ON THE NUMBER SYSTEM AND THE COUNT/MASS DISTINCTION IN TURKISH

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1. Introduction

The main objective of this paper is to investigate the nominal system of Turkish with particular reference to number. Following Schroeder (1999) and Corbett (2000), I will propose that bare nominals in Turkish come out of the lexicon are *number-neutral*. In other words, the number difference between singularity and plurality is not lexically encoded in the language. That is why nominals behave in a way that different from the behavior of nominals in other languages such as English. This property of bare nominals will be accounted for by referring to formal mechanisms such as the one entertained in Chierchia (1998ab, 2003) and the subsequent work. Another claim of this paper is concerned with the count/mass distinction in the language. It will be argued that that even though it has been previously claimed in the literature that there is no grammatical (i.e. morpho-syntactic) distinction with respect to count/mass in the language (c.f. Göksel and Kerslake (2005) and Kayadelen (2007)), a closer look at the count and mass nouns as well as their interaction with quantifiers and determiners suggest that a formal distinction is warranted.

2. Background

This section gives a brief outline of the framework adopted in this work. It does so by analyzing the nominal system of languages such as English, giving particular emphasis on the issues with respect to number. In other words, the denotational properties of nominals and what they encode in terms of singularity and plurality are investigated. After that, based on the framework introduced, a novel account of Turkish number system that captures the facts in the language will be proposed.

2.1 The Nominal System and Number in English

Chierchia (1998ab, 2003), in a series of papers, investigates the nominal system and the count-mass distinction of such languages as English and Italian as well as Chinese and argues in favor of a 'semantic parameter' in languages in terms of what nominals denote cross-linguistically. This model has further been elaborated in the subsequent work by Landman (2006) and Rothstein (2007, 2008), especially for its implications on the count/mss issues in languages. However, the roots of this approach go back as far as Link (1983, 1991) and Gillon (1992, 1999 and 2009) has also proposed similar ideas with respect to the properties of nominals and the count/mass distinction in languages such as English and Chinese.

Basically, Chierchia works on what nominals in languages like Engliah denote and observes that they show differences in terms of their denotational

properties. More specifically, Chierchia investigates the count/mass distinctions in languages such as English, Italian and Chinese and propose that count nouns like *spoon*, *pond* and *virtue* differ from mass nouns like *silverware*, *water* and *generosity* in certain respects. The point here is that what these nominals refer to is quite different from each other. In other words, count nouns in English have a clear lexical distinction between singularity and plurality (1998a:53-54). That is to say, singular count nouns are always singular and plural count nouns are plural, which makes them distinct from each other in terms of number. On the other hand, mass nouns come from the lexicon with plurality already built in. This means that mass nouns should be regarded as *lexically plural* whereas count nouns are singular at the lexical level and get pluralized by way of the pluralization rule in the language. It is for this reason that mass nouns behave in a way that differs from the behavior of count nouns. This difference mainly manifests itself in the determiner system of the language. It should also be noted here that Chierchia's proposal includes the assumption in which nouns are considered to denote entities with atomic (i.e. minimal) parts.[1] In other words, mass nouns denote entities with atomic/minimal parts just like count nouns do. Therefore, there is no distinction between count and mass nouns in terms of atomicity. However, Chierchia proposes a formal distinction between count nouns and mass nouns in languages like English by using set-theoretic formalisms to account for the distinction in terms of count/mass. This view suggests that a singular count noun, a plural count noun and a mass noun should have the denotational properties represented in (1).

(1) a. A singular count noun denotes a set of singularities (i.e. singular elements/atoms) such as *pencil* and *house*.
     b. A plural count noun denotes a set of pluralities of entities like *pencils* and *houses*.
     c. A mass noun denotes a set of ordinary individuals plus all the pluralities of such individuals like *furniture* and *hair*.

Based on earlier work by Link (1983, 1991) and Landman (1989), Chierchia argues that the denotational properties of such nominals can be represented by way of formal semantic representations such as a Boolean Algebra.[2] The basic idea behind this view is that the domain of individuals/entities which constitute the discourse can be represented as in Figure 1.

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[1] There are competing views as to whether mass nouns, just like count nouns, refer to atomic or non-atomic entities. Link (1983), Bunt (1985) and Landman (1989, 1991) argue that mass nouns refer to those entities that do not have minimal parts. In contrast to this, Gillon (1992, 1999), Chierchia (1998ab, 2003), Landman (2006) and Rothstein (2007, 2008) argue that mass nouns do refer to entities with minimal parts although some of them may not be clearly discrete.

