

Right here, right now!

In this paper I will explore to what extent current theories of scalar imprecision make predictions about precision regulation with the locative and temporal indexicals *here* and *now*. While these expressions do not obviously involve measurement in any sense, they do display effects commonly associated with measurement scales, such as granularity effects. The idea is that this excursion into locations / times will clarify how (im)precision, measurement and granularity inter-depend.

Assumptions - I make the following assumptions about (im)precision and granularity for measurement scales, inspired by Solt (2014), which in turn is based on Krifka (2007) and Sauerland and Stateva (2007). Let a scale be a partially ordered set $\langle S, <_S \rangle$ and a granularity alternative to a scale any scale $\langle S', <_{S'} \rangle$ with $S' \subseteq S$. Say we are counting individuals. The basic scale is then $\langle \mathbb{N}, < \rangle$. A granularity alternative could be $\langle \{10 \times i \mid i \in \mathbb{N}\}, < \rangle$. Say the goal is to communicate the number of typos in a manuscript and say we counted 99 typos. If the contextually appropriate granularity is that of multiples of 10, then the speaker can't use 99, since this is not on that scale. Instead, she should use *that* measure that *is* on the coarser scale and that is closest to the actual measure on the finer scale used for measurement (Solt 2014). In other words, the speaker will report on the number of typos by saying "100 typos".

What makes this way of thinking about scales and granularity particularly attractive is that it allows for precision regulation, for instance using precisifiers (Sauerland and Stateva 2007). For instance, *precisely 100 typos* states that the relevant granularity is at least as fine as that of the measurement. Conversely, *approximately 100 millimeters* clarifies that the granularity is quite a bit coarser than that of the measurement.

Locations - I assume that locations are (in some sense connected) sets of coordinates in three-dimensional space. Locations are not scalar in nature: there is no fundamental ordering between two adjacent locations, for instance. Importantly, however, despite this non-scalarity, locations do come with granularity levels. For instance, the space inhabited by myself is a location and is properly contained in the space taken up by the room I am in, which is properly contained in the space taken up by the building I am in, etc. These are granularity levels – my location could be given in a way that is maximally precise (the precise coordinates I inhabit), less precise (the room I am in), or very imprecise (planet earth). Just as is the case with measurement scales and granularities, these locative granularities are subsets of the original domain (the powerset of the 3d coordinate system). For instance, *room* granularity is the (unordered!) set of locations that constitute rooms.

Consider a speaker standing in a room in a hospital, uttering the sentence "*Oscar was born here.*" This may be done non-demonstratively or with a demonstration like a pointing or (half-)circular hand gesture. Either way, possible interpretations include *Oscar was born in this room, in this ward, in this hospital, in this town*. Clearly, as with measurement, interpretation depends on a level of granularity. Also as before there are precisifiers that narrow down the interpretation. If the context leaves it open whether the speaker is providing information on the level of towns or buildings, then "*Oscar was born right here*" settles the location to the granularity of buildings.

There is also a clear difference between the measurement case and the location case. It is false that a set of 99 typos has 100 typos in them, but true that someone who is in a hospital is also in the town that hospital is in. Coarser granularities in measurement *stretch the truth* or lead to uses of *false yet true enough* statements (Lasnik 1999 and subsequent discussion). With locations, imprecision does not lead to deviation of truth, but simply to reduction of informativity. Another difference concerns approximation. In the frameworks described above, approximators are signals that a coarser granularity level is being used. However, "*Oscar was born approximately / about here*" cannot be used to indicate that Oscar was born in the town the hospital is located in. In fact, such a sentence is decidedly odd, unless there is some imprecision in a demonstration that accompanies the indexical.

In the paper I will explore different routes to account for the oddity of combining approximators and (non-demonstrative) "*here*". One such route involves disconnecting the notions of approxima-

tion and granularity, and incorporating the imprecision potentially brought about by demonstration. The ramifications of such explorations for the original accounts of measurement scalars will be discussed and the proposals will be extended to the domain of the temporal indexical “*now*”.

References

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