

Exploring nominal reference in the field: Diagnostics plus results from Bulu

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The Ohio State University

Linguistic Society of America Annual Meeting
3 January 2014

Acknowledgements

We would like to thank Rebecca Cover, Peter Culicover, Micha Elsner, Craige Roberts, and Judith Tonhauser for helpful discussions of the Bulu data. Thanks to Gregory Kierstead, Judith Tonhauser, and participants in Judith's class on Semantic Fieldwork at the 2013 LSA Summer Institute for discussion and feedback on the diagnostics. We also appreciate very much the financial support of the OSU Department of Linguistics. The greatest debt of gratitude is owed to our Bulu consultant, whose knowledge, patience, and willingness make this project possible. All errors belong to us alone.

Often (certainly not always, and certainly not without reason) semantic descriptions are:

- imprecise
- not predictive
- not testable

Result: Unclear theoretical significance

Background on Bulu

- Bantu
- Cameroon
- 800,000 speakers (Lewis et al., 2013)
- Original fieldwork in Columbus, OH: January 2013-present

An example from Bates (1926: 27) *Handbook of Bulu*

“-*te* is used with nouns to indicate a thing or person that has just been mentioned, or, at least, that has been in mind. It is often merely equivalent to *the* or *the thing we were speaking of &c.*”

Imprecision in Bates' description

-te optional in a "definite" context:

- (1) *Context: Sara is a photographer and she likes to take pictures of white-haired men. Fred says:*

màṅgájín mòt á fùp âṅgòʔé mòtè (tè) àmbé ábèʔè éfùmùlù ési
IS.PST.see man LOC farm yesterday man TE was wearing white hair
'I saw a man at the farm yesterday. The man had white hair.'

-te unacceptable in "definite" context:

- (2) *Context: Abondo is sitting on a bus when a man he does not know sits down beside him. The man says:*

viǎnó (#tè) wáfàj dón
sun TE shines today
'The sun is bright today.'

What are the theoretical implications of Bates' characterization of the Bulu data for theories of nominal reference?

Theoretical significance unclear

- Gather data based on theoretically founded diagnostics (guidelines for developing elicitation questions; see e.g. the Afranaph project at www.africananaphora.rutgers.edu, Matthewson 2012, Tonhauser et al. 2013, *inter alia*)
- Create precise, predictive characterizations with clear theoretical significance

- 1 Introduction
- 2 Theoretical basis for diagnostics
 - Familiarity
 - Uniqueness
- 3 Diagnostics for nominal reference
 - Diagnostics for Familiarity
 - Diagnostics for Uniqueness
- 4 Conclusions

The theory supplies a set of dimensions with respect to which cross-linguistic comparisons can be made.

Informational theory of definiteness (Roberts, 2002, 2003, 2005)

Use of a definite noun phrase (NP) presupposes

- **Familiarity:** that there is a corresponding discourse referent (DR) in the context.
- **Uniqueness:** that this DR is unique among the DRs in the context in bearing the descriptive content of the NP.

Antecedent DR introduced by linguistic material in prior discourse.

- (3) John was walking in the forest. Suddenly, he saw a deer.
The deer ran away.

Weak familiarity

- Antecedent DR not introduced by linguistic material in prior discourse.
- Existence (and uniqueness) of antecedent DR entailed by context.

Weak familiarity 1: perceptual accessibility

- (4) Context: *A rabbit passes by.*
Look at **the rabbit**!

Weak familiarity 2: global/situational familiarity and uniqueness

- (5) Context: *The interlocutors live in a village with one mayor.*
The mayor went to the capital.

Weak familiarity 3: contextual existence entailment

- (6) John bought a book. **The author** was Mexican.

Novelty (the complement of familiarity): no antecedent DR

- (7) a. #John was walking in the forest. Suddenly, he saw **the deer**.
b. John was walking in the forest. Suddenly, he saw **a deer**.

Informational Uniqueness

Semantic uniqueness

- (8) Last week, I climbed {the/*a} tallest mountain in West Virginia.
- (9) Last week, I climbed {#the/a} mountain in West Virginia.

Informational uniqueness

- (10) *Context: Jill and Sara are birdwatching. Currently, within their field of vision there are a robin and a thrush. They have already noticed and commented on both of them. Jill says:*
 - a. {The/#a} robin is building a nest in that tree.

Semantic uniqueness entails informational uniqueness, but not the reverse.

