

## **UC Merced**

# **Proceedings of the Annual Meeting of the Cognitive Science Society**

### **Title**

Supposition and Focus with Negative Quantifiers

### **Permalink**

<https://escholarship.org/uc/item/112441s0>

### **Journal**

Proceedings of the Annual Meeting of the Cognitive Science Society, 19(0)

### **Authors**

Moxey, Linda M

Sanford, Anthony J

### **Publication Date**

1997

Peer reviewed

# Supposition and Focus with Negative Quantifiers

Linda M Moxey (LINDA@PSY.GLA.AC.UK)  
Anthony J Sanford (TONY@PSY.GLA.AC.UK)  
Department of Psychology  
University of Glasgow, Glasgow, G12, Scotland, UK

Monotone increasing determiners, such as *many*, *more than 80%*, and *nearly all* lead to quantifiers which license reference to different subsets of elements in quantified statements than those licensed by monotone decreasing quantifiers (e.g., *not many*, *few*). Evidence for this comes from a series of studies carried out by Moxey and Sanford (1987; Sanford, Moxey & Paterson, 1996), in which subjects were presented with sentences like (1) and invited to complete the continuation as in (2):

- (1) Many of the students like linear algebra.
- (2) They.....

Subjects showed an overwhelming tendency to produce continuations to monotone decreasing quantifiers which appeared to use *they* to refer to that set of people which (in this example) did not like linear algebra (The Complement Set):

- [3] Not many of the students like linear algebra.
- [4] They hardly ever go to the class.

Such a pattern did not occur with monotone increasing expressions, where pronominal reference was almost invariably to the set of students who did like linear algebra (the Standard Reference Set):

- [5] Many of the students like linear algebra.
- [6] They work on it as often as possible.

These differences in focus are not only evident in the continuations themselves, but also in the fact that the subjects checked an option which they received after producing their continuation which indicated that "They refers to the students who do not like linear algebra" in the case of the monotone decreasing expressions.

That there are differences in reference patterns associated with these two types of expressions is undeniable, and led Moxey and Sanford (1993) to suggest that focus control is an important communicative function of quantifier polarity. However, from the outset, it has been suggested that anaphoric reference to a complement set is not possible, and what is seen in the Moxey/Sanford data is about sets in general (see. e.g., Corblin, 1996), and this is certainly consistent with standard DRT (Kamp & Reyle, 1993). The argument is that in cases like [4], *they* refers to students "in general" rather than to specific students who do not like linear algebra.

We argue that generalisations cannot be the explanation of the reference pattern, because of cases like [8], which

occur in profusion in the data:

- [7] Not quite all of the fans went to the game.
- [8] They watched on TV instead.

Also, there is an almost complete absence of explicit generalisations like *They mostly (or generally) watched it on TV instead*.

In this presentation we argue for an explanation of reference patterns which is determined by the kinds of inferences which quantifiers lead to, rather than in terms of sets. For instance, Monotone decreasing quantifiers put emphasis on reasons why the predicate might be false (e.g., *If Few of the fans went to the game*, why fans might not go to the game). This is equivalent to treating negation as a signal for (pre)supposition denial, [for which we shall present experimental evidence], which is followed by a process of preparation for seeking an explanation of the denial. In the case of a continuation task, this leads easily to reference to a subset of the complement set in some instances. Such an account can explain the somewhat curious behavior of *only a few x*. This expression leads to emphasis on the Standard Reference Set, unless the quantified sentence is followed by a causal connector, in which case there is a high proportion of references made to the complement set. The argument is a general one, also explaining the difference between *The bottle is half full*, and *The bottle is half empty*, which cannot be treated in terms of sets alone. Furthermore, it is applicable to frequency adverbs, and to terms depicting probability (Teigen & Brun, 1995).

## References

- Corblin, F. (1996) Quantification et anaphore discursive: la référence aux complémentaires. *Langages*, 30, 51-74.
- Kamp, H. & Reyle, U. (1993) *From Discourse to Logic*. Dordrecht: Kluwer.
- Moxey, L.M. & Sanford, A.J. (1987) Quantifiers and Focus. *Journal of Semantics*, 5, 189-206.
- Moxey, L.M. & Sanford, A. J. (1993). *Communicating Quantities: A Psychological Perspective*. Hove, UK: Lawrence Erlbaum Associates.
- Sanford, A. J., Moxey, L.M., & Paterson, K.B. (1996). Attentional focusing with quantifiers in production and comprehension. *Memory & Cognition*, 24, 144-155.
- Teigen, K.H. & Brun, W. (1995) Yes, but it is uncertain: Direction and communicative intention of verbal probabilistic terms. *Acta Psychologica*, 88, 233-258.