ワークショップ　Strong Minimalist Thesis を満たす UG の説明理論：その輪郭と概念的根拠

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基礎的仮説群

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1. The generative enterprise

(1) Recent developments in the minimalist program

    a. LSJ 161 (November 22, 2020)

    Noam Chomsky "Minimalism: where we are now, and where we are going"

    https://www.youtube.com/watch?v=X4F9NSVVVuw

    b. WCCFL 39 (April 8, 2021)

    Noam Chomsky "Genuine Explanations"

    https://www.youtube.com/watch?v=F6SbPKmVNVQ

(2) The biolinguistics framework

    a. Language is a property of the organism, a computational system coded in the human brain.

    b. For each individual, the computational system recursively generates an infinite array of hierarchically structured expressions.

    c. Each expression formulates a thought, each potentially externalized in some sensory-motor (SM) medium.

(3) For language, there are two kinds of explanation needed.

    a. For individual languages, explanations are provided by a generative grammar.

    b. For the faculty of language FL, explanations are provided by Universal Grammar (UG).

(4) Three seemingly contradictory conditions that UG must meet:

    a. *Learnability*: it must be rich enough to overcome the problem of poverty of stimulus (POS).

    b. *Evolvability*: it must be simple enough to have evolved under the conditions of human evolution.

    c. *Universality*: it must be the same for all possible languages, given that language is a species property common to humans.

(5) The Strong Minimalist Thesis (SMT, Chomsky 2000)

    "Language is an optimal solution to legibility conditions."

(6) Legibility conditions (Chomsky 2000)

"Suppose some even reorganizes the brain in such a way as, in effect, to insert FL. To be usable, the new organ has to meet certain "legibility conditions." Other systems of the mind/brain have to be able to access expressions generated by sates of FL ((I-)languages), to "read" them and use them as "instructions" for thought and action."

Structure dependence:

(7) a. John is/*are in the room.

b. The boys and Mary *is/are in the room.

c. The boys or Mary *is/*are in the room.

d. The boys or Mary will be in the room.

(8) Language has two distinct components:

a. the I-language that generates the linguistic structures of thought, and

b. a system of externalization that maps the generated structures to some SM medium.

(9) a. The man who met the boys or Mary is/*are in the room.   ambiguous

b. The man who met Mary or the boys is/*are in the room.   unambiguous

c. The man who met Mary or the boys will be in the room.   ambiguous

(10) Genuine Merge-based explanations for other fundamental properties of language

a. The Basic Property is a product of Merge-based computation.

b. The ubiquity of displacement with reconstruction follows from the subcase of Merge, Internal Merge (IM).

c. The subcase of Merge, External Merge (EM) is a reflection of the fact that argument structure requires EM-generated structures

(11) The fact that these properties of language exist provides evidence that language conforms to SMT, and from this perspective, there are two functions that SMT serves:

a. SMT serves a *disciplinary function* as a constraint on what can appear in language.

b. SMT also serves an *enabling function* as a facilitator of the richness of human language.

2. Assumptions clarified

(12) Merge is the simplest structure-building operation.

(13) The Workspace (WS) determines the current state of the derivation.

(14) Normal recursion (e.g., propositional calculus):

    a.   LEX = {p, q, r, …, ~, v}

    b.   WS1 = [p, ~p]

    c.   WS2 = [p, ~p, ((~p) v q)]

(15) Stability: the inscription p appearing more than once in WS are all occurrences of p.

(16) Resource Restriction (RR):

    Merge (P, Q) should yield no more than {P, Q}.

(17) No need for REMOVE

    a.   WS1 = [P, Q]

    b.   WS2 = [P, Q, {P, Q}]

    c.   WS3 = [{P, Q}]

(18) Derivations are strictly Markovian.

    (i) For normal recursion the history of derivation is contained in the current state.

    (ii) For language, the derived Workspace does not contain items that were generated earlier.

(19) Merge (P, Q, WS) = WS' = [{P, Q}, W, Y], where Z (Chomsky 2021, cf. Chomsky 2019; 2020)

    a.   Merge applies to P, Q, WS, and it forms a new workspace WS'.

    b.   WS' is the set containing the new item, the set {P, Q} and then a bunch of other things.

    c.   W is whatever is unaffected by the operation, hence carried over.

    d.   Y is whatever added to WS', but under RR, Y is null.

    e.   Z is the condition that the operation must satisfy (i.e. SMT and language specific conditions such as RR and Duality).

(20) Varieties of Merge

    a.   EM (3->4):

       given WS = [a, b, c], MERGE(a, b, WS) = WS' = [{a, b}, c]

    b.   IM (5->6):

       given WS = [{a, {b, c}}], MERGE(c, {a, {b, c}}, WS) = WS' = [{c, {a, {b, c}}}],

       where lower c is inaccessible under Minimal Search

    c.   Parallel/Sideward Merge (4-6):

       given WS = [a, {b, c}], MERGE(a, c, WS) = WS' = [{a, c}, {b, c}]

    d.   Late Merge (6->8):

       given WS = [{a, b}, {c, d}], MERGE(b, {c, d}, WS) = WS' = [{a, b}, {b, {c. d}}]

(21) Duality of Semantics (Duality):

EM is associated with theta roles and IM with discourse/information-related functions.

(22) The univocal property of theta theory:

A single theta assigner cannot assign two theta roles to the same element.

(23) Copy Formation (CF) assigns the relation Copy to certain identical inscriptions.

    a. CF selects an element X, then selects a structurally identical element Y, and assigns the relation Copy to X and Y.

    b. Suppose CF is not subject to conditions that hold for the structure-building operation Merge (such as Duality).

    c. Then we expect to find configurations subject to CF but not Merge. Call such configurations IM-gaps.

(24) a. * John saw.   'John saw himself.'

    b. John1 INFL [John2 [v [saw John3]]

(25) a. John was seen.

    b. John1 INFL [was [seen John2]

(26) a. John tried to win.

        John1 INFL [John2 [v [tried [John3 to win]]]]

    b. * John tried [Mary to win].

        John1 INFL [John2 [v [tried [Mary to win]]]]

3. Unbounded, unstructured sequences

(27) a. John ran.

    b. John, Bill, my friends, … ran, danced, took a vacation, ….

(28) a. Which farm does John live near the border next to with his family?

    b. * Which farm does John live near the border next to <u>and</u> with his family? : *CSC

(29) Form Sequence: <(&), X_1, …, X_n>

    a. strict matching condition among Xs

    b. Set formation   : {X_1, …, X_n}

    c. Merge & (optional)   : <&, X_1, …, X_n>

Understanding the Enabling Function of SMT
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I. Assumptions

(1) Merge(P. Q, WS) = WS' = [{P, Q}, W, Y], where Z
    (i)   Merge applies to P, Q, WS, and it forms a new workspace WS'.
    (ii) WS' is the set containing the new item, the set {P, Q} and then a bunch of other things.
    (iii) W is whatever is unaffected by the operation, hence carried over.
    (iv) Y is whatever added to WS', but under RR, Y is null.
    (v) Z is the condition that the operation must satisfy (i.e. SMT and language specific conditions such as Duality and RR)

Merge automatically provides both EM and IM, but its application is restricted to the Duality of Semantics (Duality):

(2) Duality of Semantics (Duality): EM is associated with theta roles and IM with discourse/information-related functions.

To keep search space minimum, Merge should yield no more than one new accessible term. Call it Resource Restriction (RR):

(3) Resource Restriction (RR): Merge(P, Q) should yield no more than {P, Q}.

Under RR, there is no way to know whether identical inscriptions are copies or repetitions. Call it the Markovian property of derivations.

(4) The Markovian Property of Derivations: there is no way to know whether identical inscriptions are copies or repetitions.

Thus there must be some operation that assigns the relation Copy to certain identical inscriptions. Call it Copy Formation (CF):

(5) Copy Formation (CF) selects X and Y that are structurally identical, and assigns the relation Copy to X and Y.

At each phase, CF applies in accord with Minimal Search, and yields the representations that satisfy Theta Theory (TT):

(6) Theta Theory (TT):
    (i)   a single theta assigner cannot assign two theta roles to the same element
    (ii) an argument must be linked to a theta position

Given this much, there will be a gap that counts as a lower copy, but has nothing to do with movement. Call it the IM-gap:

(7) IM-gaps are elements that count as lower copies, but have nothing to do with movement.

IM-gaps would have no reason to exist if language did not abide by SMT. Call it the Enabling Function of SMT:

(8) The Enabling Function of SMT: IM-gaps would have no reason to exist if language did not abide by SMT.

II. Derivations

(9) John saw John.
    a. {v, {saw, $John_1$}}
    b. {$John_2$, {v, {saw, $John_1$}}}
      EM, not IM, forms (9b) (by Duality)
      CF does not apply to ($John_2$, $John_1$); otherwise, it would violate TT (i).
    c. {Infl, {$John_2$, {v, {saw, $John_1$}}}}
    d. {$John_3$, {Infl, {$John_2$, {v, {saw, $John_1$}}}}}
      IM, not EM, forms forms (9d) (by Dulaity)
    e. {C, {$John_3$, {Infl, {$John_2$, {v, {saw, $John_1$}}}}}}
      CF applies to ($John_3$, $John_2$); otherwise, it would violate TT (ii).

(10) John tried to win.

   a. {v, {tried {C {John$_1$ {to, win}}}}}

   b. {John$_2$, {v, {tried {C {John$_1$ {to, win}}}}}}

   EM, not IM, forms (10b) (by Duality)

   CF applies to (John$_2$, John$_1$); otherwise, it would induce a Case-theoretic problem.

   John$_1$ is an IM-gap that counts as a lower copy of John$_2$, but has nothing to do with movement.

   c. {Infl, {John$_2$, {v, {tried {C {John$_1$ {to, win}}}}}}}

   d. {John$_3$, {Infl, {John$_2$, {v, {tried {C {John$_1$ {to, win}}}}}}}}

   IM, not EM, forms (10d) (by Duality)

   e. {C, {John$_3$, {Infl, {John$_2$, {v, {tried {C {John$_1$ {to, win}}}}}}}}}

   CF applies to (John$_3$, John$_2$); otherwise, it would violate TT (ii).

