Atomicity revisited: Discrepancies in Logical Analyses of Plural Number

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Abstract

In light of the count/mass distinction, plural morphology has received extensive attention in the literature of linguistics and philosophy, since it is often considered as one distinctive feature that divides count nouns from mass nouns. Chierchia (1998) introduces a functional theory by means of which singulars, plurals and mass terms receive an interpretation in the same domain. In an atomic semi-lattice for count or mass nouns, as Link (1983) and Rothstein (2010) propose, the individuals (or atoms) at the bottom represent singularities while the sets above, generated using supremum (\(\cup\)) - an operation of sum - represent pluralities. It follows that pluralities presuppose atomicity. In grammar, pluralities are illustrated through the plural morphology and atomicity by the use of the indefinite determiner. These two phenomena have commonly been assumed to be the most notable characteristics of count nouns in the vast literature on the count and mass distinction, but we will show that some countability classes do not exhibit both characteristics. On the contrary, a set of nouns can be pluralized while their occurrence with the indefinite article is ungrammatical, another set of nouns is felicitous in combination with the indefinite article but never pluralize.

1 Morphosyntactic criteria

In linguistic works on the Mass/Count distinction as well as in grammars (for English cf. Huddleston and Pullum, 2012) nouns are divided in two categories,
count nouns and mass nouns, based on a number of morphosyntactic features. Those features include specifications regarding the use of determiners, the ability to occur with numeral modifiers, classifier phrases or in plural form.

Besides these features, a number of exceptions show that the morphosyntactic characteristics may not indicate a binary division of nouns. Dual-Life nouns can operate as count nouns as well as mass nouns. So-called fence-like nouns are count nouns but also show some mass properties (cf. Rothstein, 2010, Filip and Sutton, 2017).

(1) Dual-Life
   a. drink a beer / eat a cake (count)
   b. drink beer / eat cake (mass)

(2) fence-like nouns
   a. five walls / a fence
   b. 3km of fence / 100 yards of hedge

Additionally, it has recently been claimed that in many cases it is not the noun lemma but a certain sense of the noun that is to be categorized as count or mass (cf. Kiss et al, 2014, 2016).

(3) sense-based approach
   a. fruitcake#1 a whimsically eccentric person. (count)
Besides the above examples there are many more such nouns, that either have a dual use or their senses have different mass/count properties. All of this gives us the impression that there is no straightforward, binary distinction of nouns that can be explained by the morphosyntactic features in Table 1.

2 The semantics of count and mass nouns

Several efforts have been made with the goal of defining a formal semantic representation for count and mass nouns (e.g. Link, 1983; Gillon, 1992; Krifka, 1989; Chierchia, 1998; Rothstein, 2010 and Landmann, 2011a - to name just a few). All these proposals establish their theories by a consideration of the properties of the denotations, for which they assume atomicity was a key part. Atomicity is opposed to homogeneity and forms the main property of denotations of count nouns. Although the properties of the denotations play a central role in these proposals, the morphosyntactic features in Table 1 cannot be neglected, since they are the indicators within the grammar which are responsible for the distinction between count and mass nouns. A semantic account of countability assumes that the morphosyntactic distinction between count and mass nouns can be mapped on the semantic distinction. Thus count nouns such as chair, table, house and guitar refer to atomic denotations while the denotations of mass nouns, e.g. mud, sand and water, have no atomic parts (cf. Link, 1983), or their atomic parts are lexically not accessible (cf. Chierchia, 1983; Rothstein, 2010).

2.1 Singular count, plural count and mass nouns

When it comes to a formal representation of nouns three groups of nouns ought to be distinguished: (i) count nouns that are in singular form which refer to one entity and have a plural counterpart (a clock, a pencil, a hat), (ii) count nouns that are in plural form which refer to more than one entity and have a singular counterpart (clocks, pencils, hats) and (iii) mass nouns that are in singular form, they have no plural counterpart and they refer to stuff or aggregates of things (sand, water, mud).

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1Examples in (1) are taken from Pelletier (2012), (2) from Filip and Sutton (2017), and the sense descriptions in (3) are from WordNet (Fellbaum, 1998).

