

Non-conservative readings with percentage quantifiers in Slavic and German

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Introduction. Recently, it has been observed that certain percentage quantifier (%Q) constructions give rise to conservative (C) (1-a) as well as non-conservative readings (NC) (1-b) (Ahn & Sauerland 2015, 2017 [A&S]), challenging the Conservativity Universal (Barwise & Cooper 1981, Keenan & Stavi 1986). While A&S propose an analysis, under which the NC construal comes out as conservative in more abstract terms, they note that in languages like English it is not available with “subjects” (2-a), whereas in languages like German it is (2-b). However, they do not have an account for this “subject-object asymmetry” (SOA).

- (1) a. MIT hired 30% of the women last year. C
b. MIT hired 30% women_F last year. (~ 30% of the people that MIT hired were women.) NC
- (2) a. *30% women work here.
b. 30% Frauen_F arbeiten hier. ‘30% of the people that work here are women.’
30%.NOM women.NOM work here

Across the languages A&S discuss, the NC reading can correlate with the use of bare nominals (as opposed to definites) and case agreement with the %Q (as opposed to genitive marking). A&S’s analysis crucially builds on the claim that NC %Qs are focus-sensitive (focus accent is indicated with subscript *F* above): The %Q in (1-b)/(2-b) forms a constituent with a contextually determined element providing a set of focus alternatives and the NC reading arises as a result of an obligatory movement of that constituent to take clausal scope.

Main goals. We show that both C and NC readings also exist in languages that do not display a morphosyntactic distinction between the corresponding %Q constructions, namely Slavic languages without articles. Based on data from corpora and cross-linguistic questionnaires, we make the novel empirical generalization that word order plays a crucial role in distinguishing between the two readings, irrespective of whether a language additionally marks the difference between the two by the use of definite vs. bare nominals (German, Bulgarian and Macedonian) or not (the other Slavic languages), and that this also accounts for the SOA: Languages with a rigid word order (e.g. English) do not allow for NC subjects, because subjects necessarily have to appear sentence-initially, whereas languages with ‘free’ word order (German, Slavic) do, because subjects can stay within the VP. We argue against previous accounts that ascribe a crucial role to focus for the NC reading to arise, in taking focus to merely be derivative from the requirement of NC %Qs to appear low, paired with a general rule for sentential stress placement.

Questionnaires. We collected data on C and NC construals in intransitives and transitives in languages with definiteness marking (German, Bulgarian, Macedonian), as well as in languages without (BCMS, Czech, Polish, Russian, Slovak, Slovenian). We asked our native informants whether an item sentence is adequate in a provided scenario. We tested intransitive sentences with preverbal (e.g. Polish (5-a)) and postverbal (e.g. Polish (5-b)) subject %Qs wrt a C (3) and a NC scenario (4) (in the respective languages), as well as transitive sentences with preverbal (8-a) and postverbal (8-b) object %Qs wrt a C (6) and a NC scenario (7).

- (3) **C:** The company Expol is located not far from a village that is otherwise quite remote. The company employs half of the women from that village.
- (4) **NC:** The company Expol is located not far from a village that is otherwise quite remote. The company observes gender equality and half of their employees are women.
- (5) a. To ciekawe, że pięćdziesiąt procent kobiet pracuje w firmie Expol. PRE-V
it-is interesting that fifty.NOM percent women.GEN work in company.LOC Expol
b. To ciekawe, że w firmie Expol pracuje pięćdziesiąt procent kobiet. POST-V
it-is interesting that in company.LOC Expol work fifty.NOM percent women.GEN
- (6) **C:** The two companies Expol and Flora are not far from a village that is otherwise quite remote. Thus, Expol and Flora are the main employers for the village inhabitants. While most of the men from the village work at Flora, half of the women from the village work at Expol.