Unbounded, unstructured sequences motivate FormSet (FST), Merge &, and FormSequence (FSQ):

(11) a. FormSet (FST): {X$_1$, ... X$_n$}

   b. Merge &: {&, {X$_1$, ... X$_n$}}

   c. FormSequence (FSQ): <&, X$_1$, ... X$_n$>

(11a,b) may be reducible to Merge by dispensing with binary restriction:

(12) Merge(X$_1$, ... X$_n$, WS) = WS' = [{X$_1$, ... X$_n$}, W, Y], where Z

The empirical facts suggest that (11c) is necessary, but is it a departure from SMT?

(13) (we thought) John arrived and met Bill.

   a. {v, {arrived, John$_1$}}

   b. {John$_2$, {v, {met, Bill}}}}

   c. {{v, {arrived, John$_1$}}, {John$_2$, {v, {met, Bill}}}}}

   FST forms (13c).

   d. {&, {{v, {arrived, John$_1$}}, {John$_2$, {v, {met, Bill}}}}}}

   Merge & forms (13d).

   e. {Infl, {&, {{v, {arrived, John$_1$}}, {John$_2$, {v, {met, Bill}}}}}}}

   f. {John$_3$, {Infl, {&, {{v, {arrived, John$_1$}}, {John$_2$, {v, {met, Bill}}}}}}}}

   IM, not EM, forms (13f) (by Duality)

   g. {C, {John$_3$, {Infl, {&, {{v, {arrived, John$_1$}}, {John$_2$, {v, {met, Bill}}}}}}}}}

   CF applies to (John$_3$, John$_1$) and (John$_3$, John$_2$); otherwise, it would violate TT (i) and/or induce a Case-theoretic problem.

   Either John$_1$ or John$_2$ is an IM-gap that counts as a lower of copy of John$_3$, but has nothing to do with movement.

   h. {C, {John$_3$, {Infl, <&, {{v, {arrived, John$_1$}}, {John$_2$, {v, {met, Bill}}}}>}}}

   FSQ forms (13h).

(14) (we wondered) what John liked and Bill hated.

   a. {John, {Infl, {what$_1$, {John, {v, {liked, what$_2$}}}}}}

   b. {Bill, {Infl, {what$_3$, {Bill, {v, {hated, what$_4$}}}}}}

   c. {{John, {Infl, {what$_1$, {John, {v, {liked, what$_2$}}}}}}, {Bill, {Infl, {what$_3$, {Bill, {v, {hated, what$_4$}}}}}}}

   FST forms (14c).

   d. {&, {{John, {Infl, {what$_1$, {John, {v, {liked, what$_2$}}}}}}, {Bill, {Infl, {what$_3$, {Bill, {v, {hated, what$_4$}}}}}}}}

   Merge & forms (14d).

   e. {C$_Q$, {&, {{John, {Infl, {what$_1$, {John, {v, {liked, what$_2$}}}}}}, {Bill, {Infl, {what$_3$, {Bill, {v, {hated, what$_4$}}}}}}}}}

   f. {what$_5$, {C$_Q$, {&, {{John, {Infl, {what$_1$, {John, {v, {liked, what$_2$}}}}}}, {Bill, {Infl, {what$_3$, {Bill, {v, {hated, what$_4$}}}}}}}}}}

   IM, not EM, forms (14f) (by Duality).

   CF applies to (what$_5$, what$_1$) and (what$_5$, what$_3$); otherwise, it would yield vacuous quantification or a mismatch problem.

   Either what$_1$ or what$_3$ is an IM-gap that counts as a lower of copy of what$_5$, but has nothing to do with movement.

   g. {what$_5$, {C$_Q$, <&, {{John, {Infl, {what$_1$, {John, {v, {liked, what$_2$}}}}}}, {Bill, {Infl, {what$_3$, {Bill, {v, {hated, what$_4$}}}}}}}>}}

   FSQ forms (14g).

(15) (we wondered) what John filed without reading.

    a. $\{$what$_1$, $\{$without reading what$_2\}\}$

    b. $\{$John, $\{$v, $\{$filed, what$_3\}\}\}$

    c. $\{\{$John, $\{$v, $\{$filed, what$_3\}\}\}$, $\{$what$_1$, $\{$without reading what$_2\}\}\}$

    FST forms (15c).

    d. $\{$what$_4$, $\{\{$John, $\{$v, $\{$filed, what$_3\}\}\}$, $\{$what$_1$, $\{$without reading what$_2\}\}\}\}$

    IM, not EM, forms (15d) (by Duality).

    CF applies to (what$_4$, what$_3$) and (what$_4$, what$_1$); otherwise, it would yield vacuous quantification. (Note the matching condition is absent.)

    Given the Adjunct constitutes an island, what$_1$ is an IM-gap that counts as a lower of copy of what$_4$, but has nothing to do with movement.

    e. $\{$what$_4$, $<\{$John, $\{$v, $\{$filed, what$_3\}\}\}$, $\{$what$_1$, $\{$without reading what$_2\}\}>\}$

    FSQ forms (15e).

    f. $\{$C$_Q$, $\{$John, $\{$Infl, $\{$what$_4$, $<\{$John, $\{$v, $\{$filed, what$_3\}\}\}$, $\{$what$_1$, $\{$without reading what$_2\}\}>\}\}\}\}$

    g. $\{$what$_5$, $\{$C$_Q$, $\{$John, $\{$Infl, $\{$what$_4$, $<\{$John, $\{$v, $\{$filed, what$_3\}\}\}$, $\{$what$_1$, $\{$without reading what$_2\}\}>\}\}\}\}\}$

    IM, not EM, forms (15g) (by Duality).

    CF applies to (what$_5$, what$_4$); otherwise, it would yield vacuous quantification.

(16) a. The analysis keeps to mechanisms that satisfy the joint conditions of learnability, evolvability, and universality.

    b. Control, ATB and PG constructions fall out as cases, enabled by IM-gaps.

    c. IM-gaps would have no reason to exist if language did not abide by SMT.

    d. SMT serves not just as a constraint on what can appear in language, but as a facilitator of the richness of human language.

Copy Formation の帰結

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Copy Formation

(1)　"For expository convenience I'll assume that there's an operation interpretation call it INT which takes a look at the current stage of the derivation that is the workspace and it decides what can be done next. That's INT. Viewing the workspace, INT can detect the kind of structure that is created by internal Merge, let's call that an internal merge configuration. But INT lacks access to history, strict Markovian. It doesn't know how that IM configuration was constructed. So there has to be an operation; let's call it Copy Formation that assigns the copy relation to the actual cases of internal Merge." (Chomsky 2021, 28:11)

(2)　a. 直接 Internal Merge (IM)の関係がないものも、Copy Formation を介して copy の関係を持っていると解釈することが可能。--->ATB gaps・Parasitic gaps

b. ATB gaps や Parasitic gaps を分析するための特別な道具立ては不要。
　(cf. null operator movement, chain composition, sideward movement, Parallel Merge など)

c. このモデルで必要とされている Copy Formation の帰結として、ATB gaps や Parasitic gaps が許される。

<1> ATB

(3) What did John buy e and Bill hand e to Tom?

(4) Copy Formation applies at the phase level. (Chomsky 2021)

(5) a. 1st conjunct: [John bought **what$_2$**]

　2nd conjunct: [Bill handed **what$_3$** to Tom]

b. 1st conjunct: [[$_{vP}$**what$_4$** [John bought **what$_2$**]]　--->**Copy Formation**

　2nd conjunct: [[$_{vP}$ **what$_5$** [Bill handed **what$_3$** to Tom]] ---> **Copy Formation**

c. 1st conjunct: [John Infl [$_{vP}$**what$_4$** [John bought what$_2$]]]

　2nd conjunct: [Bill Infl [$_{vP}$ **what$_5$** [Bill handed what$_3$ to Tom]]]

d. C [[John Infl [$_{vP}$**what$_4$** [John bought what$_2$]]] and [Bill Infl [$_{vP}$ **what$_5$** [Bill handed what$_3$ to Tom]]]

e. **what$_1$** C [[John Infl [$_{vP}$**what$_4$** [John bought what$_2$]]] and [Bill Infl [$_{vP}$ **what$_5$** [Bill handed what$_3$ to Tom]]]]

Copy Formation
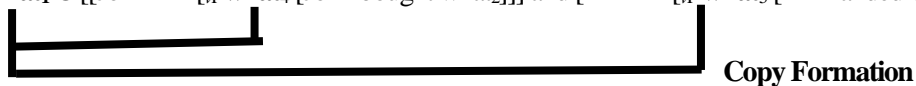
> **what$_1$** と **what$_5$** は、直接 IM の関係はないが、コピーの関係になる。

(i) パラレリズム効果

(6)　*I know a man who [Bill saw e] and [e likes Mary]. (Williams 1978:34)

(7) a. [[$_{IP}$ Bill Infl [$_{vP}$ who$_1$ Bill saw who$_2$]] and [$_{IP}$ who$_3$ Infl [$_{vP}$ who$_4$ likes Mary]]]

b. [C [[$_{IP}$ Bill Infl [$_{vP}$ who$_1$ Bill saw who$_2$]] and [$_{IP}$ who$_3$ Infl [$_{vP}$ who$_4$ likes Mary]]]]

c. [who$_5$ [C [[$_{IP}$ Bill Infl [$_{vP}$ who$_1$ Bill saw who$_2$]] and [$_{IP}$ who$_3$ Infl [$_{vP}$ who$_4$ likes Mary]]]]]

(8) Vacuous movement hypothesis (George 1980, Chomsky 1986)
    主節の主語の wh 句は CP の指定部に移動しない。

(9) Vacuous movement hypothesis が移動にかかる制約だとすると、$what_1$ が動けるので、(7c)の派生は
    特に問題ない。

(10) $[_{CP}$ who₁ $[C$ $[[_{IP}$ Bill Infl $[_{vP}$ who₂ Bill saw who₃$]]$ and $[_{IP}$ who₄ Infl $[_{vP}$ who₅ likes Mary$]]]]]$
                                            Copy Formation

(11)主節の主語 wh 句は CP の指定部の wh 句とコピーの関係を結ぶことはできない。

(12) I know the man who [John likes *e*] and [we hope *e* will win]. (Williams 1978: 34)

Derivation of (12)
(13) I know the man who₁ C [John Infl $[_{vP}$ who₂ John likes who]] and [we Infl $[_{vP}$ who₃ [we hope [who₄ will win]]]]]

(ii) In-situ wh 句は ATB 解釈を許さない。
(14) a. ジョンがどの人を愛して　メアリーがどの人を憎んでいるの？ (Citko 2005: 489)
     b. どの人をジョンが *e* 愛して　メアリーが *e* 憎んでいるの？ (Citko 2005: 490)

(15) a. which person x, John likes x and Mary hates x (ATB 解釈)

     b. which person x, John likes x and which person y, Mary hates y

(16) 1ˢᵗ conjunct: $[_{IP}$ ジョンが $[_{vP}$ ジョンがどの人を愛して]]
     2ⁿᵈ conjunct: $[_{IP}$ メアリーが $[_{vP}$ メアリーがどの人を憎んでいる]]

(17) 二つの wh 句 が別々の phase domain にある。2 つの wh 句の間に、コピー関係を作ることができ
    ない。--->(15b)の解釈

<2> Parasitic Gaps
(18) Which paper₁ did you file t_1 without reading pg₁?