2We are aware of the fact that atomicity is controversially discussed in that some mass nouns provide an atomic structure due to seizable minimal parts (water molecules in water) and some count nouns seem to be homogeneous (e.g. wall or sequence, cf. Rothstein, 2010), but this does not affect the outcomes of this paper and therefore will not be discussed here.
By way of example we will use a semi-lattice as presented in Chierchia (1998:58) to work as our domain of discourse. The individuals at the bottom constitute the denotation of singular count nouns, i.e. atoms, and the above sets that are generated via supremum (∪) - an operation of sum - present the denotations of plural count nouns.\footnote{In Chierchia (2010) the singletons at the bottom are also included in the denotation of plural nouns (cf. Chierchia, 2010:114).}

\[
\begin{array}{c}
\{a, b, c, d, \ldots\} \\
\{a, b, c\} \quad \{a, b, d\} \quad \{b, c, d\} \quad \{a, c, d\} \ldots \\
\{a, b\} \quad \{a, c\} \quad \{a, d\} \quad \{b, c\} \quad \{b, d\} \quad \{c, d\} \ldots \\
a \\ b \\ c \\ d \\ \ldots = At
\end{array}
\]

Figure 1: domain of discourse (Chierchia, 1998:58)

Mass nouns do not have a singular/plural alternation. For Chierchia they are like plural count nouns, except for the fact that the atoms in their denotations are vague because they are lexically not accessible.\footnote{It has to be noted that many theories about the formal representation of count and mass nouns differ when it comes to a one domain versus two domain approach, semantic types of nouns or whether one type is derived from the other, e.g. count nouns from mass nouns as in Rothstein (2010) or Krifka (1989). For an overview of common semantic theories of countability we refer to Rothstein (2017, ch.4).}

That count nouns possess an atomic denotation and mass nouns do not provide access to their atoms, mirrors the distinction of these nouns in grammar. The use of the indefinite article with a noun comes along with an atomic structure of the denotation of that noun. The denotation of plural count nouns presupposes atomicity; it follows that whenever a noun has an atomic structure it will likely be a count noun that provides a singular/plural alternation.

Among the morphosyntactic criteria in Table 1 we want to emphasize the use of the indefinite article and the ability to pluralize as two main characteristics (or countability markers) for countability. The claim is that every singular count noun can occur with the indefinite article and has a plural counterpart, e.g. \textit{a cat} vs. \textit{cats}, \textit{a car} vs. \textit{cars}, \textit{a hat} vs. \textit{hats}. On the contrary, mass nouns lack both features, *\textit{a sand} or *\textit{sands}, *\textit{a mud} or *\textit{muds}.
3 The Problem

As discussed above, the morphosyntactic criteria in Table 1 serves as means for identifying nouns as count or mass nouns. It has been argued before that such a binary division is not plausible due to the great amount of exceptions (dual-life, fake mass or superordinates, flexible nouns and all the results of coercions) that do not allow a simple labelling as count or mass. This does coincide with the idea already raised by Allan (1980) who interpreted count and mass as a spectrum or a continuum, not as a binary feature. While, however, Allan assumed gradual states of count and mass for hypothetically every noun (only with certain preferences rooted in the lexicon), we assume that the semantic analysis of nouns focused on atomicity can actually predict the countability continuum that can be observed in the data.

What we want to stress here is the fact that the morphosyntactic criteria in Table 1 do not have to be taken as one unity, from which we could conclude whether a noun is a count or a mass noun. By way of example with two such criteria, i.e. the plural morphology and the occurrence with the indefinite article, we want to show that these putative criteria ought to be perceived separately: we might find nouns that have three features for countability but lack four, or only one and lack six. The idea behind this lies in recent observations that some count nouns can occur in singular indefinite but lack the plural form and others behave the other way round, they never occur in singular indefinite but have a plural form.

In this proposal we argue against a uniform treatment of two criteria for countability, namely plural number and the use of the indefinite article, and the dependent relationship between plural and atomicity. Our study of countability classes of BECL will present evidence for this claim.

A brief excursion: Bochum English Countability Lexicon - BECL

BECL 2.1\textsuperscript{5} is a lexical resource that provides countability classes for English noun-sense pairs. The countability classes were developed on basis of the annotations made by four native speakers of Canadian English.

Table 2 describes the six tests that were annotated for each noun-sense pair. A noun sense pair is a noun with a sense taken from WordNet. The annotators could read the sense description during the annotation process and see the other senses of that same noun (if there were any), so as not to confuse the countability status of one sense with that of another.

