

## Quantity judgments in Yudja (Tupi)

Suzi Lima (University of Massachusetts, Amherst)

slima@linguist.umass.edu

Count/mass distinction; Quantity judgments; Sentence-picture matching; Yudja

Three studies explored the semantics of the count-mass distinction in Yudja (Tupi; Brazil). It has been claimed that there is no count-mass distinction in Yudja; all nouns can be counted after combining with a contextual atomic function  $f_c$  that maps their basic denotation to a set of atoms (Lima 2010). We tested whether speakers make a distinction between notional mass nouns such as *y'a* 'water' and notional count nouns such as *karaxu* 'spoon' in tasks involving the evaluation of a quantity of objects/stuff. A total of 18 adults and 22 children (7, 2-5 years old and 15, 6-11 years old) participated in the studies. The studies were based on Barner and Snedeker (2005) and were fully prepared and elicited in Yudja. A control group with 10 Brazilian Portuguese adults responded the same as English adults have in prior studies (Barner and Snedeker 2005).

**Study 1** While presenting two different drawings one with a big portion of *X* (Quantity) and another with many different portions of *X* (Number), we asked:

	<i>Ma de bitu</i>	<i>X</i>	<i>dju au?</i>	
	Who more	<i>X</i>	have	'Who has more <i>X</i> ?'

**Results** Subjects answered 3 questions with a notional mass noun (e.g., *asa* 'flour'), 3 questions with a notional count noun (e.g., *xaa* 'bowl') and 2 questions with a notional fake mass noun (e.g., *abeata* 'clothes'). Participants had to point to one of the drawings to answer the question. Independent evidence in Yudja shows that *bitu* 'more' does not bias Number or Quantity. **Results** Yudja adults and 2-5 years old children favored the Number criterion for all nouns. 6-11 years old children old disfavor the Number criterion for all nouns (Table 1).

**Study 2** We tested whether the results from Study 1 for adults are an effect of a strong dispreference for a single big portion of *X* in comparison to many portions of *X*. We asked the questions presented in Study 1 accompanied by two drawings: one with two big portions of *X* and another with six small portions of *X*. **Results** All three groups tested kept the pattern observed in Study 1 (see Table 1).

**Study 3** In principle, Studies 1 and 2 may suggest an absence of a conceptual distinction between Quantity and Number. In Study 3, children saw the drawings presented in Study 1 and answered two different questions:

<i>Ma de</i> (1) <i>itxibi/</i> (2) <i>urahu X dju a'u?</i>	
Who (1) many/(2) a lot <i>X</i> with have?	'Who has (1) many portions/ (2) a big portion of <i>X</i> ?'

The issue was whether children would establish a conceptual difference between Quantity and Number. These quantifiers enforce this distinction and are unambiguous. **Results** Children associated *urahu* to Quantity and *itxibi* to Number (Table 2). In other words, they conceptually distinguish Quantity from Number.

**Conclusion** the studies show that Yudja adults and young children tend to conceptualize as count both nouns that are count and nouns that are mass cross-linguistically. Older children show a different pattern, which may suggest a 'u' curve in the acquisition path and/or influence of external factors (e.g., exposure to Portuguese in school).

**Table 1.** 'Number' responses in Study 1 and 2 (in percentage)

	Notional count nouns		Notional mass nouns		Notional fake mass nouns	
	Study 1	Study 2	Study 1	Study 2	Study 1	Study 2
Adults	85%	83%	87%	72%	81%	78%
Children (2-5)	62%	57%	52%	57%	71%	71%
Children (6-11)	33%	20%	27%	27%	43%	27%

**Table 2.** Quantifiers *urahu* (Quantity) and *itxibi* (Number) – Study 3 (in percentage)

	Notional count nouns	Notional mass nouns	Notional fake mass nouns
Adults	100%	100%	100%
Children (2-5)	67%	67%	72 %
Children (6-11)	98%	85%	94%

## References

- Barner, D. and Snedeker, J. 2005. Quantity judgments and individuation: evidence that mass nouns count. *Cognition* 97: 41-66
- Lima, S. 2010. Bare nouns and plurality in Yudja: mass nouns and the signature property. Paper presented at Countability 2010, Bochum, Ruhr-universität, 2010.