(19) The adverbial clause adjoins to VP.

Derivation of (18)

(20) a.

vP   **IM to the edge**

which paper₁   vP

you   v'

v   VP

VP   CP

file (which paper₂)   which paper₃

without reading (which paper₄)

b.   vP

(which paper₁)   vP

you   v'

v   VP

VP   CP

file (which paper₂)   (which paper₃)

without reading which paper₄
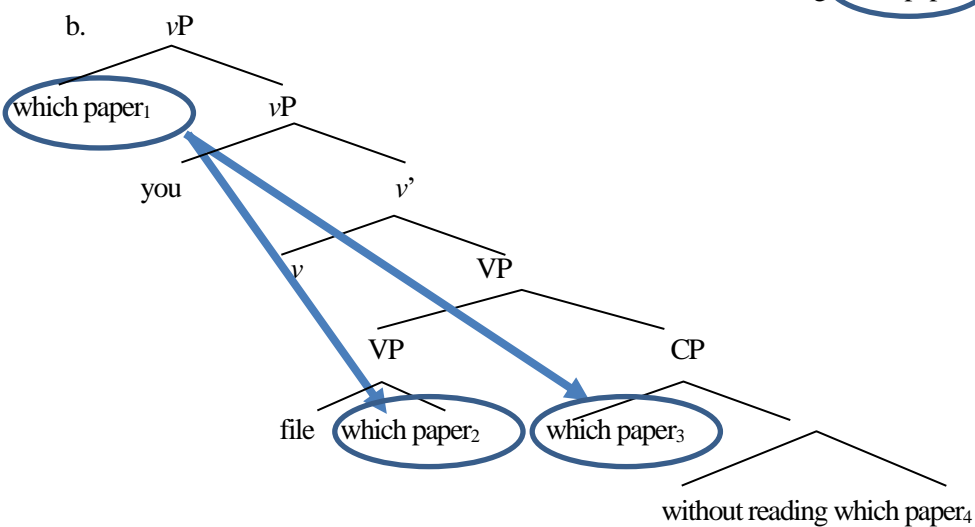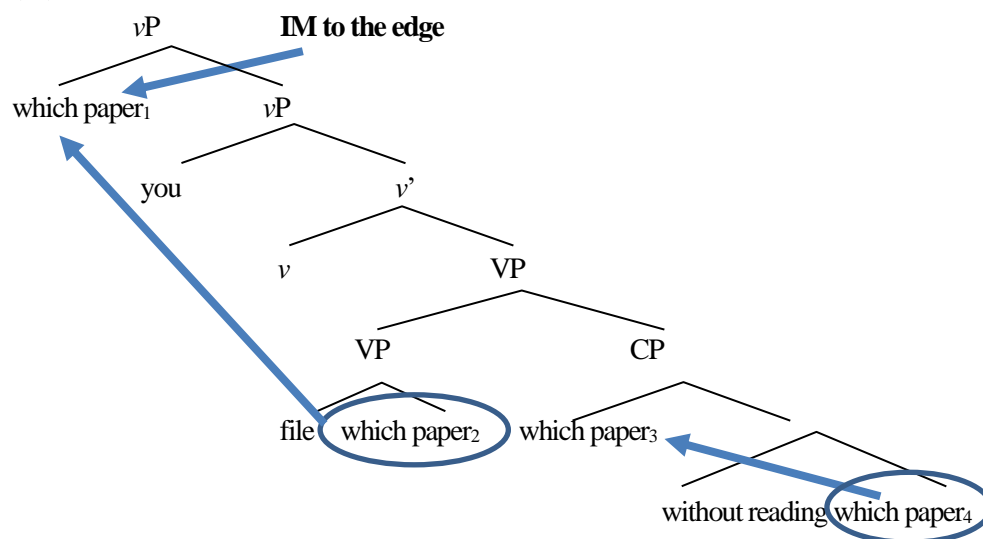
寄生空所をさらに island に埋め込むことはできない。 (Kayne 1983)

(21) * Which book₁ did you borrow t₁ [after leaving the bookstore [without finding pg₁]]? (Nunes 2001: 327)

(22) (20)で、付加詞の中の which paper₃ に Internal Merge は適用できないが、Copy Formation は適用できるのはなぜか?

(23) There is an operation SIMPL that converts <α, β> to {α, β}. (Chomsky 2004: 118)

---> IM を適用する段階で主節からは見えない付加詞が、Copy Formation を適用する段階ではアクセス可能。

3

(i) In-situ wh 句は寄生空所を認可しない。(Engdahl 1983: 14)

(24) * Who filed which report$_1$ without reading pg$_1$? (Nunes 2001: 330)

(25)

```
                        vP
              ┌─────────┴─────────┐
             who                  v'
                          ┌───────┴───────┐
                          v               VP
                                   ┌───────┴───────┐
                                  VP               CP
                              ┌────┴────┐      ┌────┴────┐
                            file (which paper₂) (which paper₃)
                                                      └──────┴──────┐
                                              without reading which paper₄
```

file (which paper$_2$) (which paper$_3$) without reading which paper$_4$

(ii) 寄生空所の認可に関する構造的条件 (Engdahl 1983: 20)

(26) *I wonder which man$_1$ t_1 called you before you met pg$_1$. (Nunes 2001: 332)

(27) I wonder which papers$_1$ John [said t_1 were unavailable [before reading pg$_1$]]. (Nunes 2001: 332)
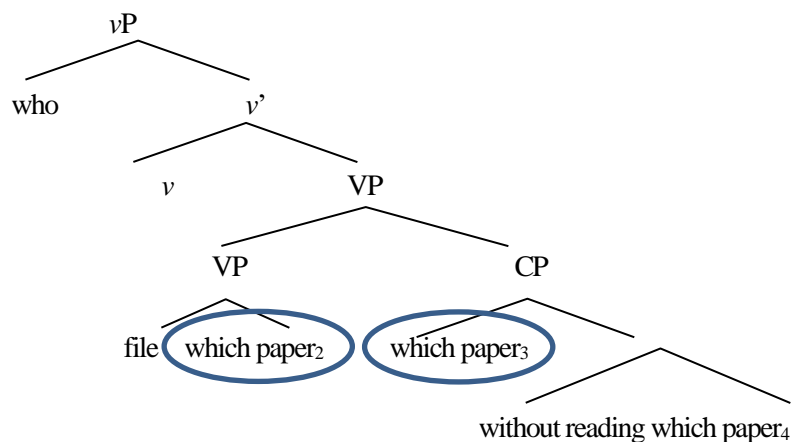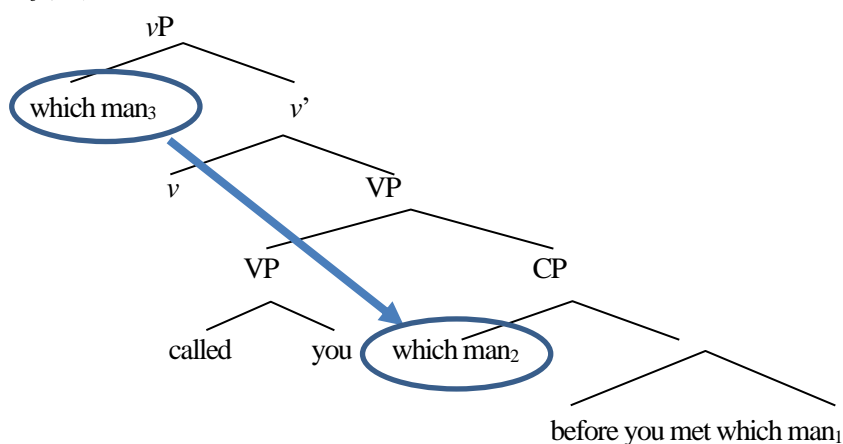
Derivation of (26)

(28)

```
                        vP
              ┌─────────┴─────────┐
        (which man₃)              v'
                          ┌───────┴───────┐
                          v               VP
                                   ┌───────┴───────┐
                                  VP               CP
                              ┌────┴────┐      ┌────┴────┐
                           called  you (which man₂)  before you met which man₁
```

called you (which man$_2$) before you met which man$_1$

Derivation of (27)

