Papers from the Thirty-Sixth Conference
November 24-25, 2018
and from
the Eleventh International Spring Forum
May 12-13, 2018
of
The English Linguistic Society of Japan

JELS 36

日本英語学会第 36 回大会（横浜国立大学）
第 11 回国際春季フォーラム（北海道大学）
研究発表論文集

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本書は、2018年5月12日、13日に北海道大学にて開催された日本英語学会第11回国際春季フォーラム、および同年11月24日、25日に横浜国立大学にて開催された日本英語学会第36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]

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On the Conditions of Rhetorical Imperatives*

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Keywords: imperatives, rhetorical imperatives, presuppositions, Japanese

1. Introduction

The meaning of "rhetorical" has been drawn considerable attention in many fields in Linguistics, especially in the works on Rhetorical Questions (henceforth 'RQs') (e.g., Sadock 1971, Sprouse 2007, Fujii 2015, Caponigro & Sprouse 2007). Caponigro & Sprouse (2007), for instance, claims that questions turn into RQs if and only if answers to the questions are shared in the common ground of the speakers and the addressees. Besides questions, imperatives can convey a sort of rhetorical flavor as well; however, these accounts are not typically presented in a formal linguistic theory.

The aim of this paper is to figure out the conditions of imperatives with rhetorical meanings, what we call "Rhetorical Imperatives (henceforth 'RIs')." We claim that (i) RIs are divided into four types, and (ii) the interpretation of each type of RIs is pragmatically determined depending on how they violate the presuppositions of ordinary imperatives presented by Kaufmann (2012).

2. Basics

In this section, we observe the basic data of RIs. Let us briefly define RIs as "utterances which have an imperative form but interpreted differently from ordinal imperatives." Based on this, we divide RIs in the following four types, as exemplified in (1)-(4). Note that these RIs can also be interpreted as 'ordinal' (non-rhetorical) imperatives as *commands* or *directives* in out-of-the-blue contexts, i.e., in situations without the special contexts given below.

(1) ***Idiom type*** (RIs which are used idiomatically)[1]
[Context: the addressee has told a lie to the speaker. Then the speaker says;]
Uso(-o) tsuk-e!
lie(-ACC) tell-IMP
[lit.] 'Lier!' (≈ Don't tell me such a lie!)

(2) ***Biased type*** (RIs which convey the bias toward the possibility of the realization of the proposition described by the imperative)
[Context: the speaker thinks that it is impossible for the addressee to get a full score on an examination.]
Manten tor-e-ru mono nara
full.score get-can-Pres C if
{tor-e/tot-temir-o}!
get-IMP / get-try-IMP
[lit.] 'Get full score if you can!' (≈ You cannot get it anyway, though.)

(3) ***Complaint type*** (RIs which convey that the speaker complains about the action which has already taken by the addressee.)[2]
(Mou!) zenbu taber-o yo!
honestly everything eat-IMP SFP
[lit.] 'Eat everything!' (≈ Why didn't you eat everything!)

(4) ***Irony type*** (RIs which convey the ironical attitude toward an addressee.)
[Context: the speaker and the addressee are enjoying shopping together. But the

addressee comes to feel tired and starts saying that she wants to go home.]

(Sonnani i-u nara) kaer-e yo!
so.much say-Pres if go-IMP SFP
[lit.] 'Go home, then!' (≈ Actually, I don't want you to go home, though.)

Considering these different kinds of RIs, two of the big questions which one might pose are: (i) how the interpretations of the four types of RIs are different from one another, and (ii) what makes the difference among them.

3. The Semantics/Pragmatics of Imperatives

Before moving on to illustrate our proposal, we give the assumption of the semantics and pragmatics of imperatives proposed by Kaufmann (2012). She proposes that imperatives are deontic modalized sentences like *should*(*p*) or *ought*(*p*), in the sense that they involve quantification over possible worlds (Kratzer 1983), which allows us to analyze imperatives on a par with modalized sentences. She also adds to the semantics of imperatives several presuppositions that make imperatives non-truth-conditional, as shown in (5).

(5) The presupposition of IMP(*p*):[3]

a. *Temporal Condition* (TC): $\neg(t < c_T)$

b. *Epistemic Uncertainty Condition* (EUC): For the precontext c' of c, $CS(c') \subseteq \lambda w.(\exists w' \in Bel'_{c_S}(c'_T)(w))(\exists w'' \in Bel'_{c_S}(c'_T)(w))\ [\neg p(t)(w') \& p(t)(w'')]$

c. *Affirmation Condition* (AC): $\textsc{Aff}(c_S)(g_w)$

First, the presupposition in (5a) ensures that the imperative can or will occur in the future (more formally, at or following utterance time). The second presupposition in (5b) ensures that the speaker (c_S) believes that fulfillment of the imperative is possible, but not a foregone conclusion; that is, both p and $\neg p$ are possible. Finally, the presupposition in (5c) ensures that the ordering source g in w (e.g. our tasks, what the speaker wants, or the normal course of events, Kratzer 1983) must be 'prioritizing' (Portner 2007) or 'speaker bouletic': intuitively, the speaker prefers p to be true. Roughly, for example in (6), the saturation of the presuppositions in (6b) is necessary for the speaker to utter the ordinary imperative in (6a) felicitously.

(6) a. Go to bed!

b. (6a) is defined iff (i) [*the addressee goes to bed*] occurs at or following utterance time, (ii) the speaker believes that both [*the addressee goes to bed*] and [*the addressee does not go to bed*] are possible, and (iii) the speaker prefers [*the addressee goes to bed*] to be true.

We do not go into further details of Kaufmann's analysis due to limitations of space, but her approach works well enough to derive the interpretations of RIs.

4. Proposal

We argue that violations of the presuppositions of imperatives suggested by Kaufmann (2012) signal that uttered imperatives are RIs. Specifically, how an imperative is interpreted rhetorically depends on how many and which presuppositions the imperative violates. We propose that the presuppositions of the four types of RIs exemplified in Section 1 are defined as (7)-(10), respectively.

(7) The presupposition of idiom type RIs:

(i) $t < c_T \wedge$

(ii) $CS(c') \not\subseteq \lambda w.(\exists w' \in Bel'_{c_S}(c'_T)(w))(\exists w'' \in Bel'_{c_S}(c'_T)(w))\ [\neg p(t)(w') \& p(t)(w'')] \wedge$

(iii) $\neg \textsc{Aff}(c_S)(g_w)$

(8) The presupposition of biased type RIs:

(i) $\neg(t < c_T) \wedge$

(ii) $CS(c') \not\subseteq \lambda w.(\exists w' \in Bel'_{c_S}(c'_T)(w))(\exists w'' \in Bel'_{c_S}(c'_T)(w))\ [\neg p(t)(w') \& p(t)(w'')] \wedge$

(iii) $\neg \textsc{Aff}(c_S)(g_w)$

(9) The presupposition of complaint type RIs:

(i) $t < c_T \wedge$

(ii) $CS(c') \not\subseteq \lambda w.(\exists w' \in Bel'_{c_S}(c'_T)(w))(\exists w'' \in Bel'_{c_S}(c'_T)(w))\ [\neg p(t)(w') \& p(t)(w'')] \wedge$

(iii) $\textsc{Aff}(c_S)(g_w)$

(10) The presupposition of irony type RIs:

(i) $\neg(t < c_T) \wedge$

(ii) $CS(c') \subseteq \lambda w.(\exists w' \in Bel'_{c_S}(c'_T)(w))(\exists w'' \in Bel'_{c_S}(c'_T)(w))\ [\neg p(t)(w') \& p(t)(w'')] \wedge$

(iii) $\neg \textsc{Aff}(c_S)(g_w)$

To say that RIs presuppose that the violations are entailed in the context of utterance is to say that they signal that the violations are already part of the common ground. In this sense, the current proposal provides an account of the rhetorical effects of imperatives in parallel with that of RQs. That is, while RQs require the presupposition of ordinary questions (i.e. the speaker does not know the answer of the question) to be violated, RIs require the presuppositions of ordinary imperatives (in (5)) to be violated. In the next section, we show how the proposal can handle the contrast among the four types of RIs.

5. Analysis

Let us first show how the idiom type RIs violate the presuppositions of ordinary imperatives. Consider (1) "*Uso(-o) tsuk-e!*" 'Tell a lie!' for example. (1) violates TC in (5a) because (1) is uttered to refer to the past in which the addressee told a lie. The context for (1) also implies that there is *no* possibility that $\neg p$ (p: 'the addressee tells a lie') occurs because p has already occurred when (1) is uttered, which leads to the violation of 'EUC' in (5b). Thus, we assume that a violation of TC generally entails a violation of EUC.[4] The example (1) violates 'AC' in (5c) as well because the speaker does not regard p as a preferable content.

We can confirm these violations as follows.

(11) a. Hashir-e! #Nande (sonna-huuni)
run-IMP! why such-like
hashit-ta n-da yo.
run-Past C-COP SFP
'Run! Why did you run (like that)!'

b. Hashir-e! Ore-wa omae-ni
run-IMP I-TOP you-DAT
hasit-te hoshii n-da yo.
run-GEN want C-COP SFP
'Run! I want you to run.

(12) a. Uso(-o) tsuk-e! Nande
lie(-ACC) tell-IMP why
(sonna) uso tui-ta n-da yo.
such lie tell-Past C-COP SFP
'Tell a lie! Why did you tell such a lie!'

b. Uso(-o) tsuk-e! #Ore-wa
lie(-ACC) tell-IMP I-TOP
omae-ni uso(-o) tsui-te hosii
you-DAT lie-ACC tell-GER want
n-da yo.
C-COP SFP
'Tell a lie! I want you to tell a lie.'

(11a) demonstrates that an ordinary imperative is infelicitous if it is followed by an utterance which describes that p has already occurred.

This ensures that the ordinary imperative satisfies TC. (11b) suggests that an ordinary imperative is compatible with an utterance that describes that *p* is *preferable* for the speaker, which ensures that the ordinary imperative satisfies AC. (12a) and (12b), the idiom type counterparts for (11a) and (11b) respectively, show that idiom type RIs violate TC and AC, unlike ordinary imperatives. Moreover, as we have pointed out, since a violation of TC generally entails a violation of EUC, we can say that idiom type RIs violate EUC.