[2] Link (1983) assumes that there are two separate domains for nominals, one for count nouns and one for mass nouns. The nominals in the count domain are always atomic whereas those in the mass domain are non-atomic. Unlike Link, Chierchia (1998ab, 2003) does not assume two different domains for nominals but only one atomic domain where nominals get their denotation.

$$
\begin{array}{l}
\text{\{aUbUcUd\}}\dots \\
\text{\{aUbUc\}} \quad \text{\{aUcUd\}} \quad \text{\{bUcUd\}}\dots \\
\text{\{aUb\}} \quad \text{\{aUc\}} \quad \text{\{bUc\}} \quad \text{\{aUd\}}\dots \\
\text{a} \qquad \text{b} \qquad \text{c} \qquad \text{d}\dots
\end{array}
$$

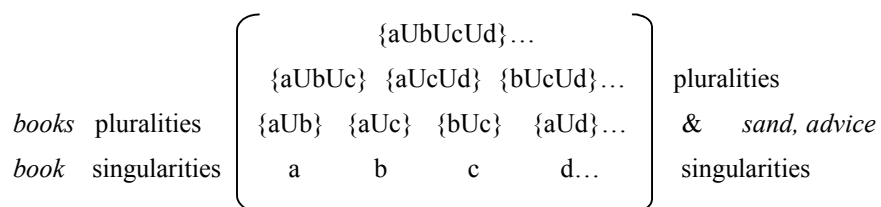|			
books	pluralities		pluralities
book	singularities		& *sand, advice*
			singularities

Figure 1. An atomic semi-lattice closed under sum/join operation, representing the number system of English.

Figure 1 shows that the domain of discourse contains both count and mass entities in only one domain and it can be represented as a partially ordered set consisting of atoms and their pluralities. The entities at the bottom line are atoms. That is, a, b and c represent a set of singularities that have no proper parts.[3] In other words, they cannot be divided into smaller parts without losing structure. On the other hand, the lines above represent sets of pluralities closed under sum/join operation. For instance, the singular count noun *coin* is true of single coins, as represented in the bottom line of Figure 1. On the other hand, the plural noun *coins* is true of pluralities of coins, as in the above lines of Figure 1. In contrast to this, a mass noun like *change* is true of singularities of coins plus all their possible sets. In other words, there is no singular/plural distinction in the denotation of a mass noun. Similarly, those mass nouns like *mud* or *salt* refer to singularities (i.e. minimal relevant quantities) of mud and salt as well as their sets of pluralities even though minimal parts of what mud and salt refer to may not be perceptually so salient. Finally, the abstract mass noun *knowledge* is true of single pieces of, or states of, knowledge plus all possible sets thereof (e.g. that the Earth is round, that the Moon is its satellite).

The discussion above indicates that singular count nouns clearly single out the relevant atoms/minimal part and refer to singular entities only. Also, count nouns show a noticeable grammatical difference in terms of number (i.e. singularity vs. plurality) whereas this is not the case for mass nouns. The question that arises at this point is what might be the reason for the apparent difference between count and mass nouns. In order to answer this question, Chierchia proposes a mechanism which he calls *vagueness*. What the idea of vagueness suggests is that the minimal/atomic parts of what mass nouns denote may be vague or unspecified mostly in their physical form and this might hinder them to be grammatically countable. More specifically, he argues that "…[M]inimal parts of mass entities are vague. …[F]or each mass noun there are minimal objects of that kind, just like for count nouns, even if the size of these minimal parts may be vague" (Chierchia, 1998a:54). That is to say, the set of minimal entities that mass nouns refer to is vague in a way that the set of minimal entities that count nouns denote is not. Chierchia elaborates on the mass nouns in (2) to illustrate this point.

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[3] Here I follow Chierchia (2010: 113) and argue that "being an atom in the technical sense just introduced does not entail lacking structure. There might be complex 'part of' relations among atoms (in the sense in which, say, my arm is part of me)".

(2) a.   furniture
     b.   water, sand

According to this view, the minimal instances of a mass noun like, say, *furniture* are rather underspecified. In other words, what counts as a piece of furniture is somewhat vague (Chierchia, 1998a:68) and can be determined out of the context. It is for this reason that mass nouns are inaccessible to grammatical counting while count nouns are fully accessible. This line of reasoning also extends to other types of mass nouns as in (2b). In other words, what they refer to is only vaguely specified; therefore, they are not accessible to counting either.

It has been pointed out above that there is a noticeable difference in the nominal system of English with respect to number (i.e. singularity and plurality). In other words, the singular noun *book* is true of singular books while the noun *books* is true of pluralities of books. It was also shown that the count/mass distinction displays itself in the nominal domain of the language and the mass noun *furniture* is lexically plural in the sense that it is true of single pieces of furniture as well as pluralities thereof. This gives to the question how nominals should be treated in Turkish. In other words, how nominals fit into the system outlined given that it has been noted in the literature that nominals do not make a distinction in terms of number in their bare form in Turkish. This apparent difference between the two languages requires an account in which nominals in Turkish need to be treated differently and formally represented in such a way to capture the facts in a unified manner. In the next section, I will propose an account that is essentially a modified version of Chierchia (1998ab, 2003)'s and argue that it accounts for the facts concerning the nominal system of Turkish as well as capturing the differences in the nominal system of languages like Turkish and English.

