On the Omission of Agreement: the EPP and null constants
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1.0 THE *pro* GENERALIZATION

The possibility in language for null arguments is thought to be correlated with the presence of 'rich agreement' (Taraldsen, 1978).

(1) a.   John eats an apple   English
     b.   * [e]   eats an apple.

(2) a.   Gianni mangia una mela.   Italian
     b.   [e] mangia una mela.

Rizzi (1986) argued that the null element in such clauses as (2b) is a silent pronominal called *pro*.   Let us call this generalization the *pro* Generalization:

The *pro* Generalization: null arguments are permitted when corresponding rich agreement is available.

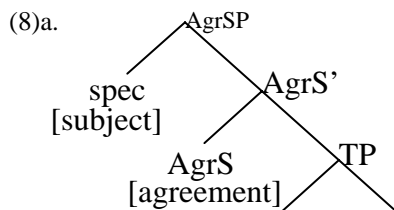| |
|---|
| <div align="center">**Outline:**</div>
• Swahili verbal complex
   • Agreement or pronominal clitic?
   • Swahili Null subjects as *pro*
• Recognized cases of SA omission: Habitual and Continuative
• [-SA] clauses
• Rizzi's Null Constant |

2.0 SWAHILI VERBAL COMPLEX

       Subject   Verbal Complex   Object

(3) Juma   a - na - m – pend - a   Mariam   S-V-O
     Juma SA_{3s}-PRES- OA_{3s}- like - IND   Mariam
     'Juma likes Mariam'

(4) SA – T – (OA) – Verb – FV   Minimal Indicative
     a   – na – m – pend – a   Verbal Complex

(5) A - na - m – pend - a   Mariam   Null Subject
     SA_{3s} - PRES- OA_{3s}- like- IND   Mariam
     'He likes Mariam'
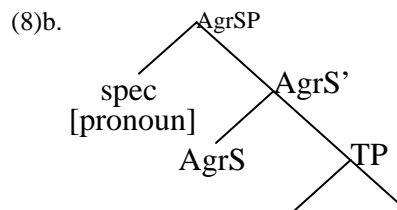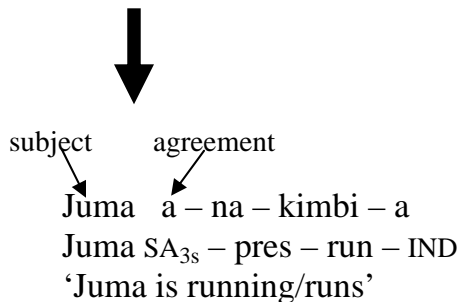
(6) ni - na - m – pend - a   Mariam, mimi   postverbal subject
     SA$_{1s}$- PRES- OA$_{3s}$- like - IND   Mariam   Spro$_{1s}$
     'I like Mariam'

(7) a - na - m – pend – a   null subject and object
     SA$_{3s}$- PRES - OA$_{3s}$ – like - IND
     'He likes her'
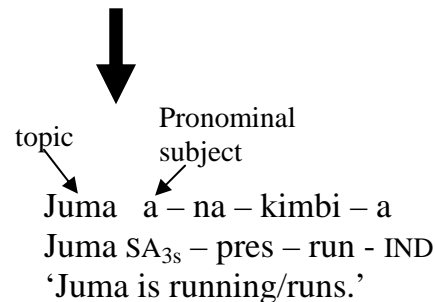
2.1 Agreement versus Pronominal Clitic

There is currently a debate underway about whether SA in Swahili is agreement between the subject and the verb or whether it is a subject pronoun. In the former case, SA is agreement (in pre-minimalist terms, it is the head of AgrSP) and the subject is a true subject (i.e., a DP in the specifier of AgrSP). In the latter case, SA is the DP in the specifier of AgrSP, and the preverbal DP is in a higher topic position.

(8)a.   AgrSP   (8)b.   AgrSP

       spec   AgrS'   spec   AgrS'
     [subject]   [pronoun]

             AgrS   TP   AgrS   TP
          [agreement]

       Agreement Analysis   Pronominal Analysis

                                                                    Pronominal
     subject   agreement   topic   subject

           Juma   a – na – kimbi – a   Juma   a – na – kimbi – a
           Juma SA$_{3s}$ – pres – run – IND   Juma SA$_{3s}$ – pres – run - IND
           'Juma is running/runs'   'Juma is running/runs.'

