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The grammatical properties of mass nouns: An aphasia case study

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Abstract—A patient (F.A.) is described who, as a consequence of brain damage, shows an isolated deficit concerning the use, across a series of tasks, of the grammatical properties of mass/non-countable nouns. Her use of grammar is otherwise perfect. This behaviour dissociates from that of other patients who have severe grammatical difficulties, but do not show any impairment in the mass nouns tasks that F.A. fails. This case is thought to demonstrate how specific grammatical rules, that are said to be stored at the lemma level of lexical retrieval, are indeed independently represented and accessible. © 1997 Elsevier Science Ltd.

Key Words: non-countable nouns; lemma.

Introduction

In a speaker's mental lexicon each item is viewed, according to recent psycholinguistic models [2, 16], as a listing of features specifying (a) the item's meaning, (b) its syntactic properties, (c) its morphology and (d) its phonology. The first two sets of features constitute what is called, in a widely followed tradition started by Kempen and Huijbers [15], the 'lemma' component of each lexical entry. This component is thus distinguished from the so-called 'lexeme' component which specifies the morphophonological features. In particular a lemma's syntactic information [16] specifies the item's syntactic category, its assignment of grammatical function and a set of diacritic features or parameters. Thus, for a given word, a lemma component may contain, for example, the information that the word belongs to the category of verbs and not to the category of nouns or to any other grammatical category. The information that a given word may require a subject, a direct object or a verbal complement is also contained in the lemma component and so are the tense, the person, the number, etc., and even the pitch accent. The particular lemma level features of interest in the present investigation concern one of the two major classes of nouns, i.e. common nouns (the other being proper nouns). More precisely, there are features that separate common nouns into count nouns and mass nouns along syntactic lines (just as other features distinguish common nouns from proper nouns).

Contemporary studies of aphasia have described several subtle deficits consisting of dissociations of functions that seem to support theoretically grounded distinctions. The emerging picture is one characterized by a system in which different components of language processing are individually dissociated. For example, Caramazza and Miceli [7] described a patient for whom the dissociability of deficit of thematic role assignment (a lemma level function) from deficits of morphological and function word processing mechanisms could be documented unambigously. The authors maintained that these data postulate a thematic role assignment mechanism that operates independently of other lexical and grammatical processing mechanisms. Studies of this kind appear to support the idea that the syntactic specification of a word may be stored more independently than the lemma level theory seems to admit.

In the present study a patient is described, who shows how it is possible to be able to retrieve a certain category of words (in this case mass nouns) and yet to be unable to take into account, in both production and reception, the syntactic information that distinguishes that category from other categories. It will be argued that this dissociation may be attributed to a selective loss of specific

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grammatical rules that are thus demonstrated to be independently stored and processed at the lemma level of lexical retrieval.

Count and mass nouns; the notion of countability

A very basic distinction, learned from early childhood, is that between compact, enduring things and the stuffs of which they are constituted. The former are counted, the latter are measured. Philosophers (see Pelletier [21] and Burge [4] for a review) have traditionally treated this distinction with categories like form and matter, substance and substrate, mode and extension, non-sortal and sortal. The distinction between count nouns and mass nouns is the linguistic analogue of these category pairs. The following definitions are taken from Macnamara and Reyes [17]. A word is assigned to the syntactic category **mass nouns** (like *water*, *calcium*, *oatmeal*) if the samples to which it is applied are taken as constituting in combination a larger sample; they denote monadic entities whose boundaries are perceptually inaccessible. **Count nouns** are, instead, words (like *dog*, *window*, *hammer*) applied to perceptual entities that in combination do not yield another entity of the same kind. Thus the juxtaposition of two dogs does not yield a single dog, whereas singles bodies of water can be combined to yield another single body of water, dissolving the boundaries of the two original components.