2.2   Nominals and the Number System in Turkish

The discussion above illustrates that there is a distinction between nominals like *car* and *cars* in English in that the former denotes sets of singularities whereas the latter denotes sets of pluralities. It has also been noted above that bare nominals in Turkish behave in a way that they do not display any difference in terms of number. In other words, a nominal encodes nothing in its bare form in terms of singularity and plurality in the language. This indicates that the number system of Turkish should be different from that of English in certain respects. In other words, as far as bare nominals are concerned, there should not be any difference at the lexical level in terms of number. As a matter of fact, this is what has been previously proposed in the work in which the nominal system of Turkish was investigated. For instance, Schroeder (1999) and Corbett (2000:14), among others, argue that a bare noun like *ev* in Turkish can mean 'house' or 'houses' in a given structure. On the other hand, its plural from *ev-ler* 'houses' should be interpreted as referring to the pluralities of houses only. This indicates that, all things being equal, a bare noun is always ambiguous between a singular reading and a plural reading in Turkish. This is exemplified with an example below.

(3) a. Dam-da *kedi* var.
      roof-LOC cat exist
      'There is a cat / are (some) cats on the roof.'

   b. Dün   bizim mahalle-ye *polis* gel-miş
      yesterday our neighborhood-DAT policeman come-EVID
      'Evidently, a policeman / policemen came to our neighborhood
       yesterday.'

What is important in (3a) is that the sentence is true in those cases in which there is only one cat on the roof. It is also true if there is more than one cat walking on the roof. In other words, the bare noun *kedi* 'cat' does not encode any information on the number of cats in question. Similarly, the sentence in (3b) can be uttered if there is only one policeman or more than one that came to the neighborhood. I argue that this should be taken as evidence showing that bare nouns are *number-neutral* in Turkish. In other words, a bare nominal does not encode any properties in terms of singularity and plurality of an entity in question in the language. Following Schroeder (1999) and Corbett (2000) and adopting a version of Chierchia (1998ab, 2003)'s lattice-theoretic representation, I propose that the nominal system of Turkish should be represented as in Figure 2.

$$
\begin{array}{c}
\{aUbUcUd\}\ldots \\
\{aUbUc\}\quad\{aUcUd\}\quad\{bUcUd\}\ldots \\
\{aUb\}\quad\{aUc\}\quad\{bUc\}\quad\{aUd\}\ldots \\
a\qquad b\qquad c\qquad d\ldots
\end{array}
$$

kitap   pluralities & singularities   plural. *kitap-lar*
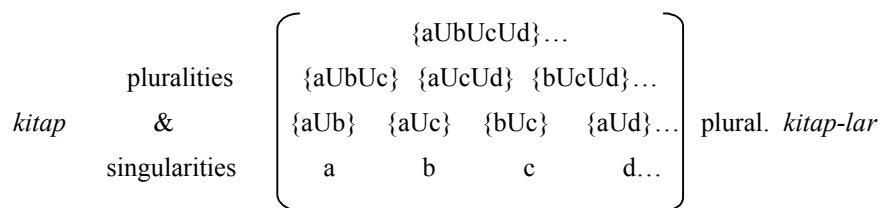
Figure 2. The atomic semi-lattice closed under sum/join operation, representing the number system of Turkish.

Figure 2 shows that a bare noun like *tabak* 'plate' is true of singularities of plates as well as pluralities thereof. Its behavior clearly indicates that bare singulars do not show any difference with respect to singularity and plurality at the lexical level in the language. On the other hand, a noun like *tabak-lar* 'book-PL' which is derived from its singular counterpart through plural formation is true of pluralities of plates only. In other words, while bare nominals denote sets of singularities plus sets of pluralities, nouns with plural marking denote only sets of pluralities. This difference is captured in (4) below.

(4) a. Masa-da *tabak* var.
      table-LOC plate exist
      'There is a plate / are plates on the table.'

b.   Masa-da *tabak-lar* var.
        table-LOC plate-PL exist
        'There are plates on the table.'

The above example illustrates an existential sentence. Let us consider a sentence with a verbal element in it, as in (5).

(5)   a.   Ahmet *kitap* oku-du.
                Ahmet book read-PAST
                'Ahmet read a book / books.'

        b.   Ahmet *kitap-lar* oku-du.
                Ahmet book-PL read-PAST
                'Ahmet read books.'

