

Papers from the Thirty-Seventh Conference
November 9-10, 2019
and from
the Twelfth International Spring Forum
May 11-12, 2019
of
The English Linguistic Society of Japan

JELS 37

日本英語学会第 37 回大会（関西学院大学）
第 12 回国際春季フォーラム（聖心女子大学）
研究発表論文集

The English Linguistic Society of Japan
2020

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本書は、2019年5月11日、12日に聖心女子大学にて開催された日本英語学会第12回国際春季フォーラム、および同年11月9日、10日に関西学院大学にて開催された日本英語学会第37回大会における研究発表論文、Symposium Reports、およびWorkshop Reportsを収録しています（投稿辞退分は除く）。発表採用決定日および投稿受理日は以下のとおりです。

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[I]

**Thirty-Seventh Conference
November 9-10, 2019**

一致形態の豊かさと音韻句の関係について*
(On Richness of Agreement and Phonological
Phrasing)

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キーワード: 音韻句, 一致形態, ラベル付け,
最小探索, 統辞音韻インターフェイス

1. はじめに

語境界を超えて適用される音韻規則の研究では、規則の適用領域が統辞構造(句構造)にもとづいて定義されと考えられている。(1)に示すような階層的な韻律構造が句構造にもとづいて形成され、これらを領域として音韻規則が適用される(Selkirk (1980)など)。カッコの右下の ι , φ , ω はそれぞれイントネーション句(intonational phrase)、音韻句(phonological phrase)、韻律語(prosodic word)を表す。

- (1)
$$\begin{array}{ccccccc} (& & & & & &)_{\iota} \\ & (& &)_{\varphi} & (& &)_{\varphi} \\ & & (& &)_{\omega} & (&)_{\omega} \\ \text{The boy} & & \text{will eat} & & \text{the ham} & & \end{array}$$

本発表では、特に主語の音韻句の形成が、統辞構造だけでなく、当該言語の主語-述語の一致形態の豊かさにも影響されると主張する。一致形態の乏しい英語のような言語では、基本的に、主語が後続要素とは別の音韻句に属すが、一致形態が豊かなイタリア語のような言語では、主語が後続要素と同じ音韻句に属することを示し、その理論的説明を試みる。

従来、SVO 語順では、主語が後続する要素

と別の音韻句に属することが広く観察されており、Selkirk (1986)や Nespor & Vogel (1986)(以下 N&S)の音韻句形成のメカニズムでも、主語が後続する要素とは別の音韻句に属すよう定式化されていた。Selkirk (1996)は、X バー理論における語彙範疇の最大投射 XP の左端や右端が音韻句の左端や右端にそれぞれ揃うよう定式化している(Truckenbrodt (1999)も参照)：

(2) ALIGN(XP, R/L; φ , R/L): The right/left edge of each syntactic XP is aligned with the right/left edge of a phonological phrase φ .

例えば、SVO 語順で、NP と VP の右端がそれぞれ音韻句の右端に揃う場合、当時広く採用されていた (3a) の統辞構造に対し、(3b) の音韻句が定義される：

- (3) a. $[_{CP} C [_{IP} [_{NP} \text{Subj}] \text{I}^0_{AUX} [_{VP} V [_{NP} \text{Obj}]]]]]$
b. $((C \quad \text{Subj})_{\varphi} (\text{I}^0_{AUX} \quad V \quad \text{Obj})_{\varphi})_{\varphi}$

これに対し、N&V (p.168) の定式化(4)では、語彙要素が、句構造内の非再帰的側(nonrecursive side: VO 語順では左側)の機能要素と音韻句を成すとされており、(5a)の統辞構造に対し、(5b)の音韻句が形成される：¹

(4) Phonological Phrase Formation: The domain of φ consists of a C which contains a lexical head (X) and all Cs on its nonrecursive side up to the C that contains another head outside of the maximal projection of X. [C = clitic group]

- (5) a. $[_{CP} C [_{IP} [_{NP} \text{Subj}] \text{I}^0_{AUX} [_{VP} V [_{NP} \text{Obj}]]]]]$
b. $((C \quad \text{Subj})_{\varphi} (\text{I}^0_{AUX} \quad V)_{\varphi} (\text{Obj})_{\varphi})_{\varphi}$

これらの理論は、経験的にも概ね支持されてきた。(3b)の音韻句はバントゥ諸語で、(5b)の音韻句はロマンス諸語で観察される、とされてきた。特に、主語の音韻句に着目すると、両理論とも

以下のような予測をする：(i) 主語は後続する要素 (Aux, V)とは別の音韻句に属す；(ii) 主語は補文標識 C と同じ音韻句に属す。

この主語の音韻句に関する一般的な予測にもとづき、Sato & Dobashi (2016) (以下 S&D) は、英語の補文標識-痕跡効果 (以下「Comp-*t* 効果」) に対する音韻的な説明を試みた。統辞音韻写像における語彙範疇条件(6) (Lexical Category Condition)のもと、(7)に示すように、機能要素である補文標識 *that* は単独で音韻句を形成できないと主張した。²

(6) 語彙範疇条件：

統辞音韻写像では語彙要素が可視的であるのに対し、機能要素は非可視的である。

(Truckenbrodt (1999), Selkirk (1984))

(7) * (Comp)_φ

(8)のように、*that* は、後続する顕在的主語と同じ音韻句に含まれると(7)に違反しないが、(9)のように主語が抜き出されると、単独で音韻句を形成することになり、(7)の違反となる：

(8) what_i do you think [_{CP} that [_{IP} John [_{VP} ate *t_i*]]]
(that John)_φ

(9) *who_i do you think [_{CP} that [_{IP} *t_i* [_{VP} ate it]]]
(that)_φ

S&D は、この音韻的分析のもと、英語の Comp-*t* 効果の様々な例外的振る舞いを説明した。

この分析は、(5)の下で述べた (i) と (ii)、つまり、従来の音韻句形成のメカニズムの妥当性を前提としているが、本論では、特に (i) を再考する。これに際し、まず、次節で Comp-*t* 効果を示さない言語について検討する。

2. Comp-*t* 効果の欠如

主語-述語間の豊かな一致形態を示し、主語省略 (*pro-drop*) を許すイタリア語のような言語

では、Comp-*t* 効果が観察されないことが知られている (Perlmutter (1968), Rizzi (1982))：

(10) Chi pensi che *t_{chi}* ha incontrato
Who you.think C has met
i linguisti?
the linguists
'Who do you think (that) has met the linguists?' (Pesetsky (2017: 997))

(2)から(5)で概観した従来の音韻句形成法が正しいとすると、S&D の音韻的な分析では、(10)の Comp-*t* 効果の欠如を説明することができない。つまり、イタリア語でも (10) が (9) と同様の音韻句を形成し、(7)により排除されると誤って予測する。

しかし、Dobashi (2017, 2019) は、ラベル付けアルゴリズム (Chomsky (2013, 2015)) の考え方を SM インターフェイスにおける解釈に援用し、音韻句が統辞体 (syntactic object SO) の音韻的解釈によって定義されるという新たな音韻句形成法を提案した。ラベル付けアルゴリズムでは、(11)に示すように、{H, XP} という SO で H が最小探査 (minimal search) でラベルとして検出できるので、この SO は C-I インターフェイスで適正な解釈が得られる：

(11) H is the label in {H, XP}.

また、言語計算の基本単位である語彙項目 (lexical item) 同士が直接併合した(12)のような SO では、最小探査ではどちらがラベルになるか決まらない。しかし、(12a, b)に示すように、機能要素 *f* はラベルになれるが、root R のような語彙要素はラベルになれないと考えられているので、{*f*, R} では、*f* がラベルになる：

(12) In {*f*, R},
a. *f* is labelable since it is a functional element that determines category.

- b. R is unlabelable since it alone is too “weak” to serve as a label.

(Chomsky (2013:47))

これは、統辞派生と C-I では、 f は可視的であるが R は非可視的である、ということを示唆する。ここで、これが語彙範疇条件(6)と逆になっていることに注目されたい。SM 側では、機能要素が非可視的であり語彙要素が可視的である。このような統辞と音韻の解釈に関わる非対称性は、Nasukawa & Backley (2015)でも指摘されている。以上のことから、(13)を提案する。

(13) 統辞／音韻非対称性：

統辞音韻写像では、ラベル付けできない要素が可視的であるのに対し、ラベル付けできる要素は非可視的である。

さらに、SO の音韻的解釈も、ラベル付けアルゴリズム同様、第三要因原理の最小探索により決定されると仮定する：

(14) 統辞体の音韻的解釈：

統辞体は、その内部でラベル付けできない要素が最小探索で探知される場合、音韻句として解釈される。

また、英語では、ラベル付けに関して、(15)のように仮定されている：

(15) R and T are unlabelable in English.

(Chomsky (2015))

これらを踏まえ、具体的に英語の基本的な文の派生と SO の音韻的解釈を考えてみよう。(16a) は “Mary thinks that John will buy the camera.” のような文の、埋め込み節から主節の v^*P までの派生を示し、(16b)はその音韻的解釈を示す：

- (16) a. ... [R- v^* [δ t_R [C [Subj [γ T [t_{Subj} [β R- v^* [α t_R Obj]]]]]]]]

- b. ...) $_{\phi}$ (C Subj) $_{\phi}$ (T R- v^*) $_{\phi}$ (Obj) $_{\phi}$

下から上へ進む統辞派生において、まず、 α 内で埋め込み節の R のコピー (t_R) が最小探索で見つかり、 α が音韻句として解釈され、Obj から成る音韻句が形成される。 β 内の R- v^* のアマルガムはラベル付けできるので音韻的に非可視的である。 γ 内の T は英語では音韻的に可視的であり最小探索で探知され、 γ が音韻的に解釈され、T と R- v^* から成る音韻句が形成される。 δ 内で主節動詞の R のコピー (t_R) が最小探索で探知され、 δ が音韻的に解釈され、C と Subj からなる音韻句が形成される。結果的に、(5)で見た N&V と同じ音韻句を予測をすることになる。

この SO の音韻的解釈というアプローチにもとづき、イタリア語タイプの言語の Comp- t 効果を再検討してみよう。(17)に示すように、Chomsky (2015)は、一致形態の豊かさにもとづき、イタリア語のような *pro-drop* を許す言語の Infl/T はラベル付けできると主張した。

(17) T is labelable in Italian.

すると、(18a)の統辞構造に対して、(18b)のような音韻句が形成されることになる：

- (18) a. ... [R- v^* [δ t_R [C [Subj [γ T_{labelable} [t_{Subj} [β R- v^* [α t_R Obj]]]]]]]]
b. ...) $_{\phi}$ (C Subj T_{labelable} R- v^*) $_{\phi}$ (Obj) $_{\phi}$

イタリア語では、英語とは異なり T がラベル付けできるので、 γ は音韻的に解釈されず、Subj と T の間に音韻句境界は形成されない。そうすると、(10) = (19a)のようにイタリア語で埋め込み節の主語が抜き出されても、(19b)に示すように、補文標識 *che* は R- v^* (= *incontrato*) と同じ音韻句に属することになり、(7)の違反にはならない：

- (19) a. Chi pensi che t_{chi} ha incontrato
Who you.think C has met

i linguisti?

the linguists

‘Who do you think (that) has met the linguists?’

b. (Chi pensi)_φ (che t_{chi} ha incontrato)_φ
(i linguisti)_φ

このように、S&D の Comp-*t* 効果の音韻的な分析は、T の一致形態の豊かさにもとづき、イタリア語における Comp-*t* 効果の欠如も説明できることになる。つまり、*pro-drop* と Comp-*t* 効果の欠如の関連を捉えることができる (Pesetsky (2017) を参照)。

3. 主語の音韻句

第1節で述べたように、従来、SVO 語順では主語が後続する要素とは別の音韻句に属すとされてきた。しかし、第2節の議論が正しいとすると、イタリア語タイプの言語では、従来の理論の予測や観察とは異なり、主語と後続する要素との間で、音韻句を領域とする規則が適用されると予測する。以下では、この予測の妥当性を検討する。

3.1 イタリア語

N&V 以降、イタリア語の音韻句の研究では、主語が後続要素とは別の音韻句に属するという観察が一般的である。たとえば、(20) の Raddoppiamento Sintattico (RS) と呼ばれる音韻句を領域とし語境界を超えて適用される規則は、主語と後続要素との間には適用されないことが観察されている：

(20) Raddoppiamento Sintattico RS

C → [+long] /

[... [... V]_ω [__ [+son, -nas] ...]_ω ...]_φ

(where the vowel V bears the main stress of the word)

(N&V (p.170))

RS は、簡潔に述べると、音韻句内で、ある語が

その語の主強勢を持つ母音で終わる場合、後ろに続く語の語頭の子音が重複する (geminate) というものである。例えば、(21a) では主語が主強勢を持つ母音で終わるが、後続する動詞の語頭の子音は重複化しない。これは、主語と動詞の間に音韻句の境界が存在し重複化を阻止していることを示す。同様に(21b)では、主語と後続する助動詞の間で RS が適用されず、これらが別々の音韻句に属することがわかる。

(21) a. Papá mangia.
daddy eat.3SG
(Papá)_φ (mangia)_φ
‘Daddy is eating.’

b. La cecità può essere guarita.
the blindness can.3SG be cure.PP
(La cecità)_φ (può essere guarita)_φ
‘Blindness can be cured.’ (Ghini (1993))

本論で採用する SO の解釈にもとづく音韻句形成法では、(19b)で示したように、イタリア語の主語が後続要素と同じ音韻句に属すると予測するので、(21)の音韻句を説明できないように思われる。しかし、Napoli & Nespor (1979) は、イタリア語で、主語が後続する要素の間で RS が適用されることを観察している：

(22) a. La città • cadde.

‘The city fell’

b. L’ultimo re • morì.

‘The last king died.’

c. La religione che pratica • perde fedeli.

‘The religion he practices is losing adherents.’

ここで、「•」は、RS が適用されていることを示している。(22a)では単一の内容語からなる主語、(22b)では修飾語を伴う主語、(22c)では関係節を伴う主語があり、それぞれ、動詞との間で RS が適用されている。Napoli & Nespor (1979: 830ff.)は、主語は、文頭にある場合、単一の語

から成る場合でも複数の語から成る場合でも、後続する述語との間で RS が適用できると明確に指摘している。³ この観察が正しいとすると、(19b)の音韻句が正しいことになる。

さらに、D'Alessandro & Scheer (2015) は、イタリア語のアブルッツォ方言において、埋め込み節の主語が省略された環境で、RS と同様の音韻句内で適用される子音長音化現象が、補文標識と動詞の間で適用されることを観察している。(23)では、補文標識 *chə* が動詞 *ve* の頭子音の長音化を引き起こしている：

- (23) Jè mmeje chə vve.
is better that come.3SG
'It's better that he/she comes.'
(D'Alessandro & Scheer 2015: 614)

これは、補文標識 *chə* と動詞 *ve* の間に音韻句境界がないことを示している。豊かな一致形態を持ちラベル付けできる埋め込み節の T が音韻句形成に関与せず、*che* と *ve* が同じ音韻句に属していると考えられる。

では、従来観察されていた(21)のような主語の音韻句形成(つまり、主語が後続する要素とは別の音韻句に属す例)はどのように説明されるのだろうか。Frascarelli (2007) によると、イタリア語では、動詞に先行する主語は A バー位置に生起し話題(topic)として解釈されうることを観察している。また Frascarelli (2000) は、話題化された要素は一般にイントネーション句を形成することを観察している(イントネーション句は、(1)に示すように、音韻句を内包する音韻領域である)。これらのことから、(21)のような、後続する要素と別の音韻句に属すとされてきたイタリア語の主語は、実は話題化されてイントネーション句を形成しており、話題化されない場合、主語は TP の指定部に留まり、(22)のように、後続する要素と同じ音韻句に属することになると考えられる。

3.2 その他の言語

Cheng & Downing (2009)によると、バントゥ諸語のズールー語では、名詞クラスに対応する豊かな主語-述語一致があり、*pro-drop* を許す。さらに、通常、主語は後続する要素と同じ音韻句に属し、話題(topic)として解釈される場合に後続する要素とは別の音韻句に属す。この言語では、音韻句右端の語の語尾から2番目の音節の母音が長音化する(Penultimate Lengthening: PL)。(24a)では、主語が話題として解釈されず、PL の適用を受けていない。これに対し(25b)では、主語が話題として解釈され PL の適用を受けている：

- (24) a. ú-Síph' ú-phekél' ú-Thánd'
1-Sipho SM1-cook.for 1-Thandi
in-kû:khu)_φ
9-chicken
'Sipho cooked chicken for Thandi.'
b. ín-kosíka:zi)_φ í-théngel' ábá-fán'
9-woman SM9-buy.for 2-boy
ízím-ba:tho)_φ
10-clothes
'The woman is buying clothes for the boys.' (Cheng & Downing (2009: 209))

本論の主張 (14) が正しいとすると、ズールー語では、イタリア語同様、豊かな一致形態を示す T がラベル付けでき、音韻的に解釈されないことになる。そうすると、話題化されずに Spec-T に留まる主語と後続する要素(動詞)の間に音韻句の境界が形成されず、(24a)のように、主語は PL の適用を受けない。これに対し、(24b)では、イタリア語同様、主語が話題化されイントネーション句を形成するため、PL の適用を受けると説明できる。

また、バントゥ諸語のチェワ語でも、(24)と同様の現象が観察されている(Cheng & Downing (2016: 160) を参照)。なお、イタリア語同様、ズールー語でも(Zeller 2004: 9)、チェワ語でも

(Bresnan & Mchombo (1987: 756))、Comp-*t* 効果を示さないことが観察されている。

同様に、現代ヘブライ語は、豊かな主語-述語一致を示し、*pro-drop* を許し (Ritter (1988))、Comp-*t* 効果を示さない (Borer 1984)。そして、主語は後続する要素と同じ音韻句に属することが観察されている (Shaked (2007))。

これに対し、ブラジル・ポルトガル語 (BP) は、英語同様、主語-述語一致による形態的变化に乏しく、主語省略を許さない (Fortuny (2008: 133))。そして、Sandalo & Truckenbrodt (2002) によると、常に主語が後続する要素とは別の音韻句に属す。ただし、この言語は Comp-*t* 効果を示さないことが知られている。Barbosa et al. (2005) によると、BP は徐々に動詞後続主語 (post-verbal subject) を失いつつある段階にある。つまり、主語の生起に関して、BP はイタリア語タイプの言語から英語タイプの言語へと変化しつつあると考えられる。T が徐々にラベル付けできない T に変化する段階にあると考えられ、Comp-*t* 効果の欠如はこれに関連した現象であると思われる。

4. 結語

従来、主語は後続する要素と別の音韻句には属すとされ、音韻句形成法もそのように定式化されてきた。Dobashi (2017, 2019) が提案した(14)の音韻句形成法により、Comp-*t* 効果の有無の言語間の差異が T の一致形態の豊かさにもとづいて音韻的に説明されるようになる一方で、従来の観察とは異なり、豊かな主語一致形態を示す言語では、音韻句を領域として適用される規則が、主語と後続する要素との間で適用されると予測することになる。本論は、この予測の妥当性を示す事例をいくつか挙げた。本研究は、従来の研究とは異なり、統辞構造だけでなく、一致形態の豊かさという観点から音韻句に関わる現象を記述・説明するという新たな視点を提供するものであると思われる。

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注

¹ (4) の C は、N&V が韻律語と音韻句の間に設定する韻律範疇 (Clitic Group) を指す。

² 近年の Elfiner (2012) などのマッチ理論 (Match Theory) では、(6) の必要性に疑問が投げかけられているが、本論では (6) を妥当な条件として仮定し、論を進める。

³ Napoli & Nespor (1979: 830ff.) の原文は以下の通りである: “..., we find that RS is possible between the last word of the subject and the first word of the predicate whenever the subject is sentence-initial—regardless of whether the subject is a single word, several words, or a complex NP.”

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混合動名詞の出現と衰退について*

(On the Rise and Decline of Hybrid Gerunds)

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キーワード：混合動名詞, 動詞的動名詞, 名詞的動名詞, 接辞 ing, 構造拡張

1. はじめに

現代英語における動名詞は、(1)に例示される動詞的動名詞と(2)に例示される名詞的動名詞に大別される。¹

- (1) ... and that women can probably achieve the same benefit by carefully examining their own breasts once a month. (Collins #88168570)
- (2) The refurbishing of the kitchen will cost a lot of money. (Declerck (1991: 498))

(1)の動詞的動名詞は目的語を直接取る、副詞による修飾が可能であるなどの動詞的な性質を示す。対照的に、(2)の名詞的動名詞は前置詞 of を介して目的語を取ることや形容詞による修飾が可能であること、限定詞との共起が可能であることなどの名詞的な性質を示す。

しかしながら、英語史においてこれら2つの特性を併せ持つ(3)のような動名詞が存在していたことが、Tajima (1985)や Visser (1966)などで指摘されている。

- (3) ...that I allmost feare of the obtaining

it,... (JOXINDEN-E2-P2,71.6)

本稿では、(3)のタイプの動名詞を混合動名詞と呼び、その出現と衰退に焦点をあてるが、上記の先行研究においては、混合動名詞の歴史的発達が十分に明らかにされていない。Tajima (1985)は中英語の動名詞のみを扱っており、近代英語以降の混合動名詞の発達については何も述べていない。また、Visser (1966)は英語史全体を通して混合動名詞の用例を観察しているものの、用例の列挙に留まっているため、その歴史的発達を明らかにしているとは言い難い。

したがって、本稿の目的の1つは混合動名詞の歴史的発達を、Tajima (1985)のデータ及び、2つの近代英語のコーパス PPCEME と PPCMBE から得られたデータに基づき記述することである。その際、混合動名詞の動名詞全体の中での位置づけを明確にするために、動詞的動名詞、名詞的動名詞との比較も行う。また、記述した歴史的発達を生成文法の枠組みを用いて説明を試みる。

本稿の構成は以下の通りである。2節では、Tajima (1985)における中英語の名詞的動名詞、動詞的動名詞及び混合動名詞のデータを提示し、混合動名詞は1450-1500年に出現したことを示す。その後、PPEME と PPCMBE から得られた近代英語におけるこれら3種類の動名詞のデータを提示し、混合動名詞は1700年までは増加傾向にあったが、1700年以降は減少に転じたことを示す。3節では、2節で提示されたデータに基づき、混合動名詞は限定詞付きの名詞的動名詞の構造に屈折接辞としての ing を適用したことにより出現したと提案する。そして、動詞的動名詞の構造が1700年以降に v*P から TP へと拡張したことが、混合動名詞の衰退に繋がったと主張する。4節は結語である。

2. データ

2.1. 中英語

(4)は Tajima (1985: 39, 80)における中英語の動名詞のデータを一部抜粋したものである。(4)のデータを見る前に、本稿での議論に関係する動名詞の具体例を(5)から(8)で示し、その特性を観察する。

(4) 中英語における目的語を伴う動名詞

	1100-1200	1200-1250	
Type 3	23	3	
Type 4	8	9	
Type 5	0	0	
Type 6	0	0	
	1250-1300	1300-1350	
Type 3	19	160	
Type 4	5	103	
Type 5	1	23	
Type 6	0	0	
	1350-1400	1400-1450	1450-1500
Type 3	595	717	562
Type 4	250	414	594
Type 5	59	253	328
Type 6	0	0	12

(5) with-oute hurtingue of ani-þing
without hurting of anything
'without hurting of anything'
(c1280-90 *The Early South-English Legendary* 52.6/ Tajima (1985: 62))

(6) apet te schedunge of ower blod
until the shedding of our blood
'until the shedding of our blood'
(?a1200 *Ancrene Wisse* 13/4-5/ Tajima (1985: 67))

(7) bi beryng paciently aduersite
by bearing patiently adversity
'by patiently bearing adversity'
(c1493 *Treat.L* 129.3-4/ Tajima (1985: 77))

(8) ...be seruice or bi the yeuynge
...by service or by the giving
it a-yen

it again
'by service or by the giving it again'
(1450 *Scrope DSP* 234/25/ Tajima (1985: 80))

(5)と(6)は Tajima (1985)がそれぞれ Type 3 と Type 4 と呼んでいるタイプの動名詞である。これらの動名詞は of を介して目的語を取っていることから分かるように、名詞的動名詞である。したがって、これらの例における接辞 ing は派生接辞であると考えられる。接辞 ing の語基は動詞であり格付与能力を持つが、この接辞が添加されると格付与能力が失われるため、目的語を取る際には前置詞 of が必要となる。これは、接辞 ing が派生接辞であり、動詞語基の範疇を名詞へと変えることを示している。Tajima では、これらの動名詞は限定詞の有無によって形式上区別されている。

次に、(7)の動名詞は Tajima が Type 5 と呼ぶタイプの動名詞である。Type 3, Type 4 とは異なり、このタイプの動名詞は前置詞 of を介することなく目的語を取る。また、副詞との共起も可能である。これらの特性から、(7)は動詞的動名詞であると言える。また、この場合の接辞 ing は派生接辞ではなく、屈折接辞であると考えられる。屈折接辞は派生接辞とは異なり、添加した語基の範疇を変えない。前述したように、接辞 ing の語基は動詞であるが、接辞添加した後も格付与できるということは、この接辞が派生接辞であることを示している。

最後に、(8)は Tajima が Type 6 と呼ぶタイプの動名詞であり、本稿では混合動名詞と呼ぶものである。このタイプの動名詞は(6)の Type 4 のように限定詞 the と共起できることから、名詞的な特性を持つことが分かる。一方で、(7)の Type 5 のように目的語を直接取ること及び副詞と共起できることから、動詞的な特性も持つことが分かる。後者の特性から、Type 6 の接辞 ing も屈折接辞であると

考えられる。

次に、(4)のデータを見てみると、3つの注目すべき点がある。1点目は、中英語を通して名詞的動名詞が動名詞全体の中で優位にあったことである。さらに細かく見ると、Type 3は1100年から1450年までは増加傾向にあるが、1450年以降は減少している。一方で、Type 4は1300年以降増加し、1450年にはType 3を上回る生起数になっていたことが分かる。

2点目に、Type 5は1250年から1300年の間に初出例が観察されて以来、着実に増加していたことが分かる。

最後に、Type 6は1450年から1500年の間に12例観察されており、他のタイプの動名詞に比べるとかなり遅い時期に出現したことが分かる。

2.2 近代英語

PPCEMEとPPCMBEを使用した調査から得られた、近代英語における名詞的動名詞、動詞的動名詞、混合動名詞のデータは(9)に示される。²

(9) 近代英語における目的語を取る動名詞

	1500-1569	1570-1639	1640-1700
名詞的動名詞	332 (63.4%)	296 (40.9%)	183 (18.1%)
動詞的動名詞	185 (33.9%)	409 (55.6%)	755 (74.6%)
混合動名詞	7 (1.3%)	19 (2.6%)	71 (7.0%)
	1700-1769	1770-1839	1840-1914
名詞的動名詞	49 (4.8%)	75 (7.3%)	69 (9.5%)
動詞的動名詞	895 (88.4%)	942 (91.3%)	652 (89.2%)
混合動名詞	69 (6.8%)	14 (1.4%)	5 (0.7%)

(9)のデータから3つの事実を読み取ることができる。まず、名詞的動名詞は1569年までは動名詞全体の中で最も高い割合を占めていたが、1570年以降は減少に転じた。しかしながら、近代英語を通じて一定程度の割合を保っていることが分かる。

次に、動詞的動名詞は1570年以降、名詞的動名詞に代わり、動名詞全体の中で最も高い割合を占めるようになった。

最後に、混合動名詞は近代英語を通じて動名詞全体の中で最も低い割合ではあったものの、1500年から1700年までは増加していたことが分かる。特に、1640年から1700年の間には全体の中で7%を占めるまでになった。しかし、1700年以降は減少に転じた。1700年から1769年まではピーク時よりも若干減る程度だが、1770年から1839年には全体の1.4%まで大幅に減少し、1840年から1914年の間にはさらに減少し、全体の1%を切るまでになった。

動名詞全体の歴史的発達に加えて、具体例を見てみると、(10)と(11)に示されるように、近代英語になると動詞的動名詞と混合動名詞はhaving + 過去分詞の形式で完了相を表すようになったことが観察される。

(10) Yet this Caput mortuum was so far from having lost its Electrical Faculty...
(BOYLE-E3-H,25E.82)

(11) ...he was soe thorowly bewiched as to owne the haveing writ it,...
(ANHATTON-E3-P1,2,152.12)

これは動詞的動名詞と混合動名詞が新たな動詞的特性を獲得したことを示しており、完了相を表す動名詞が16世紀初頭に出現したとする宇賀治(2000)の記述と一致する。

ここまで見てきた混合動名詞の名詞的動名詞及び動詞的動名詞との類似性は次の通

りである。混合動名詞は限定詞を伴うという点において名詞的動名詞との類似性を示す。一方、混合動名詞は目的語を直接取る、副詞との共起が可能である、*having* + 過去分詞の形式で完了相表すことが可能であるという3点において動詞的動名詞との類似性を示す。以上の観察から分かるように、混合動名詞は名詞的動名詞よりも動詞的動名詞と多くの特性を共有していると言える。

3. 提案

この節では、混合動名詞の出現及び衰退について、生成文法の枠組みにおいて説明を試みる。

まず、混合動名詞の出現には次の2つの要因が関与していると主張する。第一に、**Fanego (2015)**は限定詞を伴わない名詞的動名詞は動詞的動名詞の発達に貢献したのに対し、限定詞を伴う名詞的動名詞は混合動名詞の発達に貢献したと述べている。本稿ではこの見解に従い、限定詞付きの名詞的動名詞が混合動名詞の出現の1つの要因であったと仮定する。この仮定は2.1節で見た**Tajima (1985)**のデータからも支持される。それによると、混合動名詞が出現した1450年から1500年の間には、**Type 4**の方が**Type 3**よりも数的に多くなってきた。これは、名詞的動名詞の中で前者が後者にとって代わりつつあったことを示していると考えられる。したがって、混合動名詞が出現した時期に、名詞的動名詞の中で優勢であったのは**Type 4**の名詞的動名詞であり、それが混合動名詞の出現に関わる要因となったという考えは自然であると思われる。

2つ目の要因は、動詞的動名詞の出現及びその増加によって屈折接辞としての*ing*のステータスが確立されつつあったことである。名詞的動名詞が動詞的動名詞の出現以前から存在していたことを考慮すると、動詞的動名詞の出現以降は、派生接辞としての*ing*と

屈折接辞としての*ing*の両方が存在していたことになる。

以上の議論に基づき、混合動名詞は、限定詞を伴う名詞的動名詞の構造に対して屈折接辞としての*ing*を適用する選択肢が利用可能になったことにより出現したと提案する。この提案を実装するために、限定詞を伴う名詞的動名詞の構造と1700年までの動詞的動名詞の構造は、それぞれ(12)と(13)であると仮定する。

(12) [DP D [nP [n V + ing] [pp P NP]]]

(13) [_v*P Subj [_v*[_v* V+ing] [_{vp} t_v Obj]]]

限定詞を伴う名詞的動名詞では、*ing*は派生接辞としてレキシコンでVに添加して名詞を形成し、このV+ingから成る名詞は統語構造においてnに生起すると仮定する。一方、屈折接辞としての*ing*はv*に生起し、Vからv*への主要部移動によりVに添加されると仮定する。また、屈折接辞としての*ing*は動詞語基の範疇を変えないため、それが持つ項構造は変化しないと考えられる。したがって、動詞語基が2項動詞である場合には、Subjで示される外項も存在することになる。

混合動名詞は(12)の構造に対して屈折接辞としての*ing*が適用されることにより、(12)のnPがv*Pへと変化するものの、その上位のD主要部が保持された結果生じたと提案する。具体的な出現過程は(14)で示す通りである。

(14) a. [DP D [nP [n V + ing] [pp P NP]]]
→ b. [DP D [_v*P Subj [_v* V + ing] [_{vp} t_v Obj]]]

(14a)のn主要部にある派生接辞としての*ing*に対して、屈折接辞としての*ing*が適用された結果、(14b)のようにnPがv*Pへと変化する。これは、屈折接辞としての*ing*が語基で

ある動詞の範疇を変えないためである。一方、D 主要部は、nP よりも構造上高い位置を占めるため、派生接辞の *ing* が屈折接辞の *ing* に置き換わったとしても影響を受けることはなく、そのまま保持される。この提案により、2.2.節で見た混合動名詞の名詞的動名詞及び動詞的動名詞との類似性が説明される。名詞的動名詞との類似性については、(14b)の混合動名詞の構造でも D 主要部が保持されているため、限定詞の生起が可能であると説明される。一方、動詞的動名詞との類似性については、(14b)の構造は *v**を含むので、目的語への格付与が可能になる。また、*v*P/VP* は副詞により修飾されるため、副詞との共起が可能であることも説明される。さらに、完了相を表す *having* + 過去分詞の形式は、*have* が *v**主要部に、過去分詞が V 主要部に基底生成されると暫定的に仮定することにより説明される。³

次に、混合動名詞の衰退に関しては、1700 年以降に、動詞的動名詞の構造が(13)から TP 構造を持つ(15)に拡張し始めたことに起因すると提案する。

- (15) [TP Subj [T' T [EPP] [*v*P* tSubj [*v** [*v** V + *ing*] [*VP* tV Obj]]]]]

この構造の拡張は 2 つの証拠から支持される。⁴1 つ目は、Visser (1966)が指摘する虚辞の *there* が動名詞に生起する(16)のような事実である。

- (16) Epicurus and his scholars of old... make this an argument of there being no God.
(1657-83 John Evelyn, *Hist, Religion*, I, 79/
Visser 1966: 1185)

虚辞の *there* は T の EPP 素性を満たすために、TP 指定部に併合されると一般に仮定されている。これを踏まえると、(16)の例は、動詞

的動名詞が TP まで構造を拡張し始めたことを示していると考えられる。Visser はそのような例を 1914 年までの期間に 8 例観察しているが、(16)以外の 7 例は 1700 年以降のテキストからの引用である。これを考慮すると、動詞的動名詞の *v*P* から TP への構造変化は 1700 年以降に本格化したと考えられる。

2 つ目は、(17)のような対格主語動名詞の増加である。

- (17) I ask where possibly at Compton Green
there could be pictures without me
knowing it.

(1872 W. Besant & J. Rice, *Ready Money Mortiboy* i, 289/ Visser (1966: 1184))

対格主語動名詞は動詞的動名詞の一種であり、Pires (2006)は現代英語の対格主語動名詞を TP として分析している。もしこれが正しいとすると、(17)のような対格主語動名詞の増加は、動詞的動名詞が TP 構造を持つようになったこと示す証拠となる。

(18) 1477 年から 1914 年の対格主語動名詞

1477-1500	1500-1569	1570-1639	1640-1700
3	1	2	0
1700-1769	1770-1839	1840-1914	
1	1	14	

(Cf. Visser (1966))

(18)は Visser が挙げている対格主語動名詞の例について、1477 年から 1914 年までの分布をまとめたものである。Visser はこの期間に 22 例を観察しているが、(18)に示されるように、22 例中 16 例が 1700 年以降のものである。さらに、この 16 例中 14 例が 1840-1914 年の間に集中している。これは、1914 年までに動詞的動名詞の構造の TP への拡張が完了したことを示す。以上の議論から、動詞的

動名詞の TP への構造拡張は 1700 年頃から始まり、1914 年までには確立されたと考えられる。一方で、混合動名詞については、虚辞の *there* や対格主語との共起を示す事例が今回の調査及び筆者の知る限りの文献等がないことから、動詞的動名詞のような構造の拡張はなく、(14b)の構造を保持し続けたと考えられる。

この動詞的動名詞の構造拡張の時期は混合動名詞の衰退の時期と一致しており、混合動名詞の衰退に何らかの影響を与えたと考えられる。本稿では、動詞的動名詞が TP まで構造が拡張したと混合動名詞の衰退には、以下のような関係があると主張する。

- (19) 動詞的動名詞:
1700 年以前は節構造を持たない。
(= TP を含まない構造である。)
1700 年以降節構造を持つ。
(= TP を含む構造である。)
混合動名詞:
出現から 1914 年まで節構造を持たない構造を保持する。
(= TP を含まない構造を保持する。)

(19)に示されるように、1700 年以前の動詞的動名詞と混合動名詞は共に節構造を持たない、つまり TP を含まない構造を持つ点で類似していた。この類似性から、動詞的動名詞が増加傾向になると、混合動名詞も増加したと考えられる。これは、動詞的動名詞との類推により混合動名詞の構造が容認されていたことを意味する。その後、1700 年以降に動詞的動名詞は節構造、つまり TP を含む構造を持つようになったのに対し、混合動名詞の構造は(14b)のままであった。そのため、動詞的動名詞との構造上の類似性は失われた。また、混合動名詞の構造は名詞的動名詞とは異なり、完全な名詞句構造でもないため、名詞的動名詞との類推により容認されるこ

ともなかったと考えられる。結果として、1700 年以降、混合動名詞は動詞的動名詞とも名詞的動名詞とも異なる特殊な構造を持つようになったため容認されにくくなり、衰退していったと説明される。

4. 結語

本稿では、Tajima (1985)のデータ及び PPCEME と PPCMBE のデータに基づき、混合動名詞は 1450-1500 年に観察されて以来、1700 年頃までは増加傾向にあったが、1700 年以降に減少し始めたことを明らかにした。混合動名詞は、(12)の限定詞付きの名詞的動名詞の構造に、屈折接辞の *ing* が適用されることにより出現したと主張した。また、1700 年までの混合動名詞の増加については、TP を持たないという点で混合動名詞と動詞的動名詞の構造が類似していたため、動詞的動名詞が増加傾向にあった影響を受けて、混合動名詞も増加したと主張した。1700 年以降、動詞的動名詞の構造が TP へと拡張したが、混合動名詞には変化が起きなかったため、両者は異なる構造を持つことになった。さらに、名詞的動名詞とは異なり、混合動名詞は完全な名詞句構造を持たないことから(14b)が特殊な構造になり、いずれの動名詞との類推によっても容認されなくなったため、衰退していったと説明した。

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注

¹ いくつかの先行研究では、(i)の所有格主語

動名詞も動詞的動名詞に分類されている。

- (i) I don't mind your / John's using my
bedroom. (Declerck (1991: 495))

しかしながら、本稿では所有格主語動名詞を動詞的動名詞には含めない。これは、所有格主語動名詞が所有格主語を伴うという点で名詞的特性を示すが、同時に目的語を直接取るなどの動詞的特性も示すからである。この点において、所有格主語動名詞は混合動名詞と同じ性質を示すため、両者は同じタイプの動名詞であると考えられるが、ここでは所有格主語動名詞を考察の対象から外すことにする。

² 紙幅の都合上、(9)では Tajima (1985)における Type 3 と Type 4 を合わせて名詞的動名詞としている。

³ 完了を表す have が何らかの上位の機能主要部に基底生成する可能性を排除できていないため、この仮定は暫定的なものである。

⁴ いくつかの文献では(e.g. Sato (2005))、having + 過去分詞が可能であることが T 主要部の証拠とされることがあるが、完了相の存在は必ずしも T 主要部があることの証拠とはならない。例えば、(i)のように所有格主語動名詞は having + 過去分詞の形式をとることが可能であるが、(ii)のように一般に TP 内に生起すると考えられる文副詞とは共起できない。そのため、本稿は当該の形式の利用可能性が T 主要部の証拠とはならないと仮定する。

- (i) John's having passed this exam surprised
us. (Sato (2005: 145))
- (ii) ?* John's fortunately knowing the
answer kept me from falling.
(Abney (1987: 180))

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**Information Focus Fronting and Emphasis:
A Case Study of Preposing around Be
with Adjective Preposing***

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Keywords : emphasis, focus fronting, lexical
extremeness, Preposing around Be

1. Introduction

Since the early stage of generative grammar (e.g. Gundel (1974)), it has been argued that certain word order alternations contribute to contrastive focus, in which an element is highlighted by virtue of being contrasted and selected from a set of alternatives.

- (1) [YOUR BOOK]_{CFoc} you should give t to
Paul (not mine). [Focus Fronting]
(Rizzi (1997: 285), with slight modifications)

Within the recent framework of the cartography of syntactic structures, Rizzi (1997) proposes that the traditional CP domain splits into multiple discourse-related functional projections such as Topic and Focus. In his original split CP hypothesis, focus fronting is assumed to target a unique focus projection in the CP domain. By observing non-contrastive focus fronting patterns in Romance languages (e.g. Sicilian), Cruschina (2012) develops his original split CP hypothesis and proposes that the CP domain includes two independent projections for focus: contrastive focus (CFoc) and emphatic

information focus (E-IFoc). This dichotomy leads scholars to explore the presence of E-IFoc fronting phenomena across languages. Among them are Trotzke and Quaglia (2016), which make the following two-fold claim: first, E-IFoc fronting is substantiated from certain instances of particle fronting in German; second, the “emphatic” nature of E-IFoc fronting is associated with lexical extremeness (cf. Morzycki (2012)). Such research has been dedicated to focus-related phenomena in Romance languages and German; however, less attention has been paid to English.

Based on these research backgrounds, extending Trotzke and Quaglia’s (2016) approach to English, this paper demonstrates that the presence of E-IFoc fronting is supported by Preposing around Be in English, especially those which include preposed adjectives.

This paper is organized as follows. Section 2 reviews Cruschina (2012) and Trotzke and Quaglia (2016). Section 3 argues that the presence of E-IFoc fronting is corroborated by Preposing around Be in English. Section 4 outlines the derivation of Preposing around Be on the basis of the E-IFoc approach. Section 5 concludes this paper.

2. Two Types of Focus Fronting

2.1. Cruschina (2012)

According to Cruschina (2012), focus is mainly divided into two types: information focus (IFoc) and contrastive focus (CFoc). The former is defined as the assertive part of the sentence in that it contributes new and relevant information to the universe of discourse; the latter is defined as the assertion corresponding to correcting a previous innovative assertion or presupposition that the speaker does not share. Having these definitions in mind, let us consider (2a, b).

- (2) a. (Context: What car did John buy?)
 John bought [a Ferrari]_{IFoc}
 (Cruschina (2012: 14))
- b. [YOUR BOOK]_{CFoc} you should give t
 to Paul (not mine). (= (1))

The object NP in (2a), an instance of IFoc, serves as an answer to the *wh*-question. The fronted direct object NP in (2b), on the other hand, works as CFoc, correcting the wrong piece of information indicated by the negative tag. Due to its contrastive nature, CFoc fronting cannot be used as an answer to a *wh*-question (Rizzi (1997)). Thus, one of the defining properties of CFoc fronting is that it contributes to the Focus-Presupposition articulation, in which the fronted element is the focus and the rest of the sentence is the presupposition.

By contrast, Cruschina (2012) observes that E-IFoc fronting in Sicilian can be used in the *wh*-question/answer context, as shown below:¹

- (3) A. Chi scrivisti?
 What write.PAST.2SG
 ‘What did you write?’
- B. a. Scrissi n’articule.
 write.PAST.1SG an article
 ‘I wrote an article.’
- b. **N’articule** scrissi.
 an article write.PAST.1SG
 ‘I wrote an article.’
 (Cruschina (2012: 58), with modifications)

Here, the sentence with E-IFoc fronting in (3Bb), as opposed to sentences with CFoc fronting, is used as an answer to the *wh*-question in (3A). Furthermore, Cruschina observes that E-IFoc fronting is compatible with sentence-focus (all-new) contexts. The following Italian example suggests that E-IFoc fronting sentences

can be introduced by sentence-focus *wh*-questions (e.g. “Guess what?”):

- (4) Pensa un po’... **un anello di diamanti**
 think a little a ring of diamonds
 le ha regalato!
 to-her.CL has given
 ‘Guess what! He gave her a diamond ring!’
 (Bianchi, Bocci and Cruschina (2016: 14))

These facts suggest that E-IFoc fronting, in contrast with CFoc fronting, yields structures containing no informational partition. Another crucial property of E-IFoc fronting is that it necessarily carries emphasis, or a certain speaker’s emotional implicature such as unexpectedness or surprise. No such speaker-related emotional implicature arises in the declarative sentence in (3Ba).

Cruschina (2012) attributes the difference in information structure between CFoc fronting and E-IFoc fronting to his original split CP hypothesis in (5b), which departs from Rizzi’s (1997) in (5a):²

- (5) a. ... Force ... Topic* ... Focus ... Topic*
 ... Fin IP ...
 (Rizzi (1997: 297), with slight modifications)
- b. ... Force ... Topic ... CFoc ... Topic ...
 E-IFoc ... Fin IP ...
 (Cruschina (2012: 105), with modifications)

The revised split CP hypothesis in (5b) has its originality in assuming that the single focus projection in (5a) splits into two: CFoc and E-IFoc. CFoc fronting targets [Spec, CFocP] and contributes to the Focus-Presupposition articulation, whereas E-IFoc fronting targets [Spec, E-IFocP] and does not change the information structure of the clause.

To summarize, Cruschina's (2012) work is an innovative attempt to provide a theoretical account of the two types of focus fronting. However, the exact "emphatic" nature of E-IFoc fronting is still less clear. Referring to relevance theory proposed by Sperber and Wilson (1995), Cruschina tentatively ascribes the "emphatic" nature to contextual effects. The issue in question is tackled by Trotzke and Quaglia (2016), which indicate the relationship between the "emphatic" nature of E-IFoc fronting and lexical extremeness (cf. Morzycki (2012)). Their work is reviewed in the next subsection.

2.2. Trotzke and Quaglia (2016)

Trotzke and Quaglia's (2016) research on particle fronting in German will be seen as an extension of Cruschina's (2012) approach to Germanic languages (See also Trotzke (2017)). In the literature, particle fronting has been known as an instance of verb-second phenomenon in German (Wurmbrand (2000)).

- (6) a. Auf hat er die Tür
PART(open) has he the door
gemacht (und nicht zu).
made and not PART(closed)
'He opened (not closed) the door.'
- b. *Auf hat Peter mit dem
PART(up) has Peter with the
Trinken gehört.
Drinking heard
'Peter stopped drinking.'
- (Trotzke and Quaglia (2016: 111))

In general, particle fronting contributes to a contrastive reading, as illustrated in (6a). Therefore, it was a general consensus that due to its contrastive nature, particle fronting was restricted to contrastive particle verbs (e.g. (auf,

zu)-machen 'to open/ to shut'), but not to non-contrastive particle verbs (e.g. (auf, #zu)-hören 'to stop/to listen').³

Trotzke and Quaglia (2016), however, observe that non-contrastive particle verbs allow particle fronting only if they carry lexical extremeness. Roughly speaking, lexical extremeness is defined as a linguistic notion, wherein the value denoted by a certain element lies outside a contextually-provided range (Morzycki (2012)). One of its fundamental properties is indicated by the fact that lexically extreme adverbs (e.g. *downright* or *just*) can occur only with adjectives that can be analyzed as conveying extreme content, as shown below:

- (7) a. Your shoes are downright (^{OK}
gigantic, ?? big) !!!
(Morzycki (2012: 568), with modifications)
- b. very (?? gigantic / big)
(Morzycki (2012: 570))

An extreme adverb like *downright* can modify the extreme adjective *gigantic*, but it resists an additional modification by *very*. By applying the extreme modification test to particle verbs in German, Trotzke and Quaglia identify non-contrastive, extreme ones. The following contrast shows that *rausschmeißen* 'kick out' allows an extreme modification by the extreme adverb *regelrecht* 'downright,' whereas *rausbringen* 'publish' is not compatible with such an extreme modification.

- (8) a. Costa Rica hat die Engländer
C. R. has the English.PL
regelrecht rausgeschmissen.
downright PART(out).thrown
'The team of Costa Rica downright
kicked out the English team in the

world championship.'

- b. ??Die Band hat ihr neues Album
the band has their new album
regelmäßig rausgebracht.
downright PART(out).brought
'The band downright published their
new album.'
(Trotzke and Quaglia (2016: 121))

More concretely, (8a) carries an emotional implication that the Costa Rica team beat the England team in a stunning way in a soccer championship. No such emotional implication is involved in (8b) because *rausbringen* 'publish' simply provides a binary option (i.e. publish something or not). For (8b) to be fully acceptable, certain contextual information is required such that the publishing process has been completed very fast, contrary to the speaker's expectation. What is important here is the fact that those particle verbs which allow extreme modification, also license E-IFoc fronting in the sentence-focus context, as shown below:

- (9) Stell Dir vor! ('Guess what!')
- a. RAUS hat Costa Rica
PART(out) has C. R.
die Engländer geschmissen!
the English.PL thrown
'The team of Costa Rica kicked out the
English team.'
- b. ?RAUS hat die Band
PART(out) has the band
ihre neues Album gebracht!
their new album brought
'The band published their new album.'
(Trotzke and Quaglia (2016: 119))

On the basis of the German facts and

arguments shown above, Trotzke and Quaglia (2016) provide the following empirical and theoretical implications. On the empirical side, certain instances of particle fronting in German lend support to the presence of E-IFoc fronting assumed by Cruschina (2012). On the theoretical side, the "emphatic" source of E-IFoc fronting is associated with lexical extremeness in the sense of Morzycki (2012): more precisely, lexical extremeness may trigger E-IFoc fronting in the context of particle fronting in German.

To summarize, the dichotomy of CFoc fronting and E-IFoc fronting originally proposed by Cruschina (2012) provides new empirical and theoretical tools to sort and analyze focus fronting phenomena across languages. In connection with this, Trotzke and Quaglia's (2016) work is seen as a first attempt to unify the E-IFoc fronting phenomena in Romance languages with those in Germanic languages. However, E-IFoc fronting is an uninvestigated notion in English, another German language. If the E-IFoc fronting approach is extended to English, it is predicted that E-IFoc fronting should be substantiated by certain fronting phenomena. The next section confirms this prediction by confining our attention to the so-called Preposing around Be.

3. Preposing around Be Revisited

3.1. Main Predictions

Let us begin with a brief review of Trotzke and Quaglia's (2016) approach, in which those particle verbs with lexical extremeness allow E-IFoc fronting. Their argument implies that E-IFoc fronting may target predicates with lexical extremeness such as extreme adjectives. In connection with this, it is worthwhile reconsidering Preposing around Be in English, a set of linguistic phenomena in which the logical

subject occurs at the post-copular position and the predicate occupies the subject position, as shown in (10b).

- (10) a. Losing my keys was most embarrassing of all.
 b. Most embarrassing of all was losing my keys. (Emonds (1976: 35))

Emonds (1976) characterizes Preposing around Be with adjective fronting as comparative substitution, whereby the logical subject is replaced by the predicate taking a certain comparative form (e.g. the superlative form). The present approach, by contrast, makes the following different predictions:

- (11) a. Extreme adjectives are compatible with Preposing around Be, but non-extreme adjectives are not.
 b. Preposing around Be is compatible with the sentence-focus context; furthermore, the fronted adjective functions as an answer to a *wh*-question.

These predictions are confirmed in the next subsection.

3.2. Supportive Evidence

The first supportive evidence comes from the fact that extreme adjectives such as *humongous* are compatible with Preposing around Be, whereas non-extreme adjectives like *big* are not.⁴

- (12) a. That Akita dog was *absolutely/just* {^{OK} *humongous* / ?? *big*}.
 b. {*Humongous* / ?? *Big*} was that Akita dog.

The second evidence is presented by the following fact that Preposing around Be with fronted extreme-adjectives may occur in the sentence-focus context (cf. (9a)):

- (13) [Context: My cousin led me to his nice garden. I found an Akita dog sleeping in the garden, Pochi. Guess what?]
 a. Pochi was humongous.
 b. Humongous was Pochi.

The third evidence is provided by the fact that Preposed around Be with fronted extreme adjectives can be used as an answer to a *wh*-question, as shown below (cf. (3Bb)):

- (14) A: How was that Akita dog?
 B: a. That Akita dog was [humongous].
 b. [Humongous] was that Akita dog.

The three sets of data provided above lend support to the present approach. It should be noted here that similar cases are readily replicated by other minimal pairs (e.g. *gorgeous* vs. *pretty* or *crazy* vs. *sane*).

In regard to the discussion above, a few remarks are made below. First, according to the present approach, comparative substitution cases like the one in (10b) are analyzed as the cases in which extremeness is given contextually (cf. (8b)). If there is not sufficient contextual information for (10b) to carry extremeness, the sentence in question becomes unacceptable in the sentence-focus context. According to my informants, this prediction is correct. Second, extremeness can be provided by certain degree intensifiers (e.g. *so*), thereby allowing Preposing around Be.

- (15) a. That Akita dog was absolutely so big.

- b. So big was that Akita dog.

Although independent research on the exact semantic nature of degree intensifiers such as *so* is necessary in the future (cf. Corver (1997), Beltrama and Trotzke (2018)), the present approach seems to be promising in exploring other instances of Preposing around Be.

Having provided supportive evidence for the present claim that E-IFoc fronting is substantiated from Preposing around Be with adjective fronting, the next section outlines its derivation.

4. An E-IFoc Fronting Approach to Preposing around Be

Before proceeding, a word is in order concerning another property of the fronted adjective in Preposing around Be: the subjecthood. It is a traditional observation that the subject *wh*-element and an auxiliary allows auxiliary reduction (e.g. “Which man is [= ^{OK} Which man’s] leaving first?” vs. “Which dog is [= * Which dog’s] he buying?” (Kaisse (1983: 103)). According to my informants, a similar pattern holds true of Preposing around Be, especially in the casual speech context:⁵

- (16) Huge will [= Huge’ll] be that Akita dog.

Taken together with this fact, the present approach suggests that the derivation of Preposing around Be must account for the duality status of the fronted adjective: the subjecthood and E-IFoc.

The duality status discussed above will be captured by the following derivation: the predicative adjective fronts to [Spec, IFocP] via [Spec, IP], the subject θ -position. This idea will be theoretically implemented by the following

two assumptions: first, copular sentences have the Small Clause (SC) structure as their base (Stowell (1981)); second, what prevents the predicate adjective from remaining at [Spec, IP] is assumed to be thematic resistance principle, according to which “only [-V] categories may be θ -marked (Koopman (1984: 111)).”

- (17) a. [_{VP} be [_{SC} [_{DP} Pochi] [_{Adj} humongous]]]
 b. ... [_{E-IFocP} [_{Adj} humongous]_i [_{E-IFoc'} was [_{Fin'} [_{IP} *t_i* [_{VP} (was) [_{SC} [_{DP} Pochi] *t_i*]]]]]]

Whether this tentative syntactic mechanism can be supported and developed is open for future research.

5. Conclusion

This paper has made the following two-fold claim: first, the presence of E-IFoc fronting is empirically supported by Preposing around Be in English; second, lexical extremeness is proved to be a crucial factor affecting the acceptability of Preposing around Be in the sentence-focus context. As long as the claim above is correct and receives further supportive evidence, the present approach will be seen as promoting the unified approach to Romance languages and Germanic languages from the E-IFoc perspective.

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NOTES

¹ The Sicilian dialect here is “spoken in Mussomeli, a small town in the province of Caltanissetta (Cruschina (2012: 7))”.

² Cruschina (2012) also observes some syntactic differences between CFoc fronting and E-IFoc fronting. Due to the space limitations, I will focus on the information-structural properties of the two types of focus fronting in this paper.

³ See Trotzke and Quaglia (2016) for the precise definition of contrastive particle verbs.

⁴ The acceptability judgements in (12-16) are provided by two American native speakers of English.

⁵ The observation made here is based on Cappelle (2002), according to which particle fronting also allows auxiliary contraction (e.g. Out will [= Out’ll] come your answer.).

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子どもの前置詞句単独発話—談話的文脈と前置詞ごとの相違の観点から—*

(Children's Utterances Consisting of an Independent Prepositional Phrase: From the Perspective of Discourse Context and the Differences between Prepositions)

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1. はじめに

本稿では、英語圏の子どもが前置詞句を単独で使う発話 (e.g. *In the box.*) に焦点を当て、それらが生起する対話の文脈の特性や前置詞ごとの生起頻度の相違を探る。

前置詞は2者間の関係を表し、例えば (1) では前置詞 *over* が、その意味上の主語である *the tablecloth* と、目的語である補部名詞句 *the table* の関係を表していると考えられる。

- (1) The tablecloth is over the table.
(Tyler & Evans 2003: 65)

しかし、実際の会話では、必ずしも前置詞がその関係性を表す2者 (意味上の主語と目的語) が同一発話に生起するわけではない。(2) や (3) は Providence Corpus (Demuth et al. 2006) から採取した親子会話の実例である (CHI は子、MOT は母親を表し、会話末尾に子の名前と発話時の年齢 (年;月) を示す)。

- (2) MOT: Where's he sitting?

- CHI: On a branch. (Lily 2;04)
(3) MOT: Oh a crown how nice.
CHI: For Belle. (Lily 2;02)

これらの子どもの発話は「前置詞+補部名詞句」のみから構成され、前置詞の意味上の主語と考えられる *he* や *a crown* は母親が産出した先行発話に含まれている。つまり、前置詞がその関係性を表す2者は単一の発話内ではなく発話横断的に言語化されている。こうした前置詞句単独発話 (前置詞句のみから成る、主語や動詞を含まない発話) は日常会話で特徴的に見られるものであり、複数の話者が動的かつ段階的に文を構築していく会話の環境だからこそ観察される前置詞の用法の1つと言える。本稿では、子どもによる前置詞句単独発話の特性をコーパスの実例をもとに分析し、子どもが相互行為の中で前置詞を習得していく過程の一端を示す。

2. 先行研究

2.1. 背景と問題意識

認知言語学の理論的枠組みでは前置詞の意味に関する研究が多数行われてきた (e.g. Lakoff 1987; Tyler & Evans 2003)。しかし、堀内 (2018) 等で指摘しているとおり、それらの多くは (1) のような作例に基づく単文単位の分析であり、それぞれの前置詞に結びついた意味を単語ごとの意味ネットワークの形で示す研究が多かった。

その中で、前置詞の習得に関する研究では、各前置詞は語の意味的特性だけでなくその「使われ方」に応じて習得されていくことが指摘され、実例の生起文脈を広く観察する重要性が論じられてきた。Hallan (2001) は、親子会話において *on* と *over* がどのような語と共起しやすいかを定量的に示し、それらの習得が1語単位で起こるのではなく使用の場で頻繁に共起する語とのまとまり (e.g. *all over X*) の中で記憶・産出されていることを

論じた。Tomasello (1987) や Rice (2003) らは、前置詞ごと、さらには各前置詞の意味ごとの習得順序を明らかにしつつ、前置詞の習得にそれぞれの子どもの経験頻度が影響していることを指摘した。例えば子どもは日常的に親の注意を自分に向ける発話をしているからこそ、*at* は *look at* という表現内でまず習得されるという。さらに Rice は、経験の個人差を反映して前置詞の習得過程にも個人差が見られ、必ずしも具体的・空間的な意味が抽象的な意味より先に習得されるわけではないことを示した。これらの研究はいずれも、前置詞が、共起関係や相互行為上の機能といった実際の生起環境に依存して習得されていく側面をもつことを示している。これは、言語知識は使用文脈に埋め込まれた形で文脈的情報を伴って記憶・構成されるという用法基盤の言語観 (cf. Bybee 2007, 2010; Langacker 2000; Tomasello 2003) を言語習得の点からも支持する、重要な研究成果であろう。

しかし、こうした前置詞の習得研究においても、主に分析されていたのは発話内での語と語の共起関係、あるいはその共起語とのまとまり (e.g. *look at*) が担う機能であり、複数の発話を横断して成立する構造は注目されていない。また、意味や機能の観点からの分析が多い一方で、前置詞が生起する発話の文法的構造に着目した研究は少ない。

2.2. 接続詞の習得研究

一方、前置詞以外の習得研究には、発話横断的な構造や発話を構成する文法的単位に着目した研究が見られる。その 1 つである Diessel (2004) は、用法基盤のアプローチで、接続詞の習得過程を親子会話コーパスの調査結果をもとに分析し、次のことを示した。

第一に、早期に習得される *because*、*and*、*so*、*but* で始まる節は最初から主節（関連する節）と共に使われるのではなく、(4) のよ

うな、独立した従属節や等位節から構成された発話（節単独発話）で使われ始める。

(4) Adult: Why should they come from Africa?

Child: Because they live in Africa.

(Diessel 2004: 160)

つまり、子どもはこれらの接続詞を先行発話との関係の中で成り立つ発話横断的な用法から産出し始め、月齢が進むにつれて複数の節を含む発話をするようになる。第二に、節単独発話での生起頻度は接続詞によって異なる。例えば、習得時期が遅く 3 歳以前はあまり使われない *when* 節、*if* 節などは、産出開始当初から主節を伴って産出される傾向にあり、節単独発話での生起率は低い。第三に、節単独発話が生起する際の先行発話との関係も、接続詞によって異なる。例えば、*because* 節は親からの質問への応答部に生起しやすい一方、*so* 節は子ども自身の発話に後続して生起する傾向にあるという。

(5) Child: Putting it on.

Child: So you can watch it. (ibid.: 163)

前置詞を主要部とする構造は句であり、節とは異なる文法的単位である。しかし、前置詞も 2 者間の関係性を表す機能語であり、前置詞句のみで発話を構成したり先行発話に付加したりすることが可能である点で、従属節や等位節と共通性をもつ。このことから、接続詞の場合と同様に、発話横断的な用法から習得が始まる可能性がある。Diessel (2004) を踏まえ、本稿では、子どもによる前置詞句単独発話の使用に着目し、前置詞の習得に接続詞と同様の傾向が見られるか観察する。

3. 使用したデータおよび研究方法

データは、CHILDES (MacWhinney 2000) を通して利用可能なアメリカ英語の親子会話コ

ーパスである Providence Corpus を用いた。これは、6 名の子どもの家庭内会話が、1～4 歳の期間、約 0.5～1 ヶ月おきに収録されたコーパスである。この中から、映像データがある 5 名のデータ(表 1)を分析対象とした。表の「会話数」はコーパスに含まれる当該の子どもの会話のセッション数であり、「前置詞の初出」には子どもがコーパス上で前置詞(*prep* タグが付いた語)を初めて産出した年齢(年;月)を示した。¹

表 1：分析対象の子どものデータ

名前	データ範囲(年;月)	会話数	前置詞の初出(年;月)
Alex	1;04-3;05	51	1;08
Lily	1;01-4;00	80	1;08
Naima	0;11-3;10	88	1;03
Violet	1;02-3;11	51	1;07
William	1;04-3;04	44	1;08

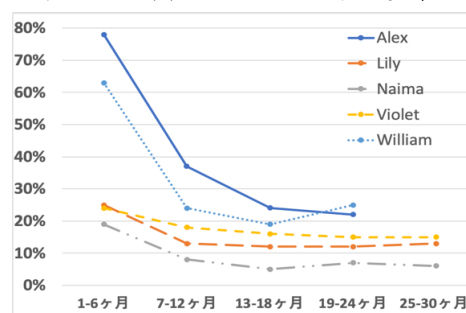
コーパス内の前置詞句単独発話の事例は次の手順で抽出した。まず、分析プログラム CLAN にて特定の単語を含む発話を抽出するコマンド *kwil* (Key Word and Line) を使用し、前置詞 (*prep* タグ) を含む子どもの発話を自動抽出した。なお、前置詞の多くは補部名詞句を伴わない副詞辞 (e.g. *come on*) の用法もつが、これらは *adv* タグが付与されているため抽出対象には含まれない。抽出した事例から、タグ付けの誤りと思われる事例(動詞の *like* に *prep* タグが付与されている事例など)を排除したところ、前置詞を含む子どもの発話が 9,939 例あった。これらを観察し、前置詞句単独発話を手作業で抽出したところ、1,285 例が該当事例として得られた。これらを、(i) 月齢に応じた生起頻度の変化、(ii) 主要部となる前置詞ごとの句単独発話での生起頻度の相違、(iii) 先行発話との関係性の観点から観察した。

4. 観察結果

4.1. 月齢に応じた生起頻度の変化

まず、子どもの月齢に応じて前置詞句単独発話の生起率が変化するかどうかを調査した結果を示す。表 2 は、5 名それぞれの前置詞の初出(表 1 参照) から 6 ヶ月単位で、前置詞を含む発話全体のうち、前置詞句単独発話が占める割合を示したものである(横軸は初出からの経過月数)。

表 2：月齢ごとの生起率の変化



Diessel (2004) の調査によると *because*、*and*、*so*、*but* は約 8 割が節単独発話で生起していたとされ、これに比べると、前置詞は全体的に前置詞句単独発話での生起率が低い。この相違には、節と比べて句は構造的独立性が低いことが反映されているのではないかと考えられる。また、表 2 のとおり前置詞句単独発話の産出率には個人差が見られ、Alex や William はその割合が高い。しかし、月齢ごとの変化を見ると、どの子どもでも共通し、前置詞の産出初期、つまり月齢が低いときほど前置詞を前置詞句単独発話の中で使用する割合が大きく、月齢が進むとその割合が低下していくことがわかった。

4.2. 前置詞ごとの生起頻度の相違

次に、主要部の前置詞によって句単独発話での生起しやすさが異なるかどうかを調査した結果を示す。子どもの産出事例には、例えば *between* はコーパスで 5 例しか生起しないなど、定量的分析をするには十分な事例数がない前置詞も見られた。そのため、次の表 3 では、子どもによる産出頻度が上位の前置詞 10 語に関して、前置詞句単独発話での生

起頻度および生起率を調査した結果を示している。² 表 3 の「コーパス内の頻度」は Providence Corpus 内の子どもによる当該の前置詞の全産出頻度を、「句単独発話」の「頻度」はそのうち当該の前置詞が前置詞句単独発話で用いられた頻度を、「割合」はそれが「コーパス内の頻度」に対して占める割合を示した。

表 3：前置詞句単独発話での生起頻度

		コーパス 内の頻度	句単独発話	
			頻度	割合
1	<i>in</i>	2,329	278	12%
2	<i>to</i>	1,417	51	4%
3	<i>on</i>	1,500	163	11%
4	<i>of</i>	983	31	3%
5	<i>for</i>	964	121	13%
6	<i>with</i>	853	97	11%
7	<i>at</i>	689	70	10%
8	<i>like</i>	582	215	37%
9	<i>about</i>	282	17	6%
10	<i>from</i>	196	25	13%

この表から、同じ「前置詞」という品詞に属する語であってもそれを主要部とした句単独発話の生起頻度は大きく異なり、習得の基盤となる文法的単位は一様ではないことがわかる。まず目を引くのは、太字で示したとおり、*like* の前置詞句単独発話での生起率が 37%と突出して高いことである。(6) は *like* 句単独発話の実例で、カエルが 1 日の「やることリスト」を作るという内容の絵本を読みながら発話されたものである。

(6) MOT: Toad has the list.

CHI: Like me!

MOT: That's right. That's right, you were making a list, just like toad, of all the things that he does in a day! (Lily 2;07)

これに続いて、*for*、*from*、*in*、*on*、*with*、*at* は 10～13%が前置詞句単独発話 (e.g. (2)(3)) で生起していた。一方、表 3 で下線を付した *to*、*of*、*about* を主要部とした前置詞句単独発話の生起率は、3～6%と非常に低い。用例を見ると、*to* は動詞 *go* との共起 (*go to X*) で、*of* や *about* はこれらを含む定型表現 (e.g. *a lot of X*, *a piece of X* / *how about X?*)での生起頻度が高く、産出が始まる初期から前置詞句よりも大きな単位の中で用いられていた。³

4.3. 先行発話との関係性

次に、子どもが前置詞句単独発話を産出するときの先行発話の話者や形式を調査した結果を示す。2 節で触れたとおり、Diessel (2004) によると節単独発話には冒頭の接続詞に応じて親の発話に後続しやすいものと子ども自身の発話に後続しやすいものがある。これを踏まえ、表 3 に挙げた高頻度の前置詞上位 10 語を比較しながら、それぞれを主要部とした前置詞句単独発話とその先行発話との関係を観察した。なお、今回の調査で「先行発話」としたのは前置詞の意味上の主語を含む発話である。例えば次の (7) で *In the sky.* の直前の発話は親の *Okay.* だが、今回は *in* の意味上の主語 *a little airplane* を含む発話を「先行発話」とし、(7) は先行発話の話者が子どもである事例として扱った。

(7) CHI: No, like a little airplane.

MOT: Okay.

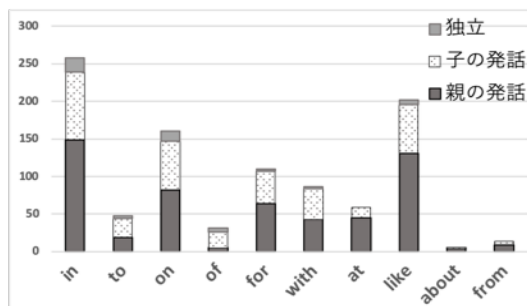
CHI: In the sky. (William 3;02)

また、前置詞の意味上の主語が先行文脈でも言語化されず、前置詞句だけが独立して生起する事例(自分を椅子に座らせてほしい子どもが椅子の横に立って *In chair.* と発話する、など)は「独立」の事例とした。⁴

4.3.1. 先行発話の話者 (前置詞ごと)

まず、先行発話の話者を前置詞ごとに集計した。その結果、表4のとおり、前置詞句単独発話でそもそも生起しづらい *to* と *of* を除くすべての前置詞で、先行発話の話者は親である場合が過半数を占めた。接続詞の場合とは異なり、先行発話の話者に関しては前置詞ごとの大きな傾向の違いは見られなかった。

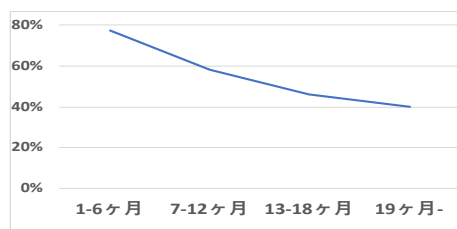
表4：前置詞句単独発話の先行発話の話者



4.3.2. 先行発話の話者（月齢ごと）

次に、月齢ごとに先行発話の話者が親であった割合を算出し、表5に示した（横軸は初出からの経過月数）。⁵ここから、初期の前置詞句単独発話ほど親の先行発話を足場に産出される傾向にあることがわかる。つまり、月齢が低いときほど親の発話につなげた産出の割合が高く、対話的環境の中で前置詞句単独発話が使われ始めることが見て取れる。

表5：先行発話の話者が親である割合の変化



4.3.3. 先行発話の形式

表4で示したとおり、先行発話の話者という観点で見ると、ほぼすべての前置詞において、その先行発話の話者は親である場合が過半数を占めた。しかし、前置詞句単独発話の生起環境を先行発話の形式まで含めて見る

と、前置詞ごとに偏りが見られた。前置詞句単独発話での生起頻度が高い *in*、*on*、*for*、*with*、*like* を対象に親の先行発話との関係を観察したところ、*in* と *on* は疑問文（典型的には *where* 疑問文）への応答 (e.g. (2)) の事例が最も多く、続いて、先行発話に含まれていた前置詞句を繰り返す事例 (e.g. (8)) も多く観察された。

- (8) MOT: No no oh no it's not in there I'm sorry
it's in this one.
CHI: In this one. (Alex 3;02)

一方、*for*、*with*、*like* は親の先行発話が平叙文であり、そこに子どもが情報を付加して応答する事例 (e.g. (3)(9)) が最も多かった。

- (9) MOT: You did drink juice there.
CHI: With a straw. (Naima 1;09)

特に興味深いのは前置詞句単独発話での生起率が高い *like* である。前置詞句単独発話の *like* の補部名詞句を見ると、*me* や *this* 等の直示表現が65%を占めた。具体的には、親の先行発話に *like me* を付加して第三者に関する話を自分に関連づける例 (e.g. (6)(10)) や、動作しながら *like this* と言い親の注意を引く例 (e.g. (11)(12)) が繰り返し観察された。

- (10) MOT: And he (=Nemo) started his first day of school in the movie, didn't he Nemo?
MOT: Yes he did.
CHI: Like me. (Lily 2;07)
- (11) MOT: Okay, let's dance.
CHI: Like this? (William 2;04)
- (12) MOT: You gotta slide it down.
CHI: Like this? (Violet 2;01)

こうした例から、話題を発話の場と関連づけながら会話を展開するという親子会話に頻

出するやりとりのパターンが、*like* 句単独発話の生起頻度の高さを動機づけていると考えられる。[*like*+直示表現]はそうしたやりとりの中で用いやすい型であり、「先行発話の内容を発話の場に関連づける」という会話の展開と結びついた形で繰り返し使用され、記憶されていると思われる。⁶

5. 考察とまとめ

本稿の観察から、前置詞句単独発話は前置詞の産出初期に起こりやすく、その多くが親の先行発話と関連づけられて生起することがわかった。このことから、対話における先行発話と密に結びついた構造が前置詞の習得を促進していることが示唆される。前置詞句単独発話は、主語や動詞を伴わないため、複合的構造を持った長い発話は産出できない段階の子どもであっても産出しやすい形式であると思われる。同時に、質問への応答や、先行発話と発話の場との関連付けなど、相互行為上は十分な機能を担いうる単位である。さらに、前置詞句単独発話は、前置詞の意味上の主語を含まない点で先行発話への依存性をもち、相互行為の場において子どもが先行発話（親の発話）と関連づけながら発話し会話に参加することを可能にする資源となっている可能性がある。こうした相互行為上の動機づけによっても、前置詞句単独発話は前置詞の習得初期に産出されやすい型となっているのではないか。

また、4.3 節で見たとおり、主要部の前置詞によって前置詞句単独発話の先行発話の性質は異なる。Diessel (2004) は *because* が *why* 疑問文への応答部に偏って生起することを基に、子どもは繰り返し生じるやりとりに基づいて複数発話から成る構文スキーマを形成し、その中で *because* を習得していることを提案した。同様に考えると、前置詞も、単一発話を超えた対話のパターンの中で習得され、先行発話と結びついた形でその知識

が構築されている側面があると思われる。

さらに、本稿は、前置詞句単独発話での生起頻度が前置詞ごとに大きく異なることを定量的に示した。前置詞の中には、動詞との結びつきが強い語や前置詞句よりも大きな定型句の中で用いられる語もあり、必ずしも「前置詞+補部名詞句」の単位から産出が始まるわけではない。つまり、同じ「前置詞」であってもそれが生起する構造的単位は多様であり、子どもは品詞のような抽象的なカテゴリーではなく相互行為に根ざした具体的な用法に依拠してそれぞれの語を習得していることが示唆される。Rice (2003) は 9 個の前置詞の習得過程を比較し、使用上の様々な要因によって各前置詞がその意味的特性のみからは予測できない多様な習得過程を辿ることを指摘した。本稿は、相互行為における使われ方に応じて各前置詞の習得過程に多様性が見られることを、習得の基盤となる文法的単位の観点からも示している。

今後は、(i) 大人の前置詞句単独発話との比較、(ii) *like* の習得過程や会話における用法の分析の精緻化（さらに、それに基づく談話標識的な *like* の用法の発達経路の考察）、(iii) より多くの調査に基づく句と節の習得過程の比較などを行い、相互行為の文脈に根ざした前置詞研究の発展を目指したい。

*本稿は日本英語学会第 37 回大会での口頭発表に加筆修正を加えたものである。発表に対して質問・ご助言をくださった諸先生方にこの場を借りて御礼申し上げたい。本研究は JSPS 科研費 19K13226 の助成を受けている。

注

¹ 誤用や親の使用を真似て繰り返す事例は「初例」と見なさない立場もあるが、本稿ではそれらも実際の使用環境で産出された実例の 1 つと捉え、初例として扱った。

³ *of* 句単独発話としてコーディングした事例は、例えば次のような、先行発話にも *of*

が含まれる例や *of* から発話を言い直したことで *of* 句が単独で生起する例であった。

(i) CHI: Holding up pictures of +... (中断)

MOT: Of animals.

CHI: Of jaguars.

⁴ 歌唱や本の音読での使用は先行発話の話者に関する調査対象から除いた。

⁵ 個人差が小さかったため、5 名分のデータをまとめて算出した値を表 5 に示した。

⁶ 子どもの中でも Lily は *like me* の産出頻度が高いが、2 歳 3 ヶ月頃から *like* を *with* に変えた発話も度々行うようになる。

(ii) MOT: She's gonna have a little dinner party at her house.

CHI: With me. (Lily 3;05)

通常 *like* と *with* は類義語とはされないが、実例を見ると *like me* と *with me* という発話は第三者に関する先行発話を自分に関連づけるという点で相互行為上の使い勝手が類似している。Lily は、前置詞の意味ではなく前置詞句全体が担う相互行為上の機能の類似性に基づいて *like me* を拡張し、*with me* を産出しているとも考えられるだろう。

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What does the Unavailability of Genitive Subject in Naxi Suggest?*

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Keywords : genitive subject, Naxi, N'-deletion, the Yanbian variety of Korean, Tujia

1. Introduction

This paper investigates syntactic properties of the Naxi language, one of the 55 officially recognized minority languages in China spoken natively by about 310,000 people, most of whom live in or around Lijiang City Yulong Naxi Autonomous County of Yunnan Province, and shows (i) that it allows N'-deletion in our definition, but (ii) that it does not allow genitive subject. It is then argued (i) that there is not a correlation between the N'-deletability and the availability of genitive subject in languages with prenominal sentential modifiers, and (ii) that the non-availability of genitive subject in the Naxi language is attributed to the fact that the relevant predicate is not in the adnominal form.

2. Background

Research has been done on the availability of genitive subject in various languages, and also on the availability of N'-deletion in various languages. Harada (1971) originally points out that Japanese allows genitive subject, as shown in (1).

(1) [Doyoobi-ni tamago-ga/-no yasui]

Saturday-on egg-Nom/-Gen cheap
mise-wa kono mise desu.
store-Top this store be
'The store where eggs are cheap on
Saturdays is this store.' (Japanese)

Since his seminal work, the phenomenon has been investigated by many linguists, such as Miyagawa (1993, 2011, 2012, 2013), Watanabe (1996), Hiraiwa (2001), Ochi (2001, 2009), Harada (2002) and Kobayashi (2013), among others.

Saito and Murasugi (1990) originally point out that N'-deletion is possible in Japanese. The example in (2) is from Saito et al (2008).

(2) [Taroo-no taido]-wa yoi ga,
Taro-Gen attitude-Top good though
[Hanako-no ~~taido~~]-wa yokunai.
Hanako-Gen attitude-Top not.good
'Though Taro's attitude is good, Hanako's
isn't.' (Saito et al (2008)) (Japanese)

Maki (2019) finds certain relations between the N'-deletability and the availability of genitive subject in languages with prenominal sentential modifiers so far examined to some depth, which is shown in (3).

(3) The N'-Deletability and the Availability of Genitive Subject in Languages with Prenominal Sentential Modifiers

	✓ Genitive Subject	* Genitive Subject
✓ N'-Deletion	Japanese, Mongolian, Urdu, Bengali	
* N'-Deletion		Korean, Tibetan

(3) seems to show two relations in (4a, b).

- (4) a. A language allows N'-deletion. =
It allows genitive subject.
b. A language disallows N'-deletion. =
It disallows genitive subject.

Japanese and Mongolian, among others, allow both N'-deletion and genitive subject. However, Korean and Tibetan does not allow either N'-deletion or genitive subject. In the following, we will present data from Tibetan as a language that does not allow either of them.

Let us consider the Tibetan examples in (5) and (6), which are due to Daojicao (personal communication).

- (5) a. Su-yi nram agyur bzang ngam?
who-Gen attitude good Q
'Whose attitude is good?'
b. Bkrashis-kyi [_{N'} nram agyur] red.
Bkrashis-Gen attitude be
'Bkrashis's attitude is.'
c. * Bkrashis-kyi [_{N'} e] red.
Bkrashis-Gen be
'Bkrashis's is.' (Tibetan)
- (6) Dering Bkrashis-ø/*-kyi thon pa-'i
today Bkrashis-Abs/-Gen arrive-Gen
dustshod-ni phyidro-'i dustshod 8 red.
time-Top a.m.-Gen time 8 be
'The time when Bkrashis arrived today is 8 a.m.' (Tibetan)

In contrast to Tibetan, Japanese allows both genitive subject and N'-deletion, as shown in (1) and (2).

3. Data

Let us now examine Naxi examples. Naxi is a Sino-Tibetan language. See Bradley (1997), Lama (2012) and Thurgood (2003), among others, for its classification within Sino-Tibetan.

First, Naxi is an ergative, and a head-final language, as shown in (7) and (8). (7) contains an intransitive verb, and (8) a transitive verb.

- (7) Anhi Hoqjui-ø ceeqye.
yesterday Hoqjui-Abs came
'Hoqjui came yesterday.'
(8) Anhi Hoqjui-*nee* teiqee
yesterday Hoqjui-Erg book
alcheecai-ø teiqhaiseiq.
the-Abs bought
'Hoqjui bought the book yesterday.'

As Naxi is an ergative language, the subject of an intransitive verb in (7) and the object of a transitive verb in (8) pattern together, as shown by the absolutive marker -ø, which does not have phonetic content. The subject of a transitive verb is marked by the ergative marker -*nee* in (8).

Second, complement clauses in Naxi are not headed by an overt complementizer, as (9) shows. Note here that in spite of the fact that Naxi is an SOV language, the complement clause is placed after the verb.

- (9) Anhi Hoqjui-*nee* svttvmei [Wefai
yesterday Hoqjui-Erg thought Wefai
mail chee libailseil lee zoq zeel].
next.week come
'Yesterday Hoqjui thought that Wefai
would come next week.'

Third, the genitive marker in Naxi is -*gge*, as shown in (10).

- (10) Hoqjui-*gge* teiqee
Hoqjui-Gen book
'Hoqjui's book'

Note here that *-gge* is not D, unlike *-de* in Chinese. Simpson (2003) proposes that *de* is D in his pursuit of the antisymmetry analysis of Chinese relative clauses. Saito et al (2008) provide evidence for it. See the contrast between the Chinese (11) and the Japanese (12).

- | | | | |
|-------------|------|-------------|-----|
| (11) *yu-de | tian | (12) ame-no | hi |
| rain-De | day | rain-Gen | day |
| ‘rainy day’ | | ‘rainy day’ | |
| (Chinese) | | (Japanese) | |

Naxi patterns together with Japanese, as (13) shows.

- (13) heeqgge-gge nilwaq
rain-Gen day
‘rainy day’

Saito et al (2008:257) state that this fact follows directly if *de* is D and the phrases that precede *de* are in the Spec of D in Chinese, given the fact that adjuncts, as opposed to arguments, cannot move to the Spec of D. The fact that (13) is grammatical indicates that *-gge* is not D in Naxi.

Fourth, Naxi relative clauses, which are followed by the genitive marker *-gge*, are not headed by any overt complementizer, as shown in (14).

- (14) [Anhi Hoqjui-nee zzeegge]-gge
yesterday Hoqjui-Erg ate-Gen
piqgo tee chee liu waq.
apple this one be
‘The apple that Hoqjui ate yesterday is this apple.’

Let us now investigate whether Naxi allows N’-deletion and/or genitive subject. Observe the examples in (15) and (16).

- (15) a. Aneiq-gge taildul me ga?
who-Gen attitude not good
‘Whose attitude is not good?’
b. Hoqjui-gge [_{N’} taildul/e].
Hoqjui-Gen attitude
‘Hoqjui’s (attitude) is.’
(16) [Anhi Hoqjui-ø/*-gge ceeqye]-gge
yesterday Hoqjui-Abs/-Gen came-Gen
rheeq tee meeseel dee baf dai waq.
time a.m. 8 time be
‘The time when Hoqjui came yesterday is 8 a.m.’

These examples show that Naxi allows N’-deletion, but disallows genitive subject.

