

Accounts of the Count-Mass Distinction: A Critical Survey*

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0. Introduction

The issue of what is usually, but also misleadingly (see below) called the *count-mass distinction*, i.e. the grammatical distinction between nouns that can be counted (e.g. *a car, two cars, many cars*) and nouns that cannot (e.g. **a sand, *two sands, *many sands, sand, much sand*), has been addressed and accounted for in different ways. This paper aims at giving a critical survey of the main theoretical positions in the count-mass literature, to point out that each of them is problematic in some way. That is in line with Benninger's (1999) basic point, but whereas she contents herself with merely observing that "en ce qui concerne l'origine de l'opposition massif/comptable, tout dépend du point de vue que l'on adopte" (p. 31),¹ I commit myself to show how a proper characterisation of the count-mass distinction can be given if a serious attempt is made to reconcile the different theoretical positions.

One of the basic reasons for the wide-ranging differences in opinions is, I think, that linguists and philosophers who have dealt with the count-mass distinction have found it extremely difficult to stick to their set out criteria. In the count-mass distinction different dimensions of linguistic analysis appear to converge, and it is no coincidence, therefore, that grammatical, ontological, semantic, and contextual matters have frequently been confused. The most illustrative example of this is the term *count-mass distinction* itself: that term is misleading, since it incautiously takes together a primarily grammatical criterion (the (non-)countability of nouns) with a non-grammatical, ontological criterion (the denotation of mass vs. discrete entities). I will continue to use it for convenience's sake, though *count-noncount distinction*, as proposed by a.o. Quirk et al. (1985, p. 246), would be a more appropriate term.

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¹ Translation: "As far as the origin of the count-mass distinction is concerned, everything depends upon the point of view that one chooses."

Table 1 gives an overview of about thirty count-mass studies, mostly English and French ones, which I – on the basis of the analyses proposed – have classified into four main theoretical views: the grammatical view, the ontological view, the (conceptual-)semantic view, and the contextual view. There are three *caveats*. First, the list of studies makes no pretence of exhaustiveness; it only aims to be a representative list summing up the basic theoretical views and their main proponents. Second, a classification of this kind undoubtedly involves a degree of abstraction. Although the authors classified in the same category do hold the same basic premises, they will often have different opinions with regard to less fundamental issues. Ware (1979), for instance, adheres to a less extreme contextual view than does Pelletier (1979b). Third, due to lack of space it will be impossible to review all the studies mentioned. I rather intend to give a rough sketch and to focus on the most fundamental disagreements between the different views.

grammatical view	ontological view	(conceptual-) semantic view	contextual view
Bloomfield (1933)	Quine (1960) Cheng (1973) Ter Meulen (1981)	McCawley (1979) Wierzbicka (1985, 1988, 1991a, 1991b) Dik (1987) Langacker (1987, 1991) Reid (1991) Gillon (1992) Jackendoff (1992) Bloom (1994) Prasada (1995) Vossen (1995) Berezowski (1999)	Pelletier (1979b) Ware (1979) Bunt (1985) Gathercole (1985) Gordon (1985) Galmiche (1989) Löbel (1993) Levy (1997)

Table 1

Four consecutive sections discuss the various approaches to the count-mass distinction. Each section ends with an outline of remaining pitfalls. A fifth section attempts to sketch a model that reconciles the different views. Building upon valuable but incomplete impetuses of Allan (1980), Mufwene (1984), Martin (1989), and Wilmet (1989), it tries to account for

all problems described by analysing the count-mass distinction as a multidimensional phenomenon, a distinction that simultaneously operates in different dimensions of linguistic analysis.