Similar to what we have seen in (4a), in (5a) the number of the books read is not specified in the sentence. The sentence would be true in those cases in which only one book was read. It would also be true if more than one book (i.e. three, four books or more) has been read. In contrast to this, the sentence in (5b) is true only in those instances where a plurality of books has been read.

    The question that arises at this point is how the ambiguity in terms of number is resolved in the language. In other words, what kind of mechanism does Turkish use in order to make a clear-cut distinction with respect to number in a given structure? The answer to this question is that, as observed in different languages, Turkish refers to the numeral *bir* 'one' to encode singularity. In other words, a nominal co-occurs with a numeral in order to specify the number of the entity it refers to. This is illustrated in (6).

(6)   a.   Çanta-da   *bir* kitap var.
                garden-LOC one book exist
                'There is a book in the bag.'

        b.   Bahçe-de   *bir* köpek uyu-yor.
                garden-LOC one dog   stand-PROG
                'A dog is sleeping in the garden.'

The difference between (4a) and (6a) is that in the latter the noun is not in its bare form and takes a numeral. The presence of the numeral disambiguates the number and the noun is interpreted as singular only. This is also true for the sentence in (6b) in which the noun takes a numeral and the only reading available is the singular one.

    In addition to that, what is also interesting is that when a noun is used with a numeral such as *üç* 'three', *beş* 'five' and *on* 'ten', the plural marking does not appear on the noun. As a matter of fact, the co-occurrence of the nominal with the plural suffix leads lo ungrammaticality. This contrast is exemplified below.

(7) a.   Masa-da   *üç / beş / on* dergi   dur-uyor.
          table-LOC three / five / ten magazine lie-PROG
          'There are three / five / ten magazines lying on the table.'

  b. * Masa-da   *üç / beş / on* dergi-*ler*   dur-uyor.
        table-LOC three / five / ten magazine-PL lie-PROG
        'There are three / five / ten books lying on the table.'

In (7a) the noun *dergi* 'magazine' appears with different numerals and the plural marker is not required on the noun. This shows that nominals can freely take numerals denoting more than one entity without the need to use the plural morphology. In fact, the ungrammaticality of the same noun with the plural marker in (7b) indicates that the specification of number (i.e. the singular/plural contrast) is realized through other elements in the language. The presence of a numeral in the structure makes pluralization on the nominal unnecessary.

     If we assume that the analysis of Turkish number system outlined above is on the right track, we can also capture the difference in terms of the category of number in languages like English and Turkish. For instance, Corbett (2000), among others, argues that there is a difference between singularity and plurality at the lexical level in English. Consider the difference in Table 1.

Table 1. The representation of number in English

Singular	Plural
table	*table-s*
car	*car-s*
man	*men*
child	*child-ren*

It is obvious that the difference between *table* and *tables* is number-related. The former is taken to be singular (i.e. being true of singular tables) whereas the latter is plural (i.e. being true of pluralities of tables).[4] In other words, different forms encode the difference in terms of number and capture the singular/plural distinction in the language. Consider the pair below.

(8) a.   There is a table in the kitchen.

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[4] Sauerland (2003) and Spector (2007) argue that a plural noun like *books* in English includes singularities in its extension that makes them number-neutral for our purposes. As extensively discussed in Chierchia (2010), the main reason to argue for this idea comes from the semantics of the plural negative quantifier *no books*. The point here is that if the noun *books* excluded singularities, a sentence like *there are no books on the table* would be saying that there is no group of books on the table. Such a sentence would be expected to be true in those cases in which there is just one table on the table. Therefore, the conclusion is that singularities need to be included in the denotation of pluralities. However, this does not seem to be generalizable since in a sentence like *there are books on the table* cannot be true in those instances in which there is only one book on the table.

b.	There are tables in the kitchen.

On the other hand, when the number system of Turkish is considered, a different paradigm is observed. As has been noted above, it appears that the number distinction between singulars and plurals is not so clear-cut in Turkish. This is illustrated in Table 2.

Table 2. The representation of number in Turkish

Singular/Plural	Plural
masa 'table'	*masa-lar* 'tables'
ağaç 'tree'	*ağaç-lar* 'trees'
insan 'person'	*insan/lar* 'people'
kedi 'cat'	*kedi-ler* 'cats'

As has been noted before, a bare noun like *insan* 'person' in Turkish is lexically number-neutral in that it does not exclude singularities or pluralities in its extension. As opposed to this, such a plural noun as *insanlar* 'people' only denotes pluralities, excluding singularities.

