No number in definite singular noun phrases

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1. Introduction. No language seems to distinguish between pronominal forms solely on the basis of the antecedent's denotation as mass versus singular count.

(1) a. I made <u>rice</u>_i and ate <u>it</u>_i. (English)
(2) a. Éftiaxa <u>rýzi</u>_i kai <u>to</u>_i éfaga. (Greek)
b. I made <u>an egg</u>_i and ate <u>it</u>_i.
b. Éftiaxa <u>éna augó</u>_i kai <u>to</u>_i éfaga.

Note that an appeal to animacy cannot be maintained; the Greek neuter pronoun to 'it' in (2) can also be used with a human referent, as in (3).

(3) Vríka <u>éna chaméno paidí</u> kai <u>to</u> voíthisa. 'I found <u>a lost child</u> and helped <u>it</u>.'

There is a long tradition of analyzing pronouns as "disguised" definite descriptions (Bennett 1978, Cooper 1979, Evans 1980, Heim 1990, Elbourne 2005, Sauerland 2007). The fact that the definite article is not sensitive to the mass-count distinction lends novel support to this view.

- (4) a. Did you see the raccoon_i on the street? There was not much $\underline{\emptyset}_i$ left this morning.
 - b. Something went wrong with <u>the dough</u>_i. The last <u>one</u>_i was easier to work with.

Although *the raccoon* would typically favor a count reading, the quantifier *much* in (4a) indicates that the speaker is interpreting it as mass. Conversely, *the dough* would typically favor a mass reading, but the anaphoric pronoun *one* in (4b) indicates that the speaker is interpreting it as count. To capture the data in (1)–(4), I propose that definite "singular" noun phrases lack NumP, the projection that makes counting possible (Bouchard 2002, Borer 2005, Déprez 2005).

2. NumP. I consider the output of NumP to be a complete join semilattice, such as $\{a, b, c, a \oplus b, a \oplus c, b \oplus c, a \oplus b \oplus c\}$, where atoms and their sums belong to the domain of individuals (Krifka 1989, Sauerland 2003). Without NumP, NP has cumulative reference but no identifiable atoms.

Furthermore, I assume that all definite determiners, including pronouns, contain the iota operator (*i*) as part of their meaning; in a given context, *i* returns the maximum individual of which a property P is true (Sharvy 1980, Chierchia 1998). For instance, if *a*, *b*, and *c* are three contextually salient raccoons, *the raccoons* denotes the sum $a \oplus b \oplus c$, which is the maximum individual of which the property *Raccoon is true. This approach predicts the ungrammaticality in (5) since *the raccoons* can only be count.

(5) Did you see <u>the raccoons</u> on the street? *There was not much $\underline{\emptyset}_i$ left this morning.

3. Definite numberless phrases. In principle, there are two ways to capture the ambiguous reading of *the raccoon* as either mass or singular count. One option is to posit that *the raccoon* corresponds to two structures, one that lacks NumP (its "mass" structure) and another that includes NumP (its "count" structure). Another option, which I pursue, is to posit that *the raccoon* uniformly lacks NumP and that this structure is compatible with both mass and singular count referents.

As shown in (4), the definite article has no bearing on a noun's interpretation as mass or count, so there is empirical support for the claim that *the raccoon* and *the dough* have the same structure. (6) [DP *the* [NP *raccoon/dough*]]

In this configuration, *raccoon* and *dough* are NPs that have cumulative reference without identifiable atoms. Since *i* is a component of D, it does not matter whether an individual consists of atoms or not: *the raccoon* and *the dough* simply denote totalities of contextually salient "stuff", to use Borer's (2005) term, that have the properties Raccoon and Dough, respectively. The tendency to interpret *the raccoon* and *the dough* as mass or count relates to world knowledge; it is not a property of the roots $\sqrt{RACCOON}$ and \sqrt{DOUGH} themselves.

4. Conclusion. Definite determiners do not show sensitivity to mass versus count denotation, as opposed to quantifiers like *much* and *many*. I conclude that NumP does not project in definite phrases with uninflected nouns, hence the ambiguity of *the raccoon* and *the dough* in terms of cumulative reference. In both cases, *i* returns the totality of "stuff" that has the property in question.

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