4. Discussion

Let us now examine what the Naxi examples found in this survey might suggest for the theory of (Naxi) syntax. First, the example in (16) clearly shows that Naxi does not fall into the category of the languages that both allow N’-deletion and genitive subject. This indicates that the correlation in (4a) does not hold in languages with prenominal sentential modifiers or probably in human language. This poses the important question as to why Naxi exhibits this property.

There are two possible factors that may disallow genitive subject in Naxi. The first is Naxi’s ergativity. The second is the fact that the predicate in the prenominal sentential modifier in Naxi does not have the adnominal form that may license genitive subject in other languages such as Japanese and Mongolian.

The first is disconfirmed by the fact that there is an ergative language that allows genitive subject, such as Urdu. Urdu is an ergative language, as shown below.

- (17) a. John- $\emptyset$ /*-ne yahan ponhcha.
 John-Abs/-Erg here arrived
 ‘John arrived here.’
 b. John-ne/*- $\emptyset$ kitab- $\emptyset$ khareedi.
 John-Erg/-Abs book-Abs bought
 ‘John bought the book yesterday.’
 (Urdu)

In (17a), the subject of the intransitive verb bears no morphological case marker, as represented by $\emptyset$, which is the absolutive case marker in Urdu. On the other hand, in (17b), the subject of the transitive verb is marked with the ergative case marker *-ne* ‘-Erg.’ Note that the object of the transitive verb is marked absolutive, just like the subject of the intransitive verb in (17a). Now, as shown in (18), the subject is marked genitive in a relative clause.

- (18) [Kal John*-ne/-ki
 yesterday John-Erg/-Gen
 khareedi-hui] kitab buhut dilchasp
 bought-Perf.Adn book very interesting
 hai.
 be.Pres
 ‘The book which John bought yesterday is very interesting.’ (Maki and Bhutto (2013)) (Urdu)

These examples clearly indicate that the ergativity of the language does not affect the appearance of genitive subject.

Then, the remaining possibility is the second factor. This is plausible, given the fact that the form of the predicate in the prenominal sentential modifier in Naxi is morphologically identical to that of the predicate in the main clause, as shown in (7) and (16). Therefore, we claim that Naxi does not allow genitive subject because the predicate in the prenominal

sentential modifier in Naxi does not have the adnominal form, unlike Japanese or Mongolian. This then lends support to Maki et al’s (2016) claim that genitive subject licensing requires both nominal elements and the adnominal form.

Maki et al (2016) propose to merge two important approaches to genitive subject licensing in Japanese, namely, Miyagawa’s (1993, 2011) D-licensing approach and Watanabe’s (1996)/Hiraiwa’s (2001) adnominal form-licensing approach into one, as shown in (19).

- (19) Conditions on Genitive Subject Licensing in Mongolian
- A genitive subject must be c-commanded by a nominal element in a local domain.
 - A genitive subject must be in a local relationship with the adnominal form of a predicate.

The conditions in (19) correctly predict the unavailability of genitive subject in Naxi under the assumption that the predicate in a relative clause does not have the adnominal form. Then, the relations shown in (3) between the N’-deletability and the availability of genitive subject in languages with prenominal sentential modifiers are revised to those in (20).

- (20) The N’-Deletability and the Availability of Genitive Subject in Languages with Prenominal Sentential Modifiers

	✓ Genitive Subject	* Genitive Subject
✓ N’-Deletion	Japanese, Mongolian, Urdu, Bengali	Naxi
* N’-Deletion		Korean, Tibetan

The claim that the unavailability of genitive subject in Naxi is attributed to the fact that the predicate in a relative clause does not have the adnominal form is further supported by examples in other languages such as Tujia, which belongs to Sino-Tibetan languages, just like the Naxi language. Tujia is an ergative language, with an SOV order, as shown in (21) and (22). (21) contains an intransitive verb, and (22) a transitive verb.

- (21) Pusinie Jiexi- $\emptyset$ ju.
yesterday Jiexi-Abs came
'Jiexi came yesterday.' (Tujia)
- (22) Pusinie Jiexi-(gu)gei cipu- $\emptyset$ shupuji.
yesterday Jiexi-Erg the book-Absbought
'Jiexi bought the book yesterday.' (Tujia)

In (21), the subject of a sentence with an intransitive verb is marked by the absolutive case marker represented by $-\emptyset$, which does not have phonetic content. In (22), the subject of a sentence with a transitive verb is marked by the ergative case marker represented by $-gu$, which may not appear. The object of a sentence with a transitive verb is marked by the absolutive case marker represented by $-\emptyset$. Wang and Maki (2019) showed that Tujia allows N'-deletion, but disallows genitive subject, as shown below.

- (23) a. Asen-nie taidu cama hi na?
who-Gen attitude good.not be Q
'Whose attitude is not good?'
- b. Jiexi-nie [_{N'} taidu/e] hi.
Jiexi-Gen attitude be
'Jiexi's (attitude) is.' (Tujia)
- (24) [Pusinie Jiexi- $\emptyset$ /*-nie ju]
yesterday Jiexi-Abs/-Gen came
haoci mai yaohutei shiqi ducu hi.
time if morning 8 o'clock be

'The time when Jiexi came yesterday is 8 a.m.' (Tujia)

Therefore, the above examples clearly show that Tujia allows N'-deletion, but disallows genitive subject.

Note here that the form of the predicate in the prenominal sentential modifier in Tujia is morphologically identical to that of the predicate in the main clause, as shown in (21) and (24). Therefore, it seems that Tujia does not allow genitive subject because the predicate in the prenominal sentential modifier in Tujia does not have the adnominal form, just like Naxi. Therefore, the unavailability of genitive subject in Naxi and Tujia is attributed to the fact that the predicate in a relative clause does not have the adnominal form in the languages.

Then, the relations shown in (20) between the N'-deletability and the availability of genitive subject in languages with prenominal sentential modifiers are revised to those in (25).

(25) The N'-Deletability and the Availability of Genitive Subject in Languages with Prenominal Sentential Modifiers

	✓ Genitive Subject	* Genitive Subject
✓ N'-Deletion	Japanese, Mongolian, Urdu, Bengali	Naxi, Tujia
* N'-Deletion		Korean, Tibetan

Now, the question arises as to whether there is no language that comes to the lower left slot. That is, is there any language that disallows N'-deletion, but allows genitive subject? Actually, there is one such language in the world as far as we know. That is, the Yanbian variety of Korean currently spoken in Yanbian Korean

Autonomous Prefecture of Jilin Province in China, which has 75 million native speakers of the variety of Korean. Jin and Maki (2011, 2013) report that the Yanbian variety of Korean allows genitive subject, as shown below.

- (26) Ecey nu-ka/-ki mantun
yesterday who-Nom/-Gen made. Adn
lyoli-ka ceyil masissess ni?
dish-Nom most delicious Q
‘[The food [which who cooked
yesterday] is the most delicious?]
(Yanbian Korean)

However, the Yanbian variety of Korean does not allow N'-deletion, as reported in Maki (2019).

- (27) a. Nu-ki thayto choci ansumnika?
who-Gen attitude good not.be Q
‘Whose attitude is not good?’
b. John-i [_{N'} thayto/*e] imnita.
John-Gen attitude be
‘John’s (attitude) is.’
(Yanbian Korean)

Therefore, the above examples indicate that the Yanbian variety of Korean does not allow N'-deletion, but allows genitive subject.

Then, the relations shown in (25) between the N'-deletability and the availability of genitive subject in languages with prenominal sentential modifiers are revised to those in (28).

- (28) The N'-Deletability and the Availability of
Genitive Subject in Languages with
Prenominal Sentential Modifiers

	✓ Genitive Subject	* Genitive Subject
✓	Japanese, Mongolian,	Naxi, Tujia

N'-Deletion	Urdu, Bengali	
*	The Yanbian Variety of	
N'-Deletion	Korean	Korean, Tibetan

5. Conclusion

This paper investigated syntactic properties of the Naxi language, and showed (i) that it allows N'-deletion, but (ii) that it does not allow genitive subject. These findings suggest (i) that there is no correlation between the N'-deletability and the availability of genitive subject in languages with prenominal sentential modifiers, and (ii) that the non-availability of genitive subject in the Naxi language seems to originate from the fact that the relevant predicate is not in the adnominal form. This suggests the validity of Maki et al's (2016) Conditions on Genitive Subject Licensing for a variety of languages with prenominal sentential modifiers.

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Prefixed Relational Adjectives in English*

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1. Introduction

Denominal adjectives in English can be divided into the following two types (Plag (2003: 94), Nagano (2015: 3)):

- (1) a. Relational adjective (RA)
e.g. *industrial, wooden, algebraic*
- b. Qualitative adjective (QA)
e.g. *beautiful, picturesque, nervous*

RAs differ from QAs in the extent to which they inherit the properties of their base nouns (see Nagano (2013)). This is identical to the difference between two types of deverbal nouns, event nominals and result nominals; the former show much more verbal behaviour than the latter. Similarly, RAs show much more nominal behaviour than QAs, as listed in (2) (see Levi (1978), Beard (1995), Bisetto (2010), Shimamura (2014), and Nagano (2015, 2016)):

- (2) a. Classifying Function: *industrial output*
'output of an industry'
- b. Ordering Restriction: **wooden big table* vs. *big wooden table*
- c. Lack of Gradability: **a very industrial output*

There are, however, some controversies about these properties. First, there are RAs whose forms are identical with QAs. Thus (Plag (2003: 94)):

- (3) a. a grammatical genius
- b. a grammatical sentence

The adjective *grammatical* in (3a) classifies a type of *genius* (i.e. 'a genius who specialises in grammar'). On the other hand, *grammatical* in (3b) predicates a property of *sentence* (i.e. 'a sentence which is grammatical'). Therefore, the adjective in (3a) is an RA but the one in (3b) is a QA. Second and more importantly, although RAs are known as attributive-use only modifiers—namely, they cannot be used predicatively (i.e. **this output is industrial*, **this chair is wooden*)—there are many cases where RAs can appear in predicate position under certain conditions:

- (4) a. Her infection turned out to be viral.
(Levi (1978: 254))
- b. 75 percent of French electricity is nuclear.
(Bauer et al. (2013: 318))

The RAs *viral* in (4a) and *nuclear* in (4b) are indeed in predicate position. We will focus particularly on this issue in this paper. Interestingly, as Levi (1975, 1978) observes, when numerical prefixes (e.g. *mono-*, *bi-*) are attached to RAs, they can also appear in predicate position (Levi (1975: 323, 1978: 24), underlining mine):

- (5) a. *Those drawings are chromatic.
- b. Those drawings are monochromatic.
- (6) a. ? Those agreements are national.
- b. Those agreements are binational.

We call this type of RA Prefixed Relational Adjectives (P-RAs). Note that the P-RAs in (5b) and (6b) maintain the meaning of prenominal use; (5b) means ‘drawings which have one colour’, and (6b) means ‘two nations agree on something’. I argue that P-RA predicability can be captured based on RA predicability. Specifically, in contrastive environments which evoke other members of an alternative set, the head nouns can be deleted, leaving RAs stranded in predicate position. I contend that P-RAs can be considered to be one such case.

This paper is organised as follows. Section 2 reviews Levi’s (1975) analysis and points out problems with it. Section 3 explores some conditions which enable RAs to appear in predicate position. Section 4 analyses the case of P-RAs. Section 5 provides supporting evidence (i.e. combining forms of neo-classical compounds). Section 6 offers a brief conclusion.

2. Levi’s (1975) Analysis and Problems

To begin with, according to Levi (1975), the reason that RAs cannot be predicative is ascribed to their derivation processes (ibid.: 1):

- (7) a. a chemical engineer
- b. *that engineer is chemical

Taking the example in (7), Levi argues that the underlying N-N structure *chemistry engineer* is dominated by a single N-node, thus this inseparable sisterhood relationship makes the RAs impossible to appear in predicate position. The derivation can be roughly sketched as follows:

- (8) engineer of chemistry > of-chemistry
 engineer > chemistry engineer > chemical
 engineer

According to Levi, adjectivalisation (i.e. the RA formation) is adjusted at a very surface level; that is, there is no semantic difference between the N-N (*chemistry engineer*) and the RA-N (*chemical engineer*). However, Levi (ibid.) analyses P-RAs differently. She explains that P-RAs are interchangeable with complex VPs comprising the predicate HAVE, numerals, and base-nouns (ibid.: 324–327):

- (9) a. monochromatic drawings (cf. (5))
 = drawings which *have one colour*
- b. multiracial population
 = population which *has several races*

The predicate HAVE appearing in (9) is one of Levi’s nine specific predicates (Recoverably Deletable Predicates; CAUSE, MAKE, IN, FOR, etc.) which are used to derive the relevant NPs.

The first problem is that there are other cases where an analysis with HAVE cannot be applied (ibid.: 324):

- (10) a. binational agreements (cf. (6))
 = two nations *agree* (on X)
- b. trilateral coverage
 = X *covers* three nations

Levi’s analysis does not cover the verbs in (10). Moreover, other types of prefixes behave like numerical ones:

- (11) a. The consideration of Fallacies is extralogical. (OED, s.v. *extralogical*)
- b. ... a philosophy demanding that utilities shall be prosocial and brought forth ... (OED, s.v. *prosocial*)
- c. This is why classic Australian fiction, which at its best is anti-colonial and (The Guardian)

- d. The patient subsequently regained his preoperative weight, is nondiabetic, and requires pancreatic supplements (Viokase).

(Owens and Wolfman (1973))

It is obvious that these P-RAs are not derived from the specific VP ‘HAVE + numerals + base-nouns’, as suggested by Levi (1975).

Second, if we adopted the above analysis and assumed that the derivatives originate in the same bases, there would be no structural difference between RAs and QAs. If so, we need to argue the difference between them must result from another theoretical base. In fact, *monochromatic* can become a QA:

- (12) Those drawings are monochromatic.
= ‘drawings which are drab (unvarying)’

Levi’s problems can be summarised as follows: (i) there are P-RAs where the VP analysis (HAVE + numerals + base-noun) cannot be applied; (ii) it is difficult to distinguish P-RAs from QAs. In the next section, we observe conditions on RA predicability to solve these problems.

3. Conditions on RA Predicability

I argue that P-RA predicability can be explained precisely by the case of RAs. I further claim that N-deletion can be associated with *contrast* because of the RA’s *classifying function* (i.e. (2a)), which naturally evokes a set of alternatives (cf. D(iscourse)-linked *wh*-question (Nagano (2018: 194), *Gap Hypothesis* (Molnár and Winkler (2010: 1398))).

3.1. N-Deletion Analysis

Observe again the case of (4), where RAs can occur in predicate position as follows:

- (4) a. Her infection turned out to be viral.
b. 75 percent of French electricity is nuclear.

According to Levi (1978: §7.2), RAs in predicate position are derived by *ellipsis* from their prenominal position (cf. Nagano (2016, 2018), Shimada and Nagano (2018)). As represented in (13), the RAs in (4) are not *true* predicates such as QAs; instead, they are stranded prenominal modifiers whose modifying targets have been deleted:

- (13) X be RA $\bar{N}$.

That is, RAs in predicate position maintain their prenominal use. The N-deletion analysis can be supported by the recoverability of the head nouns (based on Nagano (2016: 45)):

- (14) 75 percent of French electricity is nuclear {electricity / type / one}.

This analysis is also motivated by the different behaviours of Russian adjectives (Short Form (SF), Long Form (LF)). SF adjectives in Russian cannot be used prenominally, whereas LF can (Babby (2010: 58)):

- (15) a. *SF: vkusn-o vino
good_{SF,NOM,N} wine
b. LF: vkusn-oe vino
good_{LF,NOM,N} wine

SF adjectives have only predicative use and a qualitative meaning as in (16a), whereas LF adjectives have attributive use and show a classifying function even in predicate position as in (16b) (ibid. (2010: 75)):

- (16) a. SF: Vино bylo vkusn-o.
 wine_{NOM.N} was good_{SF.NOM.N}
 ‘Wine was good / the wine was good.’
 b. LF: Vино bylo vkusn-oe.
 wine_{NOM.N} was good_{LF.NOM.N}
 ‘This / the wine was a good wine / one.’

This fact motivates the applicability of N-deletion for the case of RAs in English.

Levi’s second problem (i.e. it is difficult to distinguish P-RAs from QAs) can now be solved by employing the N-deletion analysis. P-RAs in predicate position maintain their prenominal use even in predicate position; thus, they are not true adjectival predicates.

3.2. Factors Inducing N-Deletion

In this section, we observe the case of RAs without prefixes, which normally cannot occur in predicate position, but under some conditions can, as pointed out by Levi (1978). First, when there is an *explicit* contrastive environment (e.g. *not*, *but*, *rather than*), the head nouns can be elided (cf. Levi (1978: 260)). The acceptability of the expressions with a *not*-phrase is higher than that of the unattached ones as in (17a, b).

- (17) a. Her infection turned out to be {viral, not bacterial / viral}.
 b. Our firm’s engineers are {mechanical, not chemical / mechanical}.

Second, an *implied* contrast also induces N-deletion as in (18):

- (18) a. The therapy he does is {primarily musical / ?musical}. (Levi (1978: 260))
 b. French electricity is 75 percent nuclear. (Nagano (2016: 45), cf. Bauer et al. (2013: 318))

When the adverb *primarily* modifies the RA *musical* in (18a), it implies *secondarily* (cf. *mostly*, *mainly*, *largely*). This implied contrast thus lets us conceive of a set of specific alternative candidates such as *animal*, *hormonal*, *botanical*, or *aromatic* in terms of *therapy*. Similarly, the quantifier 75% in (18b) implies that the remaining 25% of the electricity is from other energy sources such as *wind*, *thermal*, *solar*, or *hydraulic*.

As observed above, *contrast* and how it concerns RAs when they occur in predicate position can be considered a key factor in Levi’s analysis.

4. Contrast by Prefixes

I argue that the case of P-RAs can also be captured by *contrast* as observed in adverbial modifiers (e.g. *primarily*, 75%); however, in this case, contrast is brought about by prefixes *per se*. First, let us observe how numerical prefixes yield a contrast:

- (19) a. Those drawings are monochromatic.
 (cf. {di- / tri- / multi-}chromatic)
 b. Those agreements are binational.
 (cf. {uni- / tri- / intra- / extra-}national)
 c. The population of Hawaii is multiracial.
 (cf. {mono- / bi- / poly- / a-}racial)

The numerical prefixes can evoke a set of alternatives by contrasting with other numbers. For example, as (19a) shows, the prefix *mono-*implies the other type for *drawings*: *dichromatic*, *trichromatic*, or *multichromatic*. The same is true of (19b) and (19c). Second, recall regarding non-numerical prefixes that they also can occur in predicate position (see (11)), which is in fact not observed by Levi (1975, 1978). Thus:

- (20) a. The consideration is extralogical.
 (cf. {anti- / para- / pre-}logical)
 b. Those utilities are prosocial.
 (cf. {anti- / contra- / non-}social)
 c. This classic fiction is anti-colonial.
 (cf. colonial, {pre- / post-}colonial)
 d. The patient is nondiabetic.
 (cf. diabetic, {pre- / anti-}diabetic)

For example, the P-RA *prosocial* in (20b) implies that there is a contrary form of *utilities* such as *antisocial*.

Therefore, in terms of contrast, prefixes themselves yield a set of alternatives. This fact leads us to conclude that the contrast established by prefixes can induce N-deletion. The following lexical and negative prefixes are examples: numerical prefixes (e.g. *mono-*, *uni-*, *bi-*, *tri-*, *quad-*, *poly-*, *multi-*); spatio-temporal prefixes (e.g. *pre-*, *post-*, *extra-*, *intra-*, *supra-*); contrastive prefixes (e.g. *pro-*, *anti-*, *contra-*, *counter-*);¹ and negative prefixes (e.g. *a-*, *non-*) (cf. Nagano (2013), Plag (2003: 98–101)). However, not all prefixes show this contrast. The following prefixes do not fit this case because they have a certain gradability relative to the standard: evaluative prefixes (e.g. *pseudo-*, *super-*, *hyper-*, *hypo-*); negative prefixes (e.g. *mal-*, *un-*, *de-*, *dis-*, *in-*); aspectual prefixes (e.g. *be-*, *en-*, *re-*). Since these prefixes attach to QAs, they are excluded from the current analysis.²

Accordingly, the P-RAs' predicability can be explained by the same principle of RAs' predicability. Levi's first problem (i.e. there are P-RAs where the VP analysis (HAVE + numerals + base-noun) cannot be applied) can now be solved through this criterion of contrast (see Naya and Ishida (to appear) for the categorial status of *anti-* and *pro-* and Togano et al. (to appear) for a discussion of other prefixes).

5. Contrast by Other Lexical Elements

Along these lines, we may assume that if RAs are affixed by lexical elements (e.g. prefixes) which yield contrast and induce N-deletion, they can also occur in predicate position. Odagiri et al. (2019) argue that the 'combining forms' of neo-classical compounds evoke a contrast. For example, the neo-classical compound *insecticide* in (21a) consists of the noun *insect* and the combining form *-cide*:

- (21) a. insecticide 'killer of an insect'
 b. hydrophobia 'fear of water'
 (cf. Scalise and Bisetto (2009: 47))

This combining form means 'killer of X'. Similarly, *-phobia* in (21b) means 'fear of X' (cf. Nagano (2016: 61)). These combining forms can serve as stems to derive RAs. Thus:

- (22) a. insecticidal: *X-cidal* 'X-killing'
 b. hydrophobic: *X-phobic* 'X-fearing'

The RA form *-cidal* has a meaning including an undecided variable 'X'. When X is determined, the other variables are contrastively evoked (e.g. *fungicidal* 'fungus-killing', *pesticidal* 'insect-killing'). Combining forms may thus be considered to evoke some set of alternatives as prefixes do. The same is true of *-phobic* (e.g. *xenophobic* 'foreigner-fearing', *acrophobic* 'high place-fearing'). Let us observe how this type of RA behaves in predicate position:

- (23) a. This compound is insecticidal.
 b. This compound is insecticidal, not rodenticidal.
 (24) a. This organism is hydrophobic.
 b. This organism is hydrophobic, not aerophobic.

The RAs *insecticidal* in (23) and *hydrophobic* in (24) appear in predicate position. Furthermore, according to Odagiri et al. (2019), there is no difference between the (a)-examples and (b)-examples in terms of acceptability, confirming that combining form RAs yield contrast by themselves and induce N-deletion, regardless of whether they are contrasted explicitly or not.

In this way, the case of combining form RAs can be considered as supporting our analysis. Both prefixes and combining forms, in a sense, may function as *classifiers* to evoke a certain contrast (see Nagano (2016) and Shimada and Nagano (2018) for the case of Japanese).

6. Conclusion

What we have accomplished in this paper may be summarised as follows. First, P-RA predicability can be analysed in the same way as RA predicability (i.e. N-deletion and Contrast). Adverbials (e.g. *primarily*, 75%) that modify RAs in predicate position and lexical elements (e.g. prefixes, combining forms) that are attached to RAs are equivalent in the sense that both can evoke a set of alternatives and induce N-deletion. Second, lexical prefixes, such as numerical, spatio-temporal, and contrastive, and some negative prefixes (i.e. *a-* and *non-*) can be input to evoke contrast by themselves. From the point of view of *contrast*, we thus no longer need to take Levi's predicate deletion analysis into account. Conversely, we have shown that Levi's analysis actually presents a solution to deal with (P-)RA predicability. The N-deletion analysis and the notion of contrast can be applied not only to numerical prefixes but also to non-numerical ones. In this way, all the phenomena of RA predicability can be captured, including the case of prefixed ones.

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NOTES

¹ These prefixes were not given names in previous studies. This paper thus calls them 'contrastive prefixes' for the sake of convenience.

² In terms of whether or not the prefixes can be input to create a contrast environment and induce N-deletion, our analysis is based on the Lexical Integrity Principle (LIP) (see Nagano (2013: 112) for more details).

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**Two Types of Instrument Subject
Constructions in Context: With Special
Reference to Focus and Members in a Set***

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Keywords : instrument subject construction,
focus, open proposition, members, set

1. Introduction

This paper is concerned with a sentence with an instrument subject. Let us consider the following examples:¹

- (1) a. John opened the door with the key.
b. The key opened the door.
(Fillmore (1968: 25))

In (1a), the animate subject *John* used *the key* in order to open the door and the instrument appears with the preposition *with*. In contrast, in (1b) the underlined inanimate object *the key* occupies the subject position of the sentence. Such instruments as in (1b) can occur in sentences as complements of the preposition *with* as in (1a). Let us call a sentence such as (1b) the Instrument Subject Construction (hereafter the ISC).²

Previous studies have mainly analyzed the instrument subjects of the ISC as having an agent role in terms of how semantic roles, i.e., theta-roles, are involved (cf. Schlesinger (1989, 1995), Dowty (1991), Nishimura (1993)). Schlesinger (1989), in particular, regards an

instrument subject as bearing an agent role that is interpreted as a cause of an action. Let us compare the following examples:

- (2) a. The dishwasher cleaned the dishes.
(Schlesinger (1989: 193))
b. *The hammer pounded the metal flat.
(Goldberg (1995: 193))

Based on his analysis, in (2a), the instrument *the dishwasher* has the ability to work by itself and to clean the dishes without the help of human beings. Hence, (2a) is naturally acceptable. In (2b), *the hammer* can neither move alone nor be interpreted as causing the event denoted by the predicate, *pound the metal flat*. Thus, (2b) is unacceptable.

Although Schlesinger (1989) succeeds in explaining the acceptability of many inanimate subject sentences in terms of the agent role, it is not easy to clearly account for the reason why (1b) is different from (2b) in acceptability, because the subjects in (1b) and (2b) are the same in that the instruments, e.g., key, hammer, or cloth, can never move without human beings.

Moreover, it is mentioned that the acceptability of a sentence with that type of instrument is relevant to another essential factor. See:

- (3) The key opened the lock.
(DeLancey (1991: 348))

DeLancey (1991) observes that the sentence in (3) is acceptable as long as the underlined part *the key* is contrasted with other keys or means. Along this line, Sentence (3) can denote that *the key*, i.e., not other keys or means, has the property of opening *the lock*. What is important here is that a sentence such as (3) is

unacceptable without the contrast effect. Even if instrument subjects are analyzed as having agent roles in terms of semantic roles, DeLancey's (1991) observation in (3) reveals that the pragmatic factor *contrast* crucially improves the acceptability of a sentence like (3). It is, thus, necessary to examine it from a pragmatic perspective. Following DeLancey (1991) and others (cf. Alexiadou and Schäfer (2006)), Mack (2010) proposes the pragmatic condition on the ISC that *an open proposition* must be *activated* in a context. The relevant concepts will be explained later in Section 2.

The purpose of this paper, by employing Mack's (2010) pragmatic condition, is to argue that there are two types of ISC depending on context. They each have, of course, their own pragmatic function, as briefly indicated below:

- (4) a. To convey a characteristic of an instrument subject;
- b. To avoid one's responsibility or to show one's modest attitude

The organization in this paper is as follows. Section 2 will give an overview of Mack's (2010) pragmatic analysis. Section 3, based on her analysis, will argue that the different types of the ISC exist in distinct contexts. Section 4 will show how to classify the two types. Section 5 will provide concluding remarks.

2. Mack's (2010) Pragmatic Approach

This section offers an overview of Mack's (2010) pragmatic analysis. First, she shows that a sentence with the ISC differs from a normal declarative sentence in that it cannot be used as an answer to a sentence-focus *wh*-question like "What happened?":

- (5) Mother: What happened today?
 Babysitter: Henry broke the crystal vase with a baseball bat!
- (6) Mother: What happened today?
 Babysitter: *The baseball bat broke the vase!

(Mack (2010: 244),
with a slight modification)

Since the answer to a sentence-focus *wh*-question carries new information as a whole, Mack (2010) observes that the babysitter can naturally answer as in (5), but cannot use the underlined sentence in (6) in order to report the same event. This means that the ISC cannot be used in such a situation.

Given these observations, Mack (2010) proposes that a sentence with the ISC is acceptable when *an open proposition*, i.e., knowledge shared by a speaker and a hearer, is *activated* in a context. The concept of an open proposition ordinarily indicates a proposition that contains a variable X (cf. Prince (1986)), as shown in (7).

- (7) a. The key opened the lock.
- b. X opened the lock.

Unlike (7a), (7b) includes the variable X, which corresponds to an unsatisfied element. Additionally, the word *activate* means that such an open proposition is evoked in such a context, i.e., between a speaker and a hearer. Mack (2010) incorporates these concepts into Lambrecht's (1994) *focus* definition.

- (8) The semantic component of a pragmatically structured proposition whereby the assertion differs from the presupposition
 (Lambrecht (1994: 213))

In (8), *the assertion* corresponds to *focus*, which introduces new information in discourse, whereas the rest of the clause is interpreted as *presupposition*, i.e., the knowledge that a speaker presupposes to be shared with a hearer. Lambrecht (1994) posits the relation between *focus* and *presupposition*. In contrast, Mack (2010) slightly modifies his definition in (8) and posits a relation between *focus* and *open proposition*.

She distinguishes *open proposition* from *presupposition*, because each concept affects the acceptability of a sentence differently. Let us refer to the following definitions:

- (9) a. Presuppositions are complete propositions and thus can be true or false, believed or disbelieved.
 b. Open propositions are incomplete semantic objects, lacking truth values and inappropriate as objects of belief.
 (Mack (2010: 65))

Based on (9), let us examine these concepts with a more concrete example:

- (10) A: Who came to the lecture?
 B: NOBODY came.
 (Mack (2010: 66))
 (11) a. Someone came to the lecture.
 (≠ Nobody came.)
 b. X came to the lecture.

In (10), Speaker B answers the *wh*-question to form a normal question/answer pair. Lambrecht's focus, however, will produce the wrong result that Speaker B cannot answer, because the *wh*-question in (10) presupposes the complete proposition that *someone came to the*

lecture in (11a). The proposition is considered true and excludes the proposition that *nobody came*. In contrast, according to Mack's focus, the answer in (10) is appropriately predicted, because the truth value of the open proposition in (11b) is not decided yet, i.e., the proposition, *nobody came*, is included. Hence, the *wh*-question in (10) activates the open proposition in (11b) and Speaker B satisfies the variable X with *nobody* as a focus element.

In this way, Mack (2010) argues that the ISC must be associated with an open proposition as in (11b). Along these lines, she also states that an instrument appears in a subject position when an open proposition is activated in some grammatical form. Let us consider the following examples:

- (12) a. *This bullet killed Joyce Alexander.
 b. The revolver which the police took from the appellant was loaded, with the exception of one chamber from which a shot had been discharged, and it was this bullet that killed Joyce Alexander.

(Mack (2010: 246-247))

(12a) does not have contexts and open propositions, so it is unacceptable. In (12b), the speaker says that the gun was used in a crime and that when the police checked it, a bullet had been discharged from one chamber. Since a cleft sentence generally activates an open proposition (cf. Delin (1995)), the grammatical form in (12b) activates the open proposition, *X killed Joyce Alexander*, and the instrument *this bullet* as a focus element satisfies the variable X. Therefore, the underlined sentence in (12b) is acceptable. Mack's analysis, based on the relation between *focus* and *open proposition*,

leads us to believe that the ISC is highly concerned with the pragmatic condition.

To sum up, this section has shown that the ISC involves the pragmatic condition; a sentence with the ISC is acceptable when a context activates an open proposition that contains a variable X.

3. Proposition

Employing Mack's (2010) pragmatic condition, this section will refer to *focus*, which introduces new information in discourse by satisfying a variable X, and propose that there are two types of the ISC from a semantico-pragmatic perspective.

3.1. Two Types of Sets

Adopting Mack's (2010) proposal, we posit that there are two types of pragmatic functions in the ISC depending on the members of a set predicted in a context. In other words, when we assume the relation between *focus* and *open proposition*, a focus element is selected out of a comparative set which contains alternatives. For example:

- (13) a. X opened the door.
 b. X = the key $\leftarrow$ {the key / A / B / ...}

The bracket in (13b) indicates a comparative set evoked in a context, and the arrow denotes selecting a focus element to satisfy a variable X. Suppose that the open proposition in (13a) is activated in some context. A speaker who uses the sentence *the key opened the door* selects the focus element *the key* from the comparative set, which consists of alternatives in (13b).

Considering that in the ISC, an instrument occurs in a subject position where human beings normally would appear (cf. see (1)), there should

be two types of comparative sets, i.e., one contains no human beings and the other consists of human beings. Compare:

- (14) a. X pounded the metal flat.
 b. X = the hammer
 $\uparrow$
 { the hammer / this hammer /
 that hammer / ... }
 c. X = the hammer
 $\uparrow$
 { the hammer / that hammer /
 Mary / John / ... }

When a context activates the open proposition in (14a) and the variable X is satisfied by the focus element *the hammer*, two sets exist, i.e., the set in (14b) is made up of other hammers, whereas the set in (14c) includes the human beings *Mary* and *John*. On the basis of the two types of sets in (14), uses of the ISC may be classified into two types, each with a unique pragmatic function. In both cases, a sentence with the ISC is acceptable to my informants. In the next section, we consider concrete examples.

3.2. Two Types of Pragmatic Functions

Based on (14b) and (14c), I call the former *the Characterized ISC* and the latter *the Substituted ISC*. Let us examine the pragmatic function of each, as shown in (15).

- (15) a. The Characterized ISC is used when a speaker attempts to convey to a hearer what kind of characteristics an instrument has in comparison with other instruments or means predicted in a context.
 b. The Substituted ISC is used when a speaker attempts to avoid

responsibility or to show a modest attitude by replacing human beings with an instrument predicted in a context.

With these in mind, let us first consider the following example of the Characterized ISC:

(16) GUIDE: This display shows how the metal coins were made in medieval Europe.

VISITOR: There are all kinds of coins.

GUIDE: Look at the tool next to the metal coins. The hammer pounded the metal flat.

In the context of (16), a visitor in a medieval museum stops in front of a display of coins from medieval Europe. The guide explains how coins were made at that time. He selected the hammer out of the comparative set consisting of instruments or means, i.e., especially other hammers, and said the underlined sentence in (16) in order to convey to the visitor how the hammer was used and what kinds of characteristics it has.

Let us now turn to the Substituted ISC. This construction in fact has two functions, avoiding responsibility or showing a modest attitude, so let us consider the following two examples:

(17) BOB: Why is the metal flat?

KELLY: No idea.

BOB: I'll ask you again. Why is the metal flat? Did you pound it that way?

KELLY: No, it wasn't me! The hammer pounded the metal flat.

In the above context, Kelly works under Bob in

an iron factory and is bad at following directions. Kelly made a mistake and changed the shape of the metal, but he does not want to be blamed by his supervisor. Kelly said the underlined sentence in order to shift his responsibility onto the instrument *the hammer*. In this case, *the hammer* in (17) occurs in the subject position instead of the human, Kelly. That is, he selected the instrument from the comparative set including humans.

In a similar vein, the Substituted ISC also indicates modesty. See:

(18) GRANDMOTHER: Good boy! I'm so proud of you.

GRANDCHILD: No, it wasn't me. This cloth cleaned the dishes.

In the context of (18), Grandmother adored her grandchild and praised him because he cleaned the dishes without anyone's help. The grandchild said the underlined sentence in order to try to deflect the praise out of embarrassment. In this case, *the cloth* in (18) occurs in the subject position instead of a human, the grandchild. He selected the instrument from the comparative set including a human being.

So far, we have considered both the Characterized ISC and the Substituted ISC. The former is used in order to convey information about an instrument, whereas the latter is used in order to push the responsibility of human beings onto an instrument or to show a modest attitude.

4. Classification Criteria

This section will provide classification criteria for determining the pragmatic type of an instance of the ISC. We have already seen that sentences with the Characterized ISC and the

Substituted ISC are used in entirely different contexts. Moreover, there are two ways to judge which construction a sentence with the ISC has.

First, we can examine whether a sentence with the ISC can be paraphrased with a restrictive relative clause. The requisite property of the grammatical form is that a head noun be defined by a restrictive relative clause and be distinguished from others of the same class. This means that the function of the form corresponds to the process of selecting an instrument out of a comparative set consisting of other instruments or means (cf. see (14b)). Therefore, a sentence with the ISC is identified as a Characterized ISC when it can be paraphrased as a restrictive relative clause. If not, it is a Substituted ISC. Along these lines, the examples in (16) and (17) are judged as follows:

(19) The hammer pounded the metal flat.

(20) This is the hammer that pounded the metal flat.

→ a. The Characterized ISC (✓)

→ b. The Substituted ISC (×)

When the sentence in (19), which is used in both (16) and (17), is paraphrased as in (20), (20a) differs from (20b) in this respect.

Furthermore, we can understand the difference through translation from English into Japanese. Given each pragmatic function in (15), we can observe the following sentences in Japanese:³

(21) ‘The hammer pounded the metal flat.’

a. *Sono hanmaa-wa sono kinzoku-o*
 Det hammer-Top Det metal-Acc
tataite tairani si-ta mono da.
 pound flat do-Past thing Cop

b. *Sono hanmaa-ga sono kinzoku-o*
 Det hammer-Nom Det metal-Acc
tataite tairani si-ta n da.
 pound flat do-Past Comp Cop

We observe that the sentence in (21a) corresponds to a copular sentence (cf. Kishimoto (2012)), while the sentence in (21b) takes the *no(-da)* construction (cf. Noda (1997)). The realization of each construction in Japanese shows the Characterized ISC and the Substituted ISC in English are pragmatically different from each other.

5. Conclusion

This paper has argued that there are two types of the ISC: The Characterized ISC conveys a characteristic of an instrument, whereas the Substituted ISC introduces a speaker’s intention to avoid responsibility or to show a modest attitude. Moreover, I have presented the classification criteria in order to identify the two ISCs.

Since, as far as I know, previous studies have not mentioned this classification from a semantico-pragmatic perspective, I have sought to introduce a new approach to the study of the ISC. In addition, I have briefly mentioned that one ISC in English corresponds to a copular sentence or the *no(-da)* construction in Japanese. In this paper, however, I have not given an account of each construction in detail nor explained why each ISC in English corresponds to a different form in Japanese. I would like to leave further exploration of these issues for future research.

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NOTES

¹ Underlined parts in examples of this paper are mine.

² In this paper, I exclude so-called *facilitating instruments* (cf. Levin (1993: 80)), as indicated below:

- (i) a. Doug ate the ice cream with a spoon.
- b. *The spoon ate the ice cream.

³ The following abbreviations are used in the glosses of examples in this paper: Acc = accusative, Comp = complementizer, Cop = copular, Det = determiner, Nom = nominative, Past = past, Top = topic.

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Labeling with Long Distance Feature Inheritance and Extraction out of Noun Phrases*

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Keywords : feature inheritance, sub-extraction, small clause, resultative

1. Problems and Solutions

The purpose of this paper is to claim that syntactic derivation permits features to be transmitted onto a lower head in a long distance fashion. I further show that with this mechanism, we can capture vP structures of various constructions in terms of labeling theory.

I begin by discussing the ECM construction in (1) from Lasnik (2001: 106).

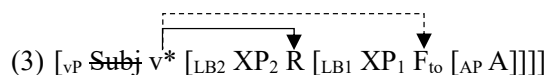
(1) She will prove Bob to be guilty.

Lasnik (2001) claims that it is optional whether the object *Bob* in (1) moves into the matrix clause. The obvious problem that comes from Lasnik's claim is how labeling is established under the optionality of the movement of the object DP.

To answer this question, I propose (2).

(2) Long distance feature inheritance is possible.

With the long distance feature inheritance (FI) possible, the vP structure in (1) has the following options:



The first option for v^* is to send features to R and the other is to transmit them to F, which is realized as infinitival *to* in (1).

A problem that arises here is what features are transmitted to F_{to} . I assume, following Chomsky (2001), that the infinitival *to* only has an unvalued person feature, [u-person]. It then follows that, unlike the “standard” feature transmission of the $[\phi]$ features to R from v^* , F only receives [u-person] from v^* .

Let me show how labels are determined under these two options of FI. First, consider the case where v^* sends the $[\phi]$ features to R. Under this FI, the object DP moves to the higher position (XP_2 in (3)). The DP and R then enter into an Agree relation. As a result, the label (LB_2) is given $\langle \phi, \phi \rangle$. On the other hand, when v^* transmits [u-person] to F_{to} , the DP moves to XP_1 , and the DP and F Agree only for [person], hence the resulting label (LB_1) is $\langle \text{person}, \text{person} \rangle$.

Importantly, the current derivation can account for the optionality of raising of object DPs in ECM constructions. Either option leads to a convergent derivation at the interfaces. That is, as far as resulting structures are convergent at the interfaces, ordering of applying operations is open at syntax (Epstein et al. (2017)).

The current paper also discusses sub-extraction phenomena. It is usually assumed that the possibility of extraction out of a DP depends on its position at LF (Diesing (1992)). (LF corresponds to the C-I interface in the current Minimalist framework, but I will continue using the term LF throughout this paper.) With this assumption in mind, let us consider the sub-extraction in ECM

constructions. See (4) as specific examples.

- (4) a. *Who₂ did John make [friends of t₂] out [t₁
to be smart]?
b. ?Who₁ did John make out [[friends of t₁]
to be smart]?
(Boeckx and Hornstein (2005: 36))

Suppose that an overt DP position at syntax corresponds to the DP position at LF. (4) indicates that the DP in the higher position resists the sub-extraction operation while the DP in the lower position licenses the operation.

In this paper, I take sub-extraction to be a diagnostic test to indicate the DP position at LF. If sub-extraction is successfully licensed, the DP is considered to be the lower position. If not, the DP occupies the higher position at LF.

To sum up, I have proposed that FI can occur in a long distance fashion. This proposal can capture the optionality of the raising found in ECM constructions. Furthermore, sub-extraction can apply to the DP, when it is in the lower position at LF.

Importantly to the following discussions, if the current analysis is on the right track, we expect that various ways of FI can capture a variety of constructions. In what follows, I argue that this expectation is borne out, showing that different constructions adopt different ways of FI.

2. Syntactic Positions and Sub-Extraction

2.1. Small Clauses with VP Predicates

In this subsection, I discuss small clauses (SCs) with VP predicates, arguing that the post-verbal DPs are in the lower position at both syntax and LF.

First, let me discuss their syntactic properties. The first piece of evidence for a lower syntactic

position of the post-verbal DPs comes from the unavailability of passives. See (5) from Basilico (2003: 2, 11).

- (5) *The prisoner was {seen/made} leave.

As (5) shows, when the passive operation applies to the SCs with VP predicates, the sentences become ungrammatical, which indicates that the post-verbal DPs do not raise to the higher object position, staying in the lower object position.

On the LF side, the evidence for the lower position comes from sub-extraction. See (6) as specific examples from Basilico (2003: 5).

- (6) a. Who_i did you let [a rumor about t_i] spread
around the entire department?
b. Which planet_i did you see [a picture of t_i]
appear on your computer screen?

The sub-extraction can successfully apply to the DPs.

The discussions here show that in SCs with VP predicates, the long distance FI is the only option.

2.2. Small Clauses with AP/PP Predicates

Let me turn to the discussion of the SCs with AP/PP predicates. Their syntactic and LF properties are that the post-verbal DPs are in the higher position at both syntax and LF.

First, the passive operation is applicable to the constructions, as in (7), and the post-verbal DPs only receive a generic interpretation, as in (8). (7) and (8) are from Basilico (2003: 2, 4).

- (7) The prisoner is considered intelligent.
(8) The guard considers prisoners intelligent.

In (8), the bare plural DP *prisoners* cannot be interpreted existentially. It has only the generic interpretation.

Moreover, the DP can bind reciprocals within matrix adverbial phrases, as in (9) from Hong and Lasnik (2010: 279).

- (9) The DA proved [two men guilty] during each other's trials.

The binding possibility suggests that the post-verbal DPs move into the higher object position at syntax.

As expected from the higher syntactic position, the DPs cannot undergo sub-extraction, as in (10) from (Basilico (2003: 5)).

- (10) ??Which student_i do you consider [a book about t_i] too boring for your class?

Thus, the SCs with AP/PP predicates only allow a particular type of FI: the transmission of the features on v* to R.

2.3. Resultatives and Motion Verbs

The next constructions that I discuss are resultative constructions and sentences with motion verbs. These two show shared properties in that the post-verbal DPs are raised at syntax but they are interpreted at the lower position at LF. The current paper only discusses resultatives as a representative.

First, concerning the syntactic position of the post-verbal DPs of the resultative constructions, I claim that the DPs raises to the higher position at syntax.

The first evidence that I offer is the following passive sentences:

- (11) a. The seedlings were watered t flat.

- b. Her Nikes have been run t threadbare.
(Carrier and Randall (1992: 191))

(11) shows that the DPs can undergo passivization. Furthermore, the DPs can bind pronouns within adverbial phrases, as in (12).

- (12) a. the loud clock ticked [every baby_i awake] [at his_i/her_i/its_i afternoon nap]
b. they laughed [every applicant_i out of the room] [at his_i/her_i job interview]
(Tomizawa (2007: 92))

These data show that the DPs raise to the higher position.

However, the DPs are necessarily interpreted at the lower position at LF. This claim is supported by the fact that the extraction is easily fine out of the DPs, as in the following:

- (13) Who_i are they burning books about t_i to cinders?
(Bruening (2018: 554))

The reason for the DPs being in the lower position at LF is associated with a property of the result XPs. Specifically, Guéron and Hoekstra (1995: 100) claim that "... it is ... required that the property denoted by the predicate be a stage-level property." Therefore, the stage-level property of the result XPs forces the post-verbal DPs to be interpreted at the lower position at LF. That is why the sub-extraction is possible in (13).

To sum up, resultatives show the raising of the post-verbal DPs at syntax, but they are interpreted in the lower position at LF.

3. Sub-Extraction and the <φ, φ> Labeling

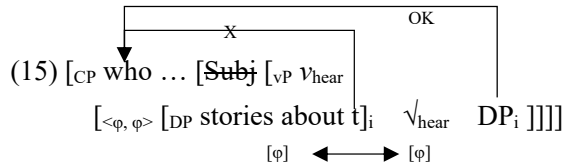
In the discussion above, we have seen that when the post-verbal DPs occupy the higher

position at LF, extraction out of the DPs is not possible. This section derives this constraint from the labeling perspective. Specifically, the constraint can be stated as follows: the DPs that have entered into the $\langle \varphi, \varphi \rangle$ labeling at syntax resist the application of the sub-extraction.

First, see the sentence in (14) (from Chomsky (1973: 249)) where the object is indefinite.

(14) Who did John hear stories about t ?

The object of this sentence can undergo the sub-extraction. The derivation is shown in (15).



At syntax, the object moves to the higher position. The movement creates two copies of the object DP. The object at the higher position enters into the Agree relation with $R(=v_{hear})$, offering the $\langle \varphi, \varphi \rangle$ labeling. These two positions are also available at LF. The higher copy cannot license the sub-extraction operation since it has entered into the labeling relation at syntax. On the other hand, the lower copy licenses the sub-extraction because it has not entered into such a labeling relation.

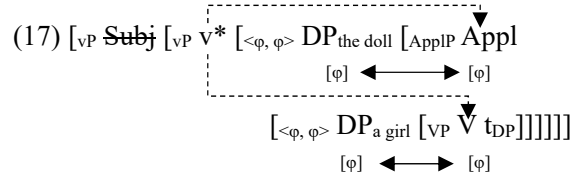
Next, consider the impossible sub-extraction of definite DPs, as in (16) from Chomsky (1973: 258).

(16) *Who did we hear John's stories about t ?

This is because the definite DP has to stay at the higher position at LF. This position corresponds to the labeling position, and the sub-extraction is

not licensed.

The current analysis can be extended to the double object constructions. Concerning the vP structure of the double object constructions, I assume, following Anagnostopoulou (2003), that the vP consists of three phrases: vP-App(licative)P-VP. I also assume that indirect objects are introduced by ApplP, and direct objects are by VP. (17) illustrates the vP structure of double object constructions.



As vP contains two DPs, it follows that v transmits two sets of $[\varphi]$ features: the one to the Appl head, and the other to the V head. The indirect object enters into the Agree relation with Appl, and the label becomes $\langle \varphi, \varphi \rangle$. On the other hand, the direct object moves to [Spec, VP] entering into Agree with V.

As expected from this Agree relation, extraction is not possible out of the indirect object since the indirect object enters into the labeling relation at syntax. On the other hand, sub-extraction can apply to direct objects when they are indefinite. These expectations are borne out. See (18) and (19).

(18) *Who did you say Cindy sent [a friend of t] a picture? (Runner (1998: 161))

(19) a. Who did you say Cindy sent Bobby [a picture of t]? (Runner (1998: 161))

b. *Who did you say Cindy sent Bobby [the picture of t]?

Let me turn to discussion of factive clauses. It is well-known that factive clauses behave like

DPs. For example, when *that*-clauses are interpreted as being factive, they can undergo Subject-Auxiliary Inversion, as in (20). Furthermore, factive clauses can occur as a SC-subject, as in (21).

- (20) a. ??Is that John is a millionaire a lie?
 b. Is that John is a millionaire a surprise?
 (Moulton (2017: 301))
- (21) a. ?? I consider that John is a millionaire a
 real lie.
 b. I consider that John is a millionaire a
 real surprise. (Moulton (2017: 302))

Since factive clauses behave like DPs, I assume that they move to the higher position, entering into the Agree with the root of the verb. I claim that this is the reason that factive clauses resist the application of sub-extraction.

The next interesting prediction that the current analysis gives rise to is regarding infinitival clauses. I have assumed, following Chomsky (2001), that infinitival T has only [u-person]. Given this assumption, the subject phrase that enters into the infinitival T can undergo the sub-extraction operation. This turns out to be true, as in (22).

- (22) Of which major_i is it important for [[the
 students *t_i*] to take a course in physics]]?
 (Egashira (2015: 151))

The correctness of the relation between the <person, person> labeling and the successful sub-extraction is confirmed by *there* constructions. In *there* constructions, extraction is possible out of associate DPs. I assume, following Richards (2004), that the expletive *there* consists of the third person feature, [person: 3rd]. Given this, T only Agrees with

there for [person]. This in turn means that the associate DP does not enter into Agree for the full set of [φ] features. This is why the associate DP can undergo sub-extraction.

4. Variation among Speakers

Many speakers agree with the judgment shown in (10). However, there are some speakers who judge sentences similar to (10) to be fine. As a specific example, I cite (23) below, from Carrier and Randall (1992: 207, n. 38).

- (23) the gang that I consider the leaders of
 immoral

I assume that for such speakers, what is transmitted from *v** to *V* is [person] instead of [φ]. Under this derivation, the post-verbal DP Agrees only for [person]. Therefore, sub-extraction is permitted to apply to the DP.

ECM constructions also show differences in judgment among speakers. Some speakers consider sub-extraction to be incompatible with ECM constructions, as in (24) from Chomsky (1973: 249), while other people regard sub-extraction as being applicable, as in (25) from Chomsky (2008: 153).

- (24) *Who do you expect stories about to terrify
 John
- (25) Of which car did they believe the driver to
 have caused a scandal

Speakers who agree with (25) take a particular derivation. For example, they keep the object DP in the lower position. Another derivation that allows sub-extraction to apply is that the lower copy must be accessible at LF. That is, if English speakers consider the lower copy visible at LF, the sub-extraction is licensed (see Sigurðsson

and Holmberg (2008)).

5. The Plausibility of the Current Proposal

The current paper has proposed that FI occurs in a long distance fashion. The questions to be addressed are why [person] is the target of long distance FI, and what makes such inheritance possible.

An answer to the first *why* question comes from Preminger (2011). He argues for the Relative Aptitude for Failed Agreement (RAFA). The point of RAFA is that the licensing of [person] must occur in a more local relation than that of [number]. Given this, when a DP stays in the lower position, the [person] feature (but not [number] feature) must be passed down.

The next question is how the transmission occurs long-distantly. To consider this question, let me first review Chomsky's assumption as a background. Assuming the structure in (26), Chomsky (2015: 14) claims that R raises to v^* .

(26) [v^* [$_{\alpha}$ DP [R [$_{\beta}$ t ...]]]]

When R is Pair-Merged with v^* , the latter becomes invisible.

However, this is not the only possibility. Otsuka (2017: 140) claims that the opposite pattern should be available, saying "R is Pair-Merged with v^* ." The current paper takes this derivation to be possible. Specifically, at the first stage of the derivation, R is Pair-Merged with v^* , and R becomes invisible. Next, v^* sends its features to a lower head. Importantly, this transmission by-passes the next lower head R since R has been already invisible. Therefore, the inheritance goes from $v^*(-R)$ to F.

6. Conclusion

This paper argues for long distance feature

inheritance. This mechanism can correctly capture the optionality of the raising found in ECM constructions. Furthermore, various combinations of syntactic features with ways of FI account for the syntactic and LF properties of the constructions such as SCs with VP predicates, SCs with AP/PP predicates, resultatives, and motion verbs. The paper also discusses the consequences of the current proposal. The first consequence concerns the relationship between the $\langle \varphi, \varphi \rangle$ label and the impossibility of sub-extraction. The second consequence is that the current analysis can account for variation among speakers. Finally, I have shown that the long distance FI is theoretically plausible.

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An Analysis of *N-free X* and *N-less X* Based on Construction Morphology*

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Keywords : derivatives, collocation, corpus study,
Construction Morphology, schemas

1. Introduction

This paper presents a constructional analysis of the expressions *N-free X* and *N-less X* extracted from corpora. In the literature, the English suffixes *-free* and *-less* (both forming adjectives) are claimed to indicate the privative meaning ‘without the thing denoted by the base noun.’ Examples of the derivatives *N-free* and *N-less* are shown in (1) and (2), respectively.

- (1) acid-free, care-free, duty-free, frost-free,
nuclear-free, smoke-free
- (2) careless, childless, endless, fatherless,
harmless, moonless

(Nishikawa (2006: 247, 257))

Some studies of derivational suffixes have described the meanings of *-free* and *-less* in terms of “(un)desirability” denoted by *N-free/N-less* or by the base noun. In particular, the base noun in *N-free* tends to be restricted to an entity with negative evaluation. As exemplified in (3), the nouns (*fat*, *lead*, and *hassle*) combined with *-free* are considered to be something undesirable.

- (3) **fat-free** yoghurt, **lead-free** petrol,
hassle-free banking (Cruse (2011: 355))

However, few studies have focused on “nouns” collocating with *N-free/N-less*. In this paper, I investigate how *N-free X* and *N-less X* are construed and specified through a comparison of *N-free/N-less* and their collocate *X*.

2. A Review of Bauer et al. (2013)

This section reviews the difference in meaning between *N-free* and *N-less* presented by Bauer et al. (2013) as a previous study.

According to Bauer et al. (2013), the suffix *-less* is quite fixed in meaning and implies ‘absence’ or ‘loss’ (e.g. *shoeless* ‘the absence or lack of shoes’). *-Less* in *N-less* produces a consistent privative interpretation, but it often gives an evaluative effect, when compared with the words ending in *-free* (i.e. *N-free*). For example, Bauer et al. (2013) distinguish between *saltless* and *salt-free* as follows:

- (4) a. *Saltless* marks that the absence of salt is a negative or at best neutral quality.
 - b. *Salt-free* generally suggests that the absence of salt is something desirable.
- (Bauer et al. (2013: 368))

Although both *saltless* and *salt-free* in (4) mean ‘the absence of salt,’ the two derivatives seem to differ with respect to evaluative quality. For (4b), to put it another way, the absence of salt denoted by *salt-free* is regarded as a positive quality.

These observations in (4) may hold true for other examples of *N-free* and *N-less* in (1)-(3), but Bauer et al. (2013) offer no clear explanation of how they reached the conclusions presented in (4). Further explanation will be needed to

better understand the proper interpretations of *N-free* and *N-less*.

3. Comparison of Collocates Using Corpora

In this section, I explore in greater detail the semantic relationship of *N-free/N-less* and their nominal collocates using corpus data, and show that this survey results in a strong association between the base noun and the collocate.

3.1. Methods

To see how *N-free* and *N-less* differ in meaning, I adopt the corpus-based method for analyzing synonyms in Uchida (2014).

Uchida illustrates an examination of collocates of two words, for example, nouns after the verbs *accomplish* and *attain*. Although these verbs correspond to the Japanese *tassei-suru*, the difference between them is as follows: the nouns *task* and *mission* (implying ‘action’) tend to occur as objects of *accomplish*, while the nouns *status* and *fame* (implying ‘state’) tend to occur as objects of *attain*. From this survey result based on COCA, he shows that the semantic difference between *accomplish* and *attain* can be explained through a comparison of their collocates.

Adopting this method, I investigate the semantic relationship between *N-free/N-less* and nouns collocating with them using COCA, NOW, and iWeb.¹ To search for *N-free X* and *N-less X*, the span for the collocates defaults to “1 word to the right,” and the collocates extracted are lemmatized. Following Uchida (2014), I assume that the less two derivatives share a particular collocate X, the more likely they are to differ in meaning. I also examine what kind of nouns occur as collocates of *N-free* or *N-less*, especially focusing on the semantic relationship of the base noun ‘N’ and the collocate ‘X.’

3.2. Findings

Take the pair of *smoke-free X* and *smokeless X* as an example. Table 1 shows *smoke-free* and *smokeless* (corresponding to the Japanese *kemuri-no-denai* ‘without smoke’) do not share a collocate X. Individual collocates such as *law* and *tobacco* are labelled by [LEMMAS], and numbers in parentheses indicate how often *smoke-free X* and *smokeless X* occur in COCA.

Table 1: Collocates of *smoke-free* and *smokeless* (based on COCA)

Word	Collocate X (freq.)
smoke-free	[LAW](60)/ [ENVIRONMENT](41)/ [POLICY](16)/ [WORKPLACE](16)/ [LEGISLATION](11)/ [ZONE](9)/ [ORDINANCE](5)/ [HOSPITAL](4)...
smokeless	[TOBACCO](157)/ [POWDER](34)/ [PRODUCT](16)/ [CIGARETTE](10)/ [FIRE](5)/ [ASHTRAY](2)/ [FLAME](2)/ [GUNPOWDER](2)...

Table 1 illustrates the X slot in *smoke-free X* is mainly filled by nouns denoting ‘places’ and ‘legal system or regulations,’ as in (5).

- (5) a. Many community health organizations are eager to participate in efforts to achieve **smoke-free workplaces**.
b. ..., at least 171 local housing authorities in 25 states have adopted **smoke-free policies** for some or all of their housing, ... (both from COCA)

Smoke-free workplaces in (5a) implies that people cannot smoke in workplaces. *Smoke-free policies* in (5b) implies that people cannot smoke in housing subject to certain policies. Note that (5b) does not denote ‘the

lack of smoke,’ nor does *smoke-free* modify *policy* semantically.² In any case, information about intentional removal of smoke can be obtained from both contexts in (5).

In contrast, nouns denoting ‘tobacco’ and ‘powder’ are strongly associated with *smokeless*, as in (6). What is remarkable here is that these entities potentially emit smoke.

- (6) a. Despite the widely publicized decline in cigarette smoking, sales of **smokeless tobacco** are booming.
 b. ... black powder was replaced by a **smokeless powder** called cordite.
 (both from COCA)

In recent years, *smokeless tobacco* in (6a) has been used in the sense of ‘tobacco that is used by means other than smoking (e.g. chewing tobacco, snuff)’ rather than ‘the lack of smoke in tobacco.’ *Smokeless powder* in (6b) simply means ‘gunpowder that does not involve much smoke.’ Thus, except for *smokeless tobacco*, *smokeless* in *smokeless X* just modifies *X* semantically (cf. **Tobacco is smokeless*).

Also, additional data for *smoke-free X* and *smokeless X* are given in Table 2.

Table 2: Collocates of *smoke-free* and *smokeless* (based on NOW)

Word	Collocate X (freq.)
smoke-free	[FUEL](2)/ [COAL](none)/ [STOVE](6)/ [POWDER](none)/ [FLAME](none)...
smokeless	[FUEL](117)/ [COAL](52)/ [STOVE](37)/ [POWDER](50)/ [FLAME](15)...

In Table 2, as numbers in parentheses show, a great difference in frequency between *smokeless X* and *smoke-free X* suggests that nouns such as

fuel and *coal* tend to occur as collocates of *smokeless*. A similar result holds for iWeb, as in “smokeless [FUEL](246)” vs. “smoke-free [FUEL](5).” It follows from these observations that the semantic differences between the two derivatives are corroborated by their collocates.

Now I focus on the semantic relationship between the base noun and the collocates in *smoke-free X/smokeless X*. Regardless of whether these expressions are idiomatic, the relation of smoke and *X* can be explained as follows: (i) ‘tobacco’ and ‘powder’ potentially emit smoke, but ‘law’ and ‘places’ do not, and (ii) the interpretation that smoke is (or will be) intentionally removed from (an entity involving) *X* is more strongly related to *smoke-free* than *smokeless*.

The same observation applies to other examples listed in Table 3.

Table 3: Collocates of *N-free* and *N-less* (COCA)

Word	Collocate X (freq.)
child-free	[LIFESTYLE](2)/ [MORNING](2)/ [TIME](1)/ [SITE](1)/ [NIGHT](1)...
childless	[COUPLE](94)/ [MARRIAGE](17)/ [WOMAN](69)/ [WIFE](15)/ [MAN](12)...
ice-free	[CORRIDOR](11)/ [LAND](8)/ [WATER](6)/ [SEASON](3)/ [PORT](3)...
iceless	[RUM](1)/ [ICE](1) ※[ICE] refers to “ice cube trays.”
hands-free	[DEVICE](28)/ [PHONE](23)/ [CALL](6)/ [HEADSET](11)/ [CONVERSATION](4)...
handless	[BODY](3)/ [CORPSE](2)/ [ARM](1)/ [SEGWAY](1)/ [HUG](1)...

In the case of *child-free lifestyle/morning* and *childless couple/marriage*, ‘people’ and ‘marriage’ may potentially bear children or create a situation of having children, but there is

no guarantee that ‘way of living’ or ‘time’ produces such situations.

As for *ice-free X* and *iceless X*, *ice-free* co-occurs with nouns denoting ‘place’ (e.g. *corridor*, *land*, *port*) and ‘time’ (e.g. *season*, *period*, *summer*) while *iceless* can co-occur with *rum* and *ice cube trays*, which potentially involve ice.

In *hands-free X*, the word *hands-free* designates as collocates a device, telephone, or headset that can be operated without using one’s hands. Also, expressions like *hands-free conversation/call* denote activities or functions made easier by using such devices. In contrast, *handless X* basically means ‘X having no hands’ and *handless* designates as collocates ‘(a dead) body’ or ‘electric vehicle (e.g. Segway),’ which normally involve hands.

Moreover, let us take a look at the data for *N-free* and *N-less* extracted from other corpora. Below are some examples of their collocates.

Table 4: Collocates of *N-free* and *N-less* (NOW)

Word	Collocate X (freq.)
milk-free	[DIET](7)/ [VERSION](2)/ [FOOD](2)/ [YOGURT](1)/ [FORMULA](1)...
milkless	[TEA](2)/ [MOTHER](1)/ [DAIRY](1)/ [CUP](1)/ [BREAST](1)
cloud-free	[IMAGERY](7)/ [MOSAIC](4)/ [MAP](3)/ [PICTURE](3)/ [VIEWING](2)...
cloudless	[MORNING](24)/ [SUMMER](22)/ [AFTERNOON](11)/ [WINTER](8)/ [AZURE](8)/ [EVENING](7)...
harm-free	[CARE](2)/ [TRANSITION](1)... (mainly occurring in the context of “healthcare”)
harmless	[FUN](821)/ [PRANK](227)/ [JOKE](117)/ [BACTERIA](115)/ [VIRUS](81)...

Table 5: Collocates of *N-free* and *N-less* (iWeb)

Word	Collocate X (freq.)
acid-free	[PAPER](534)/ [TISSUE](214)/ [BOX](86)/ [MATERIAL](61)/ [BOARD](41)...
acidless	[ORANGE](4)/ [TALLOW](2)...
toll-free	[NUMBER](7173)/ [PHONE](1331)/ [HOTLINE](672)/ [CALL](461)...
toll-less	[ROUTE](3)/ [ROAD](1)/ [HIKING](1)... ※[HIKING] refers to “hiking trail.”

Through this additional survey, we also find the strong association between the base noun and collocates in *N-free X/N-less X*. First, as Tables 4 and 5 show, X in *N-less X* is strongly associated with the entity N. In *milkless X*, ‘mother’ and ‘breast’ are potentially capable of producing milk to feed a baby. In *cloudless X*, ‘sky’ (e.g. *azure sky*, *spring sky*) and ‘time’ potentially involve clouds from a climate perspective. In *harmless X*, nouns denoting ‘trick’ (*fun*, *prank*, and *joke*) and ‘small living thing’ (*bacteria* and *virus*) occur as collocates. These all potentially involve harm. *Acidless X* and *toll-less X* are relatively new phrases found only in iWeb. As in (7) and (8), *acidless* and *toll-less* select as collocates ‘fruit’ which produces an acidic flavor and ‘route’ where drivers have to pay a toll, respectively.

- (7) **Acidless oranges**, which lack the distinct acidic flavor of regular oranges. (iWeb)
- (8) ... at my new apartment the **toll-less routes** were far less direct. I began getting frustrated at the amount of driving time they required ... (iWeb)

If a collocate X is a potential producer of the entity N, the use of *N-less X* sounds natural when we simply mean ‘the lack of N in X.’

Next, in the case of *N-free X*, the contexts below provide pragmatic information about intentional removal of the entity N from X.

- (9) Google said on its blog it was mining nearly a petabyte of data - more than 700 trillion pixels - in order to find the best **cloud-free imagery** for sharper maps.
(NOW)
- (10) Besides microfilm, historical documents are stored at the AHC in **acid-free boxes** like those at the National Archives in Washington, ...
(iWeb)

As for *cloud-free X*, most collocates of *cloud-free* are nouns related to ‘(satellite) images’ or ‘photographs,’ which do not produce clouds. *Cloud-free imagery* in (9) implies that Google tried to capture a clear image of the earth from space so that clouds would be out of sight of a satellite camera. In (10), *acid-free boxes* refers to ‘storage boxes made from acid-free paper’ for archival documents and other items. The documents are preserved for long periods so that they can be protected from fading and deterioration. If we mean ‘the lack of N in X’ in the sense of making the entity N removed from X for some purpose, the use of *N-free X* is preferable.

Therefore, the observations developed thus far can be summarized as in (11).

- (11) a. The entity X in *N-less X* potentially produces the entity denoted by N (or X involves N), but X in *N-free X* does not.
- b. *N-free* strongly implies intentional removal of N from (some entity related to) X, compared with *N-less*.

4. Semantic Specifications of *N-free X* and *N-less X*

Now I proceed to the discussion of semantic specifications of *N-free X* and *N-less X*, given the descriptions in (11). To describe the semantic representations of *N-free X* and *N-less X*, I adopt Booij’s (2010) Construction Morphology. In line with this theory, I regard *N-free X* and *N-less X* as “constructions,” whether their meanings are fully compositional or idiomatic. In addition, I assume that the abstract schemas of *N-free X* and *N-less X* including pragmatic meanings are formed in a usage-based model by generalizing the form and meaning of existing expressions.

Let us first consider the *N-free X* construction. The schemas for individual *smoke-free X* expressions are illustrated in (12).

- (12) a. $[[\text{smoke-free}]_A N_i]_{NP_j} \leftrightarrow [\text{SEM}_i \text{ where smoking is not allowed}]_j$
(e.g. *smoke-free workplace/hospital*)
- b. $[[\text{smoke-free}]_A N_i]_{NP_j} \leftrightarrow [\text{SEM}_i \text{ that addresses non-smoking regulations}]_j$
(e.g. *smoke-free law/policy*)

Information about “intentional removal of smoke” is facilitated by the contexts like (5). Individual schemas in (12) are dominated by the schema in (13), which is dominated by the more abstract schema in (14). In (13) and (14), pragmatic information on removal is specified as part of the meaning.

- (13) $[[\text{smoke-free}]_A N_i]_{NP_j} \leftrightarrow [\text{SEM}_i \text{ without smoke}]_j$ (Pragmatics: smoke is intentionally removed from (some entity related to) SEM_i)
- (14) $[[N_m\text{-free}]_{AK} N_i]_{NP_j} \leftrightarrow [\text{SEM}_i [\text{without SEM}_m]_k]_j$ (Pragmatics: SEM_m is

intentionally removed from SEM_i)

The schemas (12)-(14) are “subschemas” stored in a hierarchical lexicon, where (14) derives from the general schema for the NOUN PHRASE construction in (15).

(15) [A N]_{NP} (where A = adj., N = head noun)

Next, consider the *N-less X* construction. I assume the schemas for individual *smokeless X* expressions as in (16). The schemas in (16) are dominated by (17), which is dominated by (18). The subschemas (17) and (18) specify pragmatic information about “potential producer of N,” and (18) derives from the general schema (15).

(16) a. [[smoke-less]_A N_i]_{NPj} ↔ [SEM_i that emits no smoke]_j

(e.g. *smokeless powder/fuel*)

b. [[smoke-less]_A N_i]_{NPj} ↔ [SEM_i used by means other than smoking]_j

(e.g. *smokeless tobacco/product*)

(17) [[smoke-less]_A N_i]_{NPj} ↔ [SEM_i without smoke]_j (Pragmatics: SEM_i is potential producer of smoke)

(18) [[N_m-less]_{Ak} N_i]_{NPj} ↔ [SEM_i [without SEM_m]_k]_j (Pragmatics: SEM_i is potential producer of SEM_m)

Thus, the intermediate schemas of *N-free X* and *N-less X* in (14) and (18) allow us to properly interpret their individual expressions and to coin new expressions such as *hands-free X* and *toll-less X*. We cannot distinguish between *N-free* and *N-less* without taking their nominal collocates into account.

By analyzing *N-free X* and *N-less X* as constructions, we can explain the difference in acceptability of *alcohol-free X* and **alcoholless*

X. For example, ‘toner’ and ‘campus’ do not potentially produce alcohol, which should be removed to protect sensitive skin or to eliminate the illegal use of alcohol. When we say ‘the lack of alcohol in X’ in this sense, *alcohol-free toner/campus* is acceptable but **alcoholless toner/campus* is not. As for *fatherless X* and **father-free X*, nouns like *child* and *home* co-occur only with *fatherless* (cf. **father-free child/home*). This is because the collocates refer to entities that are involved with a father.

5. Reconsidering the Meanings of *salt-free* and *saltless*

Turning back to (4), I would like to think about the semantic difference between *salt-free* and *saltless* again. In corpora, *N-free* and *N-less* sometimes share their collocates. As (19) shows, *salt-free bread* and *saltless bread* are almost identical in meaning. These expressions are exemplified in (20) and (21).

(19) **salt-free** [bread](3)/ **saltless** [bread](2)
(based on COCA)

(20) Americans don’t have a taste for **saltless bread**, let alone the patience for the long, long chew of old Tuscan bread. (COCA)

(21) For those on salt-restricted diets, use **salt-free bread**. (COCA)

With respect to the relation of the base noun and the collocate, the entity ‘bread’ potentially involves ‘salt,’ but the subschemas [[salt-free]_A N]_{NP} and [[salt-less]_A N]_{NP} including pragmatic meanings will help to understand the difference between *salt-free bread* and *saltless bread*. *Saltless bread* in (20) implies simple absence of salt. That is, salt does not realize its potential to make the bread delicious, and the absence of salt in bread is evaluated negatively or neutrally.

On the other hand, *salt-free bread* in (21) implies that because salty bread is undesirable for those who need to limit salt intake, salt is intentionally removed from the bread. As a result, the absence of salt in bread can be evaluated as desirable. The acceptability of *salt-free/saltless bread* depends heavily on the perspective of conceptualizers, and especially when intentional removal of salt is implied in the context like (21), the use of *salt-free bread* is preferred.

6. Conclusion

In this paper, I examined the semantic difference between *N-free X* and *N-less X* through a comparison of *N-free/N-less* and their nominal collocates, and argued that this difference can be explained by the subschemas of *N-free X* and *N-less X*. The subschemas such as (14) and (18) will contribute to a better understanding of the meanings of *N-free* and *N-less*. Therefore, we need to take into account both base nouns and collocates in describing such synonyms.

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NOTES

¹ The data extracted from corpora are based on the last access date, January 2, 2020.

² This is demonstrated by the (un)acceptability of the following predication relations:

- (i) ?*The law/policy is smoke-free.
- (ii) The workplace/flight is smoke-free.

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CORPORA

- Corpus of Contemporary American English (COCA)
- Corpus of News on the Web (NOW)
- The 14 Billion Word iWeb Corpus. (iWeb)

DICTIONARIES

- Eijiro on the WEB* <<https://www.alc.co.jp/>>
- Oxford English Dictionary Online (OED)*,
<<https://www.oed.com/>>

Labeling Algorithm に基づく主語・補語倒置の分析*

(The Analysis of Preposing Around *Be* Based on Labeling Algorithm)

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キーワード : Labeling Algorithm, PAB, 倒置,
小節, 素性継承

1. はじめに

英語には主語・補語倒置 (Preposing around *Be*、以下 PAB) と呼ばれる現象があり、*be* の補部を前置することにより派生されると一般に仮定されている。

- (1) a. Less fortunate was the girl in the back seat. (Rochemont (1978: 30))
b. Found at the scene of the crime was an axe. (Rochemont and Culicover (1990: 69))
c. Joining the chorus of political figures was former Georgia Sen. Sam Nunn. (Samko (2014: 373))

(1)に示されるように、PAB では形容詞句と分詞句が前置要素となる。本稿では、Chomsky (2013, 2015) における Labeling Algorithm に基づく PAB の分析を提案し、その特性に理論的説明を与えるを試みる。

2. データ

本節では、先行研究 (Mikami (2009), Rochemont (1978), Samko (2014)) において指

摘されている PAB の主語の特性、および前置要素の主語性と話題性を示すデータを提示する。

2.1. 主語

まず、Mikami (2009)が観察しているように、PAB の主語は *be* の右側に現れ、動詞との間に数の一致を示す。

- (2) a. More important are some of the problems implicit in it.
b. More effective and certainly more interesting, however, is a structure [...]. (cf. Mikami (2009: 208))
(3) Joining the chorus of political figures {**was / were*} five former Georgia senators. (Samko (2014: 374))

(2)において、*be* 動詞は文頭にある形容詞句ではなく、文末にある名詞句との間に数の一致を示す。(3)においても同様に、*be* 動詞は文頭にある分詞句ではなく、文末にある名詞句との間に数の一致を示す。

次に、(4)と(5)を参照されたい。Rochemont (1978)が指摘するように、PAB の主語は文の焦点として解釈されるため、分裂文に書き換えられる。

- (4) a. Less fortunate was the girl in the back seat.
b. It was the girl in the back seat who was less fortunate. (Rochemont (1978: 30))
(5) a. Standing in the doorway was John.
b. It was John that was standing in the doorway. (Rochemont (1978: 30))

したがって、一般に旧情報を表す代名詞主語は PAB では許されない。

- (6) a. *Less fortunate was she / her.
 b. *Standing in the doorway was he / him.
 (Rochemont (1978: 31))

2.2. 前置要素

PAB の前置要素は主語性と話題性の両方の特性を備えていることを見てゆく。まず、(7)を参照されたい。

- (7) a. More important seems to be a visceral
 yearning for change, [...]
 (Mikami (2009: 209))
 b. Undermining Abbey's confidence
 seemed to be the decline in value of
 Lyoyds' shares. (Samko (2014: 372))

(7)では、be の補部に繰り上げが適用されており、(7a)では形容詞句が、(7b)では分詞句が文頭へ移動していると考えられる。その一方で、名詞主語は be の右側に位置しているため、繰り上げの適用を受けていない。この事実、PAB の前置要素が主語性を持つことを示している。

次に、PAB の前置要素が話題要素としての特性を持つことを示す。(8)を参照されたい。

- (8) a. It is **well known** that Columbus made
 his first voyage [...]. But **less well known**
 is his last voyage.
 (cf. 福地 (1985: 114))
 b. "We came here to defend the right of
 our parliamentarians to enter their
 own house" said **Guillermo Arocha**,
 [...]. Standing next to **Arocha** was
 Mannuel Contreras [...].
 (Samko (2014: 378))

(8)において太字で示されている PAB の前置要素は、既に先行文脈で導入されている要素である。したがって、前置要素は旧情報であ

り、話題化と同様の条件が PAB にも課せられると考えられる。さらに、(9)に示されるように、PAB では wh 句が前置要素を越えて移動することができない。(10)に示されるように、話題化においても同様の振る舞いが観察される。したがって、この事実からも、PAB が話題化と平行的な振る舞いを示すことが分かる。

- (9) a. *Which fact do you think most
 surprising of all is?
 (Iwakura (1978: 327))
 b. *Who_i [sitting at the table was t_i]?
 (Rochemont (1978: 40))
 (10) *Which books did Lee say that with
 great difficulty, she can carry?
 (cf. Mikami (2009: 215))

3. 理論的枠組み

3.1. Chomsky (2013, 2015)

Chomsky (2013, 2015)は、統語対象のラベル付けは Merge とは独立した計算体系である Labeling Algorithm (LA)によって行われると提案している。¹ 統語対象のラベルの決定方法は以下に示す3通りである。

- (11) a. {_α H, XP} α=H
 b. {XP_i, {_α t_i YP}} α=YP
 c. {_α XP(F), YP(F)} α=<F, F>

3.2. Epstein et al. (2016)

Epstein et al. (2016)は、v*が派生に導入される前に R(oot)と外的対併合されることにより、v*の持つ[uφ]は統語部門において不可視的となるとともに、フェイズ主要部としてのステータスを失うと提案している。この提案のもと、受動文は(12)のように派生される。

- (12) [C [<φ, φ> DP_{[φ][uCase]i} T_[uφ] [v*P v*-R t_i]]]

(12)において、 v^* と R を外的対併合することによって、 v^* は統語上で不可視的となり、フェイズ主要部としてのステータスを失う。 v^* はフェイズ主要部ではなくなっているため、 DP は転送されず、 $SPEC-T$ へ移動可能である。そして、 DP の持つ $[\varphi]$ と T の持つ $[u\varphi]$ との間の素性共有により、 α のラベルは $\langle\varphi, \varphi\rangle$ となる。

4. 分析

本節では、前節までの議論を踏まえた上で、 PAB の派生に対する分析を提示する。本稿では、(13)に示されるように、3 つの仮定を設ける。

- (13) a. be は補部に小節構造を取る。
 (Mikami (2009), Samko (2014))
 b. 前置要素は $[Top(ic)]$ 素性を持つ。
 c. C 主要部は値未付与の φ 素性 $[u\varphi]$ と値未付与の話題素性 $[uTop]$ を持って派生に導入され、それらの素性の両方が T へ継承される。²

4.1. 形容詞句を伴う PAB の派生

形容詞句を伴う PAB は(15)のように派生される。

- (14) Less fortunate was the girl in the back seat. (Rochemont (1978: 30))
 (15) $[C_{[u\varphi][uTop]} [\beta AP_{[Top]i} T_{[u\varphi][uTop]} [vP V [VP be [\alpha DP_{[\varphi][uCase]} t_i]]]]]]$
 $\rightarrow \alpha = DP \quad \beta = \langle Top, Top \rangle$

まず、 DP と AP の併合によって小節構造が形成される。この時点では $\{XP, YP\}$ 構造であるので、 α のラベルが決定されない。次に、 be 動詞と v が順に併合される。 be 動詞はフェイズを形成せず、転送が適用されないため、この時点ではラベル付けの計算は行われな³。次に、 T が併合され、その指定部に AP

が移動する。この移動により α のラベルは DP となる(cf. (11b))。そして、 β に C が併合されるが、ここでの C は $[u\varphi]$ に加えて $[uTop]$ を持つが、これら2つの素性が T へ継承される(cf. (13c))。 $[u\varphi]$ は主語 DP の持つ $[\varphi]$ と一致関係に入ることにより削除される。英語における T は単独でラベルになることができないが (Chomsky (2015))、 β のラベルは、 T へ継承された $[uTop]$ と $SPEC-T$ へ移動した AP の持つ $[Top]$ の素性共有によって $\langle Top, Top \rangle$ と決定される(cf. (11c))。値未付与の素性がすべて削除され、かつすべてのラベルが決定されるので派生が収束する。

4.2. 分詞句を伴う PAB の派生

本節では、分詞句を伴う PAB の派生に対して説明を与える。まず、過去分詞を伴う PAB は(17)のように派生される。

- (16) Found at the scene of the crime was an axe.
 (Rochemont and Culicover (1990: 69))
 (17) $[C_{[u\varphi][uTop]} [\beta v^*P_{[Top]i} T_{[u\varphi][uTop]} [vP be [\alpha DP_{[\varphi][uCase]} t_i]]]]$
 $\rightarrow \alpha = DP \quad \beta = \langle Top, Top \rangle$

まず、 v^*-R と DP が併合され、 DP が $SPEC-v^*$ へ移動し小節構造が形成される。次に、 be が併合された後に T が併合され、 v^*P が $SPEC-T$ へ移動する。この移動により α のラベルは DP となる(cf. (11b))。そして、 C が $[u\varphi]$ と $[uTop]$ を持って併合され、それらの素性を T へ継承する。 $[u\varphi]$ は主語 DP の持つ $[\varphi]$ と一致関係に入ることにより削除され、 $[uTop]$ は $SPEC-T$ へ移動した v^*P の持つ $[Top]$ と素性共有を行い、 β のラベルは $\langle Top, Top \rangle$ となる(cf. (11c))。値未付与の素性がすべて削除され、かつすべてのラベルが決定されるので派生が収束する。

次に、現在分詞を伴う PAB は(19)のように

派生される。

- (18) Joining the chorus of political figures was
former Georgia Sen. Sam Nunn.

