

Argument Ellipsis and Anti-agreement Theory Revisited

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March 3rd 2020

1 Background

- Recent work has proposed that Japanese **null subjects and objects** are best analyzed as **argument ellipsis** rather than *pro* and the interpretation of those null arguments are established through **LF copying** (Oku 1998, Kim 1999, Saito 2007).
- The major evidence of argument ellipsis comes from the availability of **sloppy reading** and **quantificational reading** for both null subjects and objects in Japanese. Typical examples are shown in (1):

- (1) a. Hanako-wa zibun-no teian-ga saiyoosareu to omotte iru
Hanako-TOP self-GEN proposal-NOM accepted-be that think
'Hanako thinks that her proposal will be accepted.'
- b. Taroo-mo [e] saiyoosareru to omotte iru
Taroo-also [e] accepted-be that think
'Taroo also thinks that her/his proposal will be accepted.'

Strict Reading: Taroo thinks that *Hanako's proposal* will be accepted

Sloppy Reading: Taroo thinks that *Taroo's proposal* will be accepted.

- (2) Taroo-mo **sore-ga** saiyoosareru to omotte iru
Taroo-also **it**-NOM accepted-be that think
'Taroo also thinks that **it** will be accepted'

In (2), **only strict reading is available:** Taroo thinks that *Hanako's proposal* will be accepted. This indicates that the empty element [e] in (1b) is not silent *pro*, but the result of argument ellipsis.

- **Quantificational Reading**

- (3) a. Sannin-no mahootukai-**ga** Hanako-ni ai-ni kita
three-GEN wizard-NOM Hanako-DAT see-to came
'Three wizards came to see Hanako.'
- b. [e] Taroo-ni-mo ai-ni kita
[e] Taroo-DAT-also see-to came
'Three same doctors came to see Taroo too' **strict reading**
'Three different doctors came to see Taroo too.' **sloppy reading**

- **LF Copying:**

- (4) Antecedent Clause
- a. ...F1[ϕ]...DP1[ϕ , Case]
 - b. ...F1[ϕ]...DP1[ϕ , ~~Case~~] feature checking in narrow syntax
- (5) Target Clause
- a. ...F2[ϕ]...[e]
 - b. ...* F2[ϕ]...DP1[ϕ , ~~Case~~] Copy DP1 at LF; unchecked ϕ feature on F2

In (4b), DP1 can check ϕ features on the functional head F1 and its case feature is checked at the same time. Thus, DP1 becomes inactive and cannot get involved in other syntactic operations. In the target clause (5a), there is a new functional head F2 and an ellipsis site. At LF, DP1 is copied to the ellipsis site. However, since DP1 is inactive, ϕ features on F2 remain unchecked. Therefore, the derivation crashes.

Saito (2007) assumes that Japanese lacks ϕ feature agreement on its arguments. The consequence of this assumption is that the same structure of (5b) in Japanese will be grammatical, because no ϕ features need to be checked and the derivation converges at LF. Thus, Saito proposes an important hypothesis:

- **Saito's Conjecture**

- (6) 'the presence of argument ellipsis implies the absence of ϕ agreement.'(Saito 2007: 204)

- **Predictions**

- (7)
- a. If a language has object agreement, null objects cannot possess sloppy interpretations because argument ellipsis is not available.
 - b. In split ergative languages, the pattern of sloppy readings of null subjects and null objects should be reversed when the subject and object agreement pattern reversed.
 - c. When the argument does not agree with any functional head, argument ellipsis should be permitted and sloppy reading should be available.

2 Linguistic Data

2.1 Turkish (Şener and Takahashi 2010)

- Turkish exhibits ϕ agreement in subject but not object positions.
- Both subjects and objects can be deleted, as in Japanese, **but only null objects exhibit sloppy/quantificational readings.**

(8) **Null Objects**

- a. Can [pro anne-si]-ni eleştir-di
 John his mother-3SG-ACC criticize-PAST
 'John criticized his mother.'