Developing diagnostics and applying them to Bulu *-te*

Following Tonhauser et al. (2013), diagnostics should be

- theoretically founded
- cross-linguistically applicable
- easy to use
- based on implication/entailment judgments, not introspection or commentary (Matthewson, 2004)

Diagnostic 1: Strong familiarity

- Create a context with two discourse participants, A and B, where A has an interest in property *P*.

Context: Sara (A) is a photographer who is making a book of pictures of white-haired men. Fred (B) says to Sara:

- Create a discourse with two sentences, uttered by B.

S1 has an expression that introduces a unique DR with property *Q*, and predicates property *R* of it.

S1 **màngájín mòt á fùp ângò?é**
1S.PST.see man LOC farm yesterday
'I saw a man at the farm yesterday.'

Diagnostic 1: Strong familiarity

S2 contains the target expression with a noun denoting property Q and where property P is predicated of the denotation of the target expression.

- (1) *Context: Sara is a photographer and she likes to take pictures of white-haired men. Fred says:*

màṅgájín mòt á fùp âṅgò?é mòtè tè àmbé ábè?è éfùmùlù ésí
1S.PST.see man LOC farm yesterday man TE was wearing white hair
'I saw a man at the farm yesterday. The man had white hair.'

Properties predicated so far

Sentence	DR	Properties predicated
S1	i	Q R man Fred saw at the farm yesterday
S2	j	Q P man has white hair

Empirical question: $i \stackrel{?}{=} j$

Answer: If $R(j)$, then yes.

I.e. If j , the man with white hair,
was seen at the farm yesterday, then yes.

Diagnostic 1: Strong familiarity

- (1) *Context: Sara is a photographer and she likes to take pictures of white-haired men. Fred says:*

màṅgájín m̀òt á f̀ùp àṅgò?é m̀òtə tè àmbó ábè?è éfùmùlù ési
1S.PST.see man LOC farm yesterday man TE was wearing white hair
'I saw a man at the farm yesterday. The man had white hair.'

Eliciting the implication/entailment judgment:

- **Ask the consultant if the discourse is acceptable.**
- **If yes, ask the consultant whether A has an interest in the individual with property *R*.**

Researcher: "Does Sara (A) want to take a picture of the man **that Fred saw at the farm yesterday?**"

Consultant: "Yes."

The target expression (*m̀òtə tè*) has a strongly familiar DR as its antecedent.

Empirical generalizations:

- NPs with *-te* can have strongly familiar DRs as antecedents.
- *-te* is not obligatory for NPs with strongly familiar DRs as antecedents.

(11) *Context: Sara is a photographer and she likes to take pictures of white-haired men. Fred says:*

màṅgájín mòt á fùp àṅgòʔé mòt àmbé ábèʔè éfùmùlù ési
1S.PST.see man LOC farm yesterday man was wearing white hair
'I saw a man at the farm yesterday. The man had white hair.'

Diagnostic 2: Perceptual accessibility

- Create a context with interlocutors **A** and **B** and a perceptible individual **C** with property **P** in which **C** has not been mentioned by either interlocutor.

Abondo (B) and Masungmayang (A) are sitting together at an outdoor cafe when suddenly they hear a massive explosion (C) in the construction site across the street.

(**P = noise**)

- Create a sentence to be uttered by **A** with a target expression that mentions **C** in terms of **P**.

Masungmayang says:

- (12) édzù tè dzábà ɲùl
noise TE was strong
'That noise was loud.'

Diagnostic 2: Perceptual accessibility

- If the uttered sentence is judged to be acceptable, then the target expression can have a weakly familiar DR as antecedent.
- If not, then it may be the case that the target expression cannot have a weakly familiar DR as antecedent.

(12) *Context: Abondo (B) and Masungmayang (A) are sitting together at an outdoor cafe when suddenly they hear a massive explosion (C) in the construction site across the street. Masungmayang says:*

édzù tɛ̀ dzábà ŋgùl
noise TE was strong

'That noise was loud.'

Applying Diagnostic 2 (perceptual accessibility) to NPs with *-te*

- A: researcher
- B: consultant
- C: a ring
- P: **ring**
- target expression: **élòndó tè** 'ring TE'

(13) *Context: Earlier in the elicitation session, the researcher placed a ring on the table between himself and the consultant without discussing it. Later, he asked if it was possible to utter the target expression in the context of the elicitation session.*

#váʔámà **élòndó tè**
pass/give.me ring TE
Intended: 'Pass me the ring.'

