Why do we need a general classifier in a mass/count language?

Brigitta R. Schvarcz[1, 2] and Borbála Nemes[3]
[1]Bar-Ilan University / [2]Afeka College of Engineering / [3]Babeș -Bolyai University

1. The puzzle. Counting in Hungarian allows an optional classifier (1a). Based on this pattern, Csirmaz & Dekány (2014) suggest that Hungarian is a classifier language and Num+N phrases include a null classifier (1b). This is supported by the absence of plurality on the numeral-modified nominal. However, other analyses suggest that the issue of plural is orthogonal (Borer 2005, Schvarcz and Rothstein 2017 (henceforth S&R)) and that the absence of plural marking is not related to countability. Schvarcz (2014), S&R suggest an alternative analysis of (1a): Hungarian has a mass-count distinction that nouns like *könyv* are ambiguous between a count and mass interpretation. On its mass reading the classifier in (2a) is obligatory, while on its count reading the classifier is impossible (2b).

(1) a. három (darab) könyv b. három $Ø_{CL}$ könyv (2) a. három *(darab) $boook_{MASS}$ b. három (*darab) $book_{COUNT}$
three $CL_{general}$ book three $CL_{Ø}$ book three $CL_{general}$ book three $CL_{general}$ book

Departing from S&R, Erbach et al (2019) argue that notionally count nouns are semantically number neutral denoting both atomic entities and sums thereof. Under their analysis, classifiers are required by the numeral semantics and not by the nominals (Krifka 1995, Sudo 2016).

In this paper we will defend the nominal-flexibility analysis and show that: i) number neutrality does not fully explain the data on kind interpretation and classifier optionality; ii) kind-interpretation tells apart the two structures in (1); iii) Hungarian mass nouns (including the mass counterparts of flexible nouns) are kind denoting by default and can undergo a kind-to-predicate shift explicitly triggered by a sortal individuating classifier, the function of which being mapping kinds into properties.

2. Kind interpretation. Data such as (3) indicate that the structures in (2) can have different interpretations pointing to the semantic contribution of the general classifier. A number of tests and contexts confirm our prediction.

(3). a. Huszonöt könyv-et tart ez az könyvtár. [Sub-kind/ Plurality of individuals]
twenty.five book-ACC keep DEM the library 'This library keeps twenty five (kinds) of books.'
b. Huszonöt darab könyv-et tart ez az könyvtár. [Plurality of individuals]
twenty.five $CL_{general}$ book-ACC keep DEM the library 'This library keeps twenty five books.'

i) Kind-reference generic sentences express properties true of kinds, species or classes of objects, but not of individual objects (Krifka et. al. 1995), hence incompatible with a CL.

(4) a. Három (*darab) könyv a betiltás szélén áll.
three $CL_{general}$ book the banning verge stand. 'Three books are about to be banned.'
b. János három (*fej) marhát tenyészt (Holstein marhát, Angust, és barna svájci marhát).
John three CL_{animal} cow breed 'John breeds three cows (*3 kinds of cows listed*).'

ii) Distributive operators and reciprocals require plural atomic antecedents (Link 1983, Rothstein 2009, Schwartzschild 2011, Schvarcz 2014 -for Hungarian). In the context of a multiplicity of copies of books, only a plurality of sub-kind interpretation is possible, while a plurality of individuals reading induced by the classifier is ruled out.

(5) a. Az Akadémiai Kiadó három (*darab) könyvet egymás után adott ki.
the Academic.Publishing.House three $CL_{general}$ book-ACC one.after.an.other published
'The Academic Publishing House published three books one after the other.'
b. János három (*darab) könyv-et vesz Keddenként a feketepiacon, mindegyik be van tiltva.
John three $CL_{general}$ book-ACC buys on.Tuesdays the black.market each is.banned
'John buys three books on the blackmarket on Tuesdays, each of which is banned.'

iii) Multiple instantiations. Contexts which indicate multiple instantiations of kinds are not compatible with the structure involving a sortal individual classifier.

(6) Mari három (*tő) rózsá-t ültetett: angol-, futó- és teahibrid rózsát. Összesen 53-at.
Mari three CL_{root} rose-ACC planted English rambler and hybrid rose-ACC in.total 53-ACC

‘Mari planted three roses: English, rambler and hybrid rose. In total 53.’

