Some three students: towards a unified account of 'some'

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1. Introduction

The '*some* + numeral' construction:

Some 20 cars were involved in the accident.

- A common intuition is that some + numeral has an approximating effect, prompting analyses that treat *some* on par with approximators such as *about* and *roughly*:

some 20 cars ≈ *about 20 cars*

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

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

- **We argue instead that the *some* of *some* + numeral is not primarily approximative, but rather should be aligned to 'ordinary' indefinite *some***

2. Against an approximator analysis

DISTRIBUTIONAL RESTRICTIONS:

a) Set-based denotations

We have some 5 ounces of gold.
Sue sang for some 45 minutes.
The tree is some 10 feet above the house.
The table is some 5 feet long/longer than the rug.
**Sue was born in some 1989.* *(cf. around 1989)*
**The meeting started at some 3 pm.* *(cf. about 3 pm)*
Base camp is at ??some 18,000 ft / some 18,000 ft above sea level.

- **Generalization**: *some* composes with measure expressions with a set-based construal, not those with a referential interpretation

b) Lack of true degree usage

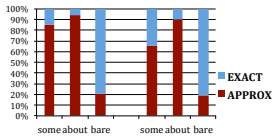
Seven times fourteen is …
… about 100 / roughly 100 / approximately 100 / ??some 100

- **Conclusion:** *some* operates over individuals, not pure degrees.

NON-APPROXIMATING USES

Of some 206 students who responded to the survey, 52% were female.
The Supreme Court struck down some 236 affirmative action plans.
(Source: COCA; Davies 2008-)

Solt, Stevens & Waldon (2017): In an experimental interpretation task task (MTurk, n=72), *some*+n patterns distinctly from both *about*+n and bare numerals, favoring an approximate interpretation with round numbers but eliciting mixed responses with non-round numbers.



some vs. *about* z=-4.2, p<0.001
some vs bare: z=7.8, p<0.001

- **Conclusion**: Approximative effect derivative of more basic semantic properties of *some* + numeral.

3. Proposal

Number words: Following Rothstein (2012, 2017), we take number words to have interpretations as both predicates and arguments, with the latter derived via nominalization of the predicate, creating a duality parallel to that in the kind domain (Chierchia 1998; see also Scontras 2017).

$[\![three_{<et>}]\!] = \{x: |x|=3\}$ $[\![three_{n}]\!] = {}^{\cap}\{x: |x|=3\}$

***Some*:** Drawing on recent proposals that indefinite determiners manipulate domains of quantification (Kratzer & Shimoyama 2002; Alonso-Ovalle & Menéndez-Benito 2010, 2011) we propose that *some,* on all its uses, encodes a variable *f* over functions from sets (domains) to sets.

$[\![some_{<at,at>}]\!] = \lambda P_{<at>}\lambda x_{\alpha}.f(P)(x)$

- Non-quantificational approach: quantificational force via existential closure

Indefinite *some*

$[\![some\ cars]\!] = [\![some]\!]([\![cars]\!]) = \lambda x.x \in f([\![cars]\!])$ $f([\![cars]\!]) \subseteq [\![cars]\!]$

***Some* + numeral**

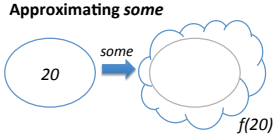
$[\![some\ twenty]\!] = [\![some]\!]([\![twenty]\!]) = \lambda x.x \in f(\{y:|y|=20\})$
$[\![some\ twenty\ cars]\!] = \lambda x.x \in f(\{y:|y|=20\})\ \&\ cars(x)$
$[\![some\ twenty\ cars\ were\ involved\ in\ the\ accident]\!] = 1$ iff
$\exists x[x \in f(\{y:|y|=20\})\ \&\ cars(x)\ \&\ involved\text{-}in\text{-}accident(x)]$

Explaining variable interpretations:

Basic *some*

- Emphatic effect; see Stevens & Solt (2018) for pragmatic account.

