“Fake mass” nouns, quantification and ontology: Bare Singulars in Brazilian Portuguese

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The mass-count distinction has been explored recently because it may shade light on the relation between linguistic categories, such as grammatical counting, and the extra-linguistic knowledge, i.e. how our mind/brain distinguishes objects (natural atomic objects) and substances. In this paper, we pay close attention to the so called “fake mass” nouns (Chierchia (2010)). Fake mass nouns, as furniture, are clearly attested in a number of counting languages, such as Brazilian Portuguese (BrP). About their grammatical behavior some questions become: Do “fake mass” nouns pattern systematically with count nouns or mass nouns with respect to their semantics? And does this tell us anything on the relationship between language (the grammar) and cognition? The data pushes into a distinction between grammatical counting and comparison. As shown by Bale & Barner (2009) and Barner & Sneedeker (2005), fake mass nouns allow comparison by cardinality. Pires de Oliveira & Rothstein (2011) and Rothstein & Pires de Oliveira (2013) argue that Bare Singulars in BrP behave like “fake mass” nouns, and that “fake mass” nouns also allow for mass comparison. In this paper, we explore and compare these two current theories that explain the case of the “fake mass” nouns and conclude that the latter is a better explanation. In the first section, we review the data in BrP and get some evidences that bare singulars behave as “fake mass” nouns. The second section presents Bale & Barner’s theoretical proposal for “fake mass” nouns. We will show that their proposal leads to incorrect predictions in BrP. We then briefly examine Rothstein & Pires de Oliveira (2013) proposal. We conclude that this is a better explanation and in the end we discuss the ontological consequences of assuming this theory.

Apparently “fake mass” nouns pattern with count nouns because they can be compared by cardinality, as shown by Bale & Barner (2009), among others, and they also pattern with mass nouns, Landman (2011) among others, since they cannot combine with numerals, they do not accept plural morphology, and they can be measured. In comparison contexts, “fake mass” allow for mass and cardinal comparison (Pires de Oliveira & Mendes de Souza (2013)):

(1) a. John has more furniture than Mary. He will need a larger moving truck. (cardinal OK; volume OK)
   b. John has more furniture than Mary. He has five tables and she has only two. (cardinal OK)

Bare singulars behave like “fake mass” nouns and allow comparison along the dimensions of either cardinality or volume (Pires de Oliveira & Rothstein (2011)).

(2) Essa lata tem mais minhoca do que aquela. (cardinal OK; volume OK)
    This can have.PRS.3SG more earthworm-SG of.the that that.
    ‘This can contains a bigger quantity of earthworm than that one.’

Moreover, mobília combines with quantifiers that co-occur with mass nouns, such as muito (much) (Bevilaqua 2013):

(3) Tem muita mobília na sala. (cardinal OK; volume OK)
    There is much furniture in+the room.
    ‘There is too much furniture in the room.’

The sentence above is true in two different situations: a situation in which what is compared is the number of entities – a cardinal scale is used -, and a situation where the amount of furniture is measured by volume – it may be true in a situation where there are few units of furniture, but they are very big. We also have both interpretations when we have a bare singular noun with muito:

(4) Tem muito menino no elevador. (cardinal OK; volume OK)
    There is much boy in+the elevator.
    *There is too much boy in the elevator.

As shown, bare singulars and “fake mass” nouns in BrP allow quantity judgments by comparison on both cardinality scales and other dimensional scales.

1 Bevilaqua (2013) has shown that muito in BrP is not analogous to much in English.
The second section explores Bale & Barner’s (2009) explanation for the behavior of nouns in comparative structures. They propose a lexicon with two different types of lexical roots: one that denotes a lattice structure with atoms (e.g. √furniture), and another that are not built from atoms (e.g. √boy and √water). A root noun becomes mass or count by combining with a functional head. The count head is a function that maps a non-individuated lattice structure into an individuated one. The mass head is interpreted as an identity function, then the resulting interpretation of mass nouns can be either individuated or non-individuated. Thus *furniture* as a mass noun has the same denotation as the root √furniture. The root has an individuated semi-lattice as its denotation, and the function is identity, returning an individuated semi-lattice. As a result, the cardinal interpretation of “fake mass” nouns in comparatives is explained. What is left without an explicit answer is its interpretation with other scales. Examples (1) to (4) pose a problem for Bale & Barner’s proposal, since mobília has a cardinal and a non-cardinal interpretations. Moreover, bare singulars in BrP behave as mobília. They are “fake mass” nouns. If this is so, their proposal will lead to a great deal of ambiguity in the lexicon.

Rothstein & Pires de Oliveira’s (2013) theory is based on Rothstein (2010), which distinguishes “natural atomicity” from “semantic atomicity”. Natural atomicity is a characteristic of predicates which denote a set of entities where the minimal atomic units are not context dependent. Semantic atomicity is a property of count nouns, which denote sets of atoms indexed for the context in which they count as one unity. “Fake mass” nouns are not built from semantic atoms (but have natural atoms in their denotations), thus mass nouns cannot be linguistically counted (*três mobílias or *three furnitures), though they may be compared by cardinality as exemplified in Bale and Snedeker’s (2005) results with furniture. But accordingly to Rothstein & Pires de Oliveira (2013) comparison by cardinality does not involve counting. Cardinality judgments with mass nouns involve grammatical measuring and not counting. So, they argue that these data in BrP can be explained by the difference between counting and measuring. Counting is a one to one pairing of an individual and a number and it is semantically encoded in the plural morphology. Measuring is assigning a quantity a value on a scale. Mass nouns like *furniture* allow comparison along different scales, including the cardinal one. Although comparison by cardinality of “fake mass” nouns does not involve counting. Cardinality judgments with mass nouns involve grammatical measuring and not counting. Measuring, on the other hand, is assigning a value to a quantity on a scale, and the cardinality scale, among others, is one kind of the dimensional scale. Thus Rothstein & Pires de Oliveira’s (2013) approach seems to be a better explanation in order to explain the pattern of behavior of bare noun phrases in comparative structures.

This preliminary analysis shows that the Bale & Barner’s theory do not hold cross linguistically and cannot be applied to BrP. And that Rothstein & Pires de Oliveira’s (2013) theory gives an account to the “fake mass” nouns in BrP. The ontological consequence of assuming this theory is that the lexicon is a non-atomic lattice structure which is rooted in grammar. However the non-linguistic counterpart, natural atomicity, plays a role in the semantics. Thus, mass nouns do not allow counting because atomicity is not grammatically encoded. It also accounts from the fact that linguistically we cannot count naturally atomic mass nouns. On the other hand ontological conceptual systems not rooted in grammar will allow the count semantic interpretation.

References


Bevilaqua, Kayron, C, 2013, ‘Uma investigação sobre o comportamento quantificacional do muito(a) no português brasileiro’. Trabalho de conclusão de curso. UFSC.


Pires de Oliveira, Roberta. Rothstein, Susan, 2011. ‘Bare Singular noun phrases are mass in Brazilian Portuguese.’ Língua, 121, 2153-2175.
