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## Chapter 15

### **Conversational implicatures: nonce or generalized?<sup>1</sup>**

**Anne Reboul**

#### **1. Introduction**

Ever since its beginning, pragmatics has been plagued with a dissension as to its status: is it or is it not a part of linguistics on a par with phonology, syntax and semantics? The debate, as debates tend to do, has been going back and forth, with this or that side taking a momentary advantage until the pendulum swings back to the other side again. It is dubious whether the question can be answered in general, if only because some pragmatic phenomena may be more dependent than others on linguistic conventions. Thus it seems reasonable to look at the problem from the vantage point of a specific pragmatic phenomenon. This is what I intend to do in this chapter by concentrating on *conversational implicatures*.

Conversational implicatures, first described by Grice (1989), can be best described from examples:

- (1) Anne has four children.
- (2) Anne has exactly/at most four children.
- (3) Anne has at least four children.
- (4) Anne has four children and even five.

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<sup>1</sup> I want to thank Ira Noveck for invaluable help in devising the experiments and his rereading of the paper. I also want to thank Dan Sperber for rereading the paper. All remaining mistakes are of course my own.

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

It is generally considered that such utterances as (1) license (2) rather than (3). This is intriguing in as much as (1) is logically compatible with (3): if it is true that Anne has more than four children, it is *a fortiori* true that she has four children. Thus the inference from (1) to (2) is not logical, which is why it was called by Grice a *conversational implicature*. Grice noted that conversational implicatures are *defeasible* (they can be cancelled), as shown by the fact that utterances such as (4) are not contradictory. These, then, are the facts on which everyone seems to agree: conversational implicatures are a pragmatic phenomenon; they are not logically licensed; they are defeasible. This is also the point beyond which agreement stops and controversy starts.

The present debate over conversational implicatures concerns whether they are due to *nonce* (once-off) inferences or are *default* inferences, triggered by lexical items or sequences of them. If the first, they can only be accessed at the end of the utterance, i.e. at a *global* (sentential) level. If the second, they are accessed as soon as their trigger is met in the course of the utterance, i.e. at a *local* (subsential) level. In what follows, I will call advocates of conversational implicatures as nonce-inferences *globalists* (and their theories *global theories*) and advocates of conversational implicatures as default-inferences *localists* (and their theories *local theories*). Though I will refrain to go into theoretical details, let me just say that Sperber and Wilson's Relevance Theory (see Sperber & Wilson 1986/1995) is a good example of global theories, while Levinson's theory of Generalized Conversational Implicatures (see Levinson 2000) is a good example of local theories.

Regarding the relevance of the localist/globalist views of conversational implicatures to the status of pragmatics (integrated to or independent from linguistics), it

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

should be clear that localists are partisans of integration while globalists are partisans of independence.

Both localists and globalists have tried to defend their respective theories on the general grounds of economy. Localists claim that default inferences are less costly than nonce inference in as much as they do not have to be made anew on every new instance. However, it might be argued that, be that as it may, default inferences can, in some cases, lead to costly interpretive dead-ends (see Bezuidenhout 2002 for such an argument). Thus, it seems that no simple economical argument is going to decide between localists and globalists. However, the remarks on interpretive dead-ends suggest that such cases would make a good testing ground for a choice between local and global theories because these theories would make very different predictions in such cases.

## **2. Comparatives as a test case**

Some sentences semantically impose strong constraints on their components or on their components interpretation. This is the case of comparative sentences, which only make sense if the things being compared are different. No one would say: *George W. Bush is as/more/less intelligent than George W. Bush*. By contrast, it makes perfect sense to say: *George W. Bush is as/more/less intelligent than Bill Clinton*. This constraint seems to apply in the two following sentences: *Better red wine than no white wine*; *Better no red wine than no white wine*. I will take it in what follows that the speaker of each of these sentences is expressing his general preference for either red or white wine. I will also take it that there are three relevant situations to be considered:

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

one in which there is *only* red wine; one in which there is *only* white wine; one in which there is *both* red and white wine. Let us begin with the semantic analysis: the expressions *red wine*, *no white wine* and *no red wine* are interpreted relative to the three situations just described. Interpretations of the two negative expressions are pretty straightforward: *no white wine* can only designate the situation in which there is only red wine; and *no red wine* can only designate the situation in which there is only white wine. The only problematic interpretation is that of *red wine* which may designate either the situation in which only red wine is available or the situation in which both red and white wines are available. This is where the general constraint on comparative sentences comes into play, eliminating the interpretation according to which *red wine* designates the situation in which there is only red wine. If it were licensed, the interpretation of sentence *Better red wine than no white wine* would come out as *A situation in which only red wine is available is better than a situation in which only red wine is available*, which is nonsensical.