(Samko (2014: 373))

- (19) a. $[_{\text{AspP}} \text{be } [_{\alpha} \text{DP}_{[\varphi][\text{uCase}]} [_{\text{v}^*\text{P}[\text{Top}]} \text{v}^*_{[\text{u}\varphi]} [_{\langle\varphi, \varphi\rangle} \text{DP}_i [_{\text{R}_{[\text{u}\varphi}]} \text{t}_i]]]]]$
b. $[_{\text{C}_{[\text{u}\varphi][\text{uTop}]} } [_{\beta} \text{v}^*\text{P}_{[\text{Top}]} \text{T}_{[\text{u}\varphi][\text{uTop}]} [_{\text{AspP}} \text{be } [_{\alpha} \text{DP}_{[\varphi][\text{uCase}]} \text{t}_j]]]]]$
 $\rightarrow \alpha = \text{DP} \quad \beta = \langle \text{Top}, \text{Top} \rangle$

R と目的語 DP が併合された後、目的語 DP は SPEC-R に移動する。そして v^* が併合され、 v^* の持つ $[\text{u}\varphi]$ が R へ継承されることにより、R と目的語 DP が素性共有を行い、この集合のラベルは $\langle\varphi, \varphi\rangle$ となる。Chomsky (2015) に従い、R は v^* に内的対併合され、 v^* は不活性となり、フェイズ性は R で活性化されると仮定する。次に、 v^*P に主語 DP が併合され、小節構造が形成されるが、Samko (2014) に従い、be が Asp として α に併合されると仮定する。その後、T が併合され、 v^*P が SPEC-T へ移動する。この移動により α のラベルは DP となる(cf. (11b))。そして、C が $[\text{u}\varphi]$ と $[\text{uTop}]$ を持って併合され、これらの素性を T へ継承する。 $[\text{u}\varphi]$ は主語 DP の持つ $[\varphi]$ と一致関係に入ることにより削除され、 $[\text{uTop}]$ は SPEC-T へ移動した v^*P の持つ $[\text{Top}]$ と素性共有を行い、 β のラベルは $\langle \text{Top}, \text{Top} \rangle$ となる(cf. (11c))。値未付与の素性がすべて削除され、かつすべてのラベルが決定されるので派生が収束する。

4.3. その他の派生の可能性

本節では、PAB は前節で述べた手順によってのみ派生されることを示す。その他の派生の可能性として、C の $[\text{uTop}]$ が T へ継承されず、前置要素が SPEC-C に移動する派生について考察する。⁴

- (20) $[_{\gamma} \text{AP}_{[\text{Top}]} \text{C}_{[\text{uTop}]} [_{\beta} \text{DP}_{[\varphi][\text{uCase}]} \text{T}_{[\text{u}\varphi]} [_{\text{VP}} \text{V}$

$[_{\text{VP}} \text{be } [_{\alpha} \text{t}_i \text{t}_j]]]]$

(20)において、DP と AP がそれぞれ SPEC-T と SPEC-C へ移動する。そして、 β と γ のラベルは素性共有によってそれぞれ $\langle\varphi, \varphi\rangle$ 、 $\langle \text{Top}, \text{Top} \rangle$ となり(cf. (11c))、値未付与の素性はすべて削除される。しかし、 α を構成する2つの句は両方とも移動によって残されたコピーであるので、ラベル付けにとって不可視的であり、ラベル決定に参加することができない。これは Narita (2014)において(21)として定式化されている。

- (21) $\star\{t, t\}$:

CI cannot assign a legitimate interpretation to an SO whose two members are both copies/traces created by IM. (Narita (2014: 112))

したがって、この派生では、 α のラベルが決定されず、CI インターフェイスにおいて適切な解釈が与えられないため、派生が破綻する。実際、(22)に示されるように、このような派生手順を辿ると考えられる例は非文法的である。したがって、もし PAB において C の持つ $[\text{uTop}]$ が T へ継承されなければ、 α か β のいずれかのラベルが決定できないため、派生は破綻することになる。

- (22) a. $\star\text{Sitting on the dock the man in the blue suit was.}$
b. $\star\text{Beaten to death in the park Mary was.}$
c. $\star\text{Bigger than a mountain King Kong was.}$ (Rochemont (1978: 32))

4.4. 帰結

本分析の帰結として、2 節で取り上げた PAB の特性が説明される。まず、be の補部のラベルが DP となるので、新情報として焦点となるという事実が導かれる (cf. Goto (2017))。また、前置要素は SPEC-T を占める

ので、(7)のように繰り上げの適用を受けることが可能である。そして、(9)では(20)の派生と同様に、主語 DP が移動しているので、小節構造のラベルが決まらず排除される。

さらなる帰結として、PAB が ECM 構文に生起できないという事実も説明される。

- (23) a. *I believe [_α less fortunate to be the girl in the black seat]. (informant)
b. *I believe [_α anchoring their prize to be pictures of former dictators].
(Samko (2014: 378))

ECM 補部は C を持たないため、[uTop]が派生に導入されない。したがって、前置要素が SPEC-T へ移動しても、素性共有によって α のラベルを決定することはできない。仮に前置要素がさらに SPEC-R に移動したとしても、R と素性共有することができず、(23)は非文法的となる。

加えて、本発表の分析は、PAB と同様に、話題性を持つとされる文主語構文の派生にも拡張可能である。文主語は話題性を持つと同時に、(24)に示されるように、φ 素性に関して動詞との間に数の一致を示す。

- (24) [That the president will be released] and [that he will be impeached] are equally likely at this point.
(McCloskey (1991: 564))

この事実は、C から T に継承された[uφ]と[uTop]の両方が文主語の持つ素性と素性共有を行うとすれば、正しく説明される。したがって、(25)の例は(26)のように派生され、β のラベルは<Top, Top>、<φ, φ>となる。⁵

- (25) That John won the first prize is true.
(Tanigawa (2018: 312))
(26) [C_{[uφ][uTop]} [β SS_{[Top][φ]i} T_{[uφ][uTop]} [_{VP} v [_{VP} be [_{AP} t_i AP]]]]]

5. 結語

本稿では、PAB の統語構造を LA の観点から明らかにすることを試みた。PAB では be が補部として小節構造を取り、C から[uφ]と[uTop]の両方を T へ継承することによって派生されると主張した。さらに、本分析の帰結として、文主語構文の派生も説明される可能性を示唆した。

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注

¹ Chomsky (2015)では、併合は自由に適用可能であると仮定されており、移動の駆動要因は不要である。本稿ではこの仮定に従う。

² Kitada (2011)は φ 素性と末端素性 (Edge Feature)が C から T へ継承されるという仮定に基づき、前置要素の SPEC-T への移動を A バー移動であると分析している。本稿における分析は、理論的枠組みは異なるが、Kitada と同様の方針に沿ったものである。

³ 本稿では、Chomsky (2015)に従い、LA の適用は転送時に行われると仮定する。

⁴ 4.1 節で述べたように、英語の T は単独でラベルになることができない (Chomsky (2015))。したがって、この派生では、β のラベル付けのため、DP が SPEC-T に移動しなければならないことに注意されたい。

⁵ 本稿では文主語の範疇の問題には踏み込まず、Sentential Subject の頭文字をとって SS と表記する。

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英語史における *How come* 構文の起源と発達について

(On the Origin and Development of *How Come* Constructions in the History of English)

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1. 導入

現代英語には *how come* を疑問詞として伴う(1b)のような疑問文が存在し、*why* を伴う(1a)の疑問文とほとんど同じ機能を持つと言われている。本論文では、(1b)のような疑問文は *how come* 構文と呼ばれる。

(1) a. Why did John leave?

b. How come John left?

(Collins (1991: 32))

これまで多くの先行研究により *how come* 構文の統語的・意味的性質が分析されてきた。例えば、Collins (1991)や Shlonsky and Soare (2011)では、(2a, b)における *why* と *how come* の解釈の違いが議論されている。

(2) a. Why did John say Mary left?

b. How come John said Mary left?

(Collins (1991: 33))

(2a)の *why* は埋め込み節の要素として解釈さ

れうるが、(2b)の *how come* は主節の要素としてのみ解釈される。Collins (1991)や Shlonsky and Soare (2011)は、この事実を説明するために、*how come* は CP 領域に基底生成されると仮定している。

また、Radford (2018)は、*how come* 構文は話者によって異なる構造を持つという可能性を指摘し、(3a, b)に示される二種類の構造を提示している。

(3) a. [_{INTP} *how come* (postmodifier) [_{INT} $\emptyset$]
...]

b. [_{INTP} *how* (postmodifier) [_{INT} *come*]
...] (Radford (2018: 253))

(3a)では、*how come* は単一の *wh* 要素として INTP 指定部に基底生成され、(3b)では、*how* と *come* がそれぞれ INTP 指定部と主要部に基底生成されている。(3a, b)の構造は、強意詞が話者によって異なる分布を示すという事実により支持される。強意詞が *how come* に後続している(4a, b)のような文は(3a)の構造を支持し、強意詞が *how* と *come* の間に介在している(5a, b)のような文は(3b)の構造を支持している。

(4) a. *How come the hell that doesn't happen in real life?*

(itshardbeingmesometimes.blogspot.com)

b. *How come on earth he has the power to beat the top players?*

(dragonsoulgame.com)

(Radford (2018: 252))

(5) a. *How the heck come I don't get my fair share?*

(readersupportednews.com)

b. *How on earth come you are using fahrenheit?*

(volcanocafe.wordpress.com)

(Radford (2018: 253))

本論文では、Radford (2018)により示唆された考えを採用し、生成文法理論の枠組みの下で *how come* 構文の起源と歴史的発達に対して理論的説明を与える。具体的には、*how come* 構文の起源は、*how* と *come* が動詞第二位現象により CP 領域に移動している文であり、それらが(3b)のように CP 領域に基底生成されるようになることで、*how come* 構文が発達したと主張する。また、*how* と *come* が単一の構成素として再分析されることで、(3a)の構造が生じ、結果として二つの構造が共存することになると論じる。この分析の帰結として、*how come* が単独で現れる例の出現時期と生起制限が正しく説明されることを示す。

2. 歴史的事実

Claridge (2012)やKim and Kim (2017)はThe Corpus of Historical American English(COHA)を用いて、*how come* 構文の歴史的分布を調査している。この節では、同様の調査により得られたデータを再集計し、*how come* 構文と関連する形式の分布を明らかにする。

本論文の調査では、*how come* という形式を *come* の屈折に応じて三つのタイプ(*how come*、*how came*、*how comes*)に分類し、これら三つのタイプの生起例をさらに四つのタイプ(Finite、Bare、V2、others)に分類している。Finiteタイプは、(6)に示されるように、*how come* に定形節が後続している *how come* 構文を指している。Bare タイプは、(7)に示されるように、*how come* が単独で生起している例を指している。V2 タイプは、(8)に示されるように、語彙動詞 *come* が主語と倒置することにより *how come* という形式が形成されている例を指している。このタイプに見られる *come* と主語の倒置は、初期英語に見られる動詞第二位現象によるものと考えられる。

- (6) *How come* + [Subj V...] (Finite)
- a. he *drap* he head one side, he did, en he *ax* **how come** Brer Rabbit got all *de* luck on he own side.
(COHA,1881,NightsWithUncle)
- b. If he *don't gittin'* better, **how come** he *ss* every day a little more *kvierter*
(COHA,1884,DrSevier)
(Claridge (2012: 184))
- (7) *How come* (Bare)
- a. “How come, Peter?” demanded Jimmy Day.
(COHA,1922,FIC,JudithGodlessValley)
- b. Nobody know how come!
(COHA,1934,FIC,Play:PottersField)
- (8) *How come* + [Subj (PP / to do / CP)] (V2)
- a. And how comes he?
(COHA,1833,FIC,Camillus)
- b. How came it in the water?
(COHA,1870,MAG,Atlantic)
- c. “How come you to have it to sell?”
(COHA,1852,FIC,HillsShatemuc)
- d. How comes it that those ruins have not, in part, accumulated?
(COHA,1836,NF,StPierresStudies)

調査の結果は以下の表にまとめられている。

表：1810年代から2000年代における *how come*、*how came*、*how comes/th* の分布

	<i>How come</i>				<i>How came</i>				<i>How comes/th</i>			
	Finite	Bare	V2	others	Finite	Bare	V2	others	Finite	Bare	V2	others
1810	0	0	0	0	0	0	19	0	0	0	3	0
1820	0	0	1	2	0	0	69	1	0	0	10	1
1830	0	0	3	1	0	0	75	0	0	0	36	3
1840	0	0	6	1	0	0	126	1	0	0	15	2
1850	0	0	3	1	0	0	98	1	0	0	18	2
1860	0	0	3	0	0	0	99	0	0	0	19	1
1870	0	0	7	0	0	0	97	0	0	0	18	0
1880	9	3	14	0	0	0	79	1	0	0	25	0
1890	0	0	2	0	0	0	62	0	0	0	24	0
1900	2	2	9	2	0	0	56	1	0	0	10	0
1910	3	1	4	1	0	0	24	0	0	0	9	0
1920	17	19	19	1	0	0	24	0	1	0	14	1
1930	46	24	20	5	0	0	15	1	0	0	4	0
1940	102	39	17	3	0	0	7	0	1	0	2	0
1950	117	33	17	6	0	0	4	0	0	0	1	0
1960	140	44	17	5	0	0	2	0	0	0	2	0
1970	240	82	20	2	0	0	4	0	0	0	1	0
1980	218	46	13	1	0	0	4	0	0	0	0	0
1990	251	44	18	2	0	0	2	0	0	0	0	0
2000	203	38	15	3	0	0	3	0	0	0	1	0

この調査結果によると、V2 タイプの例は Finite タイプの例(*how come* 構文)が出現する以前から存在し、*come* のすべての屈折形を伴うことが可能である。先行研究でも指摘されているように、*how come* 構文は 1880 年代に出現するが、1920 年代と 1940 年代に発見される二例を除くと、*come* が屈折している例は観察されない。¹ また、Bare タイプの例は、Finite タイプの例と同時期に出現するが、そのような例において *came* と *comes* は観察されない。Finite タイプと Bare タイプの例は増加する傾向にあり 2000 年代においても一定の頻度で観察されるが、V2 タイプの例は徐々に減少し 2000 年代ではほとんど廃れてしまう。

さらに、本調査では *how* と *come* の間に強意詞が介在している例は発見されたが(cf. (9)-(11))、強意詞が *how come* に後続する例は発見されなかった。

- (9) How + postmodifier + come
+ [Subj V...] (Finite)

How the hell come you didn't know
that!

(COHA, 1969, FIC, Mov: WildBunchThe)

- (10) How + postmodifier + come (Bare)

"Pray tell, how the hell come?"

(COHA, 1974, FIC, OneTimeISawMorning)

- (11) How + postmodifier + come
+ [Subj (PP / to do)] (V2)

a. "How in the world came you by
this?"

(COHA, 1857, FIC, BrotherClerks)

b. Why, how on earth came you to
know anything of it?

(COHA, 1847, FIC, MadmenAll)

Claridge (2012)は、*how come* 構文の発達には文法化や語彙化が関わっていると論じ、Kim and Kim (2017)は、*how come* 構文の発達

を文法的構文化の観点から説明しているが、どちらの先行研究においても、統語構造において具体的にどのような過程でどのような変化が生じたかは明らかにされていない。また、これらの先行研究では、強意詞を含む例((9)-(11))については言及されていない。

本論文では、*how come* 構文の起源は V2 タイプの例であり、CP 領域に移動されていた *how* と *come* が関連する位置に併合されるようになることで *how come* 構文が生じたと主張する。また、強意詞を伴う例の分布を考慮し、*how come* 構文の歴史的発達には二段階の変化が関わっていると論じる。

3. 分析

3.1. 理論的枠組み

この節では、本論文で採用される 2 つの理論的枠組みを提示する。第一に、本論文は Gelderen (2004, 2011)により提案されている (12)の原理を採用する。

- (12) Late Merge Principle(LMP)

Merge as late as possible.

(Gelderen (2011: 14))

(12)に示されるように、LMP では、ある位置に移動するよりもその位置に併合する方が経済的であると規定されている。

第二に、Hopper and Traugott (2003)により rebracketing と呼ばれている歴史的変化を仮定する。Hopper and Traugott (2003)は、この歴史的変化の一例として、(13)のような変化を提示している。

- (13) a. [I am going [to marry bill]]

b. [I [am going to] marry bill]

(Hopper and Traugott (2003: 3))

(13)では、*to* 不定詞が *am going* に後続している構造が、rebracketing により、*to* が *am going*

と同じ構成素にある構造に再分析されたということが示されている。

3.2. *How come* 構文の起源と発達

この節では、3.1 節で提示された理論的枠組みを用いて、*how come* 構文の起源と発達過程に対して理論的分析を提案する。

本論文では、動詞第二位現象に対する標準的な分析に従い、(14a)における V2 タイプの例は(14b)のような構造を持つと仮定される (cf. Fischer et al. (2000))。

- (14) a. And how comes he? (= (8a))
 b. [CP how [V+T+C comes] [TP he *t*_{V+T} [VP *t*_V *t*_{how}]]]

(14b)では、*how* は下位の位置から CP 指定部に移動している。また、*come* は語彙動詞として併合し、Travis (1984)により提案される主要部移動制約に従い、TP 主要部を経由して CP 主要部に移動している。この構造において、*come* は語彙動詞として併合し CP 主要部への主要部移動の過程で接辞を伴う TP 主要部と結合するため、当該のタイプの例において *come* は主語や時制によって様々な屈折を示すことが正しく予想される。さらに、*how* と *come* が独立して併合し、別々の移動操作によって CP 領域に移動するため、それらの間に強意詞が介在する(15)のような例が発見されるという事実もまた正しく予想される。

- (15) a. “How in the world came you by this?” (= (11a))
 b. Why, how on earth came you to know anything of it? (= (11b))

本論文では、*how come* 構文の起源は、*how come* 構文が出現する以前から存在していた V2 タイプの例であり、V2 タイプにおいて

CP 領域に移動していた *how* と *come* が、LMP の影響により CP 領域に併合するようになることで、*how come* 構文が出現したと主張する。したがって、1880 年代において LMP により(16)のような歴史的変化が生じたことになる。

- (16) a. [CP how [V+T+C come/came/comes] [TP Subj *t*_{V+T} [VP *t*_V *t*_{how}]]] (~ 2000s)
 → b. [CP how [C come] [TP Subj T [VP V...]]] (1880s ~)

(16b)では、*how* と *come* は CP 指定部と主要部に直接併合されるため、*come* は TP 主要部の接辞と結合しない疑問標識として機能するようになり、VP 主要部や TP 主要部としてさらなる要素が併合されるようになることで、*how come* の後に定形節が生起する *how come* 構文が出現する。本論文の調査により得られた(17)のような例や Radford (2018)により提示された(18)のような例の存在は、(16b)の構造が現代英語まで存続しているということを示唆している。

- (17) How the hell come you didn't know that! (= (9))
 (18) a. How the heck come I don't get my fair share? (= (5a))
 b. How on earth come you are using fahrenheit? (= (5b))

さらに、(16b)の構造は、2000 年代以降、rebracketing の影響により(19)のような歴史的変化を受けたと主張する。

- (19) a. [CP how [C come] [TP Subj T [VP V ...]]] (1880s ~)
 → b. [CP [how come] [C ø] [TP Subj T [VP V ...]]] (2000s ~)

(19)では、rebracketing により CP 指定部と主要部を占めていた *how* と *come* が単一の構成素として再分析され、*how come* が CP 指定部を占める構造が生じたということが示されている。Radford (2018)により提示された(20)のような例と、そのような例が COHA を用いた調査では発見されないという事実は、(19b)の構造が 2000 年代以降に出現したという分析を支持する。

- (20) a. *How come the hell that doesn't happen in real life?* (= (4a))
 b. *How come on earth he has the power to beat the top players?* (= (4b))

(16)と(19)に示される歴史的変化は、既存の構造が新しい構造に取って代わられたということを意味しているのではなく、既存の構造から新しい構造が生じたということの意味している。結果として、動詞移動の減少に伴い、*how come* 構文の起源である(16a)の構造を持つ例は減少していき 2000 年代では極少数となるが、LMP と rebracketing の影響により生じた二種類の *how come* 構文は 2000 年代以降も共存することになる。

3.3. 帰結

この節では、3.2 節で提案された分析の帰結として、*how come* が単体で生起する Bare タイプの例の出現時期と生起制限が理論的に説明されることを示す。

Merchant (2001)は、sluicing による削除は I-to-C 移動よりも先に起きると仮定し、(21)のような例において助動詞の残留が不可能であるという事実を説明している。

- (21) A: Max has invited someone.
 B: Really? Who (*has)?
 (Merchant (2001: 63))

Merchant (2001)によると、主要部移動は PF で起きる操作であり、sluicing による削除より後で起きるため、助動詞は CP 主要部に移動する前に削除されることになり、sluicing による削除を免れない。

Bare タイプの例は sluicing により派生されると仮定すると、Merchant (2001)の分析の下では、*how came* や *how comes* という形式を伴う Bare タイプの例が観察されないという事実は即座に説明される。主語や時制に関して *come* が屈折を示す V2 タイプの例の構造では、(22a)に再掲されるように、*come* は語彙動詞として併合し主要部移動により CP 主要部に移動する。Merchant (2001)の分析に従い、主要部移動が PF において sluicing による削除より後に起きると仮定すると、(22b)に示すように、sluicing による削除は *come* の主要部移動より先に起きることになる。

- (22) a. [CP how [V+T+C come/came/comes]
 [TP Subj t_{V+T} [VP t_V t_{how}]]
 b. [CP how C [~~TP Subj T [~~VP come ...~~]~~]
 t_{how}]]

(22b)では、*come* が CP 主要部に主要部移動する前に TP が削除されるため、語彙動詞として併合された *come* は削除を免れない。したがって、主語や時制に関して *come* が屈折を示す Bare タイプの例が発見されないという事実が正しく説明される。

一方、1880 年代において *how come* 構文が出現すると、(23)に示すように、*come* が sluicing による削除を免れる構造が出現する。

- (23) a. [CP how [C come] [~~TP Subj T [~~VP V ...~~]~~]] (1880s ~)
 b. [CP [how come] [C ø] [~~TP Subj T [~~VP V ...~~]~~]] (2000s ~)

(23)では、*how* と *come* は CP 領域に併合され

るため、sluicing が TP を削除する操作であるということを考慮すると、それにより *come* が削除されることはない。結果として、1880 年代において *how come* 構文(Finite タイプ)が出現すると、Bare タイプの例もまた出現することが正しく説明される。

4. 結論

本論文では、動詞第二位現象により CP 領域に移動していた *how* と *come* が、Gelderen (2004, 2011)が提案する LMP の影響により、CP 領域に併合するようになることで、*how come* 構文が出現したと提案した。また、*how* と *come* がそれぞれ CP 指定部と主要部を占める構造から、rebracketing の影響により、*how come* が単一の構成素として生起する構造が出現したと論じた。この分析により、強意詞が *how* と *come* の間に介在する例が先に出現し、強意詞がそれらに後続する例が後に現れるという事実が説明される。さらに、この分析の帰結として、*how come* 構文の出現と同時に *how come* が単体で生起する例が出現したという事実と、そのような例では *came* と *comes* が用いられないという事実が説明されることを示した。

注

¹ 1920 年代と 1940 年代に発見される二例は以下に挙げられる。

- (i) a. “I declare! I thought Hunchie was out of his head. *How comes* [you are named after that horse], girl?”

(COHA,1922,FIC,BettyGordonAtMountain)

- b. Josiah, it often wonders me *how comes* [a fellow that travels around as much as you do still hangs on to the old horse and buggy].

(COHA,1942,FIC,ComeBackWayneCountry)

これらの例は定形動詞を含んでいるが、*come* が三人称単数現在の屈折で現れているため、

(8d)のような文における *it* と *that* が省略されることで派生されたものとして、*how come* 構文とはみなさないこととする。

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言語における leakage 現象 (On the Leakage Phenomenon in Language)

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キーワード : leakage 現象, 否定辞繰り上げ,
虚辞の not, 可能表現の重複, 対象格表示

1. はじめに

本稿の目的は、一般に誤用とされる言語表現の中にも、leakage 現象という観点から捉えることにより、その出現を説明することができるものがあることを示すことである。本稿では、“I don’t {think/believe/know that} ーp.” という英語表現と、「～ (ら) れることができる」(重複した可能表現) という日本語表現を取り扱う。

2. Leakage 現象とは

Langacker(2004)によれば、(1)は、(a)(b)の二通りに解釈できる点において、ambiguous である。

(1) Jack suspects Jill may be pregnant.

- a. Jack inclines to the proposition “Jill may be pregnant.”
- b. Jack inclines to the proposition “Jill is pregnant.”

(Langacker (2004: 562))

一つの解釈(a)は、Jack は ‘Jill may be pregnant’ [ジルは妊娠している可能性があ

る]という命題に incline しているというものであり、もう一つの解釈(b) (より一般的な解釈) は、Jack は ‘Jill is pregnant’ [ジルは妊娠している]という命題に incline しているというものである。後者の解釈の場合、モーダル表現 may は以下のメカニズムを経て従属節に生起すると論じられている。

(2) Impressionistically, we can describe this as a kind of “leakage”, where the inclination coded by *suspect* seeps into the subordinate clause and manifests itself as the modal *may*.
(Langacker (2004: 564))

(2)の記述を元に、(Langacker (2004)で想定された) leakage 現象は、以下のように、一般化(定義)することができる。

(3) 主節述語によってコード化されている【認識・意識】が従属節に浸透し、その【認識・意識】が従属節において、(語彙の形で) 言語化される現象

3. “I don’t {think/believe/know that} ーp.”

3.1. 二種類の “I don’t {think/believe/know that} ーp.”

一般に、“I don’t {think/believe/know that} ーp.” は(4)-(6)の実例からも分かるように、ーp (破線下線部 : エコー表現) を【緩和的に否認する】表現として捉えることができる(この場合は、当然、「否定辞繰り上げ」の読みは阻止される)。

(4) PERRY: ... But, obviously, the kid did not know between right and wrong....

ELLICOTT: I think the one thing I would disagree on is that I don't think this kid didn't know the difference between right and wrong. He didn't know the difference between wrong and very wrong.

- (CNN TALKBACK LIVE, 2002/08/09)
- (5) NOVAK: Congressman Ackerman, there's been a lot of reports that Senator Kerry is not doing well and a shakeup in his staff is needed. Do you believe a shakeup in his staff is necessary?
- ACKERMAN: I don't believe he's not doing well.
- (CNN CROSSFIRE, 2004/08/31)
- (6) REPORTER: I'm staying here. My point is that if you interrupt during an interview while it's going on because you don't like the question.
- ARMY PAO: I didn't know the- and I'm trying to tell you is, I don't know that I don't like the question.
- (ABC NIGHTLINE, 1990/10/10)

他方、(7)-(9)中の “I don't {think/believe/ know that} ~p.” は、特に破線下線部内容との首尾一貫性という観点から考えた場合、従属中の否定辞 not は余剰であり、本来であれば、(7)'-(9)'のように表現されなければならないものである（そして、注意すべきは、「否定辞繰り上げ」の読みが義務的である点である）。

- (7) O'BRIEN: Cheri, Cheri, would you - Cheri, quick question for you. Should the troops come out in Korea, the U.S.troops?
- JACOBUS: I don't know. I don't think I'm not qualified to answer that, probably not at this point.
- (CNN TALKBACK LIVE, 2002/12/27)
- (8) BROWN: ...if you ask for my personal judgment, a two-way contest between George Bush and Bill Clinton. I think Bill Clinton is going to win that contest. That doesn't mean I don't believe Ross Perot isn't going to be a factor. I think he is a major

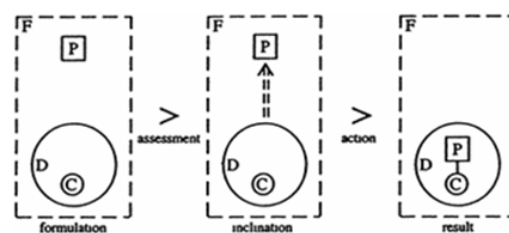
factor. I take him seriously.

- (ABC BRINKLEY, 1992/06/07)
- (9) LASHONDA: I have a question for that lady right there. How does she know her daughter don't know about sex?
- WOMAN: I just don't think she -- I mean, I don't know that she doesn't know. I don't think she knows about it, you know. I mean, I don't think she knows anything about it.
- (INDEPENDENT STATION GERALD, 1994/07/21)
- (7)' I don't think I'm qualified to answer that...
- (8)' That doesn't mean I don't believe Ross Perot is going to be a factor
- (9)' I don't know that she knows.

では、従属節の否定辞 not はどのようなプロセスを経て生じているのでしょうか？本稿では、認知言語学的考察を通して、その答えを探ることにする。

3.2. 認知言語学的考察

Langacker (2002, 2004)では、概念化者の命題態度を表示するために、Epistemic Control Cycle モデル（図 1）が提案されている。



C= conceptualizer P= proposition D= epistemic dominion

図 1: Epistemic Control Cycle (Langacker (2004:542))

そして、述語動詞が inclination stage を表している場合にのみ、negative raising 現象が見られることが指摘されている。

- (10) ... an inclination stage, where the subject

inclines toward a positive or negative judgment without yet being able to definitely resolve the matter.

(Langacker (2002: 200))

(11) Sumnicht (2001) argues persuasively that negative raising is only found with the inclination stage, where the matter is still at issue.

a. I don't believe she has any children.
[inclination] = I believe she doesn't have any children.

b. I don't believe (the theory) that God is female. [result] $\neq$ I believe (the theory) that God isn't female.

c. I didn't believe (his story) that he had to work late. [action] $\neq$ I believed (his story) that he didn't have to work late.

(Langacker (2002: 201))

Langacker (2009)では、inclination (tentative positive judgment)と disinclination (tentative negative judgment)が、それぞれ図2、図3のように図示されるとともに、inclinationを示す述語を否定すると disinclinationを示すようになることが指摘されている。

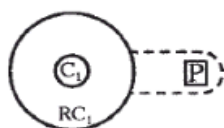


図 2: Inclination (Langacker (2009: 315))

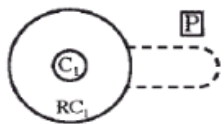


図 3: Disinclination (Langacker (2009:315))

(12) Inclination: believe, think, suppose, imagine, suspect, figure, reckon, expect

Disinclination: doubt, don't {believe / think / suppose / imagine / ...}

(Langacker (2009: 316))

そして、「Pに届かない」ことを「 $\sim$ Pに届く」こととして捉えることで否定辞繰り上げ現象が説明できると主張されている。

(13) (21) a. I don't {believe / think / suppose / ...} she can trust him.

b. I {believe / think / suppose / ...} she can't trust him.

...To account for the rough equivalence of (21)a–b, all we need say is that the negation in (21)a affects the polarity of the inclination, changing it from (positive) inclination (capture) to disinclination (avoidance). That is, it affects the direction of C_1 's mental projection of RC_1 , the result being that it does not reach P (the case of inclination) but instead reaches its alternative ($\sim$ P). On that interpretation (21)a is “logically” equivalent to (21)b, which specifies a positive inclination toward $\sim$ P. The expressions represent alternate ways of construing (i.e. conceiving and portraying) the same situation. (Langacker (2009: 317))

他方、Mori (2009)では、『人はもの（具体物、概念等）を受け入れようとする場合には接近し、拒絶しようとする場合には遠ざかる性質を有する』という一般的特性を元に、命題態度を反映した心理距離スケール（図4）が想定され、inclinationと disinclinationはそれぞれ図5、図6のように示される。

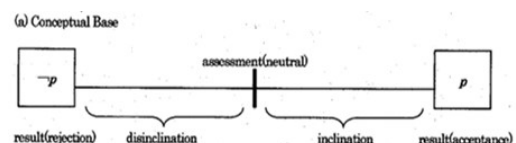
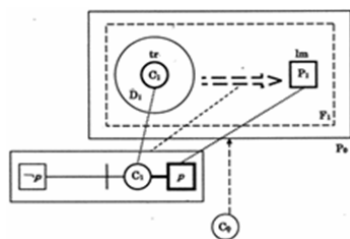
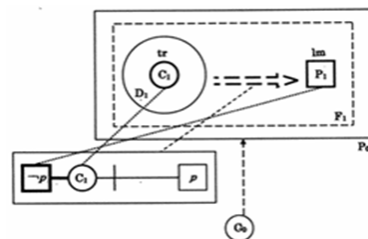


図 4: Propositional Attitude and Psychological Distance

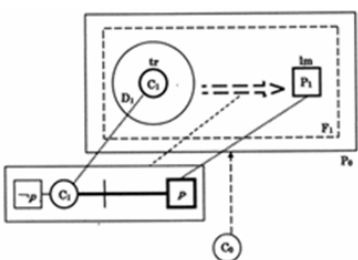
(Mori (2009: 118))



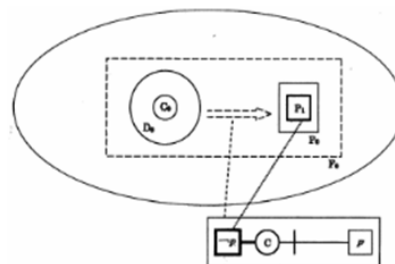
☒ 5: C_1 's Inclination toward p (Mori (2009: 119))



☒ 8: C₁'s Inclination toward $\neg p$ (Mori (2009: 120))

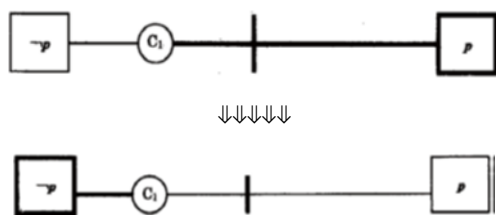


☒ 6: C₁'s Disinclination toward p (Mori (2009: 119))



☒ 9: C₀'s Inclination toward $\neg p$ (Mori (2009: 132))

ここで、I don't {think/believe/know that}は元々、【緩和的否認】の用法－Epistemic Control Cycle (Langacker 2002, 2004)における disinclination－のみを有していたが、心理距離スケール上のプロファイルシフト（概念化者(C₁)と命題(p/¬p)との間の距離認識における〈p からの遠さ〉から〈¬p への近さ〉への転換）（図 7）を契機として、【否定命題の緩和的主張】の拡張用法（図 8）が創発し、頻度効果(Bybee and Scheibman 1999)によって、そのまとまりで『¬p への inclination』を表す epistemic marker（概念化者は C₀（話者）に限られる）に機能変化したもの（図 9）であると想定すると、(7)-(9)の実線下線部における従属節 not は以下のメカニズムを経て生じたものとして説明することができる。



☒ 7: Profile Shift on Psychological Distance Scale
(Mori (2009: 120))

(14) (7)-(9)の実線下線部における従属節 not は、I don't {think/believe/know that}に付与されている『¬p（否定命題）への inclination』が喚起する「否定命題に対する心的態度の表明」の意識が主文に浸透した(seep into)ことによって生じたものである。したがって、実質的な意味はなく、虚辞として扱われなければならないいわゆる leakage 現象の一例である。

この考え方に対して、「否定辞繰り上げ」を統語的現象と見る研究者からは、covert であるべき痕跡が何らかの理由で overt になったという反論が聞こえてきそう だが、主節が I don't know that の場合にはその説明は適用できない。というのも、I don't know that p ≠ I know (that) ー p だからである。

また、この現象(leakage 現象)は、I don't think が(述語動詞の直前に置かれる)挿入節として使用されている実例においても観察される(と同時に、(15)はI don't think が『 $\neg p$ への inclination』を表す epistemic marker であることを示す強力な証拠となる)。

(15) Beijing called for emergency talks with North Korea, the United States, Japan, South Korea and Russia, participants in the six-party nuclear talks, which have been suspended indefinitely. “The United States and a host of others, I don't think, are not interested in stabilizing the region through a series of P.R. activities,” said Robert Gibbs. (New York Times, 2010/11/30)

補足すると、一般に、文中に用いられる挿入節 I don't {think/believe} は肯定文とは共起しないとされているが、実際には、下記ののような実例が散見される。

(16) WALTERS: Eddie Murphy, who started at 19, had never done drugs, had never – never drunk, never been a drunker, never smoked, I don't think, had a very strong and happy childhood, unlike most comedians. Unlike many comedians.

(Larry King Live, 2007/02/22)

(17) BLIZER: Well, given the nature of that three-pronged mission, as you describe it, 150,000 troops, I don't believe, are necessarily enough. If you had 150,000 or 200,000 Iraqi troops who were ready for that kind of mission it might be enough, but by all accounts the Iraqis are not yet up to speed. (Late Edition, 2004/12/26)

但し、述語動詞の直前にのみ生起するという生起制限があることと、意味的には、「否定辞繰り上げ」の解釈が義務的であるという点に注意しなければならない。

4. 「～(ら) れることができる」

「～(ら) れることができる」という表現は、一般に誤用とされている。

(18) 可能表現の重複を昨今よく見聞きします。最も多いのは「(ら) れることができる」です。可能の意の「れる／られる」＋「できる」は誤りですから、「未然形＋(ら) れる」か「終止形＋ことができる」のどちらかにしましょう。

【×感じられることができる ○感じられる ○感じるができる】

同様に、可能動詞に可能の意の「れる／られる」や「ことができる」をつけてもいけません。【×読められる ×読めることができる】

『Hatena Blog 許容される日本語』
(2012/08/19)

しかし、インターネット検索をすると、「～(ら) れることができる」の実例がヒットする。ここでは、「得られることができ…」の実例を列挙する。

(19) これまでの検索ツールでは得られることができなかった、さまざまな資料や情報と出会うきっかけとして是非 KWEST をご活用ください。

(関西学院大学図書館)

(20) 東北大以外の入場者が 80% を越えた今回の企画展においては、学外者からの期待を肌で感じることができ、貴重な経験を得られることができました。(東北大大学附属図書館報 2005 Vo.30, No.3)

(21) このシンプルモデルでは、大気－陸－海－生命間の相互作用を具体的に解析できます。この結果を用いて地球環境変動を解明します。さらに、大規模計算の条件設定の目安となり、より正確な結果を得られることができます。(名古屋大学理学部 地球惑星科学科 地球惑星物理講座のご案内)

(22) その結果、腫瘍摘出度を高めることができ、それによって長期の腫瘍制御も良

好な結果を得られることができています。(大阪市立大学 プレスリリース)

本稿では、この表現の出現にも *leakage* 現象が関わっていることを主張する。但し、(3)の一般化を拡大適用し、以下のように想定する。

- (23) 「ことができる」によってコード化されている【可能】の意識が名詞化辞「こと」によって名詞節に変換された文内に浸透して、その意識が、『可能』を表す助動詞「(ら)れる」として言語化したと想定する。

このような想定に対して、表現上、「～(ら)れる」の後に「ことができる」が付加される形になっているので、*leakage* ではないという反論が聞こえてきそうであるが、以下の理由により、発話(表出)前に脳内に「～ことができる」構文が立ち上がっていて、「～」の箇所に文が埋め込まれた後に、発話(表出)されていると考えるのが妥当である。

「Vすることができる」は、次の文型で用いられる。

- (24) 「《文型 b》[人・生き物]{に/が/は} 文 ことができる

(小泉 保 他(編)(1989: 342))

「Vすることができる」の「Vする」が他動詞—例えば、「得る」—の場合、対象格表示の助詞は「ヲ」でなければ非文となる(稀に、「ガ」が生起する事例も見られるが、「得ることができる」がこのまとまりで一つの述語として認識され、他動詞「得る」に付随する「他動性」の意識が希薄になった場合に限られる)。「そこで、「～{を/が}得られることができ…」の文字列を、高等教育機関・学術研究機関(ac.jp)に限定してインターネット

検索してみると以下の結果が得られた。

- (25) 対象格表示:

- ・「ヲ格」—24 例 (83%)
- ・「ガ格」— 5 例 (17%)

この結果から、本来、「を得ることができ…」と表出するつもりであったが、*leakage* によって、実際には、「を得られることができ…」と表出したと想定することができる(対象格表示に「ガ」が使われている事例は、「他動性」が希薄な状態で、「が得ることができ…」と表出するつもりが、*leakage* によって、「が得られることができ…」となったと想定される)。

5. まとめ

本稿では、I don't {think/believe/know that} —p. という英語表現と、「～(ら)れることができる」という日本語表現を取り上げて、これら2つの表現が *leakage* (現象)の結果として生じている可能性が高いことを論じた。また、前者の場合には、Langacker(2004)の論考から定義される *leakage* の規定をそのまま適用できるのに対して、後者の場合には、拡大適用の必要があることを指摘した。

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Featural Approach to Distinction of Copies and Repetitions*

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1. Introduction

This short paper proposes that copies are unified phase by phase based on the value of selective features, case and Q.

Under the current minimalist framework, no indices, chains, and traces can be introduced throughout syntactic derivation because of Inclusiveness Condition, which bars introduction of new elements (and features) in the course of computation. Nonetheless, copies of a certain lexical item (LI) must be identified and distinguished from instances of the identical LI (i.e. repetition) for legitimate interpretations at C-I and SM. Also, as Chomsky (2015) declares, no other syntactic building operation than Merge is unavailable. As Collins & Groat (2019) correctly points out, given that Merge merely creates a complex $\{X, Y\}$ from an LI X and another item Y, copies must be distinguished from mere repetitions only with Merge and other inherent properties of LIs. Thus, copy instances of an identical LI cannot be linked by syntactic devices - indices or chains - formed in syntax.

2. Featural Approach & Locality Restriction

In this section, I will first review the featural approach to the copy/repetition distinction

proposed by Muñoz Pérez (2018). Then, I will discuss the analysis based on phases by Martin and Uriagereka (2014).

2.1. Muñoz Pérez (2018)

Muñoz Pérez (2018) proposes that copies are distinguished from repetitions based on feature values, supposing that chain members are determined representationally at interfaces. His analysis relies on the following assumptions:

- (1) a. A valued feature is an order pair $\langle \text{Att}, \text{Val} \rangle$. Att is collected from the set of attributes (cf. Number) whereas Val is drawn from the set of values.
- b. An unvalued feature is an order pair $\langle \text{Att}, \emptyset \rangle$, where $\emptyset$ is required to be replaced with an item from the set of values.
- c. Two constituents α and β are members of the same chain if (i) α c-commands β , (ii) β is non-distinct from α , and there is no syntactic element between α and β which β is non-distinct from, or which is non-distinct from α .

He also proposes Inclusion-S, which says a constituent β is non-distinct from a constituent α if for every value of β there is an identical value in α . He analyzes (2) as follows:

- (2) a. Cosmo said that Cosmo was arrested t .
- b. $\{_{\text{TP}} \text{Cosmo}^1_{\langle \text{case}, \text{nom} \rangle} \text{ T } \{_{\text{VP}} \text{Cosmo}^2_{\langle \text{case}, \emptyset \rangle} \text{ said that } \{_{\text{TP}} \text{Cosmo}^3_{\langle \text{case}, \text{nom} \rangle} \text{ was } \{_{\text{VP}} \text{arrested } \text{Cosmo}^4_{\langle \text{case}, \emptyset \rangle} \} \} \} \}$.

First of all, case on Cosmo^2 lacks value and it has no contribution to the evaluation of case status, irrelevant to the determination of identity. Given that Cosmo^1 and Cosmo^2 have the same features with the same attributes and value, Cosmo^2 is non-distinct from Cosmo^1 , due to (1) and Inclusion-S. The same argumentation is applied to Cosmo^3 and Cosmo^4 . However,

*Cosmo*² and *Cosmo*³ are distinct in feature value, not forming chains, because the latter has an extra case value <case,nom>, resulting in two separate chains.

He extends his analysis to (3):

- (3) a. What did you see *t*_i?
 b. {_{CP} What¹_{<case,acc>,<ω,Q>} did {_{TP} you {_{v*P} what²_{<case,acc>,<ω,O>} see what³_{<case,acc>,<ω,O>?}}}

*What*² is non-distinct from *what*¹ because case value of these two are identical (acc). Note that the value of ω, an attribute with a left-peripheral property, on *what*² (and *what*³) is unvalued, thus irrelevant to the evaluation of the identity between *what*¹ and *what*² (*/what*³). As a result, these three instances of *what* forms a single chain, as desired.

However, this approach has a difficulty in dealing with an example in (4):

- (4) a. Who did you tell *t* that John met who?
 b. {_{CP} Who¹_{<case,acc>,<ω,Q>} did you {_{v*P} who²_{<case,acc>,<ω,O>} ... tell who³_{<case,acc>,<ω,O>} {_{CP} that John T {_{v*P} met who⁴_{<case,acc>,<ω,O>?}}}}}
 c. Her mother told everyone_i that his_i wife should get a job. (Harper 1990)

Clearly, *who*¹, *who*², and *who*³ are non-distinct because of the same reasoning above, forming a chain at interfaces, as predicted. However, his analysis incorrectly predicts *who*⁴ also becomes a member of the same chain, contra the fact, as illustrated in (4b). *Who*⁴ lacks the value of ω as *who*³, while it has the same case value (acc) as *who*³ and it is c-commanded by *who*³ (see (4c)), which means *who*³/*who*⁴ form a chain. Therefore, all instances of *what* are parts of the same chain.

2.2. Martin and Uriagereka (2014)

Martin and Uriagereka (2014) claims all identical syntactic objects contained in the

transferred domain of a phase head are interpreted as copies, which is derived from PIC (Phase Impenetrability Condition) proposed by Chomsky (2000), which requires that in a phase α with head H, the domain of H is not accessible to operations outside of α, only H and its edge are accessible to such operations.

Based on their analysis, *students*⁴ and *students*³ forms a chain in a matrix clause in (5b), because *students*⁴ and *students*³ are located within the same phase domain, accessible from each other. Whereas, *students*² and *students*¹ stay within the same transferred domain in an embedded clause, forming a separate chain from the chain composed of *student*⁴ and *student*³:

- (5) a. Students believe that students were criticized *t*.
 b. {_{CP} {_{TP} **Students**⁴ T {_{vP} **students**³ {_v {_{vP} believe {_{CP} that {_{TP} *students*² {_T {_{PartP} were {_{vP} criticized *students*¹}}}}}}}}}}}

Yet, their analysis faces a serious problem to deal with A'-chain. Consider (6):

- (6) a. Guess {_{CP} who students criticized *t*}
 b. {_{CP} who³ {_{TP} students T {_{v*P} who² {students {_{v*} {_{vP} criticized who¹}}}}}}}

Evidently, in (6b), *who*² and *who*¹ are not located in the same transferred domains, unable to form a chain, contradictory to the fact. Thus, it is necessary to introduce some additional mechanism or device to recognize copies/chains in Internal Merge (IM) in order to form A'-chain, which is incompatible with the minimalism spirit, as Collons and Groat (2019) points out.

3. Analysis

I will extend the phase-based approach along with Martin and Uriagereka (2014). At the same time, I will crucially make use of features contributing to the label determination.¹

Within the POP system (Chomsky 2013,

2015), labeling failure happens with $\{\sigma \text{ XP}^1, \text{YP}^1\}$ with no sharing features, leaving σ unlabeled. This unlabeled structure can be fixed if XP undergoes IM, making XP^1 a lower copy, which is invisible to the labeling algorithm (LA). Also, XP reaches the final landing site when it undergoes Agree in a matching feature F with Z, due to which LA can determine the label of $\{\text{XP}^2, \text{ZP}\}$ as F via sharing features, namely, F. Consequently, XP^2 becomes fixed as the topmost copy. It should be noted that it is quite necessary to unify the lower copy XP^1 with XP^2 in order to make XP^1 invisible to LA. If not, $\{\sigma \text{ XP}^1, \text{YP}^1\}$ remains unlabeled (uninterpretable), causing crash at interfaces.

This obviously shows the unification of copy instances must be vital given that $\{\text{XP}, \text{YP}\}$ structures (for example, subject-predicates within v^*P) are unavoidable in syntax. Then, what is a clue indicating copy members? As noted, a copy instance undergoing feature sharing with another syntactic element becomes the topmost copy, letting LA recognize other copy instances are lower copies after unification. Let consider a simple A-chain for investigation:

(7) a John is loved *t*.

b. $\{\text{John}^1_{[\varphi, \text{Nom}]} \text{ is } \{v \{\text{loved John}^2_{[\varphi, \text{case}^*]}\}\}\}$

(7b) is a simplifying syntactic structure of (7a), where John^1 is the topmost copy instance, whereas John^2 is a lower one. Note that John^1 should be the same as John^2 except that it has a case feature matched with T.

In this way, under the POP System, the only difference between the topmost copy instance and lower copy instances of some LI is the existence of matched case feature in case of A-movement. Remember that it is the key to determine the status (topmost or lower) of a copy instance X of an LI whether X contributes to labeling or brings about labeling failure. Then,

the search burden to identify copy instances of an identical LI should be substantially reduced. The system simply needs to look at both unlabeled syntactic objects and labeled ones via feature sharing (plus, case-valued instances in an externally merged position).

In addition, due to PIC, movement is done cyclicly. This suggests that each copy instance of an identical LI is located within continuous adjacent phases. If an instance of an identical LI is found in a certain phase when another is not located in the next relevant phase, it should be a repetition. Given the discussion above, it is safe to assume the copy determination is basically achieved derivationally phase to phase.

Now, I propose the followings to derive the distinction between copies and repetitions:

- (8) i. Instances X_n of an identical LI X with an unmatched feature (cf. case/Q, those contributing to labeling) can be unified with the topmost instance X_1 with a matched one, if X_n is located in the c-commanding domain of X_1 and there is no intervening instance X_α with a matched one between X_1 and X_n .
- ii. When X_α intervenes between X_1 and X_n , these lower instances are unified with X_α .
- iii. If feature which is unmatched lacks values and hence is uninterpretable, unification applies at Transfer. If not, this unification applies at the interfaces.
- iv. X_n may be identified with other instances of X across phases, when an instance of X_m is located within the next phase boundary, once its valueless unmatched feature is valued.

Importantly, this proposal does not complicate the definition of Merge, satisfying the minimalism spirit. Only simple unification needs

to be introduced. The mechanism is able to pick up copy instances easily by referring to limited matched/unmatched features.

Let's illustrate the analysis with (9) and (10):

- (9) a. Professors^α think professors^β praise professors^γ.
 b. {_{CP/α} Professors^{1α}_[Nomα] T_α professors^{2α}_[case*→Nomα] v ... {_{CP/β} professors^{3β}_[Nomβ] T_β {_{v*P/γ} professors^{4β}_[case*→Nomβ] v*_γ-V praise professors^{5γ}_[Accγ] } } }.

At a CP/β-phase level, *professors*^{4β} with an unmatched case is unified with *professors*^{3β} with Nomβ, because *professors*^{3β} with a matched case, c-commands *professors*^{4β}. The unmatched case feature on *professors*^{4β} gets valued (Nomβ) due to this unification. Notice that the topmost copy instance, *professors*^{3β}, contributes to the labeling of the embedded φP via feature sharing with T_β, while the lower one, *professors*^{4β}, would cause labeling failure due to no feature sharing with v*_γ if it was the topmost copy. The same explanation goes for another chain-like object consisting of *professors*^{1α} and *professors*^{2α}. At a CP/α-phase level, *professor*^{2α}, lacking case value, is unified with *professors*^{1α} with Nomα, which c-commands it. As a result, these two chain-like objects are correctly sorted out without corruption. Finally, *professors*^{5γ} forms a trivial chain, because it is marked with a different case.

Let's turn to (10), a raising construction:

- (10) a. Professors are likely *t_i* to *t_i* seem *t_i* to *t_i* disappear.
 b. {_{CP/α} Professors^{1α}_[Nomα] T_α is likely professors^{2α}_[case*→Nomα] {to<T,C>} professors^{3α}_[case*→Nomα] v seem professors^{4α}_[case*→Nomα] {to<T,C>} professors^{5α}_[case*→Nomα] v disappeared }

Adopting the approach to pair merge of Epstein, Kitahara and Seely (2016) and Sugimoto (2016), I assume that the infinitive *to* of raising

constructions is a phonological realization of <T,C>, where T is strengthened by C via pair-merge. This pair-merge makes φ-features of C unseen, further depriving C of its phase status; that is, C is adjoined to T.

In (10b), copy instances with an unmatched case, *professors*^{2α}, *professors*^{3α}, *professors*^{4α}, and *professors*^{5α}, undergo the unification with *professors*^{1α} with Nomα, because no c-commanding copy instance of *professors* and no phase boundary intervene between them. Consequently, the appropriate chain-like object *professors*^α is derived.

Finally, (11) is correctly excluded, because unmatched case features on all copy instances of *professors* cause crash at interface, even though the unification would be applied to them.

- (11) a. It is likely professors_i to *t_i* seem *t_i* to *t_i* disappear.
 b. {_{CP/α} It^{1α}_[Nomα] T_α is likely professors¹_[case*] {to<T,C>} professors²_[case*] v seem professors³_[case*] {to<T,C>} professors⁴_[case*] v disappeared }

Importantly, the analysis advocated here can be extended to examples including A'-chain. Notice that under the POP System, Q-features on wh-elements are supposed to be matched with that on C, contributing to the determination of the label of an interrogative C as Q. When C has no Q-feature, wh-elements cannot stay within its Spec without causing labeling failure. Also, Q-features are interpretable, because the features are equipped with a value necessary for the interrogative interpretation at C-I and SM (see (8iii)). Then, it is safe to assume Q-features play a key role in unifying copy instances of an identical wh-item. Now, consider (12):

- (12) a. What does John buy *t_i*?
 b. {_{CP/α} What^{1β}_[Qα,Accβ] {C_α does_[Q]} John^{1α}

[Nom α] T α { v^*P/β what $^{2\beta}_{[Q, Acc\beta]}$ John $^{2\alpha}$
[Case* $\rightarrow$ Nom α] v^*P/β -V buy what $^{3\beta}_{[Q, Acc\beta]}$ }}

In (12), given (8iii), *what* $^{3\beta}$ and *what* $^{2\beta}$ does not need to be unified at a phase-level because these copy instances have matched accusative case. In turn, all copy instances of *what* $^\beta$ are unified across phases at interfaces, because of unmatched Q-features and ACC β on these copy instances. Furthermore, *what* $^\beta$ can get matrix scope via Agree with the matrix C $^\alpha$ on Q-feature, rescuing lower copy instances of *what* $^\beta$ and making a proper operator-variable chain at C-I.

Let's turn to the problematic example in (4a), which is repeated below:

- (13) a. Who $_i$ did you tell t_i that John met who?
b. {CP/ α Who $^{1\beta}_{[Q\alpha, Acc\beta]}$ {C α did $_{[Q]}$ } you { v^*P/β
who $^{2\beta}_{[Q, Acc\beta]}$... tell who $^{3\beta}_{[Q, Acc\beta]}$ {CP/ γ that
John T { v^*P/δ ... v^*P/δ -V met who $^{4\delta}_{[Q, Acc\delta]}$ }?

In (13), copy instances of *who* $^\beta$ and that of *who* $^\delta$ are properly distinguished, because *who* $^\beta$ and *who* $^\delta$ have the different matched accusative cases (ACC $_\beta$ and ACC $_\delta$) respectively due to the fact that each copy instance of *who* $^\beta$ and *who* $^\delta$ undergoes Agree with v^*P/δ -V in distinct phases, even if *who* $^{1\beta}$ and *who* $^{3\beta}$ c-command *who* $^{4\delta}$.

Interestingly, this analysis solves problematic examples under the POP System of Chomsky (2015). To explain *that*-trace effect in (14), Chomsky (2015) supposes that the embedded C $_2$ is nullified, letting the embedded T become a phase head. He proposes this nullification of C $_2$ fixes the label of X to T in (15), enabling the instance of *who* in the embedded TP-Spec to undergo further wh-movement in principle. If *that* occupies C $_2$, blocking the nullification of C $_2$, the embedded T cannot become a phase head, making the fixation of the label of X impossible. This prohibits further wh-movement of *who* ^{3} , which needs to stay for the labeling of T:

- (14) Who do you think (*that) wrote this book?

- (15) Who ^{1} C $_1$ do you who ^{2} think C $_2$ {X $\rightarrow$ T who ^{3} T
who ^{4} wrote this book?

However, if the reasoning of Chomsky is correct, *professors* in TP-Spec should be able to undergo further IM in principle in (16a-e), contrary to the fact. In particular, (16a) imposes a serious challenge on the current POP System, because no syntactic principle bars copy instances of an identical nominal from bearing double nominative cases or appearing twice:²

- (16) a. *Professors $_i$ are likely to think t_i
disappeared.
b. *Professors are likely professors $_i$ to think
 t_i disappeared.
c. *Professors are likely to professors $_i$ think
 t_i disappeared.
d. *Professors are likely professors to
professors to think professors
disappeared.
e. *It is likely professors $_i$ to think t_i
disappeared.
f. Professors are likely to think professors
disappeared.

Crucially, the unification of copy instances provides a good solution to this problem:

- (17) a. *{CP/ α Professors $^{1\beta}_{[Nom\beta]}$ T α are likely
professors $^{2\beta}_{[Nom\beta]}$ to professors $^{3\beta}_{[Nom\beta]}$
think {TP/ β professors $^{4\beta}_{[Nom\beta]}$ T β
professors $^{5\beta}_{[Case*\rightarrow Nom\beta]}$ disappeared}}.
b. *{CP/ α Professors $^{1\alpha}_{[Nom\alpha]}$ T α are likely
professors $^{2\beta}_{[Nom\beta]}$ to professors $^{3\beta}_{[Nom\beta]}$
think {TP/ β professors $^{4\beta}_{[Nom\beta]}$ T β
professors $^{5\beta}_{[Case*\rightarrow Nom\beta]}$ disappeared}}.
c. *{CP/ α Professors $^{1\alpha}_{[Nom\alpha]}$ T α are likely
professors $^{2\alpha}_{[Case*\rightarrow Nom\alpha]}$ to professors $^{3\beta}_{[Nom\beta]}$
[Nom β] think {TP/ β professors $^{4\beta}_{[Nom\beta]}$ T β
professors $^{5\beta}_{[Case*\rightarrow Nom\beta]}$ disappeared}}.
d. *{CP/ α Professors $^{1\alpha}_{[Nom\alpha]}$ T α are likely
professors $^{2\gamma}_{[case*]}$ to professors $^{3\delta}_{[case*]}$
think {TP/ β professors $^{4\beta}_{[Nom\beta]}$ T β

- $\text{professors}^{5\beta}_{[\text{Case}^* \rightarrow \text{Nom}\beta]} \text{disappeared}\} \}$.
- e.* $\{_{\text{CP}/\alpha} \text{It}^{1\alpha} T_\alpha \text{ is likely } \{ \underline{x} \text{ professors}^{1\beta}_{[\text{Nom}\beta]} \{ \text{to} \langle T, C \rangle \} \text{ professors}^{2\beta}_{[\text{Nom}\beta]} \text{ think } \{ \text{TP}/\beta \text{ professors}^{3\beta}_{[\text{Nom}\beta]} T_\beta \text{ professors}^{4\beta}_{[\text{Case}^* \rightarrow \text{Nom}\beta]} \text{ disappeared} \} \}$
- f. $\{_{\text{CP}/\alpha} \text{Professors}^{1\alpha}_{[\text{Nom}\alpha]} T_\alpha \text{ are likely } \text{professors}^{2\alpha}_{[\text{Case}^* \rightarrow \text{Nom}\alpha]} \text{ to } \text{professors}^{3\alpha}_{[\text{Case}^* \rightarrow \text{Nom}\alpha]} \text{ think } \{ \text{TP}/\beta \text{ professors}^{4\beta}_{[\text{Nom}\beta]} T_\beta \text{ professors}^{5\beta}_{[\text{Case}^* \rightarrow \text{Nom}\beta]} \text{ disappeared} \} \}$.

First of all, in (17a), $\text{professors}^{1\beta}$ should keep the previous Agree information with T^β to be unified with other copy instances of professors^β . However, given that case is a reflection of Agree in ϕ -features, it cannot undergo further Agree with T_α , which changes the matched case of $\text{professors}^{1\beta}$ into Nom_α with overwriting. Then, the unification should be impossible, because professors^1 has a different matching nominative case (Nom_α) from that of other copy instances. Yet, if $\text{professors}^{1\beta}$ keeps Nom_β , a case matched with T_β , it prevents $\text{professors}^{1\beta}$ from undergoing further Agree with T_α , blocking feature sharing with it. Clearly, this causes labeling failure.

Next, (17b) and (17c) are ruled out, because there is no theta marked copy instance of professors^α , causing crash at C-I (cf. Chomsky 2013). Next, (17d) is also bad, because unmatched case features remain on professors^γ and professors^δ , leading to crash at interfaces, let alone the lack of the theta marked copy instances of professors^α and $\text{professors}^{2\gamma}$. Finally, (17e) is ungrammatical, due to the labeling failure of X. X cannot be labeled via feature sharing in ϕ -features because of no agreement between $\text{professors}^{1\beta}$ and $\text{to} \langle T, C \rangle$ (no ϕ -features on $\text{to} \langle T, C \rangle$).

On the other hand, (17f) has no problem. First, due to the fact that (i) T^α and $\text{professors}^{1\alpha}$ and (ii) T^β and $\text{professors}^{4\beta}$ appropriately undergo Agree in ϕ -features, each of the top

copy instances of professors^α and professors^β are given nominative case matched with T^α and T^β respectively. Consequently, the unifications of professors^α and professors^β via matched case features are successfully achieved separately, leading to the labeling of CP/α and TP/β . Also, professors^α contains a theta marked copy instance $\text{professors}^{3\alpha}$, whereas professors^β has a theta marked member, namely, $\text{professors}^{5\beta}$.

Finally, I show the possibility that this approach might deal with parasitic gap in (18), along with Martin and Uriagereka (2014):

- (18) a. What_i did you file _{t_i} without reading _{e_i}?
- b. $\{_{\text{Q}/\alpha} \text{What}^{1\beta}_{[\text{Q}\alpha, \text{Acc}\beta]} \{ \text{C}_\alpha \text{ did}_{[\text{Q}]}\} \text{ you } \dots < \{_{\text{v}^* \text{P}/\beta} \text{what}^{2\beta}_{[\text{Q}, \text{Acc}\beta]} \dots \text{v}^* \text{P}-\text{V} \text{ file } \text{what}^{3\beta}_{[\text{Q}, \text{Acc}\beta]} \}, \{_{\text{CP}/\gamma} \text{what}^{1\delta}_{[\text{Q}, \text{Acc}\delta]} \text{ C}_\gamma \text{ without } \dots \{_{\text{v}^* \text{P}/\delta} \text{what}^{2\delta}_{[\text{Q}, \text{Acc}\delta]} \dots \text{v}^* \text{P}-\text{V} \text{ reading } \text{what}^{3\delta}_{[\text{Q}, \text{Acc}\delta]} \} \} > \}$

Apparently, instances of what^β and what^δ should be unified respectively, because these two interrogative items are given case in different remote phases. However, what^δ includes a problematic instance $\text{what}^{1\delta}$, causing labeling failure due to the lack of sharing feature with C^γ .

Luckily, due to (8iv) and (8i), these unmatched Q-features on copy instances of what^δ can be unified with $\text{what}^{1\alpha}$, because $\text{what}^{1\delta}$ is located at the edge of the CP/γ phase and stays adjacent to $\text{what}^{1\beta}$ in the CP/α phase as well as $\text{what}^{2\beta}$ at the edge of the $\text{v}^* \text{P}/\beta$, both of which are within the next adjacent phases to CP/γ . This means that, at least, $\text{what}^{1\delta}$ and $\text{what}^{2\beta}$ are transferred together, making the identification of $\text{what}^{1\delta}$ and $\text{what}^{2\beta}$ possible. Note that $\text{what}^{1\delta}$ is finally unified with $\text{what}^{1\beta}$, because the latter c-commands and is indirectly linked to the former via $\text{what}^{2\beta}$. This unification of Q-features of what may cause all copy instances of what^α and what^δ to be unified at interfaces, possibly as a last resort. It can be said they form a single

chain-like object at interfaces. Thus, only *what*^{1b} is pronounced and *what* uniformly exhibits an interrogative interpretation. Note that this unification rescues the labeling failure at CP/ γ .

4. Conclusion

This paper challenges the problem noted by Collins & Groat (2019). I claim the approach with the phase-based unification making use of case/Q is responsible for the distinction between copy and repetition. This only relies on inherent lexical properties and significantly reduces the search burden to identify copy instances.

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NOTES

¹ Kitahara (2000) proposes a similar analysis within the early minimalist framework.

² The ungrammaticality of other examples in (16b-e) may be attributed to labeling failure. Note that the theta criterion might not rescue this problem if a nominal can bear multiple theta roles, as Hornstein (2009) and others argue.

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On the Domain of Minimal Search for Labeling*

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Keywords : labeling, minimal search, freezing effects, *wh*-island effects, proper binding condition effects

1. Introduction

Chomsky (2013, 2015) proposes labeling as a process of providing information on interpretation of a syntactic object (SO) at the interfaces. An SO is labeled by a fixed algorithm, Labeling Algorithm (LA). LA is a minimal search (MS) to detect relevant heads, which works in the following ways: Given $SO = \{H, XP\}$, where H is a head and XP is a phrase, MS selects H as its label. When an SO is $\{XP, YP\}$, MS cannot uniquely locate a head that provides a label, but there are two ways to determine a label of the XP - YP structure. One case is when XP is moved out of the XP - YP structure. In this case, the lower copy of XP is “invisible” to LA, since not every occurrence of XP is in the domain of $\{XP, YP\}$. Then, it is labeled YP . Another case is when X and Y , heads of XP and YP , are “identical” in some relevant sense: they involve identical agreement features $[F]$. Then, LA finds heads X and Y , providing $\langle F, F \rangle$, a pair of features shared between X and Y , as its label.

As noted above, LA is an instantiation of MS. However, the notion of MS is not formally defined in Chomsky (2013, 2015). In particular,

there remains a question of how far MS will locate heads deeply embedded in the structure. Chomsky (2015: 6) postulates that “LA seeks heads H within its search domain (observing the Phase Impenetrability Condition PIC),” but this has not been empirically examined in previous works. Furthermore, there also remains a question whether the PIC is the only condition to narrow the domain of MS for labeling. Consider (1).

- (1) a. $\{\{X_{[F]}, WP\}, \{Y_{[F]}, ZP\}\}$
- b. $\{\{UP, \{X_{[F]}, WP\}\}, \{Y_{[F]}, ZP\}\}$

Given “top-down” search, MS seeking a pair of heads in (1a) firstly reaches $\{X_{[F]}, WP\}$ and $\{Y_{[F]}, ZP\}$, and then finds out $X_{[F]}$ and $Y_{[F]}$ simultaneously. In (1b), on the other hand, the “top-down” search firstly reaches $\{UP, \{X_{[F]}, WP\}\}$ and $\{Y_{[F]}, ZP\}$, secondly $\{X_{[F]}, WP\}$ and $Y_{[F]}$, and finally $X_{[F]}$. Crucially, the “top-down” search in (1a) locates the relevant heads $X_{[F]}$ and $Y_{[F]}$ at the same step, whereas (1b) requires an extra step to find out $X_{[F]}$ after locating $Y_{[F]}$. An economy principle restricting search space for computation would prefer the former to the latter, since the former narrowly restrict the search space for LA. On the basis of this idea, this article proposes the condition in (2).

- (2) An XP - YP structure provides a label via feature sharing between X and Y only if X and Y have the same depth of embedding.

(2) states that X and Y must be found by the “top-down” MS simultaneously. More formally, depth of embedding is defined in terms of set-membership: in (1a), X as well as Y is a member of a member of the set $\{XP, YP\}$. In (1b), in contrast, X is a member of a member of

a member of the set {XP, YP}, whereas Y is a member of a member of the set {XP, YP}. Since the “top-down” MS requires superfluous steps to locate relevant heads when Y and Y do not have the same depth of embedding, the economy condition bars labeling of the XP-YP structure. Accordingly, (1a) provides a label <F, F> via feature sharing, whereas (1b) yields no label. This article illustrates that the condition in (2) provides a unified account for freezing effects (section 2), *wh*-island effects (section 3), and proper binding condition effects (section 4).

2. Freezing Effects

This section shows that the condition in (2) explains ban on extraction out of moved elements (aka. freezing effects) like (3).

- (3) a. ?*Who_i do you think that [pictures of *t_i*]_j
 t_j are on sale?
 b. ??Who_i do you wonder [which picture of
 t_i]_j Mary bought *t_j*?
 (Lasnik and Saito (1993: 101-102))

(3a) is derived in the following way (notice that *who* is a phrase (i.e., a H-XP structure), but its internal structure is abstracted away for simplicity of illustration).

- (4) a. {D, {pictures, {of, who}}}
 b. {who, {D, {pictures, {of, *t_{who}*}}}}
 c. {{who, {D, ...}}, vP}
 d. {T, {{who, {D, ...}}, vP}}
 e. {{who, {D, ...}}, {T, {{who, {D, ...}},
 vP}}}
 f. {C, {{who, {D, ...}}, {T, ...}}}
 g. {who, {C, {{*t_{who}*, {D, ...}}, {T, ...}}}}

(4a) shows the stage of the derivation before the subject is introduced to Spec-v. Assuming that D

as well as C and *v* is a phase head, *who* must be extracted to the edge of D as in (4b); otherwise, *wh*-extraction violates the PIC. Then, the subject is externally merged into Spec-v, yielding (4c). After introducing T as in (4d), the subject internally merges into Spec-T, yielding (4e). The derivation reaches a phase-level when C is introduced as in (4f). In (4g), *who* undergoes IM to Spec-C, and the SOs in the phase-head-complement (PHC) of C get labeled and transferred. Crucially, the masked SO in (4g), repeated here as (5), cannot be labeled owing to the condition in (2).

- (5) {{who, {D_[Q], ...}}, {T_[Q], vP}}

To label (5), LA must find the phi-features on T and the ones on D. In (5), however, it is impossible to find out the relevant heads, since (5) violates the condition in (2): D is embedded more deeply than T (i.e., D is a member of a member of a member of the set (5), whereas T is a member of a member of (5)). Accordingly, (5) causes crash at the interfaces.

The proposed analysis also accounts for freezing effects in A'-movement like (3b). Owing to the PIC, *who* must be extracted to Spec-D before the object is externally merged into the base position. Given that, *wh*-movement to the embedded Spec-C yields the structure in (6).

- (6) {{who, {D_[Q], ...}}, {C_[Q], TP}}

To label this structure, LA must simultaneously locate the interrogative Q-features on D, on the one hand, and the one in C, on the other. However, again, LA cannot find out them, since *which* and C do not have the same depth of embedding. Thus, the structure cannot provide a

label.

Let us next consider extraction out of objects. (7) illustrates that a *wh*-phrase cannot be moved out of a shifted object, whereas it is successfully extracted out of a non-shifted one.

- (7) a. *Who did Mary call [friends of *t*] up?
 b. Who did Mary call up [friends of *t*]?
 (Lasnik (2001: 110))

Suppose that the shifted object in (7a) moves from the base position to Spec-V, whereas the non-shifted object in (7b) remains in the base position (cf. Lasnik (2001) and Chomsky (2008)). Then, the sentences in (7) are structured as follows.

- (8) a. $\{\{\text{who}, \{D_{[\varphi]}, \{\text{pictures}, \dots\}\}\}, \{V_{[\varphi]}, t_{Obj}\}\}$
 b. $\{V_{[\varphi]}, \{\text{who}, \{D_{[\varphi]}, \{\text{pictures}, \dots\}\}\}\}$

(8a) is an XP-YP structure. The condition in (2) prohibits labeling via feature-sharing, since D is embedded more deeply than V. In contrast, there arises no labeling failure in (8b), since it is a H-XP structure. Thus, the asymmetry between shifted and non-shifted objects is accounted for in terms of labeling.

The proposed analysis also explains the finite/non-finite asymmetry with respect to extraction out of clausal subjects like (9).

- (9) a. *Who does [that she can bake ginger cookies for *t*] give her great pleasure?
 b. ??Who does [(for her) to be able to bake ginger cookies for *t*] give her great pleasure?
 c. ?Who does [being able to bake ginger cookies for *t*] give her great pleasure?
 (adapted from Kluender (2004: 118-119))

Let us first consider (9). (10) illustrates the stage of the derivation where the subject clause in (9a) internally merges into Spec-T (notice that *who* is extracted to Spec-C before EM of the subject into Spec-v, since C is a phase-head).

- (10) $\{\{\text{who}, \{C_{[\varphi]}, \dots\}\}, \{T_{[\varphi]}, vP\}\}$

Assuming that C involves phi-features to agree with T, LA must locate C and T simultaneously to provide a label $\langle \varphi, \varphi \rangle$. However, LA cannot find out them owing to the condition in (2). Let us next consider (9b, c). Suppose that non-finite C is not a phase-head (Kanno (2008)). Then, *who* does not have to be extracted to Spec-C before the subject clause is merged with the independent SO. Given that, (9b, c) have the following structures at some point of their derivations.

- (11) a. $\{\{C_{[\varphi]}, \{\text{her}, \{\text{to}, \{\text{who}, \{v, \dots\}\}\}\}\}, \{T_{[\varphi]}, vP\}\}$
 b. $\{\{C_{[\varphi]}, \{\text{PRO}, \{\text{being}, \{\text{who}, \{v, \dots\}\}\}\}\}, \{T_{[\varphi]}, vP\}\}$

In (11), *who* is located in Spec-v, the highest phase-edge of the subject clause. Since C and T have the same depth of embedding, LA locates C and T simultaneously, providing the label $\langle \varphi, \varphi \rangle$. Thus, sentences in (9b, c) do not result in labeling failure.

3. *Wh*-Island Effects

This section attempts to account for *wh*-island effects like (12).

- (12)?*To whom_{*j*} did you wonder what_{*i*} they gave *t_i* *t_j*?
 (Cinque (1990: 52))

Owing to the PIC, *to whom* must undergo successive-cyclic movement to the embedded Spec-C, creating configurations like (13a) or (13b), where the two *wh*-phrases occupy multiple Specs-C of the embedded clause (notice that, given free Merge, no principle of narrow syntax precludes extraction of *to whom* toward either the inner Spec-C as in (13a) or the outer one as in (13b)).

- (13) a. $\{\{\text{what}_{[Q]}, \dots\}, \{\{\text{to}, \{\text{whom}, \dots\}\}, \{C_{[Q]}, \text{TP}\}\}\}$
 b. $\{\{\text{to}, \{\text{whom}, \dots\}\}, \{\{\text{what}_{[Q]}, \dots\}, \{C_{[Q]}, \text{TP}\}\}\}$

Let us first consider (13a). To label this structure, LA must locate *what* involving [Q], on the one hand, and C with [Q], on the other. However, the structure in (13a) does not satisfy the condition in (2), since C is embedded more deeply than the locus of the [Q] feature of the *wh*-phrase. Thus, (13a) cannot provide a label.

Let us next consider (13b). This structure does not cause labeling failure since $\text{SO}_i = \{\{\text{what}_{[Q]}, \dots\}, \{C_{[Q]}, \text{TP}\}\}$ is labeled $\langle Q, Q \rangle$, satisfying the condition in (2). $\text{SO}_j = \{\{\text{to}, \{\text{whom}, \dots\}\}, \text{SO}_i\}$ is an XP-YP structure, but is labeled $\langle Q, Q \rangle$ since the lower copy *to whom* is “invisible” to LA. Accordingly, every term in (13b) is successfully labeled. This article, however, suggests that (13b) results in an anomalous interpretation at the CI interface. Assuming with Chomsky (2013) and Epstein et al. (2015) that an SO labeled $\langle Q, Q \rangle$ is interpreted as a *wh*-question at the CI interface. Then, it is natural to postulate that an SO with the label $\langle Q, Q \rangle$ is interpreted as an operator-scope configuration at CI. Suppose, for example, we have a sentence like *what did you eat?*, which is of the form $\{\{\text{what}_{[Q]}, \dots\}, \{C_{[Q]},$

$\dots\}\}$. Then, the CI interface interprets *what* as a *wh*-operator, and $\{C_{[Q]}, \dots\}$ as the scope of the operator. Given this much, consider (13b) again. It is an XP-YP structure with the label $\langle Q, Q \rangle$. Then, $\text{XP} = \text{to whom}$ must be interpreted as a *wh*-operator, and $\text{YP} = \{\{\text{what}_{[Q]}, \dots\}, \{C_{[Q]}, \text{TP}\}\}$ as its scope. However, this results in an anomalous interpretation at the CI interface: since *what* is an intermediate copy, it does not qualify for an operator. Although the CI interface forces (13b) to be interpreted as an operator-scope configuration in accordance with its label $\langle Q, Q \rangle$, it contains no *wh*-element that may serve as an interrogative operator. Thus, (13b) is also ruled out at the CI interface.

It is known that *wh*-extraction out of an infinitival indirect question like (14) is relatively better than extraction out of a finite one like (12).

- (14) To whom_j did you wonder what_i to give t_i
 t_j ? (Cinque (1990: 52))

This fact is also accounted for by the proposed condition in (2). Assuming with Kanno (2008) that non-finite C is not a phase head, *to whom* does not have to move toward the embedded Spec-C. Then, the embedded clause is structured as in (15), where *to whom* is located in the highest phase-edge, Spec-v.

- (15) $\{\{\text{what}_{[Q]}, \dots\}, \{C_{[Q]}, \{\text{PRO}, \{\text{T}, \{\{\text{to}, \{\text{whom}, \dots\}, \text{vP}\}\}\}\}\}\}$

This structure is labeled $\langle Q, Q \rangle$, since MS locates interrogative Q features on *what* and C simultaneously, observing the condition in (2). Thus, (14) causes no labeling failure.

4. Proper Binding Condition Effects

This section attempts to explain proper binding condition (PBC) effects like (16).

- (16) *[Which picture of t_i]_i do you wonder who_i
John likes t_j ? (Saito (1989: 187))

(16) is derived in the following way (again, the internal structure of *who* is abstracted away for simplicity of illustration).

- (17) a. $\{\{who_{[Q]}, \{which, \dots\}\}, \{C, \dots\}\}$
 b. $\{who_{[Q]}, \{\{t_{who}, \{which, \dots\}\}, \{C, \dots\}\}\}$
 c. $\{v, \{wonder, \{who, \{\{t_{who}, \{which, \dots\}\}, \{C, \dots\}\}\}\}\}$
 d. $\{\{t_{who}, \{which, \dots\}\}, \{v, \{wonder, \{who, \{\{t_{who}, \{which, \dots\}\}, \{C, \dots\}\}\}\}\}$

(17a) illustrates the stage of derivation in which *which picture of who* is extracted to the embedded Spec-C. Crucially, *who* is placed in the edge of *which picture of t* owing to the PIC. In (17b), *who* undergoes movement to the outer Spec-C. After introduction of V and *v* as in (17d), $\{t_{who}, \{which, \dots\}\}$ is extracted to the edge of *v*, and the PHC of *v* gets labeled and transferred. However, this derivation results in labeling failure, since the SO in (18) (i.e., the embedded clause) cannot be labeled.

- (18) $\{\{who_{[Q]}, \dots\}, \{\{t_{who}, \dots\}, \{which, \dots\}\}, \{C_{[Q]}, \dots\}\}$

To label this structure $\langle Q, Q \rangle$, MS must find the interrogative Q-features on *who* and C simultaneously. However, (18) is a multiple-Spec configuration involving agreement of C with the outer Spec-C, so it is ruled out by the condition in (2), as the

wh-island configuration in (13a) was. Thus, (18) cannot provide a label. Furthermore, the matrix CP also causes labeling failure. (19) shows the stage of the derivation where *which picture of t* is extracted to the matrix Spec-C.

- (19) $\{\{t_{\{who, \dots\}}, \{which_{[Q]}, \dots\}\}, \{C_{[Q]}, \dots\}\}$

Again, this structure cannot be labeled $\langle Q, Q \rangle$, since it violates the condition in (2). Thus, the sentence in (16) is faced with labeling failure twice. This accounts for the fact that PBC effects like (16) lead to more severe degradation in acceptability than freezing effects like (20).

- (20) ??Who_i do you wonder [which picture of t_i]_i
John likes t_j ? (Saito (1989: 187))

In the PBC cases like (16), both the root and embedded clauses cause labeling failure. In freezing cases like (20), in contrast, the derivation results in labeling failure only in the embedded clause (see the discussion in section 2). Thus, this cumulative effect of mislabeling yields severe degradation in acceptability in the PBC cases.

5. Conclusion

Chomsky (2013, 2015) proposes that a label of an SO is provided by MS to locate relevant heads. However, the notion of MS is not clarified in Chomsky (2013, 2015), and previous researches pay little attention to the question of how far MS locates heads that provide a label. This article has addressed this issue, proposing that an XP-YP structure provides its label via feature sharing only if X and Y have the same depth of embedding. This condition provides a unified account of freezing effects, *wh*-island effects, and proper binding condition effects. If

this proposal is on the right track, it is suggested that the domain of MS for labeling is not unbounded; it is narrowly restricted by a third factor principle that minimizes search space for computation.

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**Morphological Markedness Hypothesis and
Competition Theory:
On Strong Resultatives in Japanese and
English***

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Keywords : Morphological Markedness
Hypothesis, Competition Theory, strong
resultatives, constructional meaning,
morphological marking

1. Introduction: Morphological Markedness Hypothesis

Miyake (2011, 2017) observes that Japanese and English strikingly differ as to whether they morphologically mark specific meanings or not. This observation is formulated as Morphological Markedness Hypothesis, which is given in (1).

- (1) In order to express constructional meanings, Japanese is strongly inclined to be morphologically marked, while English is more likely to be morphologically unmarked. (Miyake (2017: 68), my translation)

Miyake (2017: 68) mentions that English has a great number of ‘constructions,’ in which a specific meaning directly correlates with a particular sentence form and cannot be decomposed into the semantics of its individual components. Miyake refers to this specific meaning as a ‘constructional meaning.’ On the other hand, he points out that a particular

sentence form cannot convey a constructional meaning in Japanese, where a specific meaning requires its dedicated morphology.

A translation pair like (2) leads Miyake to the above hypothesis.

- (2) a. This car sells well.
b. Kono kuruma-wa yoku
this car-Top well
{ureru/*uru}.
sold / sell
‘This car sells well.’
(Miyake (2017: 69), with slight modifications)

In (2a), which exemplifies middle constructions in English, the verb *to sell* has passive semantics but no corresponding passive morpheme. In the Japanese counterpart given in (2b), the semantics in question is marked with the morpheme *-re*, which distinguishes the middle verbal cluster *ureru* ‘to be sold’ from the active base *uru* ‘to sell.’

Under Morphological Markedness Hypothesis, Miyake (2011, 2017) analyzes resultative constructions like those given in (3).

- (3) a. John pounded the metal flat.
b. *Taro-wa sono kinzoku-o taira-ni
Taro-Top the metal-Acc flat
tatai-ta.
pound-Past
‘lit. Taro pounded the metal flat.’
(Miyake (2017: 69), with slight modifications)

The matrix verb *to pound* in (3a) and its Japanese counterpart *tataku* ‘to pound’ in (3b) are so-called activity verbs, which do not entail the resultant state of action. The type of resultative construction that involves these verbs is known as a strong resultative (see Washio

(1997)). According to Miyake's analysis, as stated in (1), strong resultatives like (3a) are licensed in English by the morphologically-unmarked encoding of the semantics of 'change of object.' In contrast, they are impossible in Japanese, as shown in (3b). Miyake attributes this impossibility to the lack of proper morphemes for encoding the relevant semantics in Japanese.

This paper has two aims. One is to prove further validity of Morphological Markedness Hypothesis. To achieve this aim, we show that it holds true for strong resultatives in Japanese, where these constructions are also licensed by particular markers of 'change of state.' More specifically, we claim that Japanese has strong resultatives in the form of V-V compounds. The other is to give a theoretical explanation to the generalization given by Morphological Markedness Hypothesis. Adopting Competition Theory (Ackema and Neeleman (2004)), we point out that the contrast between Japanese and English in morphological markedness can be best analyzed as a result from the competition between two grammatical modules: morphology and syntax.

This paper is organized as follows. Section 2 observes that a certain type of V-V compound in Japanese shares the status with a strong resultative. Based on this observation, we demonstrate that Morphological Markedness Hypothesis is valid for V-V compounds as strong resultatives. Section 3 is an attempt to derive this hypothesis from Competition Theory. Section 4 makes concluding remarks.

2. Reconsideration of Strong Resultatives

2.1. V-V Compounds as Strong Resultatives

The contrast between (3a) and (3b) tells us that the literal translation of strong resultatives

using VPs in English is unacceptable in Japanese. In this sense, it has no strong resultative. But, as pointed out in the literature, Japanese uses such V-V compounds as those underlined in (4) instead.

- (4) Hanako-ga kinzoku-o (taira-ni)
Hanako-Nom metal-Acc (flat)
tataki-nobasi-ta.
pound-spread-Past
'Hanako pounded the metal flat.'

(Hasegawa (1999: 184), with slight modifications)

Characteristically, they are headed by so-called change-of-state verbs, which entail the resultant state of action. So, we refer to these compounds as Resultative V-V Compounds (RVVCs). Among others, Hasegawa (1999) identifies RVVCs as strong resultatives in Japanese. We follow this analysis in assuming that strong resultatives are attested in Japanese, where they occur as compounds.

