

Where do we stand with the mass and count distinction?

Gennaro Chierchia, Harvard University

Abstract:

Three wide open problems in the study of the mass/count distinction are the following:

- (1) What is the ultimate reason for the failure of numerals to combine with mass nouns (in the languages where such failure occurs)?
- (2) What do furniture-mass nouns tell us about (1)?
- (3) Is there hope to arrive at a restrictive theory of semantic variation in this domain, given the incredibly variable phenomenology that this corner of semantics displays?

Opinions on (1)-(3) keep diverging a great deal, and proposals on this score are in fact becoming, if anything, more diverse. The most positive aspect of this ongoing debate is that it has pushed forward our knowledge of the empirical frontier of the range of mass/count systems one finds across languages. Three very diverse such systems are (i) those represented by Yudja (Lima 2014) or Nez Perce (Deal 2017) - which in spite of their diversity share a number of key features, most prominently the fact that *all* nouns, including mass ones combine freely with numerals (Type I), (ii) generalized classifier languages like Chinese or Japanese, characterized by the fact that *no* noun can combine directly with numerals (Type II), and (iii) number marking languages of the more extensively studied Indo European type (Type III). This typology is far from being exhaustive. At the same time, languages of these three types form a wide ranging typological spread and have been studied to a sufficient depth so as to enable us to attempt some general considerations on the limits of cross-linguistic variation in this domain (if any). In this spirit, I will tackle problem (3) on the basis of the sample Type I-III languages provide. More specifically, I will attempt an analysis of how such systems maybe derived from a single underlying basis, through a fairly small range of parametric choices. This will indirectly shed some light also on questions (1) and (2).

The basic working hypothesis I will pursue is that the universal lexicon provides for each lexical entry a structured constellation of entities that constitute the potential values for the entry. Here is, for example, a rough stab at the constellation associated with a (fairly) ambiguous root like *beer*:

$|\sqrt{\text{beer}}| = \{ \text{i. Mass-Property} \quad \text{ii. Count-Property (type <s,et>)} \\ \text{iii. Mass-Kind} \quad \text{iv. Count-kind (type <s,e>)} \}$

The items in a constellation are linked to each other through a (familiar) set of mappings. E.g. Mass-Properties can be mapped into Count ones by a packaging function and viceversa; moreover properties can be mapped into the corresponding kinds and viceversa (e.g. as with Chierchia's 1998 $\text{'}\cap\text{'}$ and $\text{'}\cup\text{'}$ operators). A corollary of this view is that there are going to be both mass and count kinds, depending on the type of property a particular kind is related to. Languages, then, determine through their morphological inventory, which element(s) from a relevant constellation enter the compositional system. I am going to propose, in particular, that the role of 'little n' is to determine whether a noun starts its life as a kind or as a property, while further components of the nominal system (e.g. in the number marking and/or classifier

system) determine how kinds vs properties are further determined and modified, and how they are, eventually merged into argument position.

Example:

a. $n \sqrt{\text{beer}} \rightarrow \lambda P_{\langle s, et \rangle}. P(\alpha)$ where $\alpha \in | \sqrt{\text{beer}} | = | \sqrt{\text{píjiũ}} |$, Type III

b. $n \sqrt{\text{píjiũ}} \rightarrow \lambda k_{\langle s, e \rangle}. k(\alpha)$ where $\alpha \in | \sqrt{\text{píjiũ}} | = | \sqrt{\text{beer}} |$ Type II

The interpretation associated with little n is parametrically determined as in (a) or as in (b). The functions associated with little n are type-constrained identity maps, by analogy with how “features” are generally interpreted. Further (possibly abstract) functional elements in the N’s extended projection determine how this initial choice is complemented until the merger with an argument position is reached. The nature of the morpho-syntactic functional heads thus determines the structure and distribution of various kind of nominals (from the simplest, bare nominals, up to the more complex ones), as is to be expected.

The plan is to flesh out further the analyses of Type II-III languages and integrate within this ‘constellation semantics’ model Type I languages. We will also compare the present proposal with other proposals available in the literature (e.g. Borer’s ‘exoskeletal’ approach - with which the present proposal has points of contact and points of divergence).

A striking fact that has received little attention in the literature is that furniture-nouns appear to be capable of acquiring a special mass-like status only in type III languages. We will offer an account for this so far unexplained generalization, account which may have interesting consequences for question 1 above.