2.2 Null subjects in Swahili as *pro*

Swahili null subjects have many of the characteristics of *pro* in Italian that differentiate it from PRO. For example, both Swahili null subjects and Italian *pro* alternate with overt DPs:

(9)   *pro* alternates with overt DPs (unlike PRO)

      a.   Juma/*pro*   a – na – zungumz – a ki – zungu   Swahili
             Juma/ *pro* SA$_{3s}$–PRES–speak–IND   7–English
             'Juma/*pro* speaks English.'

      b.   Gianni / *pro* parl–a   Inglese   Italian
             Gianni/ *pro* speak–SA$_{3s}$ English
             'Gianni / *pro* speaks English.'

Furthermore, in both languages null subjects are possible in matrix, finite clauses (unlike PRO, which only occurs in non-finite clauses):

(10) *pro* occurs in matrix, finite clauses (unlike PRO)

 a. *pro* a – na –zungumz–a ki–zungu   Swahili
      SA$_{3s}$– PRES –speak–IND 7–English
    '*he/she* speaks English.'

 b. *pro* parl – a Inglese   Italian
      speak–SA$_{3s}$ English
    '*he/she* speaks English.'

Similarly, null subjects in Swahili and *pro* in Italian can both occur in finite embedded clauses (unlike PRO, which occurs in non-finite embedded clauses):

(11) *Pro* occurs in embedded finite clauses

 a. ni–na–fikiri [kwamba *pro* a–na–zungumz–a ki–zungu]   Swahili
  SA$_{1s}$–PRES–think that SA$_{3s}$–PRES–speak–IND 7–English
  '*I* think [that *he/she* speaks English]'

 b. Pens – o [che *pro* parl – a Inglese]   Italian
   think–SA$_{1s}$ that speak–SA$_{3s}$ English
   '*I* think [that *he/she* speaks English]'

I therefore conclude that null subjects in Swahili are *pro*.
(see Khamisi, 1988 for further evidence that *pro* in Swahili occurs in subject, object and indirect object positions).

3.0 SA OMISSION IN THE LITERATURE

Scotton (1969) describes a phenomenon in the dialects of Baganda and Baluhya speakers in the 1960s.

(12) a. mi na – sem – a ta–kuw–a dereva   b. li – chez – a m – pila
   mimi ni–na–sem–a ni–ta–kuw–a dereva   ni–li–chez–a m–pira.
   I SA$_{1s}$–pres–say–IND SA$_{1s}$–fut–be–IND driver SA$_{1s}$–past–play–IND 3–ball
    'I am saying that I will be a driver.'   'I played ball.'

Similarly Duran (1975) notes that Kipsigi speakers of Swahili allow SA omission (p.76), but no quantitative data are provided. So we do not know how prevalent this phenomenon is.

3.1 Well-described Agreement-less clauses
3.1.1 Habituals
Agreement is obligatorily absent in Habitual clauses, cf. 13b, where the presence of SA renders the habitual sentence ungrammatical (examples from Keach, 1995):

(13) a. wa – tu wa Kenya hu – wa – pend–a wa – toto
    2-person of Kenya HAB–OA$_2$–like–IND 2–child
    'People of Kenya like children'

 b. * wa–tu wa Kenya **wa** – hu – wa – pend–a wa – toto
    2-person of Kenya **SA$_2$**–HAB–OA$_2$–like–IND 2–child

Furthermore, as Keach (1995) reports, the subject in a habitual clause is obligatorily overt:
(14) a. ulevi   hu – ondo – a akili
      drunkenness HAB–remove–IND sense
      'drunkenness removes common sense'

b.   * hu – ondo – a   akili
          HAB–remove–IND sense

Thus habituals are always [-SA], and always contain an overt subject.
Additionally, they may occur in embedded clauses:

(15)   a – li – ni – ambi–a [kwamba wa – tu wa Kenya
         SA$_{3s}$–PAST–OA$_{1s}$–tell–IND that   2-person of Kenya

         hu – wa – pend–a   wa – toto]
         HAB–OA$_2$–like–IND 2–child
         'He told me [that people of Kenya like children]'

3.1.2 Continuatives

The continuative construction is a regular 'tensed' clause that is used in narratives. *Ka* occurs in the same position that tense occupies; in complementary distribution with other tense markers. It is thus considered a regular tense in the traditional Swahili literature (see Ashton, 1947; Polomé, 1967).

