Reference tracking via agreement: evidence from Washo switch reference

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Switch reference as agreement

Switch reference in Washo tracks whether embedded and matrix subject referents are different

Marked as a suffix on embedded verbs:

(1) [**Emily**$_i$ t'íšímáŋaw k'-éʔ-i   **-š**   -ge   ] l$_j$-ášašé:s-šemu-yi   **Different subject**
    [**Emily**$_i$ singer.good 3-be-IND **-DS** -NM.ACC] 1$_j$-know-really-IND
    'I know well that Emily is a good singer.' (Arregi & Hanink 2018)

(2) [**šáwlamhu**$_i$ t'é:liwhu ∅-bó:ŋi-yi   **-Ø**   ] ʔwáʔ ʔ$_i$-éʔ-i   **Same subject**
    [**girl**$_i$ man   3/3-call-IND **-SS** -NM.NOM] here **3**$_i$-be-IND
    'The girl that called the man is here.'

(Jacobsen 1964, 1967, 1998, McKenzie 2015)

Claim: Switch reference is agreement

Embedded C collects indices from the two subjects via Agree.
(Arregi & Hanink 2018, Baker & Camargo Souza 2018, Clem 2018)

What switch reference in Washo is *not*:
- Binding (Finer 1985, Watanabe 2000, Broadwell 1997)
- Control (Georgi 2012, Baker & Camargo Souza 2018)

Washo (Hokan/isolate): highly endangered (≤ 10 speakers) language spoken around Lake Tahoe (USA).

Switch reference in Washo is syntactic (Arregi & Hanink 2018)

Appears in a variety of embedded clause types

(3) [mé:hu$_i$ géwe   ʔ-í:gi-yi   **-š**   -ge   ] lé:$_j$-saʔ l-í:gi-yi   **Internally headed RCs**
    [boy$_i$ coyote 3/3-see-IND **-DS** -NM.ACC] 1.PRO$_j$-also 1/3-see-IND
    'I also saw the coyote that the boy saw.' (Hanink 2016)

(4) [Emily$_i$ t'íšímáŋaw k'-éʔ-i   **-š**   -ge   ] l$_j$-ášašé:s-šemu-yi   **Factive complements**
    [Emily$_i$ singer.good 3-be-IND **-DS** -NM.ACC] 1$_j$-know-really-IND
    'I know well that Emily is a good singer.'

(5) [l$_i$-émlu-ya **-š**   ] ʔ$_j$-í:meʔ-leg-i   **Temporal clauses**
    [1$_i$-eat-DEP **-DS**] 3$_j$-drink-REC.PST-IND
    'He was drinking while I was eating.' (Washo Archive)

Syntactic locality: Clause-bounded

(6) [[**súku?**$_i$ baŋáya ʔ-éʔ-i   **-š**   -ge   **daʔmóʔmoʔ**$_j$ bó:ŋi-yi-š-gi   ] **Ø**$_i$-p'á:šug-i
    [[**dog**$_i$ outside 3-be-IND **-DS** -NM.ACC] **woman**$_j$ 3/3-call-IND-DS-NM.NOM] **3**$_i$-enter-IND
    'The dog who was outside who the woman called came in.' (Arregi & Hanink 2018)

The analysis: Multiple Agree for index features in C & feature conflict (Arregi & Hanink 2018)

SR marking is clause peripheral, except for nominalization layer

(7) Structure of RC in (3):

DP
- CP   D ← Nominalization layer in factives & RCs -*ge*   Inflects for case: NOM -*gi*, ACC -*ge*
- MoodP   **C** ← SR marking in C -*š*
- TP   Mood -*i* ← Default -*i* in matrix, RCs & factives -*aʔ* in temporal clauses
- VP   T ∅ ← No obligatory tense inflection
- *géwe ʔí:gi*

(Finer 1985, Watanabe 2000, Peachey 2006, Bochnak 2016, Hanink 2016, Hanink & Bochnak 2018)

Different subject in (3)

(8)

TP
- *pro* [ID: *k*]
- T'
  - VP   T
    - DP   V *í:gi*
      - CP   D -*ge*$_j$
        - MoodP   **C** *š* [ID: *k*, ID: *i*]
          - TP   Mood -*i*
            - *mé:hu* [ID: *i*]
            - T'
              - VP   T
              - *géwe*$_j$ *í:gi*

Agree

Step 1: Multiple Agree with both subjects

[DP[NOM]$_i$ … [DP[NOM]$_j$ … C$_{i,j}$] … C]

- C is a **Multiple Agree** probe (Hiraiwa 2001).
- Agrees **downward** with embedded subject; cf. C agreement in Germanic (e.g. van Koppen 2005).
- Agrees **upward** with higher subject (i.a. Baker 2008, Zeijlstra 2012).
  Cf. C agreement in Bantu (e.g. Carstens 2016).
- C probes for **index feature** [ID:*n*] (Rezac 2004, Hicks 2009, Kratzer 2009, Grosz 2015).
- C probe is **case sensitive**: agrees only with nominatives (Bhatt 2005, Baker 2008, Bobaljik 2008).