The same tests are applicable for biased type RIs. Consider (13a) and (13b), the biased type counterparts for (11a) and (11b) respectively. [5]

(13) a. Manten tor-e-ru mono nara {tor-e/ tot-temir-o}! #Nande (sonna-huuni) manten tot-ta n-da yo.
'Get full score if you can! Why did you get full score (like that)!'

b. Manten tor-e-ru mono nara {tor-e/ tot-temir-o}! #Ore-wa omae-ni manten tot-te hosii n-da yo.
'Get full score if you can! I want you to get full score.'

Since (11a) and (13a) are the same in that both are judged infelicitous, the biased type RIs does not violate TC. The oddness of the subsequent utterance in (13b) indicates that biased type RIs violate AC.

As for EUC, the following pair of examples demonstrates whether it is violated (: (15)) or not (: (14)).

(14) Omae-ga (kossetsu-de)
you-NOM breaking-a.bone-because
hasher-e-nai no-wa
run-can-NEG C-TOP
shit-teiru. #Hashir-e!
know-PROG.PRS run-IMP
'I know that you cannot run because you broke a bone. Run!'

(15) Omae-ga manten-o
you-NOM full.score-ACC
tor-e-nai no-wa
get-can-NEG C-TOP
shit-teiru. Manten tor-e-ru mono nara {tor-e / tot-temir-o}!
know-PROG.PRS full.score get-can-PRS C if get-IMP / get-try-IMP

(15) is the biased type counterpart of the ordinary imperative in (14). The ordinary imperative in (14) is infelicitous because the preceding utterance describes that the speaker believes that *p* (*p*: 'the addressee gets full score') would never occur. This ensures that the ordinary imperative satisfies EUC. In contrast, the felicity of the preceding utterance in (15) indicates that the biased type RIs does not satisfy EUC.

Let us see the case of the complaint type RIs, as shown in (16).

(16) a. (Mou!) zenbu taber-o yo! Nande zenbu tabe nakat-ta n-da yo.
'Eat everything! Why did not you eat everything!'

b. (Mou!) zenbu tabe-ro yo! Ore-wa omae-ni tabe-te hosii n-da yo.
'Eat everything! I want you to eat everything.'

(16a) and (16b) are the complaint type counterparts for (11a) and (11b) respectively. We can see that (16a) is felicitous unlike (11a),

which leads to the violation of TC. Since the violation of TC entails that of EUC, the complaint type RIs violate EUC as well. As for AC, it is satisfied by the complaint type RIs because (16b) is judged felicitous in the same way as (11b).

Lastly, let us move on to the diagnose for irony type RIs.[6] Consider (17).

(17) a. (Sonnani i-u-nara) kaer-e yo. #Nande kaet-ta n-da yo.
'Go home, then! Why did you go home!'

b. Omae-ga (shuuden-o nogashi-te) kaer-e-nai no-wa shit-teiru. #(Sonnani i-u nara) kaer-e yo!
'I know you cannot go home because you lost the last train. Go home, then!'

c. (Sonnani i-u nara) kaer-e. #Ore-wa omae-ni kaet-te hosii n-da yo.
'Go home, then! I want you to go home.'

Given the observations in (17a) and (17b), the irony type RIs do not violate TC and EUC. As for AC, the oddness of the subsequent sentence in (17c) demonstrates that AC is not satisfied in the irony type RIs.

Putting it all together, the analysis in this section can be summarized as follows.

	TC	EUC	AC	**Total**
Idiom	*	*	*	* * * (TC,EUC,AC)
Biased		*	*	* * (EUC,AC)
Comp.	*	*		* * (TC,EUC)
Irony			*	* (AC)

TABLE 1

As shown by the table above, we claim that the interpretation of RIs is determined depending on how they violate the presuppositions of ordinary imperatives. In addition, the distribution of the violations seems to suggest that the more RIs violate the presuppositions, the more rhetorically they are interpreted. For instance, idiom type RIs, which violate the three presuppositions, convey almost the reverse meaning to the literal one while irony-type Ris, which violate only one presupposition, are rhetorically weaker than others in that the meaning conveyed by them differs from that of ordinary imperatives only in their ironical interpretations.

6. Conclusion

This paper has argued that the four types of RIs are characterized in terms of presuppositional violations. This analysis lends support to the view that the rhetorical interpretation of speech act is generated at a level of pragmatics (e.g. Caponigro & Sprouse (2007) for rhetorical questions). Our claim can also be counted as a support for Kaufmann (2012)'s analysis that imperatives require the special presuppositions.

There are still some remaining issues for RIs. First, we should explore the detail characteristics of each RI. For example, we need to figure out what kind of predicates are available for idiom-type RIs (cf. footnote.1). Moreover, a crosslinguistic analysis should be done as well (e.g. Demirok & Oikonomou (2018) for Turkish). Finally, in addition to these issues, extending the current analysis to the formal discourse framework initiated by Farkas & Bruce (2010) will contribute to a better understanding of RIs.

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NOTES

[1] "*Bakai-e!/Hozake!/Huzakero!*" 'You must be kidding me!' are some of the examples of idiom type RIs. Their idiomatic characteristics is attributed to the fact that they would not convey the rhetorical meaning in the case that they are used in other than imperative form (e.g. '*Uso-(o)* {*tsuk-u yooni*/*tsuku-koto*/*tsui-te*}!'). Further discussion is needed for the reason why only the imperative form is available. One of the possible accounts is to regard idiom type RIs as the expressions which convey the conventional implicature (cf. Conventional Implicature; Grice 1975).

[2] Tagawa (2015) calls this kind of imperatives 'complaintive imperatives.' He suggests that they sound more natural when they are accompanied by the sentence-final particle *yo* with the falling tone (cf. Ihara and Noguchi 2017). This may be related to one of the characteristics of *yo*, that is, *yo* with the falling tone conveys the speaker's emotion toward propositions (Oshima 2014). See Oshima (2014) and Davis (2011) for details.

[3] To put it more precisely, Kaufmann (2012) proposes the forth presupposition called "Authority Condition," which is not relevant in the current study. This ensures that the speaker in *c*(ontext) is in an 'epistemically privileged position' with respect to the conversational backgrounds: the modal base *f* ('what is known') and the ordering source *g* (Kratzer 1983).

[4] The violation of TC does not necessarily imply the violation of EUC (Takanori Nakashima, p.c.).

[5] Glosses are omitted in (13), (16) and (17) because of the limitation of space. Please refer to (11), (12), (14) and (15) for the glosses for the test sentences.

[6] The irony type RIs can be regarded as the ones which describe 'permission' or 'acquiescence' (cf. Portner 2010, Kaufmann 2012, Condoravdi & Lauer 2012).

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音放出を伴う Hit 動詞について―bang, bump, thump を中心に*

（On Sound Emission Verbs in *Hit* Verbs: With Special Reference to *Bang*, *Bump*, and *Thump*）

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キーワード：音放出動詞, Hit 動詞, 動詞クラス, Against/With 交替

1. はじめに

本稿では、bang, bump, thump の三つの動詞の語彙的意味と統語的振る舞いについて考察する。[1] これらの動詞は、本来オノマトペであり、「衝突時に生じる音」を記述するという点で共通している。例えば、Longman Dictionary of Contemporary English (LDOCE) には名詞用法として、(1a-c)のように「音」の記述がある。

(1) a. bang: <u>a sudden loud noise</u> caused by something such as a gun or an object hitting a hard surface
b. bump: <u>the sound</u> or sudden movement of something hitting a hard surface
c. thump: <u>the dull sound</u> that is made when something hits a surface
(LDOCE, 下線は筆者)

また、Levin (1993)はこれら三つの動詞をいずれも Hit 動詞に分類しており、この点でも共通している。[2]

しかし、これらの三つの動詞は意味的・統語的に異なった振る舞いを示す。例えば、Levin (1993)によれば、Hit 動詞は(2), (3)のような「動能交替」「With/Against 交替」と言った交替現象に参与する（以後、(2b)を動能構文、(3a, b)の構文を接触所格構文 (Contact Locative Construction) (Pinker 2007)と呼ぶ）。

(2) Conative Alternation
a. Paula hit the fence (with the stick).
b. Paula hit at the fence (with the stick).
(3) *With/Against* Alternation
a. Paula hit the stick against/on the fence.
(Doesn't imply: Paula hit the stick.)
b. Paula hit the fence with the stick.
(Implies: Paula hit the fence)
(Levin (1993: 148-149))

しかし、(4)に示すように bang, thump は動能構文に生起できるが、bump は生起出来ない（但し、ここで言う動能構文とは、前置詞として at ではなく on が生じるものであり、「～をめがけて叩く」の解釈ではなく、対象との接触が実際にあり「反復」の解釈になるものである（cf. 中右 (2003), 草山 (2010)））。

(4) a. John {banged/thumped} on the door.
b. *John bumped on the door.

さらに、(5), (6)に示すように、三つの動詞とも接触所格構文に生起するが、ここでも bump は bang, thump とは異なった振る舞いを示す。

(5) I {banged/thumped} the table (with my fist).
(6) I bumped the table (with my bag).