(16)   a.   a – ka –kimbi–a   na – o
             SA$_{3s}$–CONT–run–IND with–rel.
             '(And then) he ran off with them.'

       b.   * a – li – ka – kimbi – a
             SA$_{3s}$–PAST– CONT –run–IND

       c.   * a – ka – li – kimbi – a
             SA$_{3s}$– CONT –PAST–run–IND

       A continuative clause usually takes SA like other tensed clauses, as in (17a) below. However, Ashton (1947) notes that the SA marker may be omitted in certain contexts (cf. 17b, where I have used Ø to indicate that SA has been omitted). She describes the resulting interpretation as expressing 'some emotional quality like mild surprise' (p.134):

(17)   a. a – li – ib – a   wa–toto **a** – ka –kimbi–a   na – o
           SA$_{3s}$–PAST–steal–IND 2–child **SA$_{3s}$**–CONT–run–IND with–rel.
             'He stole the children and he ran off with them.'

       b. a – li – ib – a   wa–toto Ø ka – kimbi–a   na – o[1]
           SA$_{3s}$– PAST –steal–IND 2–child Ø CONT –run–IND with–rel.
           'He stole the children and actually ran off with them.'

Thus, continuative clauses may be either [+SA] or [-SA.

4.0 [-SA] CLAUSES

       My data come from a naturalistic database Nairobi Swahili speakers. The subjects of the study were four Swahili speaking children, but during the course of the project this phenomenon of SA

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[1] The reference of rel is fixed through discourse. OA is not obligatory in this case because the verb *kimbia* 'run' is intransitive. Substituting a transitive verb in this position such as *piga* 'hit' yields obligatory OA.

omission became apparent. At that point I began focusing on the adults and trying to record non-child-directed speech. In addition to the naturalistic data, I provide evidence from native speaker judgments.

4.1 Frequency

Of the 1470 indicative verbal clauses coded, 72 (4.9%) are missing SA. Other underspecified clauses (clauses missing tense and clauses missing both tense and SA) account for a combined 1% of indicative clauses. The remaining 94% of indicative clauses are full clauses.

Table 5.   Proportions of different clause types in adult Swahili.

Full Clauses	[-SA] clauses	[-T] clauses	Bare Stems	Total
1380 (93.9%)	72 (4.9%)	14 (0.9%)	4 (0.3%)	1470

Figure 1. Clause types in adult speech
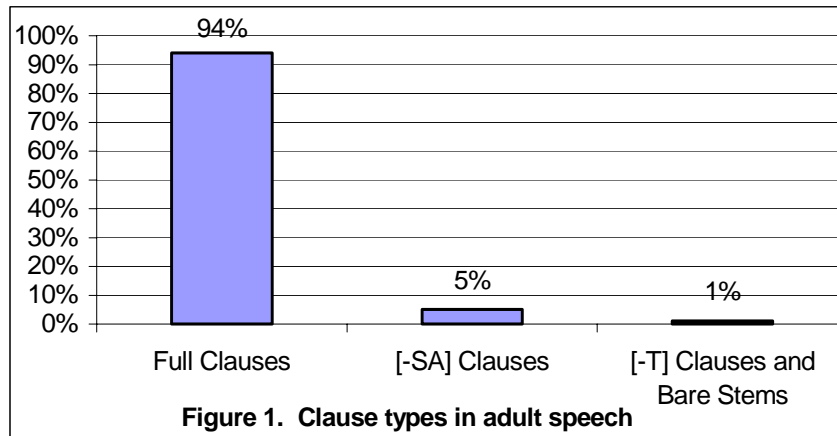
The Usual Suspects:
1. Phonological Drop
2. Null Agreement Prefix

The silent element in [-SA] clauses is syntactically active, as seen in the following [-SA] examples. In (18), the null subject is the antecedent to the reflexive prefix –ji-. In (19), the null subject is the controller for the embedded PRO.