Evidence for Upward Agree component

Clem 2018 on Amahuaca: By Cyclic Agree (Béjar & Rezac 2009), CP inherits probe from C.
⇒ Agree is always downward:

(9)

TP
- CP   TP   **CP Agrees downward with matrix subject**
  - TP   C   Subj   T'
    - Subj   T'   C Agrees downward with embedded subject

Washo: The probe is too deeply embedded for downward Agree into matrix clause.

- In Amahuaca and other Panoan languages, SR marking is fused with case.
  (i.a. Clem 2018, Baker & Camargo-Souza 2017)
- **SR and case** are also clause-peripheral in Washo, but **realized on separate heads**:
  SR {-*š*, -∅} in C, and NOM -*gi* vs. ACC -*ge* in D.

Step 2: DS is the exponence of feature conflict

In DS contexts, C has two ID features with different values, which determines its exponence:

(10) a. **Different subject**
    [$_C$ ID:*i*, ID:*j*] ↔ š   (where $i \neq j$)
    b. **Same subject**
    [$_C$] ↔ ∅   (elsewhere)

See Harbour 2007, 2011 on inverse number marking in Kiowa.

Evidence for Agree-based analysis from cases of overlap in reference

Reference overlap: SS and DS are optional

(11) a. [Adele ga-sú:biʔ-i   **-š**   -ge   ] lé:-ši   gó:beʔ l-é:meʔ-i
    Adele 3.OBJ-bring-IND **-DS** -NM.ACC] 1.PRO-DU coffee 1-drink-IND
    '**We (=Adele and I)** are drinking the coffee **Adele** brought.'

    b. lé:-ši   gó:beʔ l-é:meʔ-i [Adele ga-sú:biʔ-i   **-Ø** -ge   ]
    1.pro-du coffee 1-drink-IND [Adele 3.OBJ-bring-IND **-SS** -NM.ACC]
    '**We (=Adele and I)** are drinking the coffee **Adele** brought.'

(12) a. [**Emily** gé:gel-a   -{**š, Ø**}   ] **Adele ida Emily** wagayáy-i   **Embedded ⊂ Matrix**
    [**Emily** 3.sit-DEP -{**DS, SS**}] **Adele and Emily** 3.talk-IND
    'Adele and Emily are talking while Emily is sitting.'

    b. [**Adele ida Emily** wagayáy-a -{**š, Ø**}] **Emily** bašáʔ-i   **Matrix ⊂ Embedded**
    [**Adele and emily** 3.talk-DEP -{**š, SS**}] **Emily** 3.write-IND
    'Emily is writing while Adele and Emily are talking.'

(13) a. Value of [ID] in plural DPs has one index for each individual in its referent (Sportiche 1985).
    b. In Washo, Agree copies **exactly one index** from the value of [ID].

(14) a. [DP[ID:i] … C[ID:i,i]] DP[ID:**i**,j]   (indices match)
    SS
    b. [DP[ID:i] … C[ID:i,j]] DP[ID:**i,j**]   (indices don't match)
    DS

The Index Probe Parameter and variation in cases of overlap

(15) **Index Probe Parameter**
    Agree copies **all/exactly one** index in the value of [ID] in the Goal.

This predicts either optional DS/SS (Washo), or obligatory DS:

(16) **Obligatory DS in languages that copy all indices**
    [DP[ID:i] … C[ID:i,i,j]] DP[ID:**i,j**]
    DS

Largely correct prediction for languages of North America

- In North America (McKenzie 2015): Languages exist with (i) optional DS/SS, and (ii) obligatory DS.
  Obligatory SS languages are unattested, but this may be due to an absence of relevant data.

- Obligatory SS languages claimed to exist in Papua-New Guinea (Roberts 2017), but:
  - Incomplete paradigms, or no negative evidence.
    (e.g. Bruce 1984 on Alamblak, Roberts 1987 on Amele)
  - Person and number are often relevant, suggesting an analysis in which the Probe copies features other than [ID], with potentially complex consequences for exponence.

  Similar conclusions for Panoan (Valenzuela 2003 on Shipibo).

The challenges for analyses based on binding or control

Same subject as control

SS directly encodes control of the embedded subject by matrix subject (Georgi 2012), or SS is C-agreement with embedded subject and **operator in Spec-CP controlled** by matrix subject (Baker & Camargo-Souza 2018).

⇒ SS in cases of overlap predicted as cases of **partial control**:

(17) Mary wanted to assemble in the hall.   **Mary ⊂ PRO**

Partial control is unidirectional, but SS (and DS) in Washo is bidirectional: (12).

(18) *Sue and John expected to go on vacation by herself.   **PRO ⊂ Sue & John**

Switch reference as binding (Finer 1985, Watanabe 2000, Broadwell 1997)

SR is embedded C agreeing with embedded subject; **SS is an anaphor, and DS is a pronoun**.

But under overlap, **SS/DS don't have the distribution of anaphors/pronouns** (Rooryck 2006):

(19) a. I saved us.   (20)   *We saved me.
    b. *I saved ourselves.

This contrasts with optionality and bidirectionality of SR in Washo.

The conclusion is tentative, as we need to replicate reflexive/pronoun patterns in Washo.