With 句がある場合は、それぞれ「私はテーブルを拳で叩いた」「私はテーブルに鞄をぶつけた」を意味する。bang, thump は with 句が省略されても、「私はテーブルを何かで叩いた」の意味になるが、bump の場合、with

句が省略されると「私はテーブルに何かをぶつけた」ではなく、「私がテーブルにぶつかった」の意味になる。

このように、これらの三つの動詞は同じ Hit 動詞であり、「衝突時に生じる音」を記述しているという点で共通しているにも関わらず、異なった意味的・統語的振る舞いを示す。本研究の目的は bang, bump, thump の語彙的意味を明らかにし、これらの統語的振る舞いの相違を説明することである。

2. 意味的・統語的特徴

本節では、辞書の記述を検討すると共に Corpus of Contemporary American English (COCA)から抽出したデータに基づいて、各動詞の意味的・統語的特徴を明らかにする。

2.1. bang

まず bang は、Oxford Advanced Learner's Dictionary (OALD)では、(7)にあるように「大きな音を立てるように叩く」以外に「大きな音を立てて閉める」「乱暴に置く」の意味が挙げられている。

(7) 1. [I, T] to hit sth in a way that makes a loud noise
2. [I, T] to close sth or to be closed with a loud noise
3. [T] to put sth somewhere suddenly and violently
4. [T] to hit sth, especially a part of the body, against sth by accident

しかし、(8a, b)に示すように、bang は「開ける」の意味でも用いられるし、softly とも共起できる。従って、(7)の語義が bang の語彙的意味だとは考えられない。

(8) a. Instead, *Eleonora* <u>*banged open the door*</u> and strode in smiling, apologizing for being late. (COCA)
b. Glancing at his watch, he <u>softly</u> *banged the steering wheel*. (Stella Bagwell, *The Ranger and the Widow Woman*, online)

次に、Dux (2016)に従い、COCA で「動作主を伴う衝突」を表す例を約 100 例集め、最も頻度の高い統語パターンと、その統語パターンに生じる最も頻度の高い名詞を抽出した。検索は、[bang].[v*]の形式で行った。bang の最も頻度の高い統語パターンが(9)-(11)である（括弧内の数字は生起件数を示す。例えば、(9)であれば、この統語パターンは 100 件中 34 件生起したことを示す。以下、出典の記載の無い例文は COCA から採ったもの）。

(9) [NP_1 __ on NP_2] (34/100)
He came <u>banging on *the window and the door*</u> and telling me to call 911. (70%)

(10) [NP_1 __ NP_2 on NP_3] (18/100)
a. She'd <u>banged *her face* on *the sink*</u> when she passed out. (77%)
b. He <u>banged *the stick* on *the table*</u>. (22%)

(11) [NP_1 __ NP_2] (17/100)
a. The three men started <u>banging *pots and pans*</u>. (29%)
b. And at night, they camp along the cliffs and <u>bang *drums*</u> around a fire. (23%)

Bang は on 形の動能構文が最も多く、次に on 形の接触所格構文と他動詞構文がほぼ同じ割合で生じる。

ここから分かることは、bang は「叩いた結果、音が出る」だけでなく「音を出すために叩く」の意味で用いられるということである。例えば、(10a)では「気を失って顔をシンクにぶつけた結果、bang という音が鳴った」わけだが、(9)や(11)では、何らかの行為の結果、偶然音が鳴ったわけではなく、音を出すために「叩く」という行為を行っている。つ

まり、この場合、bang は「叩く」という行為ではなく「音を出す」ことに焦点がある。以下では、これを「音指向の用法」と呼ぶ。

また、これに関連して bang は「叩く」以外にも様々な様態を表すことができる。例えば、(12a)は「演奏する」を意味し、(12b)は「置く」を意味する。

(12) a. He came up and began *banging on the piano*.
b. Gremlins *bang clear stone cups on the bar* made of wiliwili wood.

2.2. thump

Thump も bang と並行した振る舞いを示す。まず thump がとる最も頻度の高い統語パターンと、これらの統語パターンで生起する頻度の高い名詞が(13)-(16)である。

(13) [NP_1 __ NP_2] (28/100)
a. "My hedgerow. Bill," he says, thumping *his chest*. (50%)
b. Skylar thumped *the table*, shifted in her seat. (32%)

(14) [NP_1 __ NP_2 on NP_3] (16/100)
a. He thumped *his fist* on *the book*. (31%)
b. He thumped *one stony hand* on *his chest* for emphasis. (12%)
c. She'd be thumping *a broomstick* on *her ceiling* at any minute. (56%)

(15) [NP_1 __ NP_2 against NP_3] (14/100)
a. She began thumping *her head* against *the window*, so Juliette rolled it down. (35%)
b. She thumped *a finger* against *my sternum*. (28%)
c. Agnes thumped *her tail* against *one of the table legs*. (28%)

(16) [NP_1 __ NP_2 with NP_3] (13/100)
a. She thumped *his chest* with *her palms*. Come on. (30%)
b. He thumped *the cushion* with *the flat of his hand*. (30%)

他動詞構文が最も頻度が高く、その次に接触所格構文がほぼ同じ割合で生じる。どの統語パターンでも「背中や胸を叩く」といった身体部位との接触を表す例が比較的多いが、bang 同様、多様な名詞と共起する。例えば、(13b)と(16b)のように、叩く対象は硬い物から軟らかい物まで生起できる。さらに、(14c)は物同士の接触である。

また、bang 同様、(17)に示すように「何かの衝突の結果、偶然音が出る」のではなく「音を出すために何かを叩く」という音指向の用法がある。

(17) a. I *thumped hard on the front door*, …
b. … the visiting musicians sawed at strings, blew into tubes, *thumped tympani*.

(17a, b)では、音を出すためにドアを叩いたり、ティンパニーを叩いている。

さらに thump も様々な行為の様態を表すことができる。例えば、(17a)は hard があるため「強く叩く」を意味するが、(18)では Tap が後続していることから分かるように、「かなり弱く叩く」の意味である。

(18) She *thumped a finger against my sternum*. Tap. Tap. Tap.

以上、bang も thump も多様な様態を表せるが、これらの様態を語彙化しているとは考えられず、「衝突時に生じる音が bang、あるいは thump と認識される限り、これらの動詞を用いることができる」と言える。

これは名詞派生動詞の語彙的意味と共通している。例えば、名詞派生動詞である feather は、「矢に羽をつける (feather an

arrow)」という「付加」の意味にも、「羽をむしる (feather a goose)」という「除去」の意味にもなる (Buck (1997))。この現象に関して、Iwata (2008)は、動詞自体はおよそ(19)のようなスキーマ的な意味しかなく、正反対に見える意味は百科事典的知識から生じると分析している。

(19) denominal verbs の意味 : "an event/state which saliently involves N" (Iwata 2008: 112)

例えば feather an arrow では feather は「矢に関して feather が持つ顕著な事象」として「羽をつける」の意味になるのであり、feather 自体が「羽をつける」「羽をむしる」という意味を語彙化しているわけではない、と考えるのである。

上述のように bang, thump も多様な様態を語彙化しているとは考えられない。従って、feather と同様に、bang も thump も語彙的には(20)のように「bang、あるいは thump という音に顕著に関わる事象または行為」を意味し、さまざまな様態は百科事典的知識から生じると考えられる。

(20) a. *bang*: an event/action which saliently involves the sound of "bang"
b. *thump*: an event/action which saliently involves the sound of "thump"

音放出動詞が、オノマトペの名詞が動詞に転換されたものである、という主張は影山(2006)でも論じられており、これ自体は目新しいことではない。しかし、次節で見るように、同じオノマトペである bump は異なった振る舞いを示す。

2.3. bump

まず LDOCE の記述を見ると、(21)に示すように、動詞の用法では「音」の記述がない。

(21) [I, T] to hit or knock against something

次に bump がとる最も頻度の高い統語パターンと、各統語パターンに生じる頻度の高い名詞が(22)-(24)である。

(22) [NP_1 __ NP_2 (複数名詞)] (30/85)
a. There will be times where they bump *heads* and have to fight through adversity.
b. Then they bump *fists* and wiggle their fingers in a private ritual. (93%)

(23) [NP_1 __ NP_2 against NP_3] (15/85)
a. She bumped *a hip* against *the screen* door to open it. (66%)
b. Arnaud cries, and bumps *his lips* against *my cheek*. (20%)
c. He laughed quietly, and she bumped *her hip* against *him* as they sat. (13%)

(24) [NP_1 __ NP_2 with NP_3] (13/85)
a. "Hoorah," he kept saying, bumping *me* with *his forearm*. (30%)
b. The man walked down the aisle, intentionally bumping *the driver's shoulder* with *his hip* before stepping down the stairwell. (23%)
c. She stood, bumping *her desk* with *her swollen belly*. (23%)

他動詞構文が最も頻度が高く、その次に接触所格構文が続く。他動詞構文で最も頻度の高いものは、(22a, b)に示すように、目的語に複数名詞が生じる例で 30 例中 28 例が「頭同士」「拳同士」などの「身体部位同士をぶつける」の例で 93%を占める。さらに接触所格構文では、(23), (24)に示すように、必ずしも「身体部位同士」ではないが、「身体部位を伴った衝突」を表し、「動作主を伴う衝突」

で bump がとる全統語パターンの 97%が「身体部位を伴う衝突」を意味し、bump は「身体部位との衝突」に特化している。[3]

また、bang や thump のように「音を出すために叩く」のような「音指向の用法」は、収集した 1,000 件の中には見当たらない。

さらに、bump の特徴として、表 1 に示すような相違がある。

	動作主を伴う衝突	動作主を伴わない衝突
bang	100 / 330	21 / 330
thump	100 / 489	94 / 489
bump	85 / 1,000	234 / 1,000

表 1: 動作主の有無による相違

Bang の場合、「動作主を伴う衝突」は 330 例中 100 例であるのに対し、「動作主を伴わない衝突」は 21 例である。Thump は 489 例中 100 例が「動作主を伴う衝突」で 94 例が「動作主を伴わない衝突」になる。これに対し、bump は「動作主を伴う衝突」は 1,000 例中 85 例で、「動作主を伴わない衝突」は 234 例になる。[4] つまり、bump は典型的には「動作主を伴わない衝突」を表し、さらに、通常「身体部位を伴った衝突」を表すと考えられる。

以上から、bump は、bang, thump とは異なり、語彙的には「二つのモノが衝突する」を意味し、典型的には「身体部位との衝突」を表すと言える。

これを支持する証拠として、-er 名詞における意味の相違が挙げられる。Banger は「爆竹」や「騒音を出す車」を意味するが、これは「大きな音を立てる」の意味から生じたものである。一方、bumper は「緩衝器」の意味で「ぶつかる」の意味から生じたものである（thumper という語は存在しない）。これは、bang が「大きな音を立てる」を意味するのに対し、bump が「衝突する」を意味することを裏付ける（臼杵岳氏のご指摘による）。

2.4. 意味的・統語的振る舞いの相違

以上の相違を踏まえると、冒頭で見た問いに答えることができる。まず、(25a, b) の動能構文の生起可能性については以下のように説明できる。

(25) a. I {banged/thumped} on the door.
b. *I bumped on the door.