So let me sum up on the interpretation of these two sentences. On the present analysis, sentence *Better red wine than white wine* is to be interpreted as *A situation in which there is both red wine and white wine is better than a situation in which there is only red wine*, which seems to indicate a general preference for white wine, given that a situation in which there is only red wine is worse than a situation in which white wine is also available. The sentence *Better no red wine than no white wine* is to be interpreted as *A situation in which there is only white wine is better than a situation in which there is only red wine*, again indicating a general preference for white wine. These, then, are the interpretations of the two comparative sentences. It should be noted that, given the straightforward interpretation of the expressions in sentence *Better no red wine than no*

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

*white wine*, it can be predicted that it should be, on the whole, less costly to interpret than *Better red wine than no white wine*, given the "ambiguity" of the expression *red wine*.

So far so good, but let us come back to localist and globalist views. Globalists should not demur at the purely semantic account given above in any relevant way. In particular, global theories would not consider that conversational implicatures are accessed from sentence *Better red wine than no white wine*. By contrast, localists would predict a conversational implicature, to the effect that *red wine* should be interpreted as *only red wine*, i.e. as designating the situation in which only red wine is available. This would lead to the nonsensical interpretation *A situation in which only red wine is available is better than a situation in which only red wine is available*. What this means is that localists should predict that such a sentence would be interpreted as leading on a first interpretation (involving the dubious conversational implicature) to an interpretive dead-end. Even if, by restoring the regular semantic process described above, the correct interpretation were generated, this means that the localist accounts and the globalist accounts differ on how costly it would be to interpret such a sentence: though both predict it to be more costly than the other comparative sentence, localists see it as a lot more costly. Whether this difference in prediction would be enough to allow a test of both theories is not however entirely clear and I think that a closer look at how the conversational implicature is triggered on local theories might help there.

On local theories, the problematic conversational implicature is triggered through the *Q-principle*, derived by Levinson (2000) from Gricean maxims (see Grice 1989). The *Q-principle*, in an abbreviated form, can be stated as follows (Levinson 2000, 76):

***Q-principle:***

***Speaker's maxim:*** Do not provide a statement that is informationally weaker than your knowledge of the world allows (...). Specifically, select the informationally strongest paradigmatic alternate that is consistent with the facts.

***Recipient's corollary:*** Take it that the speaker made the strongest statement consistent with what he knows.

There are two ways to trigger a Q-implicature, both of them lexical: by choosing an expression from a *Horn scale* or by choosing an expression from a *contrast set*. The triggering of the conversational implicature in sentence *Better red wine than no white wine* falls under the second possibility.

Let us look at the following examples:

(5) The flag is white.

(6) The flag is not white and red.

(5) gives rise to the conversational implicature in (6) through the Q-principle because if the flag had been white and red, the speaker would have said it was. Given the Q-principle and the fact that he did not, the hearer is entitled to conclude that the flag is not white and red. *White* and *red* belong to the contrast set of colors.

Regarding the sentence *Better red wine than no white wine*, it seems legitimate to consider that *white wine* and *red wine* are part of the same contrast set. If this is the case, on a localist account, the sentence *Better red wine than no white wine* should indeed trigger the Q-implicature, given that the speaker could have said — and did not — *Better red and white wine than no white wine*. Thus the conversational implicature leading to an interpretive dead-end is triggered lexically through a contrast set.

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

This suggests that a test between localist and globalist theories should compare the interpretation of sentences such as *Better red wine than white wine* with the interpretation of sentences where the lexical expressions in the contrast set concerned are replaced by non-words. Such sentences with non-words should not lead to the triggering of conversational implicatures, which would avoid the interpretive dead-end. Hence they should be much easier to interpret than sentences with words from contrast sets.