\textsuperscript{5}Bochum English Countability Lexicon 2.1. can be downloaded from its website www.count-and-mass.org.
Test | Question | Possible answers
--- | --- | ---
**Syn1** (TestI.1) | Can the noun-sense pair in its singular form appear with *more*? | yes, no, not applicable
**Sem1** (TestI.2) | If Syn1 = yes, is the comparison made on number of entities, or a different mode of measurement? | number, not number, not applicable
**Syn2** (TestII.1) | Can the noun-sense pair in its plural form appear with *more*? | yes, no, not applicable
**Sem2** (TestII.2) | If Syn2 = yes, is the sentence equivalent to one with an explicit classifier? | equivalent, not equivalent, not applicable
**Syn3** (TestIII.1) | Can the noun-sense pair in its singular form and combined with the indefinite determiner be the subject of a definition or characterization? | yes, no, not applicable
**Syn4** (TestIII.2) | Can the noun-sense pair in its singular form but without the indefinite determiner be the subject of a definition or characterization? | yes, no, not applicable

Table 2: Six annotation questions accountable for the development of countability classes

In order to emphasize the relation between the morphosyntactic criteria for countability (Table 1) and the BECL annotations, we will explain the annotation tests in more detail.

Syn1 and Syn2 are tests that reflect the use of the singular and plural form. As mentioned above, the plural form is one countability marker which is assumed to be possible for count nouns. Mass nouns, however, lack plural morphology.

(4) Syn1
   a. *A owns more car than B.
   b. A owns more furniture than B.

(5) Syn2
   a. A owns more cars than B.
   b. *A owns more furnitures than B.

Considering a common count noun *car* and a common mass noun *furniture*, we exemplify the use of test Syn1 and test Syn2 in (4) and (5). *Car* fails in Syn1, but passes Syn2 since it is not grammatical to use the singular form in a construction with *more*. It rather requires the plural form in such a construction, hence Syn2 leads to a grammatical construction. *Furniture* behaves the other
way round. It passes Syn1 but fails in Syn2 because it does not have a plural form.

Syn3 and Syn4 describe the occurrence vs. non-occurrence of the indefinite article together with the noun. While Syn3 asks for a construction of a definition or characterization where the noun under consideration is accompanied by the indefinite article, Syn4 requests the same but without the indefinite article.

(6) Syn3
   a. A car is a vehicle.
   b. *A steel is an alloy.
   c. A fish is an animal.
   d. *A purgatory is...

(7) Syn4
   a. *Car is a vehicle.
   b. Steel is an alloy.
   c. Fish is edible and delicious.
   d. *Purgatory is....

Here we have a wide range of combinations for the outcomes of these tests: some nouns prefer to be accompanied by the indefinite article, e.g. car. Other nouns cannot occur with the indefinite article. Such nouns, e.g. steel, prefer to be realized without the indefinite article. Besides those two outcomes, some nouns can be inserted in both Syn3 and in Syn4 such as fish, and other nouns are ungrammatical in both Syn3 and Syn4 as e.g. purgatory.

Due to a sense-based approach of BECL, English noun-senses were assigned countability classes according to the annotations. In Table 3 we present three noun-sense pairs and their annotations. We observe that the same noun can have different annotations, thus action#1 got a “no” in Syn1 and a “yes” in Syn2, but action#4 got a “yes” in Syn1 and “not applicable” in Syn2. The senses of action also trigger different answers in Syn3. Besides, there are cases in which the tests - that were first aimed to differentiate between count and mass nouns - can both be passed by some nouns, as e.g. brunch#1. Brunch#1 is grammatical in a construction with more in singular as well as in plural form.

3.1 Annotation insights

In Table 1 we summarized common properties of count and mass nouns. Some of these properties can be attested through the annotation in BECL, especially plural morphology in Syn1/Syn2 and the indefinite article in Syn3/Syn4. We repeat these characteristics with some examples in (8):
<table>
<thead>
<tr>
<th>Noun</th>
<th>Sense number</th>
<th>Sense description</th>
<th>Syn1</th>
<th>Sem1</th>
<th>Syn2</th>
<th>Sem2</th>
<th>Syn3</th>
<th>Syn4</th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>4</td>
<td>a process existing in or produced by nature (rather than by the intent of human beings); “the action of natural forces”; “volcanic activity”</td>
<td>yes</td>
<td>not number</td>
<td>not applicable</td>
<td>not applicable</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>action</td>
<td>1</td>
<td>something done (usually as opposed to something said); “there were stories of murders and other unnatural actions”</td>
<td>no</td>
<td>not applicable</td>
<td>yes</td>
<td>not equivalent</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>brunch</td>
<td>1</td>
<td>combination breakfast and lunch; usually served in late morning</td>
<td>yes</td>
<td>not number</td>
<td>yes</td>
<td>not equivalent</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

Table 3: Three noun-sense pairs and their annotations in BECL.