先行研究で指摘されているように、他動詞構文は、目的語に何らかの点で影響があることを含意するが、動能構文は目的語への影響を含意しない（中右 (2003), 草山 (2010), Perek (2015)）。さらに、1 節で触れたように on 形の動能構文は「反復」の解釈になる。(25a) は「ドアを叩く」の意味だが、この場合、音を出して注意を引くためにドアを叩くのであって、ドアに何らかの影響を与えるわけではない。また、通常、ドアを叩くときは繰り返し叩く。しかし、bump は音を出すことではなく衝突することに焦点がある。さらに、物がぶつかる場合、通常一回限りの事象であり、「反復」とは解釈されない。このように、bump が動能構文に生起できないのは、bump の語彙的意味と動能構文の構文的意味が合致しないためだと考えられる。

次に、(26a, b)における解釈の相違について考察する。

(26) a. I bumped the table with my bag.
b. I bumped the table.

1 節で見たように、(26a)は「テーブルと鞄がぶつかった」を意味するが、(26b)は「私がテーブルにぶつかった」を意味する。一方、bang, thump は、with 句が無くても「私がテーブルにぶつかった」の意味にはならない。

これは喚起されるフレームの相違として

説明するのが最も良いと思われる。つまり、bump は with 句が生起している場合、必然的に with 句と目的語指示物との衝突になるため、`Cause_impact` フレームが喚起され、主語は Agent か Causer として解釈される。[5] 従って、「主語指示物が目的語指示物と with 句との間に衝突を引き起こす」と解釈される。しかし、with 句が無い場合、bump は語彙的には「二つのモノが衝突する」を意味するため、`Impact` フレームが喚起され、主語は Agent としても Causer としても解釈されず、Impactor（衝突するもの）として解釈される。

これに対して、bang, thump は「この音と顕著に関わる事象」の意味であり、with 句の有無に関わらず、主語は「その音を引き起こすもの」、つまり Agent か Causer として解釈される。従って、with 句が無くても「何かでテーブルを叩いた」の意味になる。

以上、bang, bump, thump の意味的・統語的振る舞いの相違は、音に焦点があるか、様態に焦点があるかの相違から生じることを見てきた。しかし、1 節でも見たように bump は本来オノマトペである。実際、(27)では bump は音を記述している。なぜ bump は動詞用法では音ではなく様態を語彙化しているのか。以下では、この点について考察する。

(27) Then she heard: "<u>Bump! Bump! Bump! Bump!</u>" Whatever Bump was, it was coming toward her. (Bert Paul, *Out of Order Murder Mystery*, online)

3. 音と様態の表裏一体性

この問いに対して、Iwata (2018)の議論が参考になる。(28a)では roll（転がる）という様態が聞かれており、(28b)では rattle（ガタガタ鳴る）という音が見られている。

(28) a. He heard it [= a stone] *rolling* faster and faster, then the noise stopped.

b. She watched it [= a train] *rattle* down to Finchley Road. (BNC, Iwata (2018)から引用)

これは、何かが転がれば当然、そこには音が付随しており、逆にガタガタという音が生じれば、そこには何らかの様態が存在しているからである。Roll や rattle という動詞は、その際立った一方を語彙化しているに過ぎない（Iwata (2018)）。つまり、音と様態は図 1 のように、表裏一体の関係にあり、実際には roll が表す音も rattle が表す様態も存在するのである。

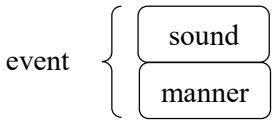

図 1: 音と様態の表裏一体性

同様に、bang, bump, thump も動詞として用いられた場合、bang, thump は音の側面を語彙化しているのに対し、bump は様態の側面を語彙化している。なぜ bump が、様態の側面を語彙化しているのかと言うと、bump は動詞で用いられた場合、ほとんどの例が「身体部位」との衝突である。通常、身体部位が何かに衝突する場合、焦点になるのは「どのような音か」ということではなく衝突そのものである。そのために音の側面が背景化し、それに伴い「衝突する」という様態の側面が前景化し、「二つのものが衝突する」という意味に特化したと考えられる。

4. おわりに

以上、bang, bump, thump は本来オノマトペであり「衝突時に生じる音」を記述しているという点では共通しているが、bang, thump は「音指向」であるのに対し、bump は「様態指向」であると考えられる。そして、これらの動詞の意味的・統語的振る舞いの相違は、この語彙的特性の相違によるものであり、こ

の語彙的特性の相違は、音と様態が表裏一体であることから説明できることを論じた。

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注

[1] Hit 動詞に含まれる音放出動詞は他にもあるが、これらの三つの動詞は、類似した音を伴う強い衝突を表す。例えば、(i)の下線部を参照されたい。

(i) I stared out the window, watching the field grow closer and closer, until finally: K-RRR-<u>THUMP, BANG, BANG, BUMP, BUMP, BUMP</u>… (Bill Myers, *My Life as Crocodile Junk Food*, online)

[2] 同時に、Levin (1993)は bang, thump を音放出動詞にも分類しているが、bump は音放出動詞に含んでいない。なぜオノマトペである bump が音放出動詞に含まれないのか、という点が不明であり、この点も考察する必要がある。

[3]「動作主を伴わない衝突」では「身体部位を伴う衝突」は約 84%である。

[4] 第 36 回大会 *Conference Handbook* では 234 例ではなく 250 例になっているが、データを再度、精査したところ、重複していた例文が見つかりそれらを排除した。

[5] `Cause_impact` フレーム、`Impact` フレームの定義は Ruppenhofer et al. (2010)を参照。

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制限関係節における再構築と主語の移動に関して—POP+と BEA の観点から—*

（Reconstruction and Subject Movement in Restrictive Relative Clauses: In Terms of POP+ and BEA）

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キーワード：生成文法, ラベリングアルゴリズム, 英語, 制限関係節, *that*-trace effect

1. 導入

本稿では、英語の 2 種類の制限関係節: RRC について、*wh* operator と null operator の特徴の違いから先行詞の再構築の非対称性を理論的に説明することを目標とする。次に、*that*-t(race) effect と RRC における主語抜き出しの際の *that* の有無の違いに着目し、Chomsky (2015): POP+ の枠組みでの RRC の派生を議論する。Chomsky (2004): BEA の pair-Merge を受ける要素は移動後の copy が Minimal Search: MS から可視的になることを導き RRC と *that*-t effect の違いを説明する。

本発表の構成は以下の通りである。まず 2 節では、*that* を用いた RRC: *that* RRC と *wh* operator が含まれる RRC: *wh* RRC では、先行詞の再構築について違いがあることを観察する。また、RRC をめぐるもう一つの非対称性として、RRC では *that* の後ろから主語の移動が可能になるのに対し、疑問文では不可能であることを観察し、これが POP+の理論の問題となることも確認する。3 節では、RRC が complement ではなく adjunct であることを議論し、adjunct を導入する BEA の pair-Merge の特性を概観する。4 節では 2 節で見た問題が、pair-Merge を用いて解決できることを示す。5 節は結論である。

2. RRC をめぐる 2 つの非対称性

2.1. RRC と再構築の非対称性

(1) の例ではイディオム表現 *make headway* の一部が RRC の先行詞となっている。この例に関し、Aoun and Li (2003) は *that* RRC は適格になる一方、*wh* RRC は不適格になるという観察を行う。この非対称性を説明することが本稿の 1 つ目の目標である。

(1) The headway that/??which Mel made *t* was impressive.
(Aoun and Li (2003: 98), 一部修正)

RRC には 2 つの代表的な分析がある。1 つ目は operator movement analysis: OMA であり、(2b), (3b) の派生のように、null operator: *op* あるいは *wh* operator: *wh* が RRC 内から spec CP に移動する。Chomsky (1977) は島の効果が *that* RRC にもみられることから *wh* operator と同様の移動が *that* RRC にも含まれることを示唆し、2 つの RRC が統一的に operator 移動を含むという分析が始まった。[1]

(2) a. the girl that john likes
b. [$_{DP}$ the [$_{NP}$ girl [$_{CP}$ op that John likes ~~op~~]]]
(3) a. the girl who john likes
b. [$_{DP}$ the [$_{NP}$ girl [$_{CP}$ who C John likes ~~who~~]]]

RRC の 2 つ目の分析は、Kayne (1994) に代表される raising analysis: RA である。この分析では、(4b), (5b) の派生のように、先行詞が RRC 内から spell out 位置まで移動する。

(4) a. the girl that John likes (=(2a))
b. [$_{DP}$ the [$_{CP}$ girl that John likes ~~girl~~]]
(5) a. the girl who John likes (=(3a))
b. [$_{DP}$ the [$_{CP}$ girl [$_{C'}$ who ~~girl~~ [$_{C'}$ C John likes ~~who girl~~]]]]

ここで先行詞の再構築を再び考えると、OMA では先行詞は RRC の外に規定生成するので RRC 内への先行詞の再構築は予測されない。一方、RA では元々先行詞は RRC 内にあるので先行詞の再構築が予測される。どちらか一方の分析のみで両方の種類の RRC が派生されると考えると、(1) に示した RRC の種類と先行詞の再構築可能性の対応が捉えられない。従って、Aoun and Li (2003) は、イディオム表現の関係節化が許される *that* RRC は RA、イディオム表現の関係節化の際に不適格になる *wh* RRC は先行詞の再構築を許さない OMA で派生されると主張する。しかし、Aoun and Li (2003) の分析は、観察に適切な分析をそれぞれの種類の RRC に当てはめたに過ぎず、RRC の種類と派生方法の組み合わせに対して原理的な説明は提供されない。従って、(6) に再掲する再構築の非対称性は依然として問題となる。

(6) The headway that/??which Mel made *t* was impressive. (=(1))

2.2. RRC と疑問文の非対称性

前節で、理論的な説明は残るにせよ、*that* RRC には先行詞の移動が関与することをイディオム表現を含む RRC の例から見た。(7) に示すように、*wh* 疑問文と主語の *that* RRC では、両者ともに *that* の後ろから主語の移動があるにもかかわらず、*wh* 疑問文の場合には *that* が現れることができず、*that* RRC の場合 *that* が省略されてはならない。*wh* 疑問文の例は *that*-t effect としてよく知られており、この現象に対し、POP+ では、labeling algorithm に基づいた説明を提供する。

(7) a. Who do you think (*that) *t* likes Mary?
b. I know the man *(that) *t* likes Mary.

