Baker's Generalization in a derivational theory of binding

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(1) *San Miguel Chimalapa Zoque*
mukkə ʔəy golpyancəkkəy win (Johnson 2000:107)
muk-wə ʔəy-golpya-cək-wə   ʔəy-win
fall-COMPL 3ERG-hit-do-COMPL   3ERG-REFL
'He falls and he hurts himself.'

(2) **ʔəy   mačete** (Johnson 2000:264)
3ERG   machete
'his machete'

(3) *Dutch*
z'n   eigen
his   own   'himself'

(4) a. SMC Zoque = SVO
b. "Verbs are unambiguously classified as those roots that must appear with an aspect or mood suffix and an agreement marker." (Johnson 2000:48)

ʔokwakkəy ʔotowe (Johnson 2000:214)
ʔok.wak-wə   ʔəy-ʔotoŋ-E
down.*empty-COMPL 3ERG-speak-DEPCOMPL
'He finished speaking.'

(5) SMC Zoque has subject and object agreement markers

də wehhašukkə (Johnson 2000:129)
də-weh.hay-šuk-wə
1ABS-shout.APPL-3PL-COMPL
'They called me.'

(6) SMC Zoque has "highly productive" noun incorporation (Johnson 2000:268).

nəkpay kuytəŋŋə rrama (Johnson 2000:274)
nək-pa   ʔəy-kuy-təŋ-wə   **rrama**
go-INC   3ERG-tree-cut_with_machete-DEPINC   branch
'They're going to cut tree branches.'

## 1. Baker's generalization (Baker 1996:49)

(7)   Polysynthetic languages lack NP anaphors (in object position)

(8)   Polysynthetic (i) full argument agreement *and*
                       (ii) robust noun incorporation
                            (a) reasonably productive, (b) N morphologically integrated,
                            (c) N referentially active, (d) N and V can be used independently

(9) *Polysynthetic languages*
Mohawk, Tuscarora, Wichita, Kiowa, Southern Tiwa, Huauhtla Nahuatl, Gunwinjguan, Chukchee, ... (Zoque)

(10) a. Sak   ra-**[a]tate**-núhwe'-s   (Mohawk)
        Sak   MASC.SG.SU-REFL-like-HAB
        'Sak likes himself.' (Baker 1996:50)

      b. Sak   ro-núhwe'-s   ra-úha
        Sak   MASC.SG.SU/MASC.SG.OB-like-HAB   MASC.SG.OB-self
        'Sak likes him/*himself.' (Baker 1996:49)

(11) Baker's explanation   (i) in polysynthetic languages, NPs are adjuncts, A-positions are occupied by *pro* (co-indexed with the adjunct NPs)
                             (ii) object *pro* is coindexed with object-adjunct NP, object-adjunct NP is coindexed with subject-adjunct NP, subject-adjunct NP is coindexed with subject *pro* ➜ subject and object *pro* are coindexed, **violating Principle B**.

(12)
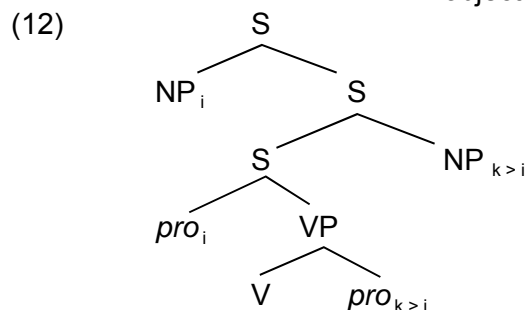
(13) *Binding Theory*   (binding = co-indexing + c-command)
      A. an anaphor is locally bound
      B. a pronoun is locally free
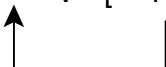   C. an R-expression is free

2. Today

> A derivational approach to binding
> allows us to do away with indices
> (in fact with the entire Binding Theory)
> forcing us to look for an alternative account

3. Derivational approach to binding (Zwart 2002)

(14) Derivational Approach to Syntactic Relations (Epstein 1999):
grammatical relations are restricted to pairs of sisters (i.e. a function of Merge)

(15) Two major points   (i) binding should be an *automatic* result of merger
                              (ii) this implies that anaphoricity is an *acquired* feature

(16) a) pronominals enter the derivation as PRON
      b) in the course of the derivation, PRON may acquire a feature [REFLEXIVE]
      c) at Spell-Out (**morphology after syntax**), a conversion takes place from syntactic features to morphological forms
      d) depending on the morphological paradigms, PRON may be realized differently with

or without the feature [REFLEXIVE]

(17) implementation of Zwart (2002):

a. [⌐ V [NP ⎸ PRON]]   ➜ PRON realized as *himself* (reflexive)

b. [NP V [PRON]]   ➜ PRON realizes as *him* (default)

(18) a. Nothing forces a language to have a special realization of reflexive PRON (19)
      b. Nothing excludes multiple sources for a particular realization of PRON (20)

(19) a. Marie skammet har   ➜ PRON realized as *har* (reflexive)   (Frisian)
         Mary   shames   her
         'Mary is ashamed.'

      b. Marie hearde har   ➜ PRON realized as *har* (default)
         Mary   heard   her
         'Mary heard her/*herself.'