Approximating *some*



Explaining distributional restrictions:

Measure with set-based construal – *some* ✔

some 5 ounces $f(\lambda x.\mu_{weight}(x)=5\ oz)$
some 5 ounces of gold $\lambda y.f(\lambda x.\mu_{weight}(x)=5\ oz)(y)\ \&\ gold(y)$

- Set of portions of matter

Sue sang for some 45 minutes $\tau \in f(\lambda t.45\text{-}minutes(t))$

- Set of temporal intervals, τ = runtime of singing event (Krifka 1989)

The tree is some 10 feet above the house $f(\lambda v.|v|=10\ ft)$

- Set of spatial vectors (Zwarts & Winter 2000); for adjectival cases, cf. Schwarzschild (2013) on directed scale segments

Referential measure – *some* ✗

$[\![1989]\!] = 1989$ $[\![three\ o'clock]\!] = 3{:}00$

Comparison to Anderson (2014)

	Anderson 2014	Present Proposal
Some operates on…	Degrees	Sets of individuals (including some degrees)
Distributional constraints	Not accounted for	Accounted for
Anti-singleton constraint	Crucial; responsible for approximative effect, which is obligatory	Compatible with account but not responsible for approximating effect

- **Spanish:** Approximation via ordinary indefinite *unos*, not epistemic indefinite *algunos* (Luisa Martí, p.c.)

4. Further consequences

IGNORANCE EFFECTS

Ignorance effects arise with *some*+singular, but not with *some*+plural or *some*+numeral.

Some student called. #It was John.
Some students called – John, Sue and Ann.
Some three students called – John, Sue and Ann.

Following Alonso-Ovalle & Menéndez-Benito (2010, 2011) on Spanish *alguno(s)* 'some', ignorance effects can be related to anti-singleton constraint on function *f* lexicalized by *some* ($|f(P)|>1$):

- Ignorance effect derived as implicature relative to singleton-domain alternatives; blocked when all such alternatives equivalent to proposition potentially conveyed by original utterance.

***some student*:** logical form in (i) has alternatives in (ii)

i) $\Box_w \exists x[x \in f([\![student]\!])\ \&\ called_w(x)]$, where $|f([\![student]\!])| > 1$
ii) $\Box_w \exists x[x \in f([\![student]\!])\ \&\ called_w(x)]$, where $|f([\![student]\!])| = 1$

- Implicature that no proposition of form (ii) could be asserted -> not same student in all epistemically accessible worlds

***some 3 students*:** logical form in (i) has alternatives in (ii)

i) $\Box_w \exists x[x \in f([\![three]\!])\ \&\ students(x)\ \&\ called_w(x)]$, where $|f([\![three]\!])| > 1$
ii) $\Box_w \exists x[x \in f([\![three]\!])\ \&\ students(x)\ \&\ called_w(x)]$, where $|f([\![three]\!])| = 1$

- All propositions of form (ii) equivalent to one of form (i)

e.g. (ii) with $f([\![three]\!]) = j \oplus s \oplus a$ = (i) with $f([\![three]\!]) = j \oplus s \oplus a$ + 3 non-students

NB: Lack of ignorance effects with plural *some students* requires further investigation; extension of Alonso-Ovalle & Menéndez-Benito's account of Spanish *algunos* requires positing some element that introduces a proper plurality requirement.

DEGREE vs. KIND PARALLELS

(#Some) dinosaurs are extinct. [on kind reference reading]
(#Some) dogs bark. [on generic reading]

- Characterizing generics and kind reference based on kind interpretation for bare plural (Chierchia 1998); but *some* can only compose with nominal on predicative (type <*e,t*>) interpretation.

??Seven times fourteen equals some 100.

- Mathematical formulae require argument (type *n*) interpretation of numeral (Rothstein 2010, 2017); but *some* can only compose with numeral on predicative (type <*e,t*>) interpretation.

5. Conclusions

- The *some*+numeral construction can have an approximating interpretation – but *some* isn't a true approximator.
- This *some* can be aligned to ordinary indefinite *some*, and helps shed light on certain semantic properties of the latter.
- These findings provide further evidence for a parallel between the domains of degrees and kinds.
- Also evidence of a richer structure in the domain of degrees: some but not all measure expressions can be construed as individuals.

References

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