(18)   Ø na – ji – on – a
      PRES – REFL. – see – IND
    '(I) see myself.'

(19) $Ø_i$ na – ju – a PRO_i ku – onge – a?
      PRES – know – IND INF – speak – IND
    'Do (you) know how to speak?'

4.2 Temporal Specification
[-SA] clauses occur with a variety of tense markers:

(20)   Ø **na** – tak – a   ch–ai?   (Present tense)
      PRES–want–IND 7–tea   (Hamisi, HAW05)
     '(Do you) want tea?'

(21)   Ø **ta** – ku – chun – a   (Future tense)
      FUT–OA_{2s} – pinch–IND   (Mot, MUS10)
    '(I) will pinch you'

(22) ile ni nini Ø **me** – lal – a   pa – le ?   (Present Perfect)
      that is what   PR.PERF – sleep – IND LOC – there   (Joki, HAW01)
      'What is that that has slept over there?'
      (lit: that is what has slept there?)

4.3 Implicit Reference

In [-SA] clauses in Swahili, there is no restriction on the implicit reference of the subject. Dropped SA markers can refer to 1st, 2nd and 3rd person referents:

(23) Ø ta – ku – chapa – a 1st sing.
          FUT–OA$_{2s}$ – slap–IND   (Sam, MUS10)
          '(I) will slap you'

(24) Ø na – ju – a   ku–wach– a   kelele ? 2nd singular
          PRES–know–IND INF–leave–IND noise   (Ala, MUS09)
          '(Do you) know how to stop making noise?'

(25) n–dege   Ø na – ruk – a 3rd singular
      9-bird   PRES–fly up–IND   (Ali, FAU07)
   'The bird is flying up'

4.4. Embedding on [-SA] clauses

 There is a dispreference for embedding [-SA] clauses:

(26) a. a   –   li – ni – ambi–a [kwamba **a** – ka – kimbi – a]
         SA$_{3s}$– PAST t–OA$_{1s}$–tell–IND   that   **SA$_{3s}$**–CONT–run – IND
         'He told me that he then ran off'

      b. ?? a   –   li – ni – ambi–a [kwamba   Ø –ka – kimbi – a] [2]
             SA$_{3s}$– PAST –OA$_{1s}$–tell–IND   that   Ø –CONT – run – IND
             'He told me that (he) then ran off'

4.5. Overt Subjects in [-SA] Clauses

Full clauses: Subject is overt 16.7% of the time (230 out of 1380)
[-SA] clauses: Subject is overt 40.3% of the time (29 out of 72).

Figure 2. Use of Overt Subjects by adults in Full Clauses and [-SA] Clauses

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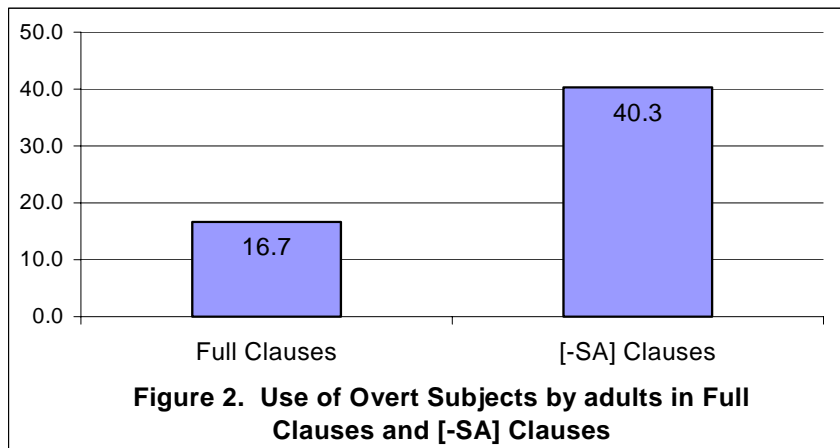
[2] My consultants consider this sentence ungrammatical. My judgment is somewhat less clear, but certainly degraded.