This assumption is empirically motivated because RVVCs are parallel in some crucial properties with strong resultatives in English, regardless of their different forms: V-V compounds and VPs. For example, the following translation pair shows that the entire sentence alters its telicity when it involves strong resultatives and RVVCs:

- (5) a. John hammered {the metal for an hour/
the metal flat in an hour}.
- (Wechsler (2005: 259), with slight modifications)
- b. John-ga sono kinzoku-o
John-Nom the metal-Acc
{iti-zikan tatai-ta /
an-hour.for hammer-Past /

iti-zikan-de tataki-nobasi-ta}.

an-hour-in hammer-spread-Past

(5a) is atelic with the activity verb *to hammer*. In this case, it occurs with a durative adverbial like *for an hour*. On the other hand, the addition of the resultative predicate *flat* renders the sentence telic. Thus, it allows the completive *in an hour*. The same is true of RVVCs. The activity verb *tataku* ‘to hammer’ makes (5b) atelic, as seen from the occurrence with the durative *iti-zikan* ‘for an hour.’ On the other hand, it is telic when the verb forms an RVVC with the verb *nobasu* ‘to spread.’ Therefore, the sentence is compatible with the completive *iti-zikan-de* ‘in an hour.’ Another parallelism is that strong resultatives and RVVCs change verbal argument structures, which is illustrated in (6).

- (6) a. Sylvester cried his eyes *(out).
(Levin and Rappaport Hovav (1995: 36-37))
b. me-o naki-harasu ‘to cry one’s eyes
out’ (cf. *me-o naku ‘lit. to cry one’s
eyes’) (Kageyama (1996: 213))

As seen from (6a), the intransitive verb *to cry* can select an object when it constitutes a strong resultative like *to cry out*. Likewise, the intransitive *naku* ‘to cry’ allows an object like *me* ‘eye(s)’ within an RVVC, as shown in (6b). These parallelisms mean that RVVCs have the same status as strong resultatives.

Since Miyake (2011, 2017) makes no reference to RVVCs, it is unclear whether the hypothesis under discussion is valid for these compounds or not. Addressing this question, the following discussion proves its validity.

2.2 Markers of ‘Change of Object’

If Morphological Markedness Hypothesis is

correct for RVVCs, it follows that they should have dedicated markers of ‘change of object.’ In this connection, Hasegawa’s (1999) analysis is insightful. Given the hypothesis, her analysis states that verbs like *nobasu* ‘to spread,’ which head RVVCs, serve as the markers. According to this analysis, strong resultatives and RVVCs can be represented as in (7a) and in (7b), respectively.

- (7) a. $[_{VP} [_v \text{ pound}] \text{ the metal } [_{VRP} [_{VR} \text{ Res}]$
 $[_{AP} \text{ flat}]]]$

 b. $[_{VP} \text{ kinzoku-o } [_{VRP} [_{AP} (\text{taira-ni})$
 $[_{VR} \text{ nobasu}]] [_v \text{ tataki} \quad]]$


This representation states that resultative predicates make their own projections, whose heads move from Vr into V (in (7), adopting Hasegawa's notion, we symbolize the terminal node hosting resultative predicate projections as VrP, and hosting their heads as Vr). Hasegawa points out that this head movement licenses strong resultatives; heads hosted in Vr are licensors of strong resultatives. Now, as stated in the Introduction, under Morphological Markedness Hypothesis, Miyake (2011, 2017) observes that encoding the semantics of 'change of object' licenses strong resultatives, which are unacceptable in Japanese because it has no morpheme for the encoding. Given these points, we can assume that the licensing of strong resultatives by heads hosted in Vr means that these heads encode the relevant semantics. If so, it is reasonable that RVVCs have 'change of object' morphologically marked by their head verbs (e.g. *nobasu* 'to spread'), which move from Vr into V, as represented in (7b).

Note here that V_r hosts different elements in

English and Japanese. According to Hasegawa (1999: 196), the former has an abstract predicate, which we symbolize as *Res* in (7a) adopting her notation, under Vr. On the other hand, Hasegawa (1999: 196) points out that there is no such abstract predicate in the latter, where lexical verbs heading RVVCs are similar in function to *Res*. Given Morphological Markedness Hypothesis, this ‘abstract-lexical’ contrast tells us that ‘change of object’ is morphologically unmarked in English but marked in Japanese.

The discussion so far has confirmed that verbs heading RVVCs morphologically mark ‘change of state,’ which licenses strong resultatives. Thus, it can be safely concluded that Morphological Markedness Hypothesis holds true for strong resultatives in Japanese.

3. Toward a Theoretical Explanation: A Competition-Theoretic Approach

The last section has proved the validity of Morphological Markedness Hypothesis because it properly describes the general fact that English and Japanese contrast in morphological markedness. Nevertheless, as Miyake (2011: 191) himself admits, this hypothesis is merely a descriptive generalization, which seeks for a theoretical explanation; the ultimate reason remains to be explained as to why the relevant generalization obtains.

Recall here that strong resultatives take VPs in English but V-V compounds (i.e. RVVCs) as their forms, as illustrated in (8).

- (8) a. John pounded the metal flat. (= (3a))
 b. Hanako-ga kinzoku-o (taira-ni)
 Hanako-Nom metal-Acc (flat)
tataki-nobasi-ta.
 pound-spread-Past
 ‘Hanako pounded the metal flat.’

(= (4b))

This phrase-compound contrast strongly suggests that the English-Japanese contrast in morphological markedness is relevant to the distinction between two grammatical modules: syntax and morphology. As a unified approach to cross-linguistic variations and the intermodular distinction, Competition Theory is proposed by Ackema and Neeleman (2004). Thus, we would like to rely on this theory to explore why ‘change of state,’ which licenses strong resultatives, is morphologically unmarked in English but marked in Japanese.

3.1. Competition Theory

The core assumption of Competition Theory is that morphology and syntax compete for structural realization, which results in cross-linguistic variations. On this assumption, languages are classified into two types. One is a language that prefers to morphologically realize an abstract morphosyntactic structure. Henceforth, we refer to this type as a morphology-preferring language. The other prefers a syntactic realization of the same structure. We refer to this type as a syntax-preferring language.

Nishimaki (2018) analyzes English as syntax-preferring, and Japanese as morphology-preferring. This analysis is based on the observation that phrases in English consistently correspond to compounds in Japanese. For instance, the English nominal phrase *old friend* ‘long-standing friend’ corresponds to the Japanese A-N compound *kyuu-yuu* ‘old friend,’ in the intended reading. Both share the structure of nominal modification by an adjective. In our competition-theoretic approach, the above correspondence means that

this shared structure is syntactically realized as a nominal phrase in English because it is syntax-preferring; on the other hand, the same structure is morphologically realized as an A-N compound in Japanese, which is morphology-preferring. The same is true of strong resultatives; competition-theoretically, they select VPs as syntactically-realized forms and RVVCs as morphologically-realized ones.¹

3.2. How Can Morphological Markedness Hypothesis Follow from Competition Theory?

Given Morphological Markedness Hypothesis, Competition Theory points to the possibility that the unmarkedness of English results from syntactic realization while the markedness of Japanese is due to morphological realization. In what follows, focusing on strong resultatives, we pursue this possibility to demonstrate how the ‘unmarked-marked’ contrast follows from Competition Theory.

Once again, we base our discussion on Hasegawa’s (1999) analysis. Recall from Section 2.2 that in this analysis strong resultatives are licensed by the head movement from Vr to V, which is represented as in (9).

- (9) a. [VP [v pound] the metal [VrP [Vr Res]
 conflation
 [AP flat]]]
 b. [VP kinzoku-o [VrP [AP (taira-ni)]
 [Vr nobasu]] [v tataki]]
 incorporation

Our assumption is that the license differs between English and Japanese in such a way that it reflects the distinction between syntax-preferring and morphology-preferring languages. In English, the abstract predicate *Res* moves from Vr into V to form verbal clusters

with matrix verbs (e.g. *to pound* in (9a)). We suppose that Competition Theory requires these clusters to be syntactically realized; this requirement triggers a special type of head movement, known as conflation. As a result of this operation, matrix verbs and *Res* are realized as monomorphemic words. The point is that, by definition, they have no morphological internal structure. In addition, note that syntactic realization necessarily rules out morphological internal structures from the resultant phrases because they are syntactically-realized forms. If so, competition-theoretically, monomorphemic words have the same status as phrasal expressions in that neither have a morphological internal structure. Therefore, monomorphemic words can also qualify as options for syntactic realization; that is, English can use these words for syntactic realization, and their derivation needs abstract elements like *Res*. It is reasonable to conclude that this results in the unmarkedness of English.

Baker (2003: 86, 168) defines conflation as the type of head movement that precedes vocabulary insertion. This definition implies that conflated heads lose their own independent existence in (narrow) syntax to be realized as monomorphemic words; conflation applies to heads without any phonological shape (i.e. their abstract morphosyntactic features). For example, let us consider how a strong resultative derives the monomorphemic verb *to pound* in (9a). The derivation can be schematized as follows:

- (10) conflation → V {POUND, *Res*} →
vocabulary insertion → V /pound/

Conflation moves the abstract *Res* into the node V, which hosts the abstract morphosyntactic feature of *to pound* (symbolized as ‘POUND’ in

(10)). These conflated abstract elements undergo vocabulary insertion to be realized as the monomorphemic *to pound*.

On the other hand, RVVCs are licensed by the type of head movement known as incorporation. According to Baker (2003: 86, 168), this type follows vocabulary insertion, which means that incorporated heads count as independent lexical items in syntactic derivation because of their phonological shapes. As such, heads undergo incorporation to form compounds. What is noteworthy here is that RVVCs have their nonheads in bound forms called *ren'yoo* forms. The boundness is corroborated by the fact that the nonheads cannot occur in isolation (e.g. *tataki*(-nobasu)* 'lit. to pound-spread = to pound (something) flat'). Also, in Japanese, other types of compound are mainly based on bound forms (e.g. *kyuu*(-yuu)* 'old friend'). This is another consequence of the fact that Japanese prefers morphology. Bound forms must be combined with other elements to constitute morphological units like compounds; they need the morphological support by overt elements. This means that these forms necessarily trigger morphological realization. Competition-theoretically, in RVVCs, overt heads are required to support bound nonheads for morphological realization. This requirement is a plausible motivation for their incorporation in RVVCs.² Given these considerations, it is plausible that the markedness of Japanese is due to the fact that it needs overt morphological supporters for bound forms in order to implement morphological realization.

The present analysis means that monomorphemic words are in a competing relationship with compounds (i.e. morphologically-realized forms) because the former function as syntactically-realized forms

just as phrases. This competing relationship is clear from the fact that morphologically simplex words in English correspond to compounds in Japanese. This is illustrated by the correspondence between English unergative verbs (e.g. *to walk*) and Japanese verbal compounds (e.g. *sanpo-suru* 'lit. to walk-do = to walk'). Characteristically, these compounds are headed by the light verb *suru* 'to do.' It has been pointed out in the literature that English unergatives contain covert light verbs to denote action. On the other hand, Japanese counterparts morphologically mark the semantics of action with the overt light verb *suru* 'to do.' Interestingly, English unergatives have phrasal paraphrases known as light verb constructions (e.g. *to walk* = *to take a walk*). These paraphrases strongly suggest that monomorphemic words constitute a natural class with phrases as syntactically-realized forms.

4. Concluding Remarks

This paper has explored the validity of Morphological Markedness Hypothesis, which is proposed by Miyake (2011, 2017), with special reference to strong resultatives. This hypothesis states that morphological marking is unnecessary for specific meanings in English, but are necessary in Japanese. It has been widely assumed that strong resultatives are unattested in Japanese. Under the relevant hypothesis, Miyake reduces this unattestedness to the fact that Japanese has no morpheme suitable to encode the semantics of 'change of object,' which licenses strong resultatives. However, based on insights given in the literature, this paper has observed that strong resultatives can also be found in Japanese, where they are realized as V-V compounds (i.e. RVVCs); their head verbs morphologically mark the semantics in question.

Furthermore, our exploration points to the possibility that Morphological Markedness Hypothesis follows from Competition Theory. This theory suggests that the descriptive generalization given by the hypothesis comes from a morphology-syntax competition, which results in the fundamental distinction between English and Japanese.

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NOTES

¹ If RVVCs are morphological counterparts of phrasal strong resultatives in English, one might wonder why the former are not so productive as the latter. The point is that grammatical principles including those specified by Competition Theory are so abstract that they are not necessarily reflected in actual surface forms. We assume that these forms are determined in a given language by the interaction of the relevant grammatical principles with its morphosyntactic details.

² *Ren'yoo* forms may be possible as independent nouns (e.g. *nomi* 'a drink' (< *nomu* 'to drink')). However, it has been observed in the literature that only a limited number of *ren'yoo* forms allow their nominal usage, which is exceptional. This means that *ren'yoo* forms as nouns are not products of a rule-governed process.

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構文イディオム化とその後の展開 (Constructional Idiomatization and Its Subsequent Expansions)

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キーワード：構文イディオム化、One's Way
構文、半動名詞構文、共通点の抽出、文法
における拡張のメカニズム

1. はじめに

構文イディオム化とその後の展開について論じる。2節では One's Way 構文を構文イディオム化とその後の展開という観点から論じる（先行研究への批判及び代案の詳細は、Omuro (2003) 参照）。3節では2節の議論に傍証を与えるべく、半動名詞構文を構文化とその後の展開という観点から論じる（詳細は、大室 (1988, 2015, 2016) 参照）。4節では、2節の分析と3節の分析に見られる共通点を抽出することにより、文法における拡張のメカニズムに迫る。5節は結論である。

2. 構文イディオム化とその後の展開：One's Way 構文

kick the bucket のような通常の句イディオムは、完全に固定化している（例えば、the を a に換えただけでもイディオムでなくなる）ため、レキシコンに搭載され、語を習得するように、子供も個々に習得する。

他方、変項のみで構成される句構造規則（例えば、VP→V NP）は完全に生産的で、その規則さえ習得すれば、その規則に合う無数の表現を子供は一々習得する必要はない。

しかし、(1)に挙げた構文イディオムは、その一部である One's Way が定項で、また別の一部である動詞の部分は変項である。つまり、(1a)-(1c)で目的語位置の way は一定で定項であるのに、動詞の部分は、make, jump, belch のように変わりうる変項である。

- (1) a. He went out and **made** his way to the Savoy.
b. Clutching his basket tight, he **jumped** his way across the shallows from log to log.
c. In the capital rusty vehicles **belch** their way around the pot-holed streets.

そのため、語と規則のまさに中間的な資格を持ち、語と同じように、単純にレキシコンで扱ってよいのかという言語理論上の問題を提起する。同時に、子供がどのような方略によりこのような一部が定項で一部が変項である構文イディオムを習得するのかという生成文法にとって重要な習得可能性の問題も提起する。この習得可能性を説明せずに、Jackendoff (1990)のように対応規則によりただ記述しても、構文イディオムを真に説明したことにはならない (Omuro (2003)参照)。本節では、One's Way 構文全体は、構文イディオム化とその後の展開という過程 (process) を通じて得られると論じる。

2.1. One's Way 構文の基本タイプと派生タイプ

(2) 意味の重層性

イディオム論では例えば 'thread one's way through the crowd' 「人ごみの中を縫うようにして進む」は 'make one's way through ~' 「~の中を進む」の変異形 (variation) である、という風に説かれる。しかし意味論的に考えると、これは原型と考えられる make に他の動詞が取っ

て代わるという過程を経ているのではなく、イディオムとしての ‘make one’s way’ に更にthread が重なっていると考えるべきであろう。(国広 (1967: 121))

国広 (1967) の意味の重層性、即ち、基本的な make one’s way を下敷きに、それに重なる形で thread one’s way などは存在しているという観察 (Jackendoff (1990) の fusion や Shieber (1986), Jackendoff (2007) の unification が関わる) が、One’s Way 構文を捉える上で、最も自然な観察である。問題は、この観察を理論的にどう捉えるかである。以下、自分の考えを示す。

2.1.1. make タイプ

実際の言語習得は保守的で、step by step で文法は拡張していく。そう考えると、文字通りの意味の時に目的語として way を認可できる (1a) の make という動詞から考察を始めるのがよい。しかも、イディオム以前の、make が字義通りの意味で用いられ、単純合成によって形成される表現から考察を始めるのがよい。make は他動詞で、意味的にも「道を造る」と言えるので、単純合成により (3) は形成される。

(3) I made [NP her way [PP to the top]].

(3) では、her way を to the top が修飾する構造になっている。(3) では I が、他人の her の道を造っている。しかし、もちろん、I が、自分自身の道を造ることもあるので、(4) も単純合成により形成される。

(4) I made [NP my way [PP to the top]].

同じく単純合成による (3) と (4) だが、決定的な違いがある。(3) のように、他人の道を造っても、自分がその道を進む、という解釈

は出て来ない。その解釈は、意味の拡張に深く関わる Huddleston (1984: 37) の語用論的な含意 (pragmatic implication) からは生じない。しかし、(4) のように自分が自分自身の道を造った時には、自分がその道を進む、という解釈が語用論的に含意される (ある意味解釈に推論がかかり別の意味解釈が生じることとは概念意味論でも広く認められている)。そして、自分自身の道を造るには、通常、困難が伴う (Ishizaki (2001) の obstacle の解釈に相当)。したがって、この obstacle の解釈が今述べた語用論的な含意に加わり、「困難がありながらも自分自身の道を進むという」イディオム解釈が生じる。しかし、この派生的なイディオム解釈には (4) で示した統語構造は合致しない。形と意味のミスマッチが生じている。よって、このミスマッチを除去すると同時に、この派生的なイディオム解釈に合うように、習得の次の段階で派生的規則である統語的再解釈規則が文法に導入され、統語的再分析がなされ、(4) の名詞句の中から前置詞句がその外に出て、(5) に示された make の句イディオムが作られる。

(5) I made [NP my way] [PP to the top].

make が One’s Way 構文の動詞の頻度順位で第 1 位である (大室 (2018: 85-88) 参照)。

2.1.2. jump タイプ

文法が step by step で拡張すると考えると、次に問題とすべきは、文字通りの意味の時に way という目的語は認可できないが、方向句は認可できる (1b) の jump のような移動様態動詞である。

(6) Miss Marple jumped into the room.

(6) の into the room は、Jackendoff (1990) では、(7) に示したように経路 (PATH) になる。

しかし、(8)のような日本語の移動表現を詳しく分析している影山・由本(1997)では、into the room は経路にならず、GOAL であり、方向の終点となる。(8)で、狭い意味での移動経路、通路(Path of Motion)は、「東海道を」であって「静岡に」ではない。

(7) [PATH TO [PLACE IN [THING ROOM]]]

(8) 夜行列車は**東海道**を京都から**静岡**に進んだ。(影山・由本(1997: 133))

そのため、(6)には影山・由本の意味での移動経路が形の上では無い。一方で、Levin and Rappaport Hovav (1995)によると、(6)の jump のような移動様態動詞が into the room のような方向句をとった時は、元の移動様態から方向付けられた移動へと意味推移が起きる。その時には、移動経路が強く含意されるので、(6)では、形の上では移動経路は無いが、意味上はそれが有る。よって、(6)では、意味は有るが形が無い。ここでもまた、形と意味のミスマッチが生じている。そこで、文法習得の次の段階で、way が目的語位置に形として存在し、しかも既に習得済みの make タイプの One's Way 構文(5)を手本に、意味が有っても形で示されていない移動経路を、way という形で(6)に加えて、(1b)の jump のような移動様態動詞が用いられた One's Way 構文イディオム(9)が形成される。ここでは、jump という動詞だけを取り上げて議論しているが、このメカニズムにより、実際には、jump 以外の多くの移動様態動詞が One's Way 構文に加わる。動詞の部分の変項化が起きたことになる(これが、構文イディオム化)。即ち、この習得段階で、構文イディオムが確立する (make one's way をモデルとして、jump one's way が可能となるところで、国広の重層性を捉えている)。

(9) Miss Marple jumped her way into the room.

この外的な移動を示す jump タイプが make に次いで頻度が高い(大室(2018: 90) 参照)。

2.1.3. belch タイプ

文法拡張が(9)まで進んだ段階を考える。(9)に含まれる way は、高見・久野(2002)が言うように、内在的に長さを持つ(0メートルの way は無い)。よって、(9)の jump のような活動を示す動詞の目的語位置に way が起きると、Tenny(1987)が言うように、その前の動詞 jump が示す活動を量り分け(measure out)、その活動を有限化(delimit)する(Marantz(1992)も参照)。(9)まで文法が拡張した段階で、他動詞 make に加え、jump のような体外的な移動を示す、多くの自動詞も One's Way 構文に起きるという知識が既に獲得されている。加えて、移動経路 way の明示化により、移動という意味が形の上でも way により完全に保障される。そうすると、次の段階としては、もう jump タイプの形成に関与した 2.1.2 節で論じたシステムは、飛ばして(bypass)、先程述べた way の measure outer かつ delimiter の機能と矛盾しない限りで、体内的な動きだけを示す belch や他の自動詞が生起可能になる。こうして可能となったのが、(1c)のような belch タイプの One's Way 構文イディオム(10)である。

(10) John belched his way out of the restaurant.

belch タイプの場合、使われている動詞の意味類は、jump タイプの動詞のように、移動といった1つの限られた意味類に限定されるわけではない。いくつかの雑多な意味類から構成され、多くの動詞が臨時的に用いられ、1回使われては捨てられるという特徴を持つ(大室(2018: 93) 参照)。

2.2. One's Way 構文の意識使用

(10)まで可能となった段階では、多くの動詞がOne's Way構文で使われるという言語知識が獲得される。よって、更なる段階として、動詞の部分と比較的自由に入れ替えることが可能であるというこの知識を運用の時に意識して、この構文をもじって言葉遊び的に使い出す。Kirchner (1951)、滝沢 (1998)、大室 (2000) が指摘した意識使用がこれに相当する (学会発表では、意識使用の例を挙げたが、ここでは割愛。大室 (2000) 参照)。

2.3. 2 節のまとめ

One's Way 構文は、一枚岩ではなく、基本メンバーから派生メンバーへと多層的に構成されている (尚、One's Way 構文を6つにサブタイプ化した動的分析としては Abe (2009)を参照。歴史発達に関する Izrael (1996)、Ishizaki (2001)、Fanego (2018)の研究からもOne's Way 構文が多層的に構成されていることに、間接証拠が与えられる)。

3. 構文化とその後の展開：半動名詞構文

本節では、2 節で論じた構文イディオム化とその後の展開に傍証を与えるため、半動名詞構文を構文化とその後の展開という観点から論じる (つまり、構文イディオムよりは一般的な構文にも、〜化とその後の展開という過程 (process) が平行して見られる)。

(11)の下線部の-ing を含んだ構文を Sweet (1891)に従い、半動名詞構文 (half-gerund construction) と呼ぶ。

- (11) a. Masao was spending his vacation working at the Matsumoto factory in Tokyo. (Sidney Sheldon, *The Chase*)
 b. He was two weeks learning to use his flippers. (MEG IV: 172)
 c. He won't have a hard time getting in. (Web)
 d. One had difficulty buying 'pornographic'

literature. (Gerold Frank, *The Boston Strangler*)

- e. I found him very busy putting his books in order. (James Boswell, *The Life of Samuel Johnson*)

半動名詞構文(11)には、前置詞 in を伴った対応する動名詞構文が存在する。例えば、(11a)には(12)が存在する。

- (12) Masao was spending his vacation in working at the Matsumoto factory in Tokyo.

(11)の-ing形の資格に関しては、(13)に示したPoutsma (1928)の見解が大変興味深い。

- (13) (After *to employ*, *to spend*, *to waste*, and verbs of a similar import, and also after the adjective *busy* and its synonyms, the preposition *in* is sometimes dispensed with. This changes the status of the ing-form, converting it into a present participle in the grammatical function of predicative adnominal adjunct. After *to spend* and *to waste* the omission of *in* is met with only when these words are accompanied by an adjunct denoting a length of time.

(Poutsma (1928: 903))

(12)の前置詞inが削除されることにより、動名詞がpredicative adnominal adjunctの文法機能を持った現在分詞の-ing形に変化すると言う。つまり、半動名詞を、動名詞から現在分詞への変化 (化け、プロセスの世界) として捉えている。大室 (1988, 2015, 2016) では、このPoutsmaの見解を重視し、概略(14)の分析を半動名詞構文に関して採っている。

- (14) a. G_i^E Basic Structure: [_S He [_{VP} was

spending [NP his vacation] [PP in working at the factory]].

b. G_i^E Model Structure: [s He [VP came [VP running]]].

c. G_{i+1}^E Derived Structure: [s He [VP was spending [NP his vacation] [VP working at the factory]]].

(11)に見られる述語 ((11a) was spending his vacation (時間の消費)、(11b) was two weeks (時間の消費)、(11c) won't have a hard time (労力の消費)、(11d) had difficulty (労力の消費)、(11e) very busy (忙しいのは、時間と労力が消費されているからこそ忙しい))は、いずれも意味として「何らかの消費」を表す。これらの述語の後に生じた前置詞in付き動名詞は、それをそのまま動名詞として解釈した意味解釈と現在分詞として解釈した時の意味解釈とが実質的に変わらない。実際、(14a)を「マサオは東京の松本工場で働くことに彼の休暇を費やした」と解釈しようとin以下の動名詞のassertionを強く解釈して「マサオは休暇を東京の松本工場で働いて過ごしていた」と解釈しようと、両者の解釈には殆ど実質的差はない。しかし、この後者の解釈は、むしろ、predicative adnominal adjunctの現在分詞としての解釈であるから、その解釈に合致するように、(14a)は(14b)をモデルとして(14c)のように統語的に再分析される(尚、play a roleの後での半動名詞についての優れた研究については桑名(2018)参照)。

さて、Poutsmaのpredicative adnominal adjunctはJespersenのquasi-predicativeに相当するため、(13)のPoutsmaの見解からは、(11)の半動名詞構文は、準述詞構文の-ing形と同一の振る舞いを示すことが次に予測される。準述詞構文の-ing形が(15)に示したように((15)はIshii (1983)より借用)、述詞としての名詞句、形容詞句、前置詞句、過去分詞句と交替可能であることから、

- (15) a. They parted good friends. (NP)
(Fukuchi (1976))
b. They ran naked in the parks and on the beaches. (AP)
c. He came home very much depressed.
(past participle)
d. They sat talking about their plan.
(present participle)
e. He slept in his boots. (PP)
(Nichols (1978: 124))

半動名詞構文でも、現在分詞以外の述詞要素である形容詞句、前置詞句、過去分詞句といった変異としての補部が生起すると予測される。実際、この予測は正しい(16)。

- (16) a. *Two long-haired groupies spent an hour *real nuisances* at the concert. (NP)
b. Daedalus is designing a novel house extension, a variable-pressure bedroom, which may purchase an extra few years of life for its proud owners by slowing the metabolic rate of that third of their lifetime which they spend *asleep*. (AP)
(BNC)
c. For thousands of children who spend their days *locked up in the shanty towns* while their parents work, the streets offer freedom and escape from domestic violence as well as a springboard to prostitution or petty crime. (past participle)
(BNC)
d. Masao was spending his vacation *working at the Matsumoto factory*. (present participle)
e. She and Henry spent their spare time *in country clothes*. (PP) (Thomas Kiernan, Jane Fonda)

更に、大室（2016）は、Arai (1997)の研究を参考に、この統語的再分析とその後の展開に、COHAから得られる述詞要素の生起頻度数と歴史発達の言語資料から間接証拠を与えている。それによると、1880年代と1890年代では、半動名詞が11例と7例であるのに対しin付き動名詞が10例と2例となり、半動名詞構文がin付き動名詞をこの年代に逆転し多く使われ出す（尚、動的文法理論ではなく、Traugott and Trousdale (2013)の意味での構文化による半動名詞構文の分析に前田（2019）がある）。更に、半動名詞構文の初出例1845年に対し、過去分詞形の初出例は約100年遅れて、1940年代。半動名詞の使用例の合計691例に対し、過去分詞の合計はわずか15例。形容詞句の出現も半動名詞より約100年遅れて、1942年。形容詞句の合計はわずかに16例。述詞の前置詞句は予測に反する結果が出たが、それは場所句の前置詞句の出現が早く、そこからの拡張の結果と考えうる（詳細は大室（2016）参照）。

4. 共通点の抽出と文法における拡張のメカニズム

2節の分析と3節の分析に見られる共通点を抽出することにより、文法における拡張のメカニズムに迫る。

2節でも3節でも、基本形の統語構造に、互いに実質的にはさほど変わらない多義（ambiguity）が生じ、そのうちの派生的な意味解釈と基本形の統語構造の間で形と意味のミスマッチが生じた（Syntactico-Semantic Discrepancy (Kajita (1977)参照)）。2節では、動詞 *make* が単純合成により *One's Way* を目的語に取った文字通りの解釈を持つ基本形から、語用論的含意により、派生的イディオム解釈が生じ、単純合成の基本形の統語構造とこの派生的解釈であるイディオム解釈との間で形と意味のミスマッチが生じた。更に、*jump* が方向前置詞句をとった基本形におい

て、狭い意味での通路が意味的に有るのに、それを表す顕在的な *way* が無いという形と意味のミスマッチが生じた。3節でも *in* 付き動名詞構文においてその統語構造と合致した基本的意味解釈に加え、*in* 以下の動名詞の部分の *assertion* を強く解釈した派生的解釈が生じ、その派生的解釈と *in* 付き動名詞構文との統語構造との間で形と意味のミスマッチが生じた。3者に形と意味のミスマッチが生じている点が共通点の1点目である。

3者とも、このミスマッチの状況下において、派生的な規則が文法の次の段階で導入され、当該の形と意味のミスマッチを取り除くように、つまり、派生的意味解釈に合致するように、基本形の統語構造が統語的に再分析されることで新たな統語構造が生じている。この点が共通点の2点目である。

2節でも3節でも一旦構文イディオム化や構文化によって、それぞれ *jump* タイプの構文イディオムと *-ing* の現在分詞形の半動名詞構文が確立された後、その後の文法展開として更なる変種が生じることを見た。2節では、*belch* タイプの *One's Way* 構文と意識使用の *One's Way* 構文がこれに相当する。3節では、*-ing* 形以外の述詞の過去分詞形や形容詞句の出現がこれに相当する。これが3点目の共通点である。

4点目の共通点として、2節でも3節でも、文法拡張は急激な変化ではなく、保守的に *step by step* で拡張することを見た。

文法拡張のメカニズムは、当該文法のある習得段階において、形と意味のミスマッチが生じ、そのミスマッチを除去するために派生的な規則が当該文法に新たに導入される付加過程（*additive process*）と言える（Kajita (1977)参照）。

5. 結論

これら4点を自然に捉えるには、一般言語理論として動的文法理論が必要である。

チョムスキーやその他の理論言語学者は「可能な文法」を定義する際に、もっぱら大人の文法の形式特徴のみを見て定義し、言語習得の途中の段階において何が起こりうるかに言及して、「可能な文法」を定義することはない。この意味で彼らの文法理論は全て「静的 (static)」である。対照的に梶田は、「可能な文法」を定義する際に、言語習得のある段階から次の段階への移行の可能性に言及することによって「可能な文法」を定義すべきであると強く主張する。つまり時間軸を文法理論自体に組み込むことを提案している。この意味で彼の文法理論は、「動的 (dynamic)」と言える。

第2節では、One's Way 構文を構文イディオム化とその後の展開という観点から論じた。構文イディオムである One's Way 構文は、基本タイプから派生タイプへと段階を踏む構文イディオム化というプロセスによって得られることを見た。そして、一旦構文イディオムが成立すると、その後の展開として更に派生的な *belch* タイプや意識使用が見られた。第3節では、構文イディオムよりも一般的な構文においても、構文化とその後の展開が見られることを、半動名詞構文を取り上げて論じた。*-ing* 形の半動名詞構文が *in* 付き動名詞構文から一旦成立すると、その後の文法展開としてその *-ing* 形を核として、*-ing* 形以外の変種の述詞補部が生起可能になることを見た。2節の議論と3節の議論を通して、～化というプロセスと、「一旦～が成立した後に～が可能になる」ということを述べないと One's Way 構文も半動名詞構文もうまく捉えられないことを見た。～化というプロセスと「一旦～が成立した後に～が可能になる」ということを述べるには、やはり、文法理論自体の中に、ある文法のある段階から次の段階への移行の可能性に言及するような法則を含められるような、時間軸の概念を組み込んだ動的な文法理論が必要であると思わ

れる (Kajita (1977, 1997)、Chiba et.al (2003)、河野 (2012)、Nakazawa (2018)、大室 (2018) 等参照)。

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Labeling Algorithm and Copy Deletion*

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Keywords : Labeling Algorithm, Copy Deletion,
to-contraction, auxiliary reduction, copy
realization

1. Introduction

The goal of this paper is to modify Chomsky's (2013, 2015) *Labeling Algorithm* (LA), and discuss its consequences. Chomsky (2013) assumes that syntactic objects (SOs) must be labeled for interpretation at interfaces, and proposes LA in (1), whereby labels are determined by minimal search.

(1) Labeling Algorithm

- a. $[_\alpha H XP] \quad \alpha = H$
 - b. $[_\alpha XP YP] \quad (i) [XP [_\alpha XP YP]] \quad \alpha = YP$
 $\quad \quad \quad (ii) [_\alpha XP_{[F]} YP_{[F]}] \quad \alpha = \langle F, F \rangle$
- H = Head XP, YP = Phrase F = Feature

When a head H and a phrase XP are merged as in (1a), the former is selected as a label because it is found by minimal search for labeling. On the other hand, when two phrases, XP and YP, are merged as in (1b), a label of the SO cannot be determined uniquely because minimal search locates two heads, X and Y. This is called "XP-YP problem." To avoid this problem, Chomsky proposes two strategies. One is raising either XP or YP as in (1bi): If one of the phrases raises to the outside of the minimal

search domain for labeling, then it becomes invisible to the labeling computation, and hence the other phrase serves as a label. This strategy is based on the idea that Internal Merge (IM) yields a discontinuous SO (chain), and it is the discontinuous element, but not each copy, that is visible for LA. The other strategy is using a shared (agreement) feature as in (1bii): If merged phrases are in an agreement relation, the agreement feature serves as a label $\langle F, F \rangle$. Since phrasal movement always causes an XP-YP problem at its landing site, such a moving material must end up in the position where it takes part in $\langle F, F \rangle$ labeling.

In this paper, I propose to modify the original LA, and show that the proposed labeling mechanism explains restrictions on some linguistic phenomena. This paper mainly targets phonological phenomena, but I also explore the possibility for extending my analysis to semantic phenomena.

2. Proposal

My proposal is to replace the raising-based labeling in (1bi) by Copy Deletion-based labeling in (2).

(2) Labeling by Copy Deletion

$$[XP [_\alpha \cancel{XP} YP]] \quad \alpha = YP$$

According to this proposal, an XP-YP structure can be labeled not by raising either of the two phrases but by succeeding deletion operation. On the basis of Chomsky's (2015: 6) assumption that "LA must apply at the phase level, as part of the Transfer operation," I assume that the deletion operation which helps labeling must apply within Narrow Syntax, calling it *NS-Copy Deletion*. Given the deletion operation for labeling, copies that cause a labeling problem

are deleted and lost within Narrow Syntax. Since this kind of copies cannot be transferred, they do not have any phonological and semantic effect at interfaces. On the other hand, copies required for labeling must not be deleted by the timing of labeling. This kind of copies can be sent to interfaces, and hence they have some phonological and semantic effect at interfaces. Thus, my proposal distinguishes copies in terms of their necessity for labeling and their interpretability at interfaces, as illustrated in (3)-(4).

- (3) a. Narrow Syntax
 XP ... [_α ~~XP~~ YP]
 b. Transfer (the timing of labeling)
 XP ... [_{YP} ~~XP~~ YP]
 c. PF/LF
 XP ... YP
- (4) a. Narrow Syntax
 XP ... [_α XP_[F] YP_[F]]
 b. Transfer (the timing of labeling)
 XP ... [_{<F, F>} XP_[F] YP_[F]]
 c. PF/LF
 XP ... XP YP

Now, one might wonder why some copies apparently lack phonological effect, though they are required for labeling. Consider the *wh*-question in (5a), to which my proposal gives the syntactic structure in (5b) and the PF representation in (5c). In the following schemas, copies are numbered just for the expository purpose.

- (5) a. who do you think like dogs?
 b. [_{<Q,Q>} who¹_[Q] C_[Q]-do you do think
 [_{CP} ~~who~~² C [_{<φ,φ>} who³_[φ] T_[φ] [_{VP} ~~who~~⁴
 v-like dogs]]
 c. * who¹ do you do think who³ like dogs

(5) shows that who³ is not realized though my proposal predicts that it is transferred. I attribute this fact to another kind of Copy Deletion, which is required to obtain legitimate linear order. More specifically, I assume with Nunes (2004) that identical copies cannot be realized at once because such realization violates the conditions on linear order in (6).

- (6) a. The Irreflexivity Condition
 If α precedes β, then it must be the case that α ≠ β.
 b. The Asymmetry Condition
 If α precedes β, then it must be the case that β does not precede α.
 (Nunes (2004: 24))

In (5), realization of *who*¹ and *who*³ violates the irreflexivity condition since *who*¹ precedes *who*³ but they are non-distinct. In addition, the copy realization also violates the asymmetry condition since the *wh*-copy *who*¹ precedes the sequence of *do you do think* but the sequence in turn precedes the other *wh*-copy *who*³, which is not distinct from *who*¹. In order to avoid such violations, Copy Deletion is also required in the phonological component. In this paper, I name the deletion applied in the phonological component “PF-Copy Deletion.” As a consequence of this operation, the *wh*-question can obtain the legitimate linear order that includes only one *wh*-copy. Assuming this kind of derivation, I propose that copies taking part in <φ, φ> labeling are mapped into the phonological component but deleted at a later stage in A'-movement environment.

In summary, I propose that Copy Deletion may apply once (or twice if necessary) and that their timings are regulated by labeling as part of the Transfer operation, as shown in (7).

- (7) NS-Copy Deletion (Narrow Syntax)
 → Labeling (Transfer)
 → PF-Copy Deletion (PF component)

As a consequence of the Copy Deletion-based approach, the proposed labeling mechanism divides copies into two types with respect to their phonological and semantic effect: If a copy undergoes NS-Copy Deletion, it cannot have any phonological and semantic effect because it is lost before Transfer. In contrast, if a copy is not deleted within Narrow Syntax, it has some phonological and semantic effect by being sent to interfaces. Although some of the latter kind of copies are deleted in the phonological component to obtain legitimate linear orders, I assume that these copies also have some phonological effects before applications of PF-Copy Deletion. In the following section, I will show that the proposed labeling mechanism accounts for restrictions on some linguistic phenomena.

3. Phonological Effect

3.1. *To*-Contraction

To-Contraction is a sandhi phenomenon where an infinitive marker *to* is reduced and affixed to an adjacent word. It has been observed that its application is restricted, as illustrated in (8).

- (8) a. I want to/wanna meet John.
 b. Who do you want to/*wanna meet John?
 c. Who do you want to/wanna meet?
 d. John seems to/seemsta like pickles.

In the simple control sentence in (8a), *wanna*-contraction is completely allowed. However, the contraction is restricted if the

control sentence involves certain *wh*-movement: *Wanna*-contraction is blocked with *wh*-movement of an embedded subject as in (8b), though it is allowed with movement of a *wh*-object as in (8c). Lastly, contraction is freely allowed in a raising construction as in (8d).

Assuming with Jaeggli (1980) that contraction requires the PF-adjacency between two members taking part in this phenomenon, its distribution is accounted for by my proposal. Let us begin with sentence (8a), repeated as (9a). My proposal gives this sentence the syntactic structure in (9b). In analyzing this sentence, I assume with Epstein, Kitahara and Seely (2016) that a clause-selecting verb *want* is formed by External Pair-Merge of the *v*-head with the root $\sqrt{\text{want}}$.

- (9) a. I want to/wanna meet John.
 b. $[_{CP} C [<_{\varphi, \varphi}> I_{[\varphi]} T_{[\varphi]} [_{VP} \bar{t} <\sqrt{\text{want}}, v> [_{CP} C [<_{\varphi, \varphi}> PRO_{[\varphi]} T_{[\varphi]} \text{-to} [_{VP} PRO <\sqrt{\text{meet}}, v> [<_{\varphi, \varphi}> \sqrt{\text{meet}}_{[\varphi]} John_{[\varphi]}]]]]]]]$

Then, the syntactic structure is mapped onto the linear order in (10). Here, I assume that inherently null elements (the embedded C-head and the PRO subject) are not mapped into the phonological component.

- (10) I want to meet meet John

Assuming with Ackema and Neeleman (2003), Sato (2012), and Thoms and Sailor (2017) that contraction applies at an early stage of the phonological component (immediately after Transfer or at least before PF-Copy Deletion), *wanna*-contraction requires *want* and *to* to be adjacent in the PF-representation of (10). Since the adjacency requirement is satisfied,

wanna-contraction can apply in (9a).

Then, let us consider the sentence in (8b), repeated as (11a). The proposed labeling mechanism provides this sentence with the syntactic structure in (11b) and the PF-representation in (11c). Here, I assume that an embedded subject receives Case within the embedded clause.

- (11) a. Who do you want to/*wanna meet John?
- b. [_Q, Q> who_[Q] C_[Q]-T-do [_φ, φ> you_[φ] T_[φ]-do [_{VP} ~~who~~ you <√want, v> [_{CP} ~~who~~ C [_φ, φ> who_[φ] T_[φ]-to [_{VP} ~~who~~ <√meet, v> [_φ, φ> √meet_[φ] John_[φ]]]]]]]]
- c. who do you do want who to meet meet John

In (11b), the *wh*-copy taking part in <φ, φ> labeling cannot be deleted within Narrow Syntax. Consequently, the relevant copy intervenes between *want* and *to* in the representation of (11c), and hence blocks *wanna*-contraction.

Next, let us move on to the sentence in (8c), repeated as (12a). My proposal gives this sentence the syntactic structure in (12b) and the PF-representation in (12c).

- (12) a. Who do you want to/wanna meet?
- b. [_Q, Q> who_[Q] C_[Q]-T-do [_φ, φ> you_[φ] T_[φ]-do [_{VP} ~~who~~ you <√want, v> [_{CP} ~~who~~ C [_φ, φ> PRO_[φ] T_[φ]-to [_{VP} ~~who~~ PRO <√meet, v> [_φ, φ> √meet_[φ] who_[φ]]]]]]]]
- c. who do you do want to meet meet who

Although *wh*-movement leaves a *wh*-copy between *want* and *to*, it is deleted within Narrow Syntax for labeling. As a result, *want* and *to* are adjacent in the phonological component, and hence contraction is possible.

Last, let us turn to the sentence in (8d), repeated here as (13a). My proposal provides this sentence with the syntactic structure in (13b) and the PF-representation in (13c). In analyzing the raising construction, I adopt Mizuguchi's (2016) proposal that the T-head of an embedded clause is introduced with externally pair-merged C-head, and assume that a <T, C> amalgam can serve as a label, unlike an ordinary T-head in English.

- (13) a. John seems to/seemsta like pickles.
- b. [_{CP} C [_φ, φ> John_[φ] T_[φ] [_{VP} ~~John~~ <√seem, v> [_{<T, C>P} ~~John~~ <T, C>-to [_{VP} ~~John~~ <√like, v> [_φ, φ> √like_[φ] pickles_[φ]]]]]]]]
- c. John seem to like like pickles

In (13b), the subject copy intervenes between *seem(s)* and *to*, but it is deleted by NS-Copy Deletion. The relevant adjacency requirement is satisfied, and hence *to*-contraction is possible in raising constructions.

3.2. Auxiliary Reduction

Next, let me show that my proposal accounts for some restriction on auxiliary reduction. An infinitival auxiliary can be reduced in a declarative sentence as in (14a), but the reduction is impossible in a question as in (14b).

- (14) a. John should've left.
- b. Should you have/*'ve hit Harry?
(Lakoff (1970: 632))

Lakoff (1970) suggests that a reduced infinitival auxiliary verb ('ve) must cliticize onto a prosodic host on its left, and that auxiliary reduction is impossible in T-to-C movement environment where the reduced auxiliary is

preceded by a silent element (or what was analyzed as *trace*).

The contrast in (14) can be captured by my proposal. Let us begin with (14a), which has the structure of (15a) and the phonological derivation in (15b).

- (15) a. $[_{CP} C[_{<\phi, \phi>} \text{you}_{[\phi]} T_{[\phi]} \text{-should have}_{[VP} \text{you}_{[\phi]} <\sqrt{\text{hit}}, v> [_{<\phi, \phi>} \sqrt{\text{hit}}_{[\phi]} \text{Harry}_{[\phi]}]]]]]$
 b. you should have hit hit Harry
 $\downarrow$ PF-Copy Deletion
 you should have hit ~~hit~~ Harry

Assuming that the relevant cliticization applies before PF-Copy Deletion like the case of *to*-contraction, it is applied in the first representation in (15b). Then, the infinitival auxiliary cliticizes onto the linearly adjacent finite auxiliary. The adjacency is maintained to the end, and hence the cliticization is licensed.

Next, consider sentence (14b), which has the structure of (16a) and the phonological derivation in (16b).

- (16) a. $[_{CP} C\text{-}T\text{-should} [_{<\phi, \phi>} \text{you}_{[\phi]} T_{[\phi]} \text{-should have}_{[VP} \text{you}_{[\phi]} <\sqrt{\text{hit}}, v> [_{<\phi, \phi>} \sqrt{\text{hit}}_{[\phi]} \text{Harry}_{[\phi]}]]]]]$
 b. should you should have hit hit Harry
 $\downarrow$ PF-Copy Deletion
 should you ~~should~~ have hit ~~hit~~ Harry

The lower copy of *should* cannot undergo NS-Copy Deletion in (16a): If it is deleted before labeling, it is impossible to obtain $<\phi, \phi>$ label because one of the agree-mate becomes invisible to labeling computation. As a result, the reduced auxiliary cliticizes onto the lower copy of the finite auxiliary. However, the established cliticization relation is destructed at a later stage through PF-Copy Deletion. Since

the reduced auxiliary finally loses its prosodic host, cliticization is prohibited.

3.3. Restriction on Copy Realization

Then, I show that my proposal accounts for restriction on copy realization. In particular, I attempt to explain the restriction on exceptional lower copy realization observed in multiple *wh*-fronting languages such as Bulgarian.

To set the stage for the discussion, I first introduce an ordinary *wh*-question in Bulgarian:

- (17) a. Koj kakvo e kupil?
 who what is bought
 ‘Who bought what?’
 b. * Koj e kupil kakvo?

Here, both of the two *wh*-phrases must be fronted as in (17a). In contrast, if one of the two is realized at another position as in (17b), the *wh*-question is ungrammatical. It has been known that this kind of realization pattern is observed if *wh*-phrases are different words. If multiple *wh*-phrases are homophonous, a different realization pattern appears as in (18).

- (18) a. Kakvo obuslavlja kakvo
 what conditions what
 ‘What conditions what?’
 b. * Kakvo kakvo obuslavlja?

In (18a), one of the homophonous *wh*-phrases is realized not at the fronted position but at the object position. In contrast, the sentence in (18b) shows that it is impossible to pronounce both of the identical *wh*-phrases at the sentence-initial position. Thus, the *wh*-question with the homophonous *wh*-phrases shows the exceptional lower copy realization.

To capture this fact, Bošković (2002)

(19) Avoid homophonous sequences.

However, the constraint is insufficient in that it cannot explain some restriction on the lower copy realization. Consider the following example, in which the symbol “%” is used to mark variation on judgment.

The point here is that lower copy realization is not licensed at the intermediate position. This restriction on the lower copy realization is not captured by the constraint in (19): It does nothing other than prohibiting a homophonous sequence, and hence it does not prevent other copy realization. Therefore, if lower copy realization is required in order to avoid a homophonous sequence, then the intermediate copy should be a candidate for copy realization. Since the constraint in (19) cannot explain the absence of intermediate copy realization, it should be explained independently.

deleted at PF in order to obtain legitimate linear orders), but the latter copies cannot. Consider the structure of (20), which is illustrated in (21).

Analyzing the syntactic structure in a similar way to English, we can see that the intermediate copy cannot be realized because it is deleted before Transfer. On the other hand, copies taking part in $\langle \varphi, \varphi \rangle$ labeling can be pronounced because they are sent to the phonological component and interpreted there. Thus, my proposal straightforwardly deduces the exceptional copy realization (and deletion) pattern, according to which lower copy realization is limited to agreement positions (and intermediate copies can never be pronounced).

In the last section, I explore the possibility that my proposal accounts for restrictions on some semantic phenomena. Consider the sentences in (22), which suggest the presence or absence of reconstruction effect.

- These sentences have co-referential R-expression and pronoun. If the moving materials leave a copy at the base-generated positions (t_j), we predict that both of the sentences are ungrammatical because of Condition C violation. Hence, the sentences in

(22) suggest that A'-movement leaves the copy in (22a), while A-movement does not in (22b). The difference is explained by my proposal, whereby the sentences in (22a, b) have the structures of (23a, b).

- (23) a ... he_[φ] T_[φ]-did [_{VP} ~~{which picture of John}~~ ~~he~~ <√like, v> [_{<φ, φ>} √like_[φ] [which picture_[φ] of John]]] ...
 b. ... to him [_{<T, C>P} ~~{every picture of John}~~ <T, C>-to be [_{AP} ~~{every picture of John}~~ great]] ...

The structure of (23a) contains an undeleted lower copy at the object position, and hence Condition C is violated. On the other hand, that of (23b) does not contain such a lower copy due to NS-Copy Deletion, and hence Condition C is not violated. Thus, the A/A' -asymmetry might be explained by my proposal. The discussion supports the possibility that my analysis is extended to semantic phenomena.

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受け身「ラレ」の形態分離と繫属述語仮説*
(Morphological Decomposition of Passive
(R)are and the Trans-Predicate
Hypothesis)

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1. はじめに

日本語では「述語」の「述」(Predicate) が少なくとも形態的には「語」(Word) と認識される。したがって、複合述語の形態統語論をどのように扱い、さらにそれを意味論と関連づけるかは、生成文法初期から重要な課題の一つであるが、未だ統一的な見解には至っていない。その中で、受け身文は、生成文法の歴史において最も盛んに議論されてきた構文の一つであり、日本語においては、間接受け身文 (1a)、所有受け身文 (1b)、そして直接受け身文 (1c) という 3 種類に大きく分類されることが知られている。

- (1) a. 太郎が犬に吠えられた。
- b. 太郎が花子に子どもをほめられた。
- c. ピザが子どもたちに食べられた。

(1a) の間接受け身文で特徴的なのは、「犬」が非能格動詞「吠える」の主語であるのに対

して、「太郎」は動詞の項構造と関係がなく、いわば「犬」と「太郎」はディスジョイント (v) の関係にある点である。他方、(1b) は、「太郎の子ども」という状況において、所有受け身文と見なされる。この場合、主語の「太郎」が動詞「ほめる」の項でないという点で (1) の間接受け身文と同じであるが、「太郎」と「子ども」の間のいわゆる所有関係によって、「太郎」と「子ども」はアイデンティティにおいて部分的に重なり合うと言える (n)。ちなみに、(1b) では、「子ども」は、対格「を」を伴っていることから、目的語の主語位置への移動により派生される英語の be-受け身文とは異なり、述部内に留まっていると考えられる。最後に、(1c) の直接受け身文は、英語の be-受け身文に最も近く、表層の主語「ピザ」は動詞「食べる」の目的語と同定される (=)。英語の be-受け身文との比較において重要なのは、(1a) や (1b) の主語「太郎」は、(1c) の「ピザ」とは異なり、動詞の項構造自体に含まれないものの、「犬が吠える」のような動詞句の表すイベント自体、もしくは、「花子」のような、その内部に生起する項との関係性によって、動詞の表すイベントによる影響性 (affectedness) を被ると解釈され、「受け身文」としての成立を保証するという点である。

このような日本語受け身文が示す諸特徴を統語構造から導出する試みとして、1970 年代以降、画一理論 (Uniform Theory) と非画一理論 (Non-uniform Theory) の間で活発な議論が交わされてきたが、未だに明らかな見解の一致には至っていない。

本稿では、「ラレ / (r)are」が単一の受動形態素として英語の接辞 *-en* に対応するものと暗黙に捉えてきた従来の分析は、日本語述語の膠着性に鑑みると、理論的必然性があるとは必ずしも言えないとする立場を取る。その上で、統語構造の役割に新たな考察を加え、句構造がイベントと意味解釈を効率的に結

びつけるために最適化されていることを論じ、日本語受け身文の新たな分析を提示する。

2. 理論的背景：新構成主義者理論

極少者主義理論 (Chomsky, 2000 *et seq*) では「併合」が唯一の構造形成機能であり (the ‘single engine’ hypothesis, Marantz 2003)、併合が派生する句構造は LF 及び PF 部門における解釈に必要かつ十分な深さ (Phase) まで形成されるとそれぞれのインターフェースに送られる。その後 LF では意味解釈が与えられ、PF では語彙化、直線化、音韻化等の作業が行われる。句構造は人間の言語器官 (Faculté Linguistique, FL) にとって重要な位置を占め、中心的な役割を果たす。

併合がどの様にして句構造を形成するのかに関して二つの考え方がある。一つは最も広く受け入れられ、Boeckx (2014, 2015) が「語彙中心主義」(Lexicocentrism) と呼ぶもので、併合が結びつける語彙形態素は素性 (features) が束ねられたものであり、さらにそれらの素性は構造化されていると考えるものである。この見方によると併合は素性構造の指示に従って形態素を組み上げ、句構造を形成してゆくことになる。¹ もう一つの見方は Marantz (1997, 2005, 2007), Borer (2003, 2005, 2017), Boeckx (2011, 2014, 2015), Wood (2015), Myler (2016) 等に見られるもので、語彙形態素を素性の集合と見做す事は同じであるが、素性の構造化を否定する立場である。この転回には幾つかの理由がある。まず構造化された形態素性が保証する特徴として句の文法範疇、句の持つ基本的意味、及び句内部に現れる項の数と意味役割 (θ-role) 等があるが、これらは拡散形態論 (Distributed Morphology (DM), Marantz 1997) に従って形態辞を語根、「小」主要部、Voice 等に分離する事により基本的に併合のみで導き出す事ができる。もしこれが正しい

れば構造化された語彙素性は余剰にならざるを得ない。² さらに深刻な問題は素性自体に内包されている。併合による派生を動機付ける素性は上述したものに加え、EPP, Case, Wh-, Agreement (φ) 等が考えられている。これらはもっぱら(形式)主語の導入、移動による併合(IM)等のために必要になるが、もしこれらの素性が派生を望ましい方向に導くために想定・導入されているのであれば、極少主義者理論の目標である生物学的見地 (Evo-Devo) からの言語発現の解明には寄与するものが少ない事を示唆する。言い換えると、生物学的な現象としての FL の出現によってこれらの素性は副次的であり必要前提条件では無かった可能性が高い。

これらの考察から、本研究では、後者の見方に従い、語彙形態素の持つ素性は構造を持たず、Argument Structure は DM に従い語彙的に分離 (decomposition) された語根及び形態素によって階層的に派生されると考え (exo-skeletal model, Borer 2003, 2005)、³ 「新構成主義者理論」(Neo-Constructivist Theory, Clark & Clark 1979, Filmore & Key 1997, Borer 2003, 2005, 2017, Bruening 2013, Myler 2018 等) の見地から、併合の派生する構造は言語情報の在外化、形態素の直線化及び句の意味解釈を効率的に行うために最適化されていると考え、副次的素性を極力排除する派生を目指す。これにより受け身の形態素「ラレ」が階層構造を持ちなおかつ項を許可する助「動詞」である事を示す。これが正しいければ、構造自体が意味解釈の一部を担うとする Neo-Constructivist Theory を支持する重要な証拠となる。

3. 繫属述語仮説と受け身文の構造

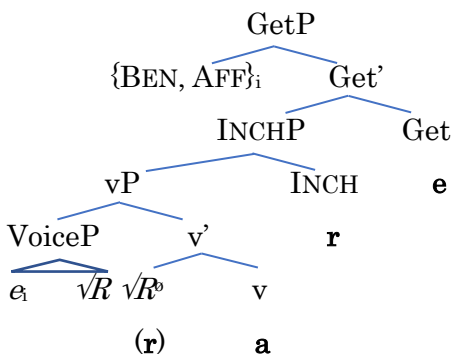
本稿では、DM の想定 (2a-c) に基づき、「ラレ」は従来考えられてきたような単一の接辞ではないと考える。次に(3) および (4) の提案に基づき、(5) に図示される階層構

造を内包する機能辞 $(r)ar$ と e に分離されることを論じる。その上で、3種類の受け身文に対する統一的分析を提示する。

- (2) a. **Root Hypothesis** : 語はもともと範疇未指定で、範疇未指定の語根 $\sqrt{R}$ Root と v などの機能範疇主要部が統語的に併合することで決定される。
- b. **Single Engine Hypothesis** : 語形成を含む全ての構造は統語論で形成される。
- c. **Late Lexical Insertion** : 語彙挿入は PF で Spell-Out の後になされる。
- (3) e : 動詞「エル」が文法化した機能範疇 Get で、「獲得、完遂、到達」というアスペクトに関する意味論的概念と結びつき、主題役 (Benefactive, Affectee 等) 付与により受け身文の主語を認可する。
- (4) $(r)ar$: 軽動詞「アル」(影山 2004, 金水 2006) の文法化に由来し、イベントの「出現・発生」を表す形式述語であり、構造的には、機能範疇の連鎖 $Inch(oative)-v$ を成し、その補部に Theme として VoiceP を認可する。

本稿では、 $InchP-vP$ は、受け身文における VoiceP と GetP の関係性を媒介する役割を持つ、Trans-Predicate (繫属述語) と考え、これを「繫属述語仮説 (Trans-Predicate Hypothesis)」と呼ぶ。

(5)



(3) は、日本語受け身文の起源に関する伝統的な「得」説 (石田 1958, 吉田 1973) の立場、および Washio (1989-1990) や鷺尾 (2005) の洞察を、形態統語的に再定式化しようとする提案である。一方、(4) は、日本語受け身文の特徴付けとして国語学でしばしば論じられてきた出来文説 (尾上 1998a; 1998b; 2003) の洞察 (6) に基づく。

(6) ラレル形述語文は、主語に立つものを場として、事柄を全体として発生・生起するものとして述べる形式である。(川村 2005: 49)

(5) の構造は、「VoiceP で表される基底イベントの発生・出現 $((r)ar)$ の影響を GetP 指定部の名詞句が被る (得る $/e-rul/$)」と読み解くことができ、受け身文の意味解釈と文構造が階層的対応関係にある事を示している。

まず、 $/a/$ は、'little' v (Marantz 2007, 2013) として機能し、形式語根 $\sqrt{R}$ を動詞として範疇化する。これに VoiceP が内項として併合され、 vP が形成される。さらに $Inch(oative)$ が併合し、統語的に非対格構造を持つ $InchP$ が投射される。この時点で、基底イベントを表す VoiceP は、形式述語に基づく $TrP (=InchP-vP)$ に埋め込まれることで、二次述語に類する構造関係が形成される。他方、通常非対格動詞の派生とは異なり、VoiceP は、格を必要としない要素であるため、それ自体が表層の主語位置へ移動することはない。それゆえ、その後の派生の過程で、GetP が認可する名詞句が主語としての資格を得ることになる。最後に、PF における語彙挿入、およびデフォルトの子音である $/r/$ (釘貫 1996, Labruine 2014, de Chane 2016) の挿入を経て、受け身述語が出力される。³ 対応して、意味的には非対格構造を備えた $Inch-vP$ を介した VoiceP が表す基底イベントと GetP 指定部に生起する主

語の間での「関連付け」が、いわゆる「受け身」の解釈を生み出す。⁴⁵

このように、繫属述語仮説に基づく分析の下では、日本語受け身文とは、繫属述語 **TrP** と **GetP** によって派生される重層的な文構造の総称であり、従って、「ラレ」が英語の受け身文を形成する接辞 *-en* に直接的に相当するという従来の見方は否定されることになる。

4. 3 種類の受け身文に対する統一的分析

次に、前節で提示した繫属述語仮説に基づく形態統語分析の下で、(1a-c) に示される 3 種類の受け身文がどのように説明を与えられるかを見る。まず第一に、間接受け身文においては、**Get** の指定部として導入される主語は、**VoiceP** 内の動詞が表す下位イベントの参与者と同一指標を付与されないことから、両者はディスジョイント (V) の関係にあり、排除の状況が生じている。この関係から、いわゆる「迷惑」や「被害」の解釈が生じる。

他方、所有受け身文では、**GetP** 内の主語と **VoiceP** 内に留まる対格目的語の間で成り立つ所有関係に応じて解釈が決定される。すなわち、目的語の所有者が受動主語と同一指標を付与されることで、いわゆる譲渡不可能所有関係が成り立っている。この場合、指標付与を通して、アイデンティティにおける部分的な重なり合い (∩) の関係が成立するため、直接受け身に準ずる解釈が得られる。

最後に、**GetP** の生成する主語と **VoiceP** 内にある動詞の目的語である **PRO** が同一指標を付与され、アイデンティティにおいて同一関係 (=) となることのみである。したがって、受け身の主語としての文法機能を担う要素は、同時に、動詞が表す行為の影響性を被る目的語として解釈される。これが「直接受け身」と呼ばれる所以である。

5. 経験的帰結

以下では、本稿で提案する受け身文の妥当性を示す経験的事実について、いくつか示したい。最初に、日本語における受け身述語化に課せられる制約の一つ、すなわち、「沈む」「落ちる」「冷える」等の状態変化動詞に基づく受け身文が派生されないという事実が、首尾よく捉えられることを指摘したい。これらの自動詞類は、動詞の表す行為の遂行において、項がある種の制御性や意志性を示し得るような特殊な文脈を除くと（例：「建造したばかりの船に 沈まれた」）、純粋な状態変化の解釈としては受け身述語化されない（例：「*夕陽に/*気分 に 沈まれた」）。状態変化動詞は、それが表すイベントの性質から非対格構造を伴う **VoiceP** を元来派生するため、繫属述語による余剰的な非対格化の適用は、不適格な構造を派生してしまい、また意味解釈上の破綻もきたすことから、受け身述語化されないと言える。

また、「太郎は浜辺で風に吹かれた」「屋根が風に *吹かれた / 吹き飛ばされた」のような、働き掛け動詞による受け身文の容認性の差異については、基底イベントの「出現・発生」の影響の有無によって決まると言える。関連して、「城がお堀に囲まれている」「住宅地が緑に覆われている」のような状態性を示す受け身文といった、従来の分析にとって容易ではない事例は、イベントの「出現・発生」に伴う結果状態の「存在」がアルによって含意されることで、適格と判断されるのかもしれない。

さて、本節の終わりとして、畠山・本田・田中 (2019) における「受け身と使役の相互乗り入れ」について一言述べておきたい。

(7) ジョンはわざとトラックに追突された。

(8) ジョンは不運にもトラックに追突された。

畠山・本田・田中 (2019: 199) によると、「ラレ」は使役と受け身で多義的な振る舞いを示

す。すなわち、(7) では、副詞「わざと」が生起していることから、主語「ジョン」が動作主と同定され、したがって「ラレ」に対して使役の意味が選択されるのに対して、主語が被動作主であると解釈される (8) の「ラレ」は受け身と見なされる。このように、日本語の受け身文を *get passive* と関連づけている点は、本稿の分析と同一の方向性を志向しているように思われる。しかし、本稿は、ラレ自体が使役と受け身の間で多義性を示す語彙とは考えない。むしろ、問題の (7) (8) のような対は、いずれも受け身文であるものの、基底イベントの「発生・出現」と *Get* 主語の結びつき方の副次的効果として、使役と受け身の対立に類する解釈上の多義性が生じるものと捉えられる。

6. 繫属述語と新構成主義者理論

ここまで *(r)ar* は「繫属述語」という機能範疇であり、それは非対格構造を持つことを論じた。本節では、繫属述語仮説が、そもそも何故 *(r)ar* が受動の意味を派生できるのかと言う根源的問いに回答を与える事を指摘したい。まず *(r)ar* はコピュラ由来の *a* (イベントの発生・出現) を除いて何ら意味素性を持たない。語根は素性的に空 ($\sqrt{R}$) であり、INCH もまた同様である。さらに *e* は多様な意味を持つ主語を認可するが、それ自体は受動の意味を生むわけではない。そうであるならば、この繫属述語が派生する受動の意味はどこから来るのであろうか。我々はその由来を繫属述語が持つ非対格構造そのものに求めたい。すなわちこの構造は FL の一部として非対格的イベントを表すものとして最適化されており、それが機能述語として再利用されていると考えるのである。もしこの見方が正しければ、統語構造自体が意味に貢献するという新構成主義者理論を支持する重要な証拠となる。さらに受動の繫属述語は (5) で示したように二層構造を持つ。これにより

主要部が現れる最終節点の数は (語根が現れる位置を除くと) 必然的に 2 となる。新構成主義者理論では DM 同様どれだけ細部の形態分離が必要なかが議論になるが、我々の仮説はその問いに対する回答となる。すなわちイベント表出に最適化された統語構造が自動的に主要部 (及び指定部) の数と位置を決定するのである。⁶

7. 今後の展望

最後に、繫属述語仮説の帰結の更なる追究、そして本研究の今後の展望について手短に触れることで、結語にかえたい。本稿では、重層的構造から成る繫属述語 *TrP* を選択する主要部 *Get* が、受け身文の主語を認可することを提案した。この提案は、*Get* が、付与できる主題役が豊富 (*Benefactive*, *Affectee*, *Controller* 等) であり、潜在的に様々な意味解釈を許すという点で、主語と *VoiceP* の間の多様な意味関係の構築に対応できる (おそらく唯一の) 機能範疇であるという洞察に基づく。この「*Get* 仮説」と、繫属述語の非対格性からの類推による「他動性を示す繫属述語 (*sas*)」の存在を併せて仮定することで、使役 (*sas-e*) と受け身 (*rar-e*) の並行的分析が可能となることが期待される。そして、可能動詞や尊敬語といった他の「ラレ」形述語も、イベントの出来を表す非対格構造を内包すると仮定することで、日本語のヴォイス関連現象に対する統一的な理解への道が拓けると考える。さらに、本動詞アルの文法化から繫属述語 *TrP* が派生されたという想定の下で、東北地方の諸方言における、*(r)ar* の付加による *short passive* (Takahashi 2020) や自発・可能表現へと本稿の分析が敷衍されることも期待される。理論言語学と方言文法の相互理解が示唆するところの大きさを改めて示すことは、本研究のとりわけ重要な目標の一つである。

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注

¹ この見方は endo-skeletal model (Borer 2003, 2005) と呼ばれ, Lexicalist Hypothesis において最も顕著である。生成文法では Argument Structure (Grimshaw 1990), 影山 (1993), I-Syntax (Hale & Keyser 2002)等を参照されたい。

² これに加えて DM が allomorphs (Bobaljik 2012) 及び語彙の意味的逸脱 (allosemy, Marantz 2013, Wood 2014)を独自のルールを持つ語彙部門を想定する事なく併合と階層構造から説明できる可能性が示され、Lexicalist Hypothesis の動機付けはほぼ失われたと言える。Lexicalim からの反論としては Willams (2007) 等を参照されたい。

³ PF 部門に於ける語彙挿入によって述語が音声具現するならば、TrP 内の Inch や $\sqrt{R^0}$ のように音素性を持たない形態統語的要素で /r/ が具現すると仮定するのは、極めて自然であると言えよう。特に、動詞語根が母音終止である場合、 $\sqrt{R^0}$ に対する /r/ の挿入によって、v 主要部の /a/ との間で生じる母音連鎖を防ぐことができる。

⁴ 「関連付け」は、INCLUSION と EXCLUSION の対比 (Washio 1995) と基本的に同じ趣旨である。なお、Get 主語の生成における移動関係の関与にはここで立ち入らず、TrP が GetP と VoiceP を媒介して、Get 主語と基底イベント内の要素との間で何らかの照応関係が成立する（もしくは、成立しない）と仮定するに留める。

⁵ 本発表の分析は、伝統的な均一理論 (Howard and Niyekawa-Howard 1976,

Washio 1989-1990)の延長線上に位置づけられると言える。

⁶ 繫属述語仮説の他の膠着言語に対する妥当性については今後の研究を待ちたい。非膠着言語に関しては Bruening (2013)等を参照されたい。

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名詞句内における値未付与素性の役割とその帰結*

(The Roles of Unvalued Features in DP/QP and Their Consequences)

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キーワード: 値未付与素性, コピー, DP/QP

1. 導入

最近の極小主義において、値未付与素性 (以下、[uF]) はそれを含む統語対象をフェイズとして特徴づけると仮定されている。Narita (2014)は、フェイズが計算範囲を限定するという意味で計算効率に貢献するのであれば、[uF]それ自体も計算効率に貢献することになると主張している。

(1) UG employs unvalued features as a device to efficiently demarcate phase cycles.

(Narita (2014: 48))

本稿では、名詞句内に含まれる[uF]が果たす2つの役割を提案する。まず、D/Qに含まれる格素性 (以下、[uC]) と Q 素性 (以下、[uQ]) が DP/QP をフェイズとして特徴づけ、DP/QP 全体が転送を受けると主張する。そして、名詞句内に含まれる[uF]が、移動によって形成されるコピーを計算効率のため、不可視的にする機能を果たすと主張する。

2. 理論的枠組み

本稿では、Chomsky (2013, 2015)によって提案された Labeling Algorithm (以下、LA)

の枠組みを採用する。Chomsky は統語対象がインターフェイスで適切に解釈されるにはラベルが必要であるとして、(2)に示す3種類の LA を提案している。

- (2) a. $\{\alpha H, XP\}$ ($\alpha=H$)
b. $\{XP_i, \{\alpha t_i, YP\}\}$ ($\alpha=YP$)
c. $\{\alpha XP_{[F]}, YP_{[F]}\}$ ($\alpha=<F, F>$)

(2a)の主要部 H と句 XP からなる H-XP 構造では、H がラベルとして同定される。2つの句からなる XP-YP 構造の場合は、(2b)のように、XP が移動することでコピーとなり、LA にとって不可視的となるので YP がラベルとなる。または、(2c)のように XP と YP が卓立した素性を共有することにより、<F, F>がラベルとなる。

3. 提案

CP/v*P が値未付与のファイ素性 (以下、[uφ]) を持つため、フェイズであるならば、DP もファイ素性の一致の副産物として照合される[uC]を持つのでフェイズであると仮定することができる。

1 つ目の提案として、C/v*が持つ[uφ]は素性継承の下で、その補部の主要部に継承されるため、TP/VP が転送領域になるが、(3a)に示すように、D が持つ[uC]はその補部に継承されず、DP 全体が転送領域になると主張する。¹

- (3) a. $[DP D_{[uC][iφ]} [nP]] \rightarrow [DP D_{[uC][iφ]} [nP]]$
b. $[QP Q_{[uQ]} [DP D_{[uC][iφ]} \dots]] \rightarrow [QP Q_{[uQ]} [DP D_{[uC][iφ]} \dots]]$

また、(3b)に示すように wh 句は DP の上位に[uQ]を含む Q を主要部とする QP 構造を持ち、[uQ]は C が持つ[iQ]に照合され、DP と同様に QP 全体が転送されると提案する。

- (9) They expected John to win.
 $[_{v^*P} v^* [_{\beta} DP_{[i\varphi]i} R_{[t\varphi]} [_{\alpha} to t_i win]]]$
 $(\beta = \langle \varphi, \varphi \rangle)$ (cf. Chomsky (2015: 10, 14))

しかし、Lasnik (1999)は ECM 主語の母型節への義務的移動に対する反例を観察している。

- (10) a. Mary made John out to be a fool.
 b. Mary made out John to be a fool.
 (Lasnik (1999: 201))
- (11) a. The DA made the defendants out to be guilty during each other's trials.
 b. *?The DA made out the defendants to be guilty during each other's trials.
 (Lasnik (1999: 202))

(10)のように、ECM 動詞 *make out* における *out* は埋め込み節の主語に後続する語順に加えて、先行する語順も可能である。(11)の対比が示すように、埋め込み節の主語が *out* に後続する語順においては、主節の付加詞節内にある照応形を認可できない。束縛条件 A を考慮すると、(11b)における ECM 主語は母型節に移動していないことになる。ECM 主語が埋め込み節に留まることができるように、(12)に示すように、素性共有のない非定形の T を含む α のラベルは決まらないことになるので、LA にとって問題となる。

- (12) $[_{v^*P} v^* [_{RP} R [_{\alpha} DP_i T(to) t_i win]]]$ ($\alpha = ?$)

Abe (2016)に従い、(13)のように、V が単独でラベルになれるとすると、ECM 構文は(9)の派生に加えて、(14)の派生も可能になる。

- (13) Unlike finite T, V can serve as a label on its own in English. (Abe (2016: 8))

- (14) $[_{v^*P} v^* [_{VP} V_{[t\varphi]} [_{\alpha} DP_{[uC][i\varphi]} T(to) win]]]$
 $(\alpha = TP)$

(14)において、V が持つ $[u\varphi]$ との一致により、DP の $[uC]$ は値を付与され、DP 全体が転送を受けて不可視的となる。その結果、 α のラベルが適切に TP と決まる。

この節では、(3)の提案の下で、Chomsky (2015)における LA にとって問題となる、スペイン語における VSO 語順と英語の ECM 構文に関する事実が解決されることを示した。

5. 主語移動に関するパラドックス

この節では、(4)の提案に基づき、Chomsky (2015)の分析から生じる、主語の移動に関するパラドックスを解決する。まず、(15)と(16)に示す Chomsky による *that* 痕跡効果の説明を概観する。

- (15) Who do you think read the book?
 a. $[_{CP} C [_{\alpha} who_i T [_{v^*P} t_i read the book]]]$
 $(\alpha = \langle \varphi, \varphi \rangle)$
 b. $\in [_{\alpha} who_i T [_{v^*P} t_i read the book]]$
 c. *who do you think* $[_{\alpha} t_i T [_{v^*P} t_i read the book]]$
 (cf. Chomsky (2015: 10-11))

(15a)に示すように、CP フェイズレベルにおいて、素性共有によって α のラベルが $\langle \varphi, \varphi \rangle$ と決まる。(15b)のように、*that* が具現化しない場合、C の削除が適用されることにより、素性継承時にフェイズ性を継承した T がフェイズ主要部として活性化される。その結果、転送領域は T の補部になるため、*wh* 句は転送領域に含まれず主節に移動することが可能になる。

一方、(16)に示すように、C 削除が適用されない場合は CP がフェイズのままである。したがって、主語 *wh* 句が転送領域に含まれ

ないためには、CP に移動しなければならない。しかし、Chomsky (2015)によると、英語の T は単独ではラベルになれず、ファイ素性の素性共有を必要とする。したがって、wh 句が TP に留まらないのであれば、 α のラベルは決まらず、派生は破綻する。

(16) * Who do you think that read the book?

- a. [_{CP} that [_{α} who_i T [_{v^*P} t_i read ...]]]
 - b. [_{CP} who_i that [_{α} t_i T [_{v^*P} t_i read ...]]]
- (α =?) (cf. Chomsky (2015: 10-11))

この分析の下では主語は CP へ局所的には移動することができないと予測されるが、主語疑問文において局所的な主語の移動が存在するという証拠が先行研究により挙げられている。

Mizuguchi (2014)によって提示された作用域の違いに関する(17)の事実は主語 wh 句が CP に移動していることを支持する。⁴

- (17) a. Who loves everyone?
(who > everyone, *everyone > who)
- b. Someone likes everyone.
(someone > everyone, everyone > someone)
(Mizuguchi (2014: 330))

(17a)において、*everyone* は主語 wh 句より高い作用域をとることができないが、(17b)においては、*everyone* は主語である *someone* より高い作用域をとることができる。この違いは主語が占める位置の違いによると考えられる。

また、Pesetsky (1987)が指摘した *the hell* の分布に関する特徴からも主語 wh 句の CP への移動が支持される。

- (18) a. *What did Sue give to whom the hell?
- b. What the hell did Sue give to

whom?

(Pesetsky and Torrego (2001: 405, fn. 9))

Pesetsky によると、(18)の対比が示すように、*the hell* は CP に移動していない wh 句には付加できない。したがって、(19)の事実は *the hell* が付加された主語 wh 句が CP に移動していることを支持する。

(19) Who the hell bought what?

(Pesetsky and Torrego (2001: 405, fn. 9))

さらに、Douglas (2017)によると、(20)と(21)における対比も主語 wh 句の CP への移動の証拠となる。

- (20) a. I didn't say what John saw.
(non-echo)
- b. I didn't say that / whether / if John saw what?
(echo)
(Douglas (2017: 20))
- (21) a. Bill didn't say that / whether / if who would arrive first?
(echo)
- b. *Bill didn't say that / whether / if who would arrive first.
(non-echo)
(Douglas (2017: 21))

(20)に示されるように、通常の wh 疑問文とは対照的に、元位置 wh 疑問文では問い返しの解釈しか許されない。(21)が示すように、主語 wh 句が補文標識よりも右、つまり TP に留まる場合は、問い返しの解釈だけが可能であり、非問い返しの解釈（通常の疑問文の解釈）は許されない。Douglas によると、通常の wh 主語疑問文では、両方の解釈が可能である。したがって、この違いも主語 wh 句が占める位置の違いによるものであると言える。

以上の議論から、*that* 痕跡効果の派生では局所的な主語の CP への移動が許されない一

方で、主語疑問文において、主語 wh 句の CP への移動を支持する証拠が存在し、パラドックスが生じる。このパラドックスは、(4)の提案の下で解決されると主張する。まず、(4)に基づく *that* 痕跡効果の派生を(22)に示す。

(22) * Who do you think that read the book?

- a. [CP **who**_{[uQ][uC][iφ]i} that [_α **who**_{[uQ][uE][iφ]i} T_[uφ] ...]] (α=<φ, φ>)
- b. [CP **who**_{[uQ][uC][iφ]i} that [_α **who**_{[uQ][uE][iφ]i} T_[uφ] ...]]

(22a)に示されるように、主語 wh 句が TP と CP に移動した後、CP フェイズレベルで T が持つ[uφ]との一致により、TP の wh 句の[uC]に値が付与される。結果として、CP にある wh 句は[uE]を持たず、TP にある wh 句は[uC]を持つ。(4a)の下では、[uE]の数が少ない CP にある wh 句が不可視的になり、[uE]の数が多い TP にある wh 句が可視的となり、α のラベルは適切に<φ, φ>と決まる。しかし、(22b)のように、TP にある wh 句は転送領域に含まれるため、主節に移動可能なコピーがなくなり、派生は破綻する。

一方、(4)に基づく主語疑問文の派生は(23)に示される。

(23) Who saw Mary?

- a. [_γ **who**_{[uQ][uC][iφ]i} C_[iQ] [_β **who**_{[uQ][uE][iφ]i} T_[uφ] [_α **who**_{[uQ][uC][iφ]i} v* ...]]]
- b. [_γ **who**_{[uQ][uC][iφ]i} C_[iQ] [_β **who**_{[uQ][uC][iφ]i} T_[uφ] [_α **who**_{[uQ][uC][iφ]i} v* ...]]]
- (α=v*P, β=<φ, φ>, γ=<Q, Q>)

(23a)に示すように、TP に移動した wh 句が T の持つ[uφ]との一致の結果、[uC]を持ち、CP に移動した wh 句も C が持つ[iQ]との一致により[uQ]を持つ。どちらの wh 句も[uE]の数は同じであるが、種類が異なるため、(4b)により、両方のコピーが可視的となり、素性共

有の下で、β と γ のラベルはそれぞれ<φ, φ>, <Q, Q>と決まる。唯一 v*P にある wh 句のみ[uE]を持たないので、不可視的となり、α のラベルは v*P と決まる。

この分析の下では、中間着地点としての CP への主語の移動は許されない一方で、値付けを含む最終着地点としての CP への主語の移動は許される。これは(24)に示すように、主語関係節における対比からも支持される。主語疑問文と同様に、最終着地点への主語の移動は許されるが、中間着地点への主語の移動は許されない。

- (24) a. I met the woman that saw John.
b. I met the woman (that / who) you said (*that) saw John.
(cf. Douglas (2017: 1-2))

関係節の派生にも、wh 疑問文の派生における Q 素性と類似した素性共有が関わるとすると、(24)の対比も(22)と(23)と同じように説明される。

この節では、(4)の下で、主語の移動に関するパラドックスが解決されることを示した。

6. 非適正移動

この節では、(25)に示す一度 A バー移動を受けた要素が A 移動を受ける、いわゆる非適正移動が許されない事実に対して、(3)と(4)に基づいた説明を与える。

(25) * Who seems (that) will leave?

(Obata and Epstein (2011: 128))

ここでの提案の下で、(25)は部分的には *that* 痕跡効果と同じように説明される。

- (26) a. [_β **who**_{[uC][iφ]i} C [_α **who**_{[uE][iφ]i} T(will)_[uφ] t_i leave]] (α=<φ, φ>)

- b. $[_\beta \text{ who}_{[uC][i\phi]}] C [_\alpha \text{ who}_{[u\phi][i\phi]}]$
 $T(\text{will})_{[u\phi]} t_i \text{ leave}]$

(26)に示すように、TP に移動した wh 句は、値付けの結果、 $[uC]$ を持つ。一方で、CP に移動した wh 句はいかなる値付けにも関与しないため $[u\phi]$ を持たないことになる。(4a)の下で、CP にあるコピーが不可視的になり、TP にあるコピーが可視的となるが、そのコピーは転送領域に含まれるため、どのコピーも主節に移動できず、派生は破綻する。

この説明は *that* 痕跡効果に対する説明と同じであるが、(25)は *that* の有無にかかわらず、非文法的であることに注意されたい。したがって、C 削除が適用され、TP にある DP が転送領域に含まれなかったとしても、依然として非文法的であるという事実を説明しなければならない。(3)の提案に基づいた分析の下で、この事実も説明される。C 削除が適用された場合の派生を(27)に示す。

- (27) a. $\in [_\alpha [QP Q_{[uQ]} [DP D_{[uC][i\phi]}]]_i T(\text{will})_{[u\phi]}]$
 $[_{v^*P} t_i \text{ leave}]] \quad (\alpha = \langle \phi, \phi \rangle)$
 b. $[CP C [_\alpha [QP Q_{[uQ]} [DP D_{[uC][i\phi]}]]_i T_{[u\phi]}]$
 $\text{seem } [_\alpha t_i T(\text{will})_{[u\phi]} [_{v^*P} t_i \text{ leave}]]]$

C 削除が適用される場合、(27a)に示すように、T の補部が転送されるため、QP 構造で示された wh 句は転送領域には含まれない。しかし、QP はその内部に DP を含む。ファイ素性の値付けの結果、 $[uC]$ に値が付与されると、 $[uC]/[i\phi]$ 含む DP 全体が転送を受けることになる。したがって、(27b)のように、QP が主節に移動することはできるが、主節の T が持つ $[u\phi]$ は QP 内部のファイ素性に値付けされず、派生は破綻する。⁵したがって、*that* の有無に関わらず、(26)が非文法的であるということが導かれる。

一方で、(28)に示す連続循環移動を含む文の派生においてはどんな問題も生じない。

- (28) What do you think that John read?