The question that arises at this point is whether this analysis should also be extended to give an account for the issues concerning the count/mass distinction in Turkish. As was noted above, it has been suggested in the earlier analyses that there is no grammatical count/mass distinction in Turkish. This is in contrast with what is found in languages like English and Italian. In other words, it is well-known that there is a set of nominals in languages like English that is generally referred to as *mass nouns* since these nominals show certain morpho-syntactic and semantic differences. As discussed above, mass nouns like *footwear*, *advice* and *flour* cannot take number marking and plural morphology in the syntax. This is the opposite of what is observed in Turkish where the majority of nominals, if not all, can appear with numerals and the plural morphology without leading to ungrammaticality. This behavior of nominals in Turkish has given rise to the conclusion that there is no grammatical count/mass distinction whatsoever in the language. In the next section, I will discuss the count/mass issues in Turkish and argue that a more careful analysis of this distinction is necessary.

## 3.	The Count/Mass Distinction in Turkish

It was noted above that the count/mass distinction surfaces in languages like English since count nouns and mass nouns show distinctions in terms of what kind of elements they appear with in a structure in which they appear. In addition to the fact that mass nouns do not generally co-occur with numerals and the plural marker in English, they tend to appear with quantifiers that do not usually appear with count nouns. For instance, mass nouns take quantifiers such as *a little* and *much* while count nouns take *a few, many* and *several*. As for the count/mass distinction in Turkish, it has been suggested in the literature (Göksel and Kerslake, 2005, among others) that there is no grammatical (i.e. morpho-syntactic) distinction with respect to count/mass. The evidence that has been put

forward is that almost any noun, regardless of whether it is count or mass, can appear with numerals and the plural marker in the language. Note that in those languages in which the nominal count/mass distinction is well-attested, numerals and the plural morphology do not generally co-occur with mass nouns. In their study, Göksel and Kerslake (2005:163-164) observe that there is no grammatical distinction between countable and uncountable nouns in Turkish since both the indefinite article (i.e. the numeral *bir* 'one') and the plural suffix (*-lAr*)[5] can appear with almost any noun in the language. Following Göksel and Kerslake, Kayadelen (2007:1-2) also draws a similar conclusion arguing in favor of the idea that there does not exist any grammatical count/mass distinction in Turkish. Göksel and Kerslake (2005:164) illustrate this point by providing the example in (9).

(9) a. Ban-a *bir*[6] su   ver.
         I-DAT one water give
         'Give me [a glass of] water.'

     b. İç-im-e   *bir* rahatlık gir-di.
         inside-1SG-DAT one relief enter-PAST
         'A [sense of] relief came over me.'

What (9a) shows is that a mass noun like *su* 'water' co-occurs with the numeral *bir* 'one' and this does not give rise to ungrammaticality. Similarly, in (9b) the noun *rahatlık* 'relief' which is considered to be mass also appears with the same numeral. The behavior of these mass nouns led to the conclusion that mass nouns are not grammatically different from count nouns in the language. However, it should also be noted that in (9a) the mass noun *su* co-occurs with the numeral *bir* and refers to a serving or a unit of water such as a glass or a bottle of water. Similarly, in (9b) *rahatlık* 'relief' refers to a state or an instance of relief. It appears that those nouns like *su* and *rahatlık* are used with numerals when they are used in the count sense. In addition to that, the same is also true for nouns with the plural suffix. Göksel and Kerslake point out the fact that this type of nouns will accept numerals when they refer to a certain entity of countable size. In other words, all nouns appear with the plural suffix in the language when they denote countable units, instances or servings of entities in question. The data are from Göksel and Kerslake (2005:167).

(10) a. *Çay-lar-ı*   koy-ayım   mı?
          tea-PL-ACC pour out-1SG Q
          'Shall I pour out the tea?''

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[5] The vowel of the plural suffix is subject to vowel harmony that appears as either *-ler or -lar*.

[6] As noted above, nouns are always bare (i.e. they are not marked with the plural marker) in Turkish when they come after numerals and certain quantifiers. While *araba-lar* 'car-PL' is marked with the plural marker, *iki araba* 'two cars', *birkaç araba* 'a few cars' and *birçok araba* 'a lot of cars' are not.

> b. *Kum-lar-ı*   parmak-lar-ı-nın   arasın-dan   geçir-iyor-du.
>   sand-PL-ACC finger-PL-3SG-GEN through-ABL slip-PRG-PAS
>   'She was sifting the [grains of sand] through her fingers.'

According to Göksel and Kerslake, (10a) shows that an uncountable noun like *çay* 'tea' is pluralized when a plurality of conventional measures or portions of the thing is concerned. In (10b), on the other hand, the pluralization of a noun denoting a substance with a granular composition shifts attention from substance en masse to its constituent elements. In other words, it appears that nouns like *kum* 'sand' in Turkish are compatible with the indefinite article and the plural marker so long as they are used in the count sense.