(29)

```
                        vP
              ┌─────────┴─────────┐
       (which paper₁)             vP
                          ┌───────┴───────┐
                        John              v'
                                  ┌───────┴───────┐
                                  v               VP
                                           ┌───────┴───────┐
                                          VP               CP
                                      ┌────┴────┐      ┌────┴────┐
                                    said (which papers₂) (which papers₃)  before reading which paper₄
                                    were unavailable
```

said (which papers$_2$) (which papers$_3$) were unavailable before reading which paper$_4$
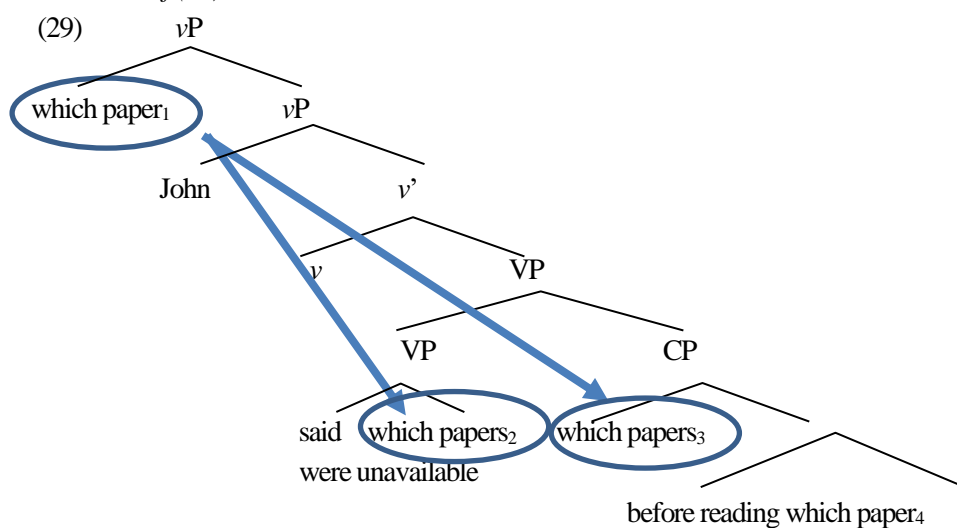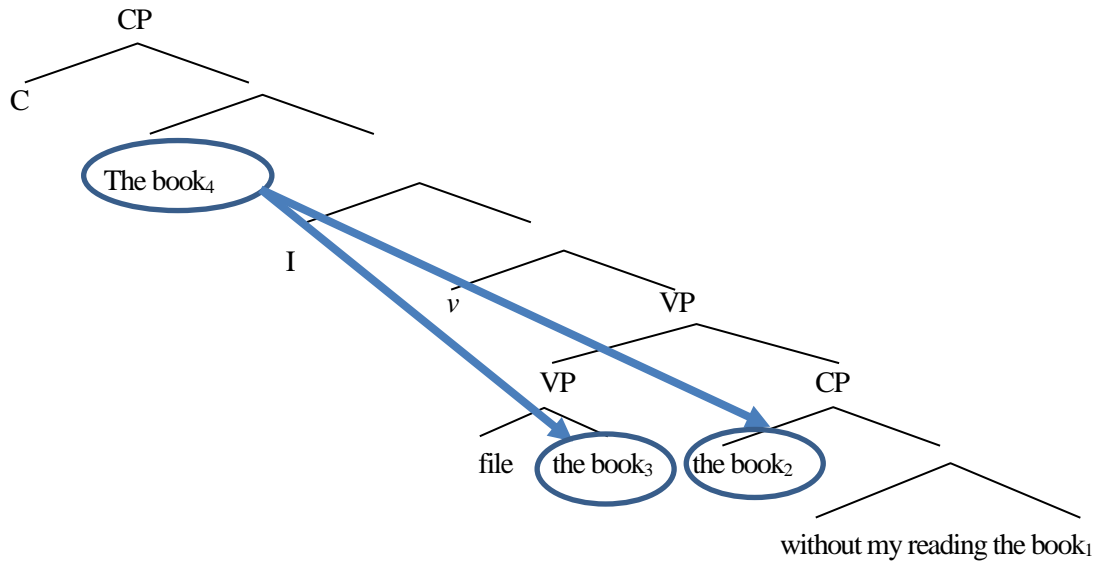
(30) A位置からAバー位置に Copy Formation を適用することはできない。

Improper Movement

(31)　*[**John** seems [$_{CP}$ ~~John~~ that [$_{IP}$ it is likely [$_{IP}$ ~~John~~ to win the election]]]]
　　　　　 A　　　　　　**A'**　　　　　　　　**A**

(iii) A 移動は、寄生空所を認可できない。(Engdahl 1983: 13)

(32) *The book$_1$ was filed t_1 without my reading pg$_1$ first. (Chomsky 1995: 75)

(33)　a. *Who$_1$ t$_1$ sent a picture of pg? (Engdahl 1983: 20)
　　　b. *Who$_1$ [$_{vP}$ who$_2$ sent a picture of who$_3$]?
　　　　　　　　A　　　　　　**A**
　　　c. *Who$_1$ [$_{vP}$ who$_2$ sent [$_{DP}$ who$_4$ [a picture of who$_3$]]]?
　　　　　　A　　　　**A'**　　　　　　　---> DP も phase

(34) a. Who did [John's talking to pg] bother t the most? (Engdahl 1983:14)

　　　b.　　CP

5
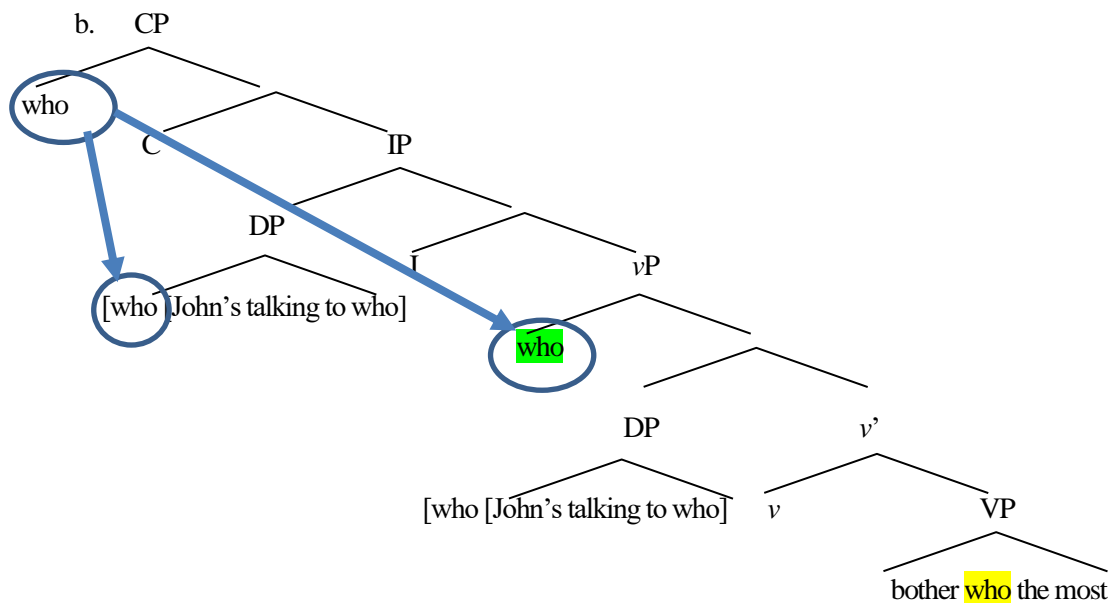
まとめ

(35) a. 特別な道具立てを仮定しなくても、システム上必要な Copy Formation というメカニズムの帰結として、ATB gaps や Parasitic gaps を説明することができる。Copy Formation のもと、コントロールと統一的な説明が可能。

   b. A 位置から A バー位置に Copy Formation を適用することはできない。

   c. DP も phase である。

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Tough 構文と Copy Formation[1]

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1. はじめに

(1) Recap.

    a. 直接 IM によっては結び付けられない 2 つの位置を、Copy Formation (CF)によって結び付けることができる (strictly Markovian)

    b. CF は、同じ phase 内にあるもののみに適用可能 (locality)

    c. 項は θ 位置に EM で導入される (Duality)

    d. A から A'への CF は不可能 (A→A, A'→A', A'→A, *A→A')

➔ATB gaps・parasitic gaps 以外に CF が関与しそうな現象として、Tough 構文を取り上げる際に、どのような論点が生じるかを整理する

(2) Tough 構文とその分析の可能性

    a. John is easy to please.

    b.   i.   Direct A-movement (cf. Rosenbaum 1967)
           [$_{IP}$ *John*$_1$ is easy [$_{CP}$ (*t'*$_1$) C [to please *t*$_1$]]]

           Restructuring (cf. Chomsky 1982, Montalbetti, Saito and Travis 1982)
           [$_{IP}$ *John*$_1$ is easy-to-please *t*$_1$]

       ii.   Null operator (cf. Chomsky 1977)
           [$_{IP}$ John is easy [$_{CP}$ *Op*$_1$ C [to please *t*$_1$]]]

           Complex null operator (cf. Hicks 2003, 2009)
           [$_{IP}$ *John*$_2$ is easy [$_{CP}$ [*Op t*$_2$]$_1$ C [to please *t*$_1$]]]

      iii.   Copy Formation による派生の可能性?
           [$_{IP}$ John is easy [$_{CP}$ ~~John~~$_1$ [to please *t*$_1$]]]
              ↑EM?

---

[1] 本発表の内容は、前田雅子氏・中村太一氏との共同研究の一部に基づく。

2. 英語

(3) 長距離移動

   a. This book$_1$ is difficult [to convince people [$_{CP}$ that they ought to read e_1]].

                                          (adapted from Chomsky 1981:314)

   b. A guy like John$_1$ is hard [to imagine any woman [believing [she could ever resist [falling in love with e_1]]]]   (adapted from Hicks 2003:43)

   c. i.   [$_{IP}$ DP be *tough* [$_?$ e_1 to … e_2 …]]   (cf. (2a))

                   A   A/A'   A

      ii. [$_{IP}$ DP be *tough* [$_?$ e_1 to … [… [$_{CP}$ e_2 C [… e_3 …]]]]]   (cf. (3a-b))

                   A   A/A'   A'   A

➔CF は*A➔A'によってブロックされるはず

(4) parasitic gaps の認可

   a. The book is hard to buy *t* without reading *e*. (adapted from Chomsky 1982:56)

   b. [$_{IP}$ the book is *hard* [X$_1$ to buy X$_2$ [X$_3$ without reading X$_4$]]]

               A   A'   A A'   A

➔長距離移動が関与していない場合も、X$_1$ は A'の性質を持つ

(5) 主節主語位置の性質 (千葉 2019 も参照)

   a. It is easy [to please John]. ⇔ (2a)

   b. i.   Tabs were kept on Mary.

      ii. *Tabs were easy to keep on Mary.   (Lasnik and Fiengo 1974:541)

   c. i.   It would be easy to kill a man/someone with a gun like that.

      ii. *A man/Someone would be easy to kill with a gun like that.