- (7) **NC:** The two rivaling companies Expol and Flora have about the same amount of employees. While most of the employees at Flora are male, half of the employees of Expol are female.
- (8) a. To ciekawe, że pięćdziesiąt procent kobiet zatrudnia firma Expol. PRE-V
 it-is interesting that fifty.ACC percent women.GEN employs company.NOM Expol
- b. To ciekawe, że firma Expol zatrudnia pięćdziesiąt procent kobiet. POST-V
 it-is interesting that company.NOM Expol employs fifty.ACC percent women.GEN

We were interested in whether the different readings (C vs. NC) correlated with a particular word order (we expected that the NC reading favors or requires the postverbal order of the %Q). In order to create a preference for unmarked word order and prosody (sentential stress on the rightmost constituent), we embedded our test sentences as subordinate clauses under ‘It is interesting’, in the hope that our informants read it as the sheer fact being interesting. The table to the right generalizes over our results for all Slavic languages without articles, as well as Macedonian.

	INTRANS.		TRANS.	
	C: e.g. (3)	NC: e.g. (4)	C: e.g. (6)	NC: e.g. (7)
PRE-V	✓ e.g. (5-a)	# e.g. (5-a)	✓ e.g. (8-a)	# e.g. (8-a)
POST-V	?/# e.g. (5-b)	✓ e.g. (5-b)	✓/? e.g. (8-b)	✓ e.g. (8-b)

Bulgarian and German behave similarly, except for C transitive scenarios, in which there is a strong preference for canonical word order (SVO and SOV), as opposed to OVS in the other Slavic languages. Across all languages we tested, preverbal %Qs were judged as inadequate or highly dispreferred (Bulgarian, German) in NC scenarios, and this was also confirmed by a corpus study on Czech, Polish, and German, in which all NC %Qs appeared low. In contrast, in intransitive C scenarios all languages prefer or require preverbal %Qs.

Discussion. We interpret the results as a difference in the structure of predication: In order for NC %Qs to have an effect on the VP, they have to stay within the VP. The SOA then boils down to cross-linguistic differences with respect to rigid vs. ‘free’ word order (English vs. Slavic/German). An indication that this is on the right track is that the corresponding sentence in English becomes grammatical when we change the structure to (9), and that the sentence-initial locations (e.g. ‘here’/‘at Expol’), which can be analyzed as aboutness topics, cannot be omitted in any of the languages.

- (9) There are 30% women working *(here).

The fact that focus falls on, e.g., ‘women’ in (5b)/(8b) under the NC reading is a side effect of the combination of neutral word order and nuclear stress falling on the final constituent in the default case (cf. Jasinskaja & Šimík t.a.), rather than an indication of a marked focus structure, as assumed by A&S. In a more recent manuscript, Sauerland & Pasternak (2021) [S&P] propose that NC readings arise as a result of focus sensitivity coupled with presupposition triggering and QR. S&P crucially assume a vacuously true element among the NP focus alternatives which ultimately results in an unrestricted denominator of the %Q. For instance, (2b) ends up true iff the total number of women working here equals 30% of the total number of individuals working here. Though S&P’s approach explains the rather marked cases with narrow focus inside the NP, such as (2b), it fails to account for examples with neutral word order and prosody, such as (5b): in these examples, focus can project all the way giving rise to an all-new interpretation (cf. Höhle 1982, Selkirk 1995), while preserving the NC reading. Following S&P, one would now need to assume that among the propositional focus alternatives there is a vacuously true $\langle s, t \rangle$ element which would yield a denominator \approx ‘the total number of individuals involved in some eventuality’ (n). But this incorrectly predicts that (5b) should be false every time n is greater than the number of individuals who work at Expol. Therefore, we argue that the proper treatment of NC %Qs must capture the effect on the VP irrespective of the placement of focus.

Conclusion. By focusing on a fairly understudied phenomenon and applying it to novel data in a cross-linguistic study, we have exploited well-known differences between ‘free’ vs. rigid order languages, thereby providing new insights into the interaction of quantification and information structure in general.

Selected references AHN & SAUERLAND (2015) The grammar of relative measurement. *SALT 25* • AHN & SAUERLAND (2017) Measure constructions with relative measures. *The Linguistic Review* • JASINSKAJA & ŠIMÍK (t.a.) Slavonic free word order. *The*

