

KINDS, CONTAINERS, INSTANCES: MASS NOUNS AND PLURALITY

Tibor Kiss
Ruhr-Universitaet Bochum
tibor@linguistics.rub.de

F. Jeffry Pelletier
Simon Fraser University
jeffpell@sfu.ca

Johanna M. Poppek
Ruhr-Universitaet Bochum
poppek@linguistics.rub.de

Data & Approach

Bochum English Countability Lexicon

11,800 English noun-sense pairs, extracted randomly from OANC and enriched with definitions by WordNet as a resource for the count and mass distinction

Annotated by four native speakers with a set of pattern test questions, regarding syntactic (possible constructions) and semantic features in 18 fine-grained countability classes

Definition of countability not only at the sense level, but beyond a binary feature to account for different semantic and syntactic properties

Further analysis at the token level using parsed data from *Open American National Corpus* comparing two different classes of mass nouns in terms of their pluralization

Corpus Study

Formally realized plurality in the domain of mass nouns is a major challenge

Analysis of two different types of mass nouns in plural contexts (both annotated consistently and exclusively in one class)

528 (regular mass) \approx 1,900 plural occurrences for 167 lemmata

510 (dual life) \approx 5,400 plural occurrences for 241 lemmata

Despite the hypothesis that mass nouns show „built-in“ plurality as their main distinguishing feature compared to count nouns, both classes not only occur frequently in plural forms, but also undergo regular meaning shifts

Type Shift = arising interpretation as a UNIT, a KIND or an INSTANTIATION of an act, event or result

Further Perspectives

Further corpus-based studies concerning other mass noun countability subclasses will allow studying varying effects of plurality within the domain of mass nouns and the general semantic and pragmatic nature of their pluralization regarding their distinct features

Open Database: www.count-and-mass.org

What We Do

A large-scale, corpus-based analysis of the formally realized plurality of mass nouns, based on a fine-grained countability classification at the sense level

Mass Nouns & Dual Life Nouns

Regular Mass Nouns (528)	Dual Life Nouns (510)
--------------------------	-----------------------

can be combined with *more* (measurement other than number)

more + morphological plural is *not applicable*

Construction *A (sense) is a kind of X is *not applicable*

can be combined with *more* (measurement other than number)

more + morphological plural is possible and semantically equivalent to an explicit classifier

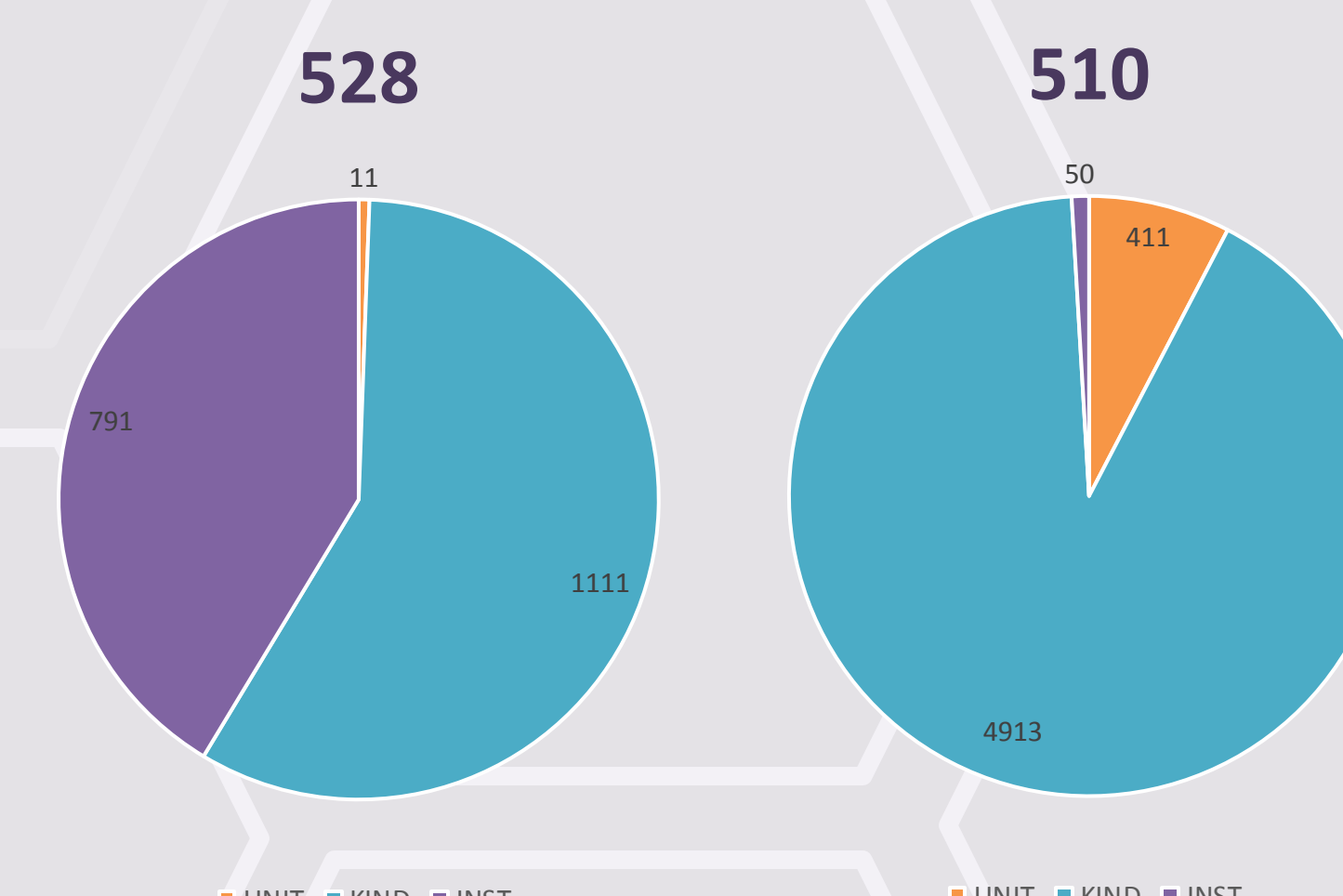
Construction *A (sense) is a kind of X is *not applicable*