3. Counterarguments to the Neutrality Analysis

i) **In pseudo-partitive (measure) DPs, atoms are not accessible** in the denotation of notional count (8), dual-life (8) and naturally atomic mass nouns (9), contra Erbach et.al (2019).

(7) ??? Húsz kiló könyv egymás tetején van a földön.
20 kilo book on.top.of.each.other are the ground. ‘20 kgs of books are on top of e.o. on the ground.’

(8) * 200g csokoládé-t vettem, mindegyik más töltelékkel volt megtöltve.
200g chocolate-ACC bought each different filling.with was filled
‘I bought 200 grams of chocolate, each of which was filled with a different filling.’

(9) * Elég sok állatállomány tűnt el ma.
Quite much livestock disappeared today ‘Quite a few livestock have disappeared today.’

ii) **Mass readings of singular Ns are available** in full argumental positions (10), as well as bare (11), given that kind=mass (Chierchia 1998), indicating unique kind-reference in Hungarian.

(10) A könyv ritka jószág manapság amikor mindenki már Kindle-t. használ.
the book rare stuff nowadays when eveyone already Kindle-ACC use
‘Books are rare nowadays when everybody uses Kindle already.’

(11) Könyv és ima a mindennapi intellektuális táplálék-om.
book and prayer the everyday intellectual nutrition-POSS.1SG
‘Books and prayers are my everyday intellectual nutrition.’

iii) We assume a Chierchian analysis (1998) of the definite determiner, *a.* Under a number-neutral analysis*, a könyv* (‘the book’) could refer both to a singular individual and to a set of pluralities. This prediction is not borne out from the data (12). Further support comes from the partitive post-position, *közül,* which requires a plural set as its antecedent (13).

(12) A könyv megérkezett, éppen (*azok amiket) /az amit rendeltem. [singular individual]
the book arrived exactly DEM-PL which.PL DEM which(sg) ordered
‘The book arrived, exactly (the one) which I ordered.’

(13) a. * a könyv közül b. a könyv-ek közül
the book from.among the book-PL from.among ‘of the books’

iv) **‘Kind, not plurality’.** While it appears that the N_{sg}, *királyfi* (‘prince’) in (14) can refer to a singular individual or to sum, this is due to NP incorporation (Farkas & de Swart 2003). Such NsP do not function as an arguments but as a predicates (Espinal & McNally 2010). Given the nature of the V *válik* (‘to transform into’), both native authors and their informants get an kind-reading for N_{sg}, which then can undergo a *kind→inst.of.kind* shift. Incorporation effects are highlighted by the position of verbal modifiers (VM): (13a) involves an elliptical NP or measure DP (see SNPE (Dékány 2011)), affirmed by case marking appearing on NUM (13b). Once a VM is added, it must appear post-verbally (13c), and it can most naturally refer to a N_{sg}. (13d).

(14) A békák királyfi-vá váltak.
the frog-PL prince-TRANS transformed ‘Frogs transformed into princes[kind]’

(15) a. Könyv érkezett. Négy $Ø_{könyv}$/$Ø_{kiló}$. b. Könyv-et vettem. Négy-et (négy $Ø_{könyv}$-et)
book arrived four konyv-ACC I.bought four-ACC ‘I bought books. Four.’
c. Könyv * megérkezett / érkezett meg. d. ??? Könyv érkezett meg. Négy.
book VM.arrived arrived VM book arrived VM four ’Books arrived. Four’

v.) **Classifiers.** If classifiers are required by numerals, classifier optionality is difficult to explain. Two homophonous numerals with two different interpretations would be required for (1), but why would a language chose such a strategy? Second, if numerals require a classifier, then we would not expect (15a) to be felicitous to begin with.

Given the above, we maintain a nominal-flexibility analysis. Evidence for kind-denotation of mass will be provided in the full version of the paper. These new data lead us to conclude that optionally used sortal individuating general classifier, *darab,* is a functional operator on kinds, type <k, <e, t>>, λk.λx. INST(x,k), which applies to kind denoting terms generating the set of individuals such that they are instantiations of that kind, λx. INST(x, $BOOK_{\mathbf{kind}}$).

(16) a. ||darab|| = λ**k**.λx.INST(x,**k**) b. || három darab könyv || = λx.INST(x, $BOOK_{kind}$) ∧ |x| = 3

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