(20) a. John himself presented the award (emphatic)
      b. John thought that pictures of himself would be on sale (logophoric?)

(21) Binding now: (i) conditions for acquisition of reflexive feature ➜ sisterhood
                    (ii) realization of reflexive feature ➜ morphology at Spell-Out

(22) What the approach explains immediately (cf. Kayne 2002):
a.   c-command (sisterhood)
b.   Principle B/C (no reflexivity, no anaphor)
c.   locality (movement in (17a) is A-movement)
d.   uniqueness (binary branching)

3. Problems

(23) (i)   paradoxes (24)
      (ii) the status of SE-reflexives (25)-(26)
      (iii) typological observations (27)-(28)

(24) a. John [was arrested —] by himself
      b. John seems to himself [— to be an idiot]

(25) *slight meaning differences* (cf. Rooryck & Van den Wyngaerd 1998)
a.   Jan   hoorde   zich   (*op de radio) zingen   (Dutch)
      John   heard   SE   on the radio   sing
      'John heard himself sing.'

b.   Jan   hoorde   zich-zelf (op de radio) zingen
      John   heard   SE-SELF   on the radio   sing
      'John heard himself sing on the radio.'

(26)　*nonthematic SE*
　　　Das　Buch　liest　sich　gut　　　　　　　　　　　　　　(German)
　　　the　book　reads　SE　good
　　　'The book reads well.'

(27)　Reflexivity does not have to involve pronominals (cf. Baker 1996)

4.　Typological survey (cf. Geniušienė 1987, Schladt 2000)

(28)　*Expression of reflexivity:*
a.　object pronoun (29)　　　　　g.　secondary predicate (35)
b.　object clitic (30)　　　　　　h.　intensifier (36)
c.　nonthematic clitic (31)　　　　i.　adverb (37)
d.　verbal morphology (32)　　　j.　special auxiliary (38)
e.　body-part noun phrase (33)　k.　locative PP (39)
f.　self noun phrase (34)　　　　j.　copy (40)

(29)　*pronoun*
　　　a.　John saw **himself**　　　　　　　　　　　　　　(English)

　　　b.　bulen　　**me:nmi**　va:-re-n　　　　　　　　　(Evenki)
　　　　　enemy　oneself　kill-NFUT-3SG
　　　　　'The enemy killed himself.' (Nedjalkov 1997:109)

(30)　*clitic*
　　　a.　Nrâ　　　dreghe-**nrî**　fadre　rroto　　　　　　(Tiri)
　　　　　3SG.SU　injure-3SG.OB　with　car
　　　　　'He injured himself in a car.' (Osumi 1995:207)

　　　b.　Kot　dzjare-**cca**　　　　　　　　　　　　(Belorussian)
　　　　　cat　scratch-REFL
　　　　　'The cat scratches.' (Geniušienė 1987:249)

(31)　*nonthematic reflexive*
　　　a.　Das　Buch　liest　**sich**　gut　　　　　　　　(German)
　　　　　the　book　reads　SE　good
　　　　　'The book reads well.'

　　　b.　Jon-as　　　at-**si**-vedė　　　vaik-ą　į　mokykl-ą　(Lithuanian)
　　　　　Jonas-NOM　PERF-REFL-brought　child-ACC　to　school-ACC
　　　　　'Jonas brought the child with him to school.' (Geniušienė 1987:135)

(32)　*verbal morphology*
　　　a.　Sak　ra-**[a]tate**-núhwe'-s　　　　　　　　　(Mohawk)
　　　　　Sak　MASC.SG.SU-REFL-like-HAB
　　　　　'Sak likes himself.' (Baker 1996:50)

　　　b.　Juma　a-li-**ji**-pend-a　　　　　　　　　　(Swahili)
　　　　　Juma₁　1-PAST-REFL-love-FV
　　　　　'Juma loved himself.' (Hoekstra & Dimmendaal 1983:69)

c. səih-**si**-ke (Kham)
kill-DETRANS-PERF
'He killed himself.' (Watters 2002:242)