                                   (Lasnik and Fiengo 1974:544)

   d. i.   *The park was tough for there to be men sitting in.

      ii. *The money was tough for John to lack.

                                   (Dalrymple and King 2000:14)

3. 日本語

(6) 「〜やすい/にくい」(井上 1976, Inoue 1978, Montalbetti, Saito and Travis 1982, Saito 1982, Kuroda 1987, Takezawa 1987, a.o.)

    a. この本が (太郎にとって) [読み]やすい/にくい

    b. この手の雑誌が$_1$ (ジョンにとって) [[$_{CP}$ 毎月 e_1 定期購読していると] 人に言い]にくい

    c. この種の本が$_1$ (私にとって) [自分の学生に [$_{CP}$ 何回も e_1 読んだ方がいいと] アドバイスし]やすい

(7) 島の効果の欠如 (adapted from Takezawa 1987:203)

    a. この手の犯罪が$_1$ (警察にとって) [[[e_1 犯した] 人間]を 探し]やすい

    b. そういう論文が$_1$ (私にとって) [[[e_1 書いた] 学生]を 評価し]やすい

(8) PP 主語を伴う Tough 構文

    a. この図書館からが [本を 盗み]やすい

                           (adapted from Montalbetti, Saito and Travis 1982:360)

    b. あんなタイプの女性とが$_1$ (ジョンにとって) [[$_{CP}$ e_1 結婚してもいいと] 友達に言い]にくい   (adapted from Takezawa 1987:196)

(9) 島の効果 (adapted from Takezawa 1987:215-216)

    a. *あんなタイプの女性とが$_1$ (ジョンにとって) [[[e_1 結婚している] 男]を 見つけ]にくい

    b. *そういう金融機関からが$_1$ (ジョンにとって) [[[いつも e_1 お金をたくさん借りている] 人]を 信用し]にくい

(10) 基底生成 vs. 移動

    a. i. [$_{IP}$ NP$_1$ が [$_{vP}$ … pro_1 … V]やすい]
       ii. [$_{IP}$ NP$_1$ が [$_{vP}$ … [$_{CP}$ … pro_1 … C] … V]やすい]
      iii. [$_{IP}$ NP$_1$ が [$_{vP}$ … [$_{island}$ … pro_1 …] … V]やすい]

    b. i. [$_{IP}$ NP/PP$_1$ が [$_{vP}$ Op$_1$ … t_1 …] … V]やすい]
       ii. [$_{IP}$ NP/PP$_1$ が [$_{vP}$ Op$_1$ … [$_{CP}$ t'_1 … t_1 … C] … V]やすい]
      iii. *[$_{IP}$ NP/PP$_1$ が [$_{vP}$ Op$_1$ … [$_{island}$ … t_i …] … V]やすい]

(11)「〜のが簡単だ/やさしい/困難だ/難しい」

    a.   (私にとっては) この山が [登るの]が 簡単/困難だ

    b.   (私にとっては) この机が [作業を するの]が やさしい/難しい
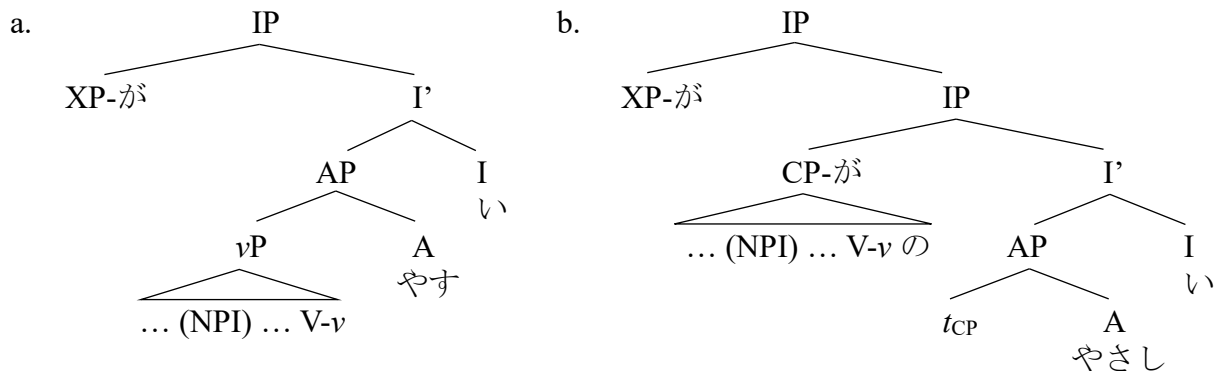
(12)相違点①: 主述関係

    a. i.   (私にとっては/夏が) [この山に 登るの]が 簡単だ/やさしい

        ii. *(私にとっては/夏が) [この山に 登り]やすい

    b. i.   (私にとっては/大人が) [この机で 作業するの]が 困難だ/難しい

        ii. *(私にとっては/大人が) [この机で 作業し]にくい

(13)相違点②: NPI

    a.   親にとっては [[どんなこどもを 育て]やすく]も ない

    b.   *親にとっては [[どんなこどもを 育てるの]が やさしく]も ない
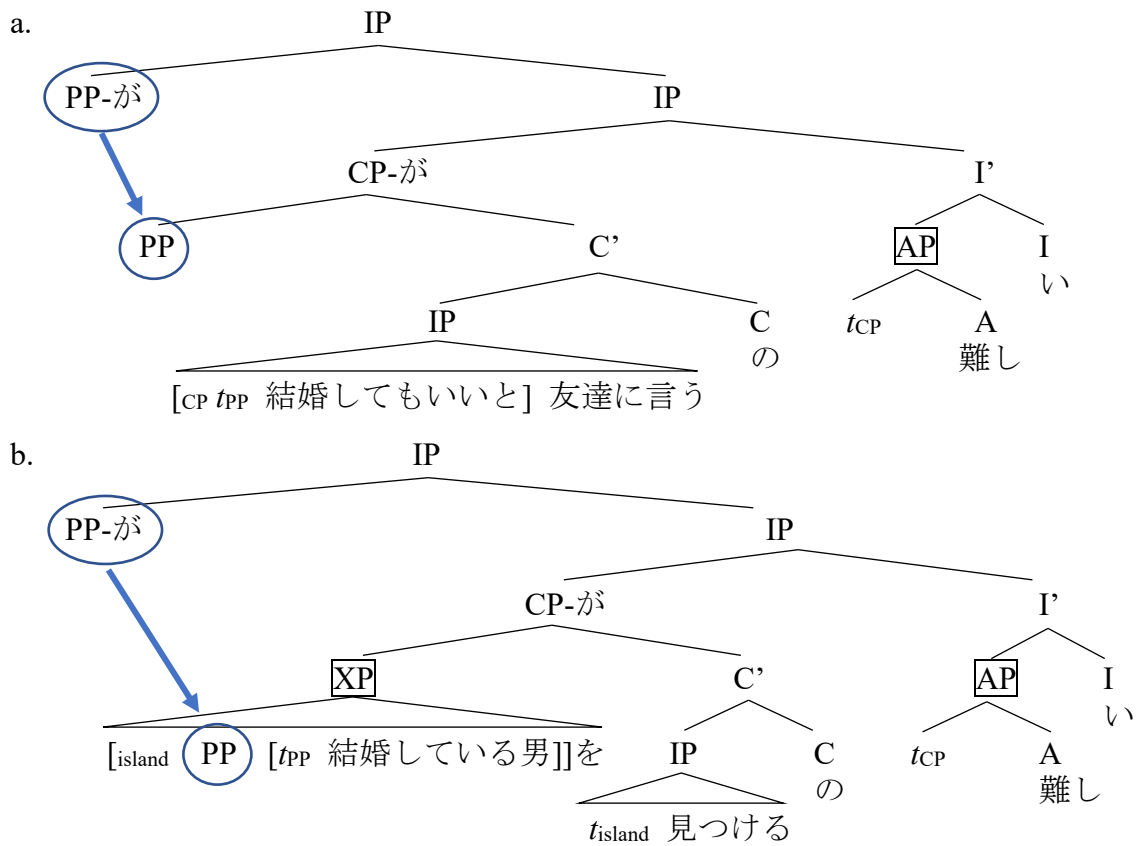
(14)基本構造
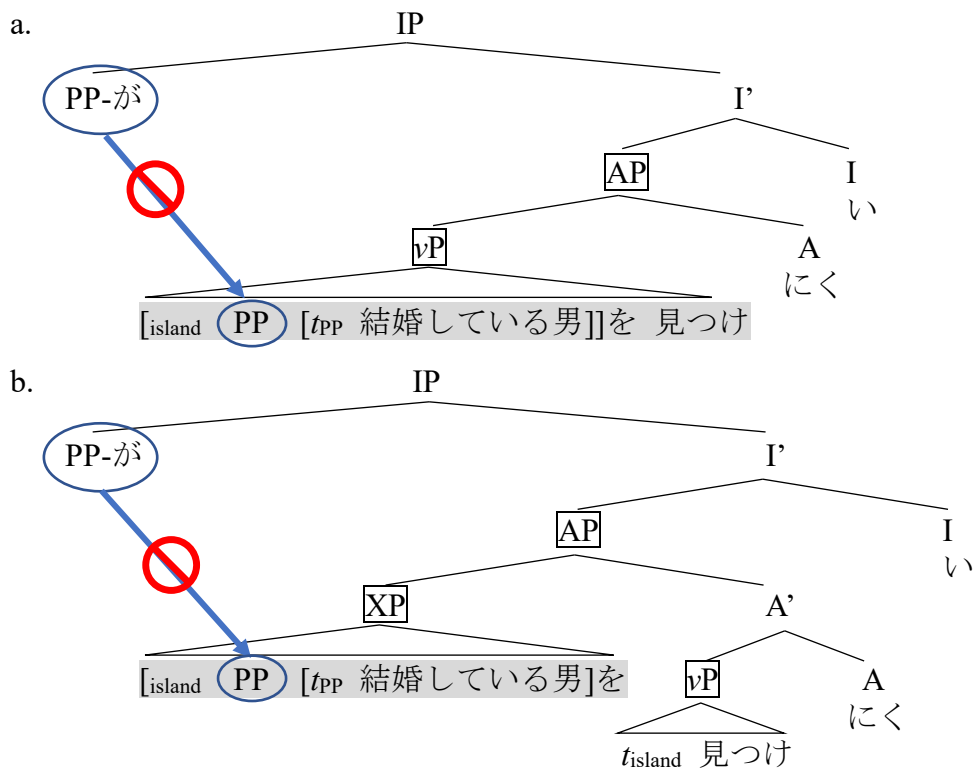

