Overt Existential Closure in Bura (Central Chadic)

The talk presents results of original semantic fieldwork on Bura, a Nigerian language that has not been subject to semantic investigation so far. The discussion focuses on the semantic behavior of the morpheme *adi*, which will be argued to indicate existential closure over individual or event variables, depending on its syntactic context. As *adi* occurs overtly, the analysis also sheds light on parallel phenomena in languages like English where existential closure applies covertly.

Background information on Bura: Bura is a Central Chadic tone language with basic word order SVO (1a) (Hoffmann 1955). Negation is expressed by means of clause-final *wa* together with the morpheme *adi* (1b), where *adi* precedes both the verb and the (overt or covert) aspectual marker.

(1) a. kubili   tsi   mtika-ni   b. kubili *(adi) tsi   mtika-ni   *wa*
         K.   slaughter chicken-DEF   K.   ADI slaughter chicken-DEF NEG
         'Kubili slaughtered the chicken.'   'Kubili didn't slaughter the chicken.'

(1ab) show that the definite marker *-ni* (like numeral modifiers) occurs postnominally. Indefinite NPs can occur in their bare form, or they can be modified by *laga* 'some, a certain' (2). Those NPs with a very general meaning, such as *mda* 'man, person', *su* 'thing', and *vi* 'place', can also be interpreted as non-specific indefinites meaning 'somebody', 'something', and 'somewhere', respectively, either alone or in combination with *laga* (3).

(2)   kubili   tsi   *mtika* / *mtika   laga*   (3) tsa   masta   *su   (laga)*
         K.   slaughter chicken   chicken some   3sg   buy   thing some
         'Kubili slaughtered a chicken / some chicken.'   'He bought something.'

Syntactic distribution of 'adi': Apart from the fact that the existential element *adi* must precede the verb (and aspect marker), its distribution is restricted to three syntactic environments: (i.) *adi* must occur with sentence-final operators like negation, its absence leading to ungrammaticality (1b); (ii.) *adi* occurs in verbless thetic sentences with indefinite expressions introducing new discourse referents (4); (iii.) *adi* occurs with non-specific indefinites in cleft-like structures (5). In contrast, *adi* is illicit in affirmative clauses with a full verbal predicate (6).

(4)   akwa saka laga *mda*   *(*adi*) ka   mwanki ntufu
         at   time some person ADI with wife   five
         'Once upon a time, there was a man with five wives.'

(5)   *mda*   *(*adi*) ti   tsa   kuga.
         person ADI REL 3sg   invite
         'There is somebody that he invited. / SOMEBODY, he invited.'

(6)   tsa   (*adi*) masta   su
         3sg   ADI buy   thing
         'She bought something.'

The emerging generalization is that *adi* is always required under negation, and, in affirmative contexts, with non-specific indefinites in the absence of full verbs.

An incorrect hypothesis: Based on (4) and (5), one might take *adi* to be an existential predicate 'to exist', which is inserted whenever there is no full verbal predicate. This hypothesis is falsified by the impossibility of *adi* with clefted referential and quantified expressions (7a), by the existence of verbless predicative constructions (7b), and by the syntactic position of *adi* preceding the aspectual marker in verbal clauses.

(7) a. kilara   mda (*adi) an   ti   sa   kuga.   b. sal-ni   mdi-r   hyipa
       every   man ADI PRT REL 3sg invite   man-DEFperson-of teaching
       'It is everybody/ just anybody that he invited.'   'The man is a teacher.'

Analysis: The alternative analysis proposed here is based on *adi*'s co-occurrence with indefinite expressions in (4) and (5), which can be analyzed as predicates, e.g. *[[mda]] = λx. person'(x)*. The basic claim is that *adi* denotes a last resort existential operator (8), which occurs whenever a predicate variable must be bound, but cannot be bound by a verbal predicate.

(8) $[[adi_∃]] = λP. ∃x [P(x)]$

Bura verbs are taken to be lexically ambiguous. They can denote relations between individuals (9a), and relations between individuals and properties (9bc), cf. e.g. van Geenhoven (1998):

(9)   a. $[[masta_1]]$ $=$ λy.λx.λe. x bought y in e
       b. $[[masta_2]]$ $=$ $λP_{<e,t>}.λx.λe. ∃y [P(y)$ & x bought y in e]
       c. $[[masta_3]]$ $=$ $λP_{<e,t>}.λQ_{<e,t>}.λe. ∃x,y [P(y)$ & Q(x) & x bought y in e]

The denotations in (9bc) allow for transitive verbs to combine with and existentially close off one or more indefinite arguments, but, crucially, the event variable remains free. This analysis correctly predicts that variables remain unbound (i.) with indefinite NPs in the absence of verbs, cf. (4, 5), and (ii.) under negation, when the free variable is an event variable introduced by the verb itself (1b). Assuming that existential closure is always marked overtly in Bura, the analysis also correctly predicts *adi* to be inserted in these cases, as shown for (4) in (10) (*adi* attaches to the clausal topic *mda*, which is later modified by the comment *ka mwanki ntufu*):

(10) $[[mda_{TOP} adi_∃ …]] = [λP. ∃x P(x)] (λx. man(x)) … = ∃x. man(x) ...$

In the negated (1b), *adi* takes the AspP as complement and existentially binds the event variable:

(11) $[[[_{NegP} [kubili_1 [adi [_{AspP} ∅ [_{VP} t_1 [_{VP} tsi mtika-ni]]]]] wa]]] =$
       $[λP. ∃x P(x)](λe.$ Kubili slaughtered the chicken in e)

The obligatory occurrence of *adi* in negated clauses follows if the negation marker *wa* can only operate over closed propositions, similar to the treatment of modal verbs in Kratzer & Shimoyima (2002), where the set of alternatives introduced by the indeterminate (indefinite) pronoun *irgendein* must be existentially bound below the modal verb. This also implies that negation in Bura involves negative existential quantification over events. Finally, the impossibility of *adi* in affirmative verbal clauses, (6), follows if affirmative clauses in Bura must refer to particular events, which are contextually bound.

The final part of the talk discusses some consequences for the analysis of related phenomena in European languages, such as the source of existential closure (verb denotation vs. covert operator), and the correct treatment of negative sentences such as *I didn't turn off the stove*, which have been argued not to involve negative existential quantification (Partee 1973).

References: Geenhoven, V. van (1998). *Semantic Incorporation and Indefinite Descriptions.* CSLI Publications, Stanford. **Hoffmann**, **C. F. (1955).** *Untersuchungen zur Struktur und sprachlichen Stellung des Bura.* Ph.D. dissertation, Hamburg University. **Kratzer, A. & J. Shimoyama (2002).** Indeterminate Pronouns. The View from Japanese. Paper presented at the 3rd Tokyo Conference on Psycholinguistics. **Partee, B. (1973).** Some Structural Analogies Between Tenses and Pronouns. *The Journal of Philosophy* **70**.18: 601-609.