Mass nouns (528) should not possess a morphological plural (as often specified as a general feature of mass nouns), while 510 plurals should be accompanied by a meaning shift

Type Shifting & Distribution

Unit Interpretation	Three carboxy-terminal tyrosines(...), hypothesized to play regulatory roles, were replaced by phenylalanins.
Kind-of Interpretation	The universe, in short, is breaking symmetries all the time, creating novelties (...)
Instantiation Interpretation	The reaction products were purified by means of three repeated gel chromatographies (...)

Both classes show all types of meaning shifts, nonetheless in different distribution:



[1] Alexiadou, Artemis (2011) Plural Mass Nouns and the Morphosyntax of Number. In: *Proceedings of the 21th West Coast Conference on Formal Linguistics*, pp. 33-41.

[2] Borer, Hagit (2005) *Structuring Sense. Vol. 1. In Name Only*. Oxford: Oxford University Press.

[3] Chierchia, Gennaro (1998) Plurality of Mass Nouns and the Notion of the "Semantic Parameter". In: *Events in Grammar*. Edited by Robertstein, Klauer, pp. 53-103.

[4] De Belder, Marjke (2008) Size matters: Towards a syntactic decomposition of countability. Abner, Natasha & Jason Bishop (eds.) *Proceedings of the 27th West Coast Conference on Formal Linguistics*.

Somerville: Cascadia Proceedings Project.

[5] Felbaum, Christiane (ed.) (1998) *WordNet: An Electronic Lexical Database*. Cambridge, MA: MIT Press.

[6] Huddleston, Rodney; Pullum, Geoffrey K. (eds.) (2002) *Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.

[7] Katz, Graham; Zamorelli, Roberto (2011) Meaning-shifting plurality and the Count/Mass Distinction. In: *QTL4 - Proceedings of Quantitative Investigations in Theoretical Linguistics 4* 29.03.2011 - 31.03.2011. Berlin: Humboldt-Universität, pp. 43-46.

[8] Kiss, Tibor; Pelletier, F. Jeffry; Stadfeld, Tobias (2014) *Building a Reference Lexicon for Countability in English*. In: *Proceedings of LREC 2014*. Reykjavik, Iceland.

[9] Kiss, Tibor; Pelletier, F. Jeffry; Husk, Halimu; Poppek, Johanna Marie; Simic, R. Nino (2016) *A Sense-Based Lexicon for Count and Mass Expressions: The Bochum English Countability Lexicon*. In: *Proceedings of LREC 2016*. Portoroz, Slovenia.

[10] Lacosoba, Peter (2011) Mass Nouns and Plurality. In: *Semantics: An International Handbook of Natural Language Meaning*. Berlin: DeGruyter, 2011.

[11] Nicholas, David (2008) Mass nouns and plural logic. In: *Linguistics and Philosophy*. Springer Verlag, 2008, 31 (2), pp. 211-244.[12] Payne, J.; Huddleston, Rodney (2002) Nouns and noun phrases. Huddleston, R.; Pullum, G., pp. 323-324.