1. The Grammatical view

The count-mass distinction has obvious grammatical reflexes, of which the (im)possibility of a plural *-s* morpheme (e.g. *car-s* vs. **sand-s*) is the most evident one in English. In the grammatical view, that is all there is to the count-mass distinction: count nouns are nouns that take a plural morpheme, combine with cardinal numerals and with the determiner *a*, whereas mass nouns are nouns that do not take a plural morpheme, that do not combine with cardinal numerals (only with quantifiers such as *much* or *a lot of*) and that can occur with the zero determiner. The count-mass distinction is then a purely grammatical one, and has no relation whatsoever with a semantic distinction. The most radical articulation of this thought can be found in Bloomfield's (1933) work:

To describe the grammar of a language, we have to state the form-classes of each lexical form, and to determine what characteristics make the speakers assign it to these form-classes. The traditional answer to this question appears in our school grammars, which try to define the form-classes by the CLASS MEANING - by the feature of meaning that is common to all the lexical forms in the form-class. The school grammar tells us, for instance, that a noun is "the name of a person, place, or thing." (...) Similarly, school grammar defines the class of plural nouns by its meaning "more than one" (person, place, or thing), but who could gather from this that *oats* is a plural while *wheat* is a singular? Class-meanings, like all other meanings, elude the linguist's power of definition, and in general do not coincide with the meanings of strictly-defined technical terms. To accept definitions of meaning, which are at best makeshifts, in place of an identification in form terms, is to abandon scientific discourse (Bloomfield 1933, p. 266).

Though it would be incorrect to classify him among the proponents of such a strictly grammatical view, Palmer (1971, 1990) also advocates a view in which grammar and meaning are far from intimately connected:

It is easy enough to show that grammatical distinctions are not semantic ones by indicating the many cases where there is not a one-to-one correspondence. An often quoted example is that of *oats* and *wheat*. The former is clearly plural and the latter singular. (...) Further examples are to be found in *foliage* vs. *leaves*, in English *hair*, which is singular, vs. French *cheveux*, plural. These distinctions are grammatical and do not directly correspond to any categories of meaning (Palmer 1971, p. 34-35).

However, the grammatical view raises two objections:

1. It is hard to believe that the uncountability of nouns such as *water*, *gold*, or *smoke*, and the countability of nouns such as *car*, *flower*, and *dog* would be purely coincidental. It seems unlikely that this general tendency for substances to be referred to by mass nouns, and for objects and animate beings to be referred to by count nouns, would be unrelated to any meaning distinction.

2. The only thing that traditional counterexamples such as *oats* and *wheat* prove, is that there must be some degree of grammatical arbitrariness in the count-mass distinction. The count- or masshood of a noun does not seem fully predictable from its meaning. But taking into account that meaning distinctions are *per se* not clear-cut, whereas the grammatical system only involves a restricted number of distinctions, this is far from surprising. Furthermore, quite often the cited counterexamples can only be partially called *counterexamples*: *oats*, for instance, is despite its plural ending not a real count noun, since it does not have a singular counterpart (**oat*) and cannot be preceded by cardinal numbers (**three oats*). In other words: *oats* and *wheat* are perhaps more similar than generally assumed.

2. The ontological view

In the ontological view, the count-mass distinction is seen as a distinction operating between real-world entities, between referents. Quine (1960, p. 91) defines mass nouns as nouns referring to real-world entities that have the property of “cumulative reference”: “any sum of parts which are water is water”. In other words, *water* is a mass noun, because it is “unbounded”: if one adds water to water, one still has water. The quantity changes, but the quality does not. Nouns which do not refer cumulatively, however, are count nouns. A car is a “bounded” entity, so that adding means also changing: a car and a car is not a car, but two cars.

Another property of mass nouns (“Cheng’s Condition”) is the exact reverse. Mass nouns do not only refer cumulatively, but also distributively: “Any part of the whole of the mass object which is *w* is *w*” (Cheng 1973, p. 287). Mass nouns thus refer to real-world entities which are identical in every extent: whether one adds water to water or removes a portion from it, the final result will always be water. Mass nouns can therefore be characterised as having the property of “homogeneous reference” (Ter Meulen 1981): water has a homogeneous structure (parts of water are all alike and can be called *water*), whereas a car has a heterogeneous constitution (parts of a car are dissimilar and cannot be called *car*).

