Unifying Gapping and Subject-Verb Deletion in Japanese via ATB-Remnant-Movement

Kazuma Kimura (National Institute of Informatics)

(Backward) Gapping and Subject-Verb Deletion in Japanese

(1) Backward Gapping (BG) (Abe and Hoshi (1997), Abe (2023))
John-ga   Mary-o   (sosite) Bill-ga   Susan-o   hometa.
John-NOM Mary-ACC (and)   Bill-NOM Susan-ACC praised.

'John [$_v$ e] Mary, and Bill praised Susan.'

(2) ATB-V-movement (Abe (2023), Zoerner and Agbayani (2000), Johnson (2009))
[$_{TP}$ [$_{FP}$ [$_{vP}$ John [$_{vP}$ Mary t]]] and [$_{vP}$ Bill [$_{vP}$ Susan   t]]] praise+T]

(3) Subject-Verb Deletion (SV deletion) (Sag (1976), Zoerner and Agbayani (2000))
John-ga   Mary-ni   hon-o   ~~ageta, John-ga~~   Susan-ni   empitsu-o ageta.
John-NOM Mary-DAT book-ACC gave   John-NOM Susan-DAT gave

'John gave a book to Mary, and a pencil to Susan.'

Parallelism between BG and SV Deletion

The ban on sprouting (Chung et al. (1995), Orth and Yoshida (ming))

(4) BG
*?*John-ga Bill-o   <u>eki-made</u> (sosite) Mary-ga   Susan-o   mukaeni-itta.*
John-NOM Bill-ACC station-at (to)   Mary-NOM Susan-ACC picked-up

'John [$_v$ e] Bill at the station and Mary picked up Susan.'

(5) SV deletion
*?*John-ga Bill-o   <u>eki-made</u> (sosite) Susan-o   mukaeni-itta.*
John-NOM Bill-ACC station-at (and)   Susan-ACC picked-up

'John [$_v$ e] Bill at the station and picked up Susan.'

P-(omission) stranding (Takano (2002), Abe (2023))

(6) BG
John-ga   Bill(-nituite) (sosite) Mary-ga   Susan-nituite hanashita.
John-NOM Bill(-about) (and)   Mary-NOM Susan-about talked

'John [$_v$ e] (about) Bill and talked about Susan.'

(7) SV deletion
John-ga   Bill(-nituite) (sosite) Susan-nituite hanashita.
John-NOM Bill(-about) (and)   Susan-about talked

'John [e] (about) Bill and talked about Susan.'

• The non-constituency of DP-P string can be captured by assuming (i) that coordination is at head level or (ii) that coordination is a phrase level, but there exists some derivational step in which the DP and the P head do not form a constituent.

—— BG and SV deletion ——

Both constructions involve structural parallelism (i.e., **phrasal-level parallelism**).

Proposal: ATB-VP Movement

(8) BG
[$_{TP}$ [$_{FP}$ [$_{vP}$ John [$_{vP}$ Mary$_i$ [$_{vP}$ t$_i$ praise]]] and [$_{vP}$ Bill [$_{vP}$ Susan$_j$ [$_{vP}$ t$_j$ praise]]]]] [$_{vP}$ t praise] T]

(9) SV deletion
[$_{TP}$ [$_{FP}$ [$_{vP}$ John [$_{vP}$ Mary$_i$ [$_{vP}$ t$_i$ praise]]] and [$_{vP}$ Susan$_i$ [$_{vP}$ t$_j$ praise]]]] [$_{vP}$ t praise] T]

Analysis

(10) a. [$_{VP}$ [$_{DP}$ Mary] [$_{VP}$ send t t] [$_{PP}$ at the station]]

b. [$_{VP}$ [$_{DP}$ Mary] [$_{VP}$ send t]]

• In (4) and (5), the targets of ATB-movement are not structurally parallel.

(11) a. BG
[$_{TP}$ [$_{FP}$ [$_{vP}$ [$_{vP}$ Mary$_i$ [$_{vP}$ [$_{PP}$ t$_i$ about] praise]]] and [$_{vP}$ Bill [$_{vP}$ Susan$_j$ [$_{vP}$[$_{PP}$ t$_j$ about] praise]]]] [$_{vP}$ [$_{PP}$ t about] praise] T]

b. SV deletion
[$_{TP}$ [$_{FP}$ [$_{vP}$ [$_{vP}$ Mary$_i$ [$_{vP}$ [$_{PP}$ t$_i$ about] praise]]] and [$_{vP}$ Susan$_j$ [$_{vP}$[$_{PP}$ t$_j$ about] praise]]][$_{vP}$ [$_{PP}$ t about] praise] T]

• P-stranding case: The DPs are evacuation moved out of the PP.
• Non-P-stranding case: The entire PPs are evacuation moved out of the VP.

A Reply to Abe (2023)

Left Branch Extraction (LBE)

(12) *John-ga   Mary-no sosite Bill-ga   Susan-o   kodomo-o   hometa.*
John-NOM Mary-GEN and   Bill-NOM Susan-GEN children-ACC praised

• Abe (2023): Wipping out the traces created by LBE (its motivation is unclear)
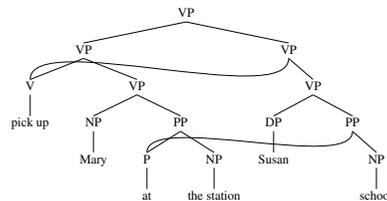• The current analysis: An instance of evacuation (leftward) movement

Challenges for Traditional Movement Theories

Copy Theory of Movement (CMT) (Nunes (1995))

(13) *[···[VP Mary ⟨[VP **Mary** praise]⟩]] and [···[VP Susan$_j$ ⟨[VP **Susan** praise]⟩]] ⟨[VP ??? praise]⟩] ···]

Multi-dominance theory (Citko (2005))

(14) A string like "…pick up Mary at the station, and Susan at school."