- b. Mete-yse [e] öv-dü
 Mete-however [e] praise-PAST
 ‘Mete praised **John’s mother/Mete’s mother.**’

(9) **Null Subjects**

- a. Can [[pro oğl-u] İngilizce öğren-iyor diye] bil-iyor
 John [[his son-3SG English learn-PRES COMP know-PRES
 ‘John knows that his son learns English.’
- b. Filiz-se [e Fransızca öğren-iyor diye] bil-iyor
 Phylis-however [e] French learn-PRES COMP know-PRES
 ‘Phylis, however, knows that **John’s son** learns French.

- The subject-object asymmetry shows that Saito’s prediction is indeed born out.

2.2 Javanese (Sato 2015)

- Javanese lacks ϕ agreement like Japanese, but nonetheless exhibits the same subject-object asymmetry like Turkish with respect to sloppy/quantificational interpretations.

- **Important Properties**

- **Actor-Topic Agreement and Theme Topic Agreement**

Sato attributes this asymmetry to the **voice agreement** system in Javanese where a single DP is specifically picked up by voice prefixes N- (nasal prefix) on v to mark the **Actor-Topic** or prefix di- to mark **Theme-Topic** alignments.

(10) N-prefix

Mary maca/*waca buku
 Mary AV.read/read buku

‘Mary read that book’

- **Subject is always definite**

An indefinite NP cannot appear in subject positions.

Wh-in-situ strategy is unavailable in subject positions unless complementizer is added. (Cole et al. 2002)

- (11) Sapa sing meh mangan apel?
 Who COMP FUT AV.eat apple?
 ‘Who is it that eat the apple?’

Null Subjects

- (12) a. Esti ngomong [mahasiswa telu ngesun Budi]
 Esti say student three AV.kiss Budi
 ‘Esti said that three students kissed Budi.’
- b. Yuli ngomong [e] ngesun Ali
 Yuli say [e] AV.kiss Ali
 ‘Yuli said that they kissed Ali’

No quantificational reading

Null Subjects in Passive

- (13) a. Esti ngomong [Budi di-sun karo mahasiswa-ne]
Esti say Budi PV-kiss by student-3SG
'Esti said that Budi was kissed by her student.'
- b. Yuli ngomong [Ali di-sun e]
Yuli say Ali PV-kiss e
'Yuli said that Ali was kissed' **Sloppy ok; Strict ok**

- Not only ϕ agreement, but also voice agreement, needs to be included as part of the general theory of agreement within syntactic theory, in relation with argument ellipsis.

2.3 Mandarin Chinese

- Mandarin Chinese lacks overt ϕ feature agreement or voice agreement, but exhibits the same subject-object asymmetry like Turkish and Javanese.
- Sloppy and quantificational interpretations are available for null objects but not null subjects.

• Properties of subjects

- Mandarin prefers a definite subject, but it is possible to have indefinite subjects in some situation.
- Null subjects are always interpreted as definite.

- (14) san ge yisheng qu kan le xiaowang, [e] ye qu kan le xiaoli
Three CL doctor go visit Perf. John, [e] also go visit Perf Mary
'Three doctors visited John and they also visited Mary.' **E-type reading only**

- **Other issues:** *ziji* (self) vs *tade* (his or her) -

- It is easier to get sloppy reading with reflexive *ziji*

- (15) Zhangsan kandao le ziji de haizi, Lisa ye kandao le [e]
John see Perf self DE child, Lisa also saw Perf [e]
'John saw his own child, Lisa also saw John's child/ Lisa's child.'

- (16) Zhangsan kando le tade haizi, Lisa ye kandao le [e]
John see Perf his child, Lisa also saw Perf [e]
'John saw his own child, Lisa also saw John's child.'

In (16), it is easier to get strict reading than sloppy reading. But sloppy reading is still available, though it is not clear to what extent it is related to pragmatic reasons.

- Şener and Takahashi (2010) suggest that although Mandarin Chinese does not have overt realization of ϕ feature agreement, the unavailability of sloppy interpretation and quantificational reading in subject position indicates that Chinese has covert subject verb agreement. They also cited Miyagawa (2010) as supporting evidence. Miyagawa (2010) studied the blocking effect of Chinese long-distance binding reflexive *ziji*. He employs a movement and feature matching analysis, but the motivation for such movement is not well explained. (See Li 2008 for detailed discussion)

2.4 Zazaki (Smith 2017)

- Zazaki, is a language primarily spoken in Eastern Turkey. It is a split ergative language. In the present tense, the verb agrees with the subject and in the past tense, it agrees with the object.
- In a language like Zazaki, the anti-agreement theory makes a prediction that in the present tense, argument ellipsis and sloppy reading is available for null objects but not null subjects, while in the past tense, the pattern is predicted to be reversed.