- a. $[_{v^*P} v^*[_\beta [QP Q_{[uQ]} [DP D_{[uC][i\phi]}]]_i V_{[u\phi]} [_\alpha t_i]]]$
 $(\beta = \langle \phi, \phi \rangle)$
 b. $[_{v^*P} V + v^*[_\beta [QP Q_{[uQ]} [DP D_{[uC][i\phi]}]]_i tV_{[u\phi]} [_\alpha t_i]]]$
 c. $[_\gamma [QP Q_{[uQ]} [DP D_{[uC][i\phi]}]]_i C_{[iQ]}(\text{do}) \text{ you think } [_{CP} t_i \text{ that John read } t_i]]]$
 $(\gamma = \langle Q, Q \rangle)$

(28a)のように、 v^*P フェイズレベルで、値付けの結果、VP に移動した QP 内部の DP が転送される。そして(28b)のように、V の v^* への主要部移動により、V がフェイズとなり、その補部が転送を受ける。QP は転送領域を逃れているため、主節に移動することができる。(27)とは異なり、wh 句が主節の T が持つ $[u\phi]$ の値付けをする必要はなく、C が持つ $[iQ]$ に値付けされるために、 $[uQ]$ を含む Q 主要部さえ可視的であればよい。したがって、(28c)に示すように、QP は主節の CP に移動することができ、 $[uQ]$ の値付けもなされるので派生は収束する。

この節では、(3)と(4)の提案に基づき、非適正移動が許されない事実に対して説明を与え、連続循環移動の派生は適切に収束することを示した。

7. 結語

本稿では、(3)の提案に基づき、従来の LA では問題となる、スペイン語の VSO 語順と英語の ECM 構文に関する事実が説明されることを見た。そして、(4)の提案に基づき、主語の移動に関するパラドックスも解決されると主張した。最後に、(3)と(4)の下で、非適性移動の禁止が導かれることを示した。

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注

- ¹ 転送領域は中抜き表示で示される。
- ² 不可視的なコピーは色付き表示で示される。
- ³ 本稿では、ある統語対象の[uF]は、すべてのコピー上で値付けされていなくてもどこか 1 つのコピー上で値付けされていれば完全解釈の原理に違反しないと仮定する。
- ⁴ Mizuguchi (2014)において、(17)の事実は主語 wh 句が基底生成位置から直接 CP に移動している証拠として挙げられている。
- ⁵ Obata and Epstein (2011)も、素性分離に基づく分析の下で、非適正移動が許されない事実を主節の T の[uφ]に値が付与されないことに還元している。しかし、この分析は、現行の自由併合理論の下では維持できない。

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The Origin of the *Get*-Passive Revisited

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replication

1. Introduction

This paper critically reviews two previously proposed lines of research on the origin of the *get*-passive. This dichotomy has not been resolved for about two decades now, and a possible new direction is proposed here focusing on language contacts in earlier English. Therefore, diachronic changes are analysed in terms of grammaticalisation as well as replication involving Old Norse and various dialects of earlier English.

This paper is organised as follows: previous research is reviewed first, classifying it into two groups. Following the review, an alternative developmental path is proposed, focusing on etymology, replication and northern dialects of earlier English. Finally, a typological comparison is made in order to highlight characteristics of the *get*-passive.

2. Previous Research

The origin of the *get*-passive has been extensively discussed, and there are mainly two lines of argument, termed here the inchoative *get* hypothesis, and the causative *get* hypothesis. Both are reviewed here to highlight what is missing in the previous research.

2.1. Inchoative *Get*

The more popular hypothesis of the two argues that the inchoative *get* followed by an adjectival complement, e.g. *The soup got cold*, is the origin of the *get*-passive (cf. Gronemeyer 1999; Hundt 2001, among others). This is termed here the inchoative type. This hypothesis stems from a corpus analysis, and the claim is backed up by a steady increase in the corpus data. Researchers consider the *get*-passive a dynamic counterpart of *be*-passive.

Corpus analysis reveals that a predominant construction found in historical data is indeed a *get* + adjective, and the frequency steadily increases after the late 15th century. However, no consideration is given to various semantic and functional features associated with this construction. In addition, too much emphasis is put on syntactic features, detailing a shift from an adjectival participle to a verbal one. Also, the onset of changes is misunderstood in this hypothesis, since the onset of grammaticalisation is from the 18th-19th century.

2.2. Causative *Get*

Another line of argument is based on a construction where a causative *get* is used along with a reflexive, e.g. *I got myself promoted*, and the omission of the reflexive pronoun yields the *get*-passive (cf. Toyota 2007, 2008). This is referred to as the causative *get*. The involvement of the reflexive indicates that the origin was somehow related to the middle voice.

Contrary to the inchoative *get*, the causative *get* incorporates semantically and pragmatically peculiar features of the *get*-passive, as listed in (1). (1a) and (1b) are typically found in the middle voice (cf. Kemmer 1993), and (1c) is contrary to findings from the *be*-passive in English (cf. Toyota 2008). These two features

suffice to claim that the *get*-passive is not simply a dynamic counterpart of the *be*-passive, and its development was motivated by its own specific purposes.

- (1) a. The subject's control over events is traceable.
- b. The subject's generic characteristics are responsible for events (i.e. facilitative).
- c. The animacy of the subject is predominantly human.
- d. There is the lack of an agent phrase (less than 2-3% of all occurrences).
- e. There is the lack of the dynamic counterpart of an auxiliary after *weorðan* 'become.'

3. Problems in Previous Research

These two lines of research have contributed to our understanding of the *get*-passive, but shortcomings in each approach cannot go unnoticed. As for inchoative *get*, it focuses too much on the surface syntactic structure, and cannot account for the middle voice-related semantic and functional characteristics. In addition, as already mentioned, its estimation of the onset of the change is too early, i.e. it is around the 18th-19th century.

As for the causative *get*, it can cover most of the shortcomings in the inchoative *get*, and the developmental path can be much better explained with this hypothesis. However, the data cannot be easily found in the historical corpus.

4. An Alternative Path

There are a couple of points overlooked in these two lines of previous research, and one can at least consider the etymology of *get* and contact-induced changes, known as replication.

4.1. Etymology

Get may appear to be an Anglo-Saxon verb, but it was in fact a loan from the Old Norse *geta* 'obtain, reach' around the 13th century. This may account for the late development of this construction, since it needed to be firmly established in the language first. The Old Norse *geta* was often used with an adjectival complement. Old English as well as Old Dutch and Old Frisian used the Proto-Germanic **getan* 'seize' (cf. Proto-Indo-European **ghe(n)d-* 'seize') in a compound, e.g. OE *begietan* 'beget', *forgietan* 'forget', *undergietan* 'understand,' etc.

Due to the way this verb was introduced, there were regional variations. A transitive use of *get* (a construction with a direct object, not an adjectival complement) was common in Old Norse-influenced areas in the Northern & Eastern parts of Britain, where the Dane law was practiced. This dialectal difference has not been overlooked in previous studies of the *get*-passive, but it offers a key to understanding what happened in this construction.

4.2. Replication

Language contact has been held responsible for some historical changes, and this has been systematically explained in Heine and Kuteva (2005, 2006), known as replication. This explains that contacts induce a general process of grammaticalisation. What is unique in this type of change is that loan words do not play any role, but a new chain of grammaticalisation happens using native lexicons. The target of change is a foreign construction that exists in a language in contact. For instance, the future tense or evidential are often replicated through contacts (Heine and Kuteva 2005: 265), and the examples from Romani in (2) to (4) illustrate one such case. The Romani speakers spread

widely and had contacts with a very wide range of languages, resulting in different sources of constructions.¹

Romani of Wales (Boretzky 1989: 369)

- (2) *Brišindo džala te del*
rain go.3SG to give
'It is going to rain.' (English *be going to*)

Vlach Russian Romani (Boretzky 1989: 369)

- (3) *L-av te xav*
take to eat
'I am going to eat.' (Ukrainian
'take'-future)

Balkan Prizren Romani (Boretzky and Igla 1999: 718)

- (4) *Him ma te džav lesa*
is me that go.1SG he.INSTR
'I will go with him.' (Albanian/Macedonian
'have'-future)

Grammaticalisation in replication differs from grammaticalisation without language contact; it takes much less time. A cycle of grammaticalisation is known to take around 2,000 to 3,000 years to complete, but replication requires about one-tenth of the time, i.e. 200-300 years. Therefore, the whole chain of change is more easily traceable in replication.

5. Replication concerning the *Get*-passive

Development of the *get*-passive has not been discussed in terms of language contact, but replication seems to be a good candidate to explain how this construction emerged.

Contact involved in grammaticalisation of the *get*-passive is not simple, and it is two-fold. First, contact was made between Old Norse and northern and eastern dialects of English, i.e.

dialects spoken within the Dane Law. Since *get* was originally a loan word itself, this verb was initially established in regional dialects. Following this, there was dialect mixing within the British Isles, particularly between north and south. Without this dialect mixing, *get* would not have spread and established itself firmly in the English language as it has today.

The result of earlier contacts is clearly visible in various parts of English grammar today, and the features in (5) are perhaps the most obvious ones.

- (5) a. Verbal conjugation (third person singular present indicative -s)
b. Third person plural pronouns starting *th-* (e.g. *they, their, them*)
c. The definite article *the*

The contacts in question here started at around the 16th to 17th centuries, triggered by a migration of people from the north (including Scotland) to London which took place after the enthronement of Richard III and James I of England (or James VI of Scotland). These were followed by the Industrial Revolution in the 18th century, which made people move north to south or south to north in search of work. There were plenty of occasions to introduce *get* into different dialects, along with the features in (5).

6. Typological Comparison

It may be worth briefly mentioning typological comparisons concerning the *get*-passive. The periphrastic passive itself is rare outside of the Indo-European family. The most common auxiliary is the copula, and *get* is very rarely used (cf. Toyota 2008, 2009). Among the rare exceptions, one of the daughter languages of Old Norse, Norwegian, employs *få*

‘get’ as a passive auxiliary. Apart from Norwegian, Dutch also uses *krijgen* ‘get’ in the same construction. Both of these languages use ‘get’ with a ditransitive construction, as exemplified in (6) and (7).

Norwegian

- (6) *Han fikk tilsendt bokene*
 he get.PST sent.PST.PRT book.PL.DEF
 ‘He was sent the books/The books were sent to him.’

Dutch

- (7) *Ze kregen het uiteindelijk toch nog toegestuurd*
 they get.PST it finally
 nevertheless still send.PST.PRT
 ‘In the end, they were sent it anyway.’

In Old Norse, an etymological source of *få* ‘get’, i.e. *fá* ‘grab’ (a short form of *fangan*) was not yet used in the passive, but instead *verða* ‘become’ acted like a passive auxiliary, and the passive with this inchoative verb might have acted as the base for replication. English lost its cognate *weorðan* ‘become’ by Early Modern English, but its use was in serious decline in the Middle English period, and it is possible that the northern dialects took an example in Old Norse, *verða* ‘become’-passive, and replicated it using a then new loan word *get*.

Also, Dutch had a close contact with the eastern dialects of English, in particular, East Anglia. But considering the amount of influence from the northern dialects, the Dutch influence could be negligible in the formation of the *get*-passive.

7. Summary

Previous research has not been satisfactory

in identifying the developmental path of the *get*-passive, and what is missing, as this paper claims, is replication. The influence of contacts in the northern parts of England is visible in various parts of the grammar, as in (5). Therefore, the *get*-passive could be one of the constructions that underwent the influence of language contacts.

The two lines of previous research have tended to focus on either semantic or syntactic features. They have worked considerably to our understanding of the construction, but in order to see what really happened to this construction at an earlier stage, language contacts are indispensable.

NOTES

¹ Abbreviations used in this paper are as follows: DEF = definite; INSTR = instrument; PL = plural; PRT = participle; PST = past; SG = singular.

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Gap between Reconstruction Effects for Binding and Scope *

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Keywords : reconstruction, condition C, scope

1. Introduction

One of the intriguing properties of natural languages is the phenomenon of reconstruction, where an expression that underwent movement receives some semantic interpretation at the pre-movement position. In (1), we see instances of reconstruction for scope interpretation. The relative scope of indefinite subject and the raising predicate in (1a) is ambiguous; the former, having undergone A-movement crossing the latter, takes wide scope if interpreted at the landing site and narrow scope if reconstructed, i.e., interpreted at the pre-movement position marked. Scope reconstruction is also observed in A'-movement constructions like (1b).

- (1) a. Someone from NY_i is very likely t_i to win the lottery. $\exists > \text{likely}, \text{likely} > \exists$
(Fox (2000: 145))
- b. How many people should I talk to t_i?
many > should, should > many
(Cresti (1995: 83))

As for the implementation of scope reconstruction, there have roughly been two ways proposed in the literature, differing in what structural position a reconstructed quantifier is

assumed to occupy at LF (Logical Form) representation. May (1985), Cinque (1990), and Chomsky (1993) among others propose that reconstructed quantifiers end up occupying at LF the very position where they take scope either by literally lowering the moved element or by retaining the lower copy of movement instead of the higher one. Call it a syntactic reconstruction analysis, according to which (1a), for instance, is assumed to have a representation at LF like (2):

- (2) $__$ is very likely [[someone from NY] to win the lottery]]

A second approach advocated by Cresti (1995) and Rullmann (1995), which I call a semantic reconstruction analysis, achieves the effect of scope reconstruction by manipulating the semantic type of a trace. If the trace is converted to an individual variable of type $\langle e \rangle$, then the quantifier's sister (T' node) will be $\langle e, t \rangle$. The quantifier, being $\langle \langle e, t \rangle, t \rangle$ type, applies to, and hence scopes over, the T' node. On the other hand, if the trace is converted to generalized-quantifier variable of type $\langle \langle e, t \rangle, t \rangle$, the T' node becomes $\langle \langle \langle e, t \rangle, t \rangle, t \rangle$, and applies to the quantifier. The quantifier's scope will be that of its trace. Under this analysis, the LFs (3a) and (3b) correspond to the non-reconstructed and reconstructed scope readings of (1a), respectively (x and Q stands for the individual and the generalized-quantifier variables, respectively):

- (3) a. [someone from NY] λx [is very likely x to win the lottery]
b. [someone from NY] λQ [is very likely Q to win the lottery]

Currently, there has been no agreement on whether human language employs syntactic reconstruction or semantic reconstruction, or both (Romero (1998), Fox (1999, 2000), Sharvit (1998), Lechner (2013)). However, this article provides evidence for semantic reconstruction from the perspective of Japanese.

The rest of the paper is organized as follows: In section 2, I will overview argument for the syntactic and semantic reconstruction which is based on the condition C of the binding theory provided in the literature. In section 3 I will observe that certain constructions in Japanese are always accompanied by scope reconstruction of a moved quantifier and that in the same constructions, reconstruction for the condition C effect is absent even when the moved element reconstructs for scope. Section 4 gives an analysis and speculates on the source of obligatory scope reconstruction in the examined constructions. Section 5 is a conclusion.

2. The Condition C reconstruction effect

What distinguishes syntactic reconstruction from semantic reconstruction is their prediction for the condition C reconstruction effect. Let me explain why. Suppose that a sentence has the sequence schematically represented in (4). Here, a name is contained in the quantificational DP that has moved from the trace position t_i , the pronoun c-commands the operator and the trace, and the operator c-commands the trace.

(4) $[[_{DP} \dots \text{name} \dots]_i \dots \text{pronoun} [\dots \text{Op} [\dots t_i \dots$

Furthermore, suppose that the quantificational DP takes narrow scope with respect to the operator. Now, syntactic reconstruction and semantic reconstruction will give rise to the distinctive LFs (5) and (6), respectively:

(5) $__ \dots \text{pro} [\dots \text{Op} [\dots [_{DP} \dots \text{name} \dots] \dots$

(6) $[_{DP} \dots \text{name} \dots] \lambda Q [\dots \text{pro} [\dots \text{Op} [\dots Q \dots$

In the case of syntactic reconstruction, the pronoun ends up c-commanding the name at LF because the quantificational DP containing the name undergoes lowering to the trace position. Provided that the condition C of the binding theory applies at LF (Chomsky (1993)), the name and the pronoun in this configuration should be interpreted disjointly. Thus, under the syntactic analysis, scope reconstruction is expected to be accompanied by reconstruction for the condition C. On the other hand, in the case of semantic reconstruction (6), the quantificational DP containing the pronoun stays at the surface position and hence the name is outside the pronoun's c-command domain at LF. Thus, under the semantic analysis, scope reconstruction is expected to be brought about without inducing the condition C effect.

Romero (1998), Fox (1999, 2000) argues that the syntactic analysis is superior, with its prediction borne out by (7):

(7) [How many pictures that John_i took in Sarajevo]_j does he_i want the editor to publish t_j in the Sunday Special?

many > want, *want > many
(Romero (1998: 96))

They observe that when *many* is interpreted within the scope of *want*, the pronoun cannot take the name *John* as its antecedent.

On the other hand, Sharvit (1998) and Lechner (2013) cites the following sentence arguing that the condition C effect is absent even in the case of *hope* taking scope over *many*, arguing for semantic reconstruction.

- (8) [How many students who hate Anton]_i does
 he_i hope t_j will buy him_i a beer?
 many>hope, hope>many, $\sqrt{\text{de re, *de dicto}}$
 (Lechner (2013: 175))

Thus, it might be pointed out that different analyses are defending themselves based on different (contradictory) judgments.

It is noticeable that Lechner (2013) points out that it is referential opacity of the nominal restrictor of a quantifier that makes a difference; according to him, when the NP *student who hate Anton* is interpreted as transparent (de re) with respect to *hope*, the condition C effect is absent while not when it is interpreted as opaque (de dicto) (Romero and Fox do not take into consideration the de re/de dicto distinction when they provide the sentence (7)).

To examine whether quantifier scope itself affects the condition C or not, it is advisable not to use intensional operators like *want* and *should*. In the next section, I will employ two quantificational DPs to examine whether their scope interaction affects the condition C effect.

3. Data

In this section, I will examine three kinds of constructions in Japanese: long distance scrambling, left branch extraction, and first conjunct extraction and show that in these constructions moved quantifiers are always subject to scope reconstruction. At the same time, I will show that the condition C effect is still absent.

3.1. Long Distance Scrambling

As is widely known, the quantifier that underwent long distance scrambling does not take scope at the landing site in Japanese (Tada (1993)). For example, (9) does not have a

reading where the *daremo-ni* ‘everyone’ takes scope over *dareka-ga* ‘someone.’

- (9) daremo-ni_i dareka-ga hanako-ga
 everyone-Dat someone-Nom H.-Nom
 t_i sittositeru to omotteru
 jealous Comp think
 ‘Everyone, someone thinks Hanako is
 jealous of.’

This observation suggests that scope reconstruction, whether syntactic or semantic, is required for quantifiers that undergoes long distance scrambling.

(10) examines the condition C effect under scope reconstruction. The name *Taroo* ‘Taro’ is contained in the scrambled phrase and is a possible antecedent of the pronoun *kare* that c-commands the trace of scrambling. Notice that the coreference is compatible with the reconstructed scope interpretation.

- (10) [Taroo_i-tohanasita daremo-ni]_j kare_i-ga
 T.-with talked everyone-Dat he-Nom
 dareka-kara Hanako-ga t_j sittositeru
 someone-from H.-Nom jealous
 to kiita
 Comp heard
 ‘Everyone Taro talked to, he heard from
 someone that Hanako was jealous of.’

3.2. Left Branch Extraction

Unlike English, left branch extraction is often acceptable in Japanese (Takahashi and Funakoshi (2013), Shiobara (2016)). Though it is not observed in the literature to my knowledge, it seems to be the case that quantifiers cannot take scope at the landing site of left branch extraction: In (11), the universal quantifier *subete-no ronbun-no* ‘every paper’s’ does not

take scope over the crossed quantifier *hitori-no gakusei* ‘a student.’

- (11) [subete-no ronbun-no]_i hitori-no gakusei-
all-Gen paper-Gen one-Gen student-
ga t_i mondai-o sitekisita
Nom problem-Acc pointed.out
‘Every paper’s, a student pointed out
problem

In (12), the fronted quantifier contains the name *Hanako* and it is a possible antecedent of the pronoun *kanozyo* ‘she’ despite the fact that the pronoun c-commands the trace of left branch extraction. And this time, too, the fronted quantifier has to be interpreted with scope reconstruction.

- (12) [Hanako_i-gakaita subete-no ronbun-no]_j
H.-Nom wrote all-Nom paper-Gen
kanozyo_i-ga hitori-no gakusei-ni
she-Nom one-Gen student-Dat
t_j mondai-o setumeisita
problem-Acc explained
‘Every paper Hanako wrote, she explained
the problem of to a student.’

3.3. First Conjunct Extraction

Lastly, we examine the extraction of the first conjunct (Oda (2017)). In (13), the fronted quantifier *subete-no ronbun* ‘every paper’ is not able to take scope over the crossed quantifier *hitori-no gakusei* ‘a student,’ suggesting that first conjunct extraction is also subject to obligatory scope reconstruction.

- (13) [subete-no ronbun-to]_i hitori-no gakusei-
all-Gen paper-Conj one-Gen student-
ga t_i LGB-o hihansita
Nom LGB-Acc criticized

‘[Every paper and]_i, a student criticized t_i
LGB’

The sentence (14) has the name *Hanako* contained in the fronted first conjunct quantifier. Although the pronoun *kanozyo* c-commands the trace of the first conjunct, no condition C effect is detected and the coreference is available.

- (14) [Hanako_i-gakaita subete-no ronbun-to]_j
H.-Nom wrote all-Gen paper-Conj
kanozyo_i-ga hitori-no gakusei-ni t_j
she-Nom one-Gen student-Dat
LGB-o syookaisita
LGB-Acc introduced
‘[Every paper Hanako wrote and]_i, she
introduced t_i LGB to a student.’

Summarizing, long distance scrambling, left branch extraction, and first conjunct extraction, when applied to a quantifier, are accompanied by the obligatory scope reconstruction of the fronted quantifier. Scope reconstruction of a quantifier phrase that contains a name that is coreferential with the pronoun c-commanding the trace does not induce the condition C effect.

4. Analysis

In section 2, we saw that the syntactic analysis and the semantic analysis of scope reconstruction make distinct predictions concerning the condition C effect; the former requires scope reconstruction to induce the condition C effect while the latter does not. The data reviewed in the last section should be taken to argue for semantic reconstruction being available for human language.

For concreteness, syntactic reconstruction assigns to the sentences (10), (12), and (14) the LFs (15), (16), and (17), respectively. In all of

them, the pronouns end up c-commanding the names contained in the reconstructed quantifiers. Thus, these LF's incorrectly exclude the coreference due to the condition C, contrary to the fact.

- (15) __ kare_i-ga dareka-kara [Hanako-ga
[Taroo_i-to hanasita daremo-ni] sittositeru to]
kiita
- (16) __ kanozyo_i-ga hitori-no gakusei-ni
[Hanako_i-ga kaita subete-no ronbun-no]
mondai-o setumeisita
- (17) __ kanozyo_i-ga hitori-no gakusei-ni
[Hanako_i-ga kaita subete-no ronbun-to]
LGB-o syookaisita

Semantic reconstruction, on the other hand, assigns to the sentences (10), (12), and (14) the LF's (18), (19), and (20), respectively:

- (18) [Taroo_i-to hanasita daremo-ni] λQ [kare_i-ga
dareka-kara Hanako-ga Q sittositeru to
kiita]
- (19) [Hanako_i-ga kaita subete-no ronbun-no]
 λQ [kanozyo_i-ga hitori-no gakusei-ni Q
mondai-o setumeisita]
- (20) [Hanako_i-ga kaita subete-no ronbun-to]
 λQ [kanozyo_i-ga hitori-no gakusei-ni Q
LGB-o syookaisita]

These LF's capture the fact correctly. On the one hand, the traces are converted to the generalized-quantifier variables Q of type $\langle\langle e, t \rangle, t \rangle$ so that the fronted quantifiers take reconstructed scope, and on the other hand, that the fronted elements stay at the landing site at LF makes it possible for the names to escape the c-command domain of the coindexed pronouns at the same time.

A comment is in order on why the

constructions examined above exhibit scope reconstruction obligatorily. Though I have to leave this problem for future research, it might be relevant that these constructions all seem to involve A'-movement. See Saito (1992) and Tada (1993) for long distance scrambling as A'-movement, and Takahashi and Funakoshi (2013) for the idea that left branch extraction in Japanese is an instance of A'-movement.

5. Conclusion

In this article, I argued that human language should be equipped with the strategy of semantic reconstruction, on the basis of the observation that long distance scrambling, left branch extraction, and first conjunct extraction are necessarily followed by scope reconstruction that does not induce the condition C effect. Though I motivated semantic reconstruction, I leave it open for future research whether syntactic reconstruction can be done away with in favor of the semantic strategy.¹

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NOTES

¹ In fact, Lechner (2013) argues that both syntactic and semantic analyses are needed to account for the de re/de dicto effect observed for (8).

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Speaking of 構文の成立過程に関する考察： 構文化の観点から*

(A Study of the Development of
the *Speaking-of* Construction from the Perspec-
tive of Constructionalization)

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キーワード：speaking of 構文, 構文化, 構文
化, 談話標識, 話題転換

1. はじめに

近年、談話標識に関する研究が盛んになり、その成立過程を Traugott and Trousdale (2013) による構文化の観点から捉え直そうという試みが進められている。本研究では、事例研究の一つとして、(1) に示すような、話題転換の際に使用される *speaking of* 句を取り上げ、その談話標識としての成立過程を構文化の観点から考察する（本研究における引用中の下線は全て筆者による）。

- (1) A: I saw daddy kissing Santa Claus.
B: Speaking of Santa, what did he bring you
for Xmas?

(Rodman (1974: 450))

speaking of 句の *of* の直後には、先行文脈に関連する語句が生起する。名詞句だけではなく、*which* などの代名詞類も生起可能である。本研究では、先行文脈に関連する語句を取り立て、話題転換の際に使用される *speaking of* 句を便宜的に *speaking of* X (以後 SoX と略記) と総称する。

SoX に関しては、話題転換を合図する談話標識の一つとして、様々な観点から考察が進められてきた（佐々木 (1993); 倉田 (2013); 早瀬 (2014); Bai (2015a/b/c); 山内 (2015); 横山 (2016); 早瀬 (2017a/b/c); 山内 (2019a/b); 山内・新實 (2019) 参照)。一部の先行研究では、*speaking of which* (以後 SoW と略記) が、話題転換を合図するチャンクとして構文化を遂げているという分析が提案されている。しかし、SoW の構文化分析には、いくつかの課題点が残されている（山内 (2019b) 参照）。¹

本研究では、従来の分析とは異なり、構文化は、SoW の段階にではなく、その前段階に相当する SoX の段階に発生しているという分析を提案する。より具体的には、SoX は、話題転換に伴う「関係性の格率」(Grice (1975)) への違反を緩和する機能を担う談話標識として構文化を遂げていると主張する。

本研究の構成は、以下の通りである。第二節では、Traugott and Trousdale (2013) による構文化と構文変化の定義を確認する。第三節では、SoX は *speaking of* 句の分詞構文から分岐的に独立した構文であることを示す。第四節では、SoX の構文化分析を提示し、その妥当性を検討する。第五節は、全体のまとめを述べる。

2. 構文化と構文変化

Traugott and Trousdale (以後 T&T と略記) (2013) は、従来の文法化と語彙化を「構文文法」(Goldberg (1995); Goldberg (2006) 参照) の観点から捉え直した論考である。T&T (2013) によれば、「構文」は、言語固有の形式と意味のペアリングと定義され、複数の構文間で階層的な構文ネットワークを構成する。各構文が形成される過程は「構文化」と「構文変化」に分かれる。それぞれ (2) と (3) のように定義される（本研究における引用中の [...] は紙幅の都合から内容を一部割愛したことを意味する）。

- (2) Constructionalization is the creation of form_{new}-meaning_{new} (combinations of) signs. It forms new type nodes, which have new syntax or morphology and new coded meaning, in the linguistic network of a population of speakers. [...]

(Traugott and Trousdale (2013: 22))

- (3) A constructional change is a change affecting one internal dimension of a construction. It does not involve the creation of a new node. (ibid.: 26)

構文化とは、既存の構文ネットワーク上に組み込まれていない、新しい形式と新しい意味のペアリングが作り出されることである（(2) 参照）。新規のネットワーク節点は、構文化により形成される。

一方、構文変化とは、意味的・統語的・形態的な側面に起きる小規模な変化である（(3) 参照）。構文変化の場合、新たなネットワーク節点は形成されない。構文変化は、構文化の前後に発生する。構文化の前に発生する変化は「前構文変化」と呼ばれ、後に発生する変化は「後構文変化」と呼ばれる。

なお、構文化の枠組みは、従来の文法化の枠組みとは異なり、作用域の縮小が条件とされていないため、作用域の拡大を特徴とする談話標識の成立過程に関する分析に有効である（小野寺（2018）参照）。

3. 分詞構文から Speaking of 構文へ

SoX が談話標識として確立する前の段階が何であるのかに関しては、Bai (2015a/b/c) による指摘が参考になる。Bai (2015a/b/c) による Corpus of Historical American English (以後 COHA と略記) を使用した調査によれば、SoX は、(a) 文頭に副詞表現として使用される事例 (e.g. Speaking of the general question of doing government work by contract, I ex-

pressed the view [...]), (b) remind と共起する事例 (e.g. Speaking of catching flies reminds me of political economy.), (c) now that 節内に使用される事例 (e.g. And now that we're speaking of profits, Mr. Crashly, I have this thought to put before you.) の形式的・概念的な混交により、談話標識として確立したという。しかし、Bai (2015a/b/c) は口頭発表の要旨が公刊されたのみで、(a) から (c) の形式的・概念的混交分析の妥当性は検証できない。

本研究では、便宜的に Bai が指摘する (a) のみを SoX の元となる形式として仮定する。(4) は (a) の具体例に前後の文脈を補ったものである。

- (4) [...] A delay in reaching a decision had thus been caused, and the President desired me to make a careful study of the plan proposed and give him my conclusions.

Speaking of the general question of doing government work by contract, I expressed the view if the contractor is competent and is receiving a return which insures him a profit, the contract method, as a rule, is easier for the administrative officer, [...] (COHA; George W. Goethals (1915) "The Building of the Panama Canal," *Scribner's Magazine* 57 (3), 265-282) (Bai (2015b) 参照)

(4) は、パナマ運河を建設した人物による運河建設に関する記事の一部である。(4) の speaking of 句における of の目的語位置の語句は、先行文脈中の特定の語句を受けたものではない。speaking of 句の前後で話題の転換が起きていないため、下線部の speaking of 句は、話題転換を合図する機能を伴わない。(4) の下線部は、通常に分詞構文として使用されていると考えられる。

上記 (4) は 1915 年における使用例であるが、Corpus of Contemporary American Eng-

lish (以後 COCA と略記) のデータを参照すると、speaking of 句の分詞構文としての事例は、近年においても存在することが分かる((5) 参照)。(5) は、米国におけるスポーツ賭博合法化に伴い、あるスポーツ番組で、スポーツ賭博を促すような内容が放送されたという記事の一部である。

- (5) [...] SEC Commissioner Greg Sankey declined to discuss specific developments, saying he had spent the opening weekend either at games or traveling to them and, hadn't seen much TV coverage. But speaking generally of the trend toward acceptance of sports gambling, he referenced an opinion column published in November in *The New York Times* where NBA commissioner Adam Silver called for betting on professional sports to be legalized. [...] (COCA; George Schroeder (2015, Sep. 9) "ESPN's shifting line on college football betting information," Retrieved from <https://www.usatoday.com>)

(4) と同様に、of の目的語位置の語句は、先行文脈における特定の語句を受けたものではない。後続節の内容は記事全体の話題となるスポーツ賭博に関するものであり、下線部の前後で話題転換も発生していない。(5) の下線部も通常に分詞構文として使用されている。

上記 (5) の事例を踏まえると、近年の speaking of 句には、話題転換を合図する談話標識としての用法 ((1) 参照) と通常に分詞構文としての用法が存在するといえる。したがって、SoX は、speaking of 句の分詞構文から分岐的に独立した構文であると考えられる。

4. Speaking of X の構文化分析

本研究では、T&T (2013) が提案する構文化の枠組みを踏まえ、SoX は、(6b) に示す

ようなチャンクを形成しており、その構文的意味として (7) における独自の談話的機能を担う談話標識として構文化を遂げているという分析を提案する。

- (6) a. [_{VP} [_V speaking] [_{PP} of X]]
 b. [_{AdvP} speaking of X]
 (7) 話題転換に伴う「関係性の格率」(Grice (1975)) への違反を緩和する。

(6a) は speaking が of を主要部とする前置詞句を取る構造である。本研究では、便宜的に上記 (4) と (5) のような分詞構文に対して、(6a) の構造を仮定する。一方、(6b) は speaking of X という連鎖が一つのチャンクとなる構造である。SoX の構造として (6b) を仮定する。

次に、SoX が担う構文的意味として、(7) の談話的機能を仮定する。例えば、上記 (1) の場合、Speaking of Santa の部分を削除すると、後続節の内容の導入が唐突になる。そのため、SoX は関係性の格率に対する違反を緩和するヘッジ機能を担うと考えられる。

以下では、SoX に観察される六点の特異性を指摘することにより、SoX が (6b) の形式と (7) の構文的意味を伴い、構文化を遂げていることを示す。

一点目の特異性は、既出語句以外の語句の取り立て現象である。SoX には、発話動詞 speak ((声に出して) 言う) が使用されているため、X には、先行文脈において明示的に言及された語句が生起することが予測される。実際、SoX に関する従来の研究では、同表現により取り立て可能な語句は、先行文脈に文字通り言及された語句であると指摘されている (Rodman (1974) 参照)。例えば、(1) における Speaking of Santa は、先行文脈中の Santa が文字通りそのままの形で取り立てられたものである。しかし、先行文脈に文字通り言及されていない語句が X に生起する場

合がある ((8)(9) 参照)。

- (8) [...] (EMMA) You're pretty handy for a writer. Where'd you learn how to do all this? (AUGUST) Wood shop. Eighth grade. (MARY) Oh, speaking of school, have to get going. [...] (*Once Upon A Time* (TV series): Season 1 Episode 20: The Stranger)
(山内 (2015: 188))

- (9) [...] (DONNA) Well, I believe that if you want someone to know how you feel, it's better to use the direct approach like this. Don't go to Africa, dill hole. [DONNA HITS ERIC'S UPPER ARM] (ERIC) So, Hyde, speaking of annoying women who hit, have you heard anything from Jackie? (HYDE) Nope. [...] (*That '70s Show* (TV series): Season 7 Episode 24: Short and Curlies)

(8) では、wood shop と eight grade から推測される school が X に生起している。一方 (9) では、Donna に腕を殴られたという発話場面に関する情報を言い表した annoying women who hit が生起している。どちらの場合も、先行文脈に言及されていない語句が X に生起しているといえる。(8) と (9) のような事例の存在を踏まえると、SoX における speaking は、発話動詞としての意味合いが希薄化していると考えられる。

二点目は、名詞句以外の範疇の取り立て現象である。一般に、前置詞の目的語位置に生起可能な範疇は名詞句である。仮に SoX が (6a) の構造を有するならば、of の目的語位置に生起する語句の範疇は名詞句に限定されるはずである。実際、X に生起する語句の多くは名詞句相当語句である。しかし、頻度はそれほど高くないものの、名詞句以外の語句が X に生起する場合がある ((10) 参照)。

- (10) (VALERIE) Number one, establish the problem of the main character, the troubled teen. (LISSA) Can I play her? (VALERIE) Only if we end up doing porn star runaway or eating disorder. (SADIE) Speaking of slutty, how did Jenna get out of this? [...] (*Awkward* (TV series): Season 3 Episode 15: A Very Special Episode of Awkward)

(10) では、先行文脈中の porn star を言い換えた slutty が生起している。Sadie による発話は「ふしだらなと言え、Jenna はどこに逃げたの？」と解釈される。仮に SoX が (6b) のようなチャンクを形成するならば、X は前置詞句の補部ではなくなるため、形容詞句といった名詞句以外の範疇を表す語句の生起が許容される。

三点目は、生起位置の緩和現象である。仮に SoX が (6b) のような副詞句を形成するならば、副詞句が生起可能な位置に SoX が使用されることが予測される。実際、SoX が文末に生起する事例 ((11) 参照) と非制限的關係節内に挿入句として生起する事例 ((12) 参照) が存在する。

- (11) A: I've been craving Chinese food, like dim sum and soup dumplings.
B: I enjoy a mushy pork, speaking of Chinese.

(Rodman (1974: 465); 一部修正)

- (12) [...] But, she made somewhat of an appearance on this weekend's iheartradio awards—which we guess are like some hip, 2005-version of something called the HeartRadio awards—at least, in pre-recorded form. She was there to introduce her new video for her song Delicate, which, speaking of 2005, sadly isn't a cover of Damien Rice's weepy song of the same name. (Greg Hudson (2018, Mar. 13) "A GIF Guide to Taylor

Swift's Very Familiar-Looking New Video," <https://fashionmagazine.com>)

文末や非制限的關係節内という環境には、by the way や incidentally など、話題転換を合図する他の副詞句が生起可能である。それらと並行的に、SoX も副詞句を形成すると考えられる。

四点目は、SoX の単独表現としての使用である。仮に SoX が分詞構文に過ぎないならば、常に定形節となる主節を伴い、従属節として使用されることが予測される。しかし、SoX が主節を伴わずに単独表現として使用される場合がある ((13) 参照)。

- (13) (ALEXIS) [...] I didn't know she'd wake me up when it was still dark outside. (MARTHA) An actor learns to make sacrifices for his craft. Besides, we'll all have plenty of time to sleep when we're dead. [CELLPHONE RINGING] (CASTLE) Oh, speaking of dead. Castle. (*Castle* (TV series): Season 3 Episode 7: Almost Famous)

(13) では、電話を取る際に SoX が単独で使用されている。SoX の単独表現としての使用は、常に主節を伴うという分詞構文一般の性質から逸脱している。SoX の場合、主節を伴わずに成立する自立した意味を持つため、(13) のような使用が可能になると考えられる。(6b) のように、全体が副詞句として一つのチャンクを形成するならば、単独表現として使用可能という特異性を捉えることができる。

五点目は、X の脱落現象である。SoX が (6a) のような前置詞句を伴う構造を有するならば、前置詞句の主要部 of のみを残した補部の省略は、文法的に認められないことが予測される。しかし、of の直後が脱落した事例が観察されている ((14) 参照)。

- (14) [...] (MOZZIE) Providing we find a way to start selling off the art without alerting the feds. (NEAL) Yeah, speaking of, Peter and Diana are up to something. (MOZZIE) Feds? Up to something? Quelle surprise. [...] (*White Collar* (TV series): Season 3 Episode 8: As You Were)

(山内 (2015: 196))

(14) では、Mozzie による「FBI に見つからずに宝を売る方法を見つけない」という発話に対し、Neal は speaking of を使用した上で「Peter と Diana が何かを企んでいるよ」と話題を変えている。英語母語話者の判断によれば、Peter と Diana が feds (FBI) であるため、下線部は speaking of feds に言い換え可能であるという。したがって、(14) の speaking of は speaking of feds の feds が脱落した事例であると考えられる。(6b) のように、X が前置詞句の補部ではない形式を仮定するならば、同現象は前置詞句における補部のみの省略ではなくなるため、文法的な逸脱を認める必要がない。

六点目は、段落末における Which, speaking of... の発生である。SoX が構文化を遂げたならば、さらに構文変化が発生する可能性がある。上述の X の脱落現象は、まさに SoX に起きた後構文変化の一例と考えられるが、段落末における Which, speaking of... の発生も後構文変化の一例として挙げられる ((15) 参照)。²

- (15) **2. The 1990-1991 Flash Television Series** [...] and actor Mark Hamill plays the part of the Trickster, a role he later reprised in the Justice League animated series. Which, speaking of...
3. Justice League and Justice League Unlimited There's seriously a lot we

love about the entirety of the DCAU—it brought the world Batman: The Animated Series and for that we shall ever be grateful [...] (Kevin Mahadeo (2013, Aug. 1) “5.2 Reasons We’re Flash Fans,” <https://www.dccomics.com>)

(山内 (2019a: 140-141))

(15) では、The 1990-1991 Flash Television Series という小見出し付きの段落の最後に Which, speaking of... という表現が使用され、後続段落には Which の先行詞となる the Justice League animated series に関する異なる話題が展開されている。段落末における Which, speaking of... は、SoX が構文化を遂げているからこそ発生した新たな形式であると考えられる。

上記六点の特異性を踏まえると、近年における SoX は、(6b) の形式と (7) の構文的意味を伴い、構文化を遂げていると考えられる。SoX に起きた構文化と構文変化の過程をまとめると (16) のようになる。

- (16) [speaking [of X]] > [speaking of X]
 a. [speaking of which/ø]
 b. [which speaking of ø]

speaking of 句が (7) の談話的機能を担うようになり、それに伴い形式面も (6b) のように変化を遂げる。(6b) の形式と (7) の談話的機能を伴った時点で構文化が起きたことになる。構文化後は、which などの代名詞類が X に生じた形式および X が脱落した形式が発生する。近年では、Which, speaking of... という形式が発生している。

5. おわりに

本研究では、SoX に着目し、その談話標識としての成立過程を構文化の観点から分析することを試みた。本研究は、先行研究にお

ける SoW の構文化分析とは異なる分析を提示している。構文化に限らず、言語変化に関する研究は、変化の過程を問題とするため、決定的な証拠を押さえにくい場合があり、複数の分析が生じることは十分にあり得ると思われる。二つの分析の比較検討は、今後の課題とする。

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注

¹ 山内 (2019b) は、SoW の構文化分析を再考し、分析の証拠として提示されたデータのみから、SoW が構文化を遂げたとは断定できないと指摘している。

² 段落末における Which, speaking of... に関する詳細に関しては、山内 (2019a) を参照されたい。

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フェーズ境界を超える意味・音声解釈—フェーズ理論に基づく言語インターフェースの研究—*

(Semantic and Phonetic Interpretation Across Phases: Studies on Linguistic Interfaces on the Basis of Phase Theory)

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キーワード：フェーズ，転送，併合，解釈プロセス，（非）局所性

1. はじめに

Chomsky et al. (2019) では、転送について新たな提案がなされ、フェーズ境界を超える、非局所的な意味・音声解釈操作適用の可能性が示唆されている。本シンポジウムでは、このような展開を踏まえ、6人の講師が4件の発表を行い、非局所的な意味解釈・音声解釈について考察を行った。

2. (発表 1) 解釈プロセスの非局所的適用の可能性について (金子)

Chomsky et al. (2019) の提案によれば、転送が適用された構造は、以降の統語操作によって不可侵領域となり、組み替え不可能になるが、もとの構造から消え去るわけでない。C-I インターフェースへ転送された構造は、解釈操作の適用対象となり、非局所的適用の可能性も示唆されている。本発表では、英語の時制解釈の問題を取り上げた。

節の時制解釈は、その節の評価時 (Evaluation Time) の同定に基づいて行われる。直示的現時制の評価時は、主節の最上位に位置する抽象的機能範疇の遂行句 (Perfomative Phrase) の主要部 Pfm によって発話時と同定される (cf. Kaneko (2014)) が、In 1989, Joseph met a woman who loved him in the 90s. (Ogihara and Sharvit (2011: 641)) では、同定子 Pfm と (転送適用後の) 関係節の直示的現在時制の間には、複数のフェーズが介在する。時制の一致 (sequence of tense) は、上位節の事象時 (Event Time) が過去時である場合に認可される (cf. Kaneko (2014)) が、We decided to tell the prosecutor tomorrow that we were talking to him reluctantly. (Enç (2004: 205)) では、認可子 decided と (転送が適用されている) that 節の時制の間には複数のフェーズが介在する。さらに、時制の二重接触 (double access) 現象の解釈プロセスも、転送適用後の構造に言及することを示した。

3. (発表 2) 下降外置：併合と局所性について (高橋)

生成文法理論を枠組みとした研究では、統語部門の簡素化が、主要な目標となっている。このような研究上のガイドラインを背景として、構造構築のための統語操作である併合 (Merge) に関しても、簡素化が進められている。その結果、近年では、併合は、その適用を誘発するような要因を必要とせず、自由に適用することができる操作であるとされている。また、併合は、操作の対象となった要

素を含む集合 (set)を形成すると考えられている。集合という構成物には、要素間の前後左右といった順序関係は存在しないため、統語構造においても線形情報は存在しないこととなる(これらの点及び、併合に関する詳細な議論については、Chomsky et al. (2019)等を参照)。

シンポジウムにおける発表では、このような併合に関する理論的發展を踏まえ、ここで下降外置と呼ぶ種類の外置 (extraposition) に対する分析を探求した。下降外置とは、外置された付加詞 (adjunct)が、それによって修飾される名詞句が占める表層位置よりも低い位置を占めている外置のことである(下降外置の具体的な事例については、Culicover and Rochemont (1990)、Linebarger (1980)、Reeve and Hicks (2017)を参照)。シンポジウムでは、今回提案した下降外置の分析が、二つの点で近年の併合に関する理論と密接に関連していると考えられることについて言及した。第一に、外置された付加詞に修飾される名詞句が、その付加詞よりも構造上高い位置を占める統語構造を派生するためには、移動によって形成された連鎖 (chain)の頭部 (head)要素ではなく、下方の要素、つまり、下方のコピーに対して併合を適用する必要があることを述べた。そして、このような併合の適用の仕方は、併合が、自由に適用することができる操作であることの帰結である可能性を指摘した。

第二に、上記のような併合の適用を経て構築された構造は、Fox and Pesetsky (2009)により提案されている統語構造を線形化するアルゴリズムを適用することにより、下降外置の文法的な事例で観察される語順を導き出せるとともに、修飾する名詞句とは不連続的に現れる付加詞の分布を移動の局所性から説明できることを見た。このアルゴリズムは、従来、移動の方向性と考えられてきた効果を構造の階層関係から派生するものであり、統

語構造に線形情報が存在しないとすると、このような線形化アルゴリズムが必要となる。

今回のシンポジウムでは、理論的發展がもたらす新しいアプローチや道具立てが、経験的事実の分析に対して従来とは異なる視点や洞察を与えてくれることを再確認できた。

4. (発表 3) 制限的關係節における共有構造 (稲田)

Chomsky et al. (2019)で提示された枠組みにおいて phase 境界を越えた再構築効果がどのように保証されるか議論する。さらに、制限的關係節に関わる二種類の再構築効果に注目し、先行研究での代表的な統語分析を比較、本枠組みにおけるの妥当性を検討する。

Chomsky et al. (2019)では、Internal MERGE の適用によって一つの要素 (syntactic object: SO) が workspace 上に複数生じることになると仮定する。これを occurrence の集合として定義される一つの SO と捉え、それぞれの occurrence を copy と呼ぶ。また、copy の集合を chain と呼ぶ。Chomsky et al. (2019)で直接は論じられていないが、chain は二元集合に限られない、移動要素を共有項とする積集合群と考えることができるだろう。

こうした chain は、しばしば phase 境界を越えて形成される。例えば wh 句の長距離移動の場合には、すでに TRANSFER が適用された phase 内の wh 句の copy と phase 外の他要素との文法関係 (c-統御や姉妹関係など) に基づいて SEM で解釈を受ける (再構築効果) ことがある。Chomsky et al. (2019)では、経験的事実に基づき phase impenetrability condition を修正し、「all copies are available at SEM (p.8)」と提案、これを保証していた。しかし、こうした長距離 A'移動に伴う再構築効果は、元位置での解釈が強制される。むしろ、何らかの付帯的な仮説 (cf. Preference Principle (Chomsky (1995))) なしでは原理的な説明を与えられないことになる。

一方で、関係節に関わる再構築効果は、原理的な説明が可能な基本的な例だと言える。従来の関係節の再構築効果に関する先行研究には、A'移動する *wh* 句に付加した関係節の、*wh* 句の *copy* に随伴した解釈の可否に関するものと、関係節内の *gap* 位置での関係節主要部名詞句の解釈の可否に関するものがある。これらの様々な観察を総合すると、関係節、あるいは主要部名詞句の *copy* は、基本的には *chain* を形成するどの *occurrence* においても解釈され得ると考えられる (Fox (1999), Henderson (2007))。

最後に、関係節に関わる上記の二種類の再構築効果を保証する統語構造として、主要部名詞句を共有項として、*chain* と同様の積集合が MERGE によっても形成されるという分析案 (Inada (2017)) を検討する。先行研究における主要部上昇分析では、主要部名詞句の再構築効果が本枠組みにおいても *copy* の解釈によって説明されるが、関係節の付加詞性を説明できない。従来の関係節付加分析は、当然関係節の付加詞性を保証するが、線形化において問題が生じる。そこで、これらの先行研究を踏まえ、関係代名詞句と主要部名詞句の間で NumP という名詞句内範疇を共有し、共有項が主要部名詞句内で関係節付加位置より上部に移動するという分析を提示する。関係節の再構築効果は「all copies are available at SEM (p.8)」に従うので、演算子の A'移動に依拠しない *chain* の形成によってそれが保障されるのは望ましいと言える。ただし、こうした共有構造／積集合が MERGE によって構築される可能性があったとしても、workspace において働く *minimal search* に課された *resource limitation* という原理 (第三要因) によって、こうした構造／集合が構築されれば排除されるという仮説が最近になって提示されていることにも触れる。

5. (発表 4) 等位接続された残余句を含むス

ルーシングと島の修復 (瀧田・中村・前田)

本発表の 1 つ目の目的は、いわゆる等位接続疑問文 (Coordinated Wh-Questions) と、それに (少なくとも表面上) 類似した等位接続スルーシング (Coordinated Sluicing) に関する Citko and Gračanin-Yuksek (2019, 以下 CGY) の主張の一部が日本語からも経験的に支持されることを示すことである。より具体的には、CGY は英語タイプの言語では等位接続疑問文と等位接続スルーシングが異なる統語的振る舞いを示すことを観察し、後者においてはスルーシングをそれぞれ含む 2 つの CP が単純に等位接続されているが、それと異なる振る舞いをする前者の分析には、Chomsky et al. (2019) の併合の理論においては排除される多重支配構造 (multi-dominance structure) を認めざるを得ないというものである。本発表では、CGY の主張のうち経験的な主張、つまり等位接続疑問文と等位接続スルーシングが異なる統語的振る舞いをするということが、日本語タイプの言語においても観察されることを、繫辞「だ」と疑問助詞「か」の分布に基づいて示し、日本語の等位接続疑問文について Ishii (2014) および Kasai (2016) によって提案されてきた節レベルの等位接続を含む分析はむしろ等位接続スルーシングにあてはまると提案する。一方、CGY の理論的主張、つまり多重支配構造の必要性については本発表では特に与しない (多重支配構造を仮定しない形での等位接続疑問文に関する分析は前田 (2019) を参照)。

本発表の 2 つ目の目的は、いわゆる島の制約違反の修復 (island-repair) に関して、実際には違反が含まれない基底構造を仮定する Merchant (2001) の立場を推し進めている Barros, Elliot and Thoms (2014, 以下 BET) の主張を支持する経験的根拠を提示することである。本発表では特に島の制約の中でも左枝条件 (Left Branch Condition, LBC; Ross

(1967))に焦点を絞り、スルーシングによって LBC 違反が回避できないことを示す (瀧田 (2019)も参照)。これによって、DP をフェイズとみなすことで LBC を統語的な制約と考えるアプローチ (Bošković (2005), Takahashi and Funakoshi (2013), Despić (2019) など)を支持し、フェイズを越えた要素間の依存関係について移動操作の観点から考察を行う。より具体的には、BET が観察している形容詞句がスルーシングの残余句となる場合に統語的にも意味的にも限定用法ではなく述語用法の振る舞いを示すことが、日本語の等位接続スルーシングにおいても観察されることを指摘する。この観察に基づき、限定用法の形容詞句を LBC に違反した形で移動し、その違反をスルーシングによって修復するという派生が不可能であり、そもそも LBC 違反が含まれない、残余句となる形容詞句が述語位置に生じる分析が適切であることを論じる。

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破格構文・周辺の現象から見える言語の一般的特性*

(General Properties of Language as Seen from
Anomalous Constructions and Peripheral
Phenomena)

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構文，規範的構文

1. はじめに

英語の破格的・周辺の構文の具体事例を考察し、そこから見えてくる当該構文一般の特性との関係や言語の一般的特性を論じ、言語体系—とりわけ英語の文法体系—のより深い理解へとつなげるための議論を行うことを目的として、本シンポジウムを企画した。

2. 発表1 「一般動詞を伴う There 構文の構文論的分析：構文の機能と動詞（クラス）特定構文の関わり」 (三野)

本発表では (1) から (3) の三種類の一般動詞を伴う there 構文を扱った。

- (1) There **comes** a time in life when you have to make a sacrifice for your country.
(COCA)

- (2) “Ho, Israel!” there **boomed** a voice from the Philistine mountain every day. (W. Wangerin, *The Book of God for Children*)
(3) A: I can’t decide which toys to buy.
Should I just get everything?
B: There **speaks** a rich person!

本発表で議論した一般動詞を伴う there 構文は、①there 構文の大多数は be 動詞を伴い、一般動詞は限定的なため (Yaguchi 2017)、頻度の観点から、②一見存在や出現を表さない動詞を伴うため、意味の観点から、周辺の現象である。この一見存在・出現を表さない周辺の動詞を伴う there 構文は、動詞を指定した具体的な構文として成立し、下位構文として there 構文全体の語用論的機能を果たす。

本発表で扱った表現群が下位構文として確立することを順にみていく。(1) のような come を伴う there 構文は、現在時制では時間名詞が全体の約 80% を占め (COCA)、頻度の面で大きな偏りがある。例文 (1) は、総称的に解釈され、人を促したりする場面で格言的に使用される。また、come は意味的に be 動詞と書き換え可能で (Yaguchi 2017)、構文全体は存在的に解釈できる。このように、他の there 構文や構成要素から予測できない特徴を持ち (cf. Goldberg 1995)、動詞を指定した下位構文 (there comes 時間表現構文) として成立している。

音放出動詞を伴う there 構文 (2) も、音放出動詞一般には見られない特徴が there 構文で生じた場合に観察される。音放出動詞は、主語に音を放出する物体が生起し、動詞は主語の音の放出を表す (*Coins and keys jingled.* (COCA))。しかし、(2) のような there 構文で使用された場合、主語に voice などの音表現が生起しやすい。音自体は音を放出しないため、(2) では、音の出現を表しているといえる。この項選択に関する特異性から、there 音放出動詞構文という具体的な

下位構文を設定する必要がある。

speak を伴う直示の *there* 構文 (3) も、独自の制約を持つ。具体的には、単に遠くで話す人を見て、(3B) とは言えないが、(3) のように「何を買っていいか決められないから、いっそ全部買うべきだろうか。」という、*there speaks* の主語名詞の「金持ち」が言いそうな発言が先行する場合にのみ容認される。この特別な談話的制約から、*there speaks* 構文という動詞特定構文の存在を主張した。そして、この構文は会話の場面にある特徴を持った人物像が「出現」したことを表現する。

上述の「周辺の現象」の議論から、*there* 構文の、そして言語の「一般的特性」が導かれる。*there* 構文では、語用と意味の側面が密接に関連し、新情報の導入という語用論的機能を果たすために、存在出現の動詞のみが使用される (cf. Levin and Rappaport Hovav 1995)。この上位の *there* 構文の語用論的機能を満たすため、周辺的で語彙的には存在出現を表さない *come*、音放出動詞、*speak* を伴う *there* 構文は、下位構文として確立し、下位構文全体で存在出現を表すことで、上位の語用論的機能を果たしている。つまり、下位構文は、上位構文や動詞から予測されない振舞いを示す一方、上位構文である一般的な構文の語用論的機能に合う形で振る舞いが規定されているのである。その際、構文として典型的である意味に使用が偏るのである。

3. 発表2 「win クラスの二重目的語構文の周辺性と一般性について」(辻)

本発表で扱うのは、動詞 *win*, *gain*, *earn* が生じる二重目的語表現である。*win*, *gain*, *earn* は、*get*, *find*, *buy* などのいわゆる「獲得動詞」と同じ分類の二重目的語動詞として扱われてきた (Goldberg 1995)。しかし、他の獲得動詞二重目的語表現のように「動作主が相手に何かを移譲することを意図する」という意味に解釈できる文はほとんどなく、以下のよ

うな文に非常に高い割合で生じる。

- (4) a. His good looks and twinkling eyes may have **won** him female fans, ...
b. Their record of service has **won** them a British Waterways competition.
- (5) And finally, Oxfordshire waterskier Shelley Nutt's sparkling talent to twist and turn has **earned** her one of the sport's top honours.
- (6) One might suppose that this statesmanship would have **gained** him international acclaim.

(all from BNC)

これらの文から、*win*, *gain*, *earn* 二重目的語表現は他の二重目的語表現とは異なり、①無生物主語をとり、②具象領域での移譲が不可能な目的語をとり、③「間接目的語の指示物が直接目的語の指示物を持つようになる」という解釈すら不可能な文がある (4b)、という、大きく三つの周辺性を示すことがわかった。これは Goldberg (1995) 流の二重目的語構文に対する考え方では、ほとんど例外と言わざるを得ない。

そこで、これらの二重目的語文が、その間接目的語句を主語位置に置いた単純他動詞文を含意することに着目し、[NP_x win/gain/earn NP_y NP_z] は [NP_y win/gain/earn NP_z] の使役化表現である、という使役分析を行った。そうすれば、一見周辺性と思われた点がもはや問題ではなくなる。①主語は動作主ではなく NP_y が *win/gain/earn* するに至った理由を表すので、無生物の方がむしろ生じやすく、②NP_z は移譲される物ではなく NP_y が *win/gain/earn* する対象であるので、具象名詞でなくても、それどころか、③「持つ」ことすら不可能な名詞であっても自然である、ということになるからだ。同様の使役分析が可能な例として、*lose* や *secure*

を含む二重目的語文がある。

このように、give を中心とした Goldberg 流の「二重目的語構文」の一種であると考え、win/gain/earn 二重目的語表現が、他の二重目的語構文とは異なるプロセス、つまり単純他動詞文との使役交替によって当該の統語形式に生じていると考えると、他の動詞を含めた別の一般化が可能になった。[NP_x V NP_y NP_z] という形式を持つ文はすべてひとつのネットワークをなす、と考えていては、説明不可能な事例があることがわかる。二重目的語表現という現象全体を知るために、個々の表現の実例に詳しく目を向ける必要がある。

4. 発表3 「言語知識としての構文ネットワーク：because 構文を例に」(金谷)

本発表では、because が用いられる構文の分析を通して、「文法知識の総体は構文ネットワークである」という仮説 (Goldberg 2003) を支持する主張を行う。具体的には、破格的な because 構文の事例として、(7a) のような Just because of NP 主語構文と (7b) のような because X 構文を考察し、(8) のような規範的な構文 (因果構文) とどのように関係するのかを考察する。

- (7) a. **Just because of his mistake doesn't mean you're going to have lights out.**
b. I cannot go out with you today **because homework.**
- (8) I cannot go out with you today because I have a lot of homework.

(7a, b) で例示される二つの構文は、実在するものの英語の統語法では予測できない点で、「破格的」である。一方、(8) で例示される因果構文は、従属接続詞 because が二つの定形節を接続し、特殊な意味を表さない点で、「規範的」である。

本発表における重要な問いは、(8) のように形式的にも意味的にも (ある程度) 予測可能な普通の文も「構文」として一般化する必要があるのかということである。先取りして言えば、「必要がある」という結論になる。(7a, b) のような破格構文は、独自の存在理由がありながらも (8) のような規範的構文から情報を継承し、ネットワークを形成することで、構文に課される制約や意味や形式に関する情報を相互にやりとりしている。このようなネットワークの一部に組み込むためには、因果構文のような「普通の文」も構文として扱う必要がある。

因果構文は、以下のような特徴を有する：①主節に否定が生じる場合、因果関係全体を否定の作用域に取る、②文頭に because 節が生じる形式を容認する、③just, only のような焦点化副詞で焦点化可能である、④because 節を because of NP の形式で置換することが可能である。because X 構文は、因果構文の特徴②③を有しており、推論解釈が得にくく、意味的にも形式的にも前者は後者に内包されているため、部分リンクによって関連付けられる。一方、Just because of NP 主語構文は、構文ネットワークに位置づけられるまでに十分に慣習化した表現とは言えないものの、因果構文の特徴①②③を有しているため、特徴④に基づく類推によって創発されたと考えられる。

このように、破格構文を説明するために規範的な構文の情報を参照していることから、規範的な構文に関する知識も構文ネットワークの中でとらえることは不可欠である。以上、本発表では、文法知識としての構文ネットワークの重要性を示した。

5. 発表4 「フレーズ接続副詞としての add to that: 文接続への示唆」(住吉)

本発表では、以下のような例を取り上げた。

- (9) **To add to this**, the pattern of social structures was very different from that obtaining in the Danelaw... (D. Denison & R. Hogg, Overview, *A History of the English Language*)
- (10) **Add to that**, saving face is a big deal in China. (CNN, May 14, 2019)
- (11) **“Added to this,”** continued the Prime Minister, “our farmers are complaining that they can’t do the job properly...” (J. Archer, *As the Crow Flies*)

add to that とその異形は接続副詞として機能している。接続副詞は閉じた類 (closed class) とされることがある (Greenbaum 1969) が、現代英語において、複数の語からなる連鎖が定型化し接続副詞の機能をこなうようになるものがある。接続副詞は決して閉じた類ではない。ここでは、コーパス (COCA/COHA) の例をもとに add to that とその異形の接続副詞化の発達を論じた。

特に (10) と (11) の形は (9) の形に比べてより破格性が高まっていると言える。コーパスからの例をもとにして、それぞれの表現の振る舞いを見て、その出自を考えることで、破格性の由来と接続副詞へと発達する道程を論じた。その結果、①add to that は Add to this [that], that... という add の動詞のパタンを使用しながら発達したこと、②表面上の形は命令であるが意味的には命令ではないこと、③this から that へのシフトはより大きな談話を指示対象とするための変化であり、他の接続副詞の発達と軌を一にしていることなどを指摘した。また、added to that については added to this, was the report of Mrs. Stevens, who... (COHA) のような倒置構造からの発達の可能性があることを指摘した (質疑応答にて、この発達の想定に疑問が呈されたので、今後も検討を進めたい)。

このような個別の問題から接続副詞とい

う類に与えられる示唆は、①歴史的に接続副詞は前置詞+代名詞といった複数の語連鎖の固まりから発達したのがあり、add to that とその異形についても類似の現象であること、②単語の連鎖が別の機能を持ち始めると連鎖全体が一般的な文法規則から解放され破格的な振る舞いをするなどがある。

「多数の不正用法のなかで用意されるものは明日の言語である」というバイイのことがばが示すように、破格表現は、言語の姿の在りようを教えてくれる。このような観点に立てば、本シンポジウムの各発表は新たな言語観を考えるよいきっかけとなるであろう。

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統語-音韻インターフェイスに必要な情報の
表示をめぐる*

(On the Representation of Information
Necessary for the Syntax-PF Interface)

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キーワード 極小主義理論, 分散形態論, PF,
焦点, コピュラ

1. はじめに

極小主義理論は限られた素性の集合、構造を組み立てる操作である併合、およびそれにより生成されたフェイズを音韻・意味部門に送る転送のみを仮定する。同時に、理論は感覚運動系および概念意味系とのインターフェイスであるスペルアウトにおいて必要十分な情報を保証しなければならない。

転送に関しては音韻および意味の写像は平行的に収束するのが理想であるが、Chomsky(2013)も指摘する通り、非対称性が存在する可能性がある。さらに、分散形態論の主張に基づき語彙部門が解体された場合、派生や複合も統語論あるいはそれ以降において扱われることとなる。本シンポジウムでは統語論、音韻論、形態論にかかわる問題に

ついて概念的・経験的観点から議論し、より制限された文法理論のありかたを考えた。

2. (発表 1) 「削除が意味解釈に及ぼす影響について」(木村・成田)

本発表では、省略下における構成的解釈と非構成的解釈の可否について、(1)の一般化を提示するとともに、「解釈が一つの部門で決定づけられるものではない」とする分散形態論に依拠した分析を提案した。

(1) 非構成的解釈を持つ構造では、構成要素の一部のみが焦点化を受け残余句となる場合、非構成的解釈が不可能で、構成的解釈のみが可能である。

例えば、複合語 *black sheep* を含む *why-stripping* では、複合語全体が残余句として発音される(2B)や全体が省略される(2B')では、構成的解釈(黒い羊)に加えて非構成的解釈(厄介者)が可能である。対して、複合語の一部のみが残余句となる(2B'')や(2B''')では、構成的解釈のみが可能となる。

(2) A: Ben is trying to find (any) [black sheep]
on the farm.

B: Why black sheep? B': Why?

B'': Why black? B''': Why sheep?

また、(1)の一般化は複合語に加えて、句イディオムについても当てはまる。例えば、*hit the books* を含む *why-stripping* の例である(3B)は、「一生懸命に勉強した」という非構成的解釈は付与され得ず、「本にぶつかった」という構成的解釈のみが可能である。

(3) A: John hit the books yesterday.

B: Why the books?

本発表では、考察対象の省略構文に削除操作が適用されている証拠を提示し、削除の適

用要素の違いによる非構成的解釈の有無は、「音韻部門の操作である削除は意味解釈に影響を及ぼさない」とする伝統的な理論では説明が難しいことを指摘した。また、構成的解釈と非構成的解釈の対比は、これらの意味が単一のメカニズムで決定されるのではなく、異なる部門に分散されていることを示唆する。本発表では特に、非構成的解釈が語彙 (Vocabulary, 音韻素性) の後期挿入と辞典 (Encyclopedia) の情報に基づき決定されるとする分散形態論により、特定の省略の下での非構成的解釈の欠如に対して自然な説明を提供するものであることを示した。さらに、(複合) 語も句も(1)の一般化に従うという点においても、「語と句が単一のメカニズムで生成される」とする分散形態論と整合性があることを述べた。

3. (発表 2) 「複合語の音韻的实现およびオノマトペ述語の意味解釈に必要な情報」(漆原)

従来語彙部門で扱われてきた現象や、音韻的語 (phonological word) の認定に最小語の制約 (The Minimal Word Constraint: MIN) がかわる現象などについて、分散形態論の枠組みにおいて Spell-Out (以降) ではどのような情報が必要かを検証した。

まず、複合語における連濁・鼻濁音化においては、既知の通り、語彙の層 (和語・漢語・外来語・オノマトペ)、複合語の意味関係 (修飾—被修飾関係 (内心構造)・並列関係 (等位構造)) および動詞由来複合語における動詞と第一要素の意味関係 (項/付加詞、人/付加詞) による適用の有無が観察される。語彙部門ではなく PF での適用を保証するために二種の diacritic feature [±Yamato(Y)] [±Sino-Japanese(S-J)] によって和語 ([+Y][−S-N])、漢語 ([−Y][+S-N])、外来語 ([−Y][−S-N])、オノマトペ (無指定) を弁別し、それらが終端節点 (terminal nodes) に存ずるとする。そして、PF において [+Y] の素性を有する要素に

連濁・鼻濁音化が適用される。なお、連濁は一部の漢語に、鼻濁音化も一部の漢語・外来語に適用される (「和語化」)。これらは当該語彙の日本語への輸入時期、使用頻度、個人の親和性等に依存するため、Encyclopedia での随意的な素性変更 ([−Y]→[+Y]) の適用を仮定すれば記述可能となる。このメカニズムはまた、オノマトペには連濁・鼻濁音化が決して適用されないことも導く。なお、(発表 1) および木村・成田 (2018) のデータに関連し、随意的に連濁を起こす漢語助数詞の場合、wh-助数詞が連濁を起こしていると短縮応答の容認可能性が低い傾向を指摘、連濁が削除可能性に干渉する背後のメカニズムの解明の必要性に触れた。

(1) a. Q: (エレベーターで) 何階ですか。

A: 4 お願いします。

[対なんかい^{OK} 対なんがい^{??}]

b. Q: (全焼したのは) 何軒ですか。

A: 4 です。

[対なんけん^{OK} 対なんげん^{??}]

次に、日本語の MIN(*word > μ μ) 効果の現象として、動詞反復と軽動詞構文を見た。語根が 1 モーラの場合に観察される補償的長音化 (compensatory lengthening) が、「する」の場合は本動詞でも軽動詞でも生じる (cf. Poser (1989))。

(2) a. 太郎は [本を読み読み] ご飯を食べた。

b. 太郎は [テレビを見い見い/*見 見]
ご飯を食べた。

(3) a. 太郎は [宿題をいしい/*し し]

メールを読んだ。

b. 太郎は[メールを送信いしい/

*送信し送信し/*送信し し]

本を読んだ。

(3b)において動名詞+軽動詞の反復が不可

能なことも合わせ、動名詞は統語的編入を受けずに PF に送られると論じた。

同様に、動詞と形容詞の否定形や複雑否定形容詞 (Kishimoto and Booij (2014)) に現れる「さ」の分布も MIN の効果であり、これらが統語論の後の形態構造 (Morphological Structure) での語彙挿入、操作が PF への入力となる根拠になると論じた。

4. (発表 3) 「Pred⁰」(渡辺)

Matushansky (2019) が Pred⁰ の存在に疑義を呈しているが、本発表では、Nishiyama (1999) によって提案されているように日本語の「で」が統語構造で Pred⁰ として働いていることをまず確認する。Matushansky が Pred⁰ の存在を否定する根拠のひとつとしてあげているのは、Pred⁰ の候補が出現していると考えられる場合に PP が述部を形成することがどの言語においても見られないという観察である。非動詞的述部一般に用いられるとされている Pred⁰ の性格からはこのことが説明できないというのが Pred⁰ の存在の否定につながるという議論であるが、日本語では「このプレゼントは田中からである」のように「で」が PP の述部と共起するので、Matushansky の観察自体が誤りである。また、Pred⁰ が機能範疇であることから異形態の可能性も考えられ、特にゼロ形態が日本語に存在していることも確認できる。よって、動詞「ある」とともに出現する「で」は Pred⁰ として認定するのが妥当であるという結論になる。

Matushansky (2019) で考察の対象とされていない、コピュラと焦点、特に分裂文との関係を発表後半では取り上げる。Hiraiwa and Ishihara (2012) は文末が「だ」の形になっている日本語の分裂文を分析しているが、これを「である」のバージョンに置き換えて「で」の句構造上の位置を同定すると、Foc⁰ になる。焦点マーカ―といわゆるコピュラとの類縁

性はしばしば指摘されていることであるが、Pred⁰ と同形の形態素が分裂文に出現する Foc⁰ の位置を占めていることが指摘されるのは本発表がはじめてであろう。Pred⁰ と Foc⁰ が根本的には同じ範疇であり、焦点解釈を強制するかどうかの違いによって文中での出現位置が異なるとする分析が、今後、考察に値する可能性として検討されるべきである。また、英語においては、Dikken 他(2000) などの研究で、wh 疑問文とその答となる文をコピュラによってつなげた形の分裂文の存在が確認されているが、日本語においても同様の分裂文が存在することが観察される。「花子が誰からプレゼントをもらったか」というと田中からもらったのである。」のような例がそれに当たる。こうした分裂文はこれまで詳しく研究されてこなかったが、その構造を可能にする原理は各言語共通であると考えられ、そうすると英語においても Pred⁰ / Foc⁰ が存在していると考えerべきであるという結論に落ち着く。

5. ディスカッション (多田)

ディスカッションでは、焦点が関与する(発表 1) および(発表 2) の主張に関し、さらなるデータに基づいて検証がなされた。

(発表 1) では複合語・句イディオムの why-stripping において、その一部が残余する場合は構成的解釈しか可能でないという事実が[+F]要素への語彙挿入のタイミングで説明された。その点を代替意味論 (alternative semantics (Rooth(1992))) を援用して、選言 (disjunction) 付短縮応答、連言付短縮応答に拡大、さらに NCI 短縮応答と音調に着目、NIC 解釈後の計算が問題を引き起こさないことから、後期挿入のタイミングが決定的であることの証左を与えた。

(発表 2) では Pred⁰ と Foc⁰ が根本的には同じ範疇であり、[+F]の有無によって出現が異なることが示唆された。その点について、

「で」の分布をより広範なデータで検証、特に焦点辞の場合はコンピュータと共起可能であるのに対し、確定回避（定延（1995））の「でも」の場合は共起不可能である事実、また、形容詞類、小節、程度表現では「で」が出現不可能である事実を列挙し、提案を補強した。一方、二次述語では「で」と焦点辞が共起可能となる事実は更なる検討課題であると指摘した。

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- （発表 1）基盤(C)18K00660（木村）
基盤(C) 16K02779（成田）
基盤(B) 19H 01256（成田）
- （発表 2）基盤(C) 17K02816
- （発表 3）基盤(C) 15K02591

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話しことばの研究と「スタンス」：言語形式
から社会的アイデンティティまで
(Stancetaking in studying language in
interaction: Linguistic forms and social
identities)

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キーワード：スタンス, 談話, アイデンティ
ティ, 文法, 相互行為

1. 概要

スタンスは「評価」や「視点」などの概念を含め、これまで多様なアプローチで取り上げられてきたが、その概念整理が近年進められてきている。特に Du Bois (2007) による「スタンス理論」は、認知や社会性を基盤としながら言語現象の説明も目指している点が注目に値する。

本シンポジウムは、(1)「スタンス」をどのように話しことばの言語データに応用できるのか、また、(2)そこからどのような知見が得られるのかを探究することを目的とするものであった。講師たちは、スタンスの多層性や創発性に着目しながら、既存の文法理論では十分に説明されてい

ない話しことばの定型性、スタイルシフト、社会的コンテキストに根ざした談話で遂行されるイデオロギー構築や社会化などをテーマに、他の概念や方法論(用法基盤モデル、相互行為社会言語学、フレーム理論、会話分析など)も参照しながら、「スタンス」概念を用いることで得られる知見の可能性とその課題を論じた。

本シンポジウムは、会話内で構築されるミクロなアイデンティティから、会話外で構築されている(と思われる)よりマクロなアイデンティティを扱う研究へという順に、話題報告がなされた。しかし、そもそもスタンス理論は、「ミクロ」と「マクロ」の境界を作らず、その複層的(multi-layered)なアイデンティティや、その構築に伴う言語形式の創発性(creativity)を議論の対象とできるというのが、全講師の共通の理解であった。

2. (趣旨説明) スタンスについて (山下)

Du Bois (2007)は、「スタンス」を、相互行為において行為者が常にとり続けるものを指す学術用語として、次のように定義した。

“...linguistically articulated form of social action whose meaning is to be construed within the broader scope of language, interaction, and sociocultural value (2007: 139)”

「スタンス」が具体的に何であるか、どのように表明されるのか、言語や相互行為との関係などは、明示していないが、相互行為におけることばに関連するものとして位置付け、その研究を提唱した。

特徴的なのは、対話性(dialogicality)を重視している点である。どのようなスタンスも単独に存在するのではなく、必ず何か前のスタンスに関連していると考えている。そのスタンスとは、直前の発話であることもあれば、時間的にだいぶ前の発話や行為であったりもする。また、会話外のコンテキストを踏まえた解釈を行う。この2点が、サックス・シ

エグロフ・ジェファーソンで有名な会話分析と大きく異なる点である。その後、米国西海岸をはじめとして、多数の研究が「スタンス」の基礎研究を行っており（展望論文に、Jaffe 2009 や Takanashi 2018 がある）、言語人類学や社会言語学にも応用されている。

本シンポジウムでは、主にスタンスの三角形を用いた談話の分析を中心に扱った。スタンスをどのように解釈するかについて、Du Bois は、分析対象となる文の形式、すなわち語や文の構成の他に、次のような点に着目するべきと述べている：

- (1) *Who's the stance taker?*
 - (2) *What is the object of stance?*
 - (3) *What stance is the stancetaker responding to?*
- (Du Bois 2007: 146, 斜体は原文通り)

また、スタンスはこれら3点をもって成立するため、スタンスを解釈するには同じくこの3点が必要であることが述べられている。この3点と、それぞれの項の関係を図式化したのが、スタンスの三角形(図1)である。

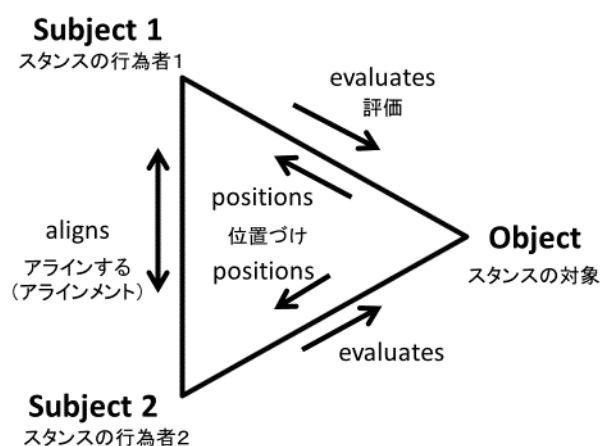


図1 スタンスの三角形 (Du Bois 2007:163 山下再構成・和訳)

3. (発表1) 会話における繰り返し: 動的なスタンス構築(鈴木)

Du Bois (2007)の Stance Triangle のモデルでは第一話者のスタンス表明のあと第二話者がスタンス表明することで二者間のスタンス調整が行われる。本発表では三人以上の会話における、スタンスの違い(冗談や笑いを伴うような「安全な」対立)が表出した瞬間とそれへの対処のディスコースに着目し、特に「繰り返し」を中心に検討した。Du Bois のモデルは3人以上の会話でも分析の出発点として有用であり、スタンスが動的に構築される過程を示せることを指摘した。

第一話者の発話を他の話者が繰り返すことが、様々な方向に談話を動かすことを示すため発表では以下の観察を取り上げた。(1) 第一話者のスタンス表明発話の一部を第二話者が繰り返す「加勢」により、そのスタンスに同調し他の話者のスタンスとの違いを際立たせる(2) 第一話者のスタンス発話の中で使われた特定の表現を新しいスタンス対象として取り出して繰り返すことでスタンス表明行動の「ずらし」を起こす(3) 言葉だけではなく動作を繰り返すことで話者間の「対立遊び」の側面を際立たせる。

また、繰り返しによるスタンス表明は語句、統語、プロソディ、身体など多岐に渡ることも併せて論じた。

4. (発表2) 児童の会話におけるスタンススタイルおよびコードの選択(山下)

会話におけるスタイルやコード選択(スタイルシフト・コードスイッチング)は、それぞれ語用論、相互行為社会言語学を中心に行われてきた。本発表では、文法と社会的相互行為をつなぐ「スタンス」という概念が、それぞれ「一言語の会話」・「多言語の会話」として別々に研究されがちであったこうした研究を、統合して分析できる可能性を持っていることを指摘した。

理論的には、会話において特定のスタイルやコードの使用がもたらす、語用論的意味およ

び社会的指標性は、スタンス表明と調整の繰り返し及び蓄積によって生じる(Du Bois 2007)と考えられる。本発表では、課外教室(モスク教室)における小学生児童との教師の多言語会話(日本語・英語・ウルドゥー語)のデータを、スタンス概念および Stance Triangle のモデル(Du Bois 2007)を応用して分析した。その結果、スタイルシフト・コードスイッチングの研究に stance の概念や Stance Triangle のモデルを応用することで、従来の分析枠組みでは分析しきれなかったスタンス・コードの使用を説明することが可能であることを示した。

5. (発表3) 観光場面の対話におけるスタンス行為(高梨)

Du Bois (2007) が提唱するスタンス・トライアングルのモデルを「観光場面で交わされる対話」に活用し、同対話におけるスタンス行為の多面性を明らかにした。観光都市における観光客(ゲスト: Subject 1)と地元のガイド(ホスト: Subject 2)の英語による対話を分析した結果、1)「観光地」と「対話者」双方のアイデンティティに関するスタンスは多様な対象(Objects)に対して多面的に構成され、対話の中で間主観的に創発・再生産されていること、2) 個々のスタンスは、時間的かつ空間的に重なるプロセスの中で累積されていくこと、といった特徴がみられた(図2)。こうしたスタンス行為の実践を通じて、観光地や相手に対する認識や感情が形成されるとともに、ホストとゲスト双方が「観光」という異文化コミュニケーションのフレームを協働で構築できる「グローバル市民」として社会化されていくことを論じた。

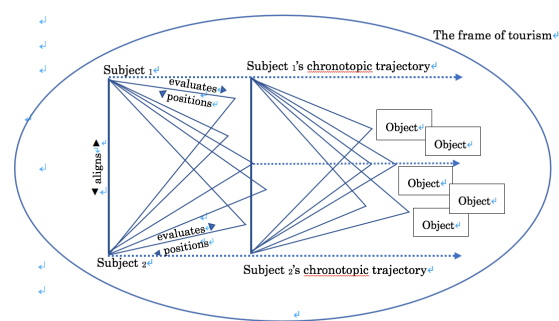


図2 The Multiplex Stancetaking and Its Trajectories

6. (発表4) 二言語による社会化: 創発的・多層的なスタンス構築とイデオロギー(岩田)

Du Bois (2007)の Stance Triangle のモデルを使い、相互行為の参与者との間で対話を通して公的に遂行される社会的行為としての stance という観点から言語による社会化について考察した。日英語バイリンガル家庭の夕食時の会話において、第一話者であるイギリス人の父親(Subject 1)が、イデオロギー(例、食事のマナー、家庭内の父親と母親の役割、ジェンダー・イデオロギー、階級意識、アメリカ英語・イギリス英語に対する意識)を stance object と扱うことで自身を位置付けスタンス表明をし、他の参与者である子や日本人の母親(Subject 2)も同じようにその stance object に対し自分自身を位置づけ、スタンス表明をしていることを明らかにした。両者の間でスタンス表明と調整が繰り返され、このプロセスが幾層にも積み重なることこそが社会化であると論じた。Stance triangle は会話のインタラクションによって作られ、創発的なものであることを示した。

7. ディスカッションより(堀内)

本シンポジウムの最後に、4名の講師による話題報告を振り返った上で、Du Bois (2007)のスタンス理論の特徴と発展可能性について議論した。まず、本シンポジウムの事例研究からうかがえるスタンス理論の特徴として、次の3点を

挙げた。

- (i) 対話性: スタンス表明は、単なる話者の感情や評価の「表出」ではなく、相手ありきの「働きかけ」である。
- (ii) 動的特性: 上記(i)により、スタンス理論は、相手の反応に応じたコミュニケーション上の「揺れ」や「ずらし」を言語使用の本質として織り込みうる。
- (iii) 社会文化的文脈の重視: スタンス理論は、一時的なやりとりだけではなく、その社会文化的背景、および、累積による社会化の過程を捉えられる。

次に、スタンス理論の適用による言語研究の発展可能性として、主に以下の 3 点を示した。第一に、スタンス理論は、これまで分断されがちであった複数の領域(例、「言語」と「非言語」、「一言語」と「多言語」、「対話の場で創発するやりとり」と「累積による社会化」)を統合した分析を可能にする。これによって、複数の要因が関わり合う言語使用の実態を捉えた、用法基盤の研究を促進しうる。第二に、「スタンス表明(さらには社会化)のリソースとしての文法」という視点をもたらすことで、文法研究と相互行為研究の接続を可能にしうる。特定の文法形式(例、ですます調、人称代名詞、命令形)を、それが表明するスタンスとの関わりの中で分析することは、文法知識が相互行為の場でいかに利用され、特定の文法形式が相互行為上どのような機能を担い、さらに相互行為の場における使用の蓄積が文法構造の形成や変化をいかに動機づけているか、といった問題の解明に貢献するだろう。第三に、スタンス理論の適用により、相互行為における身体の役割をより精緻に分析できる。例えば、指差しや空間的な移動はスタンスの対象 (stance object) の明示に寄与する一方、相手に同調する手の動きは主に評価の表明やアラインメントに関わると思われる。このように、相互行為における身体の役割をスタンスの観点から整理することが可能であり、スタンス理論は非言語表現に関する研究へも貢献することが見

込まれる。

シンポジウムの最後に、(1)スタンス理論が既存の理論に与える示唆は何か、(2)スタンス理論の適用が特に有効だと思われる現象は何か、(3)スタンス理論は言語的・社会文化的背景の複雑性をどこまで捉えうるか、という問題提起を行い、議論した。これらは今後の研究を通してさらに考察を深めていくべき課題であると思われる。

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言語の多様性再考：外在化の観点から*
(Language Variation Revisited: From Externalization Perspectives)

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evolvability, the Uniformity Principle

1. はじめに

本ワークショップの目的は、生成文法理論の最新の動向を踏まえ、言語の多様性を外在化 (externalization) の仕組みから再考する理論的意義を聴衆と共有するとともに、その実証的研究の進展に寄与することであった。

2. 言語獲得および言語起源の観点に動機づけられる言語の多様性の担い手

生成文法理論は、言語の多様性の解明に向けて次の変遷を経てきた。1980年代後半までに確立した原理とパラメータのモデルでは、言語の多様性を、パラメータが付随する規則や制約の体系によって捉えていた。1990年代に入ると、こうした規則や制約を、どの程度まで言語に固有でない一般原理に還元できるのかという問いを立て、普遍文法の最小化を目指す研究指針が打ち出された。これが極小主義プログラムである。この取り組み

のもと、言語の基本的特性が明らかになってきた。それは、言語とは、音声と意味をつなぐ簡潔で普遍的な計算システムであり、併合という回帰的操作を原動力として非有界的階層構造を生成する。そしてこの構造は、音声とのインターフェースをなす感覚運動システムおよび意味とのインターフェースをなす概念・志向システムで適切な解釈を受ける。これが言語の基本的特性である。

この特性を内包する言語機能の極小主義のアプローチを究極まで追究していくと、言語の多様性は、外在化の仕組みが担うことになる。このことは、言語の獲得 (learnability) および言語の起源 (evolvability) の観点から動機づけられる。

まず、言語獲得の観点について。Chomsky (2001) は、(1) の均一性原理 (Uniformity Principle) を提唱して、子どもの言語獲得を考慮に入れると、発話から容易には認識不可能な併合操作および概念・志向システムとのインターフェースは、すべての言語に均一であると主張した。

(1) In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances. (Chomsky 2001: 2)

帰結として多様性は、発話と結びついて、容易に認識可能な特性を扱う感覚運動システムとのインターフェースが担うことになる。

次に、言語起源の観点について。近年の進化論の研究によると、言語機能は突然生じたもので、多様性を内包するだけの歳月を経ておらず、それ以前から存在していた感覚運動システムが多様性を担うと推定される。

すなわち、(2) に帰結として示されるように、言語の多様性は、計算システムが生成した階層構造を感覚運動システムが解釈可能な表示へと変換する外在化の仕組みが担う

ことになるのである。

- (2) Parameterization and diversity, then, would be mostly—possibly entirely—restricted to externalization. (Berwick and Chomsky 2016: 82)

以上が、言語の多様性を外在化の仕組みに帰着させることの理論的意義である。以下では、本ワークショップの発表順に沿って、各研究発表の中心的主張を記す。

3. 音節構造の均一性と外在化による音声的多様性 (那須川訓也)

第一に、非時系列音韻論 (Precedence-free Phonology) の枠組みのもと、上述した均一性原理に従い、音節構造も形態統語構造と同様の階層構造を呈すると主張した。その上で、音節に関わる言語間変異は、構造上の変異ではなく、階層構造を音声的に具現化 (線形化および音調付与) する際に表面上生じるものであると論じた。

4. 代名詞主語省略の再考 (北田伸一)

第二に、統語論の観点から代名詞主語省略を分析した。まず、均一性原理に従い、すべての言語が均一な統語構造を持つと主張した。その上で、代名詞主語省略に観察される言語間変異は、統語派生で生成されたコピーのいずれのコピーを音声化するかについての各言語の選択と、「各投射内で音声化できる要素は一つ」という外在化のメカニズムとが連動して生じると論じた。

5. 介在効果の再考 (前田雅子)

第三に、音韻論と統語論のインターフェースの観点から介在効果を分析した。具体的には、焦点要素と疑問詞の2つの要素間で観察される介在効果の言語間 (方言間) の有無が、多重書き出し (Multiple Spell-Out) 分析のもと、「一つの書き出し領域は二つ以上の F⁰

peak を有することができない、また、矛盾する焦点韻律を有することができない」という外在化のメカニズムから生じると論じた。

6. 多重指定部構造の再考 (北原久嗣)

第四に、統語論と語彙のインターフェースの観点から多重指定部構造を分析した。φ素性が具現化する英語は多重指定部が不可能であるのに対して、具現化しない日本語は多重指定部が可能である。この言語間変異が、各言語の φ素性が持つ特性と、「ラベルとして機能する φ素性の構造は一義的に解釈されねばならない」という外在化のメカニズムとの相互作用の帰結として生じると論じた。

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英語史における形式の出現と消失について —生成文法理論による説明

(On the Rise and Loss of Forms in the History
of English—A Generative Explanation)

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キーワード：歴史的変化, 生成文法, 史的統
語論

0. はじめに

これまで、多くの言語学者により、英語の歴史的変化に対して生成文法理論に基づいた分析が提案されてきた。本ワークショップでは、このような方針に沿って具体的な構文や現象に関する分析を提示することで、生成文法理論に基づいた言語研究が英語の史的統語論研究に対して理論的貢献を果たすことが示された。

1. 英語史における WH 不定詞節の出現について (松元)

本発表では中英語後期に WH 不定詞節 (例: John has decided [what to sell tomorrow]; A topic [about which to argue]) が可能になったのは不定詞標識 *to* の統語位置の変化によるものであると主張した。具体的には不定詞標

識の *to* は古英語では不定詞節の C を占めていたが、中英語に入り T へと統語的位置が変化したことで WH 不定詞節の生起が可能になったと主張する。古英語では *to* が C を占めるため、WH 移動を起こすと二重詰め COMP フィルターの違反となるので WH 不定詞は許されなかった。一方、中英語になり *to* が T を占めるようになると、C を占める要素はなくなるので、二重詰め COMP フィルターの違反を引き起こさず WH 移動することが可能となる。従って、中英語後期に WH 不定詞節が可能となった。また中英語で原形不定詞の疑問節のほうが先に出現したのは、原形不定詞節の C には顕在的な要素がないため CP 指定部への WH 移動が二重詰め COMP を引き起こさないためである。

2. 英語における二次叙述の史的変遷 (横越)

本発表では、英語の描写述語を含む構文について、述語の意味タイプと指向性によって統語構造が異なるとする現代英語の描写述語の分析に基づいて、当該構文に起こった通時的変化に説明を与えた。14 世紀に機能範疇 Pred が出現したという先行分析を受け入れるなら、M2 期を境に描写述語構文の統語構造が変化したことになる。M3 期以降、小節をとる動詞の場合は、その動詞の選択特性に応じて補部に stage-level predicate (SLP) または individual-level predicate (ILP) のいずれが現れる可能性もある。その一方で、小節を本来とらない動詞の場合、動詞の選択特性によって補部との意味関係を確立できないため、補部をとろうとすると、動詞と描写述語の event 項を同定することで意味関係を作らなければならない。これに対し、変化以前の M1 期には動詞と描写述語の組み合わせにそのような制限は見られない。このことは、機能範疇 Pred の出現以前には、選択特性の関与しない付加構造によって二次叙述が実

現されていたという主張と整合する。以上の検討に基づき、本発表では Pred 出現以前と以降の描写述語構文に対し、異なる統語構造を提案した。

3. 関係詞 *that* の歴史的変化と反 *that* 痕跡効果 (近藤)

本発表では、関係詞 *that* の歴史的変化の観点から、現代英語の関係詞 *that* の統語的位置付けを特定し、主格関係節に見られる反 *that* 痕跡効果を原理的に説明した。古英語の多くの関係節では、豊かな屈折を伴う指示詞が関係詞として用いられていた。Gelderen (2004) は、関係詞 *that* は中英語においてこの指示詞から発達したと仮定し、古英語の関係節において CP 指定部に移動していた指示詞が CP 主要部に位置する関係詞 *that* に変化したと論じている。本発表は、Gelderen (2004, 2011) で提案されている二つの原理に基づき、CP 指定部に移動していた指示詞が、CP 主要部として併合する *that* と、CP 指定部に併合する *that* に変化したと主張した。前者の *that* は指示詞が持っていた φ 素性や格素性をすべて失ったが、後者の *that* は人称素性を保持していると論じた。主格関係節の *that* の省略が不可能であるのは、動詞移動が消失した結果、人称素性を保持している *that* の併合が当該の投射のラベル付けに必要不可欠になったためであると結論付けた。

4. 形容詞残置名詞句省略の史的変遷 (山村)

名詞句内で形容詞が残余要素となる名詞省略（形容詞残置名詞句省略:A-NPE）は、古英語では形容詞の一致屈折で認可され、現代英語では許されないと考えられてきた。しかし、例えば、色の表現は現代英語でも名詞省略の残余となるし、先行名詞句と省略名詞句の間で、修飾語に対比があれば、A-NPE が可能である。対比による名詞省略の認可は Corver and van Koppen (2009) などでも議論さ

れてきた。対比が A-NPE に責任があるという観点は、A-NPE の史的データを観察する際の指針となる。Haumann (2003) は、古英語の *sopfaestne man & unscyldigne* ‘righteous person and guiltless’ のような事例を扱うが、ここでは2つの形容詞に対比がみられないので、実際には A-NPE の事例ではないとわかる。対比の有無に基づけば、古英語では *ofer þa godan men and ofer ða yfelan* ‘over those good men and over those evil’、中英語では *the good folk and the badde*、初期近代英語では *by subtracting the lesser Longitude out of the greater* のような事例で、形容詞に対比がみられるため、A-NPE だといえる。

このことから、英語史を通じて、A-NPE の統語構造は、Corver and van Koppen (2009) に倣った、 $[DP\ D\ [FocP\ AP_i^{+Foc}]\ [Foc'\ Foc\ [NP\ t_i\ [NP\ N\ Comp]]]]$ であると論じた。

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意味論・語用論的な分析が求められる言語現象とは何か

(What is a Linguistic Phenomenon that Requires Semantic and Pragmatic Analyses?)