These semantic distinctions are mirrored by grammatical properties that differentiate the use of the two categories [16]. Indeed it has been claimed, with experimental support [12], that in both children and adults the representation of the count/mass distinction is not based on the semantic notion of objects and substance, but rather on syntactic properties relating to the role that count nouns and mass nouns play in syntactic construction. Thus, in languages like Italian or English (there are minor differences between Italian and English that are not relevant here—see Renzi [22] or Chierchia [9]; mind also that other languages may differ completely: in Chinese or Japanese for example it can be argued that all nouns are mass), mass nouns, unlike count nouns:

cannot take the plural,
cannot take indefinite articles,
cannot take quantifiers that necessarily denumerate like one, two,......another, many, each, several, etc.

They can take, however, quantifiers (like little or much) that do not necessarily denumerate. Instead count nouns, unlike mass nouns:

can take the plural,
can take definite and indefinite articles,
cannot take quantifiers that do not denumerate like much and little.

A particular case concerns **collective nouns** (like *flock* or *furniture*) that denote groups of elements that cannot be enumerated in each single component but may or may not share the feature of countability. Those that are countable (like *flock*) obey the same rules for count nouns, while for the others (like *furniture*) the rules for mass nouns apply.

The distinction between count and mass nouns is thus complex and, it must be added, by no means clear-cut. In many cases, a given word belonging to one or other category is determined by the context: thus Bunt [3] writes: "the count–mass distinction is not really a distinction between words, but a distinction between ways of using the words". For example Pelletier [21] considers the (supposed) mass noun *oatmeal*: given an appropriate setting (such as a customer in a diner to the waitress), it is clear a question such as: "*How many oatmeals are in your kitchen?*" has as a clear answer, "*Three oatmeals*", thus violating the two related criteria of mass nouns accepting neither pluralization nor numeral quantifiers. A way around these difficulties is to observe that in such cases there is transfer of meaning, e.g. in a figurative sense as in *smooth waters*. Or that, as in the example a coffee (perfectly acceptable in Italian when ordering a cup of coffee), such phrase as "*a cup of*" has been deleted from the surface structure. Thus, the ultimate answer as to whether a given name is a count or a mass noun depends upon being able to decide, for any specific use (or alternatively any specific 'sense' in Frege's [10] terms), whether it is a count or a mass use (or sense). Other difficulties stem from the fact that the use made of the mass/count contrast for grammar is somehow different from the use that has been made of the same (or analogous) distinction in philosophy. For example, the grammatical distinction applies only to nouns, whereas the philosophical distinction is usually held to apply to all monadic entities. Furthermore the grammatical distinction seems to apply easily to certain abstract terms: thus *knowledge* or *jealousy* are considered mass nouns, whereas *plot* or *quality* are count. Many philosophers, however, would be reluctant to apply a mass/count distinction to such instances.

For the purpose of the present study, where only concrete, central samples of the two classes of nouns will be used in an unambiguous context, all these difficulties can be safely set aside.

Case report

F.A. was a 73-year-old housewife who had received a formal education of 8 years and spoke a rather standard type of Italian, which is not common among women of her age in the part of Italy (the province of Vicenza) she came from. In the past she had helped her husband in a business that entailed public relations and travelling all over northern Italy. She had no record of developmental linguistic abnormalities.

In August 1994 she suffered from a vascular lesion in the left temporal lobe extending deeply to the basal ganglia (CT scan findings). At the time of this study (October

Table 1. F.A.'s scores in the count/mass nouns test and count/non-countable collective nouns test (scores of the screening test reflect the number of correct responses over 20 items)

Tasks	1st assessment		2nd assessment		3rd assessment	
	Count	Mass	Count	Mass	Count	Mass
Naming on definition	17	16	20	20		
Naming in Sentence completion	20	17	20	20		
Semantic judgement	20	20	20	20		
Semantic association	Spoken presentation					
	17	17	20	20		
	Written presentation					
	20	19				
Sentence grammatical judgement (screening test)	18	8	20	10	20	5
(14 additional sentences)	14	4				
Sentence completion	18	4	18	4	20	4
Sentence production	17	8	20	8		