### 3. Experiment 1

The first experiment was intended to test whether the sentences *Better red wine than no white wine* and *Better no red wine than no white wine* are indeed understandable and that their interpretations are those given above. On the global approach, though sentence *Better red wine than no white wine* may be harder to interpret than sentence *Better no red wine than no white wine* (because *red wine* is “ambiguous” while *no red wine* is not), it should be successfully interpreted as indicating a preference for white wine. Hence, though globalists predict that the percentage of correct response for sentence *Better red wine than no white wine* should be lower than it is for sentence *Better no red wine than no white wine*, it should never the less be much better than chance. Regarding the local approach, predictions are more tentative: again it should predict that the sentence *Better red wine than no white wine* will be more difficult to interpret than *Better no red wine than no white wine* though for partly different reasons than do localists. Globalists predict that the implicature from *red wine* to *only red wine* (or *red wine and no white wine*), being automatic, will be made and then found to yield



(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

an incorrect interpretation at which point it should be abandoned and the semantic interpretation should come into play yielding the correct interpretation. This is a more costly process than is the process predicted by globalists and hence, one might expect the percentage of correct answers for the interpretation of sentence *Better red wine than no white wine* to be not only lower than that for *Better no red wine than no white wine*, but, indeed, to be barely above chance.

### 3.1 Method

*Subjects.* 328 first and second year students in psychology at the University Lumière-Lyon 2 participated<sup>2</sup>. There was a large majority of girls (90%) and, with a few exceptions, subjects were in their late teens and early twenties (oldest: 63; youngest: 19). Their mean age was 23.6.

*Materials.* There were two conditions, the first one corresponding to the putative contrast set <*white wine, red wine*> and the second one corresponding to the putative contrast set <*coffee, tea*>. Each condition included four sentences inserted in an appropriate simple scenario:

***The wine condition:***

A man arrives very late at a party. There isn't much left to drink. Someone brings him a glass of wine. The man says:

*Better red wine than no white wine.*

*Better no red wine than white wine.*

*Better no red wine than no white wine.*

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<sup>2</sup> I want to thank O. Koenig for allowing me to test his students.

*Better red wine than white wine.*

***The hot drink condition:***

A man arrives very late at a condominium meeting. Everyone is having a hot drink but there isn't much left to drink. Someone brings him a mug. The man says:

*Better coffe than no tea.*

*Better no coffee than tea.*

*Better no coffee than no tea.*

*Better coffee than tea.*

The last sentence in each condition is a control sentence, a straightforward comparative. The second sentence in each condition is included for the sake of symmetry. It should raise the same difficulty as the first sentence and for the same reason: they both include an expression (respectively, *white wine* and *tea*) which can be interpreted as referring to either of two situations. Their interpretation, by parity of reasoning with that of the first sentences, are, respectively, *A situation in which there is only white wine is better than a situation in which there is both red and white wine* and *A situation in which there is only tea is better than a situation in which there is both tea and coffee*. It is however rather harder to pinpoint the general preference expressed by the speaker.

To avoid repetition effects, each subject was tested on a single sentence in a single condition with no preliminary training. Three questions were asked:

Q<sub>1</sub>: What was he given to drink?

Q<sub>2</sub>: What does he prefer?

Q<sub>3</sub>: Justify your answers.

Answers to questions Q<sub>1</sub> and Q<sub>2</sub> were given through forced choice, subjects being offered three answers: *red wine/coffee*, *white wine/tea*, *don't know*. Question Q<sub>1</sub> was mainly a distracting question to avoid people guessing that Q<sub>2</sub> was the central one. Q<sub>3</sub> was intended to get some idea of the kind of heuristics that people use in answering Q<sub>2</sub>.

### 3.2 Results and Discussion of Experiment 1

Predictions regarding answers to the question *What was he given to drink?* were made on an intuitive basis. Regarding answers to the question *What does he prefer?* predictions were based on the preceding analyses. These predictions are indicated in Table 1 below and the results are indicated in Table 2 below:

**Table 1. Predicted answers for Experiment 1.**

<u>Utterances</u>	<u>What was he given to drink?</u>	<u>What does he prefer to drink?</u>
<i>Better red wine than no white wine</i>	Red wine	White wine
<i>Better no red wine than white wine</i>	White wine	?
<i>Better no red wine</i>	White wine	White wine

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

*than no white wine*

*Better red wine than*                      Red wine                                      Red wine

*white wine*

*Better coffee than no*                      Coffee    Tea

*tea*

*Better no coffee than*                      Tea    tea

*no tea*

*Better no coffee than*                      Tea    ?

