Turkish: An Optional Classifier Language with Plurals

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This talk explores three properties of Turkish nominal constructions that make it typologically unusual among classifier languages: the optionality of classifiers (1a), the presence of a genuine plural morpheme (1b), and the impossibility of plural forms in numeral constructions (1c):

1. a. Iki (tane) cocuk geldi. b. Çocuk/Çocuk-lar geldi.   c. *İki (tane) çocuk-lar gel-di.
       two CL child came   child/child-pl came   two CL child-pl came
       'Two children came.   'The child came.'/'Children/The children came.'

The explanation for these effects rests on the semantics for numeral constructions in Ionin and Matushansky 2006 over the one proposed in Link 1983 and Landman 1989. It also depends on having classifiers combine with properties rather than kinds, contra Krifka 1995 and Chierchia 1998.

THE PROBLEM Krifka 1995 and Chierchia 1998 propose that in obligatory classifier languages like Chinese classifiers are functions from kinds into sets of atoms constituted by the instantiations of the kind. Since kinds are inherently plural, being equal to mass nouns in some sense, their atomic instances are not available for counting. Therefore, classifiers are required in order to reach the atomic level of the kind, in light of the claim that atoms are crucial in counting (Chierchia 1998, Ionin and Matushansky 2006). In those languages, since nouns uniformly denote kind terms, the singular/plural alternation is not expected.

However, considering the Turkish data, we are urged to ask the following questions: (i) Are nouns in Turkish also kind terms, given the existence of a classifier in the language? (ii) How can the classifier be optional? (iii) How does Turkish have plural alternatives of the nouns? I attempt to give answers to these questions below.

ANALYSIS Semantics of *tane* Both unmarked nouns and plurals (inflected with *-lAr*) are kind terms evidenced by their compatibility with kind-level predicates (2).

2. a. **İnsan** maymundan türedi.   b. **İnsan-lar** maymundan türedi.
       human from.ape evolved   human-pl from.ape evolved
       'Human beings evolved from apes.'   'Human beings evolved from apes.'

Unlike plural kind terms (2b), I further propose that kind terms denoted by unmarked nouns (2a) are like definite singular kinds in English in that they do not have a semantically transparent relation to their instantiations; namely, they are impure atomic (following Dayal, 2004). This difference bears on the fact that in episodic contexts, an unmarked noun denotes only strict singularity as opposed to plurals (cf. *çocuk* vs. *çocuk-lar* in 1b). This would not be expected if unmarked nouns denoted inherently plural kinds.

However, differently from obligatory classifier languages, in Turkish, the classifier cannot be taking a kind term as its argument because of three reasons. First, plurals cannot occur in numeral constructions even with the classifier although they are kind terms. Second, singular kinds (denoted by unmarked nouns) can occur in numeral constructions contrary to what is expected, i.e. they are impure atomic, hence the classifier would not be able to access their instantiations. Third, such kind of semantics would force the classifier to be attested obligatorily in light of the idea that kinds are inherently plural and counting requires access to their atomic level.

Instead, I propose that Turkish is different from Chinese-like languages in that nouns can denote properties besides kinds, and the classifier *tane* combines with properties and triggers a presupposition that the properties it combines with denote sets of atoms (3) (cf. Krifka 1995 and Chierchia 1998).

3. $[[tane]] = \lambda P_{<e,t>}: \forall x [P(x) \rightarrow AT(x)]. P$

In light of this argument, below I present the analysis of the numeral constructions in Turkish, looking at the nature of the properties denoted by nouns.

Semantics of Numeral Constructions Ionin and Matushansky treat numerals as modifiers, the lexical complement of which has to be atomic (cf. Link 1983 and Landman 1989). The primary motivation comes from the possibility of a compositional account of complex numerals like *two hundred books.*

Adopting this view of numeral constructions immediately explains the grammaticality of *iki çocuk* 'two child' in (1a) and the ungrammaticality of *iki çocuk-lar* 'two children' in (1c) if we make two assumptions: (i) that Turkish unmarked nouns are strict singulars denoting a set of atoms and (ii) that Turkish plural nouns are plural terms denoting a set of atoms and pluralities. In English, by contrast, -s in numeral constructions is taken by Ionin and Matushansky to represent morphological agreement with no semantic content.

