"Some" Approximations: An Experimental Investigation

Stephanie Solt[1] **Jon Stevens**[2] **Brandon Waldon**[1]

[1]Leibniz-Zentrum Allgemeine Sprachwissenschaft [2]Ohio State University

Some + numeral

Some 20 cars were involved in the accident

Common view: *some* on this use is an approximator (*some 20* ≈ *about 20*)

$[\![some\ twenty]\!]^{gran}$ = coarsest(gran)$[\![twenty]\!]$ (Sauerland & Stateva 2007)

$[\![some\ twenty]\!]^{C} = f([\![twenty]\!] \cup halo_C([\![twenty]\!]))$ (Anderson 2014)

Against an approximator analysis:

- Restricted distribution – only sum-based expressions (contra true approximators)
  - *The meeting lasted some 3 hours. / We drove some 30 miles.*
  - *It's about / roughly / approximately / *some 3 o'clock.*
- Lack of true degree interpretation (again contra approximators)
  - *Seven times fourteen is about / approximately / roughly / ??some 100.*
  - Q: *How many students passed the test?* A: *50 / about 50 / ??some 50 / some 50 of them,*
    - ➢ Suggests *some* operates in individual rather than degree domain.
- **Use without approximating effect!**
  - *Of some 206 students who responded to the survey, 52% were female.* COCA (Davies 2008-)
  - *Some 1,841 retirees pulled down more than $100,000 a year in pension checks.*

Two hypotheses as to the source of conflicting intuitions regarding *some + n*:

H1 – Speaker Variation: For some speakers, *some* is an approximator; for others it has a different semantics.

H2 – Approximator Illusion: The approximating effect does not derive from *some* itself, but rather reflects a possibility already inherent to round numbers (Krifka 2007)

- Prediction: only *some* + round will be interpreted approximately

Towards a semantic analysis

Core idea: Indefinite determiners manipulate quantificational domains (Kratzer & Shimoyama 2002; Alonso-Ovalle & Menéndez-Benito 2010, 2013; among others). Specifically, we propose that *some* encodes a function from sets of entities (domains) to sets of entities:

$[\![some]\!] = \lambda P_{<\alpha,t>}.f(P)$ $[\![some\ 20\ cars]\!] = f([\![20\ cars]\!]) = \lambda x.f(\lambda y.cars(y) \,\&\, |y| = 20)(x)$

- Ordinary *some*: f is a subset function (per Alonso-Ovalle & Menéndez-Benito)
- Approximating *some*: f extends domain to include pluralities close in cardinality (cf. Anderson 2014)

Open issues: Nature of function f (e.g. anti-singleton?); interaction with roundness; non-cardinal cases

Experiment

Methodology: English native speakers (n = 72, recruited via MTurk) interpreted numerical expressions by providing a range of values:

The company added about/some/Ø 50/47 new jobs in the first half of the year.

How many jobs did the company add in the first half of the year? Between ____ and ____.

3 modifier conditions (*about*, *some*, bare) in 2 numerical conditions (round, non-round)

10 sentence contexts in total; within-subjects design; 26 items per participant:

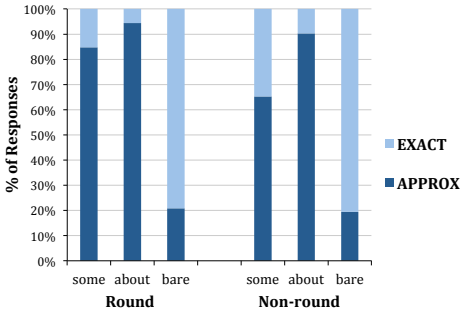
- 1 context: round, 3 approx. conditions; 1 context: non-round, 3 approx. conditions; 20 fillers

Responses coded as: EXACT (upper and lower values differ by ≤1 from stimulus value)
APPROXIMATE (upper and/or lower values differ by >1 from stimulus value)

Results:

- *About* elicits almost exclusively APPROXIMATE responses, while bare elicits largely EXACT responses.
- *Some* patterns differently from both, being interpreted primarily as APPROXIMATE with round numbers, but exhibiting mixed behavior with non-round numbers.

  some vs. bare: z=7.8, p<0.001 *some* vs. *about:* z=−4.2, p<0.001
- At the respondent level, several distinct patterns emerge.



Most common response patterns

APPROX	EXACT	# of participants
about, *some*	bare (1+)	33
about, *some* + round	bare, *some* + non-round	16
about	*some*, bare	6
about, *some*, bare	--	7

Conclusions:

- For most speakers, *some + n* has an approximating effect.
- The nature of that effect however varies across speakers (H1):
  - Some do not appear to distinguish *some* from the true approximator *about.*
  - For others, effect appears linked to approximate interpretation of round numbers (H2).

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solt@leibniz-zas.de stevens.400@osu.edu brandonwaldon@gmail.com