      It is also argued in Göksel and Kerslake (2005:163-164) that uncountable nouns like *su* 'water', *toprak* 'earth' and *müzik* 'music' in Turkish are not normally combined with numerals or with the quantifying determiners such as *kaç/kaç tane?* 'how many?', *birkaç* 'a few' or *birçok* 'many', if the context does not make it clear that the counting is based upon a conventional *measure* of the substance in question. In fact, this should be expected given that mass nouns appear with the indefinite marker even in those languages where the count/mass distinction is well-documented. As noted in Gillon (1992, 1999) and Chierchia (1998a), among many others, mass nouns can co-occur with the indefinite article and the plural suffix in English when there is a shift of meaning from mass to count. Consider (11) and (12).

(11)   a.   *a* pizza   b.   *a* coffee   c.   *a* blood

(12)   a.   beer*s*   b.   gold*s*   c.   meat*s*

In (11) it is clear that a predominantly mass noun can appear with the indefinite article when the noun denotes a countable unit. Similarly, (12) indicates that a mass noun co-occurs with the plural suffix, giving rise to some sort of a countable unit reading.

      To sum up, it has been argued in the earlier discussions that there is no grammatical distinction between count nouns and mass nouns in Turkish. It has been pointed out that almost any noun can appear with the indefinite article and the plural suffix which are generally associated with count nouns only. However, what seems to be not very clear in the previous analyses is what are the criteria by which those nouns like *müzik* 'music', *çay* 'tea', *toprak* 'earth' and *su* 'water' should be considered to be mass and not count in Turkish, given that there is no grammatical distinction between these and those such as *araba* 'car', *elma* 'apple' and *masa* 'table'. It appears that the count/ mass distinction that we are investigating here should have different rules since the morpho-syntactic criteria do not seem to provide a clear-cut distinction in the language. Göksel and Kerslake (2005:163) suggest that nouns like *su* 'water' are non-discrete and continuous (i.e. with no well-defined shape). Therefore, they should be regarded as mass nouns. However, there are those nouns such as *puddle* and *crumb* in English which are non-discrete and continuous in their nature as well; however, they are grammatically count in English. Moreover, there is a set of nominals whose grammatical behavior is not always the same as the others in Turkish. In

other words, not every nominal seems to be subject to the same grammatical constraints and rules. In the next section, I will introduce and discuss these nominals that appear to deserve reconsideration with respect to the count/mass distinction in the language.

4. Issues with Count and Mass Nouns

It has been noted above that bare nominals in Turkish do not display any lexical distinction in terms of number. In other words, as far as bare nouns are concerned, the singular/plural difference is not specified and number is neutral. It has also been pointed out in the above discussion that no grammatical distinction between count and mass nouns has been suggested in the language since almost any noun can appear with such elements as numerals and the plural marker which are generally associated with count nouns cross-linguistically. Nevertheless, it should also be noted that there are several quantifiers in Turkish that seem to have significance on the interpretation of bare nouns. In other words, the reading a nominal has in the language sometimes depends on the presence of a certain quantifier in the immediate environment of the nominal in question. Specifically, when nominals appear with quantificational elements like *kaç/kaç tane?* 'how many?', *birkaç* 'a few' and *birçok/çok* 'a lot of', they are almost always interpreted as count. On the other hand, the co-occurrence of nominals with such quantifiers as *ne kadar?* 'how much?', *çok* 'a lot of', *biraz/az* 'some' leads to the mass reading of the nominal. First, consider (13) where the quantificational element quantifies over the nominal which is considered to be grammatically count.

(13) a. *Kaç/kaç   tane* kitap oku-du-n?
             how/how item book read-PAST-2SG
             'How many books did you read?'

      b. *Kaç/kaç   tane* şehir gez-di-n?
             how/how item city   travel-PAST-2SG
             'How many cities did you travel?'

The above sentences show that in order to ask the *number* of the entities that *kitap* 'book' refers to in (13a) the wh-word that is used is *kaç/kaç tane?* 'how many?'. Similarly, in (13b) the number of entities *şehir* 'city' denotes is being asked with the same wh-word. Note also that in these examples the word *tane* 'item' is optional and it can be left out. On the other hand, in order to ask the *amount* or *quantity* of entities in question the interrogative quantifier that is used is a different one. In those cases the wh-word used is *ne kadar?* 'how much?' as shown below.

(14) a. *Ne   kadar* para harca-dı-n?
             what amount money spend-PAST-2SG
             'How much money did you spend?'

b.   *Ne   kadar* su iç-ti-n?
          what amount water drink-PAST-2SG
          'How much water did you drink?'