(8) a. **plural morphology**
Count nouns take plural morphology, mass nouns do not.

*boxes, books, cars*  
*waters, *sands, *furnitures*

b. **determiners**
Only count nouns can be combined with determiners such as *each, every and a* in singular and with *several, few and many* in plural.

*each/every/a book, several/few books*  
*each/few water*

Following the constraints in (8) English count nouns should have a “no” in Syn1, a “yes” in Syn2 and a “yes” in Syn3. Mass nouns are supposed to have “yes” in Syn1, a “no” in Syn2 and a “no” in Syn3.

In Table 4 a list of all countability classes in BECL and their annotations is presented. We will use answers to the syntactic test of Syn1, Syn2 and Syn3 to determine whether English nouns approve the grammatical characteristic they were assigned.6

6In BECL the classification of noun-senses into classes was made with R. The names in Table 4 are random artefacts produced by R itself. The answers are abbreviated as follows: Y for “yes”, N for “no”, NA for “not applicable”, NUM for “number”, ¬NUM for “not number”, EQ for “equivalent” and ¬EQ for “not equivalent”. The numbers might be cryptic at first, but
Table 4: Countability classes in BECL

The yellow marked rows in Table 4 represent countability classes that have values in Syn1, Syn2 and Syn3 as predicted for count nouns. The green countability classes have annotations appropriate for mass nouns. The yellow classes contain 8,387 and the green classes 2,488 noun-senses. This makes a total of 10,875 noun-senses out of 11,762. The remaining noun-senses cannot be classified as count or mass since their annotations are not in agreement with the previously mentioned characteristics of countability, i.e. plural form and singular indefinite. Although it is commonly argued that plural morphology and the indefinite article are joint features of count nouns, some BECL countability classes do not verify this correlation.

In what follows, we will not focus on all the remaining noun-senses but only on those that can either be pluralized but do not take the indefinite article, or can occur with the indefinite article but do not have a plural form, because those two – plural number and singular indefinite – are significant markers of the countability of English nouns that were treated commonly in the vast literature on the Mass/Count distinction. Besides, the semantics of nouns as discussed in
Chierhia (1998) and Rotshtein (2010) emphasizes a dependent relation between pluralities and atomic parts. In section 3.1.1 and 3.1.2 we will show that this dependency does not hold for all nouns.

Noun-senses that – according to the annotations in BECL – can be pluralized but cannot occur with the indefinite article are members of the classes 73, 510 and 513. Noun-senses that cannot be pluralized but can occur with the indefinite article are members of the classes 190 and 199.

3.1.1 Classes 73, 510 and 513

The noun-sense pairs in the classes 73, 510 and 513 have in common that they have a plural form but they cannot occur with the indefinite article in singular. They comprise 417 noun-sense pairs from 252 distinct nouns. Since classes 73 and 513 appear to be very rare, the analysis will mostly focus on class 510 (both mass and count).

Tested for our hypothesis were only lemmata that were consistently and completely annotated as belonging to the mentioned classes regarding all their accessible senses provided by WordNet. Although the corpus data revealed that those nouns occur with an indefinite determiner rather frequently, a closer analysis revealed that those occurrences were accompanied by a clear shift in meaning - in most cases, sorting - in almost all cases:

(9) a. Like any other endeavor where helpless animals are placed at a disadvantage (in this case, they spin the pheasants first to make them dizzy) in order to provide adorable little children with the joy of inflicting pain and causing death.

b. In cases where one PCR primer was located within a repeat, the primer from within the unique sequence was tagged with a fluorescent dye.

c. Following the designation of 'ugly' as a diagnosable sexual dysfunction, Pennsylvania Blue Cross has agreed to cover prescriptions for Rohypnol.

d. Does it serve to cure an illness or to regulate eternal adolescence?

e. Among the endangered animals poached for aphrodisiacs are tigers (for their penises–made into a soup) and rhinoceroses (for their horns–made into a powder)

(all examples extracted from OANC)
As we do not observe a significant number of clearly semantically unaltered occurrences with an indefinite article, a main prerequisite of accessible atomes in these cases cannot be confirmed.