(8) に labeling algorithm がどのように働くかを示す。POP+では、Merge によりできた構造はラベルを持たなければならないとする Chomsky (2013)の考えに従い、ラベルの決め方に着目した議論を行う。

(8) a. [$_{\alpha}$ H, XP] (α=H)
b. [$_{\alpha}$ [X[F], ZP], [Y[*u*F], WP] (α=<F, *u*F>)
c. [$_{\beta}$ ...YP... [$_{\alpha}$ XP, ~~YP~~]] (α=X)

ラベルは以下のように決定されると考えられている。Merge が作った構造に Minimal Search: MS が適用され、初めに見つかる head がその構造のラベルとなる。(8a) の head と phrase の Merge の場合、MS を適用すると head が最初に見つかるため head H がラベルとなる。(8b, c) は phrase 同士からなる構造の場合である。(8b) では、MS を適用すると X と Y は構造的に等距離にあるため、ラベルが一つに決まらないが、ここで、X と Y が agreement feature を持っている場合、その feature がその構造のラベルとして機能する。(8c) のように YP が移動した場合、移動により残された copy は更に上に別の copy ができる。この場合下位の copy は MS に不可視とされ、移動しない XP がラベルとなる。

上記に加え、Chomsky は (9) に挙げる 2 つの想定を行い *that*-t effect を説明する。

(9) a. 英語の T は head であるが弱く、[phi] feature agreement が無いとラベルになれない。
b. MS の後 C が削除されると、phasehood を継承した T の complement が transfer される。

1 つ目は T に関する想定で、英語のように、[phi] feature agreement の屈折が乏しい英語では T が弱く、(8a) のように単に phrase と Merge しても T はラベルになれない。T がラベルになるには一度 (8b) のように feature agreement に基づくラベルによって T を強化する必要がある。この想定で、Chomsky は英語の EPP 特性を引き出す。2 つ目の想定は *that* の省略に関するものであり、phrase level operation である MS によりラベルが決められた後、C が削除される操作が随意的にかけられる。この C deletion が起こった場合、feature inheritance によって phasehood を継承した T が phase head として振る舞い、Transfer domain は T の complement に移る。

以上の想定に従うと、(7a) の *that*-t effect を示す文は以下のように派生される。

(10) a.* Who do you think that likes Mary?

b. [$_{\delta}$ that [$_{\gamma}$ who[phi] [$_{\beta}$ T[*u*phi] [$_{\alpha}$ ~~who[phi]~~ likes Mary]]]

(α=R-*v**, β=T, γ=<phi, phi>)

c. [$_{\varepsilon}$ who[phi] [$_{\delta}$ that [$_{\gamma}$ ~~who[phi]~~ [$_{\beta}$ T[*u*phi] [$_{\alpha}$ ~~who[phi]~~ likes Mary]]]]]

(α=R-*v**, β=??, γ=??)

(10b) は Merge により構造が作られ、phase level operation として feature inheritance、MS、Transfer がかかった段階である。この派生では、*who* がいわゆる spec TP に Merge し、そこで T との agreement により γ に<phi, phi>ラベルを提供する。この派生では、*who* は Transfer domain に存在し、その後 *who* は主節に移動することができない。(10c) はあらかじめ *who* を Transfer domain から移動させた場合である。この場合、移動後の copy となる *who* は γ で不可視となり、<phi, phi>ラベルが得られず、T は弱いという前述の想定の下、ラベルの決まらない集合ができるため、派生は crash する。以上のように、*that* が存在する場合、その後ろから主語を移動させようとしても何らかの問題が起こる。

次に *that* を省略した派生を以下に示す。

(11) a. Who do you think likes Mary?

b. [$_{\delta}$ ~~that~~ [$_{\gamma}$ who[phi] [$_{\beta}$ T[*u*phi] [$_{\alpha}$ ~~who[phi]~~ likes Mary]]]]

(α=R-*v**, β=T, γ=δ=<phi, phi>)

この派生では、*who* は γ に留まり、phase level operation として、feature inheritance と MS が適用され、ラベルが決まった後に C deletion により、*that* の省略が行われる。その結果、T が phase head となり、Transfer domain が T の complement に移る。その結果、*who* はその後の派生でも移動ができ、ラベルも決まっているために適切な派生となる。以上のように POP+は *that*-t effect を説明する。

しかしここで主語の *that* RRC が問題となる。主語の *that* RRC も *that* の後ろから移動があるため、T のラベルの問題が出てくることが予測される。POP+の枠組みで *that*-t effect と主語の *that* RRC を統一的に説明することが本稿の第 2 の目標である。

3. RRC の統語的ステータスと pair-Merge

本節では、RRC の統語的ステータスを議論する。Chomsky (1995) は、(12a, b) の例を挙げ、RRC は complement ではなく adjunct であることを述べる。

(12) a.* Which claim that John$_i$ was asleep was he$_i$ willing to discuss *t*?

(Chomsky (1995: 204), 一部修正)

b. Which claim that John$_i$ made was he$_i$ willing to discuss *t*?

(Chomsky (1995: 204), 一部修正)

(12a) は clausal complement を伴う *wh* operator だが、文頭の *wh* が元位置の *t* に copy

を残すと考えると、*he* は *John* を c-command するため、同一指示解釈はできない。しかし、(12b) の clausal adjunct である RRC の場合、同一指示が可能となる。この argument/adjunct asymmetry を説明するため、Chomsky (2004): BEA は adjunct は pair-Merge と呼ばれる操作により派生されると主張する。pair-Merge を用いた (12b) の構造を (13) に示す。

(13) <Which claim [that John made]> was he willing to discuss ~~<which claim [that John made]>~~

点線で囲われた RRC は、set-Merge が行われる primary plane とはある種別次元の、separate plane で Merge される。primary plane に存在する *he* は separate plane に存在する RRC 内の *John* を c-command できず、Binding Condition C の違反を免れ同一指示が可能となる。

pair-Merge により導入され separate plane に存在する adjunct は、インターフェイスで解釈されるために SIMPL という操作で primary plane の要素に変換される。SIMPL は Spell Out、現在の Transfer の一部であり、optional operation とされる。(14b) では、wh operator の移動後に SIMPL が適用される。

4. 提案

4.1. *wh* operator の分解

本節では、operator の中身を議論する。Kuroda (1969)、Chomsky (1995)等に従うと、*wh* operator は 2 つの要素からなると考えられる。operator-variable の関係を作る operator と operator を制限する restriction である。例えば、*who* は operator と PERSON という restriction により形成される。この考えから *wh* RRC は OMA をとることが導かれる。すなわち、*wh* operator が持つ restriction により動詞の selection が満たされるため、RRC の先行詞は RRC 内に基底生成できない。null operator は *wh* operator から restriction を除いたものだと考えると、動詞の selection を満たすためには null operator だけでは不十分となり、RRC の先行詞が RRC 内に基底生成することが必要となり、*that* RRC は RA をとることが導かれる。このように考えると、(14) に再掲した *that*/*wh* RRC の先行詞の非対称性に適切な説明を与えることができる。

(14) The headway that/??which Mel made *t* was impressive. (=(1))

4.2. RRC の派生

まず、RRC を派生するための想定を挙げる。

(15) a. op は疑問文、関係節、感嘆文の C から値を得る unvalued operator feature ([*u*op] feature) を持つ。
b. 先行詞の NP と op が Merge することで、NP が op の restriction として働く。
c. 先行詞は internal pair-Merge を行う。

(15a) は operator は unvalued feature を持つというもので、通常[*u*Q] feature と呼ばれる。POP+では、*wh* 疑問文において、*wh* operator が[*u*Q] feature、C が valued [Q] feature を持つと想定する。ここで、*wh* operator は疑問文だけでなく、関係節や感嘆文にも使われることを考慮し、[*u*Q]に限定するのではなく、汎用性のある[*u*op] feature と名前を変更する。次に、(15b) のように、*wh* operator と異なり restriction が内包されていない null operator を含む *that* RRC では、null operator と先行詞 NP が Merge することで先行詞 NP が null operator の restriction として働くと考える。先行詞が NP であることに関して、(16) を挙げる。(16) はイディオム表現に D が含まれてはいけないことを示す。

(16) *We made the headway on that problem.

(Browning (1987: 130))

(1) では先行詞は *the headway* の形だが、この DP が RRC 内部にあると考えると、誤って (16) と同様不適格と予測されるが、先行詞が NP ならば問題が起きない。最後に、(15c) は、前節で RRC の adjunct としての性質を見たので、ここでは RRC は adjunct であり、pair-Merge が用いられると考える。

以上の想定から、イディオム表現の一部を関係節化した派生を (17), (18) に示す。

(17) a. the headway that Mel made

b. the headway [$_{\beta}$ op[*u*op] [$_{\alpha}$ that[REL] Mel T made [~~op[*u*op]~~ ~~headway~~]]]

(α=that, β=<REL, REL>)

(18) a.??the headway which Mel made

b. the headway [$_{\beta}$ which[*u*op] [$_{\alpha}$ C[REL] Mel T made ~~which[*u*op]~~]]]

(α=C, β=<REL, REL>)

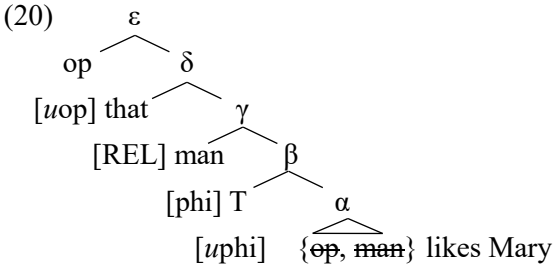
(17) は *that* RRC の場合で、先行詞 *headway* は null operator とともに RRC 内に基底生成し、null operator はその後 RRC の spec CP へ移動し、<REL, REL>ラベルを付与する。*headway* はそこから internal pair-Merge により移動する。ここで、Kayne の RA は RRC を complement と想定するが、本稿では adjunct であると考える。また、Kayne は null operator は考えないが、本稿では null operator があると想定し、それにより適切なラベルが与えられると考える。(18) は *wh* RRC を用いたイディオム表現の関係節化である。この場合、*wh* operator のみが RRC 内の argument 位置に生成し、そこから *wh* operator は RRC 内の spec CP 内に移動し、ラベルを提供する。先行詞は RRC 外に規定生成し、RRC は先行詞に external pair-Merge を行う。その結果、*make headway* の string が得られず不適格となる。

4.3. 主語の RRC

本節では、(19) に示す主語の *that* RRC の派生を考える。[2]

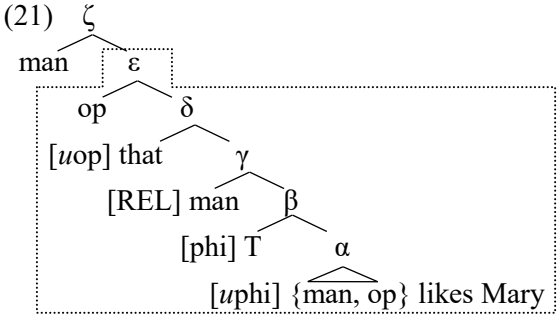
(19) I know the man that likes Mary.