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1. はじめに

本ワークショップでは、意味論・語用論的な分析が求められる現象について考察した。理論言語学の分析対象として最も一般的なものは、文の容認性に関する現象である。例えば、「ある環境 X に Y という表現は生起できず、その文は容認されない」という現象をもとに、様々な分析が提案されてきた。

本ワークショップでは、容認性に関する現象には 2 種類のタイプが存在することを指摘した。1 つ目は、「いかなる条件でも、X という環境に Y は生起できず容認されない」という現象である。2 つ目は、「意味、文脈に関する何らかの条件を満たせば X という環境に Y が生起できるようになり、容認されるようになる」という現象である。

次に、これら 2 つのタイプの現象に対するこれまでの分析の問題点を指摘した。1 つ目

のタイプの現象に対して、意味や文脈を考慮しない分析が提案され、その分析がタイプ 2 の現象にも適用されてきた。しかし、このような分析をタイプ 2 の現象に適用した場合、「何らかの条件」を捉えるために不必要な補助仮説が必要になり、分析の説明力が低下してしまう。そして、タイプ 2 の現象に関する 3 つの事例研究を通し、タイプ 2 の現象にこそ意味論、語用論的な分析を行うべきであると主張した。

2. (発表 1) The Rescuing Effect of Degree Morphemes (水谷)

本発表では、tall などの永続的な性質を表す個体レベルの段階形容詞と always などの量化副詞の共起可能性を取り上げた。先行研究では、これらの個体レベルの段階形容詞は不定名詞句が存在しない限り量化副詞と共起できないという事実が指摘されている。そして、Kratzer (1995) はこの事実に基づき、量化副詞には LF において束縛可能な変項が存在しなければならないという統語的な制約を提案している。本発表では、個体レベルの段階形容詞は、比較形態素、enough などの程度形態素 (Degree Morpheme) を量化詞と用い、量化詞が指示する対象が状況に応じて変化する適切な文脈を設定することで不定名詞句が存在しない場合でも量化副詞との共起が可能になるという新たな観察を提示した。そしてこの新たな観察に基づき、量化副詞に対して、Kratzer (1995) らによる統語的な制約ではなく、Percus (2007) による語用論的な制約を設定する必要があることを主張した。

3. (発表 2) Pragmatics in Conditionals: Implicature, Entailment, and Hurford's Constraint (井原)

本発表では、Hurford 条件文 (Mandelkern & Romoli 2018) と呼ばれる、前件と後件を入

れ替えた際に文の論理構造そのものは変化しない一方で容認性の上では差が生じる条件文の分析を行った。まず、Hurford 条件文はこれまでに提案されてきたどの分析においても捉えることが困難であることを指摘し、その上で、当該の条件文において容認性の差が生じるのは、scalar 含意から生じる自明性 (triviality) のためであると主張した。この分析により、still のような譲歩の談話助詞 (concessive particles) を Hurford 条件文に挿入した際に容認性が上がるという現象に関しても、一貫した説明を与えることが可能となった。

4. (発表 3) Association between Floating Quantifiers and their Hosts beyond Islands: a Possibility of Semantic Analysis (平山)

本発表は、日本語の遊離数量詞に関して、Miyagawa (1989)を始めとする統語的分析では分析できない、ホスト名詞と遊離数量詞が統語の島を超えて関連付けされている例を提示し、代替案として、Nakanishi (2007)の分析を拡張した意味的制約を提案した。具体的には、主文が描写するイベントの大きさと、遊離数量詞の意味の中に含まれる準同型を測量した出力とが相関関係になければならないという制約を提案し、その制約が遊離数量詞だけではなく、英語の全称量化詞が、統語の島を超えてスコープを取っている例にも適用できることも示した。

5. まとめ

3 件の事例研究の後、質疑応答の時間において活発な議論が交わされた。特に、形式意味論、形式語用論の枠組みにおいて提案されている様々な制約の扱いに関する議論が中心となった。近年、G-triviality (Chierchia 2013)、など、意味論、語用論レベルでの様々な制約が提案されている。統語論、特に GB 理論やミニマリストプログラムにおいて、様々な制

約がより高次の原理、制約に統合されていくことにより理論が発展していった。意味論、語用論の分野においても同様に、様々な経験的事実に基づき、近年提案されている様々な制約を統合していく動きが必要であることが確認された。

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[II]

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The Predicate Structure of Past Participial Reduced Relatives in English

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1. Introduction

This paper attempts to clarify the predicate structure of English reduced relative clauses headed by a past participle and to provide an accurate representation of how they are combined with the head noun, where a modification relation is involved.¹ First note that postnominal participles as reduced relatives do not generally differ from postnominal adjectives with respect to the fact that unlike prenominal modifiers, postnominal ones generally have a predication relation, in addition to a modification relation, with the head noun, as has been discussed in one way or another by a number of cross-linguistic studies including Bolinger (1952 [1972], 1967) on Modern English and Modern Spanish, Higginbotham (1985) and Quirk et al. (1985: 420ff) on Modern English, Stavrou (1996: 83-84) on Modern Greek and Fischer (2000) on Old English. The question then naturally arises here for postnominal participles, which are analogous to postnominal adjectives:

(1) How to guarantee the subject-predicate

relation and how to represent the predicate structure?

This paper is devoted to answering this question. My main claim is that: The highest projection of reduced relatives is a predicate projection, PredP. The relevant representation is as follows.

(2) $NP_i [_{PredP} t_i Pred^0 [_{AspP} Asp^0 \dots t_i \dots]]$

NP originates in AspP, specifically in the position of the internal argument of V, and moves to the Spec of PredP, where a predication relation between NP and AspP, the participial phrase, is established.² NP further moves out of PredP to a position where a modification relation is established.

The discussion in this paper is laid out as follows. Section 2 summarizes previous discussions on the syntactic structure of non-finite constructions involving a subject-predicate relation. Section 3 discusses how such a predicate structure is empirically evidenced. Section 4 presents a detailed representation of how that structure is derived. Section 5 concludes the paper.

2. Predicate Structure in General

Before elaborating on the claim in (2), we first need to know how a predication relation in general is structurally represented. Note that a predication relation is often found in small clause structures. When it comes to small clauses, there immediately arises a question of what the node SC, for Small Clause, is exactly. An earlier analysis of small clauses (Stowell (1981, 1983) among others), which in fact does not correlate small clauses to predication,

assumes the following structure for small clauses, with the node having no its own categorial identification; its category depends on that of the lexical predicates. That is, the head of the predicate projects and determines the category of the node SC.

- (3) (...) [_{SC} (=AP/NP/VP/PP) Subject [_{AP/NP/VP/PP} Predicate]

Another view (Williams (1983) and much subsequent work), however, assumes that the subject and the predicate are two separate constituents in a predication relation, as represented below, where the category of SC is not dependent on that of the predicate. It, however, remains unclear what projection SC should be identified as.³ SC, which itself is an ad hoc category label, lacks a particular head.

- (4) (...) [_{SC} [Subject] [_{AP/NP/VP/PP} Predicate]

The mainstream analysis in recent studies, however, holds that the correct category label represented by SC is in fact a predicate phrase (Bowers (1993), Svenonius (1994), Moro (2000, 2004), den Dikken (2006), Shlonsky and Rizzi (2018)). The category label of small clauses, which was a subject of controversy in earlier approaches, is now PredP, headed by Pred⁰ (Bowers's Pr and den Dikken's R), which has propositional functions (Bowers (1993: 633), Baker (2003: 35), etc), as represented below, where, for simplicity's sake, 'Subject' and the category AP/NP/VP/PP are replaced by NP and XP, respectively. In such a structure, the subject-predicate relation is mediated by the functional head Pred⁰.⁴

- (5) (...) [_{PredP} NP Pred⁰ [_{XP} X ...]]

3. *As* as Evidence

Now the crucial step is to show that PredP is indeed projected in reduced relatives as well as in small clauses. As evidence for the existence of PredP, Bowers (1993: 605) and Moro (2000: 43ff) present the following data, where *as* is a realization of Pred⁰.

- (6) They regard John as crazy and as a fool.

(Bowers (1993: 605))

Interestingly, this *as* also appears in reduced relatives, but restricted to the past participle variant.

- (7) a. The plan as currently conceived is seriously flawed.

(Huddleston and Pullum (2002: 1146))

- b. Additionally, the case as presented focuses on a broad evaluation ...

(COCA [ACAD: 2003])

It may well be argued that *as* here is a relative marker, just like the complementizer *that* and relative pronouns like *which* or *who* (Jespersen (1927: 168ff), Quirk et al (1985: 1115-1117), Huddleston and Pullum (2002: 1147-1148) and many others). In the following sentences, *as*, introducing the sentential relative clauses, plays the same role as *which*, which takes the preceding sentences as its antecedents.

- (8) a. She is extremely popular among students, as is common knowledge.

(cf: which is common knowledge.)

- b. I live a long way from work, as you know.

(cf: which you know)

(Quirk et al. (1985: 1116))

As also introduces relative clauses containing a gap of a certain type of element.

- (9) a. This is a photograph of the church as it was
 _ in 1900.
 b. No one thought that Margot, as she was
 then known _ , would last the distance.
 (Huddleston and Pullum (2002: 1150))

The gap in relative clauses introduced by *as* can also be the subject or object of the verb or a preposition, as shown below.

- (10) a. such woman as knew Tom
 b. such woman as Tom knew
 c. such woman as Tom dreamed of
 (Jespersen (1927: 168))

All this strongly suggests that *as* introducing relative clauses is indeed a relative marker.⁵ Note that in (9) and (10), the non-reduced relatives are in the domain of the noun phrases, much as in the reduced relatives in (7). This parallelism requires us to say that *as* in reduced relatives is also a relative marker.⁶

We now conclude that reduced relatives are indeed PredPs, like small clauses. Additionally, *as* in reduced relatives is in fact a realization of Pred⁰.⁷ An additional support for this argument is from the following data.

- (11) The faculty of speech is the most salient
 quality of men as distinct from animals.
 (Egawa (1991: 397))

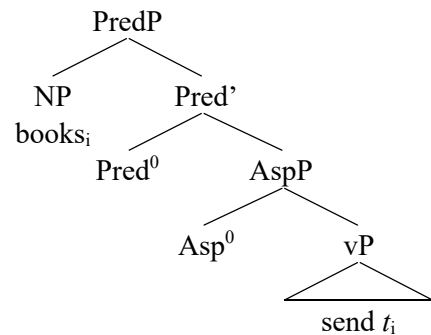
In (11), *as* cannot be a preposition and *as*

distinct from animals cannot be a PP because prepositions do not generally take AP complements (Bowers (1993: 596)). Rather, *as* is a lexical realization of Pred⁰ and *as distinct from animals* is a reduced relative with the PredP structure.

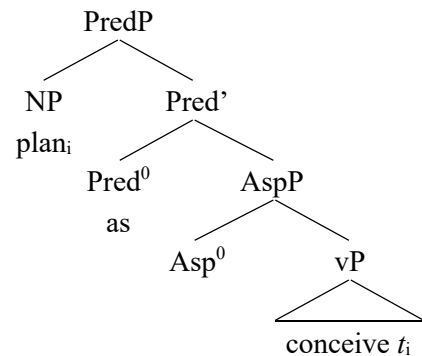
4. The Derivation

We now use a tree diagram to represent the PredP structure of participial reduced relatives as follows.⁸

- (12) a. The books_i sent *t_i* to me are about
 global warming.



- b. The plan_i as currently conceived *t_i* is
 seriously flawed.

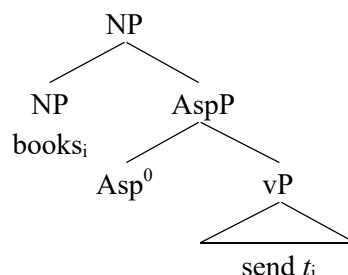


NP is base-generated in the thematic domain, in which it gets an internal theta role, and subsequently moves to the Spec of PredP to satisfy the EPP feature of Pred⁰. The predicativity of postnominal participles, as opposed to the attributivity of prenominal ones, is produced in this phase and is evaluated later at the interface. Predication here, however, is not

the primary relation between NP and the participial phrase. This, I argue, can be attributed to the fact that NP does not halt in the present position but further moves. In this sense, movement of NP to the Spec of PredP, creating a head-complement configuration with Pred^0 , produces a predication relation and further movement of it to the final landing site produces a modification relation, the primary one.

One might wonder why it is not the case that NP moves directly to its final landing site, skipping over the Spec of PredP, given that PredP is not criterial and can be skipped over, as discussed by Shlonsky (2014a), for example. This is possible in principle and in fact is what would be predicted by the traditional head-raising/head internal analysis of (non-reduced) relative clauses, which does not postulate PredP. However, as far as predication is concerned, the PredP analysis is intriguing and more convincing in light of the facts concerning *as* and other predication-involving constructions. Most, if not all, of such constructions are analyzed as small clauses with a PredP structure. If we abandon the PredP analysis for reduced relatives, how predication is computed and expressed in syntax remains problematic.⁹ Moreover, assuming that NP moves directly to its final landing site outside the clause, whether PredP is present or not, would be wholly ignorant of passivization of NP because passivization is an operation of placing the object argument to a subject position within the clause. Note that the final landing site of relativized NP, which is already beyond the clause, can never be a subject position. In that case, passivization and relativization in reduced relatives would be undistinguishable and a single operation would encompass both of the two, as diagrammed below.

- (13) The books_{*i*} sent *t_i* to me are about global warming. (assume that PredP is not projected)



Any attempt to find an intermediate position for NP in the AspP domain would fail to assign subjecthood to NP and therefore the subject-predicate relation would not be established. Taking this into account, the PredP analysis puts us on right track to correctly understanding the structure of participial reduced relatives and allows us to postulate PredP so as to capture both passivization and the subject-predicate relation. In this sense, the Spec of PredP functions as a subject position much as in (finite or nonfinite) TP, where the Spec of TP is a subject position.¹⁰

5. Conclusion

In this paper, I have attempted to clarify the predicate structure of past participial reduced relatives in English and to provide an accurate representation of how the whole noun phrase is derived. It was shown that the preposition *as* serves as evidence for the predicate structure, with the claim that it is a lexical realization of the functional head Pred^0 , which mediates between the predicate and its subject. Having shown this, I claimed that the head NP in the surface structure stop over the Spec of PredP in the derivation to obtain subjecthood so that the predicate-subject relation is produced and this step is followed by further movement of the NP

out of PredP to a higher position where it enters a modification relation with PredP, the relative clause. It was also demonstrated that there must be an intermediate position for the moving NP, otherwise the subject-predicate relation would fail to be guaranteed.

NOTES

¹ Here it is noted that reduced relatives have a modification relation, the primary one, with nouns, on the one hand, and a predication relation, the secondary one, on the other hand. Modification rather than predication is primary in that if the latter were primary, the construction would be something like a small clause. See the subsequent discussion.

² See Chigchi (2015) for detailed discussion on the syntactic category of reduced relatives as AspP.

³ Williams (1983) offers evidence for the non-constituency. My purpose here does not require me to review the details of his arguments.

⁴ Basilico (2003), argues that the subject of verbal small clauses, e.g., *I saw John leave*, remains in its base-generated position in thematic domain. That is, the subject is not located in the Spec of Pred⁰. This would give the following representation.

(i) (...) [_{PredP} Pred [_{XP} NP X ...]] (X=V)

⁵ For extensive discussion, see Jespersen (1927: 168ff).

⁶ I, however, do not treat *as* in reduced relatives as a complementizer like *that* for the reason that subject-less non-finite clauses cannot be headed by a complementizer, though it can be treated as a subjunct in the traditional sense.

- (i) a. * The case that presented by ...
- b. * The case that to be presented by ...

⁷ In this sense, reduced relatives, headed by Pred⁰, resemble rich small clauses as opposed to bare small clauses, the latter of which is generated without the intervention of a head, as discussed by Moro (2000: 40ff; 2004), for example.

⁸ The voice projection is left out here.

⁹ That predication has to be computed and expressed in syntax is not a new observation. For example, Bowers (1993: 633, 647ff) states that Pred⁰ (his Pr) is required because it creates an unsaturated propositional function, which is then predicated of the subject NP (his external argument).

¹⁰ SubjP as assumed by Rizzi and Shlonsky is not projected above PredP for two reasons. Empirically, reduced relatives lack an overt subject within them, leaving any available position empty. This leads to the fact that the reduced relatives, being nonfinite clauses, lack scope-discourse properties, which are typically selected by finite clauses (But see Chigchi (2017: §3.4) for discussion of apparent counterexamples). Theoretically, SubjP is criterial and therefore blocks movement of the subject out of its Spec (cf. Shlonsky and Rizzi (2018) and their related works). If we assume that reduced relatives project SubjP, relativization would be prohibited and they would turn out be non-relative clauses.

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Remarks on Root Removal and Placement Verbs

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Keywords : denominal verbs, a dynamic model
of syntax , quale, association

1. Introduction

This paper provides a (co-)compositional account of English removal and placement verbs, a subset of denominal verbs, through associational semantics in the sense of Gil (2005) making use of Pustejovsky's (1995) qualia structure information. I would also like to show the notion of the structured parthood plays an important role in syntax and semantics of English (N.B. Champollion 2017:12-13). It is also hoped that this paper contribute to show the necessity of the "dynamic" perspective, claiming that the rules (referring to "association operator") of the early stages of the language acquisition survive/remain in adult grammars, in the spirit of Kajita's (2004) "process-oriented approach (emphasizing the importance of the role that the grammars of the nonfinal stages play in explaining the course of development and the uniformity and diversity of adult grammars (Kajita 1997:378)." In this context, I would like to accept that the language acquisition starts with an IMA (Isolating-Monocategorical-Associational) Language-like state (in the spirit of Gil (2005, 2010) who argues that early human language

was IMA Language and Riau Indonesian (RI) is one such relatively IMA language).

In this paper, from the process-oriented view point, I adopt the assumption that ① Associational Interpretations (or Associational Interpretation Rules) capture the different aspects of one and the same event, which are encoded in Pustejovsky's (1995:87) qualia (which structure our knowledge of words and suggest interpretations of words in context), ② Associational Interpretations not only work in early child language/grammar but also survive/remain in advanced (adult) language/grammar, and ③ Associational Interpretations survive in certain domains like those of denominal verbs and compound words.

I focus on a particular verb class, which I call "Root Removal Verbs (henceforth RRV's)," as illustrated by *seed the butternut*. Note that I use the term "root" to roughly mean "a morphologically simple word" in a theory-neutral way. My definition of this verb class is that these verbs entail the removal of an entity, but the entity is not expressed by an argument of the verb, thus implicit. Importantly, the "removed" argument is a *structured part* (tentatively represented as $\leq_{\text{structured}}$) of a whole (= source) (normally, an inseparable/built-in part, thus wholes are collection with internal structure, similar to the finger-hand-arm relation and constraints are imposed on the (structured) part-whole relation, as shown in the unacceptability of **an arm without a finger*). Another verb class is that of Root Placement Verbs (RPV's). Root Placement Verbs (RPV's) come in two types: Type ① those which entail the placement of an entity but the entity is not expressed by an argument of the verb like *She buttered the toast*. and Type ② those which entail a location but the location argument itself

is implicit like *Juddy bagged the carrots*. Type ① shows interesting properties concerning the “structured parthood.” One such example is the use of *milk* as a RPV, to be discussed below. Note that both RRV’s and RPV’s roughly correspond to Clark and Clark’s (1979:769-771) Locatum verbs.

2. Three Approaches to Semantic Function of RRV-/RPV-Forming Conversion

In this paper, we survey two different approaches to the semantic function of RRV/RPV-forming conversion: the syntactic (incorporation) approach and the associational interpretation approach referring to the qualia information. Note that the lexical semantic approach is criticized by Nagano (2008:66-67) that the semantic diversity of conversion cannot be reduced to a fixed set of LCS templates, thus the discussion about it is omitted here.

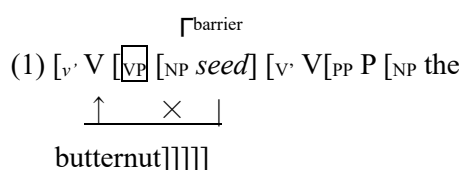
2.1. Evaluation of Noun Incorporation

Consider the English sentences like *I saw rows of huddled men skinning and gutting fresh-caught fish*. It might be argued that denominal verbs like *skin* is derived via Noun Incorporation of *skin* into a light verb *take* on the ground that children acquire structures like “TAKE SKIN OFF HOT DOG (An utterance of a child of 21 months 4 days (Tomasello 1992:317))” fairly early, if the denominal verb *skin* appears later. Another supporting evidence of the Noun Incorporation analysis of RRV’s like *skin* comes from alternations like “The police took Akechi’s (finger)prints” and “The police (finger)printed Akechi,” which resemble possessor raising in Mohawk (Baker 1988:48, 65). However, in English there is no possessor raising like Mohawk. In addition, the resultant structure constructed by the Noun Incorporation

shows the head-nonhead conflict (the noun is felt to be the head of the verb phrase), defying the syntactic reinterpretation (noun-verb conversion yields the double headed VP structure), thus at a variance with X-bar theory. Note also that I have posited *take* as base into which *skin* or *gut* is incorporated, however, other ablative-object- taking verbs like *deprive* might also be base (Takao Itto p.c.).

2.2. Hale and Keyser’s (1993) LRS or AS

Hale and Keyser (*hereafter* H&K) (1993:63) argue that by Minimality, the inner VP is a barrier to the government from the higher V and that movement of N from Spec position in the inner VP violates the ECP. Thus an external argument does not incorporate. However, in this paper, I would like to point out one and the same structure in (1) might be the legitimate LRS (or AS) for root removal/placement verbs like *seed*, *scalp*, *gut*, *butter*, *milk* and others. That is, movement of N (*seed*, *scalp*, *gut*, *butter* etc.) from Spec position in the inner VP should be allowed despite the violation of ECP.



It is also intriguing to observe that there are attested [V ... P] items involving root removal/placement verbs as in (2), whose existence is denied by H & K (1993:60-61).

- (2) a. Cornwell, meanwhile, picked up his hat and dusted it off. [Corpus]
- b. Caught a wrist and loop the rope around.
- c. cf. The gun bearers were skinning out the lion.

2.3. Evaluation of Levinson (2007, 2014)

Levinson (2007: 47, 118, 2014:212) captures the covert (syntactic morphological) parallels between sentences with implicit/root creation verbs like “She braided her hair” and those with the use of *make* like “She made her hair into a braid,” through the argument structures, with the verb in the former structure being built syntactically by incorporation, assuming different ‘flavors’ of little *v*’s. Levinson (2007, 2014) does not address “implicit/root removal verbs” and two types of “implicit/root placement verbs.” I point out that “incorporation” by head movement of root removal verbs leave “functional elements” like OUT stranded in syntax in Levinson’s (2007, 2014) framework of lexical decomposition.

- (1) [_{VP} V_{remove} [_√seed [OF [OUT [_{DP} raisons]]]]


Thus, I claim that the lexical representation for the verbs like *seed* is not hierarchical.

2.4. Evaluation of the Associational Approach Making Reference to the Qualia Structure

In the following I will summarize the essential points of Gil (2005) to make the story clearly understandable. First, imagine you are confronted with a two-word utterance (and somehow you identify two word stems, namely *eat* (*makan* in Riau Indonesian:RI) and *chicken* (*ayan* in RI)). When the bare juxtaposition of the two words, say ‘eat chicken’ is uttered in a restaurant, it might mean ‘to eat chicken.’ Whereas the same juxtaposition of the two words is uttered in the farm where a chicken is picking food/feeding, it means ‘a chicken is eating.’ In this way, in Riau Indonesian (RI),

when RI speakers hear utterances, they figure out the meaning of them best suit to the situation, relying on the associational meaning of ‘eat’ and ‘chicken.’ In RI there is no construction-specific rules of semantic interpretation. Namely, the language itself does not specify or narrow down the interpretation so that there is no other way of interpreting two words *eat* and *chicken* uttered in this order than to interpret them as a verb and its object. Therefore, Gil (2005) argues that Reau Indonesian is a relatively IMA language, a language whose word-internal morphology is simple (Isolating), which lacks distinction among lexical categories like noun, verb, adjective, with just one open category S(entence) (Syntactically Monocategorical) and whose compositional semantics relying on (the) Association (operator). In other words, Gil’s (2005) study of RI shows that IMA Language is basic, from which the (complex) grammars develop, and it is the ways of such development in which reside the important properties of Language Faculty, heading toward the idea of a Dynamic Model of Syntax.

The phenomenon close to IMA Language is one-word utterances or two- to three-word utterances at the early stages of the language acquisition. At these stages children manage to communicate with just one morpheme, dispensing with the internal structures of words. One morpheme is enough, and the rest are interpreted by association. Or at the early stages children merely juxtapose words and have entirely recourse to associational interpretations.

In the following I argue for an approach to RRVs and RPVs as instances of V-forming denominal conversion based on associational interpretations making reference to the qualia information. I point out that associational semantics accommodate versatile properties of

denominal-verb-forming conversion. I claim that (sowing /removal) senses of *seed* as a denominal converted verb are derived through generative mechanisms in composition with its arguments (such as *seed the butternut* and *seed rye in the field*) through a qualia unification operation (Pustejovsky 1995:124). This is a formal statement of “association which pick up the most appropriate meaning/interpretation on the situation,” which Gil (2005) claims to work at the beginning of language, where categories like preposition and tense are not discriminated. I claim that association survives in noun-verb conversion and a few other areas.

To formalize a statement of properties of IMA languages, especially the property of “semantically associational,” I will develop Pustejovsky’s (1995: 62ff.) insight into the argument structure of a word focusing on *shadow argument* expressed only by operations of subtyping or discourse specification; e.g., “Mary buttered her toast with an expensive butter.” This is an example of our RPV’s. Note Pustejovsky’s (1995:28, 64) complementary ambiguity, as in the use of *hammer* both as a noun and a verb corresponds to the type of conversion relevant here. Pustejovsky (1995:65) argues that *shadow arguments* refer to semantic content not necessarily expressed in syntax, as with the incorporated semantic content in the verbs like *butter* in “Mary buttered her toast,” where the material being spread on the toast is the “hidden argument.” Pustejovsky (1995:65) claims that shadow arguments are expressible when expressed ones stand in a subtyping relation to the shadow arguments in examples like “Mary buttered her toast with margarine/*with butter.” Pustejovsky (1995:67) partially represents the lexical semantics for the verb *butter* with the argument structure

specifications, as in (1).

(1) butter	
	ARG ₁ = human
ARGGSTR =	ARG ₂ = phys_object
	S-ARG ₁ = butter
	(Pustejovsky 1995:67)

I claim that the lexical semantics for the RRV’s like *seed* can be partially represented with argument structure specifications, as below.

(2) seed	
	ARG ₁ = human
ARGSTR =	ARG ₂ = phys_object
	D-ARG ₁ = instrument
	S-ARG ₁ = seed

According to Pustejovsky (1995: 63-67) the arguments for a lexical item, ARG₁, ..., ARG_n, are represented in a list structure where argument type is directly encoded in the argument structure, ARGSTR, as shown in (1) and (2) above, where D-ARG is a default argument, and S-ARG is a shadow argument (semantically incorporated into the lexical item). S-ARG can be expressed only by operations of subtyping or discourse specification; e.g.,

- (3) a. John seeded a field with rye seeds.
b. cf. ... braiding a traditional fishbraid
down the length of hair / Braid the locks
in a Dutch braid.
c. cf. She braided the hair. (Levinson 2007:1)

Next let us consider pseudo-resultatives (PR’s), which do not modify the DP object as resultatives do but modify an individual *peel* created as a result of the (removing) event (i.e., a shadow argument), in the context of

co-composition, given in (4).

- (4) The rich peel potatoes thick. → At least one thick peel was removed (from a potato).

The adjectival phrases entering into PR's are just those stage-level predicates which "cohere" with the process predicate (i.e., RRV's here) present in the phrase (N.B. Pustejovsky (1995:227-228). For adjectives like *thick* used in composition with the VP can be accompanied by a qualia unification. The lexical representation for the adjective *thick* is given below. The event structure here is defined in terms of "exhaustive ordered part of,"_{<∞} (Pustejovsky 1995: 69).

(5) **thick**

$$\begin{aligned} & \lceil E_1 = e_1:state \quad \rceil \\ \text{EVENTSTR} = & \mid D-E_1 = e_2:process \mid \\ & \mid \text{RESTR} = e_2<_{\infty} e_1 \mid \\ & \mid \text{HEAD} = e_1 \quad \rceil \mid \\ & \lceil \text{ARG1} = \boxed{1} \text{physobj} \quad \rceil \\ \text{ARGSTR} = & \mid \text{FORMAL} = \text{entity} \mid \\ & \mid D-\text{ARG1} = \boxed{2} \mid \lceil \top \rceil \mid \\ & \mid (S-\text{ARG1} = \boxed{3} \text{physobj}) \quad \rceil \\ \text{QUALIA} = & \lceil \text{FORMAL} = \text{thick}(e_1, \boxed{1}(\boxed{3})) \rceil \\ & \mid \text{AGENTIVE} = R(e_2, \boxed{1}, (\boxed{2}, \boxed{3})) \rceil \end{aligned}$$

The R is a predicate that is sortally structured to subsume denominal verbs like *peel*. The stage-level predicate act as function over the VP *peel potatoes*, but under qualia unification, the FORMAL role of the adjective unifies with that of the VP (i.e. $\lambda x [\text{peel ARGSTR} = \dots S-\text{ARG1} = \text{peel} \dots \wedge \text{FORMAL} = \text{remove-lcp peel_}\neg\text{part_of } \dots]$). Note that the shadow argument is related to the direct object by the CONSTITUTIVE relation of ARG-2 (= *potatoes*). Namely, *peel* and *potatoes* are in the structured-part-of relation (defined as $\lambda x \exists$

$y[(\text{structured part_of}(x, y))]$ (N.B. Pustejovsky 1995:99). In this case, under qualia unification, the FORMAL role of the adjective is [... FORMAL = thick(e_1 , $\boxed{3}$)] because the adjective *thick* ends up modifying *peel*, which is a shadow argument of the verb *peel* (which has the FORMAL QUALE = FORMAL = physobj · thickness(x)), while the qualia structure ([ARGMSTR = x : Solanum tuberosum; potato] $\wedge$ [QUALIA = FORMAL = oval_shape_physobj(x)]) of the direct object argument *potatoes* does not match that of *thick* (i.e., **thick potatoes*). Note in passing that the expressions like "peel potatoes" and "core an apple" might be defined as creating the peel/the core by removing it from the potato or the apple flesh. Then the qualia for the shadow argument of the denominal verb *core* (which predicates of the individual) make reference to an AGENTIVE value of [CONST = part_of(x , y :fruit) $\wedge$ AGENTIVE = create_act(e_1 , w , y) $\wedge$ TELIC = inedible] (cf. Pustejovsky 1995:123, 173). As for *peel*, substituting "fruit" by "vegetable" yields the relevant Qualia structure.

Next I argue that root removal/placement verbs like *seed* and *dust* are polysemous, due to associative interpretations, as shown in (6). In other words, these are instances of *logical polysemy* as a complementary ambiguity where there is no change in lexical category (purporting to obviating the multiple listings of words), as defined in Pustejovsky (1995:2, 123).

- (6) a. I seed the butternut. (removal)
b. I seed rye in a field. (placement)

These are examples of *co-composition*, where qualia unification results in a specific verbal senses in context, without the need to enumerate each sense (Pustejovsky 1995:223). I argue that

this might also be a formal statement of the semantic association. What each sentence in (6) asserts about its complements is that the purposes associated with the object of each predicate is available to use – namely, the object’s TELIC quale is shared, in a modally subordinated form, as the value of the FORMAL quale for the main predicate *seed* (N.B. Pustejovsky 1995: 222). The lexical semantics of the verb *seed* is specified for its [ARGSTR = ARG1 = 1 $\wedge$ the shadow argument (A-ARG3, 3) = *seed*]. The CONST(ITUTIVE) quale of the shadow argument *seed* refers not only to the parts or materials of an object but defines, for the object, what the object is logically (structured) part of (i.e., (**structured**) **part_of(x,y:fruit_plant)**) (N.B. Pustejovsky 1995:98-99). Its TELIC Qualia is specified as event function $\lambda z \lambda e \exists x.y [\neg \text{eat}(e,z,x,y)]$ ($\neg \text{eat}$ = inedible)] and $\lambda z \lambda e \exists x.y [\text{sprout}(e,z,x,y)]$. In addition, the Qualia structure of the verb *seed* [QUALIA = dc-lcp $\wedge$ FORMAL = ... $\wedge$ AGENTIVE = **remove_act** • **sow_act**(e_1 , 1, 3)]. This semantics of the verb *seed*, where the modal statement refers to the object’s TELIC role is explicitly given. Here “dc = direct causation” and “lcp = a Lexical Conceptual Paradigm; the ability of a lexical item to cluster multiple senses” (Pustejovsky 1995:91, 219). For a noun such as *the butternut*, the TELIC role is specified for its use and function; for the *butternut* this value is the activity of *eating*; AGENTIVE role is specified for factors involved in “bringing about” of an object and for *butternut* this value is **cook_act**. This expression is embedded into a modal context within the FORMAL role of the predicate *seed* in a sentence (1a) above. The (simplified) qualia structure resulting from composition with VP of

(6a) is [**seed the_butternut** ...]. The object’s TELIC role “eating” is shared in this sentence. What this expression says is that the result of **remove_act** is a state asserting the possibility of the activity inherent in the TELIC role of the object. Specifically, the denominal verb *seed* as an event argument can selectively modify the event description in the TELIC quale of the object noun (cf. Pustejovsky 1995:129). The same verbal representation for *seed* given above give rise to the appropriate (but distinct) meaning of the verb in (6b) above, where the complement is *in a field*. Locative PPs act as functions over VP to give rise to a derivative verb sense through co-composition. Note the PP carries the locative sense as part of qualia structure. Here the preposition *in* only selects locations that have a specific TELIC role in their qualia structure (N.B. Pustejovsky 1995: 232). For example, a field is used for planting. Secondly, when an entity is predicated of an *in*-PP, it is suggested the entity is participating in the TELIC role taken from the preposition’s object (N.B. Pustejovsky 1995: 232). Namely, if *rye* (*seed(s)*) is/are in a field then *rye* is/are situated in the specific orientation typically associated with the field. The value of the TELIC role of *field* is the activity of *planting* and *growing crops*. The TELIC role of *rye* is the activity of *producing grain*. Thus, the denotation of VP [_{VP} *seed rye in a field*] refers to the growth of *rye* as a result of the action of planting/sowing.

Next, consider the paradigm: (a) *milk his cow* (in a dairy farm), (b) *milk the tea* (at teatime), (c) *milk the baby* (lactation), and (d) **milk the glass* (meaning *pouring milk in the glass*). In all these examples, the verb *milk* involves the value of the CONST quale. But I add “structured” to the relation **part_of** to

account for the ungrammaticality of (d). The shared association among examples (a)-(c) is that *milk* and *his cow/the tea/the baby* are integrated/merged at a certain point of the event. In such cases, I call parts like *milk* “structured part(s),” adopting Champollion’s (2017) terminology. **Milk the glass* is excluded because the glass and milk do not merge.

Finally, I point out that, in the expressions like *the gun bearers were skinning out the lion*, the value of the AGENTIVE quale of the verb *skin*, **removal_act**, is syntactically realized as a particle element *out*.

5. Conclusion

I have argued for a (co-)compositional account of (RR/RP)V (Verb)-forming conversion, through associational semantics in the sense of Gil (2005) making use of Pustejovsky’s (1995) qualia structure information represented in a list structure, pointing out the problems with the previous analyses based on the “hierarchical” argument structure. I have also shown the importance of the notion of the structured parthood in syntax and semantics. I also hope that this paper has contributed to show the necessity of the “dynamic” perspective (Kajita 1977, 1997, 2004).

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Syntactic Nature and Semantic Effect of Dative Case in Japanese

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Keywords: labeling, case, topic, focus

1. Introduction

A construction which I focus on in this paper is a potential construction in Japanese. In this construction, some variations of distribution of case is observed as shown in (1). As shown in (1c), when a subject is dative-marked, an object cannot have accusative case.

- (1) a. Kodomo-ga hon-ga/o
 child-NOM book-NOM/ACC
 yom-e-ru.
 read-POSS-PRES
 ‘A child can read a book.’
- b. Kodomo-ni hon-ga
 child-DAT book-NOM
 yom-e-ru.
 read-POSS-PRES
 ‘A child can read a book.’
- c. *Kodomo-ni hon-o
 child-DAT book-ACC
 yom-e-ru.
 read-POSS-PRES
 ‘A child can read a book.’

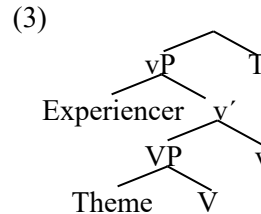
Interestingly, the same pattern of case distribution as in (1c) is allowed if a subject is topicalized or focused as shown in (2).

- (2) a. Boku-ni-*(wa) kare-o
 I-DAT-*(TOP) he-ACC
 uragir-e-nai.
 betray-POSS-NEG
 ‘I cannot betray him.’
- b. Kodomo-ni-sae Taro-o
 child-DAT-even Taro-ACC
 taos-e-ru.
 beat-POSS-PRES
 ‘Even a child can beat Taro.’

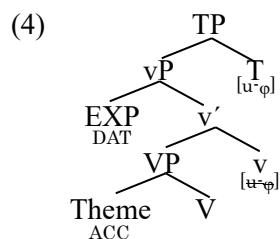
At first glance, it is not clear why topicalizing or focalizing a subject improve grammaticality. In this paper, I show that this fact is captured in terms of labeling algorithm (LA) proposed by Chomsky (2013, 2015).

2. A Problem

As shown in the introduction, in a potential construction in Japanese, a dative subject cannot co-occur with an accusative object. Ura (1999) proposes a principled explanation for this fact.



In (3), v is idiosyncratic in that it has optionality in terms of case assignment. Concretely, v can optionally assign accusative case to the theme. It can also assign dative case to the experiencer. When the theme or the experiencer do not receive case from v, they receive nominative case from T. This assumption derives four patterns of case distribution, one of which is ungrammatical as shown in (1c). Ura’s (1999) explanation to this ungrammaticality is as follows.



In (4), T has to have its $[u-\phi]$ checked, so it probes an appropriate goal. The first candidate is the experiencer, but it has received dative case from v and is inactivated. Then T keep probing, and it finds the theme. However, this argument has also received accusative case from v, which means that it cannot be an appropriate goal for agreement with T. Eventually, T cannot agree with any argument and fails to check its $[u-\phi]$, and the derivation crashes.

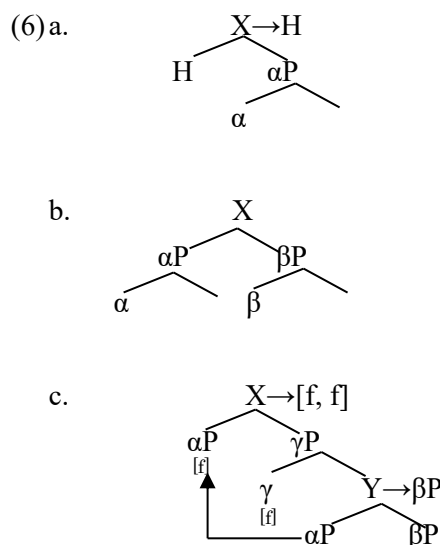
Although this explanation is simple and persuasive, this analysis cannot capture the fact shown in (2), which is repeated in (5).

- (5) a. Boku-ni-*(wa) kare-o (=2a)
 I-DAT-*(TOP) he-ACC
 uragir-e-nai.
 betray-POSS-NEG
 ‘I cannot betray him.’
- b. Kodomo-ni-sae Taro-o (=2b)
 child-DAT-even Taro-ACC
 taos-e-ru.
 beat-POSS-PRES
 ‘Even a child can beat Taro.’

In both (5a) and (5b), the subjects have dative case and the objects are accusative-marked. Therefore, Ura’s (1999) explanation predicts that these two examples are unacceptable, which is not the case. Therefore, another explanation which does not depend on ϕ -features checking is necessary, and I claim that this fact can be explained in terms of labeling.

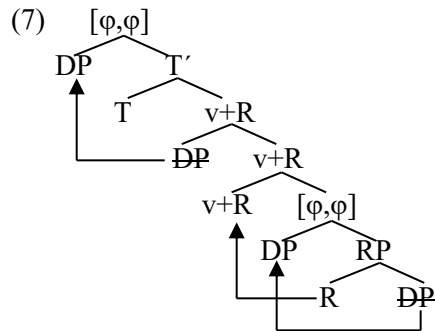
3 Theoretical Background

In this section, we briefly review two major frameworks. One is Chomsky (2013, 2015), where the labeling algorithm is proposed. In this framework, it is assumed that labels of syntactic objects are necessary for interpretation at the interface between syntax and semantics. Chomsky (2013, 2015) claims that these labels are determined through minimal search.

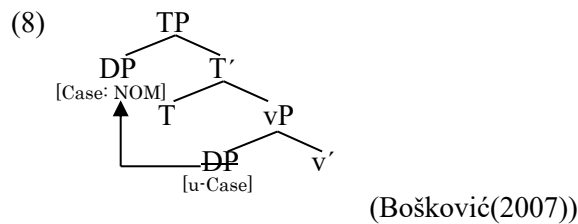


In (6a), H is the label of the syntactic object since it is closer to X. A problematic case is (b), where the distance from α to X and that from β to X are equal. This configuration is generally called XP-YP configuration and I employ this term here. Chomsky (2013, 2015) provides two strategies to solve this XP-YP configuration. One is to move either syntactic object to a syntactically higher position. After the movement of αP in (6c), the trace of it is no longer visible to LA. Therefore, the label of X is determined as βP . However, this movement makes another XP-YP configuration, so we need another strategy. The other way provided by Chomsky (2013, 2015) is to label a syntactic object with a shared prominent feature. In (6c), αP and γP share the same feature $[f]$. In this case, the label of X is determined as $[f, f]$.

Following this framework, labels of syntactic objects in a simple transitive sentence is as follows.

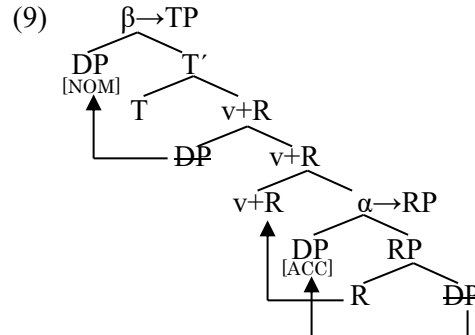


The derivation above contains two SOs which are labeled with ϕ -features, which means that the sentence cannot be generated without ϕ -features. However, there are some languages which do not have ϕ -features, one of which is Japanese (Kuroda (1988), Saito (2007), Şener and Takahashi (2010)). If so, two questions arise. One is about case valuation. It is generally assumed that case valuation is a side effect of ϕ -feature valuation. If Japanese lacks ϕ -features, another mechanism of case valuation is necessary which is independent of ϕ -features. The other is about labeling. In (7), two syntactic objects are labeled with ϕ -features. Again, if Japanese lacks ϕ -features, how can we label these syntactic objects? Saito (2016) answers these questions employing Bošković's (2007) case valuation system as shown in (8), where [u-Case] itself probes an appropriate goal.



In (8), the DP moves to [Spec, TP], where it finds T as a goal and [u-Case] is valued as nominative.

With this mechanism, Saito (2016) proposes that grammatical case makes phrases invisible to LA. With this assumption, a transitive sentence in Japanese is derived as in (9).



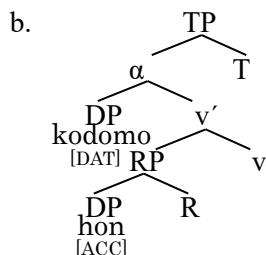
We have two SOs which contain XP-YP configuration: α and β . In both cases, DPs have grammatical case values, which make these DPs invisible to labeling. As a result, α is labeled as RP and β is labeled as TP.

I follow these two major frameworks: Chomsky (2013, 2015) and Saito (2016). In the next section, I show a theoretical possibility of Saito (2016) and make a proposal.

4 Analysis

In the previous section, we reviewed Saito (2016), according to which grammatical case makes DPs invisible to LA. More accurately, it is “ λ -features” which have this function, and grammatical case is a realization of these features. λ -features receive different kinds of value from each category, e.g. nominative from T and accusative from v. However, dative arguments appear various syntactic position, which make it difficult to figure out which category provides dative value. Here, I assume that dative case is not a realization of a λ -feature. If so, dative case does not make phrases invisible. With this assumption, the ungrammaticality of (1c) is derived straightforwardly.

- (10) a. *Kodomo-ni hon-o
 child-DAT book-ACC
 yom-e-ru. (= (1c))
 read-POSS-PRES
 ‘A child can read a book.’



In (10b), the candidates for the label of α is D or v, and minimal search cannot decide which one is appropriate. Since dative case does not make *kodomo* invisible to LA, there is no way to decide the label of α , which causes the derivation to crash.

Here, two possible questions arise. One is about why (2a) and (2b) are grammatical. The way of distribution of case is the same as in (1c), namely a dative subject and an accusative object, which makes us predict that these sentences are ungrammatical, which is not the case. The other question is about why (1b) is grammatical. The only difference is that the object is nominative-marked, which must make the sentence grammatical.

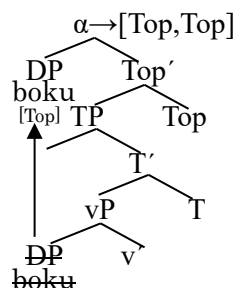
First, we consider the first question. In Chomsky’s (2013, 2015) framework, we have two strategies to solve [XP, YP] configuration. One is to move either phrase to a syntactically higher position and the other is labeling with a shared prominent feature. Importantly, the former strategy creates another [XP, YP] configuration on the landing site of the moved phrase. Therefore, eventually we have to rely on the latter strategy, namely feature sharing strategy. This fact leads us to assume that there is a certain feature which enables labeling in (2a) and (2b). The most plausible candidate is discourse

features, namely topic features or focus features. Here is a citation from Rizzi (2015).

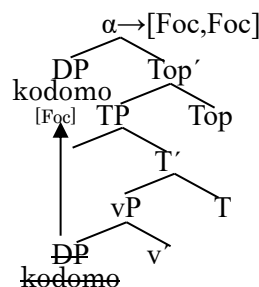
- (11) Criterial configurations are a permissible ‘halting sites’ for movement because they permit proper labeling of the criterial configuration by the criterial feature.
 (Rizzi (2015: 335))

In fact, we can see that the subjects in (2a) and (2b) have discourse features. In (2a), there is a topic marker *-wa* on the subject, which cannot be removed. Thus, the subject in (2a) has a topic feature. On the other hand, there is a focus marker *-sae*, which means that the subject has a focus feature. If the subjects in (2a) and (2b) have discourse features, we can capture the grammaticality of these sentences as follows. (12a) is the derivation of (2a) and (12b) is that of (2b) respectively.

- (12) a.



- b.



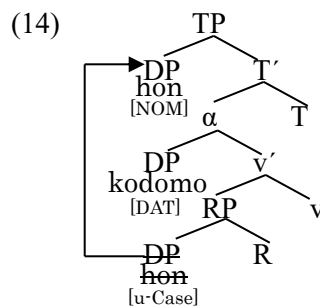
In (12a), the subject DP moves to [Spec, TopP]. Therefore, the problem of labeling as in (10b) does not occur. This subject DP shares topic feature with Top, so α is successfully labeled with this feature. A similar explanation can be applied

to (12b). In this case, the subject DP holds [Foc], and the label of α is determined with this feature.

Now, we revisit to (1b). In order to explicate what makes this sentence grammatical, it is important to notice that we cannot change the word order as shown in (13).

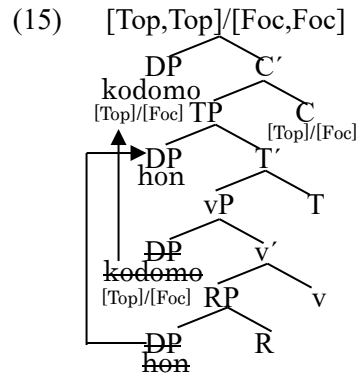
- (13) a. Kodomo-ni hon-ga
 child-DAT book-NOM
 yom-e-ru. (= (1b))
 read-POSS-PRES
 ‘A child can read a book.’
- b. * Hon-ga kodomo-ni
 book-NOM child-DAT
 yom-e-ru.
 read-POSS-PRES
 ‘A child can read a book.’

The ungrammaticality of (13b) shows that the word order in (13a) is not a result of scrambling. Furthermore, if Japanese employs Bošković’s (2007) case valuation system, *hon* must be at [Spec, TP]. With these facts, I assume that (13a) is derived from (13b) with an A’-movement of *kodomo*. First, I show the derivation of (13b) in (14).



If we consider the thematic interpretation, it is plausible to assume that *hon* merges with R and *kodomo* merges with v. *kodomo* is assigned dative case, which makes this DP inactive. As a result, *hon* moves to [Spec, TP] and valued as nominative. A problem is the syntactic object α .

Since this syntactic object consists of two phrases, we cannot label it, which causes this derivation to crash. On the other hand, the derivation of (13a) is shown in (15)



In (15), *kodomo* moves to a syntactically higher position, which resolves the problem of labeling in (14). As already discussed, this movement is not a scrambling, so it must be another kind of A’-movement, namely a topicalization or a focalization. Therefore, the syntactic object which consists of the DP *kodomo* and C can be labeled with a discourse feature: [Top] or [Foc].

5 Conclusion

In this paper, I pursued a possibility that dative case is not a realization of a λ -feature. If so, a dative-marked DP is still visible to LA, which causes a problem of labeling. In order to avoid this problem, a dative-marked DP must hold a discourse feature, namely a topic feature or a focus feature. This assumption explains the reason why a dative-marked subject cannot co-occur with an accusative-marked object, and the grammaticality improves when the dative-marked subject is topicalized or focalized.

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**Notes on Reciprocals
in Korean and Japanese Ellipsis***

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Keywords : reciprocal, null object, argument
ellipsis, VP ellipsis, *pro*

1. Introduction

This paper reports our findings on some categorical differences between Japanese and Korean in terms of null object constructions which include elided reciprocal pronouns. The findings include inter-speaker variation in the interpretation of elided reciprocals in Korean, suggesting that the nature of reciprocals by certain Korean native speakers is not the same as that of Japanese reciprocals.

The Japanese native speakers we consulted in this study find the referent of elided reciprocals ambiguous; both strict and sloppy identity readings are possible. However, the inter-speaker variation is observed in Korean native speakers; some interpret elided reciprocals under sloppy identity reading only whereas others interpret them ambiguously.

Here, we would like to discuss this micro-parametric difference from a viewpoint of distinct semantic features of reciprocal pronouns in the two languages, indirectly supporting the ellipsis analyses (Otani and Whitman 1991, Oku 1998, Kim 1999 among others) over the

pronominal analysis (Hoji 1998, Ahn and Cho 2010 and others).

2. Theoretical Background

2.1. Null Arguments

It is well known that both Korean and Japanese allow null arguments. Focusing on null objects, one of the typical examples is shown in (1) from Japanese (due to space limitations, only Japanese examples are presented to represent the two languages in this section).

- (1) a. Kuma-wa zibun-no kuruma-o huita.
Bear-Top self-Gen car-Acc wiped
'Bear wiped his own car.'
b. Penguin-mo [e] huita.
Penguin-also wiped
'(lit.) Penguin wiped, too.'

The object in (1b), indicated as [e], is not overtly expressed, and yet, the elided object can be interpreted as *Bear's car* mentioned in (1a) or *Penguin's car* from the context. The former reading is called 'strict identity interpretation' and the latter 'sloppy identity interpretation'.

As is widely assumed, the null object is analyzed to be filled in with some syntactic element. The major accounts proposed for such null elements include null pronominal, V-stranding VP ellipsis (VVPE), and argument ellipsis (AE) analyses.

2.2. Null Pronoun

The null pronominal analysis postulates an unpronounced pronoun, *pro*, base-generated in object position (Kuroda 1965, Hoji 1998 and others). This is illustrated in (1b)' in Japanese.

- (1)'b. Penguin-mo [*pro*] huita.
Penguin-also wiped

‘(lit.) Penguin wiped (it), too.’

Assuming that *pro* is equivalent to its overt pronoun, the most serious problem of this analysis is that it cannot explain the fact that some elided arguments are ambiguously interpreted exemplified by (1) above. In other words, if a corresponding overt pronoun appears in the elided object position, the interpretation turns out to be unambiguous.

- (1)''b. Penguin-mo sore-o huita.
Penguin-also that-Acc wiped
‘Penguin also wiped that.’

Unlike (1b) where the object position is empty, (1b)'' with the overt pronoun is interpreted only as ‘Penguin wiped Bear’s car,’ that is, the strict identity interpretation. Interestingly, (1b)'' does not observe a sloppy identity reading when the object position is occupied by the overt pronoun.

The difference between (1b) and (1b)'' indicates that the overt pronoun fails to produce a sloppy identity reading, which consequently leads us to claim that the null object position in (1b) is not filled in with any pronominal element since the sloppy identity interpretation is not available for the overt counterpart. We should note, however, that we can still argue that the null object is pronominal for the case of the strict identity reading, which we will come back to discuss more in detail in section 4.¹

2.3. V-stranding VP Ellipsis (VVPE)

Another analysis on elided sentences assumes that null object constructions in Japanese are generated via VVPE. Otani and Whitman (1991) propose that the head verb moves out of the VP before LF Copy of the VP applies. Consider first the English VP ellipsis

sentence in (2a), the second part of which is represented as in (2b):

- (2) a. The bear washed the car carefully, but
the penguin didn’t [e].
b. ...the penguin didn’t [_{VP} [_{VP} wash the car]
carefully]

As (2b) demonstrates, the meaning of the second part of the sentence in (2a) can be ‘wash the car carefully’ including the adverbial phrase, *carefully*. Since the elided phrase [e] in (2a) is regarded as a VP in English, we assume that the elided VP structure is to contain the adverbial phrase modifying the VP in addition to the verb and its object.

However, regarding corresponding Japanese sentences, some counter-argument has been presented by researchers such as Oku (1998). In fact, the Japanese sentence corresponding to the English example in (2) does not express the same meaning.

- (3) a. Kuma-wa hayaku mizu-o nonda.
Bear-Top quickly water-Acc drank
Pengin-wa [e] nomanakatta.
Penguin-Top didn’t-drink
‘Bear drank water quickly. Penguin
didn’t [drink water].’
b. Pengin-wa [_{VP} hayaku [_{VP} mizu-o t_i]]
Penguin-Top quickly water-Acc
[_V nomanakatta]_i
didn’t-drink

The second sentence in (3a) is interpreted as ‘Penguin didn’t drink water at all,’ and crucially, it does not mean ‘Penguin drank water but not quickly’.² This fact indicates that the null object in (3a) does not have the source illustrated as (3b), and thus undermine the analysis of VVPE.³

2.4. Argument Ellipsis (AE)

To overcome the problems in 2.2 and 2.3, Oku (1998), Kim (1999) and others argue that the missing objects in Japanese and Korean are generated by AE. The null object sentence under the sloppy identity reading in (1b) is represented as (4b) under the AE analysis.

- (4) a. Kuma_i-wa zibun_i-no kuruma-o huita.
 Bear-Top self-Gen car-Acc wiped
 ‘Bear wiped his own car.’
 b. Penguin-mo ~~zibun-no kuruma-o~~ huita.
 Penguin-also wiped
 ‘(lit.) Penguin also wiped [e].’

The elided phrase in (4b) contains the exact copy of *self’s car* in the antecedent sentence. This representation explains why the sloppy identity interpretation is obtained; in (4b), the reflexive anaphor *zibun* is bound by its antecedent, *Penguin*, in the same sentence, and hence, the sloppy identity reading becomes available. Since this analysis postulates eliding arguments, adjuncts such as adverbial phrases are not included in the ellipsis site.

As for the strict identity reading, we assume that so-called ‘vehicle change’ by Fiengo and May (1994) can deal with such interpretations. (5) and (6) show how the idea of vehicle change can explain strict identity readings.

- (5) a. *Mary hit John_i, and he_i did, too.
 b. Mary hit John_i, and he_i did ~~hit John_i~~, too.

If the elided VP in (5a) is represented as in (5b), we can account for the ungrammaticality of the sentence because the referential expression, *John*, is bound by its co-indexed antecedent, *he*, and hence, violating Binding Condition C.

However, the same explanation cannot be maintained in (6):

- (6) a. Mary loves John_i, and he_i thinks that Sally does, too.
 b. Mary loves John_i, and he_i thinks that Sally does ~~love John_i~~, too.

Unlike (5a), (6a) is perfectly grammatical in the given interpretation (*he=John*). By analogy from the analysis in (5), we may say that (6a) originates from (6b), where its VP, *love John*, is elided. However, unlike (5a), the Condition C does not seem to be applicable to (6a).

Fiengo and May (1994) propose that actually, the elided elements are not *love John* but *love him* as illustrated in (6c).

- (6) c. Mary loves John_i, and he_i thinks that Sally does ~~love him_i~~, too.

Fiengo and May (1994: 218) state: “in a reconstruction, a nominal can take any syntactic form so long as its indexical structure (type and value) is unchanged”. So under this analysis, (6c) can avoid Condition C violation because there is no relevant R-expression in the ellipsis site. Moreover, it does not violate Binding Condition B either; the pronoun, *him*, is not bound by its antecedent, *he*, within the same clause, and therefore, (6a) is not ruled out.

If the operation of vehicle change applies to (1), the elided object contains *kare_i-no kuruma-o* ‘his car-Acc’, which is analogous to *zibun-no kuruma-o* ‘self’s car-Acc’ in (1a).

- (1) c. Penguin-mo ~~kare_i-no kuruma-o~~ huita.
 Penguin-also wiped
 ‘Penguin also wiped [Bear’s car].’

According to Fiengo and May, *kare* ‘he’ in *kare-no kuruma* in (1c) is indexically non-distinct from *zibun* ‘self’ in (1a), and the sentence consequently yields the strict identity reading.

3. Our Research Agenda

In previous research, it is said that Korean shares with Japanese the same property in their elliptical phenomena with a reflexive pronoun. However, the two languages are not always identical in other elliptical constructions. Saito and An (2010), for instance, point out that so-called N’-ellipsis is observed in Japanese but not in Korean due to slightly different parameterization of the genitive marker insertion rule.³ Here we will show another micro-parametric difference: some inter-speaker variation in Korean but not in Japanese.

Such micro-parametric differences can be found in null object constructions involving reciprocals. (7) is the example in Japanese cited from Takahashi (2016: 245).

- (7) a. Harry to Ginny-wa otagai-o
Harry and Ginny-Top each-other-Acc
sonkeisiteiru.
respect
‘Harry and Ginny respect each other.’
b. Ron to Hermione-wa [e] keibetsusiteiru.
Ron and Hermione-Top despise
‘(lit.) Ron and Hermione despise [e].’

Possible interpretation in the elided object in (7b) is either ‘Ron and Hermione despise Harry and Ginny’ (i.e. strict identity reading) or ‘Ron and Hermione despise each other (i.e. sloppy identity reading).’ Interestingly, however, some Korean native speakers find that the corresponding Korean null object in (8b) obtains the sloppy

interpretation only and its strict interpretation is rejected.

- (8) a. Chelswu-wa Younghi-nun
Chelswu and Younghi-Top
selo-lul concwunghanta.
each-other-Acc respect
‘Chelswu and Younghi respect each other.’
b. Tongsoo-wa Sooni-nun [e] silhehanta
Tongsoo-and Sooni-Top despise
‘(lit.) Tongsoo and Sooni despise [e].’

The judgments for (7) and (8) are based on our informant work with eight Japanese native speakers and seven Korean native speakers. There is a certain group of native speakers in Korean (three out of seven) who allow only a sloppy identity reading for the null reciprocal pronoun *selo* whereas among the Japanese informants, there is no such inter-speaker variation found in our data. Here we call the group of Korean speakers who allow only sloppy identity reading ‘Group A’, and the other group of Korean speakers who observe both strict and sloppy identity readings ‘Group B’.

The research question is: What makes the two types of groups (i.e. Group A vs. Group B and the Japanese group) different? In theory, the strict identity reading can be made possible by either the null pronoun hypothesis or the VVPE/AE analysis with vehicle change as we have discussed in the previous section. If the elided object would be a *pro* in (7b)/(8b), it should be able to refer to ‘Harry and Ginny’ or ‘Chelswu and Younghi’ in the (a) sentences just like the overt pronominal counterpart, *them*. This line of analysis can explain the strict identity interpretation by Group B but fails to account for the one by Group A.

Section 4 discusses why *selo* in Group A cannot be replaced by its pronominal counterpart and how the ellipsis analyses account for such unambiguous reading in Group A.

4. Discussion

4.1. Reciprocals with or without *Pro*

Hoji (2006) argues that the Japanese reciprocal pronoun, *otagai* ‘each other’, consists of *pro* and *otagai* as illustrated in (9), where the anaphoric relation between *otagai* and its antecedent must be understood as the one between the *pro* inside the *otagai* NP and the antecedent of *pro*.

(9) [_{NP} *pro*_i [_N *otagai*]]

Hoji’s analysis predicts that *otagai* need not be in the local domain of its antecedent, and the antecedent of *pro* in the *otagai* NP need not c-command *pro* for the referential association of coreference.

Hoji also points out that *otagai* does not always provide reciprocal interpretation; there are three types of interpretations for *otagai* as depicted in (10) (Hoji 2006: 127).

- (10) John to Bill-ga hissi-ni-natte
 John and Bill-Nom very-hard
 [*pro* *otagai*]-o urikondeita.
 each-other-Acc was-promoting
 ‘[each of John and Bill]_i was promoting
 himself_i with utmost enthusiasm.’
- [John and Bill] promoted [John and Bill].
 (=group reading)
 - John promoted Bill and Bill promoted John. (=crossing reading)
 - John promoted John and Bill promoted Bill. (=parallel reading)

Having those characteristics of *otagai* in mind, consider what exactly the strict identity reading means in (7b) and (8b). Apparently, due to the nature of the meaning of the verb, *respect*, only the crossing reading similar to (10b) is obtained in the antecedent sentence in (7a) and (8a), but the elided sentence under the strict identity reading in (7b) and (8b) is feasible only for the group reading like (10a), as depicted in (7b)’.

(7b)’ Ron and Hermione despise [~~them~~ = Harry and Ginny]

Assuming the group reading is a typical manifestation of pronominal feature in reciprocals in (9), we can claim that *selo*, is likely to be different from the Japanese reciprocal, *otagai*, in terms of the internal structure as far as Group A is concerned. The unavailability of the strict identity interpretation in Group A suggests that the reciprocal lacks *pro* inside its NP.

4.2. Evidence for Non-pronominal *Selo*

There are two pieces of evidence to support the non-pronominal nature of *selo* in Group A. Comparing (11) with (12), the reciprocal pronoun, *otagai*, can actually be bound by its non-local antecedent with three possible interpretations in Japanese whereas Group A finds the Korean sentence in (12) unacceptable.

- (11) [John to Bill]_i-wa [_{CP} Chomsky-ga naze
 John and Bill-Top Chomsky-Nom why
otagai-o suisensita no ka]
 each-other-Acc recommended Q
 wakaranakatta.
 did-not-understand
 ‘John and Bill did not understand why
 Chomsky had recommended the
 other/him/them.’ (Hoji 2006: 128)

- (12) (*)[**Conk-wa pil**]_i-un [_{CP} chomsukhi-ka
 John-and Bill-Top Chomsky-Nom
 way **selo**_i-lul chwuchenhayssnunci
 why each-other-Acc reommended
 lul] molukeyssta.
 Q did-not-know
 ‘John and Bill did not understand why
 Chomsky had recommended the
 other/him/them.’

It appears that *selo* in Group A must be locally bound by its antecedent, which is not the case in Group B and the Japanese group.

Another fact is that *otagai* can appear in subject position with its antecedent following in the same clause, as illustrated by (13).

- (13) **Otagai**_i-no koibito-ga [**John to**
 each-other-Gen lover-Nom John and
Bill]_i-o yuuwakusita.
 Bill-Acc seduced
 ‘(lit.) Each other’s lovers seduced John
 and Bill.’ (Hoji 2006: 128)

However, the corresponding Korean sentence sounds degraded to Group A, as shown in (14).

- (14) (??)**Selo**_i-uy ayin-i [**conk-wa**
 each-other-Gen lover-Nom John-and
pil]_i-ul yuhokhayssta.
 Bill-Acc seduced
 ‘Each other’s lovers seduced John and
 Bill.’

These observations can confirm that *selo* in Group A in Korean does not contain any pronominal feature, unlike Japanese *otagai* in (9). In other words, the null pronominal analysis cannot account for the elided reciprocal

interpretation in Group A in Korean because of the unavailability of strict identity reading. The ellipsis analyses can explain elided *selo* in Group A, however. Remember that the cases of strict identity reading are based on vehicle change, but since *selo* does not contain any pronominal feature, there is no possible corresponding item to replace the elided *selo* via vehicle change; a 3rd person plural pronoun could be a potential candidate but does not bear the same index with *selo* in Group A.

5. Final Remarks

Most of the studies on ellipsis focus on how to analyze sloppy identity interpretation, including recent research such as Han et. al (to appear), which is based on experimental evidence for the AE analysis over the other analyses. The present paper is agnostic on the issue of VVPE vs. AE, but examining the strict identity reading for some Korean speakers sheds some light on the pronominal vs. ellipsis analyses from a new perspective.

With regards to the difference between Group A and B, we should note that the two groups are demographically different in that Group B consists of those who learned Japanese through formal instruction and/or lived in Japan for many years, whereas those in Group A had not received any formal instruction in Japanese and/or had never lived in Japan.

If we assume that the judgments by Group A are ‘standard’ in Korean, there is some indication that the amount and quality of exposure to the Japanese language might allow *selo* to gain pronominal features in Group B as an instance of first language attrition. We need further examination to explore this possibility in future research.

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NOTES

¹ Hoji (1998) claims that sloppy identity reading (or what he calls ‘sloppy-like reading’) is possible due to an indefinite *pro* occupying the object position. See Saito (2007), which refutes Hoji’s idea of the indefinite *pro*.

² Although the judgment given in (3) has been considered the common view in Japanese and Korean, Funakoshi (2016) and Lee (2016) argue that the elided VP can include a VP adverb.

³ Saito and An (2010) propose that the Korean genitive marker, *uy*, can be inserted only when the head noun is overt, while there is no such requirement in Japanese.

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Topic in Nuclear Scope*

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Keywords : aboutness, dynamic semantics,
donkey sentences, existential disclosure

1. Introduction

This paper concerns the Japanese topic marker *-wa*, which has been one of the most intensively and interdisciplinarily studied grammatical items in the language. The notion of topic has been described/defined in many ways (see Roberts (2011) for the survey of issues concerning topics) and one of the main functions of the marker is aboutness, as given in (1).

- (1) The topic constituent identifies the entity or set of entities under which the information expressed in the comment constituent should be stored in the common ground content. (Krifka (2008: 265))

It follows from this characterization that the topic marker cannot attach to indeterminates as shown in (2), for the topic constituent in this example identifies no entity.

- (2) *Dare-ka-wa hon-o yon-da.
who- $\exists$ -TOP book-ACC read-PAST
'(lit.) As for someone, he read a book.'

An apparent exception is witnessed in donkey sentences. In (3), the topic marker

attaches to *soitu* 'that guy', the value of which varies depending on the value of its antecedent.

- (3) [Wakate geinin-ga yakuzaeiga-ni
young comedian-NOM J.mafia.movie-in
syutuensuru-to] taitei [soitu-wa
appear-COND mostly that.guy-TOP
sugu koros-are-ru.
immediately kill-PASS-PRES
'If a young comedian appears in a Japanese mafia movie, mostly he is immediately killed (in that movie).']

Clearly, *soitu* 'that guy' does not identify any entity since it is a variable in spite of the fact that it is *wa*-marked.

Topic-marked donkey anaphora also addresses an interesting question with respect to quantification and information structures. As is extensively discussed by Partee (1991) among others, quantification in natural language is represented as tripartite structure: Q(restriction) (nuclear scope), and in the case of conditionals with adverbs of quantification (henceforth, Q-adv), the antecedent of a conditional serves as restriction and the consequent clause as nuclear scope, as in (4).

- (4) MOST(λx [young-comedian'(x) $\wedge$ appear-in-a-movie'(x)])(λx [immediately-killed'(x)])

Another well-known view is that conditionals are topic as discussed by Haiman (1978). His claim mainly comes from morphological and functional perspectives, but is semantically convincing as well, for we do have a strong intuition that (3) is the statement about young comedians who appear in Japanese mafia movies. Recently, Hara (2014) presented a formal semantic analysis of topics by treating

them as conditionals, which is converse to Haiman's. These studies suggest that antecedent clauses of conditionals and topics be the same creatures and both serve as restrictions in tripartite structure.

Given the idea that topics/*if*-clauses are restrictions, the question that I would like to address is this. Why is the *wa*-marked donkey anaphora allowed to generate in nuclear scope in (3)? If it is a real topic, what is it about?

This paper argues that the *wa*-marked donkey anaphora is not an authentic topic and is interpreted as part of the restriction. More specifically, it will be claimed that it is dynamically conjoined to and interpreted in nuclear scope, forcing existential disclosure to apply to its antecedent, from which topic-sensitivity of Q-adverbs follows.

2. Topic Sensitivity of Adverbs of Quantification

When the antecedent clause contains two indefinites and the consequent contains two donkey-pronouns linked to them, asymmetric readings can emerge. How to determine quantification domains of Q-advs is affected by discourse factors. In particular, Q-advs are topic-sensitive as pointed out by Chierchia (1995: 65).

- (5) a. Dolphins are truly remarkable. When a trainer trains a dolphin, she usually makes it do incredible things.
 b. Trainers from here are absolutely remarkable with all sorts of animals. If a trainer from here trains a dolphin, she usually makes it do incredible things.

In (5a), dolphins are a discourse topic, so the Q-adv *usually* asymmetrically quantifies the

domain of dolphins trained by a trainer. On the other hand, the Q-adv in (5b) quantifies the domain of trainers from here who train dolphins, since the discourse is about the trainers from here.

These interpretations are represented in tripartite structure as in (6a) and (6b), respectively.

- (6) a. $\text{MOST}(\lambda y[\text{dolphin}'(y) \wedge \text{a trainer trains } y])(\lambda y[\text{a trainer makes } y \text{ do incredible things}])$
 b. $\text{MOST}(\lambda x[\text{trainer-from-here}'(x) \wedge x \text{ trains a dolphin}])(\lambda x[x \text{ makes a dolphin do incredible things}])$

Since dolphins are discourse-topic in (5a), the set of dolphins trained by a trainer serves as restriction in (6a). Likewise, the restriction in (6b) is the set of trainers from here who trains a dolphin.

Japanese Q-advs also exhibit topic-sensitivity, but their behavior is slightly different. Asymmetric readings observed in Japanese are affected by the topic-marking of donkey anaphora (cf. Kurafuji (1999)). The subject and the object in the consequent clause in (7) are donkey-anaphora, and the choice of case-marking on the subject affects the interpretation.

- (7) Atarasii kyokasyo-ga oote
 new textbook-NOM major
 syuppansya-kara de-ru-to,
 publisher-from come-PRES-COND
 taitee soko-**wa**/-ga
 mostly that.place-TOP/-NOM
 gakkai-de sore-o tenzisu-ru.
 conference-at that-ACC exhibit-PRES
 'If a new textbook appears from a major

publisher, usually it exhibits it at a conference.’

When the subject donkey anaphora *soko* ‘that place’ is followed by *-wa*, (7) is true in situation (8) while false in (9). That is, the Q-adv unambiguously quantifies over the domain of major publishers from which new textbooks appear. Let me call this the publisher-oriented reading. On the other hand, when the nominative case is used for the subject donkey-anaphora, (7) can be interpreted as being true in (9), where the Q-adv quantifies over the domain of new textbooks from major publishers, though the publisher-oriented reading is still preferred.

- (8) $\llbracket \text{major publisher} \rrbracket = \{p_1, p_2, p_3, p_4\}$
 $\llbracket \text{new textbook} \rrbracket = \{t_1, t_2, t_3, t_4, t_5, t_6, t_7\}$
 $\llbracket \text{appear-from} \rrbracket = \{ \langle t_1, p_1 \rangle, \langle t_2, p_2 \rangle, \langle t_3, p_3 \rangle, \langle t_4, p_4 \rangle, \langle t_4, p_5 \rangle, \langle t_4, p_6 \rangle, \langle t_4, p_7 \rangle \}$
 $\llbracket \text{exhibit-at-a-conference} \rrbracket = \{ \langle p_1, t_1 \rangle, \langle p_2, t_2 \rangle, \langle p_3, t_3 \rangle \}$
- (9) $\llbracket \text{major publisher} \rrbracket = \{p_1, p_2, p_3, p_4\}$
 $\llbracket \text{new textbook} \rrbracket = \{t_1, t_2, t_3, t_4, t_5, t_6, t_7\}$
 $\llbracket \text{appear-from} \rrbracket = \{ \langle t_1, p_1 \rangle, \langle t_2, p_2 \rangle, \langle t_3, p_3 \rangle, \langle t_4, p_4 \rangle, \langle t_4, p_5 \rangle, \langle t_4, p_6 \rangle, \langle t_4, p_7 \rangle \}$
 $\llbracket \text{exhibit-at-a-conference} \rrbracket = \{ \langle p_4, t_4 \rangle, \langle p_4, t_5 \rangle, \langle p_4, t_6 \rangle, \langle p_4, t_7 \rangle \}$

There might be several factors determining the domain selection by Q-adv, but the generalization given in (10) is robust.

