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Quantification over partitions

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Zamparelli (2004) notes that the quantifier every may appear with a plural noun in the presence of a cardinal or few, but only if the noun denotation may be placed along a spatial or temporal sequence:

- (1) a. Every three days/miles/margheritas, John drinks a bloody Mary.
b. *Every two houses are identical.

Modifying an analysis from Kayne (2002), Zamparelli proposes that this is due to the presence of an abstract singular noun TIME or LENGTH, which agrees with the quantifier in grammatical number while being measured by the plural measure phrase.

The quantifier kol in Modern Hebrew corresponds to the English quantifiers every and all. In its every interpretation, the distribution of kol is similar to that of every, with one notable exception: with Card+N, the choice of noun is not semantically restricted. Furthermore, the quantified phrase can serve as an argument and is not necessarily a frequency adjunct:

- (2) a. kol štey safot nivdalot zo mi-zo be-mašehu.
every two languages differ this from-this in-something
'Every two languages differ somehow.'
b. kol šney yeladim yaxinu uga.
Every two children make.fut cake
'Every two children will bake a cake.'

It looks unlikely that Zamparelli's approach could apply to Hebrew, as there seems to be no basis for positing an abstract nominal head measured by Card+N if the overt noun cannot be analyzed as providing a measure.

It is important to note the way in which such quantified plurals are interpreted. A sentence containing kol+Card+N can be interpreted in two ways, which I will refer to as *exhaustive* and *partitioning* quantification. Sentence (2a), which has the exhaustive reading, quantifies over every possible combination of 2 languages. Sentence (2b), on the other hand, has the partitioning reading: the set of boys is assumed to be partitioned into non-overlapping sets of 2, and the universal quantification is over sets in this partition; thus, in a context with 10 boys, (2b) only entails that there will be 5 cakes. The exhaustive interpretation is more common with logical or mathematical statements; otherwise, the partitioning interpretation is usually the more natural one.

Given this, it is unsurprising that – in Hebrew just as for English – every+Card+N is used mainly with nouns denoting sets that are linearly ordered. For such nouns, a natural partition is more readily available than for nouns that denote an unordered set. For instance, for the noun *days*, there are only two ways of partitioning its denotation such that each set in the partition contains 2 consecutive days. For a noun like *boy*, on the other hand, a ‘natural’ partition exists only under special contextually-dependent conditions.

Thus, at least in Hebrew it is possible to derive the tendency for plural quantification with *every* to be limited to certain semantic classes of nouns, without relying on a stipulation of an abstract singular noun. It might be the case that, more generally across languages, there is no syntactic requirement that every agree with a singular noun, and its cooccurrence restrictions follow from semantic considerations alone.

References

- Kayne, R. (2002) “On the syntax of quantity”, ms. New York University .
Zamparelli, R. (2004) “Every two days”. *Snippets* 9:19–20.