(33) *body (part) NP*
a. Nye rerem **mʊgʊn** (Bari)
he kill body
'He kills himself.' (Spagnolo 1933:139f in Schladt 2000)

b. en tooñ-ii **koye men** (Toucouleur)
we harm-ASP heads our
'We have harmed ourselves.' (Sylla 1993:149)

(34) *self object NP*
a. **Abono-ra** na-noki-a-'a-ha (Paumarí)
self-OBJ CAUS-see-DETRANS-ASP-THEME
'He sees himself.' (Chapman and Derbyshire 1991:178 in Schladt 2000)

b. Alfijadi-z **wič** güzgüd-a akwa-zwa (Lezgian)
Alfija-DAT self mirror-INESS see-IMPF
'Alija sees herself in the mirror.' (Haspelmath 1993:185)

(35) *secondary predicate*
Irail **pein** duhp-irail (Ponapean)
3PL self bathe-3PL
'They bathed themselves.' (Rehg 1981:301)

(36) *intensifier*
ʔut **gɛg-ɛ-ni** qɛč (Zay)
3SG.MASC REFL-ACC-POSS:3SG.MASC kill:PERF:3SG.MASC
'He killed himself.' (Meyer 2005:84)

(37) *adverb*
Atakusa a-nö kama nia sapa **ko-pa-so-ma** (Sanuma)
gun 3SG-INST 3SG shoot reverse:DIR return-EXT-FOC-COMPL
'He shot himself with a gun.' (Borgman 1991:43 in Schladt 2000)

(38) *special auxiliary*
Yehpe nochi (Sie)
Y-ehpe n-ocəh-i
3SG:DISTPAST-do.reflexively NOM-see-OB:3SG
'He/she saw him/herself.' (Crowley 1998:127)

(39) *locative*
Mì-ɽmɩ **tì-rɛ̀** (Zande)
I-kill on-me
'I kill myself.' (Tucker & Bryan 1966:150 in Schladt 2000)

(40) *copy*
a. Pov yeej qhuas **Pov** (Hmong)
Pao always praise Pao
'Pao always praises himself.' (Mortensen 2004:2)

b. Pov   paub   **Pov**
   Pao   know   Pao
   'Pao knows himself / knows it of himself (i.e. noone told him).' (Mortensen 2004:11)

5. Adapting the analysis

(41)   **Generalization**
       If the antecedent is the subject, reflexivity is expressed on a term of the subject's sister.

(42)   [SUBJECT John] ➜ [PREDICATE loves PRON]+REFLEXIVE

(43)   If α merges with β, β is the dependent of α (**asymmetric merger**)

(44)   Parellel with subject-verb agreement, realized   (i)   on the verb/auxiliary
                                                          (ii)   on auxiliary + verb
                                                          (iii)   on separate pronoun/clitic
                                                          (iv)   on the object (!)

(45)   a.   ..dat   hij   in het bos   wandel-**t**   (Dutch)
            that   he   in the forest   walk-3SG
            '..that he is walking in the forest.'

       b.   Juma   **a**-li-kuwa   **a**-ngali   **a**-ki-fanya   kazi   (Swahili)
            Juma₁ 1-PAST-be   1-still   1-PROG-do   work
            'Juma was still working.' (Carstens 2003:395)

       c.   u   bru   pīn-yap   psəñ   **u**   (Nongtung Khasi)
            the   man   cause-die snake 3SG
            'The man killed the snake.' (Nagaraja 1997:355)

       d.   dios   tupo·-**n**   naxo-xt'e·wal   wako·   (Coahuilteco)
            god   the-1PL   we-annoy   cause
            'We annoyed God.' (Troike 1981:663)

(46)   Agreement is a property of the subject's sister (the 'predicate'), spelled out on a term
       of the predicate.

(47)   Similarly, (objective) case may be a property of the predicate, spelled out on a noun
       phrase (provided the language has a structural case opposition in the morphological
       paradigm)

(48)   ..dat   hij   **hem**   niet   schijn-t   te ken-nen   (Dutch)
       that   he:NOM   he:ACC   not   seem-3SG   to know-INF
       '..that he does not seem to know him.' (cf. Zwart 2001)

(49)   a.   prynodd   y   ddynes   *f*eic / *beic   (Welsh)
            bought   the   woman   SMbike / bike
            'the woman bought a bike'

       b.   roedd   y   ddynes   yn   prynu   beic / *feic
            was   the   woman   PROG   buy:INF bike / SMbike
            'the woman was buying a bike'

(50)   **Reflexivity = 'sister-orientation' of a dependent XP**

aside

(i) close to notion of reflexivity in Reinhart & Reuland (1993), but differences:
- a. not related to argument structure (explains (ii) straightforwardly)
- b. no need for Chain Condition or revised Principle C
- c. no stipulations regarding the feature content of pronouns/reflexives
- d. no claims as to total distribution of particular pronominal forms

(ii) John saw [himself kiss Mary]

6. Sister-orientation

(51) core case: subject is immediately affected by the action expressed by the predicate ('AGENS = PATIENS')

- (i) predicate is detransitivized (verbal morphology, reflexive cliticization)
- (ii) predicate contains a variable element (PRON, body part NP, copy, etc.)
- (iii) predicate contains some other device signaling orientation (adverb, secondary predicate, etc.)