For all three properties (“cumulative”, “distributive”, and “homogeneous reference”) the real world is the touchstone. Properties in

the physical world determine whether a noun can be counted or not. Though it is intuitively appealing and to a certain extent justified to connect language and the external world (see below), the ontological view runs into a number of problems when confronted with some non-classic, recalcitrant examples:

1. If count and mass were properties of real-world entities, then one would expect different languages to make the same choices for the same entities. However, this is certainly not always true: the French say *du raisin* (mass), whereas the English call the same entities *a grape, some grapes* etc. (count).

2. It seems difficult to apply criteria such as “cumulative”, “distributive”, or “homogeneous reference” to abstract nouns such as *crisis, quality, or sadness*. The ontological criteria can only be successfully applied to concrete, tangible and/or perceptible objects, though abstract nouns give evidence of a count-mass distinction as well (*a crisis, much quality/many qualities, sadness*).

3. The actual (homogeneous or heterogeneous) composition of reality does not prevent a language user from referring to one and the same real-world entity both by count and by mass nouns:

- (1) *There is a chair in the corner.* (count)
There is some wood in the corner. (mass)
 (Prasada 1995, p. 256)

Apparently, it is not only reality but also the conceptualisation of that reality which determines count- or masshood (see below). Otherwise it would be hard to explain how many nouns can be both count and mass:

- (2) *He used bricks to build the house.* (count)
The house is built of brick. (mass)
 (Quirk et al. 1985, p. 246)

Whereas for a noun such as *brick* the difference between count and mass still corresponds to an ontological difference (the object vs. the material), this is less obvious for a noun such as *rain*:

- (3) *The rains in India have burst the banks of several rivers.* (count)
If there's rain today, I will not go to work. (mass)

4. The ontological criteria tend to give rise to discussions which haven't anything to do with language. For instance, the "distributive reference" criterion has urged many linguists and philosophers to discuss the impossibility of endlessly dividing a substance into smaller parts, and to answer the subsequent question of whether or not a single molecule of H₂O is still water. This is a matter of science, I should say, not a matter of language.

In sum, it is evident that the ontological view cannot be the whole story. But that is not tantamount to saying that there is no connection whatsoever between language and reality. On the contrary, it is no coincidence that nouns referring to entities with a well-defined shape and a heterogeneous composition (*car, flower, dog*) are usually count, whereas nouns referring to substances without clear boundaries, but with a homogeneous structure (*water, gold, smoke*), are normally mass. Though countability is a linguistic category, it typically has ontological correlations. As argued by Martin (1989, p. 40), the count-mass distinction is much like a vision that language imposes on reality. Situated in between ontology and grammar, the count-mass distinction undoubtedly reflects an aspect of reality, but at the same time it may involve a reorganisation of the world, a restructuration which is highly independent from reality.

3. The (Conceptual-)semantic view

Martin's point illustrates a basic premise of the conceptual-semantic view, undoubtedly the theoretical position with the highest number of proponents. In this view, the grammatical distinction between count and mass is not (primarily) connected to the world outside, but to the way language users perceive and conceptualise that world outside. In other words, the count-mass distinction resides in the meanings of the nouns themselves, and not in the things they name.²

Count and mass nouns are different with regard to conceptualisation: countability implies "individuated" conceptualisation, i.e. conceptualisation in terms of individual entities (e.g. *a car, many flowers, three dogs*). Uncountability (masshood), on the other hand, gives evidence of "unindividuated" conceptualisation, i.e. conceptualisation in which no individual entities are presupposed (e.g. *water, much gold, a lot of smoke*).

The grammatical count-mass distinction thus correlates with a conceptual-semantic distinction ("individuated" vs. "unindividuated"), not inevitably with an ontological one. A correlation between reality and conceptualisation is of course perfectly possible (e.g. *a car, water*), but it

² In what follows I will assume, for convenience's sake, that meanings reflect concepts in a straightforward way, though this is evidently not always the case.

is by no means necessary. *Furniture*, for instance, is a mass noun (e.g. **a furniture*, **many furnitures*, *furniture*, *much furniture*), despite its referring to multiple, discrete real-world entities such as chairs, tables, cupboards etc. The masshood of *furniture* signals what Martin (1989, p. 40) calls “une réorganisation du monde”, a motivated abstraction from the ontological plurality. Separate objects are conceptualised in a homogeneous, “unindividuated” way, so that:

[they can] be spoken of in a highly imprecise way, divorced from their specific and idiosyncratic functions. One speaks of buying and selling furniture, storing furniture in the attic, or furniture of a particular historical style. The functional identity of these objects is being suppressed here because it is not relevant to the particular messages being conveyed (Reid 1991, p. 71).