Collective nouns	Count nouns	Non-countable collective nouns
Sentence gramatical judgement	20	5
Sentence completion	20	4
Sentence production	17	5

1994–February 1996) she had been dismissed from regular treatment in the outpatient clinic of the Ospedale Civile of Vicenza where she had received speech therapy, because her initial aphasia, of the anomic type, seemed to have almost fully recovered. She had no problem with elementary motor and sensory functions. No signs of apraxia, agnosia, episodic and semantic memory disorders, acalculia and frontal lobe dysfunction were detectable An Aachener Aphasia Test, performed at the beginning of this investigation, could just show a very mild degree of anomia. She showed no signs of alexia and agraphia. Of particular interest was F.A.'s performance with the syntactic part of the Miceli, Laudanna and Burani's battery [19] for the evaluation of aphasic deficits. She yielded a perfect score for both grammatical comprehension (60/60 on spoken and 45/45 on written presentation) and grammaticality judgements (48/48 on spoken and 24/24 on written presentation). These tests tap a wide range of grammatical functions, including noun/verb agreement, use of article, auxiliaries and prepositions, and use of active and passive constructions.

Methods and results

F.A. was initially submitted to a screening test* that systematically contrasted count and mass nouns in a series of theoretically relevant tasks (Naming on definition, Naming in sentence completion, Semantic judgements, Semantic association, Sentence grammaticality judgements, Sentence completion, Sentence production, see later and Table 1). The

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*An English version of this test is currently being prepared in collaboration with Elizabeth Warrington and Lisa Cipolotti at the National Hospital for Neurology and Neurosurgery, London

most interesting subtests were repeated three months and then a year later. For all tasks of this screening test 20 count (10 high and 10 low frequency) and 20 mass (10 high and 10 low frequency) nouns were used (see Appendix 1), matched in pairs for frequency (high frequency: range of use inferior to 3670 = mean of 38 occurences per million; low frequency: range of use between 6200 and 6505 = mean of 5 occurences per million), length and phonological complexity (the data base was collected from De Mauro et al. [11]). The stimuli were presented in a written form and the examiner read them aloud. The patient answered orally. Further testing on F.A., performed at various times, involved different names for different tasks (Table 1 summarizes her performance).

Each task was administered to a number of control subjects over 70 years old and with a low education level (5–8 years). They performed at ceiling (none of them committed a single error).

Thirteen unselected patients affected by a mild to medium severe aphasia were also given the screening test. None of these subjects, however, showed any significant difference between the mass and the count portions of each of the critical tasks (see Table 2). In particular a patient, O.R., who showed the classical features of agrammatism, performed almost perfectly in all the experimental tasks of this battery. In the few errors made, he did not show any difference between count and mass nouns: in Sentence grammaticality judgements he performed 19/20 correct for count nouns sentences and 17/20 for mass nouns sentences while in Sentence completion his score was 18/20 (count) and 19/20 (mass). He had obvious difficulties in the Sentence generation task, but he did not commit a single violation of rules that are specific for mass or count nouns. The diagnosis of agrammatism had been made on the basis of his speech production (both spontaneous or elicited through picture description), which was essentially telegraphic with no subordinate clauses, and omission of functors and bound morphemes. Omission or simplification of bound morphemes also affected his repetition of morphologically complex words. He likewise scored very poorly on the Miceli et al. battery [19]— grammatical comprehension: 16/60 on spoken and 13/45 on written presentation; grammaticality judgements: 12/48 on spoken and 7/24 on written presentation.