(52) additional cases: subject indirectly affected by the action expressed by the predicate ('AGENS = BENEFICIARY', AGENS is otherwise involved)

- (iv) dative reflexives (53)
- (v) nonthematic reflexives (Lithuanian (31b), Hmong (40b))

(53) Juan se construyó una casa (Spanish)
John REFL built a house
'John built himself a house.'

(54) *Not restricted to predication*
bewonderaar van zich-zelf (Dutch)
admiror of SE-SELF

7. Dependency realization

(55) Which term of a dependent element D expresses the relevant feature of D?

(56) Typical cases:
- a. agreement: realization on the head of D (**head-marking**)
- b. case: realization on a noun phrase in D (**NP-marking**)

(57) Typological survey: reflexivity can be expressed in both ways

(58) Polysynthetic languages: strong preference for (perhaps uniquely) head-marking
(i) full agreement
(ii) no structural case (Baker 1996:132)

(59) **Baker's generalization reflects a realization preference: polysynthetic languages mark dependencies on the head of the dependent.**

(60) exceptions predicted, and found: San Miguel Chimalapa Zoque (1), Chukchee (61).

(61) a. ∃tləg-e čenet-etə qoraŋə tem-nen (Chukchee)
father-ERG self-DAT reindeer slaughter-3SG.SU/3SG.OB
'The father slaughtered a reindeer for himself.' (Nedjalkov 1997:196,201 in Baker 1996)

b. ∃tləg-e   činit-kin   uwik   wiriɲe-rkə-nin
   father-ERG   self-POSS body defend-PRES-3SG.SU/3SG.OB
   'The father defends himself.' (Nedjalkov 1997:190.201 in Baker 1996)

(62)   Baker's explanation of (61): does not give rise to the problematic indexing (cf. (12)).

(63)   Is (12) problematic under the dependency approach to binding?

(12')
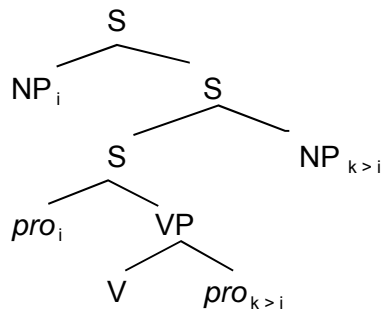
(64)   (i)   NP$_i$ marks its sister S as 'sister-oriented'
        (ii)   suppose we spell-out the sister-orientation on NP$_k$
        (iii)   nothing would go wrong: crucially, no (re-)indexing takes place if NP is just an
                element on which dependency is expressed
        (iv)   even if the pro's would get co-indexed, no principle in the grammar excludes this
                (there is no Principle B!)

(65)   Principle B effects: a PRON that does not realize the reflexive (sister-orientation) feature
        of the predicate that contains it, is realized with default morphology

(66)   *alternative scenario*
        (i)   subject pro marks its sister (VP) as 'sister-oriented'
        (ii)   since the object is a pro, VP can only realize the sister-orientation feature on its
                head V
        (iii)   this *explains* the head-marking preference of polysynthetic languages

8. What remains of the Binding Theory?

(67)   a. c-command (< sisterhood)
        b. uniqueness (< binary branching)

(68)   Principle C: R-expressions are not PRON, so they cannot realize the feature 'sister-
        orientation' (unless they *contain* an open place, as in body part NPs)

(69)   *Evans cases*
        Look, if everyone likes John, then surely John must like John

    Crucially: not *presented* as reflexive, hence no sister-orientation

(70)   Locality: can a sister-oriented predicate realize the sister-orientation feature on a term
        of an embedded clause?

    *   John thinks that Mary likes himself

    No: the NP-object realization strategy requires that the object of the predicate itself realize
    the dependency (to get an interpretation where the subject is affected by the action)

(71)   Room for exceptions: long distance anaphora, logophors

(72)   It follows that PRON in an embedded clause gets default realization

        John thinks that Mary likes him

(73)   *Evans cases*
        Of course you hate me. I hate me.

        Again, not presented as sister-oriented predication.

(74)   Binding theory is not about determining the distribution of a given set of pronominal
        elements, but about the realization of reflexivity on a term of a dependent category

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