Some 27 arrests: Why "some" + numeral isn't an approximator, and what it might be

Overview: This paper investigates the *some*+numeral (SN) construction in (1), which authors including Sauerland & Stateva (2007); Anderson (2014) have analyzed as expressing approximations (i.e. *some 20 people* ≈ *roughly 20 people*).

(1) There were some 20 people at the dinner party.

We argue that SNs are not inherently approximative. Rather, *some* has the effect of highlighting the atoms that make up a plurality and the operation of counting them.

Against an approximation analysis: While approximators such as *about* occur almost exclusively with round numbers (Jansen & Pollmann 2001), *some* also combines with non-round numbers, as in the following naturally occurring examples ((3)-(4) from COCA; Davies 2008-):

(2) Some 27 arrests in one morning in anti-mafia blitz [cf. ??about/roughly 27 arrests…]
(3) Some 1,841 retirees pulled down more than $100,000 a year in pension checks.
(4) Of some 206 students who responded to the survey, 52% were female.

Example (4) in particular suggests knowledge of and intent to communicate a precise value, indicating that *some* does not itself introduce imprecision.

Effect of *some*+numeral: A clue to the actual function of *some* comes from the observation that SNs are only possible with numerical expressions that are interpreted as sums:

(5) *It is some 3 o'clock. / It happened some 3 hours ago. / We drove some 30 miles.
[cf. It is about/roughly 3 o'clock.]

SNs exhibit subtle differences in interpretation versus the corresponding bare numerical expressions, for example favoring the unlikely distributive reading in cases where the bare numerical would most naturally be read collectively:

(6) a. 5 people lifted the piano. **collective reading preferred**
b. Some 5 people lifted the piano. **distributive reading preferred**

Further pragmatic effects are illustrated in (7): (i) with small numbers, SNs are odd in neutral contexts; (ii) their naturalness improves if subparts of the plurality are subsequently mentioned; (iii) they are natural also in emphatic contexts where the number itself is noteworthy.

(7) (i) ??Some 3 Democrats are running for president.
(ii) Some 3 Democrats are running for president, 2 of them men.
(iii) Some 17 Republicans are running for president!

Proposal: Building on Rothstein (2016), we propose that the cardinality of a plurality may be represented semantically in two distinct ways: i) by encoding a bijective mapping from the atomic parts of the plurality to the counting sequence, (8a); ii) by assigning a numerical value to the plurality as a whole, (8b).

(8) (some) 20 people
a. $\lambda x.\exists P[\forall y \in P[\text{person}(y)] \ \& \ x = \oplus P \ \& \ \exists f_{\text{bijective}}: P \rightarrow \{1,2,...20\}]$
b. $\lambda x.{}^*\text{person}(x) \ \& \ \mu_{\#}(x) = 20$

We argue that bare numericals can be interpreted in either of these ways, but SNs allow only the first. The above-described patterns derive as consequences of this core meaning. The contrast in (5) arises due to the sum operator ⊕ in (8a): *30 miles* can be construed as the concatenation of thirty 1-mile extents, while *3 o'clock* has no comparable construal. The use of an SN (interpreted as in (8a)) in place of a simpler bare numerical (interpretable as (8b)) has the further effect of emphasizing the individual atoms that make up a plurality and the operation of counting them. The preference for a distributive interpretation is then explained if collective readings are derived via an operator ↑ that maps pluralities to the corresponding group atoms (Landman 2004): it is infelicitous to highlight atoms only to eliminate them via ↑. The examples in (7) reflect further pragmatic consequences: (7ii) is more natural than (7i) because decomposing a plurality is felicitous if its component parts are subsequently mentioned; (7iii) is felicitous on an emphatic reading because it emphasizes the existence of a large/noteworthy number of atoms that make up the plurality.

Extensions: We discuss possible explanations for the observation that some speakers attribute approximation to SNs. We further consider possible compositional implementations, and explore the implications of our account for the analysis of plural *some* more generally.

REFERENCES: Anderson, C. 2014. Approximation of complex cardinals using *some*. Proceedings of *WECOL 2013*. **Davies, M.** 2008-. The Corpus of Contemporary American English. BYU. **Jansen, C.J.M. & M.M.W Pollmann**. 2001. On round numbers: pragmatic aspects of numerical expressions. *J. Quantitative Linguistics*. **Landman, F.** 2004. Indefinites and the Type of Sets. Blackwell. **Rothstein, S. 2016.** Counting and measuring and approximation. *Düsseldorf Countability Workshop*. **Sauerland, U. & P. Stateva.** 2007. Scalar vs. epistemic vagueness. *Proceedings of SALT 17*.