désespérée ; il revint à la surface de l'eau, respira et disparut de nouveau.
- (43) — (...) 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.

Annotation study 1

- 10 raters, 17 samples, 3 classes
- confidence score added
- poor inter-annotator agreement $\kappa = 0.22$

- Since the overall agreement is so low, we don't get reliable figures for the distribution of the 17 samples into our 3 classes;
- however, there are cases where the inter-annotator agreement is reasonably high: it concerns about half of the items, and 6 of them are labelled **optional**, while 3 are labelled **obligatory**.
- Our category **inferential** is clearly the most problematic one, and this is confirmed by the confidence scores: there is a significant difference between the means for this category and the means for the other two, strongly suggesting that the annotators were not at ease with this category.

Annotation study 2

- 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.

1.1.4 Behavioral studies

1.1.4.1 (Dimroth *et al.*, 2010)

- Experiment of L1/L2 acquisition
 - L1: children aged 4, 7 and 10 (French, German, Polish)
 - L2: adults L1 German/Polish, L2 French
 - Control: native speakers French (adults)
- Many research questions (incl. cross-language comparisons)
- Task: production of a narrative
 - 2 characters (Mr. Blue, Mr. Red)
 - series of 30 images, spontaneous narrative asked
 - at some point, a character performs an action that was performed earlier, by the same character, or by the other one.

Type	Antecedent (1) and subsequent (2) predication	Information configuration of in utterance (2)– comparison to (1)				Example utterances with corresponding information structure marking
		Polarity	Topic situation		Comment	
			Time	Entity		
I	1: Mr. Red going to bed 2: Mr. Blue going to bed	=	Shift	≠	=	1: Mr. Red goes to bed 2: Mr. Blue also goes to bed
II	1: Mr. Green not jumping 2: Mr. Blue jumping	≠	Shift	≠	=	1: Mr. Green doesn't jump 2: Mr. Blue on the other hand does jump
III	1: Mr. Red not jumping 2: Mr. Red jumping	≠	Shift	=	=	1: Mr. Red doesn't jump 2: Mr. Red eventually jumps

(Dimroth *et al.*, 2010)

- Results
 - Additive particles are learned early but what is long to master is their association properties (focus-sensitivity)
 - Frequent discourses produced without additives (where they're expected), but
 - The observation of the productions of the control group (adult native speakers) show remarkable tendencies:
 - * In a situation where a new character performs an action already performed by the other character (15 images earlier), 80% of the subjects use an additive marking.
 - * On the other hand, in a situation where one character leaves, then after one image, the other character leaves, the percentage of subjects marking the additivity is around 20-30% in the 3 languages.
Possible explanation: the sequence is appropriate for another relation, since the two characters leave in opposite directions ;
 - * In a situation where the same character is in the same situation (sleeping on a bench) at two stages separated by images showing a change of state, between 90% and 100% of the French or German subjects mark the repetition of the state (with particles, verbal prefixes...), whereas the percentage is lower for Polish speakers.

1.1.4.2 (Eckard & Fränkel, 2012)

- Experimental verification of (Amsili & Beyssade, 2010)'s claims
- Task : production of a narrative induced by a series of images
 - Four images for each story
 - Two characters (Otto & Fred), easily identifiable
 - The sequences may contain repetitions:
 - * the same character re-does the same action (with a visible interruption)
 - * a same action is realized in sequence by the two characters
 - * Three series of 10 : 10 "again (same action, same character), 10 "too" (same action, different character), 10 "filler(s)" .
 - **Two conditions:**
 1. Write a story, like in a children book
 2. Report, like a secret agent, the activity of persons under watch. In this case the form to be filled has lines which start with an hour.
 - Collection (*post hoc*) of a group of target words which have an additive value (*auch, ebenfalls, erneut, nochmals...*).