(20)



先行詞の *man* は null operator と Merge した状態で派生に導入される。(20) に示す CP phase が作られた後、先行詞 *man* が internal pair-Merge により移動し、RRC は separate plane で Merge される。

(21)



(α=R-*v**, β=T、γ=<phi, phi>, δ=that, ε=<REL, REL>, ζ=(man))

この構造に MS が適用されると、γ にある *man* は、separate plane に存在するため、primary plane にある ζ の *man* から c-command されない。そのことにより、RRC 内の γ にある *man* は最上位の copy とみなされ、移動をしたのにも関わらず MS に可視的となり、γ=<phi, phi>が得られる。これが *that* の後ろからの主語の移動が RRC の場合に許される理由となる。先行詞 man が Transfer され、ζ に MS がかかる段階では、Transfer 時に SIMPL により RRC が primary plane に変換されているとすると、ζ は XP, YP configuration

となり、agreement feature もないためにラベルが決まらない。しかしここで、BEA の pair-Merge に関する想定では、SIMPL が ordered pair を unordered set に変換したとしても、インターフェイスはその集合が pair-Merge により作られた集合だという情報を利用できるということが示唆されている。このことを考慮すると、(21) において、ζのラベルが無かったとしても、インターフェイスはζが pair-Merge による集合だということが分かり、*man* の集合であると適切に解釈できると考える。代替案として、phase level operation において、MS の方が SIMPL よりも先だと考えると、ζにラベルを与える時には RRC は separate plane に存在し、MS は *man* しか見えないため、*man* がラベルとなる。

本発表での提案では、(30) のような例は適切に排除される。

(22) I met the man (that/who) you think (*that) saw Mary. (Douglas (2016: 261))

この例は、RRC の *that* ではなく declarative *that* の後ろから先行詞移動が起こると *that*-t effect が起きることを示す。*that* の後ろから主語の移動ができる RRC では、その移動が internal pair-Merge だったので、RRC の方が separate plane で Merge されることで移動した要素の copy が MS に可視的になるというものであった。しかし (22) では、間に phase が存在するため、一度 set-Merge で移動する必要がある。従って、その移動で *that*-t effect 同様のラベルの問題が生じ、非文となる。

4.4. *that* が省略された場合の主語の RRC

本発表の枠組みでは、以下の例が適格となることを予測する。

(23) I know the man *t* likes Mary.

POP+と同様 C deletion を考える、或いは null C を想定することにより、(23) はラベルの問題がなく派生される。この例を排除するため、Kim (2008) による RRC の制限を用いる。

(24) The relative clause must start with a word that signals the beginning of a new clause: a word like an overt C, a subject, or a wh-word. (Kim (2008: 304))

これは語用論的、或いは音韻論的な制約のように思われるが、統語的に(23) を非文とすべきではない例として、まず (25) に示すように、特定の環境では standard English でも同種の RRC が可能となる。

(25) a. There's a man lives in China.
(Quirk et al. (1985: 959))
b. There's a table stands in the corner.
(Smits (1989: 70), 一部修正)

次に、Belfast English を考えると、Henry (1995: 125) では、individual を談話に導入する文脈では主語の RRC で *that* の省略が許されると述べている。この例は、この RRC の制限が語用論的であることを示唆する。興味深いことに、(26a, b) の対比に示すように、Belfast English でも *that*-t effect が見られる。従って、*that*-t effect と主語の RRC で *that* の分布にかかる制限が異なっていることが示唆される。

(26) a. John is the person could help you with that. (Belfast English)
(Henry (1995: 125))
b. Who do you think (*that) left? (Belfast English)
(Henry (1995.: 128)、 一部修正)

5. まとめ

本稿では、*wh* operator の内部構造を考察す

ることで、観察レベルだった RRC の先行詞の再構築の非対称性に理論的な説明を与えた。また、*that*-t effect の説明と矛盾することなく、POP+の枠組みで RRC の派生を考察した。

* 本稿は筆者の日本英語学会第 36 回大会における口頭発表の内容に基づいている。発表に先立ち貴重なコメントをいただいた西岡宣明先生に感謝申し上げる。また、発表の際に司会の労を執ってくださった成田広樹先生、宮本陽一先生、前田雅子先生をはじめとするご質問・ご指摘をいただいた先生方にも感謝申し上げる。

注

[1] 厳密には、Chomsky (1977) では null operator は想定されず、移動した *wh* operator が削除を受けて *that* RRC が派生される。

[2] (20), (21) では説明のため tree notation を用いる。

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総称文の謎を認知能力の複合性から解く*
（Compound Cognitive Abilities and the Puzzle of Generic Sentences）

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キーワード：総称文, 量化, 冠詞, 認知能力

1. 総称文とデフォルト的認知能力について

近年、S. J. Leslie が人間の認知能力を基盤とする一連の総称文研究[1]を発表し、英語総称文の研究が新しい展開を迎えている。本論は、総称文に対する基本的認識を Leslie と共有し、それを一歩前進させるとともに、今後の総称文研究のための新しい枠組みの提示を目指している。

総称文については、量化(Quantification)に基づく分析が長く主流であった。それにより、言語学的に有意義な知見が多くもたらされたが、総称文と有形の数量詞の間に違いがあることはそれ以前からも認識されていた。

(1) Tigers are striped.
(2) Sharks attack bathers.

例えば(1)については、縞模様のトラが all あるいは most に相当すると考えられるのに対し、海水浴客を襲うサメの数は極めて少なくせいぜい some に相当する程度である。また、疑問文 How many tigers are striped? に対して all や most を含む数量詞文では答えられるが、(1)の総称文では答えにならない。

Leslie(2008)は、(2)のように、ごく少数の個体にしか当てはまらなくても容認できる総称文を Striking Generic と呼び、人間にとって生死にかかわるような危険性を述べた例が多いことを指摘している。また、Gelman et al. (2015)は、all や some などの明示的数量詞が 4 歳以降まで習得されないのに対し、総称文は 3 歳以前に習得されていることを明らかにしている。このように、総称文が生まれつきのデフォルト的認知能力[2]と結びつき、十分な言語能力が身につく前から使用可能であることは生存面でも有利であるに違いないし、総称文の基盤がここにあることも確かであろう。

2. 総称文の多様性とデフォルト的認知能力

英語には 3 種類の総称文がある。無冠詞複数形(Bare Plural, 以降 BP)が最もよく使われ適用範囲も広い。他に不定単数形(Indefinite Singular, 以降 IS)と定単数形(Definite Singular, 以降 DS)があるが、後者２つにはそれぞれ用法に制限があることが知られている。特に IS 総称文は「種に固有の必然性」を表すとされている(Greenberg(2003), Prasada(2010))。そのため BP では容認されても IS では不自然になる例がある。

(3) a. Dogs have four legs.
（犬は 4 本脚である）
b. A dog has four legs.
（犬<u>というもの</u>は 4 本脚である）[3]
(4) a. Tables have four legs.
（テーブルは 4 本脚である）
b. ?A table has four legs.
（?テーブル<u>というもの</u>は 4 本脚である）

犬は、事故などの理由がない限り 4 本脚であるため(3ab)ともに容認される。テーブルは、４本脚のものが一般的であるため(4a)が容認されるが、真ん中に太い脚が 1 本ある丸テー

ブルなど、4本脚以外のものも普通に存在するので(4b)は不自然である。

また、Striking Generic の IS も不自然であることが観察されている(Leslie et al. (2009))。

(5) a. Sharks attack bathers.
b. ? A shark attacks bathers.

複数形が種全体を漠然と指すのに対して、単数形は一つひとつを取り上げて数え上げるという量化を伴い、それによって必然性が含意されるからであろう。数量詞の理解が4歳以降までかかるとすれば、2歳半で使用される BP 総称文は量化を前提としないはずである。

3. 認知能力の複合性仮説

Leslie は、基本的に総称文全体をデフォルト的認知能力に結びついた非量化表現であると考えている。それに対し、岩部(2016)は英語総称文の 3 形式について、デフォルト的認知能力に対応するのは BP だけであると仮定し、(6)の「認知能力の複合性仮説」を主張している。

(6) 認知能力の複合性仮説 (岩部(2016))

a. デフォルト的認知能力に対応する英語総称文の形式は BP である（無標の形式）。3歳以前の幼児は他の認知能力が未発達であり、IS や DS で区別されるような多様な読みは未分化の状態にある。

b. 大人になるにつれて（数理的・論理的）認知能力が発達し、総称文の読みの多様性が生じ、BP 総称文が多義的に感じられるようになる。多義性を区別するため、特定の読みに対応する別の形式が求められるようになり、IS や DS など有標の形式がそれを担う。ただし、デフォルト的認知能力は大人になっても失われず、BP はゆるやかで未分化な読みを表すこともできる。

DS については、Carlson(1977)や Krifka et al. (1995)によってそれが「良く確立された種(Well-established Kind)」を表すことが指摘されている。

(7) a. The bottle has a narrow neck.
b. The Coke bottle has a narrow neck.
c. ??The green bottle has a narrow neck.
d. Green bottles have narrow necks.