Applying Diagnostic 2 (perceptual accessibility) to NPs with *-te*

Empirical generalization:

- NPs with *-te* can have weakly familiar, perceptually accessible DRs as antecedents if those DRs are also **salient**.

Diagnostic 3: Weakly familiar due to global/situational familiarity

- **Identify an entity (A) with property P whose existence and uniqueness are entailed in the larger cultural context.**
A = the **moon**
- **Create a context in which A has not been mentioned previously.**
Last night there was a particularly beautiful full moon (A). This morning, when you go out to the mailbox, you see your neighbor.
- **Create a sentence with the target expression where the noun denotes property P .**

You say:

(14) #ngònè tè èmbá ábèŋ, ngà
moon TE was beautiful wasn't.it

Intended: 'The moon was beautiful, wasn't it?'

Diagnostic 3: Weakly familiar due to global/situational familiarity

- Ask the consultant for the acceptability of the uttered sentence
 - If the uttered sentence is judged to be acceptable, then the target expression can have a weakly familiar DR as antecedent.
 - If not, then it may be the case that the target expression cannot have a weakly familiar DR as antecedent.

(14) *Context: Last night there was a particularly beautiful full moon (A). This morning, when you go out to the mailbox, you see your neighbor. You say:*

#ngònè tè èmbá ábèŋ, ngà
moon TE was beautiful wasn't.it

Intended: 'The moon was beautiful, wasn't it?'

Applying Diagnostic 3: (global/situational familiarity) to NPs with –te

- *P*: moon
- target expression: ηγònè tè ‘moon TE’

(15) *Context: Last night you had a stargazing party with your neighbors and there was a particularly beautiful full moon. This morning, when you go out to the mailbox, you see your neighbor. You say:*

ηγònè tè èmbá ábèη, ηγà
moon TE was beautiful, wasn't.it
'The moon was beautiful, wasn't it?'

Applying Diagnostic 3 (global/situational familiarity) to NPs with *-te*

Empirical generalization:

- NPs with *-te* can have weakly familiar, globally/situationally familiar DRs as antecedents if those DRs are also **salient**.

Diagnostic 4: Weakly familiar due to contextual entailment/bridging

- Identify a culturally appropriate entity (A) with property Q whose existence entails the existence of another, relationally unique entity (B) with property P .

A: a **tree**

B: its **trunk**

- Create a discourse with two sentences.
 - The first sentence introduces A with property Q .

(16) *Context: Maliki is telling me about what he does at his house. He cuts down trees, he digs up stumps, he mows the grass, he plants bushes, he rakes leaves, he digs up rocks, etc. I say:*

âŋgòʔé mǎŋgátʃík élè
Yesterday 1S.PST.cut.down tree
'Yesterday, I cut down a **tree**.'

Diagnostic 4: Weakly familiar due to contextual entailment/bridging

- Discourse cont.
 - **The second sentence contains the target expression describing B in terms of property P.**

(17) *Context: Maliki is telling me about what he does at his house. He cuts down trees, he digs up stumps, he mows the grass, he plants bushes, he rakes leaves, he digs up rocks, etc. I say:*

#ãŋgò?é màŋgátʃík élè ékùt ètè èmbá ànén
Yesterday 1S.PST.cut.down tree stump TE was big
'Yesterday, I cut down a **tree**. The stump was big.'

- **Ask the consultant to judge the acceptability of the discourse.**
 - **If the discourse is judged to be acceptable, then the target expression can have a weakly familiar DR as antecedent.**
 - **If not, then it may be the case that the target expression cannot have a weakly familiar DR as antecedent.**

Diagnostic 4: Weakly familiar due to contextual entailment/bridging

Acceptable without *-te*

- (18) *Context: Maliki is telling me about what he does at his house. He cuts down trees, he digs up stumps, he mows the grass, he plants bushes, he rakes leaves, he digs up rocks, etc. I say:*

âṅgòʔé màṅgátʃík élè ékùt èmbá ànón

Yesterday 1s.PST.cut.down tree stump was big

'Yesterday, I cut down a **tree**. The **stump** was big.'

Applying Diagnostic 4: (contextual existence entailment) to NPs with –*te*

- *Q*: **tree**
- *P*: **stump**
- target expression: **ékùt ètè** ‘stump TE’

(19) *Context: Sara is a photographer and she is making a book of pictures of tree stumps. Fred says to Sara: ‘Yesterday, I cut down a tree.’*

ékùt ètè éná ànón
stump TE is big

‘The stump is big.’