Table 2. Performance of thirteen unselected aphasic patients in mass/count tests. O.R. is the agrammatic

P.T	Naming on definition		Naming in Sentence completion		Semantic judgement		Semantic association		Sentence grammatical judgement		Sentence completion		Sentence production	
	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.
A.G.	19	20	20	19	20	20	20	20	20	20	19	20	–	–
G.G	20	20	19	19	20	20	20	20	20	20	19	20	18	19
F.E.	19	20	18	20	20	20	20	20	19	20	20	18	20	20
L.C.	19	20	–	–	20	20	20	20	20	20	19	20	20	20
S.P.	19	19	20	19	19	20	19	20	19	19	20	18	18	20
W.L.	19	20	17	18	19	19	19	19	18	18	16	20	–	–
E.T.	19	20	19	19	20	20	20	19	20	19	19	20	–	–
M.M.	20	19	20	20	20	20	20	20	20	20	20	20	–	–
S.S.	19	18	19	19	20	18	18	19	19	19	20	18	17	18
M.L.	18	17	16	18	20	20	20	20	19	19	20	20	20	20
O.C.	20	19	19	19	20	20	20	20	16	20	20	20	20	20
G.C.	20	17	19	16	18	19	17	18	18	18	18	19	–	–
O.R.	20	20	20	20	20	19	19	19	19	17	18	19	—	—

Naming on definition

The patient had to answer simple questions about target words (e.g. "Qual'è l'animale che abbaia?": "What animal barks?" or "Cosa scorre nei fiumi?": "Which element flows in rivers?"). Her score was 17/20 correct (9 high frequency and 8 low frequency) for count nouns and 16/20 (8 high frequency and 8 low frequency) for mass nouns. When she failed to retrieve the right name she just said "I don't know" or "I cannot remember", but did not provide wrong answers. Three months later she performed 20/20 correct for both count and mass nouns.

Naming in sentence completion

The patient had to retrieve and insert the correct item in sentence contexts like: "Quel... è legato perchè potrebbe mordere": "That... is chained because otherwise it could bite" or "Vorrei bere dell'... fresca dal rubinetto": "I would like to drink some fresh... from the tap". She scored 20/20 correct (10 high and 10 low) for count nouns and 17/20 (8 and 9) for mass nouns. Again, when failing, she just said "I don't know". Three months later she performed 20/20 correct for both count and mass nouns.

Semantic judgements

The patient had to read aloud and judge as true or false 40 sentences (20 involving the count and 20 the mass nouns) like: "Il cane miagola": "The dog mews" or "Il latte è bianco": "Milk is white". Her performance was perfect.

Semantic associations

The patient had to choose the semantically associated word from two alternatives (e.g. dog/bone–flower or water/book–bottle). The score was 17/20 correct (10 high and 7 low frequency) for count nouns and 17/20 (7 and 10) for mass nouns. In a written version of the same task F.A. made only one error (in a low frequency mass item). Three months later she was perfect.

Sentence grammaticality judgements

This task required the patient to indicate whether or not a written sentence (also read aloud by the examiner) including a count or a mass noun was syntactically correct. When she judged a sentence to be wrong she was invited to provide a correct substitute. Wrong sentences involved misuse of determiners and quantifiers (e.g. "C'è molto* banco in classe": "There is much desk in this classroom" and "C'è una* sabbia sulla spiaggia": "There is a sand on the beech"). Pluralization of mass nouns was not included in this first set of sentences to avoid ambiguities in interpreting the patient's performance. It is indeed possible to accept most of such sentences including pluralization of mass nouns as correct just by imaging an appropriate context (e.g. three coffees). On the other hand, the heuristic could be used of rejecting every sentence in which a seldom if ever used word form, such as the plural of a mass nouns, appeared.

On initial administration F.A.'s score was 18/20 (8 high and 10 low frequency) correct for count nouns and 8/20 (4 and 4) for mass nouns sentences. Three months later her score was 20/20 with count nouns and 10/20 (4 and 6) with mass nouns. One year later F.A. scored 20/20 with count nouns and 5/20 ([2],[3]) with mass nouns. On retesting with the same material (in this task as well as in all tasks in this study), F.A. was not consistent in her errors: thus on a given item which she saw for the second time, she might reach a different decision with respect to the first time she saw it. A series of additional sentences was also administered that did not appear in the screening test, containing the same sort of errors in different contexts. The patient was again perfect with count noun (14/14 correct) sentences, but scored 4/14 for mass noun sentences.