- Results

- Number of add-words :

Group	N	mean
story	25	10.96
watch	25	1

(Eckard & Fränkel, 2012)

⇒ Productivity of additive words very sensitive to discourse structure

Additive particles

- are obligatory in a well-formed discourse when an element has already been introduced.
- may be repeated

(44) Luc a fait une erreur qu'il ne refera plus.
Luc made a mistake he won't re-do any more

- form classes : new individual too, another NP, also...
new event too, again, still
- have a gradient of obligatoriness, depending on distance and formal identity
- may be less necessary in some types of discourse
- induce inferences with regards to identity/difference

1.2 Other presupposition triggers

- Most of the work on obligatoriness is concerned only with additives.
- (Amsili & Beyssade, 2010) have shown that a much larger class of particles are concerned:

⇒ All presupposition triggers with no asserted content

1.2.1 Additive, iterative and continuative triggers

- (45) a. *Context: John, a teacher with a very bad hand writing, has just written an exercise on the blackboard. When he is finished he reads it aloud to make sure everyone can copy it down properly. A student may not hear it all very well and ask:*
b. *Can you read that word?
c. Can you read that word again ? (Chemla, 2008)
- (46) Jean est malade, Marie est malade (# \emptyset / aussi)
John is sick, Mary is sick (\emptyset / too)
- (47) Il était là hier, il est (# \emptyset / encore) là.
He was there yesterday, he is (\emptyset / still) there
- (48) Paul est parti en Turquie l'an dernier, il ira (# \emptyset / de nouveau) cette année.
Paul went to Turkey last year, he will go (\emptyset / again) this year
- (49) Jean est allé il y a deux ans au Canada. Il n'ira (# pas / plus) là-bas.
John went to Canada two years ago. He won't go there (\emptyset / anymore)
- (50) Léa a fait une bêtise. Elle ne la (# \emptyset / re-) fera pas.
Lea did a silly thing. She won't (\emptyset / re-) do it.

1.2.2 Factive verbs

1.2.2.1 Factive verbs that subcategorize propositions and questions

- (51) a. Paul knows that the earth is flat.

b. Paul knows whether the earth is flat.

- In French: *savoir* (to know) *ignorer* (not to know/be unaware), *vérifier* (check), *comprendre* (understand)
- ... but not : *découvrir* (discover), *réaliser* (realize)

⇒ possibly a different list in English

- (52) [Léa est partie en Afrique.] Jean ne le dit à personne, bien qu'il sache (# si / que) elle est partie là-bas.
[Lea's gone to Africa.] John tells no one, even though he knows (whether / that) she's gone there
- (53) Jean est revenu de vacances. Mais comme il n'a téléphoné à personne, au bureau, tout le monde ignore (? si / que) il est chez lui.
John has come back from vacation. But since he called no one, at his office everybody 'ignores' (whether / that) he is at home.
- (54) Il y a eu une fuite d'eau, mais quelqu'un l'a réparée. Jean a appelé le plombier pour qu'il vérifie (? si / que) la fuite est réparée.
There was a leakage, but somebody fixed it. Jean called the plumber so that he checks (whether / that) leak is fixed

1.2.2.2 Factive verbs that altern with a non presuppositional version

- (55) a. Context: Mary has been cheating on John for years...
b. *...and he believes it.
c. ... and he knows it. (Chemla, 2008, ex(10))

1.2.3 Cleft and prosody

- (56) a. Someone fixed the dinner. It is John who did it.
b. Someone fixed the dinner. JOHN did it.
- (57) #Someone fixed the dinner. John did it.
- (58) a. Quelqu'un a préparé le dîner. Ce n'est pas Jean qui l'a fait/# Jean ne l'a pas fait.
Someone fixed the dinner. It is not Jean who did it / Jean did not do it
- (59) a. Quelqu'un a préparé le dîner. (C'est Jean qui / JEAN / # Jean) l'a fait.
Someone fixed the dinner. (It is Jean who / JEAN / Jean) did it.
b. Paul n'a pas préparé le dîner. (C'est Jean qui / JEAN / # Jean) l'a fait.
Paul hasn't fixed the dinner. (It is Jean who / JEAN / Jean) did it

1.2.4 All presupposition triggers ?

- (60) a. Bob regrets that it is raining
b. It is raining
c. Bob doesn't like it when it rains
d. It is raining. Bob doesn't like it when it rains.