- **Zazaki null subjects in present tense**

- (17) a. Muhsin-i vat ke dost-ē xo oda k-en-o pak
Muhsin-obl.sg.m said that friend-ez.sg.m self room.f do-3.sg.m clean.m
'Muhsin said that his friend cleans the room'
- b. Rıza-y vat ke [e] banyo-y k-en-o pak
Rıza-obl.sg.m said that [e] bathroom-obl.sg.m do.3.sg.m clean.m
'Rıza said that Muhsin's friend cleans the bathroom' (Only Strict Reading)

- **Zazaki null objects in present tense**

- (18) a. Muhsin malim-ē xo vēnen-o
Muhsin teacher-ez.3.sg.m self see-3.sg.m
'Muhsin sees his teacher'
- b. Rıza ki [e] vēnen-o
Rıza also [e] see-3.sg.m
'Rıza also sees' (Sloppy ok; Strict ok)

- **Zazaki null subjects in past tense**

- (19) a. Muhsin-i vat ke dost-ē xo oda kerd-e pak-e
Muhsin-obl.sg.m said that friend-ez.sg.m self room.f did-3.sg.f clean-sg.f
'Muhsin said that his friend cleaned the room'
- b. Rıza-y vat ke [e] banyo kerd pak
Rıza-obl.sg.m said that [e] bathroom did.3.sg.m clean.sg.m
'Rıza said that Muhsin's friend cleans the bathroom' Only Strict Reading

- **Zazaki null objects in past tense**

- (20) a. Muhsin-i dost-ē xo di-y
Muhsin-obl.sg.m friend-ez.3.pl self saw-3.pl
'Muhsin saw his friends yesterday'
- b. Rıza-y ki [e] di-y
Rıza-obl.sg.m also [e] saw-3.pl
'Rıza also saw Rıza's friends/ Muhsin's friends' (Sloppy ok; Strict ok)

2.5 Malayalam, Bangla, Hindi (Simpson et al. 2013)

- Malayalam: No verbal agreement with either subject or object
Null Subjects: Sloppy reading is allowed for null subjects in embedded clauses. However, sloppy reading is not available for quantificational subjects in the main clauses.
Null Objects: Sloppy reading is allowed for null objects, including quantificational phrases.

- Bangla: Subject Verb Agreement
 Sloppy readings are not available for null subjects but available for null objects.
But Bangla also has non-nominative subjects marked with genitive or dative case which do not agree with the verb. The agreement- based approach prediction in these cases is that sloppy interpretations should become available. However, the sloppy interpretation is still not possible.

- (21) a. Ram bhabe je or meye-Ti-ke aiin poRa ucit
 Ram think-PRES.3 C his daughter-CL-DAT law study should
 ‘Ram thinks that Ram’s daughter should study law.’
- b. Raj-o bhabe je poRa ucit
 Raj-also think-PRES.3 C study should
 ‘Raj also thinks that (Ram’s daughter) should study (it/law).’

- Hindi: Agreement can be manipulated
 In short, null subjects are not available for sloppy reading and quantificational reading, while null objects are always allowed. (Similar to Zazaki)

- (22) Ram apni gaRi bechega. Raj-bhi bechega.
 Ram self’s.F car sell-FUT-M.Sg.3. Raj-also sell-FUT-M.Sg.3
 ‘Ram_i will sell his car. Raj_k will also sell(his_{i/k} car)’

- (23) a. Ram sochta hai uski beti Italian
 Ram think-PRES.M.Sg.3 COP-PRES.3 his daughter Italian
 paRh-rahi hai.
 study-PRES.F.Sg.3 COP-PRES.3
 ‘Ram_i thinks his_{i/k} daughter is studying Italian.’
- b. Raj-bhi sochta hai Italian paRh-rahi
 Raj-also think-PRES.M.Sg.3 COP-PRES.3 Italian study-PRES.F.Sg.3
 hai
 COP-PRES
 ‘Raj_m also thinks (his_{i/k}/^{*}_m daughter) is studying Italian.’ (Only Strict Reading)

- (24) a. Ram sochta hai uski beti-ne Italian
 Ram think-PRES.M.Sg.3 COP-PRES.3 his daughter-ERG Italian
 paRha hai.
 studied-PRF.M COP-PRES.3

‘Ram_i thinks his_{i/k} daughter studied Italian.’