3.1.2 Classes 190 and 199

Classes 190 and 199 are similar in that they both allow an indefinite determiner to be used with that noun-sense but do not allow it to be pluralized. They comprise 39 noun-sense pairs from 26 distinct nouns. It is useful to point out that they can be used with an indefinite even with a restriction that disallowed annotators from constructing sentences that made the indefinite article possible by using a classifier, so that these senses are not of the form “a type of” or “a package of”. A survey of the noun senses in these classes yielded the identification of those noun senses as a singular entity, which we call “Unique Indefinite Entity”. We should also note that neither class allows the noun to be bare and still have the sense given in these classes. It follows that all these senses have to occur with an indefinite determiner, or with a type of modification we call “semi-classifiers”, which are commonly manifested by a possessive determiner (e.g., George’s X, where X is one of the senses in 190 or 199) with a further modification by an of/on or in prepositional phrase.

<table>
<thead>
<tr>
<th>Noun</th>
<th>Sense</th>
<th>WordNet definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>heyday</td>
<td>1</td>
<td>the period of greatest prosperity or productivity</td>
</tr>
<tr>
<td>nip</td>
<td>4</td>
<td>the property of being moderately cold; “the chilliness of early morning”</td>
</tr>
<tr>
<td>stupor</td>
<td>1</td>
<td>the feeling of distress and disbelief that you have when something bad happens accidentally; “his mother’s death left him in a daze”; “he was numb with shock”</td>
</tr>
</tbody>
</table>

Table 5: Members of Class 199

Table 5 shows a sample of members of class 199 with their sense descriptions. Clearly these can all occur with the indefinite determiner, as the annotators claimed – in fact, many of the senses are illustrated in WordNet with a sentence using the indefinite, and the others can also be similarly illustrated:

(10)  a. Your sudden departure left him in a stupor  
    b. He’s having a real heyday  
    c. There’s a nip in the air

It also seems right that these noun senses cannot be pluralized. The following all seem bad, given the relevant sense of the noun in question:

\[^7\text{That is due to the “no” answer to Syn4.}\]
a. *Messi had six heydays.

b. *There were two nips in the air this morning.

c. *I had two stupors this last week.

Part of the puzzle of Class 199 and 190 is: How can it be that there are no plurals for these noun-senses (according to Test Syn 2) and yet one can (indeed must) use the indefinite article with them? In Kiss et al. (2014) some of these were called “Unique Entities”. Although this is a plausible name (“even though you can use the indefinite article with the noun-sense, there can only be one of them in any specific circumstance or situation, as evidenced by the fact that you can’t pluralize the sense”), We suggest the term “Unique Indefinite Entities” might be better, since the various types of proper names in various other classes might also be characterized as “Unique Entities”.

Class 190 also allowed its member-senses modification by an indefinite determiner, but denied that the sense could be pluralized (that is, required that if the noun were to occur in the plural, it could not have this meaning). A sample of the noun senses of class 190 is given in Table 6:

<table>
<thead>
<tr>
<th>Noun</th>
<th>Sense</th>
<th>WordNet definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>blush</td>
<td>1</td>
<td>a rosy color (especially in the cheeks) taken as a sign of good health</td>
</tr>
<tr>
<td>bosom</td>
<td>1</td>
<td>the chest considered as the place where secret thoughts are kept; “his bosom was bursting with the secret”</td>
</tr>
<tr>
<td>close</td>
<td>1</td>
<td>the temporal end; the concluding time; the stopping point of each round was signaled by a bell; the market was up at the finish; “they were playing better at the close of the season”</td>
</tr>
<tr>
<td>front</td>
<td>1</td>
<td>the side that is forward or prominent</td>
</tr>
<tr>
<td>mutter</td>
<td>1</td>
<td>a low continuous indistinct sound; often accompanied by movement of the lips without the production of articulate speech</td>
</tr>
<tr>
<td>plethora</td>
<td>1</td>
<td>extreme excess; an embarrassment of riches</td>
</tr>
</tbody>
</table>

Table 6: Noun Senses in Class 190

Despite the peculiarity that (like Class 199) these senses can be used with an indefinite determiner but may not occur as the meaning of a plural noun, this does seem correct:

