A quantitative analysis of object agreement in Luruuli/Lunyara – work in progress

Erika Weinberger

Verb agreement can basically be defined as a co-variance of features (e.g. gender, number or grammatical role) between a noun and its verbal head (cf. e.g. Steele 1978). An issue which is often discussed in the context of verb agreement is the dichotomy between grammatical and pronominal agreement, the basis of which is the co-occurrence restriction (Bickel and Nichols 2007). One speaks of grammatical agreement if two expressions referring to the same entity can co-occur, i.e. one expression is an argument realized as an NP, and the other one is an agreement marker, most often attached to the predicate. If the co-occurrence of the argument and an agreement marker is not possible, the marker on the verb itself is seen as an argument and one speaks of pronominal agreement. In many languages, the absence or presence of the verbal marker concerns specific conditions, such as, for example, the clause-internal/clause-external status of the argument, information structure, the type of noun phrase it co-occurs with, phrase structure, or polarity.

In Bantu languages, the verb obligatorily agrees with the subject, and null subjects are permitted. Similarly, when the object is pronominalized, it is realized as a clitic on the verb. Although the languages of the family seem to behave fairly similar with regard to object agreement, the factors that license the co-occurrence of the object NP and the object clitic are very diverse (cf. e.g. Stucky 1983, Kawasha 2003, Buell 2008, Riedel 2009, van der Wal 2009, Downing 2011). In order to identify the central factors which condition the co-occurrence of the pronominal clitic and the object NP, we conduct a quantitative case study of the Bantu language Luruuli/Lunyara (JE.103) contributing to the description of variation within the Bantu language family. The phenomenon of optional agreement with objects in Luruuli/Lunyara is illustrated below. Example (1) shows agreement between the object clitic on the verb and the full object NP following it. In example (2) there is only the object clitic without the corresponding NP, whereas in example (3) the object is realized as a full NP without agreement on the verb.

The relevant factors will be identified using a bottom-up analysis. We first annotate a language corpus (30000 words) for the various properties of object arguments, such as role, animacy, specificity, and modification in order to quantitatively investigate their respective impact on object agreement. These variables will be then used to train a probabilistic model which allows to predict the distribution of agreement marking.

(1)   *Wabiwuurangaku ebintu ebyo?*
      o-a-bi-wuur-a-nga-ku   e-bintu   e-byo
      2sgS-PST-8O-hear-FV-HAB-LOC   AUG-8.thing AUG-8.this
      'Did you use to hear about these issues?' [ll-N-BBALE-170220-FS-2, 45]

(2)   *Mbiwuura.*
      n-bi-wuur-a
      1sgS-8O-hear-FV
      'I heard about them.' [ll-N-BBALE-170220-FS-2, 46]

(3)   *okoba oKigozi Bbaale?*
      o-kob-a   o-Kigozi   Bbaale
      2sgS-mean-FV   AUG-1.Kigozi   Bbaale
      'You mean Kigozi Bbaale?' [ll-N-BBALE-170220-FS-2, 122]

Bickel, Balthasar & Johanna Nichols. 2007. Inflectional morphology. In Shopen, Timothy (ed.). *Language typology and syntactic description*. Cambridge: Cambridge University Press. 169–240.

Buell, Leston. 2008. VP-Internal DPs and Right Dislocation in Zulu. In van Koppen, Marjo and Bert Botma (eds.). *Linguistics in the Netherlands* (25), 37-49.

Chomsky, Noam. 2000. Minimalist inquiries: the Framework. In Martin, Robert, David Michael David and Juan Uriagereka (eds.). *Step by step: in honor of Howard Lasnik.* Cambridge, MA: MIT Press. 89–155

Corbett, Greville. 2006. *Agreement.* Cambridge: Cambridge University Press.

Croft, William. 2013. Agreement as anaphora, anaphora as coreference.. In: Bakker, Dik and Martin Haspelmath (eds.). *Languages across boundaries: Studies in memory of Anna Siewierska*. Berlin: De Gruyter Mouton. 107-129

Kawasha, Boniface K. 2003. *Lunda Grammar – A morphosyntactic and semantic analysis.* University of Oregon (PhD Dissertation).

Riedel, Kristina. 2009. *The Syntax of Object Marking in Sambaa – A comparative Bantu perspective.* University of Leiden (PhD Dissertation).

Steele, Susan. 1978. Word order variation: a typological study. In: Greenberg, Joseph H., Charles A. Ferguson & Edith Moravcsik (eds.). *Universals of human language IV: syntax*. Stanford: Stanford University Press. 585–623.

Stucky, Susan. 1983. Verb phrase constituency and linear order in Makhuwa. In Gazdar, Gerald, Ewan Klein, and G. K. Pullum (eds.). *Order, Concord and Constituency.* Dordrecht: Foris Publications. 75–94.

van der Wal, Johanna. 2009. *Word order and information structure in Makhuwa-Enahara.* University of Leiden (PhD Dissertation).