*tea*

*Better coffee than tea*                      Coffee    tea

**Table 2: Results from Experiment 1 (figures marked in bold are the correct answers; DK= “Don’t Know”).**

<u>Utterances</u>	<u>What was he given to drink?</u>			<u>What does he prefer to drink?</u>		
	<u>Red</u>	<u>White</u>	<u>DK</u>	<u>Red</u>	<u>White</u>	<u>DK</u>
<i>Better red wine than no white wine</i>	<b>75</b>	7	18	12	<b>60</b>	28
<i>Better no red wine than white wine</i>	13	<b>59</b>	28	46	33	21

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

<i>Better no red wine</i>	19	<b>62</b>	19	5	<b>83</b>	12
<i>than no white wine</i>						
<i>Better red wine</i>	<b>79</b>	5	16	<b>74</b>	8	18
<i>than white wine</i>						
	<b><u>Coffee</u></b>	<b><u>Tea</u></b>	<b><u>DK</u></b>	<b><u>Coffee</u></b>	<b><u>Tea</u></b>	<b><u>DK</u></b>
<i>Better coffee than</i>	<b>88</b>	2	10	7	<b>77</b>	16
<i>no tea</i>						
<i>Better no coffee</i>	7	<b>73</b>	20	78	15	7
<i>than tea</i>						
<i>Better no coffee</i>	14	<b>60</b>	26	8	<b>90</b>	2
<i>than no tea</i>						
<i>Better coffee than</i>	<b>70</b>	14	16	<b>81</b>	5	14
<i>tea</i>						

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The most important results are those on the right of the table. As can be seen, answers to the question *What does he prefer to drink?* agree with the above hypotheses concerning the interpretation of the utterances. It also highlights the fact that the utterances *Better no red white than no white wine* and *Better no coffee than no tea* are easier to interpret than *Better red wine than no white wine* and *Better coffee than no tea*, respectively, and that there is no clear answer to that question for sentences *Better no red wine than white wine* and *Better no coffee than tea*. Experiment 1 showed that sentences, however difficult they may seem to interpret, are nevertheless quite

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

understandable and can thus be used as a testing ground for the respective claims of localists and globalists.

#### **4. Experiment 2**

The second experiment was designed to further test between local and global theories by using non-words instead of real words in the sentences. The idea is that as localists suppose implicatures to be triggered by lexical items, replacing lexical items by non-words should prevent implicatures to be drawn, making the interpretation less costly than that of the corresponding sentence with words that will trigger the implicature. In other words, the percentage of correct answers for sentence *Better coffee than no tea* should, on a localist account, be predicted to be lower than the percentage of correct answers for sentence *Better pekova than no luveka*, while globalists would not predict any significant difference

#### **4.1 Method**

*Subjects.* 128 students in history at the University Lumière-Lyon 2 were tested on two occasions.<sup>3</sup> Again there was a majority of women (66%) and the subjects were, with a few exceptions, in their late teens and early twenties (oldest: 46; youngest: 17). Their mean age was 19.2.

*Materials.* Given that results were better for the condition based on the putative contrast set *<tea, coffee>*, the same condition was reproduced in this experiment along with an additional condition, where non-words substituted the words *tea* and *coffee*.

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<sup>3</sup> I would like to thank M. Martinat and E. Lynch for providing me with access to their classes.

Again, it contained four sentences, inserted in a scenario:

***Non-word condition:***

An anthropologist arrives very late at a feast in Papouasy-New Guinea. There is not much left to drink. Someone brings him a gourd. The anthropologist says:

*Better pekuva than no luveka.*

*Better no pekuva than luveka.*

*Better no pekuva than no luveka.*

*Better pekuva than luveka.*

I presented the same questions as those in Experiment 1. As before, answers to questions *What was he given to drink?* and *What does he prefer to drink?* were provided in a forced choice format. The participants were presented three options: *coffee/pekuva*; *tea/luveka* and *don't know*. Subjects were tested on a single sentence in a single condition and precautions were taken to ensure that no communication would be possible between participants tested on the same sentence.

## **4.2 Results**

The predictions regarding the correct answers to the questions for the non-words condition are indicated in Table 3:

**Table 3: Predictions for the non-word condition in Experiment 2.**

<i>Utterances</i>	<i>What was he given to drink?</i>	<i>What does he prefer to drink?</i>
<i>Better pekuva than no luveka</i>	Pekuva	Luveka
<i>Better no pekuva than luveka</i>	Luveka	?
<i>Better no pekuva than no luveka</i>	Luveka	Luveka
<i>Better pekuva than luveka</i>	Pekuva	Pekuva

In this experiment, localist and globalist theories would make different predictions not so much regarding the correct interpretations (they would agree on that point), but regarding the percentage of correct answers. Localists would predict a greater percentage of correct answers to the question *What would he prefer to drink?* with respect to the first sentence in the non-word condition as compared with the tea/coffee condition, given that no conversational implicature should be triggered by non-words and hence no interpretive dead-end should be reached. By contrast, globalists would not predict a significant difference across the two conditions. The results are presented in Table 4.