Imprecision, induced by the masshood of the noun, can in this way be functional. Another example of motivated disharmony between external reality and conceptualisation, is the masshood of quite a number of pejorative nouns referring to groups of persons (e.g. *scum*, Fr. *canaille*, Du. *gepeupel*): masshood then implies a conceptualisation in which the individual persons are annihilated, as if they were not worthy of a personal, “individuated” conceptualisation.

Sentences such as *Three beers please!* (‘three glasses of beer’) or *They sell Italian wines* (‘sorts of wine’), on the other hand, can be considered as examples in which counthood induces an “individuated” conceptualisation of real-world substances.

Broadly speaking, the shift from an ontological view to a conceptual-semantic view implies a shift from language seen as a representational system to language seen as a communicative device. In the conceptual-semantic view language is no longer considered to be a perfect mirror of nature. Deviations between language and world are possible and can be accounted for in terms of conceptualisation. In this way, the conceptual-semantic view is able to resolve most of the puzzles that the ontological view could not deal with. For instance, the conceptual-semantic view is able to explain how one and the same real-world entity can be referred to both by a count and by a mass noun (e.g. *chairs and tables/furniture*): there is just a difference in conceptualisation. Yet, there are two problems that the conceptual-semantic view cannot readily resolve:

1. It is highly improbable that all count-mass alternations can be explained in terms of conceptualisation. Why, for instance, has the English language chosen counthood for *pea* (*a pea*, *many peas*) and masshood for *rice* (*rice*,

much rice)?³ Postulating a difference in conceptualisation looks very much like an ad-hoc solution. Unlike examples such as *furniture*, *scum* or *three beers* there is no apparent reason here for a count-mass distinction. Furthermore, it is at least doubtful that the grammatical distinction between Fr. *du raisin* and Eng. *a grape/some grapes* may be explained by a (culturally determined?) difference in conceptualisation.

The various “conceptual-semanticists” appear to have different opinions about the degree of arbitrariness in language. According to Langacker (1987, 1991) and McCawley (1979) some count-mass alternations cannot be semantically motivated:

Expectations of absolute predictability are sometimes unreasonable for natural language and commonly lead to erroneous conclusions, dubious claims, or conceptual confusion. We must scale our expectations down to a level of predictability that is appropriate and realistic for the subject matter (Langacker 1987, p. 48).

(...) a fact that we'll have to live with, just as we have to live with the fact that there are count nouns with only a plural form, due to either pure idiosyncrasy (...) or to a minor regularity (McCawley 1979, p. 172).

Wierzbicka (1988, 1991b), on the other hand, claims that “semantic rules know no exceptions”. In her view, all grammatical differences between nouns such as *rice*, *pea*, *oats*, *wheat*, *beans*, *noodles*, *scissors*, *spaghetti* etc. can be given a conceptual-semantic motivation. Limitations of space prevent me from going into her arguments here, but some of them seem dubious and far-fetched,⁴ to say the least.

2. Since count and mass are analysed as lexical-semantic features (“individuated” vs. “unindividuated”), the conceptual-semantic view does not provide any satisfactory answer to the question of how so many nouns can pass from count to mass or vice versa. Many nouns (see above: *brick*, *quality*, *beer*) can be used both as a count and as a mass noun. Even prototypical count nouns such as *car* or *table* do not exclude mass readings:

³ *Pea* is derived from the Old English noun *pese*. The final *s* was reanalysed as a plural ending, so that Palmer (1990, p. 227) is right in saying that “the plurality of *peas* results in part from a historical accident.”

⁴ One random example: “Eating habits may be another relevant factor. For example, grains of raw rice, while small, are clearly perceivable as separate; but people don’t eat raw rice. Most commonly, rice is seen and handled when cooked, not when raw; and when it is cooked, the grains are not nearly as separate as when raw” (Wierzbicka 1988, p. 529).