This same Sentence grammaticality judgements task was also administered using sentences with 20 non-countable collective nouns (that behave like mass nouns) and 20 count nouns matched for frequency. F.A. scored 20/20 with count nouns, but only 5/20 with non-countable collective nouns.

Over all these sentences F.A. misjudged the use of ten different types of determiners and quantifiers as applied to mass nouns in various contexts. In the case of wrong sentences with count nouns not only was F.A. able to spot the error, but provided the correct version. Yet, when confronted with wrong sentences with mass nouns she, either accepted them as correct, or tried to substitute them with other wrong sentences. She also tended to reject correct mass nouns sentences substituting them

with other sentences that however violated the rules for mass nouns, treating them as count ones. In her corrections she often pluralized mass nouns. A final set of 36 sentences was administered, all with nouns in the plural. The patient's task was again to detect grammatical errors. Half of these sentences contained plural mass nouns in very unambiguous contexts, where it would be very difficult to imagine any plausible scenarios (like "Metto delle panne montate sulle fragole": "I am putting some whipped creams on my strawberries"). F.A. none the less accepted 14/18 such sentences as correct.

Sentence completion

This task required the selection of the correct article or quantifier from among three written alternatives, only one of which was grammatically correct, for a written sentence (e.g. "C'è... cane che abbaia—un—del*—molto*": "There is... dog which barks—a—some*—much*" or "Vorrei... acqua, per favore—un'*—un po d'—molte*": "I would like... water, please—a*—some—many*"). F.A.'s score was 18/20 correct (9 for high and 9 for low frequency item) for count nouns and 4/20 (2 and 2) for mass nouns. Three months later she yielded exactly the same score. One year later her score was 20/20 (10 and 10) for count nouns and 4/20 (2 and 2) for mass nouns. In the same task with collective nouns she scored 18/20 correct with countable and 5/20 correct with non-countable nouns. In all errors mass nouns were attributed the articles and quantifiers that would have been appropriate for count nouns (e.g. when presented "Il falegname usa... legno per lavorare—il—un*—di*—": "The carpenter uses... wood for working—a*—some, of*—" she said: "Il falegname usa un legno per lavorare": "The carpenter uses a wood for working" and "Per costruire il castello serve ancora... sabbia—una*—la*—della—": "To build the castle I need... more sand—a*—the*—some—" she said: "Per costruire il castello dovrei avere ancora una sabbia": "To build the castle I need a more sand".

Sentence production

The patient had to construct a sentence semantically and syntactically correct from a target noun (count or mass) and a semantically associable noun (i.e. ship/sea or water/glass). F.A.'s score was 17/20 correct (7 and 10) for count nouns and 8/20 for mass nouns ([4] and [4]). Three months, as well as a year, later, F.A. was perfect with count nouns, while she again scored 8/20 ([4] and [4]) for mass nouns. For sentences with collective nouns F.A. scored 17/20 correct with countable and 5/20 correct with non-countable nouns. A total of 49 errors was therefore collected with these tasks on mass nouns. A number of these errors (39 out 49) resulted from the omission of the correct article or from the use of the wrong one with mass nouns (e.g. When presented "fuoco–fiammifero": "fire/match" she produced "Per accendere * fuoco serve un fiammifero": "In order to light fire I need a match" or, with "panino–burro": "roll/butter", she said "Spalmo un* burro sul panino": "I spread a butter on a roll"). The remaining 10 errors were made because F.A. substituted mass nouns with semantically associated nouns (e.g. when presented with "falegname–legno": "carpenter/wood" she said "Il falegname sta costruendo uno sgabello": "The carpenter is making a stool") or avoided using the mass nouns (e.g. when presented with "finestra–vetro": "window/glass" she said "In questa casa c'è una finestra": "In this house there is a window"), or pluralized the mass noun (e.g. carta—colla: paper—glue she said "Metto le colle sulla carta": "I put the glues on the paper").