- b. Raj-bhi sochta hai Italian paRha
Raj-also think-PRES.M.Sg.3 COP-PRES.3 Italian studied-PRF.M
hai
COP-PRES.3
‘Raj_m also thinks (his_{i/k}/*_m daughter) studied Italian.’ (Only Strict Reading)

2.6 Hungarian: p.c. with Dr .Liptak

Hungarian has object verb agreement on definiteness. When there is definiteness agreement, null objects can still get sloppy reading.

- (25) a. Mari felhívta az anyát.
Mari call.past.3sg.def the mother.poss.3sg.acc
‘Mari called her mother’
- b. Anna is felhívta [e]
Anna also call.past.3sg.def [e]
‘Anna also called Anna’s or Mari’s mother.’

3 Some Complications

3.1 V Stranding VP Ellipsis vs Argument Ellipsis

- (i) V moves out of VP to some higher functional head Asp, T, etc.
(ii) the remnant VP undergoes ellipsis.

- (26) Gil hizmin et axot-o Yosi gam hizmin [e]
Gil invited ACC sister-his Yosi too invited [e]
Gil invited his sister. Yosi invited too.’ (**Hebrew**; Landau 2018)

VSVPE

The verb hizmin (invited) moved from V-v-T, and then the remnant VP, which only has an object, was deleted.

- Diagnostics (Landau, 2018)

- Test 1: Exclusive/inclusive interpretation of adjunct
English is only used for convenience

- (27) John drew a circle slowly. Amy didn’t draw.
Argument ellipsis: did not draw the circle at all
VSVPE: did not draw the circle slowly

- Test2: Ellipsis in ditransitive VPs
English is only used for convenience

(28) a. John gave Mary a book. Lisa gave [_{VP}[e] a pencil].

b. John gave a book to a friend. Lisa gave [_{VP}[e][to a stranger]]

Argument Ellipsis: object can be omitted independently

VSVPE: both objects should be missing

- Test 3: Verb Identity
English is only used for convenience

(29) He likes his children, while I hate [e].

Argument Ellipsis: verbs in antecedent clause and target clause can be different

VSVPE: verbs should be the same

3.2 Sloppy Reading

- Is sloppy reading a secure diagnostic for ellipsis? Some definite pronouns in English can get sloppy reading as well, such as paycheck sentences.

- **Pay check sentence:**

(30) John gave his paycheck to his mistress. Every else put **it** in the bank.

Elbourne (2000) proposed that the definite pronoun *it* in paycheck sentence is a definite article like 'the'. Therefore, the structure of (30) can be represented in (31). According to Elbourne, the paycheck sentences involve NP deletion:

(31) John gave [_{DP} the [_{NP} paychech of him]] to his mistress. Everybody else put [_{DP} it [_{NP} paycheck of him]] in the bank.

4 Conclusion

To sum up, Saito's prediction does not seem to hold for several languages, such as Hungarian, Mandarin Chinese, Zazaki, Malayalam, Hindi, and Urdu. The relation between phi feature agreement and the argument ellipsis deserves further research on a finer structures of nouns in different languages. Several questions can be asked: 1) Is there a finer distinction between DP/NP language? 2)What is the nature of D head and Classifier head, What are the formal features they have? 3)How is argument ellipsis licensed? Besides, further research could pay more attention to object drop in Bantu languages, which might be a interesting and insightful direction.

	Subject Agreement	Sloppy Reading	Object Agreement	Sloppy Reading
Japanese	×	√	×	√
Korean	×	√	×	√
Turkish	√	×	×	√
Chinese	×	×	×	√
Zazaki	×/√	×/×	×/√	√/√
Hindi	×/√	×/×	×/√	√/√
Bangla	×/√	×/×	×	√
Malayalam	×	√(not for QP)		
Urdu	×/√	×/×	×/√	×/×
Greek			×	√

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