Applying Diagnostic 4 (contextual existence entailment) to NPs with *-te*

Empirical generalization:

- NPs with *-te* can have weakly familiar, contextually entailed DRs as antecedents if those DRs are also **salient**.

Diagnostic 5: Novel DRs

- **Construct a discourse context with two interlocutors A and B who are strangers to one another.**

Context: Abondo (A) works in a store. A woman (B) he has never seen before enters the store, comes up to the counter.

- **Create a sentence with the target expression, where the noun in the target expression denotes property *P*. The sentence must be able to be said “out of the blue” by B in the context created.**

The woman says:

(20) #mìngá tè àkókùs ódzòì évá máfèràjì
woman TE bought banana here I.want.one.too

Intended: ‘A woman bought a banana here. I want one too.’

Diagnostic 5: Novel DRs

- Ask the consultant to judge the acceptability of A uttering the sentence to B.
 - If the utterance is judged to be acceptable, then the target expression can introduce novel DRs.
 - If not, then it is possible that the target expression cannot introduce novel DRs.

(21) *Context: Abondo (A) works in a store. A woman (B) he has never seen before enters the store, comes up to the counter. The woman says:*

#mìngá tè àkákùs ódʒòì évá máfè̀mà̀jì
woman TE bought banana here I.want.one.too

Intended: 'A woman bought a banana here. I want one too.'

Minimally different example without *-te*

- (22) *Context: Abondo works in a store. A woman he has never seen before enters the store, comes up to the counter, and says*

mìngá àkókùs ód̀zòì éwá máfə̀màjì

woman bought banana here I.want.one.too

'A **woman** bought a banana here. I want one too.'

Empirical generalization:

- NPs with *-te* cannot introduce novel DRs.

Diagnostic 6: Unique DRs

- **Create a minimal pair of discourses with two sentences.**
 - The first sentence in D1 introduces two DRs with property *P*.
 - The first sentence in D2 introduces one DR with property *P*.

(23) *Context: Sara is a photographer and she likes to take pictures of white-haired men. Fred says:*

màŋgájín **bòtè** bóbàj á fùp àŋgòʔé
1S.PST.see men two LOC farm yesterday
'I saw two **men** at the farm yesterday.'

(1') *Context: Sara is a photographer and she likes to take pictures of white-haired men. Fred says:*

màŋgájín **mòt** á fùp àŋgòʔé
1S.PST.see man LOC farm yesterday
'I saw a **man** at the farm yesterday.'

Diagnostic 6: Unique DRs

- The second sentence contains the target expression with a noun that denotes property *P*.

(24) *Context: Sara is a photographer and she likes to take pictures of white-haired men. Fred says:*

#màngájín **bòtè** bábàj á fùp àngò?é mòtè tè àmbé ábè?è éfùmùlù
1S.PST.see men two LOC farm yesterday man TE was wearing white
ésì
hair

Intended: 'I saw two **men** at the farm yesterday. The man had white hair.'

(1) *Context: Sara is a photographer and she likes to take pictures of white-haired men. Fred says:*

màngájín **mòt** á fùp àngò?é mòtè tè àmbé ábè?è éfùmùlù ésì
1S.PST.see man LOC farm yesterday man TE was wearing white hair
'I saw a **man** at the farm yesterday. The man had white hair.'

Diagnostic 6: Unique DRs

- **Ask the consultant if the discourses are acceptable: If D1 is judged to be unacceptable and D2 is judged to be acceptable, then the target expression has a unique DR as antecedent.**

- The use of *-te* requires a familiar antecedent.
- The use of *-te* requires a unique antecedent.
- The use of *-te* includes an additional salience requirement.

These generalizations are
testable
and
predictive

- NPs with *-te* are definite in the sense of Roberts (2003), but with additional pragmatic constraints related to the salience of their antecedents (c.f. Roberts (2005) on pronouns).
- Future work includes
 - characterizing the salience requirement precisely and
 - determining its typological and theoretical significance.

Using theoretically grounded nominal reference diagnostics makes it possible to

- precisely determine conditions relevant for the use of *-te*.
- situate the meaning of *-te* within a well-defined theory of nominal reference
- determine how to further investigate the meaning of *-te* to understand its implications of the meaning of *-te* for theories of definiteness and nominal reference (future work)
- replicate the process for nominal forms in other languages (future work - hopefully not just ours)

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