(15)島の効果の欠如 (⇔(9))

    a. i.   この図書館からが [本を 盗むの]が 簡単だ/やさしい

        ii. あんなタイプの女性とが $_1$ (ジョンにとって) [[$_{CP}$ e_1 結婚しても いいと] 友達に言うの]が 困難だ/難しい

    b. i.   あんなタイプの女性とが $_1$ (ジョンにとって) [[e_1 結婚している] 男]を 見つけるの]が 困難だ/難しい

        ii. そういう金融機関からが $_1$ (ジョンにとって) [[いつも e_1 お金を たくさん借りている] 人]を 信用するの]が 困難だ/難しい

(16)「～のが簡単だ/やさしい/困難だ/難しい」の場合

a.

```
                              IP
        ┌──────────────────────┴──────────────────┐
      PP-が                                        IP
        │              ┌─────────────────────────┬─────────┐
        │            CP-が                        I'
        ▼      ┌────────┴──────────┐          ┌──┴──┐
       PP                          C'         AP    I
               ┌──────────┴────┐         ┌───┴──┐   い
              IP               C         tCP    A
         ┌─────┴─────┐         の                難し
    [CP tPP 結婚してもいいと] 友達に言う
```

b.

```
                                   IP
        ┌───────────────────────────┴────────────────────┐
      PP-が                                                IP
        │                  ┌──────────────────────────┬──────────┐
        │                 CP-が                        I'
        │          ┌────────┴──────────┐           ┌───┴──┐
        │         XP                   C'          AP     I
        ▼    ┌─────┴──────┐       ┌────┴──┐    ┌───┴──┐   い
            PP            を     IP       C    tCP    A
    [island PP [tPP 結婚している男]]を  ┌──┴──┐   の          難し
                              tisland 見つける
```

(17)「～やすい/にくい」の場合

a.

```
                         IP
        ┌─────────────────┴──────────────────┐
      PP-が                                   I'
        │                              ┌──────┴───┐
        🚫                            AP          I
        │                        ┌─────┴────┐    い
        ▼                       vP          A
                          ┌──────┴─────┐    にく
    [island PP [tPP 結婚している男]]を 見つけ
```

b.

```
                         IP
        ┌─────────────────┴──────────────────┐
      PP-が                                   I'
        │                              ┌──────┴───┐
        🚫                            AP          I
        │                        ┌─────┴────┐    い
        ▼                       XP          A'
                          ┌──────┴─────┐  ┌──┴──┐
    [island PP [tPP 結婚している男]を  vP      A
                                  ┌───┴──┐  にく
                             tisland 見つけ
```

➔(16b)と(17a-b)を区別する性質は何か?

5

(18) ノ節の時制

    a.   (私にとっては) この山が [{登る/*登った}の]が 簡単/困難だ

    b.   この図書館からが [本を {盗む/*盗んだ}の]が 簡単だ/やさしい

(19) コントロールとの類似性

    a.   John tried [$_{CP}$ C [$_{TP}$ ~~John~~ to win]]

    b.   太郎が 最近 よく [勉強 {する/*した}ように] なった

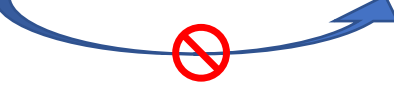   (based on Fujii 2006:14; see also Uchibori 2000)

(20) parasitic gaps との比較

    a.   Which paper did you file *t* without reading *e*?

    b.   [$_{vP}$ wh$_1$ you *v* [$_{VP}$ file wh$_2$] [$_{CP\ (=\ island)}$ wh$_3$ C [reading wh$_4$]]]

(21) 島の効果の再出現①

    a.   *あんなタイプの女性とが$_1$(ジョンにとって) [大勢の中から [[*e*$_1$ 結婚 している] 男]を 見つけるの]が 困難だ/難しい

    b.   *そういう金融機関からが$_1$(ジョンにとって) [心の底から [[いつも *e*$_1$ お金をたくさん借りている] 人]を 信用するの]が 困難だ/難しい

    c.   [$_{IP}$ PP-が [$_{CP}$ [$_{IP}$ 大勢の中から [$_{vP}$ [$_{island}$ PP … *t*$_{PP}$ …] 見つけ]る] の]が 難しい]

(22) 島の効果の再出現②

    a.   *あんなタイプの女性とが $_1$(警察にとって) [[$_{CNP}$ [[$_{CNP}$ [*e*$_1$ 結婚した] 男]を 騙した]連中]を 捕まえるの]が 困難だ/難しい

    b.   *あんなタイプの女性とが $_1$(警察にとって) [[$_{CNP}$ [[$_{CNP}$ [*e*$_1$ 結婚した] 男]を 騙した]連中]を 捕まえ]にくい

    c.   [$_{IP}$ PP-が [$_{IP}$ [$_{CP}$ [$_{island1}$ … [$_{island2}$ PP … *t*$_{PP}$ …] …] [$_{IP}$ *t*$_{isl1}$ 捕まえる] の]が 難しい]]

4. まとめ

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JSL で見る Set formation/Form sequence と数素性の一致現象*

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1. Unbound unstructured sequences と Structure dependence (Chomsky 2020, 2021)

(1) There are **unbounded unstructured sequences** that cannot be generated by the binary set formation, MERGE.

(2) John, Bill, my friends, … ran, danced, took a vacation, ….　(Chomsky 2020)

(3) a. John arrived early, met Bill, got a good seat.　(three independent events)

b. To arrive early, meet Bill, and get a good seat, seem(*s) to be what John wants.

(a single compound event)

c. To arrive early, to meet Bill, and to get a good seat seem(s) to be what John wants.

(a single compound event/three independent events)　(Chomsky 2021)

(4) Chomsky (2021): *[...] two steps are required. **The first [...] step is just the general operation of Set Formation** which is free [...] the core operation I already mentioned. **The second step is to merge 'and' and form a sequence**. [...] Forming set will yield something like "John lived on a farm with his family." We have the set {on a farm, with his family} could be many endlessly extended. The second step will lead to "John lived on a farm and with his family." [...] **There are matching conditions for both the set and the sequence but they're much more stringent for the sequence** in fact the coordinate structure constraint is just a violation of the more stringent condition, matching condition on sequences.*

a. John lived {on a farm, with his family}.

b. John lived <on a farm and with his family>.

c. Which farm did John live {[on　], [with his family]}?

d. *Which farm did John live <[on　] and [with his family] >?

(5) Set Formation: {X1, ..., Xn}

(6) Form Sequence: <(&), X1, …, Xn>

(7) <John, Bill, my friends, …> <ran, danced, took a vacation, ….>

(8) {John, Bill, my friends, …} {ran, danced, took a vacation, ….}

(9) **Structure dependence**

Chomsky (2021): *It's the deepest general property of language with very rich consequences.*

a. The boy and the girl *is/are fine.

b. The boy or the girl is/*are fine.

c. The boys or John *is/*are in the room.

2．JSL に見られる要素の並列：2 種類の非手指標識

(10)／昨日　　　パーティー　　田中　　踊る／ '昨日のパーティーで，田中が踊った'
　　　YESTERDAY　PARTY　　　TANAKA　DANCE
　　　　　　　　　　　　　　TOP

(11) 非手指標識／NM(M) (Non-Manual Marker)　(ex. Topic NMM: 見開き・眉上げ・間)

(12)／昨日　　パーティー　田中　佐藤　林　　　踊る　歌う　飲む／
　　　YESTERDAY　PARTY　　TANAKA　SATO　HAYASHI　DANCE SING DRINK
　　　　　　　　　　　TOP　　　　　　　　　hn1

(13) hn1: 頭の止めがない頷き

(14)*／昨日　　パーティー　　田中　　踊る／ '昨日のパーティーで，田中が踊った'
　　　YESTERDAY　PARTY　　　TANAKA　DANCE
　　　　　　　　　　　TOP　　　hn1

(15)(11)の解釈：*'田中が踊った＆佐藤が歌った＆林が飲んだ'／ok'3 人が一緒に同じことをした'／ok'3
　　 人が別々のことをした(誰が何をしたかは不明)'　→ 順序情報なし

(16)／昨日　　パーティー　田中　　踊る　佐藤　歌う　林　　飲む／
　　　YESTERDAY　PARTY　　TANAKA　DANCE　SATO　SING　HAYASHI DRINK
　　　　　　　　　　　TOP　　　　　hn2　　　　　hn2
　　　'昨日のパーティーで，田中が踊った＆佐藤が歌った＆林が飲んだ'

(17) hn2: 頭が止まる感じの頷き

(18)*／昨日　　パーティー　田中　佐藤　林　　踊る　　歌う 飲む／
　　　YESTERDAY　PARTY　　TANAKA SATO HAYASHI DANCE SING DRINK
　　　　　　　　　　　TOP　　　　　　　hn2

(19) #／昨日　パーティー　田中　踊る　　佐藤　歌う　林　飲む／
　　　　　　　　　　TOP　　　　　hn1　　　　　hn1
(20) YESTERDAY　PARTY　　　TANAKA SATO HAYASHI DANCE SING DRINK

(21)【文脈】昨日パーティーがあって，あなたは参加しました。今日，パーティーに欠席した友達から
　　 電話があって，お喋りしています。友達「昨日のパーティーで，出席者が何人か，ステージに上が
　　 ってパフォーマンスすることになってたよね。誰が何をしたのか，教えてくれない？」私は，友達
　　 に答えて…

