Generic and universally quantified generalisations: a cross-linguistic experimental study in English and Greek

Background: The Generic-Overgeneralisation or 'GOG' effect is "the tendency to overgeneralize the truth of a generic to the truth of the corresponding universal statement" (Leslie et al. 2011:17). It has been used as evidence for the Generics as Default 'GaD' view, which argues that generics are an innate and default mode of thinking which precedes and underlies the acquisition and processing of quantified statements (Leslie 2007, 2008, Gelman 2010). These and other authors (Hollander et al. 2002, Meyer et al. 2011) report that children and adults often judge 'all ducks lay eggs' as true because they interpret it as if it were the corresponding true generic 'ducks lay eggs'. An alternative explanation, that people use quantifier domain restriction (QDR) to interpret 'all ducks lay eggs' as a claim only about the relevant restricted set of female fertile ducks (Carlson 1999, Stanley & Szabò 2000, Greenberg 2007), has been ruled out –in our opinion, prematurely. Furthermore, the GaD literature has overlooked variation in the realisation of generics and Universally Quantified Statements (UQS) both within a language and across languages (see e.g. Krifka et al. 1995).
Aim: Our aim is to test whether QDR explains the apparent 'GOG' errors in the interpretation of UQSs. In English, we present generic (bare plurals) and UQSs (see 1) with different sensitivity to QDR (*all, all the, each*) preceded by one of three types of context: a) neutral, where the information in the context does not interact with the evaluation of the critical statement; b) contradictory, where it presents an exception which renders a UQS false, and c) supportive (see 6A-C). By using different UQSs we test whether the purported GOG effect is a reflection of different degrees of QDR for each expression. We apply the same design in Greek (definite plurals as generics; the UQSs are *oli i* 'all', *kathe* 'every/each', *o kathe* 'each', see 2-5, and three types of context), where the semantics of the definite determiner are a matter of controversy and do not lead to clear predictions about the levels of QDR for each expression (see recent discussion in Alexiadou 2014).
Experiments: On-line testing is ongoing. We present here interim findings. **Exp 1** ***Participants*** 120 English native speakers (19-67 years, M=37.28 years; 49 males, 70 females, 1 other) recruited via Amazon Mechanical Turk. ***Task*** TVJ forced choice task. ***Interpretation*** Acceptance of the critical utterance is consistent with QDR/GOG. **Results** Through model comparison we obtained a main effect of determiner ($p < .001$) and a main effect of context ($p < .001$), while the interaction does not reach significance at this stage. **Exp 2** ***Participants*** 120 Greek native speakers (19-71 years, M=33.7 years; 29 males, 91 females) recruited via mailing lists. ***Task*** and ***Interpretation*** Same as above. **TVJ results** Through model comparison we obtained a main effect of determiner ($p < .001$), a main effect of context ($p < .001$) and no significant interaction.
Discussion: In both languages, as expected, GEN is judged as true more often than the UQSs. In English, taking the difference between neutral and contradictory context as the extent of QDR for each universal quantifier, numerically, we observe the predicted decline, with *all the* and *each* allowing for more QDR than *all* (see Table 1). This is suggestive evidence that the purported GOG effect is a reflection of the extent of QDR of the quantifiers. In Greek, the picture is not clear-cut, with all three universal quantifiers having more or less the same extent of QDR (see Table 2). Further testing might reveal which differences are likely to reach significance. N.B. online testing typically requires 3 times more participants than lab-base testing.
Conclusion: We will put forward a QDR-based explanation of the purported GOG effect. Besides offline ratings, reaction times were collected and will be discussed, given that online measures are likely to be sensitive to depth of processing for inferential processes such as QDR and could elucidate the relevance of context even for generics (in line with Author and Author 2013, Sterken 2015, cf. Krifka et al. 1995). The general thrust of this work is that, rather than being under the influence of a default bias, adults are simply sensitive to the subtle interplay of quantifier semantics and pragmatics on the one hand, and context on the other. This approach has the advantage of accounting for data without postulating ad-hoc mechanisms such as GOG just for generics.

Data

(1) Tigers have stripes/All tigers have stripes/All the tigers have stripes/Each tiger has stripes.

(2) I tighris ehun righes.
the tigers have.PL stripes
'Tigers have stripes.'

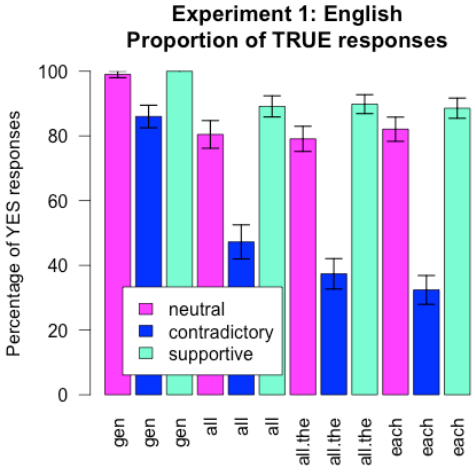
(3) Oles i tighris ehun righes.
all the tigers have.PL stripes.
'All/All the tigers have stripes.'

(4) Kathe tighri ehi righes.
every tiger has.SG stripes
'Every tiger has stripes.'

(5) I kathe tighri ehi righes.
the every tiger has.SG stripes
'Each tiger has stripes.'

(6) A. neutral context:
Linton Zoo is home to three tigers, Tibor, Baginda and Kaytlin, whose playful games visitors love to watch and photograph.
B. contradictory context:
Linton Zoo is home to three tigers, Tibor, Baginda and Kaytlin, whose fur is all white due to a recessive gene that controls coat color.
C. supportive context:
Linton Zoo is home to three tigers, Tibor, Baginda and Kaytlin, whose black and orange coats visitors love to photograph.

Figures/Tables



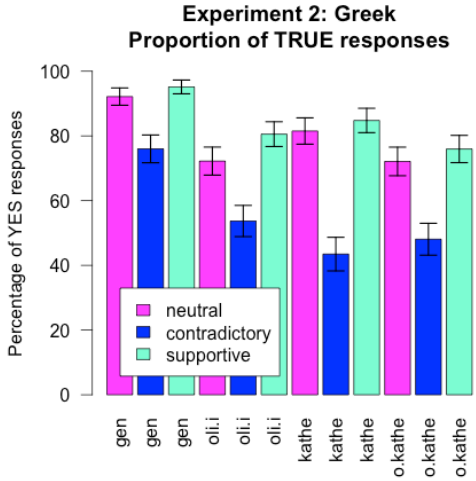


Table 1. Exp 1 English

context determiner	neutral	contradictory	supportive
GEN	99%	86%	100%
all	81%	47%	89%
all the	79%	37%	90%
each	82%	32%	87%

Table 2. Exp 2 Greek

context determiner	neutral	contradictory	supportive
GEN	93%	76%	95%
oli i	72%	53%	80%
kathe	81%	43%	87%
o kathe	72%	47%	75%

Selected References

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