- e. It is raining. Bob regrets that it's raining.
- (61) a. Only Max owns a red car
b. Max owns a red car
c. No one else (than Max) owns a red car
d. Max owns a red car, and no one else does
e. Max owns a red car, and only Max does.

1.2.5 Class of triggers

	presupposition	assertion
too [$S(f)$]	$\approx \exists f' f' \neq f \ \& \ S(f')$	+ $S(f)$
cleft [$S(f)$]	$\approx \exists f S(f)$	+ $S(f)$
again [$\exists e S(e)$]	$\approx \exists e' e' < e \ \& \ S(e')$	+ $\exists e S(e)$
anymore [neg $S(e)$]	$\approx \exists e' e' < e \ \& \ S(e')$	+ neg $S(e)$
that [s knows whether P]	$\approx P$	+ s knows whether P

⇒ Presupposition triggers with no asserted content

1.3 An even wider class?

1.3.1 Discourse particles

- Zeevat (2003) makes a list of what he call “discourse particles”:

Again
Indeed (\approx Dutch *immers*)
Instead
Doch / Toch (German/Dutch)
Too

- ... they are not optional [*optional* being taken] in the sense that if one finds them in a body of natural text or dialogue they can just as well be omitted. (Zeevat, 2003)

- (62) A: Bill will come tonight.
B: John will come *(too)
- (63) A: Bill is ill.
B: He is *(indeed). (Zeevat, 2003)

- “Corpus studies by Tim Kliphuis and myself suggest that omitting them [discourse particles] nearly always lead to awkwardness, or to difference in implicature.” (Zeevat, 2003)

1.3.2 Tense and temporal adjuncts

- (64) a. A: Where's John ?
 b. B: He was at home an hour ago.
 c. C: He's in his office *#(now)*. (Keshet, 2008)

- *now* as a presupposition trigger ?

- (65) a. Mary is here.
 b. Mary is here now.
 c. There was/will be a relevant time where Mary wasn't/won't be here.
- (66) a. Mary is not here.
 b. Mary is not here now.
 c. There was/will be a relevant time where Mary was/will be here.
- (67) a. Mary has been asked to leave.
 b. Mary has been asked to leave now.
 c. $\not\exists$ There was/will be a relevant time where Mary left/will leave.

- The utterance (65-b) contains an element which is redundant: it's contribution is already brought by (65-a).
- The version (65-a) is shorter, and as informative. Choosing the longer version is a violation of the manner maxim.
- Tense is obligatory, whereas the temporal adverbial is syntactically optional.
- The adjunction of the adverbial is thus motivated by a reason the addressee has to find.
- On possible reason: the localisation time of the eventuality is relevant; it is because the eventuality must not hold at other relevant times.

- (68) a. *#*The fugitive is in jail.
 b. *#*That bachelor is married.
 c. *#*The employees are unemployed. (Keshet, 2008, ex(45))

- (69) Some members of congress knew each other in college. In fact, ...
 a. ... three U.S. Senators were attending Harvard together in 1964.
 b. *#*... there were three U.S. Senators attending Harvard together in 1964.
 (Keshet, 2008, ex(9)), adapted from Musan

- Some kind of temporal adjunct is "obligatory":

- (70) a. The fugitive is back in jail.
 b. That bachelor is now married.
 c. The employees are currently unemployed. (Keshet, 2008, ex(47))

- (71) a. Every tuesday, I fasted.
 b. Every tuesday, I fast. (Sauerland, 2006, ex(42))

- Present tense = semantically vacuous \rightarrow non-pastness implicated presupposition: (71-b) talks about present and non present tuedays, (71-a) talks only about past tuedays

