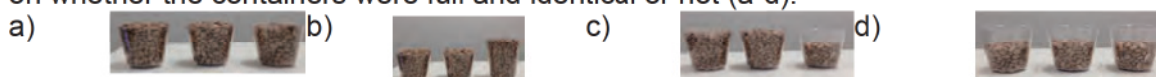


On the acquisition and interpretation of container phrases in English

Suzi Lima (Universidade Federal do Rio de Janeiro) & Jesse Snedeker (Harvard University)
suzilima1@gmail.com

Introduction: Container nouns (*cup*) are nouns that denote concrete objects that can be used as receptacles for substances. It has been argued that in constructions with numerals (as in ‘two glasses of water’), container phrases can be interpreted in at least two different ways (Selkirk 1977, Rothstein 2012, Partee and Borshev 2012). Firstly, a container noun can be used to denote actual containers filled with some substance; e.g. ‘glasses of water’ can denote actual glasses filled with some quantity of water (individuation). Secondly, a container noun can be used as the description of a unit of measurement. In this case, the numeral specifies a quantity on a scale whose units are described by the container noun; e.g. ‘glasses of water’ need not refer to actual glasses filled with water, but only to portions of water whose volume corresponds to the content of a glass (measurement).

Study: In a felicity judgment task, we investigated whether 33 English speaking children (3 to 6 year olds) and 37 English speaking adults were aware of the distinction between individuation and measurement interpretations of container phrases in English. The participants saw a sequence of four short videos that bias the interpretation of a container phrase towards a measurement (Maria drank two cups of water/ poured three cups of beans) or an individuation (Mary put two bottles of milk/ bowls of rice on the table) interpretation. The four videos differed on whether the containers were full and identical or not (a-d).



In measurement scenarios, we expected a “yes” answer for “Did Mary pour three cups of beans in the soup?” only if Mary poured three identical cups of beans (a-b). In individuation scenarios, when asked “Did Mary put two bottles of milk on the table?” we expected a “yes” answer for all scenarios independently of the amounts of substances in the containers (as long as we had two bottles on the table with some amount of milk on them).

Results: younger children (3 to 5 year olds) treated measurement and individuation scenarios alike: they answered “yes” when they saw containers that have different amounts of a substance or of different sizes in both the individuation and in the measurement scenarios. Like adults, 6 year olds distinguished measurement from individuation: they only answered “yes” in measurement scenarios if the containers were completely full (a-b). 6 year olds answered “yes” for all individuation scenarios, as expected, independently of whether the containers were identical/full or not.

Discussion: This study suggests a path in the acquisition of the interpretation of container phrases: when young children interpret phrases like “three cups of beans” they first count the number of containers, ignoring the amounts of substance inside the containers, even in measurement scenarios. However, by 6 years of age, they are able to tease those two interpretations apart just like adults. As such, these results corroborate the hypothesis that the measurement interpretation of container phrases is a more complex interpretation of container nouns in comparison with the individuation interpretation, as suggested by Partee and Borshev (2012). These results also support the previous findings that show that children under 6 years of age present a low performance in tasks that involve the comprehension of measure words (liters, teaspoons, tablespoons, (Levin & Wilkening (1989), Galperin & Georgiev (1969)).

References Galperin, P. Y., & Georgiev, L. S. 1969. The formation of elementary mathematical notions. *Soviet studies in the psychology of learning and teaching mathematics*. • Levin, I. & Wilkening, F. 1989. Measuring time via counting: the development of children’s conceptions of time as a quantifiable dimension. *Time and Human Cognition: a life span perspective*. Amsterdam: Elsevier. • Partee, B., & V. Borshev. 2012. Sortal, relational, and functional interpretations of nouns and Russian container constructions. *Journal of Semantics*. • Rothstein, S. 2012. Numericals: Counting, measuring and classifying. *Proceedings of Sinn und Bedeutung 16*. • Selkirk, L. 1977. Some remarks on noun phrase structure. *Studies in formal syntax*. New York: Academic Press.