Our theory of identification predicts that null subjects should be completely absent in [-SA] clauses because of the absence of an identifier. However, null subjects are still the predominant form in [-SA] clauses – a fact that our theory of identification cannot account for. Below are examples of [-SA] clauses with overt subjects as well as with null subjects:

(27) a. wewe Ø ta–kul – a   ch–akula?   Overt Subject
          You   FUT–eat–IND 7–food   (Ala, MUS08, line 230)
          'Will you eat food?'

      b. ndege   Ø na – ruk – a   Overt Subject
          bird   PRES–climb–IND   (Ala, MUS12, line 2372)
          'The bird is climbing.'

(28) a. ndio, Ø ta – i – beb – a   Null Subject
          yes   FUT–OA–carry–IND   (Ali, FAU01, line 178)
          'Yes, (I) will carry it.'

      b. Ø na – tak – a ice   Null Subject
            PRES – want– IND ice   (Ham, HAW05, line 135)
          'Do (you) want ice?'

Questions:
  - How is the EPP satisfied in a [-SA] clause, given that both agreement and an overt subject may be missing?
  - What is the silent element in a [-SA] clause?
  - How is identification accomplished in the absence of agreement?

5.0 ANALYSIS OF [-SA] CLAUSES

5.1 Silent elements in syntax: which one fits the [-SA] clause?
pro: no agreement, therefore no identifier.

PRO: PRO generally does not alternate with overt DPs:
              (29) a. I entered the race [PRO/*Me feeling strong and confident]
                    b. PRO/*John to win the race is important
                    c. John tried [PRO/*John to win the race]

NP-trace: NP-trace also does not alternate with overt DPs:
              (30) a. John$_i$ seems [t$_i$ to have left]
                    b. *John seems [he to have left]

Furthermore, NP-traces must be antecedent-bound in order to fulfill the ECP:
              (31) a. John$_i$, I like [t$_i$]
                    b. * I like [t]

   We saw earlier that approximately 60% of [-SA] clauses have a null subject with no overt preverbal DP, and are thus not antecedent-bound:
              (32)   [t] ta –end–a   koti–ni
                      _____| fut–go–IND koti–loc
               no antecedent   '(I) will go to court'

<u>Wh-trace</u>:   wh-traces are variables, and can be bound by quantified antecedents. This is not possible with [-SA] clauses.

(33) a.   Kila mw-anafunzi a – na – som – a   ki – tabu
           Every 1-student SA_{3s}–PRES–read–IND 7–book
           'Every student is reading a book.'

         b.   * Kila mw-anafunzi $\varnothing$ na – som – a ki – tabu
           Every 1-student   PRES –read–IND 7–book

(34) a.   Wa–tu w–ote wa – na – pig – a kelele
           2-person 2-all SA_{3pl} – PRES – hit – IND noise
           'Everyone is making noise'

         b.   ??/* Wa – tu w–ote $\varnothing$ na – pig – a   kelele
              2-person 2-all   PRES –hit–IND noise

This suggests that the null element in subject position is NOT a variable, and thus cannot be a wh-trace. Thus the silent element in a [-SA] clause is none of these.

5.2 Dismissing the Usual Suspects
Two possible analyses of agreement omission
- phonological drop
- zero agreement.

Both the Phonological drop hypothesis and the zero agreement hypothesis predict no syntactic differences between full clauses and [-SA] clauses

1. In [+SA] clauses, overt subjects can be quantified or not, but in [-SA] clauses overt subjects cannot be quantified.
2. A [+SA] clause can be the answer to a wh- question, but a [-SA] clause cannot.
3. [+SA] clauses can occur in embedded contexts, but [-SA] clauses cannot.