- (72) Context: The 26th is the last Tuesday of the month. The utterance time is, say, the 27th:
 a. *#*Every Tuesday this month, I fast.
 b. Every Tuesday this month, I fasted. (Singh, 2011, ex(5))

1.3.3 Pronouns vs. definite NP/proper names

- Once an entity has been introduced, it's compulsory to refer to it by *the most economical means*

- (73) a. *Jean est entré, et peu après Jean est sorti.
 b. Jean est entré, et peu après il est sorti.
Jean came in, and soon after Jean/he went out
- (74) a. *#*Jean a fait une erreur que Jean n'avait jamais faite.
 b. Jean_i a fait une erreur qu'il_i n'avait jamais faite.
Jean made a mistake that Jean/he never made.
- (75) a. *#*Léa introduced a guest to John, and he didn't behave properly.
 b. Léa introduced a guest to Marie, and he didn't behave properly.
 c. Léa introduced a lady to John, but he didn't behave properly.
- (76) a. Léa a présenté un invité à Jean, et Jean ne s'est pas bien comporté.
 b. Léa a présenté un invité à Jean, et ce dernier ne s'est pas bien comporté.
Léa introduced a guest to John, and John/the latter didn't behave properly.
- (77) a. Jean a présenté un invité à Max, et il s'est mal comporté.
 b. ? Jean a présenté un invité à Max, et Jean s'est mal comporté.
Jean introduced a guest to Max, and he/Jean didn't behave properly

- \Rightarrow The pronoun is obligatory when its conditions of optimal resolution are met,
 \Rightarrow a proper name (or a definite description) is obligatory otherwise

- First part : to avoid an unwanted inferential effect (78);
- Second part: to avoid an ambiguity (79)

- (78) Sam came in and Sam went out.
 \therefore There are two Sams
- (79) Jo_i introduced Mo_j to Max_k, and he_{i/j/k} smiled.

1.3.4 Indefinite NPs and novelty condition

- Novelty condition (Heim, 1982, p. 369ss)

- (80) a. Richard heard the Beaux-Arts Trio last night and afterwards had a beer with the pianist.
 b. Richard heard the Beaux-Arts Trio last night and afterwards had a beer with a pianist. (Heim, 1991)

- In situations of utterance where it is known that the presupposition of [the α] β is fulfilled, it is forbidden to utter [a α] β . Heim (1991); Grønn & Sæbø (2012)

1.3.5 Identity and difference

- (81) [Ordering a second coffee from the same waitress:]
 a. #I'd like a coffee.
 b. I'd like another coffee. (Ippolito, 2004)
- (82) a. #A man ordered a coffee. A man paid the check.
 b. A man ordered a coffee. Another man paid the check. (Ippolito, 2004)
- (83) a. A man ordered a coffee. He paid the check.
 b. A man ordered a coffee. The (same) man paid the check.
- (84) a. Two days ago John was cooking. #He is cooking.
 b. Two days ago John was cooking. He is cooking again. different
 c. Two days ago John was cooking. He is still cooking. identical

- Competition is not (only) between *a N* and *the N*, a third competitor has to be taken into account : *another N*

- How many competitors?

- (85) a. Un homme est entré, un homme est sorti.
 b. Un homme est entré, l'homme est sorti.
 c. Un homme est entré, un autre homme est sorti.
 d. Un homme est entré, il est sorti.
A man came in, a man/the man/another man/he went out
- (86) a. Léa a présenté un invité à Paul, et un invité est tombé dans la piscine.
 b. Léa a présenté un invité à Paul, et l'invité est tombé dans la piscine.
 c. Léa a présenté un invité à Paul, et un autre invité est tombé dans la piscine.
 d. Léa a présenté [un invité]_i à [Paul]_j, et il_{i/j} est tombé dans la piscine.
Léa introduced a guest to Paul, and a guest/the guest/another guest/he fell into the pool

- Three different situations have to be distinguished (Grønn & Sæbø, 2012, p. 87):

Let's suppose that a discourse referent *y* has been introduced by a similar (or more specific) description as the one that introduces *x*:

- (87) A tall man (= *y*) ordered a coffee. (A/The/Another) man (= *x*) drank it.