Consistency of errors for each mass noun task

Since 20 mass nouns were used for all tasks on repeated occasions (eight times in the whole study: three times in sentence grammaticality judgements; three times in sentence completion and twice in sentence production) it was possible to assess whether F.A. was consistent in her errors concerning the use of each single mass noun. This analysis is needed in order to establish whether F.A. suffered from an across the board deficit in the use of rules for all mass nouns or from a limitation in the application of such rules to a subset within the mass noun category. The first hypothesis seems to be supported, since, for each mass noun, at least two, but not more than six errors, over the eight occasions, were committed.

Discussion

F.A. seemed to ignore or, at least, to have considerable difficulty in appreciating and using all the syntactic rules, described in the introduction, that apply to non-countable nouns, either of the mass or of the non-countable collective type. The authenticity of this effect is the first, compelling issue to be discussed. Premorbidly F.A. had never been noticed as being incorrect in speaking and no doubts had ever been expressed about her linguistic competence. No dialect in her region follows rules for mass nouns that are different from those for Italian. All these are reasons for assuming that her linguistic problems started with a brain injury.

Several findings indicate that F.A. had, at the time of this study, a very selective problem with mass nouns rather than a residual, generalized difficulty with grammar. This problem emerged consistently over a period of 18 months in a series of very different tasks tapping both the receptive and the production side. Both the variety of tasks and of errors within tasks make the hypothesis unlikely that this deficit results from a particular idiosyncrasy of the patient. No other grammatical problem was ever found in these tasks (nor in her spontaneus speech) and even when administered a complex battery, specifically devoted to the detection of subtle grammatical deficits, the patient performed at ceiling.

An isolated single dissociation regarding the syntax of mass nouns, even such a strong one (see, however, Semenza [23] about single dissociations that occur in an all-or-nothing fashion) may not be considered sufficient to guarantee that F.A.'s deficit is a selective one. Indeed Shapiro *et al.* [25] have demonstrated that the count/mass distinction is particularly difficult for some agrammatic patients. The syntax connected with mass nouns might thus require a higher effort in linguistic performance, an effort beyond F.A.'s residual capacity after brain damage. No evidence, however, supports this hypothesis. All the experimental tests administered in this study proved rather easy for normal subjects, even those with low educational level; no difference emerged between count and mass noun tests in the performance of several unselected subjects whose linguistic capacity could, to various degrees, be depleted of resources by brain

damage. More important, still, at least one subject was found whose speech production was severely agrammatic and whose syntactic comprehension was extremely poor, but he performed at ceiling with the mass nouns tasks used in this study.

This patient would make a strong double dissociation with F.A.'s performance, where a very defective treatment of mass noun syntax contrasts with otherwise intact grammatical capacities. In spite of this, it could be argued that F.A.'s difficulty with mass nouns may paradoxically derive from a particular skill: i.e. that of evoking scenarios where mass nouns could be treated as count nouns. This would lead to accepting violations that are, however, avoided by less imaginative subjects, whether normal or agrammatic. As was pointed out in the description of the test material, pluralization of mass nouns (an error that F.A. makes in production), which is likely to be accepted if imaging particular contexts, did not appear in the first grammatical judgements task, which F.A. failed as well. It is difficult to see what appropriate context would lead a subject to prefer sentences like "I cleaned a polish off my nails" to "I cleaned the polish off my nails".