**Table 4: Results from Experiment 2 (figures marked in bold are the correct answers, DK = “Don’t Know”).**

<u>Utterances</u>	<u>What is he given to drink?</u>			<u>What does he prefer to drink?</u>		
	<u>Coffee</u>	<u>Tea</u>	<u>DK</u>	<u>Coffee</u>	<u>Tea</u>	<u>DK</u>
<i>Better coffee than no tea</i>	<b>69</b>	13	19	31	<b>63</b>	6
<i>Better no coffee than tea</i>	12	<b>65</b>	23	65	6	29
<i>Better no coffee than no tea</i>	13	<b>40</b>	47	0	<b>93</b>	7
<i>Better coffee than tea</i>	<b>63</b>	12	25	<b>75</b>	12,5	12,5
	<u><b>Pekuva</b></u>	<u><b>Luveka</b></u>	<u><b>DK</b></u>	<u><b>Pekuva</b></u>	<u><b>Luveka</b></u>	<u><b>DK</b></u>
<i>Better pekuvu than no luveka</i>	<b>80</b>	7	13	7	<b>67</b>	26
<i>Better no pekuvu than luveka</i>	6	<b>75</b>	19	44	37	19
<i>Better no pekuvu than no luveka</i>	18	<b>71</b>	11	6	<b>94</b>	0
<i>Better pekuvu than luveka</i>	<b>56</b>	25	19	<b>69</b>	19	12

Let us concentrate on the answers to the question *What does he prefer to drink?* and, more specifically, on the first sentence in each condition. The rates of correct

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

answers are quite similar; 63% choose *tea* for the sentence *Better coffee than no tea* and 67% choose *luveka* for sentence *Better pekuva than no luveka*. Indeed, with the exception of the answers to the second sentence for which no correct answer to the preference question can be given, the rates of correct answers are remarkably similar across the coffee/tea and the non-words conditions. This is especially the case for the third sentence (respectively *Better no tea than no coffee* and *Better no pekuva than no luveka*), where the difference in correct answers is 1%. Indeed, it is among the control sentences in each condition that the difference is greatest; the rate of correct answers for the coffee/tea condition being 75% (overall?) while it is only 69% in the non-words condition.

### **4.3 Discussion of Experiment 2**

The results largely support global theories of conversational implicatures. However, it should be clear that they are limited. For one thing, they only concern the triggering of Q-implicatures through contrast sets. The experiment has nothing to say about Q-implicatures triggered by Horn scales. To say anything about Q-implicatures in general, the experiment would have to be adapted (if possible) to Horn scales. For another, it is not, of course, sufficient to give a definite and general answer to the question of the status of pragmatics relative to linguistics. However, given these limitations, such experiments might be a step in the right direction.

## **5. Conclusions**

The experiments presented above were designed to test the relative validity of two hypotheses regarding the access to some conversational implicatures. Global theories claim that all conversational implicatures are nonce-implicature triggered by pragmatic inferential processes at a global or sentential level. Local theories claim that some conversational implicatures (those with which we are concerned above) are triggered at a local level (subsententially) through lexical items belonging to contrast set. In some linguistic contexts, in this specific case comparative sentences involving narrow negation, these two types of theories make different predictions on how difficult to interpret such sentences would be, local theories claiming that the occurrence of lexical items belonging to contrast sets would lead to interpretive dead-ends, while global theories claim that they would not make any difference. So far, the experimental results presented above seem to support global over local theories about this specific pragmatic phenomenon.

(2004), in Noveck, I. & Sperber, D. (eds), *Experimental pragmatics*, Basingstoke/NY, 322-333.

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## Appendix

### Example of original experimental materials used in the wine condition of Experiment 1

Scénario :

Un homme arrive très en retard à une fête. Il n'y a plus grand chose à boire. Quelqu'un lui amène un verre de vin. Il dit: (*A man arrives rather late to a party. There is not much left to drink. He says:*)

- 1.1 Mieux vaut du vin rouge que pas de vin blanc
- 1.2 Mieux vaut pas de vin rouge que du vin blanc
- 1.3 Mieux vaut pas de vin rouge que pas de vin blanc
- 1.4 Mieux vaut du vin rouge que du vin blanc

Questions :

**Question 1** : Que lui a-t-on donné à boire ? (*What was he given to drink?*)

Vin rouge           Vin blanc           ne sait pas

**Question 2** : Qu'est-ce qu'il préfère ? (*What does he prefer?*)

Vin rouge           Vin blanc           ne sait pas

**Question 3** : Justifiez vos réponses. (*Justify your responses*).