1. the context leaves open whether $x = y$ or $x \neq y$

- Competition: *the*
another
 \hat{a}

- (88) #A tall man ordered a coffee. A man paid the check.

2. the context makes it (relatively) clear that $x = y$

- Competition: *the*
~~*another*~~
a dispreferred

- (89) a. ? Richard heard the Beaux-Arts Trio with its new cellist and its new violinist last night and afterwards had a beer with a cellist. (Grønn & Sæbø, 2012, ex.(5))
 b. The First Lady addressed the group of girls and asked one of them to sing a song. #A girl refused. (Grønn & Sæbø, 2012, ex.(19))

3. the context makes it (relatively) clear that $x \neq y$

⇒ Novelty condition (see also (80))

- (90) a. A Roxbury man has admitted to a rape that wrongfully sent a man to prison 15 years ago. (Grønn & Sæbø, 2012, ex.(24))

- “(...) the narrative effects that arise when speakers refuse to use (non)identity marking for events (still, again, once more...) (non)identity marking for individuals (another, a second, the, this...) marking of shared properties (*too, as well*, stressed *also*)

are surprisingly similar. For all these markers, there are proposals in the literature that their use is driven by the Maximize Presupposition principle. Hence, the circumstances which allow to give up MP should likewise be similar in all cases.” (Eckard & Fränkel, 2012)

Summary

- Linguistic elements that establish **identity or difference** with previously introduced material¹ are **obligatory** when their conditions of use are met.
- The degree of pressure (obligatoriness)
 - varies along with the degree of perceived identity between the two elements
 - is sensitive to discourse structure
- Violations of the obligation leads most often to awkwardness, because of unwanted implicatures

¹... and serve only this purpose.

2.1 Contrast

2.1.1 Emphasis on similarity

- Hypothesized discourse function of *too*: To emphasize the similarity between contrasting constituents. (Kaplan, 1984)
- “I suggest that the obligatoriness of *too*, in a construction of the form *S1 and S2 too*, stems from *too*’s discourse function, which is to emphasize the similarity between members of a pair of contrasting items. The variability of *too*’s obligatoriness is a function of the degree of prominence given to the pair of contrasting constituents, concerning which predication is made by *too*. The greater the prominence, the greater the need for *too* to state the unity between the contrasting elements.” (Kaplan, 1984, p.516)

2.1.2 Distinctiveness constraint

- (1) Peter invited Pia for dinner, tòò (Krifka, 1999)
- Two elements for Krifka (1999)’s proposal:
 1. the distinction between two types of accent, the focus accent, and the contrastive topic accent (following Büring (1998)’s work and the classical distinction from Jackendoff (1972) between A and B accents in English)
 2. the existence of an implicature, derived from a distinctiveness constraint
- (2) a. A: What did Peter eat?
 b. B: Peter ate pàsta
 c. B’: * Pèter ate pasta
- (3) a. A: What did Peter and Pia eat?
 b. B: * Peter ate pàsta
 c. B’: Pèter ate pasta

Büring (1998) has shown that answers in which there is a topic accent are answers which leave open a number of questions. So for instance, in (3), the question of what Pia ate is left open. According to Büring (1998), such uses of the topic accent are subject to a constraint called condition of disputability. Krifka claims that another constraint comes with contrastive answers, what he calls the distinctiveness constraint, which is defined as follows:

- (4) If $[\dots T \dots C \dots]$ is a contrastive answer to a question, then there is no alternative T' of T such that the speaker is willing to assert $[\dots T' \dots C \dots]$.

A sketch of the reasoning

- There are 2 (contrastive) topics in the context.

