English and Brazilian Portuguese mass-count distinction: preliminary results

Kayron Beviláqua
UFPR
Roberta Pires de Oliveira
UFSC/UFPR

Introduction It is well attested in the literature that mass and count nouns in English show different grammatical properties (Link, 1983; Bunt, 1985; Chierchia, 1998; among others). In comparison, considered the best test to distinguish mass and count (Bale & Barner, 2009), substance mass nouns, *water*, are only measured by volume dimensions. On the other hand, plural count nouns like *houses,* are only interpreted by number of individuals (Barner & Snedeker, 2005). None of these authors analyze the Bare Singulars (BS) in English as in (1) perhaps because Bare Singulars are ruled out. Moreover, in comparison, they are coerced. Thus, (1), if acceptable, is about parts of the table or table as "matter" (Chierchia imagines a dinner conversation in a termite family):

(1) #John has more table than Peter. (partitive, volume)

The noun is then coerced to mass either meaning parts of the table or table "food". Bale & Barner (2009) distinguish BS from Flexible Nouns. Flexible nouns are ambiguous in their proposal. Since in (2) *stone* has no plural morphology, it is interpreted as mass:

(2) John has more stone than Peter. (volume)

Brazilian Portuguese (BrP), as English, distinguishes mass nouns and count nouns. The Bare Plural is only interpreted by number of individual; the comparison with the BS, however, may be interpreted as about parts, the volume or the number of individuals (Beviláqua & Pires de Oliveira, 2014; Beviláqua, 2015). (3) is true then if João has more units of table, more parts of the house, more volume (a larger house), or, in the termite dinner, more table food:

(3)	João	tem	mais	mesa	que Pedro. (partitive, volume, cardinal)
	João	has	more	table	than Peter.

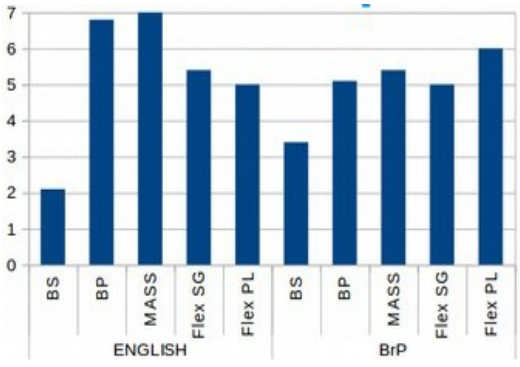
All nouns in singular form with a plural counterpart in BrP, i.e. count nouns, show the same behavior of (3), its interpretation is "under-determined", a concept we aim to clarify.

Our aim in this paper is to present the results of two pilots comparing the behavior of the BS in both languages. As far as we know nobody has experimentally tested the Bare Singular in English. Rothstein & Pires de Oliveira (2016) propose that the BS in

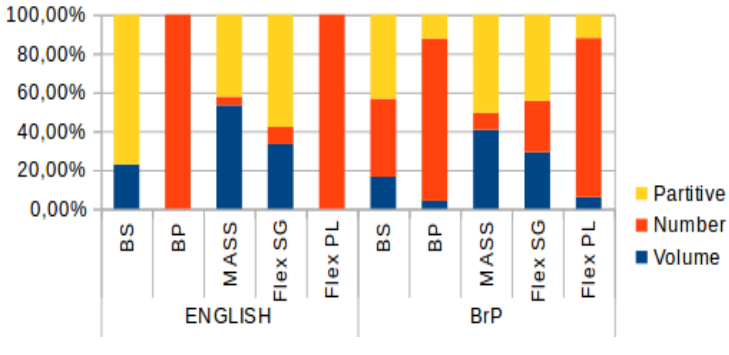
BrP is like the Flexible nouns in English, as in (2). If this is so, then we expect a count reading of (2). The authors claim that this reading is pragmatically blocked. However, in a context where one is clearing counting the individuals, a count reading of (2) should be acceptable. This experiment aims at verifying this prediction. We present the results of the pilot.

Methodology Two tasks were designed to verify how native speakers of English and BrP interpret different types of noun phrases in comparison. Task 1 was a grammaticality judgment of the Bare Nouns in comparison in both languages. All the target sentences had the structure 'John has more X than Mary' for English and 'João tem mais X que Maria' for BrP. We used a 7-point ordinal Likert scale to rate the participants's judgment with respect to a sentence. Our dependent variable is the ordinal sequence from 1 to 7. The independent variable is the Noun Phrase (NP), with 5 levels: Bare Singular (BS); Bare Plural (BP); Flexible nouns in a singular form (FLEXSG); Flexible nouns in a plural form (FLEXPL); and Mass nouns (MASS). We tested 9 undergrad students and native speakers of English and 15 native speakers of BrP. The null hypothesis is that there is no difference between the languages with respect to the acceptability of these noun phrases. Task 2 is a picture-matching task. It was designed to capture the interpretation of bare nominals in comparison. After reading the sentence, the participant had to choose the best match between the sentence and the scene. Each sentence was accompanied by three scenarios: (i) the cardinal scenario, where the opposition was between two and three houses; (ii) the volume one, where a big house was contrasted with three small houses; (iii) a partitive one, where the contrast was between different sizes of a house. The independent variable is the Noun Phrase (5 levels) and the dependent variable is the choice of the scenario. The participants answered both tasks. In English, we expected for BS to be only associated with the partitive reading – Chierchia's (2010) intuition -, while in BrP we expected that BS was associated to the three readings available.

Results and Analysis



Graph1: Acceptability test (Mean 1–7) results



Graph 2: Picture-matching task

Task 1 shows that, for English, the BS has a low degree of grammaticality (around 2 on Likert scale). For BrP, all nouns are accepted although the BS has the lowest degree of acceptability (indicating sociolinguistic variations). Task 2 confirms that the BS in English is partitioned or interpreted as volume, but there is no number reading. In BrP, besides the partitive and the volume readings, it is also interpreted as about the number of individuals, differently from English. There seems to be no difference between the BS and Flexible nouns in BrP, whereas the difference exists in English.

Discussion The results show that the design of the experiment is working properly. The null hypothesis was not confirmed: (i) the grammaticality task shows that the evaluation of BS in English and in BrP is not the same, in English it is ungrammatical; (ii) the BS Phrase does not have the same interpretation; only in BrP the number reading appears; (iii) flexible nouns have a distinct behavior only in English since they are acceptable and their interpretation is massive; in BrP, flexible nouns behave just like BS. In English flexible nouns are not counted, thus they seem to be ambiguous between mass and count. This is an indication that Rothstein & Pires de Oliveira's (2016) hypothesis does not hold: if the BS in BrP where just like the flexible noun in English, we expected cardinal readings of the BS in English, but this was not verified. We shall argue that the data is explained if we assume as Chierchia (2010) that in English the BS is an atomic predicate. Both the partitive and the volume readings are derived via coercion from count to mass. For BrP, we argue that the BS denotes the kind, thus it is shifted to a predicate of realizations of the kind, allowing for volume, partitive and count readings. These are preliminary results which we aim to confirm by applying the experiment to a larger number of participants.

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