(10) The *wa*-marked donkey generalization

In Japanese conditional donkey sentences, a Q-adv quantifies over a set which the *wa*-marked variable in the consequent clause is a member of.

3. Dynamic Settings

Before discussing how to derive the generalization (9), I would like to introduce some relevant notions of dynamic semantics, with which my analysis is presented. In particular I will show how asymmetric quantification by Q-adv as in (5)/(6) is captured in Chierchia’s (1995) dynamic approach.

In the dynamic semantics taken here, indefinites are assumed to have existential quantificational force, so the logical representation of *a trainer trains a dolphin* is something like (11). Note that in Chierchia’s (1995) notations, dynamic symbols are underlined, and the operator $\uparrow$ type-shifts a proposition into a context change potential (CCP) of type *cc* ($= \langle \langle s, t \rangle, t \rangle; \langle s, t \rangle$ is that function from possible assignments to discourse markers to truth values). See Appendix for the details.

$$(11) \exists x \exists y \uparrow [\text{trainer}'(x) \wedge \text{dolphin}'(y) \wedge x \text{ trains } y]$$

For a Q-adv to quantify over the set of trainers who trains a dolphin, $\exists x$ must be converted into λx , and by the same token, in order to obtain the set of dolphins trained by a trainer, y must be bound by the λ -operator.

Dynamic semantics enables existential quantifiers to be eliminated. A crucial ingredient is dynamic binding (12), where the scope of dynamic existential quantifier $\exists$ goes beyond the sentence boundary and binds variables/discourse markers in the following CCP.

$$(12) \exists x [\uparrow P(x)] \Delta \uparrow Q(x) = \exists x \uparrow [P(x) \wedge Q(x)]$$

With Dekker (1993), Chierchia defines the operation Existential Disclosure (henceforth, ED) as in (13).

$$(13) \lambda x[A] =_{\text{def}} \lambda u[A \Delta \uparrow u = x]$$

Suppose A of type cc in (13) contains an existential quantifier binding x . Then the task of the ED operator λx is to wipe $\exists$ off. What ED does is simply introduce another variable u , which is identical to x , and make it λ -bound. (14) demonstrates how the existential quantifier is wiped off.

- (14) a. $\lambda x[\exists x[\uparrow P(x)]]$
 b. $\lambda u[\exists x[\uparrow P(x)] \Delta \uparrow u = x]$ (from (13))
 c. $\lambda u[\exists x[\uparrow P(x) \wedge u = x]]$ (from (12))
 d. $\lambda u[\lambda p \exists x[P(x) \wedge u = x \wedge \forall p]]$ (def. of $\exists$)
 e. $\lambda x[\lambda p[P(x) \wedge \forall p]]$ (equivalence)
 f. $\lambda x \uparrow[P(x)]$ (def. of $\uparrow$)

Applying ED to (11), we obtain either $\lambda x[(11)]$ or $\lambda y[(11)]$; from the former, a set of trainers who train a dolphin is obtained, while the latter yields a set of dolphins trained by a trainer. These sets serve as restrictions of tripartite structures. The usual free application of λ -abstraction to donkey anaphora in the consequent clause gives rise to nuclear scope representations such as $\lambda x \uparrow[x \text{ makes } y \text{ do incredible things}]$ or $\lambda y \uparrow[x \text{ makes } y \text{ do incredible things}]$. With these, the dynamic counterpart to (6a), for example, is obtained, as shown in (15) (see dynamic conservativity in Appendix for the detail).

$$(15) \uparrow \text{most}(\lambda y \exists x[\text{trainer}'(x) \wedge \text{dolphin}'(y) \wedge x \text{ trains } y] \Delta (\lambda y \exists x[\text{trainer}'(x) \wedge \text{dolphin}'(y) \wedge x \text{ trains } y \wedge x \text{ makes } y \text{ do incredible things}])$$

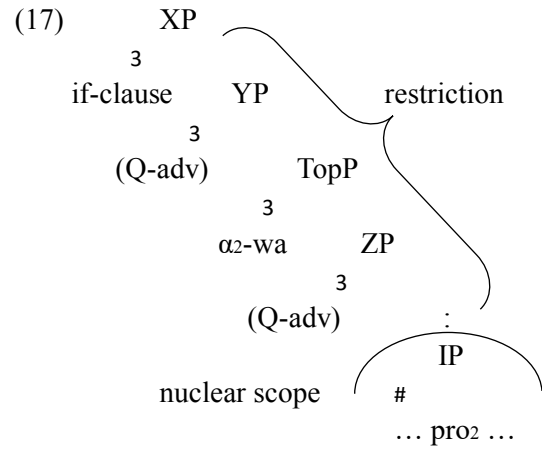
4. *Wa*-Marked Donkey Anaphora

Now I would like to show that the *wa*-marked donkey generalization in (9) can be

derived. Two assumptions play important roles. First *wa*-marked donkey anaphora does not simply denote an individual variable/discourse marker but it is a CCP, introducing another variable u , as defined in (16).

$$(16) [[\alpha_n\text{-}wa]] \sim \uparrow[x_n = u]$$

Second, what is mapped to nuclear scope is not the whole consequent clause, but (probably the minimal) IP excluding TopP dominating the *wa*-marked phrase.



Put it differently, the *wa*-marked phrase in [Spec, TopP] counts as an element in restriction, as shown in (17).

Given these assumptions, the publisher-oriented reading in (7) derives as follows. In (18), the translation of *soko-wa* ‘that.place-TOP,’ namely $\uparrow[y = u]$, is dynamically conjoined with the *if*-clause, and the discourse marker y is dynamically bound by $\exists y$.

$$(18) \exists x \exists y \uparrow[\text{new-textbook}'(x) \wedge \text{major-pbl}'(y) \wedge x \text{ appears from } y] \Delta \uparrow[y = u] \\ = \exists x \exists y \uparrow[\text{new-textbook}'(x) \wedge \text{major-pbl}'(y) \wedge x \text{ appears from } y \wedge y = u]$$

After the free variable u is λ -abstracted in the

usual manner, the set of major publishers publishing new textbooks obtains, as in (19). Consequently, the publisher-oriented reading is obtained.

$$(19) \lambda u[(18)] = \lambda y \exists x \uparrow [\text{new-textbook}'(x) \wedge \text{major-pbl}'(y) \wedge x \text{ appears from } y]$$

The definition of *wa*-marked donkey anaphora in (16) and the syntax-semantics mapping in (17) bring about the ED effect. Slightly different is that ED is a free operation while dynamic conjunction of *soko-wa* to the restriction is an obligatory process governed by (17). This is how generalization (10) derives.

An interesting consequence follows from the present analysis. When the accusative donkey anaphora *sore-o* is scrambled over the nominative donkey in (7), the sentence becomes true in (9) and false, or at least very difficult to interpret, in (8) (the data is omitted here). That is, the Q-adv unambiguously quantifies over the set of new textbooks published by major publishers. Following Ishihara (2001), let us assume that scrambling of object is a defocalization process; scrambled objects bear the [-F] feature, which moves them out of the potential focus domain, namely (the minimal) IP. In our analysis, this idea can be captured as in (20).

$$(20) [[\text{sore}_n\text{-o}_{[-F]}]] \sim \rightarrow \uparrow [x_n = u]$$

So far, we have seen conditional donkey sentences with Q-advs. Now let us see a simple narrative sequence case. The *wa*-marked anaphora in (21) is generated in [Spec, TopP] and dynamically conjoined with the rest of the sentence as $\uparrow [u = x \wedge \text{be-killed-immediately}'(x)]$. The whole sequence in (21) is represented as (22), where the discourse marker *x* is

dynamically bound by $\exists$.

$$(21) \begin{array}{ll} \text{Wakate geinin-ga} & \text{yakuzaeiga-ni} \\ \text{young comedian-NOM} & \text{J.mafia.movie-in} \\ \text{syutuensi-ta.} & \text{Soitu-wa} \\ \text{appear-PAST} & \text{that.guy-TOP} \\ \text{sugu} & \text{koros-are-ta.} \\ \text{immediately} & \text{kill-PASS-PAST} \end{array}$$

‘A young comedian appeared in a Japanese mafia movie. He was immediately killed (in that movie).’

$$(22) \exists x \uparrow [\text{young-comedian}'(x) \wedge \text{appear-in-jm.movie}'(x) \wedge u = x \wedge \text{be-killed-immediately}'(x)]$$

The free discourse marker *u* in (22) is interpreted by assignment function ω . Whatever $\omega(u)$ denotes, it is equal to *e* ($= \omega[x/e](x)$), so it does not affect the truth conditions

5. Back to Aboutness

The present analysis amounts saying that *-wa* with donkey anaphora is not the marker of aboutness. Then where does aboutness come from? Following Neeleman and Vermeulen (2012) among others, I assume that Topic-Comment structure is represented as a pair $\langle \text{topic}, \text{comment} \rangle$ with assertion operator ASSERT, as defined in (23).

$$(23) \langle A, \lambda \alpha [\text{ASSERT}[B(\alpha)]] \rangle \text{ is felicitous w.r.t. context } c \text{ and world } w \text{ iff } B(A) = 1 \text{ in } w \text{ and (the speaker believes that) } B(\alpha) \text{ updates } c.$$

The second part of the pair is the comment “about” *A*, so it is reasonable to regard it as a source of aboutness.

Given the format (23), the simple conditional donkey sentence (3) can information-structurally

be represented, as in (24), where $\exists x$ is disclosed by ED, and all dynamic notions are de-dynamized by $\downarrow$.

(24) <topic, comment>

topic = $\llbracket \lambda x [\text{young-comedian}'(x) \wedge \text{appear-in-jm.movie}'(x)] \rrbracket^{\mathbf{g}, \omega}$
comment = $\lambda P [\text{ASSERT} [\llbracket \text{most}(\lambda x [P(x)]) \rrbracket^{\mathbf{g}, \omega} (\lambda x [\text{be-killed-immediately}'(x)]) \rrbracket^{\mathbf{g}, \omega}]]$

What (24) means is, roughly, that (3) is about those who are young comedians and appear in Japanese mafia movies, and (the speaker believes that) asserting that most of them are killed immediately updates the current context c . Intuitively this paraphrase sounds correct.

Likewise, the second sentence in the narrative sequence case (21) is given information structure (25), which means in prose that (21) is about $\omega(x)$ and (the speaker believes that) adding the information that $\omega(x)$ is immediately killed updates c .

(25) $\langle \llbracket x \rrbracket^{\mathbf{g}, \omega}, \lambda x [\text{ASSERT} [\llbracket \text{be-killed-immediately}'(x) \rrbracket^{\mathbf{g}, \omega}]] \rangle$

6. A Concluding Remark

This paper has argued that *-wa* introduces a free variable/discourse marker, which is trivial in narrative sequence cases but plays a crucial role when Q-advs are concerned. It has been also argued that aboutness comes from the ASSERT operator. This thus amounts to saying that the so-called “topic” marker *-wa* is not directly associated with topics in an information-structural sense.

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APPENDIX

Definitions of relevant notions in dynamic semantics (Chierchia (1995))

The set TYPE of types is defined as follows:

- i. $e, t \in \text{TYPE}$
- ii. if $a, b \in \text{TYPE}$, $\langle a, b \rangle, \langle s, a \rangle \in \text{TYPE}$

For each $a \in \text{TYPE}$, the set ME_a of well-formed expressions of type a is the smallest set such that:

- i. $\text{DM} \in \text{Var}_e$, where DM is the set of ‘discourse markers’
- ii. $\text{Var}_a, \text{Cons}_a \in \text{ME}$
- iii. If $\beta \in \text{ME}_{\langle a, b \rangle}$ and $\alpha \in \text{ME}_a$, $\beta(\alpha) \in \text{ME}_b$
- iv. If $\alpha \in \text{Var}_a$ and $\beta \in \text{ME}_b$, $\lambda \alpha [\beta] \in \text{ME}_{\langle a, b \rangle}$
- v. If $\phi, \psi \in \text{ME}_t$, and $\alpha \in \text{Var}_a$, then $\neg \phi$, $[\phi \wedge \psi]$, $[\phi \wedge \psi]$, $\exists \alpha \phi$, $\forall \alpha \phi$ are all in ME_t
- vi. If $\beta \in \text{ME}_a$, $\wedge \beta \in \text{ME}_{\langle s, a \rangle}$
- vii. If $\beta \in \text{ME}_{\langle s, a \rangle}$, $\vee \beta \in \text{ME}_a$

Let U be a domain of individuals and Ω be the set of DM-assignments (i.e., $\Omega = U_{\text{DM}}$). For any type a , the set D_a of denotations of type a (relative to U) is defined as follows:

- i. $D_e = U$
- ii. $D_t = \{0, 1\}$
- iii. $D_{\langle a, b \rangle} = D_b D_a$
- iv. $D_{\langle s, a \rangle} = D_a \Omega$, where Ω is the set of all possible assignments to discourse markers.

A model M is a pair of the form $\langle U, F \rangle$, where U is a set of individuals and for any $a \in \text{TYPE}$, and $\alpha \in \text{Cons}_a$, $F(\alpha) \in D_a$. Let g be an assignment to the variables that are not discourse markers (i.e., for any type a and any member α of $\text{Var}_a - \text{DM}$, $g(\alpha) \in D_a$). For any assignment g and any DM-assignment ω , the interpretation function $\llbracket \cdot \rrbracket^{\mathbf{g}, \omega}$ is defined as follows (relative to a model M):

- i. If $\alpha \in \text{DM}$, $\llbracket \alpha \rrbracket^{\mathbf{g}, \omega} = \omega(\alpha)$
- ii. If $\alpha \in \text{Var}_a - \text{DM}$, $\llbracket \alpha \rrbracket^{\mathbf{g}, \omega} = g(\alpha)$
- iii. If $\alpha \in \text{Cons}_a$, $\llbracket \alpha \rrbracket^{\mathbf{g}, \omega} = F(\alpha)$

- iv. $[[\beta(\alpha)]]^{\mathcal{G},\omega} = [[\beta]]^{\mathcal{G},\omega}([[\alpha]]^{\mathcal{G},\omega})$
- v. $[[\neg\phi]]^{\mathcal{G},\omega} = 1$ iff $[[\phi]]^{\mathcal{G},\omega} = 0$, etc.
- vi. If $\alpha \in \text{DM}$, $[[\forall\alpha\phi]]^{\mathcal{G},\omega} = 1$ iff for every $e \in U$, $[[\phi]]^{\mathcal{G},\omega[\alpha/e]} = 1$, where $\omega[\alpha/e]$ is identical to ω except that $\omega(\alpha) = e$. If $\alpha \in \text{Var}_a - \text{DM}$, $[[\forall\alpha\phi]]^{\mathcal{G},\omega} = 1$ iff for every $e \in D_a$, $[[\phi]]^{\mathcal{G}[\alpha/e],\omega} = 1$
- vii. If $\alpha \in \text{DM}$, $[[\exists\alpha\phi]]^{\mathcal{G},\omega} = 1$ iff for some $e \in U$, $[[\phi]]^{\mathcal{G},\omega[\alpha/e]} = 1$, where $\omega[\alpha/e]$ is identical to ω except that $\omega(\alpha) = e$. If $\alpha \in \text{Var}_a - \text{DM}$, $[[\exists\alpha\phi]]^{\mathcal{G},\omega} = 1$ iff for some $e \in D_a$, $[[\phi]]^{\mathcal{G}[\alpha/e],\omega} = 1$.
- viii. If $\alpha \in \text{DM}$, $[[\lambda\alpha\beta]]^{\mathcal{G},\omega} = \lambda e \in U$. $[[\beta]]^{\mathcal{G},\omega[\alpha/e]}$ (i.e., $[[\lambda\alpha\beta]]^{\mathcal{G},\omega}$ is that function h from U into D_b (where b is the type of β) such that for any $e \in U$, $h(e) = [[\beta]]^{\mathcal{G},\omega[\alpha/e]}$). If $\alpha \in \text{Var}_a - \text{DM}$, $[[\lambda\alpha\beta]]^{\mathcal{G},\omega} = \lambda e \in D_a$. $[[\beta]]^{\mathcal{G}[\alpha/e],\omega}$.
- ix. $[[\wedge\alpha]]^{\mathcal{G},\omega} = \lambda\omega'[[\alpha]]^{\mathcal{G},\omega'}$. That is, $[[\wedge\alpha]]^{\mathcal{G},\omega}$ is that function h in D_a^Ω such that for any $\omega' \in \Omega$, $h(\omega') = [[\alpha]]^{\mathcal{G},\omega'}$.
- x. $[[\vee\alpha]]^{\mathcal{G},\omega} = [[\alpha]]^{\mathcal{G},\omega}(\omega)$.

Context Change Potentials:

$\uparrow\phi = \lambda p[\phi \wedge \vee p]$ of type cc ($= \langle\langle s, t \rangle, t \rangle$)

Truth (the assertion operator $\downarrow$):

$\downarrow A = A(\wedge T)$, where $[[\wedge T]]^{\mathcal{G},\omega} = \Omega$.

Dynamic conjunction and existential quantification:

- a. $A \Delta B = \lambda p[A(B(\wedge p))]$
- b. $\exists x A = \lambda p \exists x[A(p)]$

Dynamic conservativity:

- a. $D'(P)(Q) = \uparrow D(\downarrow P)(\downarrow [P \Delta Q])$, where
 - i. P, Q are dynamic properties of type $\langle s, \langle e, cc \rangle \rangle$, and D is a static determiner and D' is a dynamic counterpart of D .
 - ii. $\downarrow P = \lambda x \downarrow [\vee P(x)]$
 - iii. $P \Delta Q = \wedge \lambda x \downarrow [\vee P(x) \Delta \vee Q(x)]$
- b. $\lambda P \lambda Q \exists x [P(x) \Delta Q(x)]$

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On the Semantics of the Japanese Degree

Morpheme *hoo**

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Keywords : degree morphemes, gradable
adjectives, scale structures

1. Introduction

Since Kennedy and McNally (2005), it has been pointed out that there have been various kinds of degree morphemes and modifiers. The aim of this paper is to argue that the Japanese morpheme *hoo*, which combines only with gradable adjectives as in (1), is a degree morpheme in the sense of Kennedy (1999), and that this morpheme makes an obligatory reference to the contextually determined standard.¹

- (1) a. Taro-wa se-ga takai-hoo-da.
Taro-Top height-Nom high-hoo-Cop
'Taro is tall-hoo.' (Gradable)
- b. *Kono isu-wa mokuseina-hoo-da.
this chair-Top woode-hoo-cop.
'This chair is wooden-hoo.'
(Non-Gradable)

The structure of this paper is as follows. In section 2, I will introduce four observations about this morpheme. In section 3, I will propose a semantics of this morpheme and demonstrate that the proposed semantics can account for the observations presented in section 2. Section 4

concludes this paper.

2. Observations

The first observation is the incompatibility of *hodo* with other degree morphemes. As shown below, the morpheme *hoo* cannot be used with degree morphemes such as *totemo* 'very' and *-yori* 'more...than.'

- (2) a. *Taro-wa totemo se-ga
Taro-Top very height-Nom
takai-hoo-da.
high-hoo-Cop
'Taro is very tall-hoo.'
- b. *Taro-wa Hanako-yori se-ga
Taro-Top Hanako-yori height-Nom
takai-hoo-da.
high-hoo-Cop
'Taro is taller-hodo than Hanako.'

The second observation is the restriction on subjects. The example below indicates that Giant Baba, who was a very tall Japanese wrestler, cannot be used with this morpheme.

- (3) *Giant Baba-wa se-ga takai-hoo-da.
Giant Baba-Top height-Nom high-hoo-Cop.
'Giant Baba is tall-hoo.'

From this fact, we can see that we cannot use *hoo* if the subjects have high degrees on relevant scales denoted by gradable adjectives.

In addition, there is some restriction on comparison classes (i.e., the objects of comparison). Observe the following examples, where the phrase *X-no nakadewa* denotes comparison classes:

- (4) a. Taro-wa jokki-no-nakadewa
Taro-Top jockey-Gen-nakade

se-ga takai-hoo-da.
 height-Nom high-hoo-Cop
 ‘Taro is tall-hoo among jockeys.’

- b. *Taro-wa basketboll senshu-no
 Taro-Top basketball player-Gen
 nakadewa se-ga
 nakadewa height-Nom
 takai-hoo-da.
 high-hoo-Cop
 ‘Taro is tall-hoo among basketball
 players.’

Given our world knowledge that in normal cases, basketball players are tall and jockeys are not, we can see that members of comparison classes should have low degrees on relevant scales (in this case, the tallness scale) when we use *hoo*.

The last observation is related to the scale structures of gradable adjectives with which *hoo* combines. According to Kennedy and McNally (2005) and Rothstein and Winter (2004) among others, gradable adjectives are classified into four types depending on whether or not the ends of scales are closed:

- (5) a. Open Scale Adjectives
 Example: *tall, interesting*
 b. Lower-closed Scale Adjectives
 Example: *bent, wet*
 c. Upper-closed Scale Adjectives
 Example: *straight, dry*
 d. Totally Closed Scale Adjectives
 Example: *open, closed*

As shown below, *hoo* can be used only with open scale adjectives:

- (6) Open Scale Adjectives
 a. Taro-wa se-ga takai-hoo-da.
 Taro-Too height-Nom high-hoo-Cop

‘Taro is tall-hoo.’

- b. Kono eiga-wa omoshiroi-hoo-da.
 this movie-Top interesting-hoo-Cop
 ‘This movie is interesting-hoo.’
 (7) a. Lower-closed Scale Adjectives
 *Kono kugi-wa magatteiru-hoo-da.
 this nail-Top bent-hoo-cop.
 ‘This nail is bent-hoo.’
 b. Upper-closed Scale Adjectives
 *Kono sao-wa massuguna-hoo-da.
 this rod-Top straight-hoo-cop
 ‘This rod is straight-hoo.’
 c. Totally Closed Scale Adjectives
 *Kono doa-wa shimmateiru-hoo-da.
 this door-Top closed-hoo-cop
 ‘This door is closed-hoo.’

Some speakers, however, cannot feel the examples in (7) as entirely bad. In fact, closed scale adjectives are sometime compatible with *hoo*, but, in what follows, I will show that in these cases, closed scale adjectives are coerced into open scale adjectives.

Sasson and Toledo (2011) claims that the difference between open and closed scale adjectives are reduced to the difference between their comparison classes:

- (8) a. Open Scale Adjectives
 Their comparison classes consist of different individuals in the same world-time pair of evaluation. Hence, the comparison is between different individuals.
 b. Closed Scale Adjectives
 Their comparison classes consist of counterparts of one individual, namely, realizations of the same individual in different world-time pairs. Hence, the comparison is within the same individual.

To see how this idea works, let us first consider the sentence with the open scale adjective *tall*:

- (9) a. John is tall.
 b. Comparison between Individuals
 John's height is compared with that of other individuals at the same time-world pair.
 c. *Comparison within the Same Individual
 John's height is compared with the heights of John's counterparts, namely, John's height yesterday, John's height two days ago, John's height tomorrow, and so on.

As shown in (9b) and (9c), in interpreting open scale adjectives, we evoke the existence of individuals other than the subjects and we cannot take into account the counterparts (i.e., the realizations of the same individual at different world-time pairs). Therefore, in the case of open scale adjectives, the comparison should be between different individuals but not within the same individual.

Compare this with the sentence with the closed scale adjective *full*:

- (9) a. This glass is full.
 b. *Comparison between Individuals
 The degree of fullness of this glass is compared with that of other glasses at the same time-world pair
 c. Comparison within the Same Individual
 The degree of fullness of this glass is compared with that of its counterparts at different world-time pairs, namely, the same glass that is full, the same glass that is half empty, the same glass that is empty, and so on.

Unlike the previous case, in interpreting closed scale adjectives, we have to take into consideration the counterparts of the same individual, and therefore, the comparison should be within the same individual but not between distinct individuals.

This difference between open and closed scale adjectives makes the following prediction:

- (10) If we set up contexts where closed scale adjectives are evaluated with reference to comparison classes consisting of distinct individuals (i.e., they are interpreted as open scale adjectives), they become compatible with the morpheme *hoo*.

As in the examples below, this prediction is borne out.

- (11) Context A: You see just one nail, which is bent.
 *Kono kugi-wa magatteiru-hoo-da.
 this nail-Top bent-hoo-Cop.
 'This nail is bent-hoo.'



Figure 1: Context A

In Context A, where just one nail is presented, we cannot construct the comparison class consisting of different nails, and therefore, we can only interpret the adjective *maggateriru* 'bent' as an closed scale adjective. As a result, this adjective cannot be used with *hoo* in this context.

By contrast, in Context B, where several nails with varying degrees of bentness are presented,

we can make the comparison class consisting of different nails, which enables us to interpret the adjective as an open scale adjective:

- (12) Context B: You see several nails, not all of which are bent.

Kono kugi-wa magatteiru-hoo-da.
this nail-Top bent-hoo-Cop.
'This nail is bent-hoo.'



Figure 2: Context B

The conclusion is that the morpheme *hoo* cannot combine with closed scale adjectives and if it is compatible with them, they are coerced into open scale adjectives.

Thus far, we have seen four basic observations about *hoo*, which are summarized below:

- (13) a. Observation 1

The morpheme *hoo* cannot be used with degree morphemes.

- b. Observation 2

Adj + *hoo* cannot be used with individuals if it is shared among interlocutors that they are definitely *adj*.

- c. Observation 3

The morpheme *hoo* requires comparison classes whose members do not have high degrees on relevant scales.

- d. Observation 4

The morpheme *hoo* cannot combine with closed scale adjectives.

In what follows, I will propose a semantics of *hoo*

to capture these observations.

3. Proposal

3.1 Observation 1

Let us begin with Observation 1, the incompatibility with degree morphemes. According to Kennedy and McNally (2005) among others, degree morphemes in general are in complementary distribution, since they are located in the same position, namely, the head of a Degree Phrase. As shown below, the degree morphemes *seven feet* and *very* cannot be used at the same time:

- (14) a. *Yao is seven feet very tall.

- b. *Yao is very seven feet tall.

(Kennedy & McNally 2005:368)

The examples in (2) indicate that the morpheme *hoo* cannot be used with other degree morphemes such as *totemo* 'very' and *-yori* 'more ... than.' Based on this fact, I claim that *hoo* is a degree morpheme in the head of a Degree Phrase.

3.2. The Semantics of *Hoo*

First of all, I assume that gradable adjectives denote a measure function of type $\langle e, d \rangle$ (cf. Kennedy (1999)).

- (15) $\llbracket \text{tall} / \text{se-ga takai} \rrbracket$

$$= \lambda x. \text{height}(x) \quad \langle e, d \rangle$$

According to this analysis, the gradable adjective *se-ga takai* 'tall' takes an individual x as its argument and returns his or her height.

In order to capture Observations 2 and 3, I propose the semantics of *hoo* as follows:

- (16) $\llbracket \text{hoo} \rrbracket$

$$= \lambda P_{\langle e, d \rangle}. \lambda C_{\langle e, t \rangle}. \lambda x. \partial (P(x) < \text{standard}(P))$$

$$\begin{aligned} & \wedge \forall y [C(y) \rightarrow P(y) < \text{standard}(P)] \\ & \wedge P(x) > \text{standard}(P)(C) \end{aligned}$$

In (16), following Beaver (2001), I adopt the $\hat{o}$ -operator, and the materials inside this operator denote presuppositions. The degree morpheme *hoo* takes three arguments: a gradable adjective *P*, a comparison class *C*, and an individual *x*. The presuppositions are that *x*'s degree of *P* does not exceed the standard for *P* and that for every individual *y*, if *y* is a member of a comparison class *C*, *y*'s degree of *P* does not exceed the standard for *P*. The assertion is that *x*'s degree of *P* exceeds the standard based on *C*. Note that in the assertive part, the standard is calculated based on the comparison class *C* whose members have low degrees on a relevant scale. Consequently, the standard in the assertive part is lower than a normal standard.

Let me illustrate how this proposal derives truth conditions of (1a):

- (17) a. Taro-wa se-ga takai-hoo-da. (= (1a))
 b. $\llbracket (1a) \rrbracket$
 $= \llbracket hoo \rrbracket (\llbracket se-ga takai \rrbracket)(\llbracket C \rrbracket)(\llbracket Taro \rrbracket)$
 $= \hat{o}(\text{height}(Taro) < \text{standard}(se-ga takai)$
 $\wedge \forall y [C(y) \rightarrow \text{height}(y)$
 $< \text{standard}(se-ga takai)])$
 $\wedge \text{height}(Taro) > \text{standard}(se-ga takai)(C)$
 c. Truth Conditions of (1a)
 (1a) is defined only when Taro's height does not exceed the standard for tallness, and for every individual *y*, if *y* is a member of *C*, *y*'s height does not exceed the standard for tallness. If defined, it is true iff Taro's height exceeds the standard for tallness based on *C*.

According to the above truth conditions, it is presupposed that Taro and the members of the

comparison class in question are not tall, and it is asserted that Taro's height is greater than the standard for tallness based on the comparison class. As a result, (1a) conveys that Taro is not tall but he can be considered tall if he is compared with the standard for tallness based on the comparison class whose members are not tall.

Now, let us turn to Observation 2 (see (3)). The truth conditions of (3) are calculated as follows:

- (18) a. *Giant Baba-wa se-ga takai-hoo-da.
 (= (3))
 b. $\llbracket (3) \rrbracket$
 $= \llbracket hoo \rrbracket (\llbracket se-ga takai \rrbracket)(\llbracket C \rrbracket)(\llbracket G.B \rrbracket)$
 $= \hat{o}(\text{height}(G.B) < \text{standard}(se-ga takai)$
 $\wedge \forall y [C(y) \rightarrow \text{height}(y)$
 $< \text{standard}(se-ga takai)])$
 $\wedge \text{height}(G.B) > \text{standard}(se-ga takai)(C)$
 c. Truth Conditions of (3)
 (1a) is defined only when Giant Baba's height does not exceed the standard for tallness, and for every individual *y*, if *y* is a member of *C*, *y*'s height does not exceed the standard for tallness. If defined, it is true iff Giant Baba's height exceeds the standard for tallness based on *C*.

According to the underlined parts above, the presuppositions require that Giant Baba is not tall, but actually, he is definitely tall. Hence, the presuppositions of (3) are not satisfied, which results in its infelicity.

Let us consider Observation 3, the relevant example of which is repeated below:

- (19) a. *Taro-wa basketball sensyu-no
 nakadewa se-ga takai-hoo-da. (= (4b))
 b. $\llbracket (4b) \rrbracket$

$$\begin{aligned}
&= \llbracket hoo \rrbracket (\llbracket se-ga takai \rrbracket)(\llbracket basketball \\
&\quad senshu-no nakade \rrbracket)(\llbracket Taro \rrbracket) \\
&= \partial(\text{height}(Taro) < \text{standard}(se-ga takai) \\
&\quad \wedge \forall y [\text{basketball.player}(y) \rightarrow \text{height}(y) \\
&\quad < \text{standard}(se-ga takai)]) \\
&\quad \wedge \text{height}(Taro) > \text{standard}(se-ga takai)(C)
\end{aligned}$$

c. Truth Conditions of (4b)

(1a) is defined only when Taro's height does not exceed the standard for tallness, and for every individual y , if y is a basketball player, y 's height does not exceed the standard for tallness. If defined, it is true iff Taro's height exceeds the standard for tallness based on C .

Here, I assume that the phrase *baskketo boll senshu-no nakade* 'among basketball players' denotes a comparison class whose members are basketball players, and *hoo* takes this phrase as its argument. The resulting truth conditions are (18b), whose presuppositions require that basketball players are not tall. However, given our world knowledge that basketball players in general are considered tall, these presuppositions cannot be satisfied. Hence, the infelicity arises.

3.3 Accounting for Observation 4

Finally, let us consider Observation 4, the incompatibility of *hoo* with closed scale adjectives. According to Kennedy and McNally (2005), open and closed scale adjectives are different in that only the former utilizes contextual information in calculating the truth conditions, and this is summarized as (19) by Toledo and Sasson (2012):

(20) An adjective A is interpreted to a context-dependent standard if and only if A 's scale is linguistically open. If A is associated with a closed scale, a (non-

contextual) endpoint standard is employed in A 's interpretation.

(Toledo & Sassoon 2011:136)

What is crucial here is that closed scale adjectives do not use contextually determined standards but the scales' minimum or maximal endpoints. Given this, the truth conditions of (7a) are calculated as follows:

(21) a. Kono kugi-wa magatteriu-hoo-da.

(=(7a))

$$\begin{aligned}
&\text{b. } \llbracket (7a) \rrbracket \\
&= \llbracket hoo \rrbracket (\llbracket maggateiru \rrbracket)(\llbracket C \rrbracket) \\
&\quad (\llbracket kono kugi \rrbracket) \\
&= \partial(\text{height}(this.nail) < \text{standard}(bent) \\
&\quad \wedge \forall y [C(y) \rightarrow \text{bentness}(y) \\
&\quad < \text{standard}(bent)]) \\
&\quad \wedge \text{bentness}(this.nail) > \text{standard}(bent)(C) \\
&= \partial(\text{height}(this.nail) < 0 \\
&\quad \wedge \forall y [C(y) \rightarrow \text{bentness}(y) < 0]) \\
&\quad \wedge \text{bentness}(this.nail) > 0
\end{aligned}$$

b. $\text{standard}(bent) = 0$

$\text{standard}(bent)(C) = 0$

c. Truth Conditions of (7a)

(7a) is defined only when the bentness of this nail is smaller than 0 and for every individual y , if y is a member of C , y 's bentness is smaller than 0. If defined, it is true iff the bentness of this nail is greater than 0.

The closed scale adjective *magatteriu* 'bent' is a lower-closed scale adjective, and its standard is a scale's minimum endpoint. As shown in (21b), therefore, the standard function in the presuppositions ($= \text{standard}(bent)$) and the standard function based on the comparison class C in the assertive part ($= \text{standard}(bent)(C)$) return the same value 0. As a result, the

presuppositions and the assertion make the conflicting demands: the nail is lower than 0 and at the same time greater than 0. This is clearly contradictory, which results in the unacceptability of (7a).

To summarize, closed scale adjectives cannot be used with *hoo*, because the standard functions in presuppositions and assertions return the same value and this leads to the contradictory truth conditions. Open scale adjectives, on the other hand, can be used with *hoo*, because their standards are context sensitive, and the two standard functions can return different values.

4. Conclusion

This paper proposed that the morpheme *hoo* is a degree morpheme located in the head of a Degree Phrase and has the semantics in (16), and demonstrated that based on this proposal, the observations in (13) can be accounted for.

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NOTES

¹ There is another usage of the morpheme *hoo*:

i) Watashi-no-hoo-ga John-yori neko-o
I-Gen-hoo-Nom John-yori cat-Acc
aishiteiru.

love

‘I love cats more than John loves cats.’

(Matui and Kubota 2011:127)

For the detailed analysis of this usage of *hoo*, see Matui and Kubota (2011).

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Negative WH-Phrases in Japanese

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1. Introduction

WH-phrases are often treated on a par with existential quantifiers, which is an idea that dates back to Kuroda (1965).

In this paper, I would like to show that Japanese WH-phrases can function as negative expressions, negative concord items, to be exact, in certain limited contexts, particularly in *mono ka* rhetorical questions (MRQs), examined originally in McGloin (1976) and in detail by Oguro (2018). I further suggest that they are focused items.

2. Three Types of Negative Sensitive Items in Japanese

In this section, I outline the classification of negative sensitive items (hereafter, NSIs) suggested by Miyagawa, Nishioka, and Zeijlstra (2016) (hereafter MNZ) and I introduce a set of assumptions to capture their behavior. Most of the assumptions are taken from MNZ.

2.1 Properties of Negative Sensitive Items

MNZ examine three types of NSIs: WH-*mo* expressions, XP-*sika*, and *rokuna* N. All these three NSIs are allowed in negative contexts, but not in affirmative contexts, as in (1).

- (1) a. Taroo-wa naNIMO tabe-*(nakat)-ta.
Taro-TOP anything eat-NEG-PAST
'Taro ate nothing but sushi.'
b. *Taroo-wa susi-sika tabe-*(nakat)-ta.
Taro-TOP sushi-SIKA eat-NEG-PAST
'Taro ate nothing but sushi.'
c. Taroo-wa rokuna mono-o
Taro-TOP rokuna thing-ACC
tabe-*(nakat)-ta.
eat-NEG-PAST
'Taro didn't eat anything decent.'

There are three important properties of WH-*mo* expressions. One of them is the ability to be in fragment answers, as in (2).

- (2) A: DAre-ga kuru no?
who-NOM come C
'Who will come?'
B: DaREMO/*John-sika./*Rokuna hito.
anyone/John-SIKA/rokuna person
'No one./No one but John./No decent person.'

Though there are some complicating issues regarding the possibility of XP-*sika* as a fragment answer according to MNZ, it is clear that *daREMO* can be a fragment answer. MNZ refer to the items that can be fragment answers as negative concord items (NCIs) and those that cannot be as negative polarity items (NPIs).

Two other properties of WH-*mo* expressions are that they can be in vP and that there can be multiple occurrence of them. These properties are illustrated in (3).

- (3) a. Taroo-wa [_{VP} umaku naNIMO
Taro-TOP skillfully anything
tukur]-anakat-ta.
make-NEG-PAST
'Taro did not make anything well.'

- b. DaREMO naNIMO kaw-anakat-ta.
 Anyone anything buy-NEG-PAST
 'No one bought anything.'

In (3a) the WH-*mo* expression *naNIMO* appears to the right of the manner adverb *umaku*. Since manner adverbs generally mark the left edge of vP, *naNIMO* in (3a) is in vP. As shown in (3b), two instances of WH-*mo* expressions can occur with each other.

2.2 A Set of Assumptions to Capture the Behavior of WH-*mo* expressions

Here I introduce some assumptions to cover the properties of WH-*mo* expressions, which are mostly taken from MNZ.

MNZ suggest that the two properties of WH-*mo* expressions given in (3) come from their unfocused nature. Here, for the sake of exposition, I assume with Rizzi (1997: 290) that there is a unique structural position above TP for a focused phrase and focalization of two elements is excluded.

As for the licensing of WH-*mo* expressions, I follow MNZ and assume the structure in (4).

(4) Upward Agree

[TP [NegP Op_[iNEG] [vP NCI_[uNEG] (NCI_[uNEG]) v] na_[uNEG]]]

|-----|-----|-----|-----|

NCIs bear a formal uninterpretable negative feature [uNEG] that must be checked by a formal interpretable negative feature [iNEG]. In this structure, NCIs and the negative head *na* contain [uNEG] features and the covert negative operator in [Spec, NegP] bears the [iNEG] feature. Here, Agree of negative features works in the direction that is the opposite of the standard Agree (Chomsky 2000; 2001). In (4), (multiple) probes, that is, elements endowed

with [uNEG] features are c-commanded by a goal, which is the negative operator, with Agree applying upward. In this structure, single negation reading can be captured. This is a syntactic relation, in which once the agreement is established, NCIs may move out of the c-commanding domain of the negative operator. In the case of NPIs, on the other hand, they have to remain inside its c-commanding domain since they are semantically dependent on it.

As for the derivation of fragment answers, I assume, again with MNZ, that there is a functional projection FP above TP, which is not related to focus. According to MNZ, fragment answers are a result of the fragment being raised to [Spec, FP], followed by the deletion of the lower projection. When an NCI functions as a fragment answer, it first has its [uNEG] feature checked by the [iNEG] feature on the negative operator, whose presence is invoked by the [uNEG] feature, and then the NCI gets raised to [Spec, FP], which is followed by the deletion of the lower projection, in this case TP, as illustrated in (5).

- (5) a. [FP NCI [TP [NegP Op_[iNEG] [vP ...]]]]
 b. [FP NCI [TP] F]

Since FP is not a focus related position, multiple instances of NCIs can occur as a fragment answer, as shown in (6B).

- (6) A: Dareka-ga nanika-o
 someone-NOM something-ACC
 katta no?
 boguht C
 'Did someone buy something?'
 B: (Iya,) daREMO naNIMO
 no anyone anything
 (kawanakatta)

bought.not

'No, no one bought anything.'

With this background, let us see the behavior of WH-phrases in MRQs.

3. WH-Phrases in MRQs

In this section, I show that WH-phrases employed in MRQs behave as NCIs on a par with WH-*mo* expressions but that they are focused, unlike WH-*mo* expressions.

3.1 Fragment Answer

Let us first consider the conversation in (7).

- (7) A: Dareka kuru ka na?
 someone come Q SFP
 'I wonder if someone will come.'
 B: (Ittai) DAre-ga!
 the.hell who-NOM
 'No one!'

The fragment answer in (7B) can be taken as the speaker insisting that no one will come or that he cannot imagine any individual who will come. This fragment answer, which is a form of a shortened rhetorical question, presumably is a truncated version of the following rhetorical question.

- (8) (Ittai) DAre-ga kuru no?
 the.hell who-NOM com C
 'Who the hell will come?='No one will come.'

It is suggested in Caponigro and Sprouse (2007) that ordinary questions can function as rhetorical questions when the answer is known both to the speaker and to the hearer. If it is assumed that the source of (7B) is (8), then it is not surprising that the fragment answer has the

effect of a negative answer. To be more precise, it has the effect of the speaker reminding the hearer that there is no individual who they can think of that will come.

Let us now consider (9).

- (9) A: John to Bill-wa paatii-ni iku
 John and Bill-TOP party-to go
 kedo, kimi-mo iku no?
 but you-also go C
 'John and B are going to the party. Are you, too?'
 B1: #DaREMO B2: (*Ittai) DAre-ga!
 anyone the.hell who-NOM
 'No one.' 'Not me!'

(9B1) is not a felicitous answer, because it contradicts what the questioner has just said, which is that some people are going to the party. (9B2), on the other hand, is fine. Interestingly, it is incompatible with *ittai* and even though the subject is a WH-phrase, it refers to the speaker. In fact, they are characteristics of MRQs. Consider the examples in (10).

- (10) a. (*Ittai) DAre-ga iku mono ka!
 the.hell who-NOM go C Q
 'No one's going!/'I'm not going!'
 b. (Ittai) DAre-ga iku
 the.hell who-NOM go
 to iu no?
 C say C
 'Who would you say is going?='No one is going.'

The MRQ in (10a) can be interpreted in two ways: One interpretation is that no one will go and the other interpretation is that the speaker will not go (Goto 2018). (10a), under the second interpretation, is felicitous as an answer to (9A).

(10b) is a rhetorical question (Sprouse 2007), but cannot mean that the speaker will not go, so (10b) is not the source of the fragment answer in (9B2).

Another point that shows the speaker orientation of the WH-subject in an MRQ is given in (11).

- (11) A: Kimi-wa sidookyoozyu-o
sonkee-siteiru?
you-TOP academic.advisor-ACC
sonkee-siteiru?
respect-ing
'Do you respect your advisor?'
B: Atarimaeda. DAre-ga
Of.course who-NOM
zibun-no/#soitu-no sidookyoozyu-o
self-gen/the.guy-GEN advisor-ACC
mikudasu mono ka!
look.down C Q
'Of course. I don't look down on my
advisor!'

In (11B), where the WH-subject is taken to be the speaker, the pronoun that is bound by the subject must be the 'self'-form *zibun* rather than the 'the guy' form *soitu*. If the WH-subject is replaced by a WH-*mo* expression, as in (12), the intended binding reading is available.

- (12) DaREMO zibun-no/soitu-no
anyone self-gen/the.guy-GEN
sidookyoozyu-o mikudasu
advisor-ACC look.down
mono ka!
C Q
'No one looks down on his advisor!'

This example, however, lacks the interpretation where the subject refers to the speaker. (12) is a

general statement about people who have an advisor, not the speaker's own attitude toward his own advisor. Thus, the fragment answer in (9B2) must involve an MRQ like (10a) as its underlying structure. This means that the WH-subjects in MRQs behave as NCIs.

Now I would like to speculate on how a fragment answer can be derived from an MRQ. A structure based on MNZ's analysis, which involves FP, would be something like (13).

- (13) [ForceP Op_[iNEG] [FP DAre-ga_[uNEG] [FinP [TP
t...] mono] F⁰] ka]

The shaded part in (13) is deleted, which predicts that the highest head *ka* must be present in an MRQ-derived fragment answer. This prediction is incorrect, however, as shown in (14).

- (14) A: Kimi-mo iku no?
you-also go C
'Are you going, too?'
B: DAre-ga (*ka)!
who-NOM Q
'Not me!'

As shown above, the complementizer *ka* cannot appear in an MRQ-based fragment answer. As is reported in Hasegawa (2007), matrix sluicing cases cannot involve *ka*, as in (15B2). As shown in (15B3), however, the addition of a sentence final particle saves the example.

- (15) A: Dareka kuru rasii yo.
someone come I.hear SFP
'I hear someone will come.'
B1: DAre?
B2: *DAre ka?
B3: DAre ka ne?

In the case of an MRQ-based fragment answer, adding a sentence final particle does not help improve the grammaticality.

- (16) A: Kimi-mo iku no?
 you-also go C
 'Are going, too?'
 B1: DAre-ga!
 B2: * DAre-ga ka!
 B3: * DAre-ga ka yo!

It is interesting to observe that (16B3) significantly improves when the complementizer is omitted, as in (17).

- (17) DAre-ga yo!
 who-NOM SFP
 'Not me!'

Recall that *DAre-ga* as a fragment answer is interpreted as referring to the speaker. Given this, I speculate that an MRQ-derived fragment answer has the following structure.

- (18) [_{SAP} DAre-ga_[uNEG] [_{ForceP} Op_[iNEG] [_{FinP} [_{TP}
 t...] mono] ka] [_{SA}⁰ yo]]

The structure in (18) involves Speech Act Phrase (Speas and Tenny 2003, Saito and Haraguchi 2012, Haegeman and Hill 2013, Miyagawa 2017, among others), which is the highest projection in the clausal architecture and it usually hosts discourse participants such as the speaker and the hearer. (The structure in (18) contains only the speaker for the sake of simplicity.) *DAre-ga* is raised to [Spec, SAP] and is interpreted as the speaker. The [uNEG] feature of the WH-phrase is checked in its original position by being c-commanded by the negative operator, so the

WH-phrase can be raised outside the scope of the operator.

3.2 Remaining in-Situ

Oguro (2018) observes that the WH-object in an MRQ must be fronted, as in (19).

- (19) a. * Mary-ga NAni-o kau
 Mary-NOM what-ACC buy
 mono ka!
 C Q
 'Mary will buy nothing!'
 b.? NAni-o Mary-ga kau
 what-ACC Mary-NOM buy
 mono ka!
 C Q
 'Mary will buy nothing!'

There is additional evidence that the WH-phrase in this construction must be raised. Kishimoto (2009) suggests that subjects marked with *kara* 'from' stay inside vP. Importantly, the WH-subject in an MRQ cannot be marked with it, as shown in (20).

- (20) a. John-kara ayamaru
 John-from apologize
 'John will apologize.'
 b. DAre-kara ayamaru no?
 who-from apologize C
 'Who will apologize (first)?'
 c. * DAre-kara ayamaru mono ka!
 who-from apologize C Q
 'No one will apologize!'
 'I will not apologize!'
 d. DaRE-kara-MO ayamaru mono ka!
 who-from-mo apologize C Q
 'No one will apologize!'

The behavior of the WH-phrase in (20c)

contrasts sharply with that of the WH-*mo* expression in (20d). This clearly indicates that WH-phrases in MRQs cannot remain in vP, which in turn suggests that they are focused.

3.3 Multiple Occurrence

Another property of NCIs like *daREMO* which is not shared by WH-phrases in MRQs has to do with multiple occurrence. *DaREMO* and *naNIMO* can occur with each other in a sentence, but *DAre-ga* and *NAni-o* fail to do so, irrespective of their ordering.

- (21) a. DaREMO naNIMO kau mono ka!
 anyone anything buy C Q
 'No one will buy anything!'
 b. * {NAni-o} DAre-ga {NAni-o}
 what-ACC who-NOM what-ACC
 kau mono ka!
 buy C Q
 'No one will buy anything!'

Since it is assumed here that focalization of two elements is excluded, the degraded status of (21b) indicates that WH-phrases in MRQs are focused NCIs.

We can summarize these as in (22).

(22)	WH in MRQs	WH- <i>mo</i>
fragment answer		
possible		possible
appearing in vP		
impossible		possible
multiple occurrence		
impossible		possible

Put briefly, WH-phrases in MRQs are NCIs on a par with WH-*mo* expressions, but the former are focused and the latter are not.

A clue for the nature of WH-phrases in MRQs can be found in Han and Siegel (1997),

who, dealing with English examples such as (23), argue that rhetorical WH-question formation is similar to negative-preposing.

- (23) a. With what employee would John ever be
 happy? (RQ)
 b. With no employee would John be happy.
 (negative preposing)

According to Han and Siegel, (23a) is only rhetorically interpreted and its meaning is the same as (23b), which involves negative preposing. Given this, I propose the following:

- (24) a. WH-phrases in MRQs are (focused)
 NCIs rather than interrogative
 expressions.
 b. WH-MRQs are instances of negative
 preposing.

4. Conclusion

In this paper, I showed that WH-phrases in MRQs are focused NCIs, which makes MRQs a kind of negative preposing cases, whereas WH-*mo* expressions are unfocused NCIs.

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Free Rule Ordering in *There* Constructions*

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Keywords : Agree, Feature Inheritance, Free Merge, Unvalued Phi-feature

1. Introduction

This paper argues that free application of rules in syntax, which is discussed in Epstein, Obata, and Seely (2017), explains some agreement phenomena of *there* constructions under the free Merge model (Chomsky (2013, 2015)).¹

2. Analytic Assumptions

In this minimalist model, the mechanism of agreement is more or less unclear. For example, Epstein, Obata, and Seely (2017) and Chomsky (2016) suggest that PGA (Probe-Goal Agree) (see Chomsky (2000, 2001)) still holds, but Epstein, Kitahara, and Seely (2017, 2018) eliminate it and unify labeling and agreement under minimal search.² This paper adopts the former though both approaches appear to be promising. Let us first consider the typical phi-agreement in this mechanism below:³

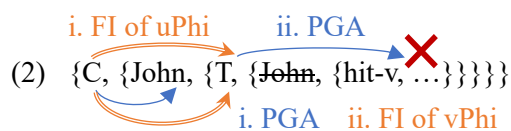
- (1) {C, {John, {T, {~~John~~, {hit-v, ...}}}}}
(*John hit Mary*)

After Merge builds the structure above,

- i. The uPhi of C and *John* (the higher copy) agree and the uPhi is valued (Probe-Goal Agree).

- ii. T inherits the valued uPhi (feature inheritance).

Note that the original PGA by Chomsky (2000, 2001) applies after FI (feature inheritance),⁴ but this ordering causes a bad result in (1) under the free Merge model (see also Epstein, Kitahara, and Seely (2014, 2017, 2018)). In (1), if the original PGA takes place, the lower ~~John~~ cannot agree with the inherited uPhi on T because lower copies are invisible or inaccessible. The probe uPhi does not find a possible goal (see (2i–ii)).



Furthermore, Epstein, Obata, and Seely (2017) argue that the ordering of rules in syntax, including PGA and FI, is essentially free, and this freedom is one factor that produces linguistic variation. Namely, they imply that PGA always applies before FI in English; the opposite rule ordering of (1i–ii) (i.e. (2i–ii)) is not assumed to be available in the language. This paper demonstrates that the case, that is, FI before PGA, is possible at least in *there* constructions in English.

3. Free Rule Ordering in English

Let us consider the following *there* construction:

- (3) There *is/are three men (in the room).

PGA by Chomsky (2000, 2001) explains why verbs agree with IA (internal argument) in *there* constructions. If we, following Epstein, Obata, and Seely (2017), assume that PGA holds for the free-Merge model proposed by Chomsky (2015)

as shown in (1), then the derivation of the typical *there* construction can be as follows:

(4) *There are three men:*

- i. Merge forms {C, {there, {T, {v, three men}}}}.
- ii. FI: T inherits uPhi from C.
- iii. PGA: The inherited uPhi on T probes into *three men*.

The rule ordering of FI and PGA is opposite to (1), and it successfully explains the fact in (3).

As a result of PGA between T and *three men* in (4), the phonological realization of the agreement is instantiated at T. Thus, the *be*-verb is phonologically realized as *are*. However, verbs do not always inflect based on the agreement with IA in the list reading. The ‘T-probing’ PGA, therefore, fails to explain empirical phenomena such as (5).

(5) *List There Constructions:*

- Who is still here to do the work?
- a. There is/*am/remains/*remain only me.
 - b. There is/are/remains/remain only us/John and Bill.

(adapted from Chomsky (2000: 149, fn. 90))

This problem can be solved by adopting the free-rule-ordering system proposed by Epstein, Obata, and Seely (2017). Let us focus on the two possible ordering schematically shown in (2) again. I have already proposed that the first ordering (2i–ii) can apply in (4), but here I also propose that the other (2i–ii) ordering is also available in the list *there* construction (The following analysis will be discarded and revised later).

(6) *There is/are only John and Bill:*

- i. Merge forms {C, {there, {T, {v, John and Bill}}}}.
- ii. PGA: The uPhi of C first probes into *there*, which bears ‘only 3rd-person’ (see Richards and Biberauer (2005)) or ‘person’ (see Chomsky (2001)), and then *John and Bill*.
- iii. FI: T inherits vPhi (valued Phi-set) from C.

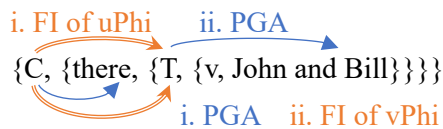
In (6ii), the uPhi of C agrees with the two phi-sets: it first probes into the 3rd-person (or person) of *there* because *there* is the closest phi-bearer, and further probes into the full Phi-set of *John and Bill* to maximize matching effects (see Chomsky (2001) for Maximization Principle). If externalization (i.e. mapping of syntax-phonology) utilizes the information of the agreement between C and *there*, T is phonologically realized as the ‘default form *is*’ due to the ‘3rd-person’ or ‘person’ of *there*. If externalization utilizes the agreement information between T and *John and Bill*, T is realized as *are*. This matches with the fact in (5b). In (5a), externalization exploits the agreement data between uPhi and *there*, and the verbs are realized as *is* and *remains*.

It is the null hypothesis that all agreement relations (i.e. T-*there* and T-IA) are available to externalization. Therefore, *am* and *remain* in (5a) should be a valid realization, but they are not. Why not? This is because externalization does not regard the ‘first-person singular’ as a legible agreement pair for the expletive *there*; the contraction of *there* and *am* (i.e. *there’m*) is impossible.

The analysis in (6) may be tenable, but it can be simplified. Maximization Principle, which requires maximizing matching effects, is not

necessary if the defective agreement (e.g. Agree (T, person)) is enough to externalize the default agreement. This is supported by minimal computation because shorter search is efficient than longer search. Therefore, (6) is revised and simplified as follows:

(7) Revised Version of (6):



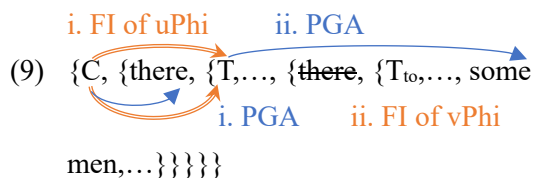
When FI applies before PGA ((7i–ii)), T is realized as *is*. When PGA applies before FI ((7i–ii)), T is realized as *are*.

4. More about Agree in *There* Constructions

Let us further consider the following construction:

(8) There ^(*)seems/seem to be some men in the garden.

It has generally been assumed that *seem* is only the acceptable choice in this sentence since the matrix T agrees with the IA *some men*. Kallulli (2008: 286), however, pointed out that *seems* in (8) is acceptable, and five native speakers also judged *seems* acceptable in my survey. Let us see the structure of (8) in the proposed analysis:



there first externally merges with SPEC-T_{to} and then internally merges with SPEC-T before C is introduced (because Merge applies strict-cyclically in Chomsky (2015)). If FI first

occurs and then PGA, the uPhi inherited by T agrees with *some men* alone because the lower copy ~~*there*~~ is invisible. Accordingly, the speakers using this rule order (9i–ii) judge *seems* unacceptable in (8). However, if PGA first occurs, the uPhi on C agrees with the closest phi-bearer *there*. The subsequent FI makes T inherit the ‘valued’ Phi from C. The speakers using this rule order (9i–ii) judge *seem* acceptable in (8). Therefore, the (un)acceptability of *seems* in (8) is explained by the difference of rule ordering.

5. Conclusion

To sum up, FI and PGA apply freely in any order after the phase unit (i.e. CP) has been built in English *there* constructions. (i) When FI applies first, T instantiates the agreement relation of uPhi and IA. (ii) In contrast, when PGA applies first, T instantiates the default form (i.e. 3rd-person-singular). Interestingly, the former option (i) is exotic in English (see (1)), which suggests that children need to learn this order. However, the latter option (ii) is canonical. This may be a reason why the default inflection is often observable in colloquial speech where unacceptable expressions as in (3) are more or less used.

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NOTES

¹ The free Merge model can generate deviant linguistic expressions. This is a natural assumption because our brain (or mind) is able

to recognize and have some forms of interpretation for deviant expressions themselves.

² Labeling is just minimal search that seeks the ‘headness’ of the structure. That is, the label of {X, YP}, which is the set of a head and a phrase, is X. The label of {XP, ~~YP~~}, where YP is a lower copy, is X. The label of {X_{uPh}P, Y_{vPhi}P} is <Phi, Phi> if vPhi (the set of valued Phi-features) is the valuer of uPhi (the set of unvalued Phi-features). Note that X_{uPh}P and Y_{vPhi}P represent that X and Y bear the unvalued phi-feature and a lexically/inherently valued phi-feature, respectively,

³ The strikethrough letter (e.g. ~~John~~) denotes the lower copy in this paper.

⁴ T inherits features from C, and a (verbal) root inherits features from v*. C and v* are both assumed to be phase heads. Feature inheritance is also called just ‘inheritance’ in Chomsky (2015).

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A Case Study in *Monadic Concepts*: Comparative Construction

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Keywords: monadic concept, comparative
construction, generalized quantifier, conjunction,
abstraction over degrees

1. Introduction

The goals of this paper are as follows: (i) To give a case study in *monadic concept* MC construction (Pietroski 2011, 2012, 2018 a, b) in the domain of “comparative constructions CCs” (basically focusing on clausal comparatives in English and Japanese); (ii) To pursue an account of CCs based on Heim's (2006) “*comparative clauses as generalized quantifiers over degrees*” approach, and hence *clausal comparatives both in English and Japanese are assumed to involve abstraction over degrees* rather than individual comparison (but see Sudo's 2009 (Invisible degree nominals in Japanese clausal comparatives, In *Proceedings of the 5th workshop on Altaic formal linguistics*) and 2015 ‘hybrid’ approach to Japanese clausal comparatives); and (iii) To explore the problem of how to represent in a *Pietroski/Hornstein-style* neo-Davidsonian semantics more intricate comparative examples, for which *the ‘contextual definitions’ of the relevant MCs are assumed to be created via conjunction of elements of very restricted sorts* (Hornstein & Pietroski 2009).

2. *Monadic Concept* Examples & Some Assumptions

Let us see monadic concepts MCs for a verb and *every* for the purposes of ‘argument structure’ and ‘quantification’ respectively (E for *events* and $\exists$ for *existential closure*; Pietroski 2012):

- (1) “... lexicalizers *abstract* the MC STAB (E) from the relational concept STAB (x, y) or STAB (x, y, E), by drawing on thematic concepts: STAB (x, y) $\equiv \exists E$ [STAB (x, y, E)]; STAB (x, y, E) $\equiv$ AGENT (E, x) and STAB (E) and PATIENT (E, y). Think of these biconditionals as **providing a contextual definition CD of STAB (E).**” (Hornstein & Pietroski 2009). Look at the following example (1a) and its associated MC STAB (E) in (1b), along with some rather detailed procedural steps of the relevant MC construction (based on its CD construction) shown in (1c):
 - a. Brutus stabbed Caesar
 - b. STAB (E) $\wedge \exists$ [PATIENT (E, x) $\wedge$ CAESAR (x)] $\wedge \exists$ [AGENT (E, x) $\wedge$ BRUTUS (x)] (TENSE omitted)
 - c. ‘Stab_V’, understood as a predicate of events, can be an **instruction to fetch STAB ()**, a monadic concept of events, which is stored at the **lexical address** for ‘stab’, and the dyadic concept PATIENT (,) is fetched from the address of some functional item ‘ Θ_1 ’, where it is stored. And also suppose (perhaps, simplifyingly) that ‘Caesar_N’ fetches CAESAR (), stored at the lexical address for ‘Caesar’. Then **the dyadic concept PATIENT (,) and monadic**

concept CAESAR () are conjoined, with the second variable of the dyadic concept linked to the adjacent monadic concept (i.e., CAESAR ()) and $\exists$ (existential closure) targeting the monadic concept CAESAR (). And then, the complex monadic concept $\exists$ [PATIENT (E, x) $\wedge$ CAESAR (x)] and the monadic concept STAB (), a monadic concept of events, are conjoined to create the monadic concept (along with its CD) STAB (E) $\wedge$ $\exists$ [PATIENT (E, x) $\wedge$ CAESAR (x)] (see Pietroski 2018a: 103-109, Hornstein & Pietroski 2009: 131, Suzuki 2019 for further details).

- (2) a. “If ‘every’ (which lexicalizes a quantificational concept) can take a predicate of individuals as its internal argument IArg and a predicate of truth values as its external argument EArg, then ‘every’ is satisfied by things that have individuals as their internal participants IPs and truth values as their external participants EPs.” (Hornstein & Pietroski 2009)
- b. i) Every spy is wearing a hat.
 ii) TENSE (PRES)/EVERY (Q)
 $\wedge \exists$ [INTERNAL (PRES/Q, x)
 $\wedge$ MAX: A-SPY (x)] $\wedge \exists$ [EXTERNAL (PRES, x) $\wedge$ MAX6/MAX3/MAX ∞ : IS-WEARING-A-HAT (x)]
 (Pietroski 2018a; PRES for *present*, Q for *quantifiers*, MAX6/MAX3/MAX ∞ — NS)

The interpretation of (2bi) given in (2bii) is an instance of *second-order logic* involving a relation of two groups/sets. The MC EVERY (Q)-related portion in (2bii) is assumed to be an

instance of “reprojection” in the sense of Uriagereka & Hornstein (2002: 119-120), providing the *second label* for the structure (Uriagereka & Hornstein 2002:117-119). ‘Every_D’, as a device that lexicalizes a quantificational concept, can be an instruction to fetch a monadic concept (i.e., ‘EVERY (Q)’ of things with participants. The MC EVERY (Q) applies to some ordered pairs if and only if they meet three conditions: each of their IPs is one of their EPs; their IPs are the spies; and their EPs are the things wearing a hat. The concept MAX: Φ () applies to some things if and only if they are (all & only) *the* things to which Φ () applies (Pietroski 2018a). EVERY () applies to both the six ordered pairs: <1, 1>; <2, 1>; <3, 3>; <4, 3>; <5, 5>; <6, 5> (three IPs, 1, 3, and 5, being the spies, and six EPs, 1-6, the people wearing hats) and the three ordered pairs: <1, 5>; <3, 3>; <5, 1> (the numbers of IPs and EPs being the same) (Pietroski 2018a). Then (2bii with MAX3; see Pietroski 2018a: 335-339 for ‘conservativity’; more basically for ‘conservativity,’ see Lappin ed. 1996: 163 (50), 527) is a CD of EVERY (Q) for the latter ‘three ordered pairs’ case, with a CD of EVERY (Q) for the other, former ‘six ordered pairs’ case shown in (2bii with MAX6). Some implicature (e.g., Grice’s maxim of Quantity: “Do not make your contribution more informative than is required”) urges you to choose (2bii with MAX3) as the CD of EVERY (Q) for (2bi). Even in the ‘six ordered pairs’ case, the CD of EVERY (Q) in (2bii with MAX3) appears to be preferred over (2bii with MAX6). As for (2bii with MAX ∞), see Hornstein & Pietroski (2009) for “... the external/sentential argument does not, ..., specify a second set.”

3. Proposal: Comparative Constructions

3.1. English Clausal Comparatives

Let us move on to the monadic concept MC *–ER*-than (D) (D for *degrees* — *NS*) for comparatives. See the comparative (3a) with its structure (3b) involving “*–er*-than” as ‘head’ of the CC taking two arguments:

- (3) a. Mary is taller *than John is*.
 b. [[[*–er*-than] [John is]] [Mary is tall]]
 (based on Hohaus, Tiemann, & Beck 2014)

In (3) *John is* is the IArg of *–er*-than creating a set of degrees specifying all the gradable stages of John’s height, while the EArg *Mary is tall...* may allow of two possibilities: (4 with MAXMARY and MAX ∞ ; also Hornstein & Pietroski 2009):

- (4) *–ER*-than (D) $\wedge \exists$ [INTERNAL (D, x) $\wedge$
 [MAX: TALL (x) $\wedge$ JOHN (x)]]
 $\wedge \exists$ [EXTERNAL (D, x) $\wedge$ [MAXMARY/
 MAX ∞ : TALL (x) $\wedge$ MARY (x)]]

“*Er*-than” (composed of comparative morphemes in syntax) is assumed to be able to be an instruction to fetch the comparative MC ‘*–ER*-than (D)’ (see (1c) above for some procedural details for MC/CD construction). In (4 with MAXMARY), a CD of *–ER*-than (D) is given *for both the degrees of height of the IP and EP as they are (all and only) the things to which ‘TALL ()’ applies*, with the IArg and EArg creating a set of degrees. In (4 with MAX ∞) *the EArg does not specify a set*. *–ER*-than (D) applies to three similar contexts: (i) both IArg and EArg create a set of degrees of height (4 with MAXMARY), with “the set of degrees *d* such that Mary is *d* tall properly including the set of degrees *d* such that John is *d* tall: λd . Mary is *d* tall $\supset \lambda d$. John is *d* tall”

(Aloni & Roelofsen 2014); (ii) there are some degrees of EP’s height surpassing the set of all such degrees of IP’s height (*my interpretation*; (4 with MAXMARY/MAX ∞)); and (iii) the maximal height degree that Mary reaches is more than the maximal degree of height that John reaches: $\max (\lambda d$. Mary is *d*-tall) $>$ $\max (\lambda d'$. John is *d'*-tall) (Hohaus, Tiemann, & Beck 2014; (4 with MAXMARY/MAX ∞)). (Note that I follow Heim 2006:6 in assuming for ‘a semantics for the comparative morpheme *–er*’: $[[\text{–er}]] = \lambda d \lambda d'. d' > d$.) To the extent that the size of the set of degrees of John’s height is equal to the size of the intersection of degrees of John’s and Mary’s heights, ‘conservativity’ of some sort is obtained, adding to the validity of interpreting (clausal) CCs as ‘generalized quantifier’ constructions over degrees.

3.2. Japanese Clausal Comparatives

I basically follow Shimoyama (2012) in assuming that Japanese clausal comparatives involve abstraction over degrees along the lines of their English counterparts. This contrasts with proponents of the view that Japanese (clausal) comparatives are parametrically limited to individual comparison (see Shimoyama 2012: 85 and references cited therein). Note also that Shimoyama (2012: 110-111) pays special attention to Sudo’s (2009; also Sudo 2015) ‘hybrid’ approach to Japanese clausal comparatives with properties from both degree abstraction and individual-denoting DP analysis. Now look at the following phrasal and clausal comparatives in Japanese (from Sudo 2015: 4):

- (5) a. *Phrasal Comparative*
 John-wa [Mary]-yori kasikoi
 John-TOP [Mary]-than smart
 ‘John is smarter than Mary’

b. *Clausal Comparative*

John-wa [Mary-ga kitaisita]-yori
kasikoi

John-TOP [Mary-NOM expected]-
than smart

‘John is smarter than Mary expected’

I focus on the clausal comparative in Japanese in (5b). Notice that Japanese does not have an overt morpheme for *more* or *-er*, which fact I assume has no significant role to play in the subsequent analysis of Japanese clausal comparatives (Sudo 2015: 4-5). Look at (6 = (5b)) (M for *modality* — *NS*; see Pietroski 2012: 80-82, Heim 2006: 9, Shimoyama 2012: 87-88), where the MC (*MARY-ga-)**KITAISITA* (*M*)-related portion in (6b) is assumed to be an instance of “reprojection” in the sense of Uriagereka & Hornstein (2002: 119-120), providing the *second label* for the structure:

- (6) a. John-wa [Mary-ga kitaisita]-yori kasikoi
‘John is smarter than Mary expected’
(there is a possible world *w* based on
Mary’s expectation such that John is
smarter in the actual world than in *w*)
b. YORI (D)/(*MARY-ga-)**KITAISITA* (*M*)
∧ ∃ [INTERNAL (D/M, x)
∧ [MAXD/M: SMART (x) ∧ JOHN (x)]]
∧ ∃ [EXTERNAL (D, x)
∧ [MAXD-JOHN/MAXD-∞: SMART (x)
∧ JOHN (x)]]

The comparison word *yori* (than), constructed as the MC ‘YORI (D)’ with its two CDs in (6b) with MAXD-JOHN/MAXD-∞, serves as ‘(first-) head’ of the clausal comparative in Japanese in (6a = 5b), with the ‘reprojected’ MC ‘(*MARY-ga-)**KITAISITA* (*M*)’ providing the *second label* for the structure.

4. Representing Comparatives in a *Pietroski-style Semantics*

The discussion is based on Heim’s 2006 *comparative clauses as generalized quantifiers over degrees*. Look at the following CCs in English (7, 8):

- (7) a. Mary is taller than every boy is.
‘for every boy *x*: Mary is taller than *x*’
LF: [wh₁ [every boy is *t*₁ tall]]₂ [Mary is [-er
than *t*₂] tall]
∀*x* [boy (*x*) → Mary’s height > *x*’s height]
b. *-ER*-than (D)/*EVERY* (*Q*)
∧ ∃ [INTERNAL (D/*Q*, *x*) ∧ [MAXD:
TALL (*x*) ∧ A-BOY (*x*)]]
∧ ∃ [EXTERNAL (D, *x*)
∧ [MAXD-MARY/MAXD-∞: TALL (*x*)
∧ MARY (*x*)]]
(8) a. The desk is wider than every couch is
long.
‘for every couch *x*: the desk is wider than
x is long’
[wh₁ [every couch is *t*₁ long]]₂ [the desk
is [-er than *t*₂] wide]
∀*x* [couch (*x*) → the desk’s width > *x*’s
length]
b. *-ER*-than (D)/*EVERY* (*Q*)
∧ ∃ [INTERNAL (D/*Q*, *x*)
∧ [MAXD-LONG: LONG (*x*)
∧ A-COUCH (*x*)]]
∧ ∃ [EXTERNAL (D, *x*)
∧ [MAXD-WIDE-THE DESK/
MAX D-WIDE-∞: WIDE (*x*)
∧ THE DESK (*x*)]]

The MC *EVERY* (*Q*)-related portion in (7b) above is assumed to be an instance of “reprojection” in the sense of Uriagereka & Hornstein (2002: 119-120), which they (2002) take to be the *second label* of the structure.

Note that both ‘*–ER*-than (D)’ and ‘*EVERY (Q)*’ are monadic concepts. The MC *EVERY (Q)*-related portion in (8b) above is taken to be an instance of “reprojection” in the sense of Uriagereka & Hornstein (2002), which they (2002) assume to be the *second label* of the structure. I here assume for (8b) that the internal argument provides a finite set of degrees of couch length, while in the external argument no finite set of degrees of desk width is created.

Let us look at some more examples (9, 10) from Heim (2006: 8; based on Schwarzschild & Wilkinson 2002) with a ‘than’-clause-internal element appearing to scope out and see what we can do with these recalcitrant examples via *Pietroski-style* semantics combined (in some cases) with *reprojection* in the sense of Uriagereka & Hornstein (2002):

- (9) a. It is warmer here today than it **usually** is in New Brunswick.

‘for most times *t*: it is warmer here today than it is at *t* in New Brunswick’

- b. ***usually/most times t* with ‘generalized quantifier’-construal**

–ER-than (D)/*USUALLY (Q)*

$\wedge \exists$ [INTERNAL (D/*Q*, *x*)

$\wedge$ [MAXD: WARM (*x*)

$\wedge$ IN-NEW-BRUNSWICK (*x*)]]

$\wedge \exists$ [EXTERNAL (D, *x*)

$\wedge$ [MAXD-HERE-TODAY/MAXD- ∞ : WARM (*x*) $\wedge$ HERE-TODAY (*x*)]]

- (10) a. George is richer than his father was **and** his son will be.

‘George is richer than his father was, and he is richer than his son will be’

- b. **& > *–ER*-than (D)** (with ‘and’ taking scope over the comparative ‘*er* than’)

–ER-than (D)

$\wedge \exists$ [INTERNAL (D, *x*)

$\wedge$ [MAX: RICH (*x*)

$\wedge$ HIS FATHER (*x*)]]

$\wedge \exists$ [EXTERNAL (D, *x*)

$\wedge$ [MAXGEORGE/MAX ∞ : RICH (*x*)

$\wedge$ GEORGE (*x*)]],

& *–ER*-than (D)

$\wedge \exists$ [INTERNAL (D, *x*)

$\wedge$ [MAX: RICH (*x*) $\wedge$ HIS SON (*x*)]]

$\wedge \exists$ [EXTERNAL (D, *x*)

$\wedge$ [MAXGEORGE/MAX ∞ : RICH (*x*)

$\wedge$ GEORGE (*x*)]]

5. A Note on Children’s Comparatives?

Look at the following CC and its child interpretation (11a, b; Syrett 2016: 464):

- (11) a. Tim is taller than Derek (is).
b. Children do not initially understand that (11a) does *not* necessarily assert that Tim is tall but *does* assert that Tim’s height exceeds that of Derek’s.

I focus in (11b) on children’s lack of understanding that Tim’s height exceeds that of Derek’s. Notice that Knowlton et al. (2019: 1) observe that “the meaning of sentences like *every circle is blue* could be represented in speakers’ minds in terms of **individuals and their properties** (e.g., ‘for each thing that’s a circle, it’s blue’; via a tool of *first-order logic*) or in terms of **relations between groups** (e.g., ‘the blue things include the circles’; via a tool of *second-order logic*).” Capitalizing on the distinction between tools of ‘*first-order logic*’ and ‘*second-order logic*’ noted above, let us make use of these interesting grades of logic with ‘*first-order logic*’ developmentally preceding for the purpose of accounting for the fact in (11). Look at (12a, b):

- (12) a. $-ER\text{-}than(D)$
 $\wedge \exists [INTERNAL(D, x)$
 $\wedge [MAX: TALL(x)$
 $\wedge DEREK(x)]$
 $\wedge \exists [EXTERNAL(D, x)$
 $\wedge [MAXTIM/MAX_{\infty}:$
 $TALL(x) \wedge TIM(x)]$
 $(\lambda d. Tim \text{ is } d \text{ tall} \supset \lambda d. Derek \text{ is } d \text{ tall})$
- b. $-ER\text{-}than(D)$
 $\wedge \exists [ARGUMENT(D, x)$
 $\wedge [MAX: TALL(x) \wedge TIM(x)]$
 $\wedge [MAX: TALL(x) \wedge DEREK(x)]$
 $(\lambda d. Tim \text{ is } d \text{ tall} \wedge Derek \text{ is } d \text{ tall})$

The CD (12a) gives the adult, second-order interpretation, where two sets/groups of height degrees (of Derek's and Tim's) serve as arguments of the comparative MC ' $-ER\text{-}than(D)$.' Notice that (12b) gives a first-order representation with only one argument (i.e., a combined set of height degrees of Tim's and Derek's; with lack of understanding that Tim's height exceeds that of Derek's) for the MC ' $-ER\text{-}than(D)$,' which I take to be a possible child interpretation at least distinct from the adult second-order interpretation of (11a) given in (12a).

6. *Than*-Clauses Licensing *Upward-Entailing* Cases

The discussion is based on Heim 2006: 6ff, Giannakidou & Yoon 2014: 3ff, and Alrenga & Kennedy 2014: 31ff. Look at the following example from Heim (2006: 16 (43)) displaying an upward-entailing property in the *than*-clause:

- (13) John is taller than some professional basketball players are. Therefore, he is taller than some professional athletes are.

Note that for the relevant portion of (13) to be valid, all we need is the situation in which **there is a non-null intersection of a (finite) set of height-degrees less than John's height and a set of professional basketball players (in any height)**. I assume upward-entailing computation in this case to be implemented independently of comparative interpretation (see Barwise & Cooper 2002: 102 for 'intersection'; also see Alrenga & Kennedy 2014: 31 for interesting discussion on and interpretation of such sentences involving an existential DP as *Sarah is taller than some of my students are*). Then look at the following, preliminary MC ' $-ER\text{-}than(D)$ ' for (13) above via Pietroski-style semantics:

- (14) $-ER\text{-}than(D)$
 $\wedge \exists [INTERNAL(D, x)$
 $\wedge [MAX: TALL(x)$
 $\wedge [THINGS-LESS-TALL-THAN-JOHN$
 $\cap PROFESSIONAL-BASKETBALL-$
 $PLAYERS](x)]$
 $\wedge \exists [EXTERNAL(D, x)$
 $\wedge [MAXJOHN/MAX_{\infty}:$
 $TALL(x) \wedge JOHN(x)]$

7. Conclusion

Note that my basic stance on the goals of this paper should be most evident in taking seriously Hornstein & Pietroski's spare neo-Davidsonian semantics rather than Frege's *Begriffsschrift* semantics, which appears to generate expressions of boundlessly many, rarely or never attested types and to beget many (unwanted) multiple lexical categories (Pietroski 2018b). And my modest hope here in taking this stance has been to contribute to the solution of Darwin's Problem to the extent that employing a Hornstein/Pietroski semantics has been

successful in data analysis and description in the domain of comparative constructions dealt with above (Hornstein & Pietroski 2009, Hornstein 2009).

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On Part-Whole Relations Expressed by Partitive and A *out of* B Constructions*

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relation, proportion, ratio

1. Introduction

Despite their structural similarities, partitives (e.g. *two of the five books*) and A *out of* B constructions (e.g. *two out of five books*) have received contrasting treatments in linguistics. Theoretical studies of partitives began in the late seventies. Selkirk (1977) and Jackendoff (1977) introduced a well-known distinction between pseudo-partitives (e.g. *a group of students*) and true partitives (e.g. *a group of the students*). On the other hand, it was not until the mid-eighties that Quirk et al. (1985) conducted the first substantial, descriptive study A *out of* B constructions. They observed contrastive behaviors of A *out of* B and partitives:

- (1) a. Ten out of fourteen women were single.
b. ?*Ten of fourteen women were single.
(Quirk et al. 1985: 1287)

This contrast indicates that true partitives are subject to the so-called Partitive Constraint, which requires that the NP following *of* be definite, whereas A *out of* B constructions do not. (For ease of reference, let us call the NP that follows *of* “NP₂” and the NP that precedes *of*

“NP₁.” These terms will also be used for the A *out of* B constructions in a parallel way.)

In this paper, we will argue that true partitives may have an indefinite NP₂ under certain conditions and express similar semantic relations as A *out of* B does. The purpose of this paper is twofold: (i) to show that there is a subtype of partitives that is semantically close to A *out of* B, and (ii) to explain (part of the) putative counterexamples to the Partitive Constraint.

2. Comparison of Partitives and A *out of* B

2.1. Syntactic and Semantic Characteristics of Partitives

True partitives and pseudo-partitives are distinct in that the former express a part-whole relation whereas the latter do not. In *a group of the students*, for instance, *a group* denotes a subset of the main set expressed by *the students*. On the other hand, *a group of students* denotes a set of students as a whole. The semantic difference comes from the (in)definiteness of the NP₂. We will exclude pseudo-partitives from our discussion to focus on the comparison between true partitives and A *out of* B constructions. For simplicity, let us use “partitives” to refer to true partitives.

Partitives must satisfy the Partitive Constraint, whose definition is given below.

(2) Partitive Constraint

NP₂ must contain a definite article, a demonstrative, or a possessive.

(cf. Jackendoff 1977)

It has been observed in the literature that there are cases in which partitives are permitted that do not satisfy the Partitive Constraint. Below are some examples.

- (3) Only one of many applicants passed the test.
(Reed 1989: 421)
- (4) This is one of a number of counter-examples to the PC.¹ (Ladusaw 1982: 240)

The partitives in these examples are acceptable even though they have an indefinite NP₂. To explain this syntactic violation, semantic and pragmatic solutions have been proposed, but none of them has been fully successful.

Before we tackle problematic partitives, it is necessary to review general characteristics of partitives. According to Tanaka (2015), the part-whole relations expressed by partitives are classified into three types: the group-member relation, the type-token relation, and the relation between an entity and its inalienable parts. Each type is exemplified below.

- (5) a. two of the books I read
b. two pages of the book I read
c. two copies of the book I read

In (5a), *two* denotes a subset of the main set denoted by *the books I read*. Tanaka refers to this type of partitive as an “M-partitive” (or “M-type”), where “M” stands for *member*. In (5b), *two pages* is an inalienable part of *the book I read*. He calls this type of partitive “I-partitives” (or “I-type”), where “I” stands for *inalienable*. In (5c), *the book I read* denotes a book title, or a type, and *two copies* denotes its tokens. He names this type of partitive “T-partitive” (or “T-type”) after the initial letter of *token*.

Partitives that relate semantically to the A *out of* B construction are M-type. Thus, we will take a close look at M-partitives. (For simplicity, we will use “partitives” to refer to M-partitives unless otherwise stated.) The following

examples show the range of quantifiers that can occur in the NP₁ of partitives:

- (6) a. two of the five books [numeral Q]
b. some of the five books [cardinal Q]
c. most of the five books [proportional Q]

These quantifiers are classified into two major types: Whereas numeral and cardinal quantifiers denote numbers and quantities, proportional quantifiers denote a proportion of the set expressed by the NP₂ (cf. Milsark 1974). It suffices here to see that quantifiers of both types are compatible with partitives.

The following example shows that M-partitives cannot occur as the logical subject of existential-*there* constructions.

- (7) *There are two of the cows in the stable.
(Diesing 1992: 72)

The partitive requires the main set denoted by NP₂ to be introduced in previous discourse, whereas the existential-*there* construction requires the logical subject to be non-presuppositional. Hence, the incompatibility of partitives and existential-*there* constructions.²

2.2. Syntactic and Semantic Characteristics of A *out of* B

The A *out of* B construction allows not only a definite NP₂ but also an indefinite NP₂. It should be noted that the range of interpretation is different depending on whether the NP₂ is definite or not.

- (8) a. two out of the five books [definite NP₂]
→ partitive reading
b. two out of five books [indefinite NP₂]
→ either partitive or ratio reading

A partitive reading is obtained when the NP₂ is definite. When the NP₂ is indefinite, on the other hand, not only partitive but also ratio readings are possible.

It is worth noting that elements in the NP₁ may affect the possible interpretation of *A out of B*. As Tanaka (2012) points out, only the ratio reading is available for the *A out of B* in the following example from BNC:

- (9) Nearly two out of five video owners find it difficult to programme their machines for recording because it is too complicated.

(Tanaka 2012: 166)

It is inappropriate to use decimal numbers such as *nearly two* to count human beings, so the partitive reading is excluded.

The following contrast shows that the *A out of B* construction does not allow proportional quantifiers in the NP₁ position.

- (10) a. two out of the five books
b. *most out of the five books

It should be recalled that partitives do not have such a restriction, as shown in (6). Below is another example that shows the incompatibility of proportional quantifiers with *A out of B*.

- (11) *Most out of fourteen women were single.
cf. (1a)

When an indefinite NP₂ occurs in *A out of B*, it should contain a determinate numeral.