- (5) What did Peter and Pia eat ?

- The utterance of a simple sentence with a CT accent on the subject triggers a distinctiveness constraint:

- (6) a. — Pèter ate pàsta
 b. \therefore there is no $T' \neq \text{Peter}$ such that T' ate pasta.

- the utterance of a 2nd simple sentence with a CT accent is in contradiction with the previous implicature

- (7) a. ... and Pia ate pàsta
 b. \therefore there is a $T' \neq \text{Peter}$ such that T' ate pasta.

- The stressed additive particule acknowledges the violation of the constraint : “the semantics of *too* is such that it allows the violation of distinctiveness by explicitly stating a discourse relation” (Krifka, 1999)

- (8) Pèter ate pàsta , and Pia ate pasta, tòò

2.2 Maximize Presupposition

2.2.1 Antipresupposition

- Maximize presupposition! Heim (1991)
- Implicated Presuppositions Sauerland (2006)
- Antipresupposition Percus (2006)

2.2.1.1 Excursus: Quantity Implicatures

- (9) a. John ate some cookies.
 b. \therefore John didn’t eat all the cookies.

- There is a lexical element belonging to a Horn-scale:

stronger alternatives
 { some, $\overbrace{\text{most, all}}$ }

- Sentences formed with stronger alternatives would be more informative:

- (10) a. John ate all the cookies.
 b. John ate most cookies.
 c. \rightarrow John ate some of the cookies

- A more informative sentence is relevant.

- The choice of a less informative sentence by the speaker leads to the conclusion that the speaker is reluctant to use a stronger sentence.

- [Epistemic step] the speaker is well-informed : if he is reluctant to use a sentence, that might be because it's not true.
- Implicature: (on the addressee's part):

(11) John didn't eat most cookies.

2.2.2 Heim's motto

- (12) a. #A wife of John's is intelligent
 b. The wife of John's is intelligent
 c. #A father of the victim arrived at the scene
 d. The father of the victim arrived at the scene (Heim, 1991; Sauerland, 2003)

(13) "Scalar alternatives"

- a. ⟨ some, all ⟩ assertion
 b. ⟨ a, the ⟩ presupposition (Hawkins, 1978)

- Maximize Presupposition!
make your contribution presuppose as much as possible

2.2.3 Presupposition and alternatives

- Abusch's proposal: derive presupposition from alternatives (Abusch, 2010)

- (14) a. {stop, continue}
 b. {win, lose}
 c. {be right, be wrong}
 d. {know, be unaware}
- (15) a. x knows p
 b. x knows p , x is unaware of p
- (16) $(p$ and x believes p) or $(p$ and x doesn't believe p) = p
- (17) a. Jan stopped smoking at three.
 b. Jan stopped smoking at three or he continued smoking at three. \leftrightarrow Jan was smoking until three.
- (18) a. Jan won.
 b. Jan won or Jan lost. \leftrightarrow Jan participated.

- Sauerland's proposal: an implicated presupposition is derived exactly like a (scalar) implicature, but in the presuppositional domain.

- Implicated Presuppositions :

– non factivity of *believe*

(19) John believes that 313 is prime.

– non singularity of the plural

- (20) Tom's children must be well-behaved.
 (21) All parents are requested to check that their children have put their life jacket.

– non uniqueness and non duality of universal quantifier

- (22) a. #Every nose of Kai's is runny.
 b. #Every cheek of Lina's is rosy.

- (23) a. The nose of Kai's is runny.
 b. Both cheeks of Lina's are rosy. (Sauerland, 2006, ex(36))

– non imperative presupposition of French subjunctive

- (24) a. #Que tu sois prudent!
That you be-SUBJ cautious
 b. Sois prudent!
Be-IMP cautious

- (25) Que votre Altesse soit prudente!
That your Highness be-Msubj cautious!