- (4) *Hire more car for less money.*
There's not enough table for everyone to sit at. (Allan 1980, p. 547)

Now how should one resolve this problem? Do all nouns have at least two meanings, a count and a mass one? That would result in a duplication of the lexicon, which I think is not the most elegant solution. Furthermore, it seems unnatural to assume that the mass sense of *car* and *table* in the sentences above is a lexicalised one.

4. The Contextual view

The second point of criticism on the conceptual-semantic view directly leads to a basic premise of the contextual view. The fact that even a prototypical count noun such as *car* can be used as a mass noun (*Hire more car for less money*) proves that “countability is not in fact a characteristic of nouns per se, but of NP’s; thus it is associated with nouns in syntagmata, not with nouns as lexical entries” (Allan 1980, p. 546).

In an NP such as *a car* it is only the determiner *a* which marks the NP as count, indeed. It seems therefore true that “a noun as such cannot be classified as ‘count’ or ‘mass’” (Bunt 1985, p. 12), and that “the distinction between count nouns and mass nouns is determined by the quantifiers and the determiners that are appropriate to the nouns” (Ware 1979, p. 15). English count NPs are NPs in which the noun is preceded by *a*, *one*, *two*, *a few*, *several*, and *many*; English mass NPs are NPs in which the noun is preceded by the zero determiner (e.g. \emptyset *water*), *a little (bit of)*, and *much*.

The contextual view actually dates back to the works of some American philosophers in the seventies (Pelletier 1979a is a collection), whose basic tenet was that almost every noun can be used both in a count and in a mass sense. A famous illustration of this is a thought experiment of Pelletier’s (1979b), which he called the “universal grinder”. That fictitious machine was able to chop up anything (no matter how large, small, soft, or hard), so that putting a man in one end of the grinder would – after the machine had done its work – result in a sentence such as *there’s man all over the floor*. Later on other “thought machines” were proposed, such as Bunt’s (1985) “universal sorter” (to convert mass nouns into count nouns) and Galmiche’s (1989) “multiplicateur” and “conditionneur”.

But let’s stay to the heart of the matter; the contextual view too raises a few questions and objections:

1. There are certain limits: not all nouns can be used both in count and in mass NPs. Galmiche (1989, p. 68), for instance, points out that **du kilo*, **de la catégorie* and **du chapitre* are impossible in French.

2. Not all contexts are discriminating with regard to the count-mass distinction. For instance, an NP such as *my bike* cannot be said to be a count NP on contextual grounds, since *my* is neutral as far as number is concerned (e.g. *my bike/water/children*). And the same goes for *the* and *this/that*.

3. More importantly, the contextual view cannot explain why most nouns obviously appear to favour one type of context over the other. In other words, the contextual view puts everything in the same box and ignores degrees of lexicalisation. For instance, *car* almost invariably occurs in count NPs (though a mass NP is not impossible: *Hire more car for less money*), whereas *wine* clearly favours mass NPs (though a count NP is not impossible: *They sell Italian wines*.) When one adheres to a strictly contextual view, such differences cannot be accounted for.

5. The count-mass Distinction as a Multidimensional phenomenon

What I hope to have made clear in the preceding sections, is that all four basic theoretical positions in the count-mass literature are problematic to some extent. Radically grammatical, ontological, conceptual-semantic, or contextual analyses have all proven unworkable. The solution, so it seems, lies in a reconciliation of the different theoretical views. A proper characterisation of the count-mass distinction can only be given if its multidimensional character is fully acknowledged.

First impetuses to such a reconciliation can be found in Allan 1980 and Mufwene 1984. Both studies are combinations of the conceptual-semantic and the contextual view: countability is considered to be a property of NPs, not of nouns, but nouns do have what Allan calls “countability preferences”. Some nouns (e.g. *car*) enter countable environments more readily than others (e.g. *admiration*), which means that the answer to the question “is countability a binary phenomenon?” should be “yes and no”. Countability as a feature of NPs is a binary feature (an NP is count or mass, nothing in between)⁵, but whether a noun is count or mass, is a matter of degree (of lexicalisation).