• CMT and MD cannot capture the so called "sloppy binding" relationship observed in ATB-remnant-movement.

More on ATB-Remnant-Movement

Deletion under identity (Salzmann (2012), Blümel (2017))

(15) a. [... [α_i [β t$_i$] and [γ_i [β t$_i$] ...]]] (evacuation movement)

b. CH (α): (β), CH(γ): (β)   (forked chain formation)

c. [[β t$_i$] [... [α_i [β t$_i$] and [γ_i [β t$_i$] ...]]] (remnant movement)

d. [[β t$_i$] [... [α_i [β t$_i$] and [γ_i [β t$_i$]...]]] (deletion under identity)

• BG and SV deletion in Japanese cannot be reduced to such deletion operations, indicating that ATB-movement is a necessary option to derive them.

A Fine-grained Formulation of ATB-Remnant-Movement

Proposal

(16) a. [... [α [β t] and [γ [β t] ...]]]

b. LF: t = λx. (x) → x = α, γ (a variable is bound by two antecedents)

(17) a. A-movement creates a single existentially closed domain for a moved category.
b. An A-bar variable needs to be bound by an antecedent within an existentially closed domain.

(18) a. [[β t$_{\alpha/\gamma}$] [... [α [β t$_\beta$] and [γ [β t$_\beta$] ...]]] (ATB-movement)

b. LF: [β t] = ∃s. λx. (x) (s)

c. [[β t] [... [α ∃[β ... x ...] and [γ ∃[β ... x ...] ...]]]
Reconstruction: the moved category is reconstructed into its original position separately.

d. LF: [β t]1= ∃s. λx. (x) (s) , [β t]2 = ∃s. λx. (x) (s)
LF interprets the moved category as two independent categories.

The Derivation of BG and SV deletion

(19) Evacuation movement
a. [... [$_{vP}$ [$_{DP}$ Mary] [$_{vP}$ praise t$_{DP}$]] and [$_{vP}$ [$_{DP}$ Susan] [$_{vP}$ praise t$_{DP}$]] ...]

b. LF: t = λx. (x) → *x = Mary, Susan

(20) ATB-VP-movement
a. [[$_{vP}$ praise t] [... [$_{vP}$ [$_{DP}$ Mary] t$_{vP}$] and [$_{vP}$ [$_{DP}$ Susan] t$_{vP}$]]]

b. LF: [$_{vP}$ praise t] = ∃s. λx. (praise (x) (s))

(21) [[$_{vP}$ praise t] [... [$_{vP}$ [$_{DP}$ Mary] ∃[$_{vP}$ praise x]] and [$_{vP}$ [$_{DP}$ Susan] ∃[$_{vP}$ praise x] ...]]]]

(22) a. Existential domain 1 (the first VP): ∃s. λx. (praise (x) (s)) → x: Mary

b. Existential domain 2 (the second VP): ∃s. λx. (praise (x) (s)) → x: Susan

Conclusion

• BG and SV deletion in Japanese are both derived from ATB-VP-movement.
• Structural parallelism in ATB-remnant movement can be captured by assuming that the successive A-A-bar movement creates an appropriate logical form.

Selected References

Abe, J. (2023). The right node raising analysis of coordinated wh-questions in japanese. *Journal of East Asian Linguistics*, 32:261–301.

Abe, J. and Hoshi, H. (1997). Gapping and p-stranding. *Journal of East Asian Linguistics*, 6:101–136.

Agbayani, B. and Zoerner, E. (2004). Gapping, pseudogapping and sideward movement. *Studia Linguistica*, 58(3):185–211.

Blümel, A. (2017). *Symmetry, Shared Labels, and Movement in Syntax*. Studia Grammatica. de Gruyter.

Chung, S., Ladusaw, W., and McCloskey, J. (1995). Sluicing and logical form. *Natural Language Semantics*, 3(3):239–282.

Citko, B. (2005). On the nature of merge: External merge, internal merge, and parallel merge. *Linguistic Inquiry*, 36(4):475–496.

Heim, I. (1993). *Anaphora and semantic interpretation*. SfS-Report-07-93. University of Tübingen, Tübingen.

Higginbotham, J. (1983). A. *Linguistic inquiry*, 14(3):395–420.

Johnson, K. (1994). *Bridging the gap*. PhD thesis, University of Massachusetts, Amherst.

Johnson, K. (2009). Gapping is not (vp-) ellipsis. *Linguistic Inquiry*, 40(2):289–328.

Nunes, J. M. (1995). *The copy theory of movement and linearization of chains in the Minimalist Program*. University of Maryland, College Park.

Orth, W. and Yoshida, M. (forthcoming). Gaps that do not sprout. *Linguistic Inquiry*, pages 1–19.

Sag, I. (1976). *Deletion and Logical Form*. PhD thesis, MIT.

Salzmann, M. (2012). Deriving reconstruction asymmetries in across the board by means of asymmetric extraction + ellipsis. In Ackema, P., Alcorn, R., Heycock, C., Jaspers, D., van Craenenbroeck, J., and Vanden Wyngaerd, G., editors, *Comparative Germanic Syntax: The state of the art*, pages 353–386. John Benjamins Publishing Company.

Takano, Y. (2002). Surprising constituents. *Journal of East Asian Linguistics*, 11:243–301.