In (14a) and (14b) the question word *ne kadar?* 'how much?' asks for the quantity or amount of those entities that nouns like *para* 'money' and *su* 'water' refer to. These entities are usually considered to be unbounded, not well-delineated and not easily individuated. This is in contrast with those which are well-delineated, bounded and well-individuated like *masa* 'table' and *araba* 'car'. Note also that another difference between the quantifiers *kaç tane*? and *ne kadar*? is that the word *kadar* 'amount' can never be excluded from a question. In other words, while *kaç masa?* 'how many tables?' is fine, **ne su?* 'what water?' and **ne para?* 'what money?' are totally ungrammatical.
Interestingly, the question word *ne kadar*? can also appear with nominals which are almost always considered to be count in languages. However, in those cases their contribution to the structure is somewhat different. This is exemplified in (15).

(15) a.   *Ne   kadar* kitap oku-du-n?
              what amount book read-PAST-2SG
              'How much book-reading did you do?'

      b.   Tatil-de   *ne   kadar* makale yaz-dı-n?
             holiday-LOC what amount article write-PAST-2SG
              'How much article-reading you do?'

In (15a) and (15b) the question word *ne kadar?* 'how much?' does not ask the number or amount of the entities that nouns like *kitap* 'book' and *makale* 'water' refer to. In other words, the wh-word in (15a) does not directly modify the noun *kitap*. Rather, it quantifies over the whole verbal complex, namely the verb as well as the noun. Moreover, the nominal is not referential, nor does it establish discourse referents. The same is also true for the nominal in (15b). The wh-word does not modify the nominal *makale* 'article' but the whole chunk including the verb and the noun.
        What this indicates to us is that the quantificational element *ne kadar?* 'how much' can modify a mass noun like *su* 'water' as well as a given verbal complex such as *kitap okumak* 'book-reading'. On the other hand, the quantificational element *kaç/kaç tane*? 'how many?' seems to modify count nouns like *kitap* 'book'. However, it should also be noted that there is also a set of nominals that appear to resist certain quantifiers that generally lead to the count interpretation of the nominal they quantify over. Consider the examples in (16) and (17).

(16) a.   İş   *ne kadar zaman* al-dı?
              work what amount time take-PAST
              'How much time did the work take?

    b. * İş *kaç tane zaman* al-dı?
           work how item time take-PAST
           'How many times did the work take?'

(17) a.   İş   *çok / biraz / az zaman* al-dı.
           work a lot of / some / a little time take-PAST
           'The work took a lot of / some / some time.'

    b. * İş   *birka*ç / *birçok zaman* al-dı.
           work a few / a lot of time take-PAST
           'The work took a few / a lot of time.'

The noun *zaman* 'time' in (16) is modified by the wh-word that seems to be compatible with mass nouns and verbal complexes discussed above. Similarly, in (17) the quantifiers like *çok* 'a lot of', *biraz* 'some' and *az* 'a little' can modify the nominal. On the other hand, the ungrammaticality of the sentences in (16b) and (17b) indicates that the noun *zaman* is not always compatible with every quantifier in the language. It seems that some of them should be considered to be *count quantifiers* as their presence gives rise to the count interpretation of nominals in the structure. In contrast to that, those nouns like *kan* 'blood' and *para* 'money' seem to take only those elements that can be called *mass quantifiers* since they are allowed to appear with them in the structures below.

(18) a.   Yaralı   *ne kadar*   *kan* kaybet-ti?
           wounded what amount blood lose-PAST
           'How much blood did the wounded lose?'

    b. * Yaralı   *kaç tane kan* kaybet-ti?
           wounded how item blood lose-PAST
           'How many blood did the wounded lose?'

(19) a.   Yaralı   *çok / biraz/az kan* kaybet-ti.
           wounded a lot of / some blood lose-PAST
           'The wounded lost a lot of / some blood.'

    b. * Yaralı   *birkaç / birçok kan* kaybet-ti.
           wounded a few / a lot of blood lose-PAST
           'The wounded lost a few / a lot of blood.'

In (18) and (19) the noun *kan* 'blood' can only be modified by mass quantifiers as indicated by the ungrammaticality of those structures in which the same noun takes count quantifiers.

    The question that arises at this point is why it is the case that some nouns are not allowed to take some quantifiers in certain cases. Note that the *amount of blood* that was lost in the examples above is not quite measurable. In other words, it cannot be modified by a quantifier that generally provides a measurable unit, instance or serving reading. It seems that the unacceptability of the structures in (18b) and (19b) in which a noun appears with count quantifiers can

be accounted for if we argue that those nouns that denote entities of immeasurable units and instances are compatible with mass quantifiers only in the language. It appears that in order to account for the behavior of nominals such as *para*, *zaman* and *kan* in Turkish we need to reconsider what it means for an entity to be mass. Also, the morpho-syntactic criteria are not a very powerful mechanism to argue in favor of the lack of the count/mass distinction in the language since appearing with numerals and taking the plural marker are not the only grammatical tools used in the language. As has been shown above, the quantificational system of the language is very helpful to look more into the count/mass issues in the language.