What is, then, the precise nature of the patient's deficit and what may be the locus of her functional lesion? With respect to this fundamental question, the association of symptoms that have been demonstrated in F.A. is even more important than the dissociation she features with other grammatical abilities. Indeed the only violation of grammatical rules that could be detected in her performance consists of pluralization of mass nouns and of the misuse with these nouns of the indefinite article and of the wrong quantifiers. The only common factor relating this set of rules is the association with mass and non-countable collective nouns. A wide variety of such nouns was used in this study and F.A., while occasionally being right, made mistakes with virtually all of them. This shows that her difficulty cannot be attributed to a problem or to an idiosyncrasy with a subset of non-countable nouns. It also shows that the ability to apply the right rules for mass nouns is not reduced to a few very representative items.* It seems rather that the grammatical rules valid for mass nouns are seldom accessible to F.A. This makes the association of symptoms exhibited by this patient a theoretically relevant one. According to the lemma theory, as mentioned in the introduction, the representation of the grammatical properties of mass nouns is stored in connection with other syntactic and semantic information in the lemma. In this theory, the degree of autonomy of each rule and indeed of each piece of information at the lemma level is not explicitly specified. Indeed, on the basis of different findings (including, for instance the fact that in both aphasia and the tip-of-the-tongue states, the knowledge of the missing word's gender may be retained [1, 26]), it has recently been argued [8] that grammatical information is largely autonomous with

respect to other lexical features. The same sort of argument has been put forward on the basis of other neuropsychological observations (the knowledge of derivational and compositional rules vis-a-vis a loss of the phonological form in aphasia [6, 13, 24]). In this respect the present study appears particularly clear: a case where the all and only rules concerning the use of mass nouns are selectively lost demonstrates that such rules are indeed stored as an independent set ready to use in a variety of tasks.

This conclusion leads to another point of theoretical interest. As has been already mentioned, in many languages, like, for instance, Chinese and Japanese, all nouns are mass nouns. Furthermore over all languages names of superordinate kind seem to be more often of the mass type with respect to names of subordinates [18]. This sort of observations may lead to speculation that mass and not count is the unmarked category of nouns. However a loss in aphasia of the rules concerning mass nouns vis-a-vis a preservation of the rules concerning count nouns may be taken as evidence that, at least in Italian, unmarkedness is borne upon count nouns (one may remember that aphasics with poor inflexional morphology, like F.S., described in Miceli and Caramazza [20] tend to use citation forms in place of more complex inflections) [5, 14].

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*We owe this observation to Gennaro Chierchia.

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APPENDIX

The mass, count and non-countable collective nouns used in the Italian test. The English translation is deliberately literal.

Mass nouns	Count nouns compared with mass nouns	Non-countable collective	Count nouns compared with collective
High frequency	High frequency		
acqua:*water*	cane:*dog*	mobilia:*furniture*	falce:*sickle*
sabbia:*sand*	tenda:*tent*	plebe:*mob*	cialda:*water*
legno:*wood*	banco:*desk*	capigliatura:*haircan*	nibale:*cannibal*
fuoco:*fire*	gamba:*leg*	gente:*people*	fiore:*flower*
vetro:*glass*	piatto:*plate*	fogliame:*foliage*	rastrello:*rake*
latte:*milk*	mucca:*cow*	clientela:*clientele*	collana:*necklace*
neve:*snow*	nave:*ship*	nobiltà:*noble*	boccale:*tankard*
ombra:*shadow*	oliva:*olive*	vasellame:*crockery*	archivio:*archives*
low frequency	low frequency		
paglia:*straw*	gatto:*cat*	folla:*crow*	drospo:*toad*
smalto:*enamel*	slitta:*sleigh*	argenteria:*silverware*	madorla:*almond*
farina:*flour*	campana:*bell*	cristalleria:*crystalware*	biglietteria:*ticket office*
tabacco:*tobacco*	colomba:*dove*	biancheria:*linen*	automobile:*car*
cemento:*cement*	castagna:*chest*	nutmaglieria:*knitware*	edicolante:*newsagent*
colla:*glue*	grillo:*cricket*	flora:*flora*	drago:*dragon*
panna:*cream*	spina:*thorn*	mura:*tack*	torre:*tower*
marmo:*marble*	gallo:*cock*	selvaggina:*game*	sgabello:*stool*
burro:*butter*	topo:*mouse*	borghesia:*bourgeoisie*	faraone:*Pharaoh*
brodo:*broth*	ladra:*thief*	abbigliamento:*clothes*	lampione: *street lamp*