(22)「田中，佐藤，林が，踊って，歌って，手品したよ。」 →順序情報あり

(23)／昨日　　　パーティー　　田中　佐藤　林　　踊る　歌う　手品する　　　終わり／

　　　YESTERDAY　PARTY　　　TANAKA　SATO　HAYASHI DANCE SING DO-MAGIC-TRICKS PERFECTIVE

　　　*'田中が踊った＆佐藤が歌った＆林が手品した'　→ 順序情報なし

(24)／昨日　　　パーティー　　田中　踊る　佐藤　歌う　　林　　　手品する／

　　　YESTERDAY　PARTY　　　TANAKA DANCE SATO　SING　HAYASHI DO-MAGIC-TRICKS

　　　'昨日のパーティーで，田中が踊った＆佐藤が歌った＆林が手品した'

(25)*／昨日　　　パーティー　田中　佐藤　林　　踊る　歌う　手品する／

　　　YESTERDAY　PARTY　　TANAKA SATO HAYASHI DANCE SING DO-MAGIC-TRICKS

(26)*／昨日　　パーティー　田中　佐藤　林　　踊る　歌う 手品する／

　　　YESTERDAY　PARTY　　TANAKA SATO HAYASHI DANCE SING DO-MAGIC-TRICKS

(27)*／昨日　　パーティー　田中　佐藤　林　　踊る　歌う　手品する　　　別／

　　　YESTERDAY　PARTY　　　TANAKA　SATO HAYASHI DANCE SING DO-MAGIC-TRICKS SEPARATELY

(28) 内堀・今西（2021:(28))：*JSL では文脈依存性の高さから，文の意味に曖昧性を持たせることが難しい。常に特定の文脈の下で適切な一つの文が決まるため，一つの文を提示して，それが当てはまる複数の文脈を想定することが容易にはできない。*

(29) **hn1**: Set formation によるセットを標示？

(30) **hn2**: Form Sequence による等位接続構造を標示（'&'の役割）

(31) hn2 ＝「と」（岡・赤堀(2011:50)一部加筆）

(32)／PT$_1$[1]　妹　ハワイ　行く／　　'私と妹がハワイに行く'

　　　　I　SISTER　HAWAII　GO

　　　　　　　　　　（岡・赤堀(2011: 50) https://www.bbed.org/com/sikumi/chapter2/meisi/動画書き起こし）

(33)**hn1**: set の最後に出現。NP の set を標示？

(34) **hn2**: member の後ろに出現。NP・TP/vP を要素とする，＆と merge された sequence を標示（← 対応する英語の等位接続構造と同程度の matching condition が適用されている）。

(35)【文脈】あなたと，鈴木，佐藤，林は友達です。あなたは今，鈴木と友達の噂話をしています。鈴

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[1] PT は「指さし」，下付き文字はその人称素性（または指示対象）を示す。

木が，最近，佐藤と林が何かを売り買いした，と言いました（佐藤，林はこの場にいません）。そこであなたは鈴木に質問して…

(36)／最近　　佐藤　売る^{hn2}　　林　　買う 何^{WH}／

　　　RECENTLY SATO SELL　HAYASHI BUY WHAT

　　　'最近，佐藤が何を売って，林が(それを)買ったの？'（文は 1 つ）

(37)／最近　　　佐藤 売る^{hn1}　　林　　買う^{hn1}　何^{WH}／

　　　RECENTLY SATO SELL　HAYASHI BUY　　WHAT

　　　'最近，佐藤が(何か)売った。林が(それを)買った。(それは)何？'　（文が 3 つに分かれる解釈のみ OK）

(38)　**hn2**: ATB を許す等位接続構造を作る

(39)／PT2　　　食べる　　何^{WH}／

　　　　YOU　　　　EAT　　　WHAT

　　　'あなたが何を食べるの？'

(40)　JSL の等位接続構造制約違反（小谷(2009: (16) 一部加筆）

　　　*／[PT2　　食べる]　[PT3　リンゴ　食べる]　何^{WH}／

　　　　　YOU　　EAT　　(S)HE　APPLE　　EAT　　WHAT

　　　'あなたが何を食べて，彼(女)がリンゴを食べるの？'

(41) *／[PT2　　食べる]^{hn2}　[PT3　　リンゴ　食べる]　何^{WH}／

　　　　YOU　　　EAT　　　(S)HE　APPLE　　EAT　　WHAT

3．JSL に見られる構造依存の例：主語の数素性との一致

(42)　手話言語におけるいわゆる一致動詞は，主語と目的語の人称素性への一致を示す。

(43)　JSL における動詞の数素性に関わる語形変化（岡・赤堀(2011: 56)一部加筆）

　　　／死ぬ_{一人}／　　／死ぬ_{二人}／　　／死ぬ_{多数}／　　（人称素性は示していない）

(44)／言う／＝いわゆる一致動詞(44)

　　　／₃言う₁／　Agent: 三人称 → Goal: 一人称

(45)a. 片手 1 回＝主語一人またはグループ読み

　　 b. 片手 2 回＝主語二人個別イベント読み：二人の発言が個別に発生（※signing space 上の手の位置により，その場に同時にいた人々からの発言かどうか区別ができる）

c. 片手 3 回＝主語三人個別イベント読み：三人の発言が個別に発生（※同じ）

d. 両手別複数回＝主語複数個別イベント読み：複数人の発言が個別に発生(※皆同じところにいた場合)

e. 両手同時 1 回＝複数人が同じ場で同時に同じ発言

f. 手を廻す＝多数の意味を持つ複数主語によるイベント(個々の区別は不明確だがグループ読みではない)

(46)【文脈】私の付き合っている男性に借金がありました。でも，私はその男性と結婚することを決心して，友達（田中，佐藤，林）にその話をしました。このエピソードを，今，私があなたに説明をしているところです（田中，佐藤，林はこの場にいません）。

(47)a.　／田中　　佐藤　　林　　　　結婚　　良くない　$_3$言う$_1$(片手 1 回・片手 3 回)／

　　　　TANAKA SATO HAYASHI MARRIAGE NO-GOOD　$_3$SAY$_1$

　　　　'田中，佐藤，林が(その)結婚が良くないと言った'

b.　／田中　　佐藤　　林　　　　結婚　　　良くない　$_3$言う$_1$(片手 1 回・片手 3 回)／

　　　TANAKA　SATO HAYASHI MARRIAGE NO-GOOD　$_3$SAY$_1$

　　　'田中，佐藤，林が(その)結婚が良くないと言った'

(48)a.*／田中　　佐藤　林　　　結婚　良くない　$_3$言う$_1$(手を廻す)／

b.*／田中　　佐藤　　林　　結婚　良くない　$_3$言う$_1$(手を廻す)／

(49)*／田中　　佐藤　林　　結婚　良くない　3 言う 1(両手別複数回)／　*主語複数個別イベント読み

(50)／田中　　佐藤　　林　　結婚　良くない　3 言う 1(両手別複数回)／　^{OK}主語複数個別イベント読み

(51)　hn1↔hn2：主語のセットの個々のメンバーを見られない・見られる（←(15)セットの個々のメンバーを動詞に結び付けて解釈できない？）

(52)＝(32)／PT$_1$　　妹　　ハワイ　行く／　　'私と妹がハワイに行く'

　　　　　　　I　　SISTER　HAWAII　GO

(53)／PT$_1$　　妹　　　ハワイ　行く　どっち？／　　'私か妹どっちがハワイに行く？'

　　　　I　　SISTER　HAWAII　GO　　WHICH

(54)　hn2 ＋ NM$_{OR}$ → 'OR'

(55)／皆　　　結婚　　　良くない　$_3$言う$_1$　PT$_{3(皆)}$／
ALL MARRIAGE　　NO-GOOD　　$_3$SAY$_1$　PT$_{3(ALL)}$
'皆が(その)結婚が良くないと言った'　　　　　（片手 1 回，両手別複数回，手を廻す OK）

(56) JSL の文末指さし：主語または話題化要素の人称素性と一致（市田(2005)，鳥越(1991)，原・黒坂
(2013)，Uchibori (2016), Uchibori and Imanishi (2017)，内堀・今西(2021)）

(57)／田中　　佐藤　　結婚　　　良くない　$_3$言う$_1$／　　（*手を廻す，それ以外の語形 OK）
TANAKA　SATO　MARRIAGE NO-GOOD　$_3$SAY$_1$
'田中と佐藤が(その)結婚が良くないと言った'

(58)／田中　　佐藤　　（どっちか）　結婚　　　良くない　$_3$言う$_1$／
TANAKA　SATO　EITHER-ONE　MARRIAGE NO-GOOD　$_3$SAY$_1$
'田中か佐藤が(その)結婚が良くないと言った'
　　　　　　　　　　　　　　　　（片手 1 回 OK，*片手 2 回，*両手別複数回，*手を廻す）

(59)／田中　　皆　　（どっちか）　結婚　　良くない　$_3$言う$_1$／
TANAKA　ALL　EITHER-ONE　MARRIAGE NO-GOOD　$_3$SAY$_1$
'田中か皆が(その)結婚が良くないと言った'
　　　　　　　　　　　　　　　　（片手 1 回 OK，*片手 2 回，*両手別複数回，*手を廻す）

(60)／皆　　田中　　（どっちか）　結婚　　良くない　$_3$言う$_1$／
ALL　TANAKA　EITHER-ONE　MARRIAGE NO-GOOD　$_3$SAY$_1$
'皆か田中が(その)結婚が良くないと言った'
　　　　　　　　　　　　　　　　（片手 1 回 OK，*片手 2 回，*両手別複数回，*手を廻す）

(61)／田中　　結婚　良くない　　思う　PT$_{3(田中)}$／　　　／思う／＝非一致動詞
TANAKA　MARRIAGE NO-GOOD THINK PT$_{3(TANAKA)}$
'田中が(その)結婚が良くないと思った'

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[2] 1 つのセットに出現する 2 回目の hn2 は音韻的に弱形になっている。

6

                  RS

(62)／皆　結婚　良くない　　　　思う　PT_3(ALL)／（指先を廻す PT_{3=複数} または 一か所を指す PT_3 OK)