Other attempts at a reconciliation are Martin 1989 and Wilmet 1989. Martin tries to connect the ontological and the conceptual-semantic view in distinguishing “la dénotation extensionnelle” from “la dénotation conceptuelle”; Wilmet makes a similar distinction (“caractérisation ontologique” vs. “caractérisation linguistique”), but goes further in investigating how this

⁵ As already mentioned, some NPs, for instance those in which the noun is preceded by *the*, *this/that*, or a possessive pronoun, are neutral as far as number is concerned.

can be related to the contextual view in which “l’attention se déplace du substantif isolé (N) vers le syntagme nominal (SN)” (Wilmet 1989, p. 97).⁶

If the count-mass distinction is considered as a phenomenon that operates in different dimensions of linguistic analysis, then various patterns may emerge. In table 2 I have tried to classify some of the examples already discussed on the basis of four parameters:

1. **Basic count- or masshood:** is the count- or masshood of the NP basic, in the sense that it corresponds to the “original” count- or masshood of the head of the NP?
2. **Lexicalisation:** is the count- or masshood of the NP lexicalised, in the sense that it corresponds to the count- or masshood of at least one of the senses of the head of the NP?⁷
3. **Conceptualisation vs reality:** do reality and conceptualisation coincide?
4. **Motivation:** in case of a deviation (a “no” for one of the previous parameters), is this deviation motivated or not?⁸

	basic	lexical.	c vs r	motiv.
<i>a car; two dogs; chickens; water; much wine; smoke</i>	+	+	+	
<i>furniture; scum</i>	+	+	-	+
<i>a pea/rice; a grape/du raisin</i>	+	+	-	-
<i>Italian wines; let’s eat chicken</i>	-	+	+/-	+
<i>hire more car for less money; there’s enough table to sit at</i>	-	-	-	+

Table 2

The traditional count-mass examples belong to the first category: nouns are used in their preferred environment (count for *car*, mass for *water*), without there being a deviation between the external world and the conceptu-alisation of that world. If there is such a deviation, however, then there are two possibilities: either this deviation is motivated or it is arbitrary (e.g. *a pea* (count) vs. *rice* (mass)). Motivated deviations between reality and conceptualisation are of two types: either they are lexicalised (e.g. *furniture; Italian wines*) or they are spontaneous and context-motivated (e.g. *more car, enough table*).

It seems that almost all “basic” count nouns have the potential to pass from count to mass, but that this potential is not lexicalised in most cases.

⁶ Translation: “the focus shifts from isolated nouns towards NPs.”

⁷ Lexicalisation is a *conditio sine qua non* for “basic count- or masshood”.

⁸ Or seen from the reverse angle: is the count- or masshood of the NP arbitrary or not?

Exceptions are names of food (e.g. *chicken, apple, egg*) and of object-derived substances (e.g. *stone, brick, rope*). Conversions from mass to count, on the other hand, are usually not spontaneous and motivated through the context, but lexicalised. Count usage of “basic” mass nouns then serves to denote multiple containers (e.g. *three beers, please!*) or multiple sorts of a substance (e.g. *Italian wines*).

In sum, then, it is evident that an insightful discussion of the count-mass distinction can only take place if the above mentioned parameters are taken into account. Relevant dimensions such as basic count- or masshood, degree of lexicalisation, conceptualisation, and (non)arbitrariness show that the count-mass distinction cannot be reduced to an exclusively grammatical, ontological, conceptual-semantic, or contextual issue. Instead, it should be analysed as a multidimensional phenomenon that can be characterised as follows:

1. (Non)countability is intimately connected with reality, though a plausible account for it can only be given when it is analysed in terms of a possible conceptual restructuring of that reality;
2. (Non)countability is primarily a property of NPs, but nouns may differ in the degree that they occur in count or mass environments;
3. When conceptualisation and reality do not match, this deviation may be (lexically/contextually) motivated or unmotivated. There is always a degree of arbitrariness in language.

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