- (12) a. two out of the (five) books
b. *two out of books

This fact may lead us to Tanaka's (2012) claim

that *A out of B* constructions basically express ratios, and proportional readings are available when the NP₂ denotes a set whose boundary is clearly determined.

The table below summarizes what we have seen so far.

Table 1: Comparison of partitives and *A out of B* (Tanaka 2012: 166, modified)

	Partitive	<i>A out of B</i>
Proportional Q in NP ₁	compatible	incompatible
Definiteness of NP ₂	definite	definite or indefinite
Number-explicitness of NP ₂	no need	no need for definite NP ₂ / explicit for indefinite NP ₂
NP ₁ -NP ₂ relation	group-member (proportion)	proportion or ratio

The concepts of “proportion” and “ratio” are distinguished here. In the case of *A out of B*, proportion refers to a relation that arises when NP₂ is definite. On the other hand, ratio refers to such a relation that is formed when NP₂ is indefinite and thus does not refer to a set whose boundary is clearly determined. In ordinary partitives, NP₂ should be definite. A proportional reading is made either when both NP₁ and NP₂ contain a determinate numeral, or when NP₁ contains a proportional quantifier. In other cases, a group-member reading results.

3. Subtypes of Partitives

In this section, we will first see that partitives that express vague proportions like *A out of B* are not subject to the Partitive Constraint. We will then specify the conditions

for partitives to express vague proportions.

3.1. Vague Proportions Expressed by Partitives and A out of B

Let us compare the partitive and the A out of B constructions in the following examples:

- (13) This is only one instance out of many.
(KNJED)
- (14) This is only one of many instances of the breadth of Marryat's view.
(BNCweb: EC8 373)

The partitive in (14) is still acceptable even though it has an indefinite NP₂. According to my informant, the partitive is interchangeable with the A out of B in (13). Notice that the combination of the quantifiers in NP₁ and NP₂ is the same in these examples.

Here is another pair of examples that indicates the semantic correspondence between partitives and A out of B constructions.

- (15) [T]he above example is only one out of very many which might have been cited.
(BNCweb: EW7 790)
- (16) [H]e was only one of many hundreds of men throughout the country during the fifteenth and sixteenth centuries making such an obligation. (BNCweb: AE4 573)

The partitive in (16) has an indefinite NP₂, *many hundreds of men*. Again, the partitive and the A out of B in (15) share the same combination of quantifiers (i.e. *only one* and *many*).

It is reasonable to consider that the A out of B in (13) and (15) express vague proportions. The parallelism between partitives and A out of B thus leads us to the idea that partitives may express a vague proportion when they have an

indefinite NP₂.

The following table illustrates the semantic relationship between partitives and A out of B.

Table 2: The semantic relationships expressed by partitives and A out of B

	NP ₁ -NP ₂ Relation	Element in NP ₂	Example
Partitive	group-member	definite article	<i>one of the (ten) applicants</i>
	vague proportion	cardinal Q	<i>one of many applicants</i>
A out of B			<i>one out of many applicants</i>
	ratio / proportion	numeral	<i>one out of (the) ten applicants</i>

The top and bottom rows show the typical use of partitives and the typical use of A out of B, respectively. The middle row is where partitives and A out of B are semantically close.

Based on the above table, we will examine problematic cases of partitives. Let us start with (3) and (4). In (3), the NP₁ is *only one* and the NP₂ *many applicants*. This combination is exactly the same as in (14), in which a vague proportion is expressed. In (4), the NP₂ contains an indeterminate cardinal quantifier, *a number of*, so a vague proportion is expressed.

The following have been regarded as counterexamples to the Partitive Constraint.

- (17) Only one of many people who saw the accident would testify. (Reed 1989: 421)
- (18) John was one of several students who arrived late. (Ladusaw 1982: 240)
- (19) One of some boys who were playing in the alley got arrested.

(Stockwell et al. 1973: 144)

- (20) He ate three of some apples he found on the ground. (ibid.)

The partitive in (17) obviously expresses a vague proportion: *Only one* in NP₁ is very small compared to *many people* in NP₂. In (18), *one* in NP₁ and *several* in NP₂ are compared and a vague proportion is expressed. The partitives in (19) and (20) have an indefinite NP₂ with a cardinal quantifier, *some*, and the phrases as a whole express a vague proportion.

If it is assumed that partitives have a subtype that is interchangeable with A *out of* B, one can explain the above putative counterexamples to the Partitive Constraint.

3.2. Conditions for the Partitive Subtype to Express Vague Proportions

This subsection will be devoted to specifying when partitives are semantically close to A *out of* B. Quirk et al. (1985) observe that a partitive whose NP₂ contains a determinate numeral is unacceptable.³

- (21) ?* Only a few of ten reviewers praised his play. (Quirk et al. 1985: 1287)

Let us suppose that the NP₂ of the partitive subtype determines the boundary of a set only vaguely. A vaguely determined set in the NP₂ is compared with the number or quantity denoted by the NP₁, and a vague proportion is expressed. This is not a part-whole relation in the strict sense but rather supplemental information that there are more individuals than those denoted by the NP₁.

Let us examine the following pair on the basis of the above idea:

- (22) a. one of the many applicants
b. one of many applicants

The partitive in (22a) has a definite NP₂, so the main set should be clearly determined (i.e., it is likely to be introduced in previous discourse). In contrast, the partitive in (22b) has an indefinite NP₂ that contains a cardinal quantifier, *many*. Here, the NP₂ makes a quantitative contrast with the NP₁, and a vague proportion is expressed. In other words, (22b) is semantically close to the A *out of* B construction.

Our analysis harmonizes with a fact about fronting of the *of*-NP. When the *of*-NP is preposed, the acceptability of (3) is degraded.

- (23) ? Of many applicants, only one passed the test.

My informant said that the fronted *of*-NP should be definite. Comparing this with (19), Abbott (1996) makes a parallel judgement for the following example:

- (24) ? Of some boys who were playing in the alley, one got arrested. (Abbott 1996: 34)

Here, fronting the indefinite *of*-phrase causes ill-formedness. Abbott (1996: 34) notes: “[T]he preposing construction might be thought to be connected in some way with discourse topics, which should be denoted by definite NPs.” In our analysis, the preposed *of*-NP is syntactically independent of the NP₁, and thus should express a clearly determined set.

Here is a seemingly problematic example.

- (25) Of ten reviewers, only a few praised his play. (Quirk et al. 1985: 1287)

Quirk et al. (1985) compare this sentence with (21) and observe that fronting the indefinite *of*-phrase does not degrade acceptability. They note, however, that the fronted *of*-phrase has an adverbial function, and (25) can be paraphrased by the following sentences:

- (26) a. Of ten reviewers that there were, only a few praised his play.
 b. There were ten reviewers, but only a few praised his play.

(Quirk et al. 1985: 1288)

Note that the fronted *of*-phrase in (25) corresponds to the existential-*there* construction. This means that the main set denoted by the fronted *of*-phrase is introduced within the same sentence as its subset occurs.

Abbott (1996) admits that there are variations in judgment among speakers for sentences such as (24). Indeed, my informant modified his judgment of (23), which he found acceptable when he realized that it corresponds to such paraphrases as (26). In our analysis, however, the indefinite *of*-phrase with a cardinal quantifier is distinguished from the indefinite *of*-phrase with a numeral quantifier. When partitives express a vague proportion, the *of*-phrase should contain a cardinal quantifier like *many* but not a numeral quantifier like *ten*, so as to contribute to a vague quantitative contrast with the NP₁.

4. Future Research

Ladusaw (1982) observes that an indefinite NP₂ may contain a determinate number.

- (27) That book could belong to one of three people. (Ladusaw 1982: 240)

The partitive here does not express a vague proportion but rather a clear proportion. How can an indefinite NP₂ with a numeral be tolerated? An important clue is that such partitives are likely to be used in certain contexts such as detective stories. In (27), the three people are candidates for the owner of a book. The main set has thus already been narrowed down through investigation, and the NP₂ is regarded as a determined set, or a pragmatically definite expression.

Below are similar cases from Abbott (1996).

- (28) We put two strawberries on each of three pies (and kiwi slices on the rest).

(Abbott 1996: 30)

- (29) All of three people (out of the 50 I wrote to) had the politeness to respond to my invitation. (ibid.)

The NP₁ of the partitives in these examples contains a proportional quantifier (i.e. *each* and *all*), and the NP₂ contains an indefinite NP with a numeral quantifier (*three*). Since proportional quantifiers cannot occur in A *out of* B, the above partitives are not interchangeable with A *out of* B. It appears that the bracketed parts have some effects on the interpretation of the indefinite NP₂. These indefinite NP₂s could be treated in a pragmatic way, but we must leave this issue for future research.

5. Concluding Remarks

We compared (true) partitives and the A *out of* B construction with respect to the part-whole relations they express. Two main claims were made: (i) partitives have a subtype that is semantically close to A *out of* B and expresses a vague proportion, and (ii) such a partitive subtype is not subject to the Partitive Constraint.

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NOTES

¹ “The PC” in (4) is an abbreviation of “Partitive Constraint.”

² Partitives may occur in the existential-*there* construction (e.g., *Are there many of those machines?*). Tanaka (2012, 2015) claims that such partitives are not an M-type but a T-type. Readers are also referred to Tanaka (2017), who discusses why *A out of B* cannot express a type-token relation like partitives.

³ There is a case in which partitives can have an indefinite NP₂ with a numeral (e.g. *one of three people*). We will discuss such a case later.

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CORPUS

British National Corpus (BNCweb)

DICTIONARY

Kenkyusha's New Japanese-English Dictionary (KNJED), fifth ed., Kenkyusha, Tokyo.

How People Understand Each Other in Interaction Using Figurative Language: Comparing Japanese and English Task-based Dialogues*

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Keywords: figurative language, task-based, interaction, joint action, situated

1. Introduction

Figurative language such as metaphor and simile can be used to convey meaning quickly and effectively, as many are commonly used in everyday life (Kövecses 2002; Lakoff & Johnson 1980). Previous studies have carefully analyzed mechanisms of how figurative language is used in many situations (Deignan, Littlemore, & Semino, 2011; Lakoff, 1992). However, it is unclear how these metaphors and similes are used in interactions where participants jointly act to mutually understand each other. In particular, no studies seem to shed a light on comparison in terms of whether objects in the physical environment are visible or not. Nor are there many studies to compare metaphor and simile use across languages such as native Japanese speaker and native Japanese speaker (NJS-NJS) to native English speaker and native English speaker (NES-NES) dialogues.

This paper therefore explores how figurative language is integrated in both English and Japanese task-based dialogues to achieve mutual understanding in discourse, in particular through the comparison of visible and nonvisible access of cooperative Lego block building task.

2. Previous studies

According to Murphy and Koskela (2010:154), “similes express a comparison between two distinct things through the use of expressions like *like* or *as*” (e.g. Her eyes were *like* deep mountain pools). This example sentence is used when two different entities are compared, signaled by the expressions starting with ‘like.’ On the other hand, metaphors “can be viewed as figuratively representing the two things as equivalent” (e.g. Her eyes were deep mountain pools.) (Murphy & Koskela (2010:154)). In this case, her eyes’ color is viewed as the color of beautiful complex mountain water.

Figurative language above is viewed “as a resource that people use while ‘talking-and-thinking’ in specific communicative settings” (Cameron, 2010: 88). More precisely, figurative language functions in discourse when its message has been already shared by the participants in each specific conversational situation.

Let us look at an example of how “the man is a wolf” sentence works. According to Black (1995), the MAN IS A WOLF metaphor “will not convey its intended meaning to a reader sufficiently ignorant about wolves.” (p. 287). Only when the reader has enough encyclopedic knowledge, which is drawn from our bodily and cultural experience (Croft & Cruse 2004), the wolf-metaphor constructs their view of man. In other words, metaphor and simile invoke “conventional shared understandings” (Cameron et al., 2009: 11), so that a subject in a sentence is understood

by associating an unfamiliar idea with one that is already known, which leads us to have better understanding of complex ideas.

A shared physical environment is also a resource as a background to the current utterance, and helps us to understand new information (Clark, 1996). When the participants can see the workspace, their actions take the place of their interaction, replacing verbal communication (Gergle, Kraut, & Fussell, 2004). So that the participants achieve grounding or joint actions that people undertake to reach a goal in interaction. On the contrary, the participants in the task spent more time checking whether their action were correct or not when the workspace was hidden (Clark & Kruch 2004).

Related to our study, Suzuki (2009) examines liquid metaphor such as flood, flow, pour, and spill, comparing Balanced Corpus of Contemporary Written Japanese (BCCWJ) and Wordbanks Online. The finding shows that Japanese corpus has more liquid expressions than the English one. The number of liquid metaphor expressions in English is 133 out of 17547 words (Ratio, 0.75%) while the number in Japanese is 328 out of 8537 (Ratio, 3.84%). This result shows that Japanese corpus has more metaphorical expressions related to liquid. However, Nordmark and Glynn (2013) whose research examines anxiety metaphor using online personal diaries and blogs shows some opposite results. They look at anxiety expressions (e.g. Anxiety attacks me. / I got anxiety and wanted to throw everything up.) and find that Japanese has the fewest metaphors related to anxiety in this corpus study. Comparing the literal meaning and metaphorical meaning of anxiety expressions among English, Swedish and Japanese, the number of metaphors in Japanese expressions is the fewest, 15, followed by the 60 in English and

in Swedish 90 out of 150 words, respectively. It seems to be plausible that the number of figurative expressions may depend on the corpus which is used for research and the types of metaphors which are examined.

Based on the previous studies, this paper hypothesizes that figurative language as recourses help us to understand new information differently in either visible or hidden conditions. We also hypothesize the language constraints in each language would lead to the different ways of using metaphors and similes.

The major topics which this paper covers are:

1. to analyze the occurrence of figurative language in our task-based dialogues in English and Japanese,
2. to analyze the occurrence of figurative language when a workspace is shared between the participants and when a workspace is not shared and,
3. to present how the participants put figurative language into dialogues, and how they develop their dialogues through accumulation of common knowledge in Japanese and English.

3. Method

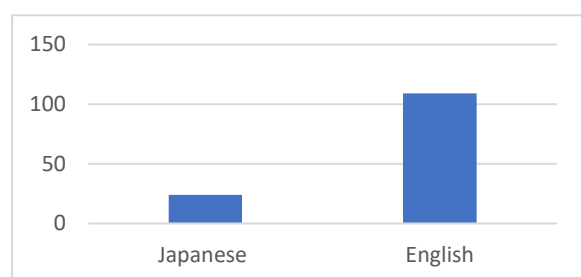
We video-recorded task-based dialogues from five pairs of native Japanese speakers (NJS) and five pairs of native English speakers (NES). We used Clark and Krych's (2004) Lego task, where the giver, who had pictures of the Lego models, faced the follower across the table, and explained each model. The follower built each model using Lego blocks based on instruction from the giver. They did ten designs in workspace hidden condition and ten designs in the workspace visible conditions. The total number of trials for each pair was twenty, and the total recording hours were approximately ten hours for all pairs in the study. We extracted expressions indicating

similes such as *like*, *kind of*, *kind*, and *sort of* in English and *-mitai*, *-teki*, *-katachi*, *-poi*, *-youna* and *-nakanji* in Japanese. We included some combined expressions in Japanese dialogues and English dialogues. For example, combination of *-mitaina kanji*, *-youna katachide*, *-tekina kanji* was counted one as a unit, although they can be independently used for indicating likeness.

We also included metaphors such as image metaphors (Lakoff and Turner 1989) which allow us to map image of the first object's general shape onto the knowledge to the second. Lakoff and Turner (1989:90) illustrate an example from Andre Benton's poem about his wife which contains image metaphor: "My wife...whose waist is an hourglass." In this sentence, the word hourglass evokes the mental visual image of the shape of an hourglass, and this shape is mapped onto the shape of the waist of the wife.

4. Results

First, the paper demonstrates a basic statistic of the frequency of figurative language including metaphor and simile used in English and Japanese.



Graph 1. Frequencies of figurative language in Japanese and English

Though both NESs and NJSs used figurative language as a resource for accomplishing their mutual understanding, frequencies between Japanese and English were quite different. As Graph 1 shows, the number of figurative language used in English dialogues was higher

than in Japanese dialogues. Different frequency in Japanese and English implies that English relies heavily on figurative language for clarify of communication. This is probably ascribed to language resources which Japanese and English originally contains, or different viewpoints linked to each language. It seems that English has many resources that can be used as simple symbols, such as alphabets, national flags, and geometric figures, which may make NESs easier to retrieve the associated figurative meaning from memory.

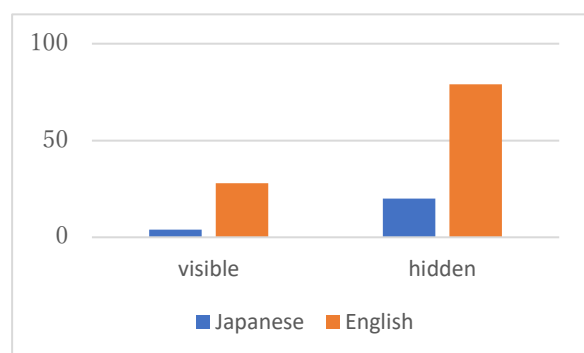
Actual usage in English and Japanese can be categorized into several broad classifications. Here are examples which were found in English and Japanese dialogues. For instance, when the NES pairs described prototype shapes of Lego blocks, they used letters of the alphabet (e.g. *T*, *V* and *U*), artifacts (e.g. *like a chair*, *looks like stairs*, *I gotta little step*, *it's still a zigzag*, *start in the boat position*), buildings or landmarks (e. g. *like a small pyramid*, *make a pyramid*,) and some others (e.g. *looks like two mushrooms*, *like a teetertotterish shape*). Moreover, NES pairs even extended ways to use figurative language, and they creatively combined verb and noun, which shows motion (e.g. *like making a central tower*, *a mushroom sort of growing*, *a pole going up*, *like there is one central pole*).

NJS pairs used letters of Japanese katakana (e.g. 'ko'), artifacts (e.g. *furansu no kokki mitai ni* [*like a French flag*], *totemu po-ru teki na* [*like a totem pole*], *hashi poi* [*kind of a bridge*], *kaidan mitai na* [*like a stair*]), body parts (e.g. *ao no oshiri nohoni* [*hip* (intended meaning in English is tail) *of the blue block*]). NJS pairs also creatively combined verb and noun, which shows motion (e.g. *Futsuni ittara tatanai darouna toiu youa kumitate kata de* [*in an assembling way like [they]don't normally stand*], *Nagai bouga arumitai na* [*like there is a long stick*], *choujyo ni*

kuru youna kanji [like going up to the peak]).

It is plausible to assume from the examples above that these images of simple symbols based on simile and image metaphor were shared by ad hoc concept (Lawrence 1991). When the participants worked on each task, they talked about objects in their sight and made use of conversational co-presence. Lévi-Strauss (1966) who firstly used the term ‘bricolage’ revealed that the co-creation of a work emerges from things that happen to be available around us. This may be why simile and image metaphor are used a lot in our corpus comparing other conceptual metaphors.

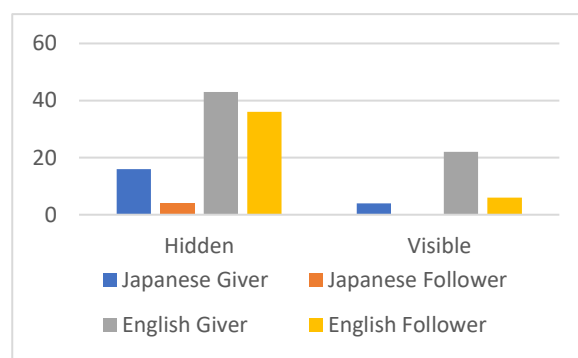
Secondly, the frequency of figurative language in workspace visible and hidden conditions is examined. Graph 2 demonstrates the pairs of the participants in both Japanese and English used fewer in workspace visible condition than in workspace hidden condition. When the participants can see the workspace, they do not need to verbalize or explain the workspace. But when the participants cannot see the workspace, their check of whether mutual understanding exists needs to be conducted verbally. Thus, it is more likely they use figurative language when they are less confident that they mutually understand each other.



Graph 2. Comparison between the visible and hidden conditions in Japanese and English

Thirdly, the paper examines who actually used

figurative language, either the giver or the follower, as a joint action to accomplish mutual understanding. Graph 3 presents both followers and givers in English dialogues used figurative language though followers tended to use less. This result implies rather than being a passive listener, a follower interacts in a lively way with a giver, which results in a better communication to firmly establish what is jointly shared and what is not. In Japanese, on the other hand, a follower rarely used metaphors and similes, which indicates that they tended to minimally respond for efficiency.



Graph 3. Comparison of hidden and visible conditions between a giver and a follower in Japanese and English

In order to grasp the distribution across the interaction of talk, we summarize three typical patterns of how figurative language is integrated into the interaction between givers and followers (See Table 1).

Table 1. Main patterns of information flow with FL

Type 1	1st turn	G: explain
	2 nd turn	F: check with FL
	3 rd turn	G: confirmation
Type 2	1 st turn	G: explain with FL
	2 nd turn	F: check
	3 rd turn	G: confirmation
Type 3	1 st turn	G: explain with FL
	2 nd turn	F: check with FL
	3 rd turn	G: acknowledgement

(Note: G: giver, F: follower, FL: Figurative language)

Examples (1) and (2) below represent Type 1 where a follower uses FL successfully in order to achieve mutual understanding, examples (3) and (4), contrary, represent Type 2 where a giver uses FL unsuccessfully, and example (5) shows Type 3 where both a giver and a follower use FL for building up their idea collaboratively.

(1) NES1 Workspace Hidden Trial 4

- 1 G: And so that it joins out the green and the
2 yellow. <-**explanation**
→3 F: And it looks *like an L*? <- **check**
4 G: Yep. And then you take a little red one and
→5 make it no longer *an L*. <- **confirmation**
6 F: Okay. (hhh)



(2) NES 2 Workspace Hidden Trial 5

- 1 G yellow gap each side of it
→ 2 F: Basically making *a pyramid* almost.
<- **check**
3 G: Yeh <- **confirmation**
4 F: God it.

Metaphors and similes used in examples (1) and (2) indicate that there is some trouble or uncertainty in understanding the giver's explanation. So, the followers ask a question to check their understanding using similes. This usage of simile worked well to allow the givers to understand them, and the givers said "Yep" or "Yeh" for confirmation.

The following examples (3) and (4) show metaphors and similes which are used by the giver became a trouble source. This trouble source is indicated in utterance 6 in example (3) and utterance 4 in example (4), and the repair

starts in response to the source of troubles in each conversation. These examples indicate that metaphors and similes give some idea of what the prototype of the block looks like, but they do not provide an exact image.

(3) NJS3 Workspace Visible trial 1

- 1 G: de hantaigawa wo ao nohono ueni aka no
2 futatsu no yatsu wo taishou ni naru youni oite
3 kudasai hai
*Place the red one for two spaces
symmetrically on top of the blue one on the
other side. Yes.*
→4 de e chojyo no chuushin ni aono hitotsubuno
5 burokku wo
And one blue block at the center of the peak.
<- **explanation**
6 F: kore?
This one?
<-**check**
7 G: hai owaridesu
Yes we finished.
<-**acknowledgement**



(4) NJS 4 Workspace Hidden Trial 9

- 1G: Un taishou ni naru
Yes, they are symmetrical
2 F: Hai
Yes
→3 G: jiguzagu na kanji de
Something like zigzag
<- **explanation**
4 F: E h?
Pardon?.h
→5 G: jiguzagu na kanjide nobotte iku mitai na
Something going up like zigzag
<- **explanation**
6 F: aka no ueni noseru tte koto
Do I put it on the red::?
7 G: Un aka no ueni noseru:n dakedo



Yes, you put it on the red, but

8 Aka no ueni nosete

You put on the red

9 F: ki:ro o

Yellow?

10 G: un kiro o nosete

Yes, put yellow

11F: a un wakatta wakatta midor ito onnaji

12 ichinittekoto? A wakatta wakatta

*Ah:: yes yes ah: I see I see. So it goes in goes in
the same place as green. Oh: I see I see*

Example (5) presents ‘cooperative talk’ (Mizutani, 1993) where one speaker does not complete a speech by herself but another speaker joins the speech and cooperatively finishes the talk.

(5) NES 2 Workspace Hidden Trial 5

1 G: number five...Okay, ehm to start it's a
long red, a long blue and a long yellow all
ehm side-by-side like as if it's making a::

→2 F: A flag <- **explanation**

→3 G: A flag, yeah. Of a country that doesn't exist hhh
<-**acknowledgement**

4 F: Yeah ss hhhhhh

5 G: So it goes, it goes ehm red, blue, yellow
from left to right

6 F: Got it



Line 3 and 4 in example (4) shows both giver and follower reached the same or similar image from the word “a flag”. This case implies metaphor works well to share their ideas.

5. Conclusion

In sum, we compared Japanese and English task-based dialogues to investigate how

metaphors and similes are integrated into the interaction of talk.

The dialogue data interestingly showed that the NES and NJS pairs used different referents. For example, the NES pair used the letter “L” as a referent, while the NJS pair used the katakana “ko.” This is backed up by Clark’s (1996) idea of communal common ground: people in the same community generally can understand each other’s language. The study also revealed that co-constructing builds mutual understanding. By looking at the dialogues, we can see that although the NES pairs and NJS pairs use different expressions, they are effectively communicating and mutually understanding through the use of metaphoric language (along with other strategies).

Finally, it should be pointed out that the phenomena illustrated in this paper is not limited to linguistic communication but can be understood by analyzing from the viewpoint of practice embedded in collaborative work. In other words, similes and metaphors which are seen in collaborative work are used as resources for participants to understand each other's situation, and ultimately function as an in-context act to facilitate work. This result indicates the use of figurative language is based on objects in the environment of our life which results in unique forms of languages in both English and Japanese, which may be supported by situated actions (Suchman, 1985).

*Acknowledgements

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Diachronic Changes in Expressions of Perception in the English Grammar

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Keywords : perception, transitivity, alignment, adjectival passive

1. Introduction

This paper aims to highlight a general history of expressions dealing with perception (in a broader sense) in English, and to describe how structures referring to perception changed and what caused such changes.

The organisation of this paper is as follows: Variations in perception verbs in Indo-European languages are explained first, followed by oddities of perception verbs among other verbal expressions, with an explanation of why such oddities emerged in grammar. Finally, perception verbs in English are discussed from a historical perspective.

2. Lexical and Structural Perception

Verbs or verbal phrases referring to perception can vary from language to language, but there are two distinctive types underlying this variation, i.e. lexical and structural perception. Lexical perception is achieved by so-called perception verbs, such as *see*, *hear*, *feel*, *taste*, *smell*, etc. in English or by whatever equivalent in other languages. Structural perception, on the other hand, expresses perception by certain structures or the addition

of grammatical morphemes, e.g. middle voice, reflexive, use of case markings, etc., or a mixture of these. One complex example is found in Serbian, where the mixture of reflexive and case marking, i.e. dative, not nominative, is observed, as shown in (1b). In such cases, any verbs can be turned into perception verbs.¹

Serbian

- (1) a. *Ja spavam.*
1SG.NOM sleep.PRS.1SG
'I go to bed.' (action)
b. *Meni se spava.*
1SG.DAT REF sleep.PRS.3SG
'I feel sleepy.' (state)

It is worth mentioning that spontaneity expressed in the middle/reflexive voice is partially responsible for the link between the reflexive construction and perception as in (1b), since perception normally happens spontaneously.

3. Structural Perception in English

English lacks an overtly-marked middle or reflexive voice, i.e. structural perception. However, under closer examination, there have been some constructions designated to the expression of perception.

3.1. Adjectival Passive

It is not well-known, but as shown in Toyota (2013), the adjectival passive, as exemplified in (2), is a construction denoting various senses of perception. This type of construction is not found in other Indo-European languages.

- (2) a. *I am interested in linguistics.*
b. *I was amazed at his statement.*
c. *I am satisfied with the result.*

It resembles the verbal passive, but there are some distinctive characteristics, both syntactic and semantic, as listed in (2). Note that these can be indicators, since the verbal passive has been firmly gramamticalised in English.

- (2) a. Actor markers are idiomatised.
- b. The overt subject (undergoer, not actor) is normally human.
- c. The overt subject is not in control of events and often not acting intentionally.
- d. Most denote mental/emotional states at the least, and thus can function as perception verbs.

The choice of past participles used in the adjectival passive is limited, as listed in (3). These verbs are predominantly used in the adjectival passive, and any use in the active voice is extremely rare (cf. Toyota 2013: 36-38). However, note that these verbs in the active voice were common earlier, and the shift to the current usage occurred around the 17th century.

- (3) *abash, amaze, amuse, annoy, astonish, disappoint, disgust, engross, impress, infatuate, interest, inundate, obsess, please, satisfy, shock, startle, surprise.*

Toyota (2013) claims that the adjectival passive is better considered as a case of a split ergative, as shown in Figure 1, based on its semantic contents, e.g. the verbs in (3) follow a pattern of accusative alignment when used in the active construction denoting action; when denoting perception or a mental state, the logical object becomes the grammatical subject, making it behave like an ergative alignment.

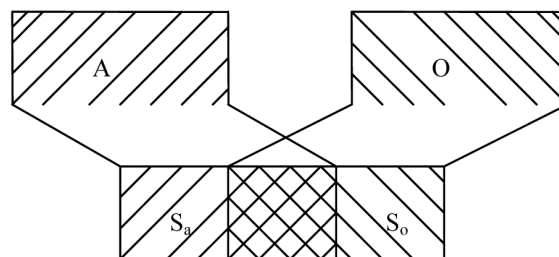


Figure 1. Schematic representation of fluid-S system (Dixon 1994: 79)

3.2. Impersonal Verbs

In the history of English, there was a construction called the impersonal verb. Its characteristic is how the experiencer is case-marked. The experiencer in the nominative in Present-Day English has not been the same throughout the history of English. This structure was frequent when the case marking was still visible on nouns, but it disappeared from the language after the 17th-18th century. There were roughly three main structures under the term impersonal verb, as demonstrated in Table 1, along with examples for each type in (4) to (6).

Table 1. Variations in impersonal verbs

i.	DAT/	-	GEN/	-	V	-	Clause
	ACC		ACC/PP				
	exper.		Cause		neutral		Cause
ii.	NOM	-	DAT/	-	V	-	Clause
			ACC				
	Cause		Exper		CAUS		Cause
iii.	NOM	-	GEN/PP	-	V	-	Clause
	exper.		Cause		Recept		Cause

Type i.

- (4) *Mæg þæs þonne ofþyncan*
may that.GEN then displease.INF
Deodne Heaðobeardna
lord.DAT Heathobards.GEN
‘It may displease the lord of the Heathobards.’ (Beo 2032)

Type ii.

- (5) *Hi me reweð swa swiðe ðat Ic reste*
 they me rue so much that I rest
ne mai habben
 not may have
 ‘They [sc. souls] distress me so badly that I
 cannot have any rest.’ (a1225 (c1200) *Vices*
and V. (1) 115.14)

Type iii.

- (6) *ðæt Ic eac ðæs ne scamige*
 that I.NOM also that.GEN not shame
 ‘that I also am not ashamed of that.’ (*CP*
 100.5)

4. Oddities of Perception in English

Syntactically, there is an outer cause and its recipient in a divalent construction, and the cause is often realised as the grammatical subject. The experiencer in perception acts as a recipient of an outer stimulus, which corresponds to a grammatical object in an ordinary active clause. Thus, an unmarked active construction differs from perception, as schematically represented in Figure 1. However, Present-Day English uses a uniform structure for perception and non-perception structures with a nominative experiencer, e.g. *I* in *I broke a window* and *I see a book*.

- | | | | |
|-----------------|-------------|---|-------------|
| i. Active | Actor | → | Undergoer |
| ii. Passive | Patient | ← | Agent |
| iii. Perception | Experiencer | ← | Outer cause |

Figure 1. Force-dynamic concerning perception

5. Internal Structure of Perception

Expressions of perception certainly changed their form. The earlier structures (notably the

impersonal verb) dealt with action (the external world), e.g. *The noise surprised me/to me*, where the direct object was in either accusative or dative. The newer structure (the adjectival passive), on the other hand, expresses an inner mental state (an internal world), e.g. *I was surprised at the noise*. Perception obviously shifted its type from external to internal. This change only happened in English, and by looking at other Indo-European languages (cf. (1) from Serbian), the change occurred perhaps due to the lack of a middle/reflexive voice. Thus, although the shift itself is not easily visible, the change has had a significant impact on the way perception is expressed in English.

6. Alignment Change and Transitivity

As shown so far, a shift in perception did happen, but what triggered it? One has to refer to the overall changes in the language, and alignment change needs to be studied in terms of perception.

6.1. Alignment Change

It is known that Indo-European languages have gone through an alignment change from active to accusative. (cf. Gamkrelidze & Ivanov 1995; Clackson 2007, Cf. Figure 2). The most significant result of this change is the emergence of a transitivity-based grammar from an earlier aspect-based one between perfective and imperfective. Looking at the modern Indo-European languages, some, notably Slavic, are highly sensitive to aspect, which is a residue of earlier active alignment. However, others are no longer so sensitive to aspect to the same degree as the Slavic languages. This is a result of change being gradual, but what has not been noticed is the shift in transitivity types from semantic to syntactic (see Toyota 2012a).

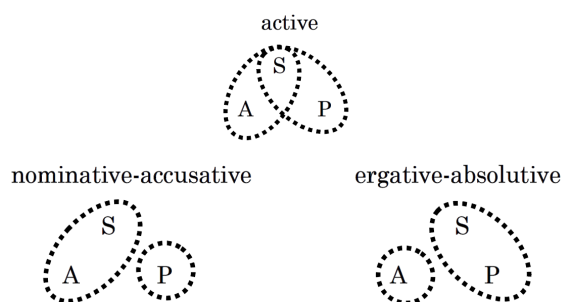


Figure 2. Alignment types

6.2. Transitivity after Alignment Change

Transitivity can be defined as an energy transfer from actor to undergoer, but the way it is expressed varies considerably from language to language, or from one period to another in a single language. This variation is seen in semantic and syntactic transitivity. Each can be defined as follows.

Semantic transitivity is a gradient in nature and can be measured in terms of certain criteria (cf. Hopper and Thompson 1980; Taylor 2003). Differences are commonly shown by altering case markings, different tense-aspects, singularity/plurality of nouns, etc. This type is found in older English and other IE languages, in particular the Balto-Slavic.

Syntactic transitivity, on the other hand, is binary and can be identified by the presence or absence of a direct object. The presence of a direct object signals transitivity, and perceptions and other predicates are all expressed in the same manner regardless of their semantic contents. This type of transitivity is rare, but is found in Present-Day English.

English has gone the furthest in the chain of alignment change, and although its transitivity is syntactic, archaic semantic instances may have been sporadically retained (cf. Toyota 2012b). Historically, the emergence of transitivity (from semantic to syntactic) is a result of alignment change. The earlier transitivity was semantic,

and it changed into syntactic transitivity in a handful of languages in the world, including English.

7. English Grammar and Perception

English has been rather poor at the expression of spontaneous events, including perception, especially when dealing with the internal world. Therefore, perception is hard to express linguistically, since there is a kind of energy transfer but its degree is very low. Human argument, for instance, is involved, but it is the recipient of a stimulus, not an actor. Therefore, consider the examples in (5). (5b) can be transitive in syntactic transitivity, but intransitive in semantic transitivity (cf. Hopper and Thompson 1980; Taylor 2003). On the other hand, (5a) can be transitive in semantic transitivity, but it is intransitive in syntactic transitivity.

- (5) a. *He went away.*
 b. *I like cakes.*
 c. *I broke the vase.*

8. Alignment Change and Transitivity

Seen in terms of alignment change, impersonal verbs with a dative experiencer express transitivity semantically, i.e. the experiencer is grammatically treated as the endpoint of an energy transfer (e.g. *A flower sees to me*). When these verbs existed, transitivity was semantically expressed. Following the disappearance of impersonal verbs, the emergence of the adjectival passive seems to coincide at around the 17th-18th century. One may consider that the loss of the case marking is a cause of the syntactic transitivity, but this should not be so. In other Indo-European languages, such as Dutch, an oblique

experiencer is used when a verb refers to perception. However, English did not opt for the preservation of this structure and chose to keep structural uniformity, which can be considered a sign of syntactic transitivity.

Considering the chronology of these constructions, the adjectival passive seems to have been created in order to fill a gap in English grammar concerning perception. This new construction is advantageous in several respects. The expression became anthropocentric, and the experiencer subject in the nominative case makes the syntactic structure uniform in English grammar, e.g. *I see a flower* and *I break a vase*. This also complies with a general tendency to a higher frequency of human subject. It made the distinction between the external or intentional type of perception obscure, and both types became conflated into one single type where the subject is in the nominative whether a clause denotes perception or not.

9. Summary

Perception can involve both the internal and external world, and later historical changes in English opted for the external world, making it difficult to express the internal world. This makes perception in English odd in comparison with other Indo-European languages. This is a result of how transitivity has been integrated into the grammar after alignment change, i.e. earlier semantic transitivity shifted to syntactic transitivity as constructions denoting perception changed.

The adjectival passive is rarely discussed in terms of perception, but this is a key to understanding how English has coped with the internal as well as the outer world. Its unique way of referring to the experiencer in the nominative case suits the general changes in the

English language, where grammar tends to be simplified at the expense of expressibility of fine details (cf. Toyota 2012b). The adjectival passive is a result of the surge of dependency on syntactic transitivity as a result of alignment change.

Thus, perception in English involves several different grammatical characteristics, and this is perhaps why the adjectival passive forms a split ergative in Present-Day English. Therefore, without understanding how perception is expressed, it is difficult to know how English grammar has been formed.

NOTES

¹ Abbreviations used in this paper are as follows: ACC = accusative; CAUS = causative; DAT = dative; GEN = genitive; INF = infinitive; NOM = nominative; PP = prepositional phrase; PRS = present; REF = reflexive; SG = singular; V = verb.

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Comparisons and Speech Acts in Japanese Exclamatives*

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Keywords : epistemic bias, dynamic pragmatics,
stereotypes, negative exclamatives

1. Introduction

Previous studies emphasize the importance of contextual/epistemic biases in certain types of questions (Ladd 1981; Büring and Gunlogson 2000; Romero and Han 2004; Goodhue 2018). For instance, compare (1) with (2). Speakers typically use the question in (1) in a situation where contextual evidence is in favor of the negative answer ($\neg p$), whereas the question in (2) necessarily contributes to the implicature that the speaker thinks that the positive answer (p) is more likely (hereafter, an epistemically biased interrogative EBI). Given the principle of compositionality, the latter sentence seems puzzling: although this sentence contains a negation marker *-n't*, the expected answer is negation-less.

- (1) Is this *not* a bar?
- (2) *Isn't* this a bar?

The Japanese translation of (2) is given below in (3) (Sudo 2013; Ito and Oshima 2014; Hirayama 2018). Although the sentence may look more complicated than its English counterpart (due to the presence of some

language specific morphemes, such as the copula marker *de*, the focus particle *-wa*, and the addressee-honorific marker *des-*; n.b., *zya* is the contracted form for *de-wa*), the basic sentence structure is the same: it contains a negation marker although the speaker is epistemically biased to the positive answer.

(3) Epistemically biased interrogative (EBI)

Nomiya de-wa/zya nai-des-u-ka?

bar COP-FOC NEG-HON_A-PRS-Q

‘Isn’t (this) a bar?’ (*‘Is (this) not a bar?’)

However, the same sequence of morphemes in (3) can also yield an exclamative, as shown in (4) (hereafter, a negative exclamative NE).

(4) Negative exclamative (NE)

Nomiya de-wa/zya nai-des-u-ka!

bar COP-FOC NEG-HON_A-PRS-Q

‘(This) is a bar!’ (*‘(This) is not a bar!’)

Why do an EBI and a NE share the same grammatical pattern? After pointing out two important differences between the two clauses (Section 2), this paper proposes à la Zanuttini and Portner (2003) that (i) their similarity reflects their semantic congruence (Section 3) and (ii) their differences are attributed to their pragmatics (Section 4).

2. Two Important Differences

Despite the apparent similarity between (3) and (4), these two sentences exhibit sharp contrasts in at least two ways.

2.1. Difference 1: Pitch Accent Contour

Figures 1 and 2 illustrate the pitch contours of the sentences in (3) and (4). They are almost the same in prosody except for the last element

-*ka*, the mood indicating sentence-final particle. In the interrogative (= (3)), a rising pitch is assigned, whereas a falling intonation is given in the exclamative (= (4)).

2.2 Difference 2: Addressee-Honorification

In contemporary Japanese, when one seeks a response with a *ka*-marked sentence, an addressee-honorific marker is necessary, as in (5) (Miyagawa 2012, 2017; Yamada 2019).

- (5) *Nomiya de-wa/zya nai-*(des-u)-ka?*
 bar COP-FOC NEG-HON_A-PRS-Q
 ‘Isn’t (this) a bar? (intended).’

In contrast, an exclamative is ungrammatical without an addressee-honorific marker, as illustrated in (6).

- (6) *Nomiya de-wa/zya nai-(des-u)-ka!*
 bar COP-FOC NEG-HON_A-PRS-Q
 ‘(This) is a bar!’

3. Semantics

Following Zanuttini and Portner (2003), this study assumes that EBIs and NEs share the same propositional content (but see also Rett 2011); they denote a set of possible answers (Hamblin 1973; Karttunen 1977; Groenendijk and Stokhof 1984).

3.1 Alternative Set

Which linguistic element is responsible for creating the alternative set? Two possible candidates are (i) the negation marker and (ii) the focus prominence on *nomiya* ‘bar.’ If we adopt the former view, we expect this set to be the one in (7). But if we take the latter view, we would assume that the set in (8) is what the sentences denote:

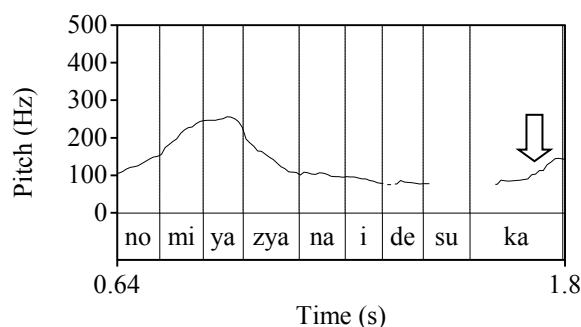


Figure 1. The pitch contour for (3) (EBI).

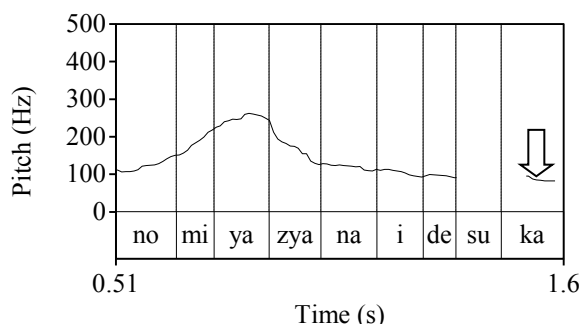


Figure 2. The pitch contour for (4) (NE).

- (7) $\{p \text{ (this is a bar)}, \neg p \text{ (this is not a bar)}\}$.

- (8) $\left\{ \begin{array}{l} p_1 \text{ (This is a bar),} \\ p_2 \text{ (This is a French restaurant),} \\ \vdots \\ p_n \text{ (This is a school-cafeteria)} \end{array} \right\}$

Here I propose that (i) these two grammatical morphemes play a pivotal role in both constructions, but (ii) what the sentences denote is the one in (8). The prominence in pitch on *nomiya* ‘bar’ plays a similar role of what a *wh*-phrase does in a *wh*-interrogative clause; cf., Zanuttini and Portner 2003, who propose that “[e]xclamatives contain a WH operator-variable structure.”

- (9) **Pitch-boosting:** An *alternative set* is created based on the expression on which the pitch-boosting falls.

3.2 Partition

The negation marker assigns an additional structure to this alternative set. Based on the preajcent meaning of *nai* (i.e., the proposition *p*

= *this is a bar*), we can classify the propositions in (8) into two subsets; note that this is not a partition among the worlds, but among the propositions. Let the set in (8) be S . Based on this prejacent proposition, we partition the set S into S^1 and S^2 ($S = S^1 \cup S^2$; $S^1 \cap S^2 = \emptyset$):

- (10) a. $S = \{p_1, p_2, \dots, p_n\} = (8)$
 b. $S^1 = \{p_1\}$
 c. $S^2 = \{p_2, \dots, p_n\}$
 d. $T = \llbracket \text{a ka-marked sentence} \rrbracket$
 $= \{S^1, S^2\}$
 $= \{\{p_1\}, \{p_2, \dots, p_n\}\}$

(11) **The contribution of *nai* in (5) and (6):**

The *alternative set* is partitioned based on the prejacent meaning of *nai*.

Here the assumption is that the semantics in (10)d is the same irrespective of the difference between an EBI and a NE, which provides a straightforward answer to the question as to why these two sentences share the same grammatical morphemes. Their similarity lies in semantics.

4. Pragmatics

However, as seen in Section 2, the two sentences show two significant differences. This paper takes the position that these contrasts reflect the differences in pragmatics, adopting the following research agendas in dynamic pragmatics (Stalnaker 1974, 1978; Gazdar 1981; Lewis 1979; Roberts 2012; Portner 2004, 2018):

(12) **Dynamic pragmatics** (Portner 2018)

- Sentences have standard static semantic values.
- The communicative effect of utterances in discourse is modelled as the effect they have on the discourse context.
- The effect of a particular sentence is

determined by pragmatic principles on the basis of the sentence's form or semantics. The effect of an utterance of a particular sentence is determined by pragmatic principles on the basis of syntactic or semantic features.

In dynamic pragmatics, one provides analysis by clarifying the following components of the discourse model: (i) the structure discourse context that spells out the contextual information relevant for the phenomenon under discussion; (ii) the pragmatic antecedent condition (the condition regarding the relation between the utterance and the prior context, determining when to consider the utterance felicitous); and (iii) the pragmatic update algorithm (the algorithm that defines the relation between the utterance and the posterior context). Let us see each in turn.

4.1 Structured Discourse Context

To avoid unnecessary complexity, this study focuses on the two individuals, the speaker and the addressee, ignoring other potential discourse participants (e.g., those present where the conversation takes place, whom the speaker and the addressee are both aware of). The assumed structured discourse context is as follows:

- (13) $c = \langle dox, ep, stereo, STEREO, QS, \dots \rangle$

- $dox = \langle dox_{sp}, dox_{addr} \rangle$
- $ep = \langle ep_{sp}, ep_{addr} \rangle$
- $stereo = \langle stereo_{sp}, stereo_{addr} \rangle$
- $STEREO$
- $QS = \langle QS_{sp}, QS_{addr} \rangle$

The first component is the doxastic modal bases for the speaker dox_{sp} and the addressee dox_{addr} . This speaker's doxastic modal base (that

is, the set of propositions that the speaker thinks is true) is akin to the discourse commitment dc , or the public individual commitment (Hamblin 1971; Gunlogson 2001; Farkas and Bruce 2010) in that these sets represent the propositions not necessarily shared by the discourse participants. However, I design them to be different, whether the propositions are publicized or not. (As long as the speaker does not tell a lie) what the speaker commits in public is a subset of what the speaker believes is true: $dc_{sp} \subseteq dox_{sp}$. I do not claim to think dc_{sp} is useless in the general theory of pragmatics nor do I intend to challenge the notion of dc_{sp} . But, for our purposes, dc_{sp} plays no substantial role because unpublished propositions are also relevant when considering NEs.

The second component is ep , representing the epistemic modal bases for the discourse participants, that is, the set of propositions that each participant knows (which do not have to be committed to in public).

The third component is the stereotypical modal bases $stereo_{sp}$ and $stereo_{addr}$, each representing the set of propositions reflecting the speaker/addressee's expectations concerning what the world is like (Portner 2009: 55).

The fourth component is the mutually shared stereotypes $STEREO$, the set of propositions reflecting the expectations that the speaker and the addressee both share. I use SMALL CAPS to refer to a mutually shared set so as to differentiate easily a publicized set from a private, concealed set.

Lastly, QS is the question set, consisting of QS_{sp} and QS_{addr} . QS_{sp} is the set of questions addressed by the speaker; the same for QS_{addr} .

4.2 Antecedent Conditions

As mentioned above, the two *de-wa/*

zyanai-des-u-ka sentences are assumed to share the same semantics (= (10)d). But they differ in prosody and in collocation. I propose that these differences are ascribed to pragmatics, i.e., they are different in pragmatic instruction concerning the way they are related to the context (the antecedent condition and the update algorithm).

First, the antecedent condition for an EBI is given in (14). The first conjunct says that S^1 (*{this is a bar}*) is a subset of the speaker's doxastic modal base. That is, looking at the place, the speaker has now stated the expression that this is a bar. The second conjunct, however, states that although s/he *thinks* it is a bar, s/he does not *know* that it is a bar (yet). In other words, s/he is now suspecting that it is a bar.

(14) Antecedent condition (EBI):

[[NOUN *de-wa/zya nai-des-u-ka* ↑]]_c
is appropriate in *c*
iff $S^1 \subseteq dox_{sp} \wedge S^1 \not\subseteq epi_{sp}$

Second, the antecedent condition for a NE is given in (15). This condition states that a speaker felicitously utters a NE when (i) S^1 is a subset of the speaker's epistemic modal base (i.e., p_1 is what s/he knows); (ii) S^2 is not what the speaker expects; but (iii) other propositions are those the speaker stereotypically expects. In this sense, S^1 and S^2 are in comparison with respect to the speaker's stereotypes.

(15) Antecedent condition (NE):

[[NOUN *de-wa/zya nai-des-u-ka* ↓]]_c
is appropriate in *c*
iff $S^1 \subseteq epi_{sp} \wedge S^1 \not\subseteq stereo_{sp} \wedge S^2 \subseteq stereo_{sp}$

4.3 Update Algorithms

Also needing consideration are the pragmatic update algorithms. First, I propose that a NE is a

proposal to update the ‘shared’ stereotypical state *STEREO*, not the ‘personal’ stereotypical state *stereo_{sp}*. Suppose that the addressee took the speaker to a bar, which made the speaker very surprised, because the speaker is now 15 years old and expected to visit a place suitable for such a young teenager. Even after the speaker produced the NE in (4), his/her private stereotype *stereo_{sp}* would not change at all. In contrast, by uttering the sentence, the speaker tries to make it to be the case that the addressee also shares the same stereotype, that is, the speaker proposes to update the addressee’s stereotype so that the speaker and the addressee both agree that a 15 year-old teenager should not be at a place that serves alcohol. The rule in (16) describes this update process:

(16) Update algorithm (NE):

[[NOUN *de-wa/zya nai-des-u-ka* ↓]]_c + *c* = *c'*,
st., *STEREO'* = *STEREO* \ *S'*
when the addressee agrees on this update.

The underlined condition is the prerequisite for the context update: if this condition is not met, an update would not be triggered. For example, suppose that the addressee stubbornly adheres to the previous *stereo_{addr}* (and thus *STEREO*), by saying that a teenager can patronize a bar. In this context, an update misfires despite the speaker strongly thinking that *p_i* should not be in the mutually shared stereotype. The discourse effect of a NE is a proposal.

Second, an EBI, as an interrogative, updates the speaker’s question set. As stated above, the speaker expresses that *S' ∉ epi_{sp}* through the antecedent condition. Since the speaker tells the addressee about his/her lack of knowledge, the expectation on the addressee is to provide an answer (if the addressee is corporative).

(17) Update algorithm (EBI):

[[NOUN *de-wa/zya nai-des-u-ka* ↑]]_c + *c* = *c'*,
st., *QS'*_{sp} = *QS_{sp}* ∪ *T*
when it is guaranteed that the addressee is different from the speaker.

This update algorithm also has a prerequisite. But unlike (18), it is a language-specific condition; it must be grammatically guaranteed that the speaker recognizes the presence of an addressee when making an response-seeking question.

It is noted that in addition to a NE, other kinds of interrogatives are also licit without an addressee-honorific marker (Miyagawa 2017; Yamada 2019). A few examples are given below:

(18) Rhetorical question

Nanika-no yaku-ni tat-u-ka?
anything-GEN serve-DAT stand-PRS-Q
Iya, tat-anai.
no stand-NEG
‘Will this be serviceable to anything? No, it won’t.’ (BCCWJ; PB1n_00048)

(19) Self-oriented question

Sorosoro ik-u-ka?
soon go-PRS-Q
‘Shall I go now, won’t I?’

(20) Topic-setting question (chapter title)

54 *Ankooruwatto-wa tikaru-o*
54 Angkor Wat-TOP Tikal-ACC
sinog-u-ka?
surpass-PRS-Q
‘Chapter 54: Does Angkor Wat surpass Tikal?’ (BCCWJ; LBr2_00066)

These examples suggest that the requirement of an addressee-honorific marker derives from the syntax of the *ka*-marked sentence; it is rather reasonable to assume that this requirement is in

association with the illocutionary act of making a response-seeking question. A response-seeking speech act remains unvalidated unless the sentence form guarantees that the speaker points to the addressee.

When an addressee-honorific marker is absent, a possibility remains that the addressee coincides with the speaker (e.g., (19)), in which case the speaker does not force his/her addressee to take action to provide an answer. As discussed in Kikuchi (1997 [1994]) and Yamada (2019), there is a general requirement that the target of the honorification must not be the speaker her/himself. Thus, the presence of an addressee-honorific marker guarantees that the addressee is not the speaker. For this reason, the presence of an addressee-honorific marker allows a Japanese *ka*-marked interrogative to be used as a response-seeking question.

5. Conclusion

Within the framework of dynamic pragmatics, this paper proposed an analysis regarding the similarity and differences between the two *de-wa/zya nai-des-u-ka* constructions. First, the analysis displays their similarity by their semantics; due to the pitch prominence on the focus-marked element and the presence of *-nai*, the sentences denote a set of questions. Second, it attributes their differences to pragmatics, which involve different antecedent conditions and context update algorithms.

This analysis develops from the treatment in Zanuttini and Portner (2003); (i) the same semantic content is proposed for EBIs and NES and (ii) pragmatic conditions play a pivotal role in capturing their conversational effects.

Two improvements are as follows. First, as an antecedent condition, they propose the FACTIVITY condition, relying on the notion of

common ground “the set of propositions mutually held as true (ibid.: 51).” In contrast, this study replaces it with *epi_{sp}* as in (15), reflecting the criticism by Rett (2011), who casts doubts on their assumption that “the denoted propositions are not necessarily in the common ground (ibid.: 435)” (note that *epi_{sp}* is not necessarily committed in public).

Second, in place of WIDENING the domain of quantification (Zanuttini and Portner 2003: 52), this paper characterized the discourse function as a proposal for an update of the shared stereotypical modal base *STEREO*. I believe the fundamental insight is the same: an exclamative contributed to a discourse update. But what this study proposes is not the addition of an unexpected (nominal) expression, but is the retraction of an unexpected proposition.

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Two Types of Anti-causatives in English: A Cross-linguistic Perspective *

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Keywords : marked anti-causative, reflexive pronoun, non-thematic Voice

1. Introduction

Germanic languages such as German and Heerlen Dutch have two types of anticausative expressions that are syntactically distinct (Cornips and Hulk (1996), Schäfer (2008)). The examples in (1) and (2) illustrate two types of anticausatives in German and Heerlen Dutch, respectively.

- (1) a. Das Wasser kühlt ab.
b. Das Wasser kühlt sich ab.
the water cools REFL down
“The water cools down.”
(Schäfer (2008:37))

- (2) a. Het riet buigt.
b. Het riet buigt zich.
the reeds bends REFL
“The reed is bending.”
(Cornips and Hulk (1996:1))

The anticausative in (1b) is called a marked anticausative because it takes a reflexive pronoun as the object and is apparently a transitive verb. The subject NP, however, is construed as neither Agent nor Causer. The

anticausative in (1a) lacks such an object and is called an unmarked anticausative.

Alexiadou, Anagnostopoulou, and Schäfer (2015) propose two types of Voice—thematic and non-thematic. The external argument of marked anticausatives is introduced by non-thematic Voice and receives neither an Agent nor a Causer role. These researchers explore two types of anticausatives cross-linguistically and observe that Germanic and Romance languages exhibit both marked and unmarked anticausatives and make use of both types of Voice. According to them, however, English has only unmarked anticausatives and the non-thematic Voice is unavailable in English anticausatives.

This paper will discuss the following two questions: (i) Does English have marked anticausatives like other Germanic languages? If so, (ii) what types of verbs have the marked anticausative use in English? English is one of the Germanic languages that generally possess marked anticausatives, so it is reasonable to assume that English possess them as well. This paper will argue that English does possess marked anticausatives based on several empirical diagnostics. The paper will also investigate what types of verbs can participate in marked anticausatives. The conclusion will be that the range of verbs permitted in English marked anticausatives seems to be much more restricted than in other Germanic languages.

This paper is organized as follows: Section 2 will show that English has marked anticausatives parallel to other Germanic languages, based on several diagnostics for anticausativity. Section 3 will investigate the range of verbs that can be used as marked anticausatives in English. Section 4 will present a concluding remark.

2. Marked Anti-causatives in English

As mentioned in section 1, Germanic languages generally have marked anticausatives which take a reflexive pronoun. Although Alexiadou et al. (2015) argue that marked anticausatives are not available in English, several researchers suggest that English reflexive pronouns, such as *itself*, may function as parts of marked anticausatives (e.g. Geniusiené (1987), Stephens (2006), Siemund (2014)). This section aims to show that English has marked anticausatives based on the diagnostics for anticausativity.

I argue that English marked anticausatives are exemplified by the following examples:

- (3) a. I'll tell her as soon as the opportunity presents itself.
b. Religious faith expresses itself in a variety of ways.
c. His illness began to manifest itself at around this time.
d. I'll look at my cookbooks and see if anything suggests itself.
e. I'll raise the subject when a suitable occasion offers itself.
(LDCE, the underlining is mine)

The verbs in (3) take a reflexive pronoun as object. Although they are transitive verbs syntactically, they denote an anticausative event. In fact, the underlined parts in these sentences can be paraphrased with the single anticausative verb *appear*. In this regard, the expressions in (3) look similar to the marked anticausatives in Germanic languages in that they are syntactically transitive and denote anticausative events. Levin (1993) observes that this type of expression is possible with the following verb class.

- (4) Reflexive Verbs of Appearance:
assert, declare, define, express, form, manifest, offer, pose, present, proffer, recommend, shape, show, suggest
(Levin (1993:85))

In the rest of this section, I will show that the marked anticausative analysis of the expressions in (3) can be supported by two pieces of evidence. I will use the diagnostics that have generally been made use of to test the anticausativity.

Firstly, causer phrases such as *due to strong wind* and *from the earthquake* are licensed by anticausative verbs. Transitive verbs that take a Causer or Agent subject, as well as passive verbs, cannot take such phrases because syntactically they take an external causer, either explicitly or implicitly. The existence of this external causer is incompatible with the meaning of the causer phrases which also suggest the existence of another external causer. The sentence in (5b) is not acceptable because the Agent subject *John* and the causer phrase *due to strong wind* express different external causers, and this results in contradiction. Anticausatives do not involve a Causer or Agent subject, so they permit the occurrence of a causer phrase, as in (5a).

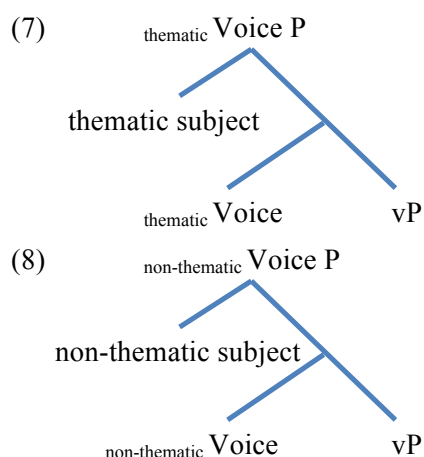
- (5) a. The vase broke due to strong wind.
b. *John broke the vase due to strong wind.

This diagnostic for anticausativity can be applied to marked anticausatives in German (Alexiadou et al. (2015)).

- (6) Die Tür öffnete sich durch
the door opened REFL through
einen Windstoß.

a blast-of-wind
 “The door opened from a blast of wind.”
Marked anticausative
 (Alexiadou et al. (2015:33))

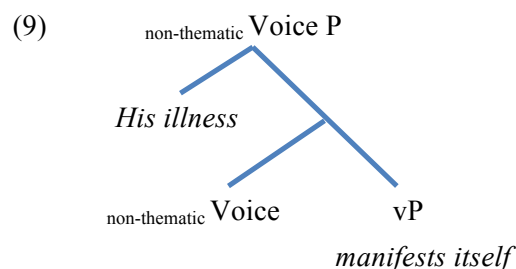
Alexiadou et al. (2015) argue that the reflexive pronoun *sich* occurs in the external argument position, and the other argument, *Die Tür* “the door,” is an internal argument. They assume that there are two types of Voice cross-linguistically—thematic and non-thematic. The former takes a thematic subject, i.e., an Agent or Causer NP, whereas the latter takes a non-thematic subject that has no thematic role.



In this analysis, the subject argument *sich* has no Causer or Agent role, so it is not associated with the event denoted by the vP. Only the internal argument *Die Tür* “the door” is thematically associated with the vP event, and therefore, the verb in the sentence in (6) is syntactically transitive but denotes an anticausative event. Consequently, a causer phrase is compatible with it with no contradiction.

I will argue that the reflexive expressions in (3) also involve the non-thematic Voice. In this paper, contrary to the proposal of Alexiadou et al. (2015), we assume that the reflexive

pronoun occurs in the internal argument position and the referential subject NP, such as *his illness* in (3c), is merged in the external argument position (Yasuhara (2017)). The partial structure of sentence (3c) is shown in (8).



In this structure, the referential subject *his illness* is introduced by the non-thematic Voice, so it has no thematic role. However, it binds the reflexive pronoun *itself* in the internal argument position from which the reflexive pronoun receives a Patient role. As a result, the referential subject indirectly receives a Patient role. Since only the Patient role is involved in the event denoted by the Voice P, an anticausative interpretation follows (i.e., his illness appears.). We will leave for future research the issue of whether this analysis also applies to marked anticausatives in other Germanic languages.

Let us return to the diagnostic based on causer phrases. The reflexive expressions in (3) are compatible with causer phrases, as shown in (10) to (13), parallel to the German marked anticausative in (6). The underlining has been done by the author.

- (10) His illness began to manifest itself due to
immune deficiency.
 (11) The sand began to form itself into
 geometric patterns due to strong wind.

(12) Sometimes the allergy or intolerance does improve, particularly if it has only shown itself due to a poor immune system; but generally the treatment of eliminating the offending food items is long term.

(Miller Rogers and Emily White, *The Everyday Dairy-Free Cookbook*)

(13) ... and the disease revealed itself due to malnourishment and stress.

(Ben Montgomery, *Leper Spy*)

The compatibility with a causer phrase suggests that the subject of these reflexive expressions is not construed as Causer or Agent, i.e., non-thematic. For this reason, the Voice P denotes an anticausative event and the occurrence of a causer phrase incurs no contradiction.

Anti-causatives generally permit the co-occurrence of adverbial phrases that denote spontaneity such as *by itself* and *of its own accord* (Kageyama (1996)), which is the second diagnostic.

- (14) a. The door opened by itself.
b. The door opened of its own accord.

This diagnostic is also applicable to marked anticausatives, as shown by the German example in (15):

- (15) Die Geige verstimmte sich
the violin got-out-of-tune REFL
von selbst
by self
“The violin got out of tune by itself.”
(Schäfer (2008:56))

Reflexive expressions in (3), however, are not compatible with *by itself*.

(16) a.* His illness began to manifest itself by itself.

b.* The sand began to form itself into geometric patterns by itself.

This fact, however, does not suggest that the marked anticausative analysis of the reflexive expressions in (3) is incorrect. The unacceptability of the occurrence of *by itself* is due to the duplication of the word *itself*. In fact, the reflexive expressions in (3) go along with *of its own accord*, as shown by the following sentences:

(17) ... a world that does not manifest itself of its own accord.

(Hannah Arendt, *The Life of the Mind*)

(18) ... the sentence had seemingly formed itself of its own accord, ...

(Campbell Black, *Letters from the Dead*)

(19) But the mind of God is not something that shows itself of its own accord.

(Mark A. Wrathall, *Heidegger and Unconcealment*)

(20) Plenty will reveal itself to you of its own accord.

(Christine Sneed, *Paris, He Said*)

(21) Once the question is formulated in this way, the answer suggests itself of its own accord: modern natural science and its nominalist philosophical premises.

(Scott Hahn, *For the Sake of Our Salvation*)

The fact that the reflexive expressions in (3) are compatible with *of its own accord* further supports our analysis of marked anticausatives in these reflexive expressions.

To sum up, this section has shown that English has marked anticausatives, parallel to other Germanic languages. The anticausative

analysis of the reflexive expressions in (3) is supported by the availability of a causer phrase and the adverbial phrase *of its own accord*.

3. Verb Types of Marked Anti-causatives

In the previous section, we saw that English marked anticausatives are exemplified by reflexive verbs of appearance.

(22) Reflexive Verbs of Appearance:

*assert, declare, define, express, form,
manifest, offer, pose, present, proffer,
recommend, shape, show, suggest*

(= (4))

The question that arises here is that what types of verbs can participate in marked anticausatives other than the verbs in (22). This section will investigate the types of verbs that can be used as marked anticausatives in English.

The first candidate verb class for marked anticausatives is verbs related to *hurt*, because they can form a reflexive expression, as shown by the sentences in (24):

(23) *Hurt* verbs:

burn, cut, hurt, injure, etc.

(Levin (1993:102))

(24) a. Bill hurt himself.

b. Bill cut himself (on the stone).

As for the reflexive expressions of *hurt* verbs, Levin (1993:101) observes that “the subject of the verb is not intentionally performing the action on himself or herself and has been characterized as an experiencer or even a patient.” Thus, the transitive sentences in (24) take a reflexive pronoun object, and the subject argument appears to be a Patient. These two

characteristics apparently suggest that these transitive sentences are marked anticausatives. A close scrutiny, however, reveals that they are not. Observe the following sentences:

(25) a. Bill fell and hurt himself.

b.# A stranger attacked Bill, and he
(= Bill) hurt himself.

(26) a. Bill fell and cut himself on the stone.

b.# A stranger attacked Bill with a knife
and, he (= Bill) cut himself.

The sentences in (25a) and (26a) describe situations in which Bill got hurt due to what he did to himself accidentally. In this sense, the subject NP of the reflexive expressions *Bill hurt himself* and *Bill cut himself* can be regarded as Agent or Causer rather than Patient. The sentences in (25b) and (26b) denote situations in which a stranger attacked and hurt Bill. The stranger is the Agent of cutting or hurting Bill. The reflexive expressions are anomalous in this context, because the subject NP of these expressions is also construed as Agent or Causer, and a contradiction therefore arises.

Notice that reflexive expressions in (24) are compatible with a causer phrase, and they appear to be marked anticausatives.

(27) It was nice to have someone care whether she ate and slept, whether she might hurt herself due to fatigue.

(Carrie Weaver, *No Time To Lose*)

In (27), however, the causer phrase *due to fatigue* refers to the reason for which she did something to herself and got hurt, so the subject NP of the reflexive expression retains agentivity even though a causer phrase co-occurs with it.

Thus, we can conclude that the reflexive expressions, such as (24), are transitive sentences that take an Agent or Causer subject and a reflexive pronoun object. They are not marked anticausatives.

The second candidate verb class for marked anticausatives is verbs of virtual reflexive constructions.

(28) Verbs of virtual reflexive construction:

solve, write, recommend, sell, etc.

(Stephens (2006))

These verbs can also participate in reflexive expressions, as shown below:

- (29) a. This problem solves ITSELF.
- b. This book sold ITSELF.

(Stephens (2006))

These sentences are called virtual reflexive constructions. They appear to denote anticausative events. However, Stephens (2006) presents two pieces of evidence for treating this type of reflexive expressions as transitive sentences with a “metaphorical” Agent subject.

Firstly, primary stress is necessarily placed on the reflexive pronoun.

- (30) a. These jokes write THEMSELVES.
- b.* These jokes write themselves.

(Stephens (2006:277))

Notice that the reflexive pronoun of marked anticausatives can receive no primary stress, as shown by the following examples of marked anticausatives:

- (31) a. An opportunity presented itself.
- b.* An opportunity presented ITSELF.

(Stephens (2006:277))

Secondly, adverbs such as *practically* are allowed in virtual reflexive constructions, as shown in (32a):

- (32) a. A recording like this practically recommends ITSELF.
- b.* His patience practically manifested itself.

(Stephens (2006:278))

The sentence in (32b) is an example of marked anticausatives which do not permit such an adverb.

Based on these two characteristics, Stephens (2006) explains that the subject of virtual reflexive constructions is metaphorically construed as an Agent. The situations described by the sentences in (29) are perceived as if a problem solves itself and a book sold itself. For this reason, virtual reflexive constructions can be regarded as transitive sentences that take a metaphorical Agent subject, and therefore, they are not marked anticausatives.

To sum up, this section investigated what types of verbs can participate in marked anticausatives in English. Two verb classes that take a reflexive pronoun object and appear to have an anticausative event interpretation were examined, but they were shown not to be true cases of marked anticausatives. Based on this investigation, we can conclude that only reflexive verbs of appearance can be a part of marked anticausatives in English, though we need further investigation of verb classes that may be available for marked anticausatives.

4. Conclusion

This paper dealt with two questions. The first question was whether or not English has marked anticausatives, and the answer to this question was shown to be “yes.” The second question was asked what types of verbs can be used as part of marked anticausatives in English. This paper showed that the range of verbs available for marked anticausatives is very restricted, and only reflexive verbs of appearance were attested. I hope this study will shed new light on the research of marked anticausatives in English.

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Pair-Merge under MERGE

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Free Merge

1. Introduction

The minimalist model of syntax proposed mainly by Chomsky (2013, 2015) has one and only one structure-building operation, Merge, which applies freely. However, how free is free Merge? Does free Merge allow extensions such as parallel Merge, late Merge, and sideward Merge? Chomsky (2019) addressed these questions, identified a flaw in the formulation of Merge, and revised Merge to MERGE, an operation applying to workspace (WS); MERGE maps WS onto WS'. Chomsky (2019) examined the nature of the WS and how freely MERGE applies under general conditions, and he demonstrated that parallel Merge, late Merge, and other extensions of Merge do not surface under MERGE. This MERGE-based analysis has a strong implication that pair-Merge, which is an independent operation forming an ordered pair (see (1)), motivated by the asymmetric property of adjunction, is no longer available, provided that forming an ordered pair (e.g. head movement) is a departure from simplest Merge.

(1) a. (simplest) Merge (a, b) = {a, b}

b. Pair-Merge (a, b) = <a, b>

In the workshop, Nomura and Oishi first discussed how pair-Merge works in various cases, and then Kitahara explored possible approaches to these phenomena under MERGE. Finally, Omune argued that the asymmetries exhibited by adjunction/pair-Merge were deducible from how MERGE applies.

2. Pair-Merge

Nomura scrutinized the way of structure building by Chomsky (2015) and argued that the argument structures of 3 verb types—transitives, unaccusatives, and unergatives/bridge verbs—can be built by the different timing of the application of pair-Merge of heads. First, when v^* and R (root) pair-merge after labeling the resultant structure is that of transitives. Second, when they pair-merge directly from the lexicon, the unaccusative structure emerges. Finally, when pair-Merge of v^* and R takes place prior to feature inheritance, the unergative/bridge verb structure comes up.

Oishi explored 3 types of pair-Merge: head-head (i.e. <X,Y>), phrase-phrase (i.e. <XP,YP>), and head-phrase (i.e. <X,YP>). Interestingly, he argued that the choice of (set-)Merge of X and YP and pair-Merge of X and YP would lead to explain two ambiguous meanings of *decide on*. Besides, he showed the structure of ethical dative constructions such as *knock me at the gate* is built by pair-Merge of *knock* and *me*.

3. Pair-MERGE

As mentioned in section 1, pair-Merge is suggested to be unavailable in the MERGE model. Conceptually, the elimination of pair-Merge is desirable, given evolvability (see

Chomsky et al. (2019: 249)), but it poses a serious empirical problem; we must find a way to explain the ubiquitous phenomena of adjunction under MERGE. Kitahara formulated pair-Merge under MERGE, restricting its departure to be minimum. See the following definition of MERGE and pair-MERGE:

- (2) Given $WS=[P,Q,X_1,\dots,X_n]$,
 $MERGE(P,Q,WS)\Rightarrow [\{P,Q\},X_1,\dots,X_n]$
 (3) Given $WS=[P,Q,X_1,\dots,X_n]$,
 $pair-MERGE(P,Q,WS)\Rightarrow [\langle P,Q \rangle,X_1,\dots,X_n]$

Once we assume that (3) holds, a number of adjunction phenomena including those in section 2 could be explained under the MERGE model.

The traditional head movement (e.g. T-to-C movement as in (4)) as a syntactic operation cannot be implemented for its counter cyclic character, which violates some conditions on MERGE. However, pair-MERGE ensures the same effect as the T-to-C movement as in (5).

- (4) $WS=[\{C,\{EA,\{T,vP\}\} \}] \Rightarrow pair-MERGE(T, C, WS) \Rightarrow *WS'=[\langle T,C \rangle, \{C,\{EA,\{T,vP\}\} \}]$
 (5) a. $WS=[C,\{EA,\{T,vP\}\}] \Rightarrow pair-MERGE(T,C,WS) \Rightarrow WS'=[\langle T,C \rangle, \{EA,\{T,vP\}\}]$
 b. $MERGE(\langle T,C \rangle, \{EA,\{T,vP\}\}, WS') \Rightarrow WS''=[\{ \langle T,C \rangle, \{EA,\{T,vP\}\} \}]$

This is, in essence, the so-called interarboreal operations in Bobaljik and Brown (1997).

4. Immediate-Local MERGE

Omune attempted to eliminate pair-MERGE and proposed IL- (Immediate-local) MERGE. What we want is the asymmetric relation of adjunct structures, and MERGE can yield the asymmetric property without postulating

pair-MERGE. If we assume that the well-known set-theoretical definition, $\langle x,y \rangle = \{x, \{x,y\}\}$, holds in the syntactic theory, unordered sets can yield the adjunct relation. That is, the adjunct structure can be produced when internal MERGE applies immediately after $\{x,y\}$ has been built by MERGE. In this way, IL-MERGE solves the problem of evolvability. The proposal, however, cannot ensure the elaborated T-to-C movement in (5). IL-MERGE is just MERGE, which forms $\{T,C\}$ instead of $\langle T,C \rangle$ in the step (5a). This violates some general condition on MERGE: 2 accessible copies of T appear in the WS' , violating Resource Restriction.

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【JELS 原稿（和文原稿）の作成上の注意】

< 英文原稿作成については、Guidelines for Submission of Manuscripts to JELS を参照すること >

(1) 原稿枚数：

本文・注・文献を含めて A4 用紙に 7 枚以内（シンポジウム・リポートは 4 枚以内、特別講演リポートおよびワークショップ・リポートは 2 枚以内）とする。原稿は、2 段組とし、各段 40 行とすること。

(2) 書式：

必ず、添付ファイルで送られてきた、「JELS_サンプル（和文原稿）.doc」を使用し、ファイル名を変更した上で上書き保存して使用すること。また、ファイル形式は「.doc」のまま使用し、「.docx」に変更しないこと。（変更すると正しく表示されない場合がある。）

① マージンは上（2.2 cm）、下（3.0 cm）、右（2.5 cm）、左（2.5 cm）に設定する。

② 文字サイズは 11 ポイント以上にする。

③ 第 1 頁の一段目は上部に 4 行の余白を取り、論文題名・氏名・所属・キーワード（語または短いフレーズ、5 項目まで）を中央寄せにして入れる。論文題名と氏名の間、及び所属とキーワードの間は各 1 行空白とし、キーワードの後 2 行あけて、本文を始める。（キーワード：メタファー、関連性理論、usage-based model のような形式でキーワードを書く。キーワードの間は半角カンマと半角スペースで区切る。）

④ 論文題名は太字にする。

⑤ 和文原稿の場合、読点・句点は、「、」と「。」を使用する。

⑥ 注は、本文（または謝辞）の後ろ（文献表の前）にまとめ、「注」とタイトルを付す。なお、MS-Word の脚注機能を使用してはならない。脚注機能を使わずに注を書くこと。本文中の注番号（上付き数字）は、句点「。」の後ろにくるようにする。

⑦ 謝辞を書く場合は、アスタリスクを付け、注の上を書く。

⑧ 文献表を含め、その他の書式の細部については、*English Linguistics* の“Information for Contributors”に従うが、abstract は不要。

(3) その他：

- ① 和文原稿には和文題名をつけること。また、著者名と所属機関名の横にそれぞれの英語（または原語）表記を（ ）に入れて記す。著者名の英語表記では、ファーストネーム ファミリーネームの順番で、語頭のみ大文字で書くこと（例：「日本英子（Eiko Nihon）」）。また、和文題名の下に英文題名を（ ）に入れて示す（この場合も、英文題名の中の内容語はすべて、語頭を大文字で記載すること）。
- ② 発表時のタイトルからの変更は一切認めないが、日本語による口頭発表でも **Conference Handbook** に記した英文題名を使用すれば、英文原稿を提出できる。なお、**Spring Forum** での発表の場合は、英文原稿のみ受け付ける。
- ③ ページ番号は入力しないこと。
- ④ 作成原稿のフォントの埋め込みを必ず行ってから提出すること。CD-ROM からの読み出し時に、パソコン環境によってはフォントがうまく再現されず異なる記号などに変換されてしまう危険性があるため、必ず確認の上、提出すること。
- ⑤ 論文内に図やイラストなどを使用する際には、著作権に十分留意すること。
- ⑥ 締め切りは、大会翌年の 1 月 11 日 午前11:59（日本時間）（必着）で、日本英語学会の JELS 原稿受付アドレス（conference-elsj@kaitakusha.co.jp）に WORD ファイルと PDF ファイルを送付する。ファイル名には発表者の氏名をローマ字で記入すること（例：NihonEiko.doc / NihonEiko.pdf）。メールのタイトルは、秋の大会の発表か国際春季フォーラムの発表かに応じて、「大会: JELS 日本英子」もしくは「SF: JELS EikoNihon」と記すこと。なお、締切日時を過ぎていても JELS 原稿受付アドレスの自動応答システムによって「受領した」旨のメールが返信される場合があるが、大会運営委員会としては受領しない。
- ⑦ 規定に違反している原稿は掲載できない。

(2019 年 10 月 1 日改定)

JELS 日本語執筆の場合の注および参考文献の書式について（補足資料）

JELS を日本語で執筆する場合の注と和文参考文献の例を以下に示します。外国語で書かれた参考文献については、*JELS* を英語で執筆する場合と同様、学会ウェブサイト (http://elsj.jp/english_linguistics-eng/information-for-contributors/) に掲載されている *English Linguistics* の参考文献の書式を参照して下さい。

注

1. 河上誓作（私信：XX年YY月ZZ日）によると、以下の例は.....
2. Oba (1997)にも指摘されているとおり、.....
3. 杉本 (1998:34)では、以下のような類例が紹介されている。
 - (i) I long for
 - (ii) I manage to
4. Takami (1996:51)には、以下のような.....

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和書の場合

福岡言語学研究会 (編) (1993) 『言語学からの眺望』 (福岡言語学研究会20 周年記念論文集) 九州大学出版
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論文集の場合

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雑誌掲載が決定しているが未公刊の論文の場合

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廣瀬幸生 (1996) 「Adele E. Goldberg: Constructions: A Construction Grammar Approach to Argument Structure」
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書評の場合 2 (洋書の書評を和文で執筆)

桐生和幸 (1997) 「結果述語構文の言語類型論的研究」 関西言語学会第 22 回大会口頭発表.

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学会等のプロシーディングスの場合

Freud, Sigmund (1905) *Jokes and Their Relation to the Unconscious*, Moffat Ward, New York. (フロイト, ジグム
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翻訳の場合

Radcliff, Allan (1940) "On Joking Relationships," *Africa* 13, 195-210. (ラドクリフ, アラン. 青柳まちこ訳『未
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論文の翻訳が本の一部として公刊されている場合

Guidelines for Submission of Manuscripts to *JELS*

<If you write in Japanese, refer to the Japanese guideline on the ELSJ website>

Last revised October 2019

(1) Length

The length of an oral presentation manuscript, including notes and references, must not exceed seven A4 pages; that of a symposium report must not exceed four A4 pages; that of a special lecture or workshop report must not exceed two A4 pages. The manuscript should use a two-column format with 40 lines per column. Care should be taken to avoid overcrowding of characters or letters within the line.

(2) Format

Use the English sample file attached to the e-mail. Do not change the file extension (.doc) when you save the file. Note that presenters at the Spring Forum are not allowed to submit a Japanese manuscript.

- a. Leave margins of 2.2cm at the top, 3.0 cm at the bottom, and 2.5cm on both sides.
- b. The font size should be at least 11 point.
- c. There should be 4 lines of space between the top of the page and the first paragraph on the first page. The title, the name and affiliation of all authors, and keywords (up to five words or short phrases) should all be centered. One line of blank space should be left between the title and the author name(s) as well as between the author affiliation(s) and the keywords. Two lines of blank space should be left below the keywords, at which point the main text should begin. Keywords should be written in the following format: Keywords: xxx, yyy, zzz (e.g. Keywords: syntax, Case assignment, Multiple Agree, light verb).
- d. The title should be in bold type. Capitalize the first letter of every content word in the title.
- e. Write the author's name in the order "First name - Surname" and capitalize only the initial letters. (e.g. Jane Smith).
- f. Write acknowledgements above notes, if any. Put an asterisk at the beginning of the acknowledgements.
- g. Notes should follow the main text but precede the references, with the heading "NOTES." DO NOT use MS-Word's command for inserting automatic footnotes and endnotes. Footnote numbers in the body of the text should be written as superscript numerals, and should be placed after punctuation marks.
- h. Other details (including the references) should be formatted in accordance with *Information for Contributors* and the latest version of the *EL* style sheet (http://elsj.jp/english_linguistics-eng/information-for-contributors/). No abstract is necessary.

(3) Other instructions for submission

- a. Manuscripts written in English should be checked by a native speaker of English. Under no circumstances may the title of the manuscript be changed in any way from that used at the time of presentation. English manuscripts are acceptable even when the oral presentations were made in Japanese if the English title listed in the Conference Handbook is used in the manuscript. Presenters at the International Spring Forum may submit only English manuscripts.
- b. Do not include page numbers.
- c. Please embed all fonts when creating pdf files in order to ensure that the fonts used are available on readers' computers. (*JELS* is published as a CD-ROM.)
- d. Make sure that any figures or illustrations in the paper are consistent with copyright restrictions.
- e. Manuscripts must be submitted by 11:59 am on January 11th (JST) of the year following the Spring Forum and the annual Conference. Manuscripts should be sent as attachments in both pdf and doc format to <conference-elsj☆kaitakusha.co.jp>*. The file name should include the author's name in Roman letters (e.g. NihonEiko.pdf/NihonEiko.doc). The title of e-mail should be "Annual Conference: name" or "Spring Forum: name" (e.g. "Annual Conference: Jane Smith"). Please note that a manuscript that has reached after the above deadline will not be accepted by the Conference Organizing Committee even if an automatic reply message confirms your submission.

- f. Please note that manuscripts not in strict compliance with the Rules for JELS and the present guidelines will not be accepted.

*The “@” in the e-mail address has been replaced by “☆” for security reasons.

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