– Tense and other features (person, number, gender)

2.2.4 Percus' notion of antipresupposition

- (26) Mary knows that Jane is pregnant.
 presupposes that Jane is pregnant
- (27) John is repairing the chair in Mary's living room.
 presupposes that Mary has exactly one chair in her living room
- (28) John assigned the same exercise to both of Mary's students.
 presupposes that Mary has exactly two students
- (29) Mary believes that Jane is pregnant.
 antipresupposes that Jane is pregnant
- (30) John is repairing a chair in Mary's living room.
 antipresupposes that Mary has exactly one chair in her living room
- (31) John assigned the same exercise to all of Mary's students.
 antipresupposes that Mary has exactly two students

- Is *believe* a presupposition trigger?

\Rightarrow No: what is actually predicted is much weaker

- (32) General structure of the mechanism
 a. Situation: A speaker utters a sentence S_1 . S_1 has an alternative sentence S_2 , constructed via one of the lexical scales given above so that: (i) the presupposition p_2 of S_2 is stronger than the presupposition p_1 of S_1 , (ii) their assertions are equivalent.

- b. Predicted inference: S_2 is infelicitous, i.e. the constraints on its presupposition p_2 are not met. (Chemla, 2008)

• Informally:

- S believes that p is not in the common ground
- if S thought that p is true, s/he would want to have it added to the CG (via accommodation)
- To add a proposition to the CG, one has to “convince” the addressee, i.e. to have “competence” and “authority”.

- (33) a. — I was happier before I stopped smoking.
 — So you used to smoke?
 b. — I was happier when the earth was flat.
 — Wait a minute !

(34) Prediction of the Maximize Presupposition principle:

Situation: a speaker s utters a sentence S_1 . S_2 is an alternative sentence to S_1 ;
 S_2 asserts what S_1 asserts, but additionally presupposes p .

Predicted inference: $\neg B_S[p] \vee \neg B_s[\text{Auth}_s[p]]$

(Chemla, 2008, (24))

- (35) Competence Assumption:
 The speaker s is opinionated about p .
 Technically: $B_S[p] \vee B_S[\neg p]$.
- (36) Authority Assumption:
 The speaker S believes in her authority about p .
 Technically: $B_S[\text{Auth}_s[p]]$.

2.2.5 A proposal

2.2.6 Hypothesis

- Extention of antipresupposition domain to new scales:

- (37) a. ⟨a, the⟩, ⟨each, the⟩, ⟨all, both⟩ (Percus, 2006)
 b. ⟨believe, know⟩, ⟨too, \emptyset ⟩, ⟨again, \emptyset ⟩, ⟨whether, that⟩ ...

2.2.7 Implementation

- (38) a. John is sick, Mary is sick too
 b. Mary is sick too \rightarrow Mary is sick
 c. $(A \wedge P) \rightarrow A$
 d. $A \rightsquigarrow \neg(A \wedge P)$
 e. $\neg P =$ No one else than Mary (in the appropriate context) is sick

- Sketch of the reasoning:

(39) John is sick, Mary is sick (too).

John is sick	\emptyset	,	Mary is sick	\emptyset	\rightarrow antipresupposition \rightarrow rejected
<i>not available</i>	too		<i>available</i>	too	\rightarrow expected form
<i>not available</i>	again		<i>not available</i>	again	
	⋮			⋮	

2.2.8 Discussion

- (40) Jean est malade, Marie est malade, Paul est malade, tout le monde est malade alors !
John is sick, Marie is sick, Paul is sick, everybody is sick then!
- (41) Il était là hier, il est là aujourd’hui
He was there yesterday, he is there today
- (42) a. #Il est là aujourd’hui, il était là hier.
 b. Il est là aujourd’hui, il était déjà là hier.

2.3 Discourse Management

- Maximise cohesion

- Available cohesive devices have to be used...
- ... to avoid unwanted quantity inferences
- cohesion can be marked by pointing identity or differences
- or by providing *meta-information about text production*

(Eckard & Fränkel, 2012)

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