

Individuation and quantification in semantic theory

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The topic of this seminar is the interaction between how things are individuated and how they are counted. Quantification (roughly, counting) has long been a topic of central interest in semantic theory, so much so that Barbara Partee has talked of ‘the starring role of quantifiers in formal semantics’.¹ It remains an extremely productive topic in which the mathematical and logical techniques that have been developed over the past few decades for semantic analysis have produced impressive empirical results.

Quantification, however, presupposes a well-defined domain of objects to be quantified over, divisible along the lines that natural language provides. Geach (1962, 38f.) famously argued that only certain natural language expressions (those that are ‘substantial’) from among the relevant grammatical categories make this possible:

a general term can occur as a name only if it makes sense to prefix the words “the same” to it. By no means all general terms satisfy this condition; and only in connection with such as do satisfy it can the question be asked how many so-and-so’s there are. [...]

I maintain that it makes no sense to judge whether x and y are ‘the same’, or whether x remains ‘the same’, unless we add or understand some general term—“the same F ”. That in accordance with which we thus judge as to the identity, I call a *criterion* of identity [...] “The same F ” does not express a possible way of judging as to identity for all interpretations of “ F ”.

Here, Geach is making a point about the connection between quantification and *individuation*—roughly, telling things apart. This point has been most frequently discussed in connection with theories about the semantics of mass vs. count nouns, and material constitution. It can, however, be taken further in at least two ways.

Firstly, an expression that Geach (presumably) would have recognised as substantial can provide *more than one* potential criterion of identity. For example, consider the word ‘book’. If there are two copies of *War and Peace* in a situation, are there two books, or one? Is one copy the same book as the other, or not? Building on insights

¹In the Baggett Lectures at the University of Maryland, 7–9 November 2012: <http://ling.umd.edu/events/archive/346/>.

by Asher (2011) and Cooper (2011), I will argue that these questions arise because the word ‘book’ provides, in Geach’s terminology, two criteria of identity. According to what we might call the physical criterion of identity there are two books, and one copy is not the same book as the other, whereas according to what we might call the informational criterion of identity there is one book, and one copy *is* the same book as the other. I will also discuss cases in which we appear to need both criteria at the same time.

Secondly, even for expressions that appear to provide a single criterion of identity, that criterion may not always be used. For example, Krifka (1990) noted the ambiguity, of sentences like (1).

(1) 4000 ships passed through the lock last year.

On the standard reading of (1), there were 4000 ships such that each of them passed through the lock last year. On another reading, however, there need not have ever been as many as 4000 ships in existence, provided that 4000 times last year a ship passed through the lock. I will discuss ways of accounting for this ambiguity and how they connect to this notion of individuation, focussing on the idea of a ‘stage’ as developed by Carlson (1977).

References

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