5.3 Mezzo Summary
Properties of [-SA] clauses
     a.   SA omission is optional,
     b.   Overt subjects alternate with null subjects,
     c.   The silent element is syntactically active,
     d.   All tenses and person specifications are possible,
     e.   They cannot occur in embedded context,
     f.   No quantified antecedent is possible,

5.4 Rizzi's Null Constant
Properties (e-f) above are suspiciously like properties of topics. Rizzi (1992) proposes a topic construction in which an ***anaphoric topic operator*** binds a ***null constant*** (a new silent element). This nc is in subject position, satisfying the EPP. It obtains identification through a binding relation with the topic operator. Additionally, the nc provides a link for the discourse topic (via the operator) into the sentence.

(35) $[_{TopP}$ OP $[_{IP}$ nc $[_{VP}$ …$]]]$
            |_____|

The null constant is an element that Rizzi defines as:
   - a definite description
   - [–anaphoric, –pronominal]
   - a non-variable
   - an R-expression
(see also Lasnik & Stowell's 1991 *null epithet*)

Rizzi claims that
> …the licensing of null constants is not freely available, but is restricted to a designated kind of A'-binder, the anaphoric operator (an element inherently characterized as an operator but different from quantificational operators in that it does not assign a range to its bindee; rather, the anaphoric operator seeks for an antecedent, to which it connects its bindee); anaphoric operators are typically but not necessarily null.

The anaphoric operator is typically, but not necessarily, null. This accounts for the optionality of overt 'subject' in [-SA] clauses, if in fact this is the correct analysis. Thus what we see as subjects in [-SA] clauses are not subjects but the overt instantiation of the anaphoric topic operator.

5.5 Swahili NC
The analysis for Swahili [-SA] clauses that I propose is as follows:
(36)
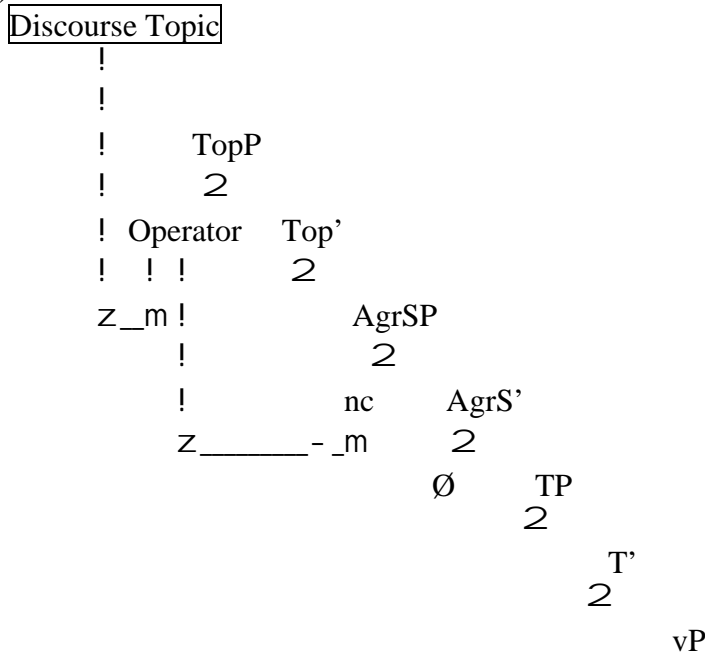
This accounts for all of the properties of [-SA] clauses in the following manner:

a.	Subject can be overt or null	(The anaphoric topic operator can be optionally null or overt.)
b.	Can occur with all tenses	(Tense is irrelevant to the topic construction described above.)
c.	Cannot occur in embedded context	(Topics cannot be embedded as the left periphery is occupied.)
d.	Subject cannot be a quantifier	(The null constant is a non-variable, and topics in general cannot be quantificational (Rizzi, 1997))

6.0 CONCLUDING REMARKS

Agreement may be omitted in Nairobi Swahili, resulting in [-SA] clauses. These clauses appear to violate the *pro* Generalization in that subjects occur in the absence of agreement (or any other identifier). This is permissible because the subject is not in fact *pro*, but another silent element: a null constant. The null constant is bound by an anaphoric topic operator, which occur optionally null. This is consistent with the fact that preverbal DPs in [-SA] clauses cannot be quantified, and that [-SA] clauses cannot occur as the answer to wh-questions or in embedded contexts.

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