「瓶」や「コーラ瓶」は種としてどのようなものであるかが話者と聞き手の間で共有されているので定冠詞を使うことができるが、「緑瓶」はこのような種として認識されず、BP（＝「緑色の瓶」）を使用しなければならない。このような確立された種に関する知識を獲得し、相手もそれを共有していることを推測する能力もまた大人の認知能力と考えられる。

総称文は、言語学的に見ると謎の多い現象であるが、(6)の仮説に照らしてみれば、その背景が明らかになる。そもそも総称専用の言語形式がなく、どの言語においても複数の総称文形式が見られるのはなぜか。IS や DS にはそれぞれ特化した意味があるのに対して、BP はそれらすべてを包含しているように感じられ、この3形式の分担範囲が均等でないのはなぜか。意味と形式が1対1に対応するのが言語学的には通例であるとすると、これらはかなり特異な現象である。しかし、認知能力の複合性仮説の下ではこの特異性も自然に説明できる。また、有標の総称文形式が、数理的・論理的認知能力など大人の認知能力を前提とした解釈のみに対応することも当然の帰結となる。

4. デフォルト的認知能力と社会的偏見

第 2 節で、Striking Generic は IS では不自然であり、BP においてのみそれが可能であ

ることを見た。この違いは重要であり、Leslie(2017)が指摘する「デフォルト的認知能力と結びついた社会的偏見」という問題の解決にもつながる。例文(2)では、サメのごく一部に危険な個体が混じっている場合でも総称文を受け入れ、じっくり考えを巡らすことなく直観的にサメ全体を避けることで迅速に危険を逃れることができた。Striking Generic に従ってこのように行動することは生存のため、とりわけ幼児にとっては有意義である。しかし、同じ理屈が(8a)のように人間に適用された場合、社会的偏見という負の効果をもたらす。

(8) a. Muslims are terrorists.
b. ? A Muslim is a terrorist.

デフォルト的認知能力は大人になっても維持されており、このような直観的判断とりわけ危険回避行動の基盤となることがある。しかし、同時に IS 形式の(8b)が不自然であることを正しく認識すれば社会的偏見という負の面を避けることができるはずである。

5. 英語以外の言語における総称文

「認知能力の複合性仮説」は英語総称文を基に定式化されているが、認知能力の複合性自体は個別言語の違いを超えて普遍的であると考えられる。そうすると、どの言語にも複数の総称文形式があって使い分けられていることが予測される。ここでは、フランス語、ドイツ語、日本語を採り上げてみたい。

5.1. フランス語

フランス語では、総称文として定複数形(les)、定単数形(le)、不定単数形(un)、不定複数形(des)の 4 形式がある(Mari et al. (2013))。最も一般的なのが定複数形であり、これが英語の BP に相当する。フランス語は基本的に無冠詞を許容しないため、デフォルト総称文においても定冠詞が使われる。

(9) Les chats sont intelligents.
(Cats are intelligent.)

また、不定単数形と定単数形はそれぞれ英語の IS や DS と同様の使い方がなされることが観察されている（ここでは不定単数の例のみを採り上げる）。

(10) Un carré a quatre cotés.
(A square has four sides.)

不定複数形(des)は、英語には対応する形式がなく、やや特殊な文脈で生じる。

(11) Des jumeaux se resemblent dans les plus petits détails. (双子の片割れ同士は細かい点までよく似ているものだ)
(12) Twins resemble each other to the smallest detail.

(11)では双子２人一組ずつを取り上げて数え上げる量化が行われている。英語にはこの構文が存在せず、単数主語はここでは意味的に不可能であるので、(12)のようにデフォルト形式の BP に頼るしかない。しかし、(12)の BP 主語は双子全体を漠然と捉えたものであるため、世界中の双子が似ているという読みまでも許容する（ただし、そのおかしさは通常意識されない）。このような事情にもかかわらず、フランス語においてよく使われるのは、意外にも(11)ではなく、(12)に相当するデフォルト形式の(13)の方である。

(13) Les jumeaux se resemblent dans les plus petit détails.

(11)は、いわば英語 IS の複数版に相当し、量化という脳に負担を強いる構文であるため、

一般的には負担の少ない(13)の方がよく使われるのであろう。ただし、じっくり考えた時には(13)に対しても(11)に相当する「読み込み」がなされると考えられる。英語の(12)でも同様であろう。言語的に漠然としたものを場面に応じて細かく読み込むことは可能である。これが(6b)で述べた BP 総称文の「多義性」の原因である。

5.2. ドイツ語

Schaden(2013)によれば、ドイツ語総称文では定冠詞複数と無冠詞複数の両方が相互互換的に使われる。[4]

(14) a. (*The) whales are mammals.
b. *(Les) baleines sont de mammifères.
c. (Die) Wale sind Säugetiere.

英語の無冠詞複数(14a)、フランス語の定冠詞複数(14b)に対して、ドイツ語(14c)では定冠詞が随意的であり、3 言語におけるデフォルト総称文の形式が異なっている。冠詞の定不定に関する基本的な用法は 3 言語において共通であることを考えれば、この違いは謎である。デフォルト総称文は、共通して単数形ではなく複数形を要求するように見えるが、定冠詞の使用はそれぞれの言語において偶然的であり、意味論的な必然性はないように思われる。これはデフォルト総称文の使用が冠詞の厳格な使い分けの習得よりも先行するためではなかろうか。

5.3. 日本語

日本語にも無標総称文（デフォルト形式）と有標総称文の使い分けが存在するであろうか。冠詞がなく単数複数の区別をしない日本語においては、有標総称文はどのような形式をとるのであろうか。岩部(2016)は有標総称文の候補として「というもの」「ものだ」という表現に注目している。例文(3)(4)を下に繰り返すが、英語の IS と「というもの」の容認度がほぼ重なっているように思われる。

(3) a. Dogs have four legs.
(犬は 4 本脚である)
b. A dog has four legs.
(犬というものは 4 本脚である)
(4) a. Tables have four legs.
(テーブルは 4 本脚である)
b. ?A table has four legs.
(?テーブルというものは 4 本脚である)

ここで、「犬というもの」という表現は論理形式における dog(x)という変項表示を引き起こし、結果的に量化の解釈を導いているように感じられる。

また、述語の部分に変項を含み自由関係詞節を形成する(15a)に対して、表面的にはよく似た(15b)においては「ものだ」がモダリティ化して文全体にある種の法性（必然性）を加えている。

(15) a. 犬は[吠えるもの]だ。
b. 犬は吠える[ものだ]。

(15)の 2 つの文に派生関係があるかどうかは不明であるが、変項や法性の解釈は洗練された言語能力を前提とするものであり、脳に負担のかかる操作を必要とするであろう。

(15b)のような明示的なモダリティ表現を含む文はもはや総称文とは呼べないかもしれない。もっとも、英語やフランス語ではたまたま冠詞や単複によって総称文が一定の形式に収束しているように見えるだけであって、いずれにしても総称専用の形式があるわけではない。また、このような言語においても、明示的数量詞やモダリティを含むいわば総称周辺構文が存在していることに変わ

りはない。

6. 今後の研究に向けて

最後に、本論の主張を以下の表 1 にまとめるとともに、今後の総称文研究の見通しを示したい。

速い思考(システム１)：子供の認知能力（危険回避・直観的行動、社会的偏見、脳の負担小） **デフォルト総称文**：冠詞の使い分けが(厳格で)ない、複数形の使用(BP)、Striking Generic 可能
遅い思考(システム２)：大人の認知能力（社会的偏見を避ける論理的行動、脳の負担大） **総称周辺構文**：冠詞の使い分け(不定冠詞単数(IS)、定冠詞単数(DS)、不定冠詞複数)、量化(数量詞、法性)、二重否定

表 1

従来の総称文研究は主として BP を対象にして来ており、IS や DS の研究は少ない。これは、BP が総称文において最も一般的で制限のない形式であることからも一応は妥当な選択のように見える。たしかに、デフォルト的認知能力を反映した速い思考に基づき、危険回避行動に結びついた Striking Generic が BP で表現されることからも、総称文の根源が BP にあることは間違いないであろう。しかしながら、この総称文の根源と思われる部分は言語学的分析にはなじまない。むしろ非言語的とも言える側面を持っている。幼児は早い段階で総称文を習得するが、数量詞の習得時期から考えて、量化という操作はその段階ではまだ身についていないと考えられる。とすれば、usually などの量化副詞との類似性に基づき、量化によって総称文の統一的な記述を目指した理論は明らかに不十分である。量化という概念はむしろ IS にふさわしいと考えられる。

また、Striking Generic を記述するのに、法性や二重否定との類似性に基づいた研究もある。[5] 法助動詞や二重否定を含む(16bc)は、ともに海水浴客を襲うサメが少数であることを含意するが、(16a)の Striking Generic と同等に扱うことは出来ない。

(16) a. Sharks attack bathers.
b. Sharks <u>may</u> attack bathers.
c. It is <u>not</u> the case that sharks do <u>not</u> attack bathers.

法性がある種の量化であるとすれば、(16b)は大人の認知能力に基づいたものであると思われる。また二重否定にも脳に負担のかかる論理演算が伴われると思われる。[6]

Striking Generic はごく少数であっても危険な個体が存在すれば受け入れられる。しかしながら、Cimpian et al. (2010)によれば、一旦受け入れられた総称文の含意は非常に強い。例えば、(16a)を前提とした上で「どのくらいの数のサメが人を襲うか」を尋ねると回答はかなり大きな割合になるということである。総称文には、受け入れに必要なわずかな証拠と受け入れ後の強い含意という非対称性があり、それを利用して危険回避に役立てているのである。実際、(16a)を教えられた幼児はすべてのサメを避けようとするであろう。大人になって、危険なのはわずかなサメだけであることを知ってもなお(16a)は受け入れられ続ける。ちなみに、most のような数量詞においては、受け入れと含意の非対称性は見られない。Striking Generic の非量化的な特徴がここでも際立っているおり、社会的偏見はまさにこの図式から生じるものである。それに対して、(16c)のような二重否定文が人間に適用されても社会的偏見にただ

ちにつながりはしない。(16a)に対して、場合によっては(16b)や(16c)のような内容を読み込むことは可能であるが、両者は決して同等のものではない。

Leslie は、総称文全体についてそれが非量化表現である、と述べている。

(17) Certainly, their logical forms closely resemble those of quantified statements. I will argue that, despite appearances, generics are in no sense quantificational. (Leslie(2007:379))

Leslie et al. (2009) においては、心理学者との共同研究により彼女自身が BP と IS/ DS との比較を行い、Striking Generic を許すのは BP だけであることを確認している。それにもかかわらず、BP と IS/DS を区別するという方向には向かっていない。また、他の場所でも量化の３部構造表示が BP 総称文に必要であることを認めてもいる。すでに見たように、大人の認知能力が身につけば、BP 総称文をあたかも量化表現のように読み込むことは可能であるが、総称文研究の枠組みとしてまずは表１の上下の区別を立てることが重要である。[7]