(12) a. There was an embarrassed blush on his cheeks, as he . . .

b. She gave a plethora of excuses.

c. His only response was an inaudible mutter.

d. That building has a front that maintains its heritage status.

e. The bell signalled a close to the debate.
It is probably true that there can be plurals of some of these nouns, but not in the sense under consideration. For example,

(13) a. *bosom*#6: either of two soft fleshy milk-secreting glandular organs on the chest of a woman  
    b. *front*#6: a sphere of activity involving effort. “they advertise on many different fronts”

But it is difficult to form the plural of others of these noun-senses; for instance, *plethora* and *mutter* are difficult to pluralize. There is a second sense to *mutter* (*a complaint uttered in a low and indistinct tone*), but this too is quite difficult to pluralize, as opposed to the case of the noun *muttering(s)*.

Some of these noun-senses can act as semi-classifiers:

(14) a. a blush on his cheeks  
    b. the close of the conference  
    c. a plethora of examples

There seem to be a close affinity between designating some unique indefinite entity and being a semi-classifier. And that is true here, where we can see that the examples in (14) are actually describing a unique but indefinite entity, at least within the context of the noun being classified. Given that there is actually a blush, close, or plethora in the relevant circumstance, then there is exactly one of them. So, given a particular cheek that has a blush, a conference that has a close, or a set of examples large enough to be a plethora, there will be exactly one blush, close, or plethora.

### 3.2 Corpus investigations

The above described annotations imply that plural morphology does not entail that a noun can be combined with the indefinite article while the realization of the indefinite article does not entail that the noun can also be pluralized.  

However, it might be possible that this case depends on the very specific sense of the noun, which is why we conducted a second study and investigated the distribution of a set of nouns in Open ANC\(^8\).

For this study we selected the set of nouns whose senses occur in one of the aforementioned classes that show deviant behaviour, i.e. 72, 510, 513, 190 and 199. In addition to that we restricted our study to those nouns that according to BECL are not *multiples*, i.e. we selected only senses of nouns that fall in the same countability class. So a noun, independently of the specific sense, provides the

\(^8\)www.anc.org
same syntactic and semantic properties as reflected in the BECL annotations (cf. Table 2). We extracted all the occurrences of these nouns in OANC and labelled every sentence with the properties [± singular indefinite] (for sentences where the noun occurs with the indefinite article) and [± plural form] (for sentences where the noun occurs in plural form). A sentence could thus have the three possible labellings:

(15)  
   a. [± plural form] and [− singular indefinite]
       three dogs, the bottles
   b. [− plural form] and [± singular indefinite]
       a big dog, a bottle
   c. [− plural form] and [− singular indefinite]
       this big dog, that bottle and that mud, this water

The combination of [± plural form] [± singular indefinite] (*a big dogs, *a bottles) is never present since it is ungrammatical.

If the ability to pluralize and the ability to occur with the indefinite article were indeed joint features of countability then count nouns should have the three above mentioned labellings for their sentences while all the sentences with mass nouns should have the label [− plural form] [− singular indefinite].

However, we detected several nouns that either can occur in singular indefinite construction but lack plural occurrences or the other way round:

(16) nouns that have plural but no singular indefinite occurrences
    artistry, bran, boldface, dissimilarity, flour, gravel, lemonade, manure, scarcity, wallpaper

(17) nouns that have singular indefinite but no plural occurrences
    heyday, midline, modicum, null, plethora, tad, while

Even though the annotators, which were native speakers of English, decided that the nouns in classes 190 and 199 could not occur in plural form, it seemed that sometimes some of them can be pluralized. But it is a rather unusual meaning or meaning-coercion like in the constructed example with heyday in (18).

(18) The heydays of the best football players (as a book title)

In our corpus investigation we came across one such case, where the noun that we claim not to be usual in plural is in fact in plural from:

(19) Or maybe it is that the competition is so stiff that no single player can dominate like Arnold Palmer or Jack Nicklaus or Tom Watson did in their heydays. (OANC)
However, we assume that this example is unusual and cannot count as the same sense given for *heyday*#1 (*the period of greatest prosperity or productivity*).

As far as the classes 73, 510 and 513 are concerned, we found several instances of nouns in sentences with the indefinite article....

4 Conclusion and future work

5 References


In R. Bauerle, C. Schwartze and A. von Stechow (Eds.), Meaning, Use and Interpretation of Language. Berlin: De Gruyter.