5. Conclusion

It has been argued in this paper that bare nominals in Turkish are number-neutral in the sense that they do not display any difference in terms of number. In other words, a bare noun does not give any reference to singularity or plurality of the entity it denotes. This idea is in agreement with the earlier proposals and the analysis here has used formal tools to account for the facts with respect to nominals and the number system in the language. Another issue investigated in this paper is the count/mass distinction or its lack thereof in the language. It has been argued that contrary to what has been proposed before, there are certain cases in which mass nouns and count nouns do not behave in a similar way, suggesting a distinction that should be investigated more thoroughly. It seems that the quantificational/determiner system of the language is an important place to look at and very promising for this purpose.

In the future work, I will investigate the relationship between case marking and the count/mass interpretations nouns are assigned. It appears that the appearance of case marking, nominative as well as accusative, on nouns has a direct effect on how they should be interpreted. This will shed further light on the properties of nominals and the syntax-semantics interface in the language.

References

Bunt, Harry. C. 1985. *Mass terms and model-theoretic semantics*. Cambridge, UK.

Chierchia, Gennaro. 1998a. Plurality of mass nouns and the notion of "semantic parameter." In S. Rothstein (ed.) *Events and grammar*, Dordrecht: Kluwer.

Chierchia, Gennaro. 1998b. Reference to Kinds across languages. In *Natural Language Semantics* 6, pp. 339-405.

Chierchia, Gennaro. 2003. Language, Thought and Reality after Chomsky. Ms. University of Milan- Bicocca.

Chierchia, Gennaro. 2010. Mass nouns, vagueness and semantic variation. In *Synthese*. 174, pp. 99-149.

Corbett, Greville G. 2000. *Number*. Cambridge University Press, Cambridge, UK; New York.

Gillon, Brendan. 1992. Towards a Common Semantics for English Count and Mass Nouns. In *Linguisticsand Philosophy* 15. pp. 597-639. Kluwer Academic Publishers.

Gillon, Brendan. 1999. The Lexical Semantics of English Count and Mass Nouns. In *The*

Breadth and Depth of Semantic Lexicons. (ed.) E. Viegas. pp. 19-37. Dordrecht: Kluwer.

Gillon, Brendan. 2009. Underspecification and the mass count distinction. Paper presented at the Congress of the Social Sciences and Humanities. University of Carleton, Ottawa.

Göksel, Aslı and Celia Kerslake. 2005. *Turkish: A comprehensive grammar*. London, New York : Routledge.

Kayadelen, Tolga. 2007. Bare Noun Direct Objects and Telicity in Turkish. Paper presented in *The 1st Mediterranean Graduate Meeting in Linguistics*. Mersin University. Turkey.

Landman, Fred. 1989. Groups, I. In Linguistics and Philosophy. 12:5, pp. 559-605. Kluwer Academic Publishers.

Landman, Fred. 1991. *Structures for Semantics*, SLAP 45, Kluwer, Dordrecht.

Landman, Fred. 2006. On the mass-count distinction. Ms. Tel Aviv University.

Link, Godehard. 1983. The logical analysis of plurals and mass terms: A lattice-theoretical
approach. In R. Baüerle, C. Schwarze and A. von Stechow (eds.), *Meaning, use and interpretation*, Berlin/New York; de Gruyter.

Link, Godehard. 1991. Plural. In A. von Stechow and D. Wunderlich (eds.)*, Semantics: An International Handbook of Contemporary Research*, De Gruyter, Berlin.

Rothstein, Susan. 2007. Counting and the Mass-Count Distinction. Ms. Bar-Ilan University.

Rothstein, Susan. 2008. Telicity and Atomicity. In S. Rothstein (ed.) *Theoretical and Crosslinguistic Approaches to the Semantics of Aspect*. John Benjamins. pp. 43-78.

Sauerland, Uli. 2003. A new semantics for number. In R. Young & Y. Zhou (eds.), *Proceedings of SALT 13*. Ithaca, NY: CLC Publications, Cornell University

Schroeder, Christoph. 1999. *The Turkish Nominal Phrase in Spoken Discourse*. Turcologica 40. Wiesbaden: Harratssowitz.

Spector, B. 2007. Aspects of the pragmatics of plural morphology: On higher-order implicatures. In U. Sauerland & P. Stateva (eds.), *Presuppositions and implicatures in compositional semantics*. Hampshire, UK: Palgrave-Macmillan.