Semantics of Nouns Here I show that unmarked nouns are actually strict singulars (e.g. {a, b}), and plurals are number neutral, i.e. inclusive of atoms and pluralities (e.g. {a, b, a+b}). In Bale et al 2010, Turkish unmarked nouns are argued to denote number neutral sets based on their neutral interpretation in predicate positions (4a). The same reasoning can be adopted considering the non-case marked direct object positions (4b).

4. a. Ali ile Merve **çocuk**.   b. Ali **kitap** okudu.
    Ali and Merve child   Ali book read
    'Ali and Merve are children.'   'Ali did-book reading (one or more books).'

These cases notwithstanding, I argue that they only denote sets of atoms since they receive a strict singular interpretation in argument positions, i.e. subject and case-marked direct object positions (e.g. *Çocuk geldi.* 'The child came.' & *Ali kitab-ı okudu.* 'Ali read the book.').

The apparent number neutrality in 4 arises due to the interaction with external factors. In predicate positions, I suggest that there is a null Distributive Operator in the sense of Link 1983, which distributes the property denoted by the predicative noun to the individuals in the subject position (4a). In the non-case marked direct objects (4b), which are analyzed as pseudo-incorporation in Öztürk 2005, the number neutrality is available only in atelic contexts (following Dayal 2011, cf. 4b with a telic context: *Ali iki saatte araba tamir etti.* 'Ali fixed *a car/*one or more cars* in two hours.')

The number neutrality of plurals is evidenced by the fact that 'more than one' meaning arises in positive contexts due to a conversational implicature, disappearing in downward-entailing contexts and questions in the sense of Zweig 2009 (Krifka 2004, Sauerland et al 2005, among others, contra Bale et al 2010). Compare the plural form in 1b with the one appearing in a question in 5.

5. A. Ormanda **ayı-lar-**a   rastladınız mı?   B: Evet, bir tane gördük.   #Hayır, bir tane gördük.
    in.forest bear-pl-dat came across question   yes, one CL saw   no,   one CL saw
    'Did you come across bears in the forest?'   'Yes, we saw one.'   'No, we saw one.'

The Problem of Plurals & The Semantics of *tane* If the cross-linguistic atomizing function of the classifier applied to *tane*, we would expect *iki tane çocuk-lar* 'two classifier children' (1c) to be grammatical contrary to what is attested because the classifier would take the inclusive set denoted by the plural and return the set of atoms (e.g. [[çocuk-lar]] = {a, b, a+b}, [[CL çocuk-lar]] = {a, b}).

This problem is solved by the semantics that I propose for the classifier in 3. Because *tane* presupposes that the property that it takes denotes sets of atoms, when the classifier combines with a plural, the result is infelicitous. In other words, *tane* can only take an unmarked (singular) noun as its complement, hence, the grammaticality of *iki tane çocuk* 'two classifier child' (1a). The optionality of the classifier arises from the fact that there are two options in the language for counting: a numeral and the presuppositional classifier, and the numeral by itself.

IMPLICATIONS My analysis accounts for the optionality of the classifier and the impossibility of the plural forms in numeral constructions of Turkish. What about the presence of a genuine plural morpheme which posits an unusual status to Turkish among classifier languages? My analysis also predicts that Turkish is a [+argumental, +predicative] language in Chierchia's Nominal Mapping Parameter, inducing an ambiguous status to nouns, both being kinds and denoting properties. The presence of a plural morpheme, in fact, rests on this. If nouns in Turkish uniformly denoted kind terms as in Chinese, we would not expect the singular/plural alternation. Since unmarked nouns can also denote properties, the existence of their plural variants are natural.

Selected References **Chierchia, G.** 1998. Reference to kinds across languages. **Dayal, V.** 2004. Number marking and (in)definiteness in kind terms. **Ionin, T. & Matushansky, O.** 2006. The composition of complex cardinals. **Krifka, M.** 1995. Common nouns: a contrastive analysis of Chinese and English. **Landman, F.** 1989. Groups I.