    ALL　MARRIAGE NO-GOOD THINK　PT_3(ALL)

    '皆が(その)結婚が良くないと思った'

      hn2　　　hn2　　　　　　　　　　　RS

(63)／田中　　佐藤　　結婚　　良くない　　思う　PT_3 (田中&佐藤) ／

    TANAKA　SATO　　MARRIAGE NO-GOOD THINK PT_3(TANAKA&SATO)

    '田中と佐藤が(その)結婚が良くないと思った'

                OR

    hn2　　　hn2　（　　　　どっち）　　　　　　　RS

(64)*／田中　　佐藤　（どっちか）　　結婚　　良くない　　思う　PT_3 (田中) /PT_3 (佐藤) ／

    TANAKA　SATO　EITHER-ONE　MARRIAGE NO-GOOD THINK PT_3(TANAKA) /PT_3(SATO)

    '田中か佐藤が(その)結婚が良くないと思った'

                OR

    hn2　　　hn2　（　　　　どっち）　　　　　　　RS

(65)／田中　　佐藤　（どっちか）　結婚　　良くない　　思う　PT_3／　　PT_3= bound pronoun

    TANAKA　SATO　EITHER-ONE　MARRIAGE NO-GOOD THINK PT_3

                OR

    hn2　　　hn2　（　　　　どっち）　　　　　　　RS

(66)／田中　　皆　　（どっちか）　　結婚　　良くない　　思う　PT_3／

    TANAKA　ALL　EITHER-ONE　MARRIAGE NO-GOOD THINK　PT_3)

    '田中か皆が(その)結婚が良くないと思った'　　　（PT_3 (皆) ＝*指先を廻す PT_{3=複数} , 一か所を指す PT_3 OK)

                OR

    hn2　　hn2　（　　　　どっち）　　　　　　　RS

(67)／皆　　田中　（どっちか）　　結婚　　良くない　　思う　PT_3／

    ALL　TANAKA　EITHER-ONE　MARRIAGE NO-GOOD THINK　PT_3

    '皆か田中が(その)結婚が良くないと思った'　　　（PT_3 (皆) ＝*指先を廻す PT_{3=複数} , 一か所を指す PT_3 OK)

(68) JSL における主語の数素性との一致現象：①動詞，②文末指さし　→　**Structure dependence**

(69) Set Formation/Form Sequence による派生という観点から：手話言語では階層的に補文を重ねていく現象が見られにくい一方，（主語の異なる）文と文を並列的につなげていく現象が広くみられる（その際，RS (Referential Shift)と呼ばれる，話法を転換するような装置が機能する。JSL のRS が適用する頭語領域については上田・内堀(2021)，内堀(2019)，川崎(2021)参照）。そのよう

な文の並列を作る上で Set Formation ないし Form Sequence が働いている可能性，即ち strict binary ではない構造を作っている可能性があるとすれば，この点に関する音声言語と手話言語との差異を捉えられるかもしれない。

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Strong Minimalist Thesis を満たす UG の説明理論: その輪郭と概念的根拠

言語間の相違の問題を捉え直す概念的枠組み

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1.　The locus of language variation under SMT

(1)　Three conditions that UG must meet (Chomsky, 2020a: LSJ)

Learnability: it must be rich enough so that can overcome the poverty of stimulus

Evolvability: it must be simple enough to have evolved under the conditions of human evolution

Universality: it must be the same for all possible languages, given that language is a species property
common to humans

(2)　More on language variation (Chomsky, 2020a: LSJ, 強調は大滝による)

-　　Now we have the sharp distinction between internal language based on Merge, yielding linguistic formulation of thought on the one hand, and **externalization** to a sensory-motor medium, on the other.

-　　Externalization connects two entirely unrelated systems; that's an operation that can be carried out in many ways and is likely to be complex and unstable. **It's very natural candidate for the properties of variation, complexity and mutability, which would then not be properties of language, but properties of an amalgam of language and unrelated organic systems.**

(3)　parametrization and diversity, then, would be mostly – possibly entirely – restricted to externalization.

(Berwick and Chomsky, 2011: 37)

(4)　a. Borer-Chomsky Conjecture (cf. Baker, 2008; Roberts, 2019)

All parameters of variation are attributable to differences in the features of the functional heads in the Lexicon.

b. Phonology/Prosody (e.g., Tokizaki, 2011; Tokizaki & Kuwana, 2013; Dobashi, 2019; 土橋, 2021, 印刷中)

c. Rule ordering (Obata et al., 2015; Epstein et al., 2017)

d. Bundling of functional items (Blümel et al., 2021; cf. Bobalijk & Tháinsson, 1998)

2. Head Movement under SMT

(5) Chomsky (2020b: UCLA Lectures)

- Head raising has none of the right properties. It violates the Extension Condition.

  WS = [{a, {b, {c, d}}}]

  Merge (a, c, WS) = WS' = [{a, c}, {a, {b, {c, d}}}]

  |WS| < |WS'| → *Resource Restriction

- Head raising has properties that cross syntax and phonology. So it's almost entirely like phonological processes in that it doesn't have semantic consequences.

(6) Hisa's proposal

a. WS = [C, {T, VP}, ...]

b. Pair-Merge (C, T, WS) = WS' = [**<C, T>**, {T, VP}, ...]

c. Merge (<C,T>, {T, VP}, WS') = WS'' = [{**<C, T>**, {T, VP}}, ...]

(See also Omune, 2018 for recent analyses of head movement under SMT.)

(7) Under SMT, ...

a. Language variation = Externalization

b. Head Movement is difficult to formulate.

c. Head Movement does not have semantic consequence.

3. 土橋 (2021, 印刷中) on Head Parameter

(8) K = {X, YP} → Minimal Search finds X in K.

(9) Prominent element (PE): A lexical item detected with Minimal Search

(10) **Adjacency**: Linearization determines what is next to what.

(11) Two logical possibilities

a. To make PEs adjacent to each other

b. Not to make PEs adjacent to each other

(12) L = {$_\delta$ XP, {$_\gamma$ Y,{ $_\beta$ ZP, {$_\alpha$ W, QP}}}}   PEs = W and Y

(13) PEs are adjacent   → XP-ZP-QP-W-Y   Head-final structure

(14) PEs are not adjacent

       a.   XP-Y-ZP-W-QP   Head-initial structure

       b.   XP-Y-ZP-QP-W

       c.   XP-ZP-W-QP-Y

(15) Generalized Role Reversal (cf. Nasukawa & Backley, 2015)

       a.   Syntactic heads are phonologically weak.

       b.   Syntactic dependents (complements and specifiers) are phonologically strong.

(16) a.   XP-Y-ZP-W-QP   →   s-w-s-w-s

     b.   XP-Y-ZP-QP-W   →   s-w-**s-s**-w

     c.   XP-ZP-W-QP-Y   →   **s-s**-w-s-w

(17) Clash avoidance: *s-s

4. Back to Head Movement

(18) PEs are adjacent

    → XP-ZP-QP-**W-Y**   Head-final structure

(19) 太郎がボールを蹴った。

[$_{TP}$ Taro-ga [$_{vP}$ *t* [$_{VP}$ booru-o **ket-]** *v-* **] ta**]

(but see Hayashi 2016 for evidence in support of head movement in Japanese)

(20) PEs are not adjacent

    → XP-**Y**-ZP-**W**-QP   Head-initial structure

(21) Taro kicked the ball.

[$_{TP}$ Taro **T [**$_{vP}$ *t v* [$_{VP}$ **kick** the ball]]]

(22) English vs. French (cf. Pollock, 1989)

       a.   John (often) speaks (*often) Italian.

       b.   Jean (*souvent) parle (souvent) l'italien.

(23) Probe-Goal Contiguity (Richards, 2016: 117)

Given a probe α and a goal β, α and β must be dominated by a single ϕ (phonological phrase), within which β is Contiguity-prominent.

(24) Match Theory (e.g., Selkirk, 2011; Elfner 2012)

    a. Every syntactic (possibly complex) head corresponds to a prosodic word ω.

    b. Every XP corresponds to a phonological phrase ϕ.

    c. Every clause corresponds to an intonational phrase ι.

(25) a.   English has prosodically active left edges of ϕ.

    b.   French has prosodically active right edges of ϕ.   (cf. Liaison)

(26) John (often) speaks Italian.

    Syntax: [$_{TP}$ [$_{DP}$ John] T   [$_{vP}$ t v [$_{VP}$ speak   [$_{DP}$ Italian]]]]

    Prosody 1:   (ϕ$_{TP}$ (ϕ$_{DP}$ John T   (ϕ$_{vP}$ v (ϕ$_{VP}$ speak   (ϕ$_{DP}$ Italian   *Probe-Goal Contiguity

    Prosody 2:   (ϕ$_{TP}$ (ϕ$_{DP}$ John   **(ϕ$_{DP}$ T-v-speak   Italian**

                      ↑

                  (often)

(27) Contiguity Adjunction (Richards, 2016: 108, 強調は大滝による)

    Take a pair of **<u>adjacent</u>** prosodic nodes and make one of them a daughter of the other.

(28) V and Obj cannot be separated in English.

(29) Jean parle (souvent) l'italien.

    Syntax: [$_{TP}$ [$_{DP}$ Jean] T [$_{vP}$ t v [$_{VP}$ parle [$_{DP}$ l'italien]]]]

    Prosody 1:   Jean ϕ$_{DP}$) T v parle   l'italien ϕ$_{DP}$) ϕ$_{VP}$) ϕ$_{vP}$) ϕ$_{TP}$)

                                               *Probe-Goal Contiguity

    Prosody 2:   **Jean T-v-parle ϕ$_{DP}$)**   l'italien ϕ$_{DP}$) ϕ$_{VP}$) ϕ$_{vP}$) ϕ$_{TP}$)

                                ↑

                          (souvent)

(30) Subj and T cannot be separated in French.

5. Conclusion

(31) Under SMT, the following things converge (hopefully).

    a.   Language variation = Externalization

    b.   Head Movement is difficult to formulate.

    c.   Head Movement does not have semantic consequence.

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