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注

[1] https://www.princeton.edu/~sjleslie/において Leslie の論文の多くが入手可能である。

[2] Leslie によれば、デフォルト的認知能力は Kahneman (2011)の「速い思考」に相当する。人間は、論理的・数量的であるが脳に負担のかかる「遅い思考（=システム 2）」と、直観的で脳に負担のかからない「速い思考（=システム１）」の両方を備えていると考えられている。

[3] 後述（第 5.3 節）のように、IS 総称文に相当する日本語として「というもの」という表現を当てている。

[4] Schaden によれば、ドイツ語総称文の定冠詞は通常の前方照応の用法とは異なる。前方照応の用法では、先行する不定名詞句を受けて定冠詞が使われるが、総称用法では不定=>定、不定=>不定、定=>定、定=>不定のいずれの順序も可能である。

[5] 岩部(1999)は、総称文の存在読みが生じる条件を論理的に説明しており、そこでは二重否定が重要な役割を果たしている。

[6] トランプ氏がかつて「『ロシアが介入しなかったと考える理由はない』と言うつもりだった」という釈明をしたことがある。言語学者は二重否定の計算くらいは苦もなくこなせるので、これで何の言い訳になるのか理解に苦しむかもしれない。「二重否定って、ややこしくて訳がわからなくなってしまうよね。だから、つい間違えて『ロシアが介入したと考える理由はない』と言ってしまったのだよ」ということらしい。少なくともそれで一定の同情が得られるという計算があったものと思われる。

[7] 日本英語学会第 36 回大会において本論の内容を口頭発表した際、フロアから「表１の速い思考は人間以外の動物とも共通性があるのではないか」という趣旨のコメントをいただいたが、その可能性は高いと考えられる。危険回避という生存上重要な能力は人間だけでなく、動物にも当然備わっているはずだからである。たしかに、人間は総称文ということばを用いて、幼児に警告し、他者と認識を共有できるが、デフォルト総称文は言語的にはプリミティブなものであり、冠詞の使い分け、量化、法性などの洗練された言語能力を前提としていないと予測される。洗練された言語能力が人間を他の動物と区別するものであるとすれば、原始的な言語能力だけを

求めるデフォルト総称文は人間と動物の間の連続性を解明するカギにもなりそうである。

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直接目的語制約に従わない結果構文*

（Resultatives That Do Not Obey the Direct Object Restriction）

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キーワード：結果構文, 直接目的語制約, causal chain, force に基づかない結果構文

1. *to victory*

英語の結果構文には、様々な制約があることが知られている。その一つが、結果句は直接目的語しか叙述の対象に出来ない、というものである。これは Simpson (1983)が最初に指摘した事実である。例えば(1a)で結果句 dead は直接目的語の him についての叙述である。ところが(1b)では、「私は鋼鉄を溶かす作業をしていて、しまいには体が熱くなってしまった」という解釈があってもよさそうであるが、実際には、このように結果句 hot が主語について叙述している解釈は許されない。

(1) a. I shot him dead.
b. *I melted the steel hot.

Simpson (1983)のこの観察は、後に Levin & Rappaport Hovav (1995) によって、Direct Object Restriction（直接目的語制約）と呼ばれることになる。

この直接目的語制約に関しては、既に「例外」とされるものが議論されている。例えば(2)で前置詞句 out of Bethlehem は、目的語の the star でなく主語の the wise men についての叙述になっている。

(2) The wise men followed the star *out of Bethlehem*. (Wechsler (1997: 313))

しかし follow は移動を含意する。だからこれは移動動詞の後に経路句が続いているだけであって、そもそも結果構文ではない(van der Leek 2000, Kay 2005)。だから、「例外」でも何でもないことになる。

本稿で問題にするのは、これとは違う現象である。(3)を見てほしい。

(3) a. The 39-year-old Briton *drove* **his Renault-Williams car** *to victory* in the Portuguese Grand Prix … (WB)
b. … but when you *sailed* **your yacht Sayonara** *to victory* in Australia in that terrible hurricane … (COCA)

(3a)で to victory が叙述しているのは、主語であって目的語の車ではない。同様に、(3b)でも to victory が叙述しているのは、主語であって目的語のヨットではない。

ここで、直接目的語制約を維持したい、と思う人達からは、次のような反論がなされるかしれない。これらのレースで勝つのは、確かに主語の人間だが、その人間が乗っている車やヨットも、レースをする上で重要な役割を果たしている。だから、人間と同様に「勝って」いると言えるのでないか。そうすると、主語だけでなく直接目的語も to victory の叙述の対象となり、少なくとも部分的には直接目的語制約を満たしているではないか、と。

しかしこれはかなり苦しい理屈である。まず、(4)のように直接目的語を省略することが可能である。

(4) a. He won his first grand prix in his second race and *drove to victory* in two others that

year. (WB)

b. AHT *sailed to victory* once again … (BNC)

これらの文で、to victory が叙述しているのは、紛れもなく主語である。そしてこのように直接目的語がない場合と、直接目的語がある場合とで根本的な解釈上の違いがあるようには思われない。

また(5)のように、乗っているものが比喩的である実例も見つかる。

(5) a. It was a strong anti-government message that helped Rand Paul *ride* **the Tea Party wave** *to victory* in the Kentucky Republican Senate primary.

b. Republicans successfully mobilized their own core voters and *rode* **an anti-incumbent vote** *to victory*.

(共に COCA)

それぞれ「Tea Party の波に乗って勝利した」、「反現職の票に乗って勝利した」という意味であるが、the wave と the vote が勝者とはとうてい考えられない。

これらの事実からすれば、to victory はやはり主語についてのみ叙述を行っている、と見なすのが妥当であろう。つまり、直接目的語制約に対する真の反例ということになる。

ここで、直接目的語制約をどうしても保持したい人は、さらに次のように言うかもしれない。「to victory はそもそも結果句でないのだ」と。ところが、to victory を含む表現は通常の結果構文のように振る舞うこともある。(6)を見ていただきたい。

(6) FLY-HALF Gareth Rees *kicked* **Canada** *to a convincing victory* in Port Elizabeth. (WB)

この文は、あるサッカー選手がキックを繰り出したお陰でカナダチームが勝利した、ということを伝えている。明らかに、to victory が叙述しているのは、動詞 kick に後続する名詞句 Canada である。さらに重要なのは、(7)が示すように、この Canada が kick により下位範疇化されていない、という事実である。

(7) *FLY-HALF Gareth Rees kicked Canada.

このように下位範疇化されていない目的語を取れる、というのは英語における結果構文の疑いない特徴の一つである。

以上をまとめると、to victory は直接目的語制約に反して、主語について叙述を行うことが出来る。しかし直接目的語制約に従う場合もある。では to victory を含む結果構文は、なぜ直接目的語制約に従ったり、従わなかったりするのか？

2. 直接目的語制約はなぜ成立するのか？

この問題を解くためには、そもそも直接目的語制約がなぜ成立するのか？を解明する必要がある。その前提として、ここでは結果構文に対して causal chain 分析を採用する。例えば Tracy wiped the table clean に対する causal chain は(8)のようになる。

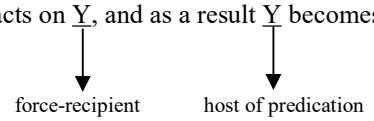
(8) Tracy $\xrightarrow{\text{ACT ON}}$ table $\xrightarrow{\text{CHANGE}}$ clean

この分析は Croft (1990, 1991) が言い出したものだが、後に Rappaport Hovav & Levin (2001) も採用している。ただし Croft、Rappaport Hovav & Levin とも、ACT ON と CHANGE を同じ矢印で表しているが、両者はやはり性質が違う。そこでここでは CHANGE の矢印を太いものにしてある。

Causal chain 分析は、特に目新しいものではない。しかし Croft、Rappaport Hovav & Levin とも気づいていない側面がこの分析の

中にある。これは、(8)の causal chain を(9)のように書き換えてみると、よりはっきりする。

(9) X acts on Y, and as a result Y becomes Z.



(9)のように書き換えてみると、Y 項が act on される対象であり、force-recipient であるだけでなく、Y 項が Z の叙述の主体（host of predication）であることが明示される。つまり直接目的語制約と実質的に同じことがここに表されている訳だが、(9)を見てみれば、直接目的語制約を言わば「因数分解」することが可能になってくる。

まず何故 force-recipient としての Y 項が、host of predication としての Y 項と同一にならねばならないかだが、これは正に causal chain の意味から導かれる。(8)の causal chain が表しているのは、「ある実体に力を加えて、その結果、その実体の状態が変わる」ということである。そして、ある物に力を加えてその結果、状態変化が起こるならば、変化するのは、何か別の物でなく、必ずその力を加えられた物である。これは言わば当たり前の事である。この logic により、host of predication は必然的に force-recipient とイコールになる。

次に、英語では行為による働きかけがある場合は、主語でなく直接目的語が force-recipient になる。この二つを足し算すれば、host of predication は直接目的語とイコールになる。つまり直接目的語制約とは、force が加えられたらどの実体に変化が生じるかと、英語における直接目的語位置の意味的な役割とが組み合わさった結果、自動的に導かれることになる。

そしてこの理屈に従えば、逆に force が加えられていなければ、たとえ直接目的語であっても、host of predication と同一になるべき理由がないことになる。このことを頭に入れて、もう一度 to victory を含む文を見てみよう。(10)では、直接目的語の位置に現れている実体は、勝利することに直結するような force を受けていない。だから直接目的語制約に従わないのは、当然のことである。

(10) PHILIPPE ROZIER … *rode* **the same horse** *to victory* for France in the Euro Horse Trophy in Gothenberg yesterday. (BNC)

このように考えれば、(10)のような例が直接目的語制約に従わないことは説明がつく。しかしこれは同時に、重要な帰結をもたらす。すなわち、(10)のような例は(8)のように causal chain で分析できる結果構文とは別のものだ、ということになる。つまり、force に基づかない状態変化を表す結果構文だということである。

3. Force に基づかない状態変化

では、force に基づかないで状態変化を起こす、とはどのようなことか？ここで結果句の形に注目してみよう。通常、to-前置詞結果句は、towards 句で置き換えることが出来ない。(11b)の形はコーパスでも見当たらず、もし使われることがあったとしても、おどけて使われる場合だけであろう。

(11) a. He drank himself to death.
b. *He drank himself towards death.

これは、to 結果句が goal 句としての性質が弱まっているためと考えられる。

これに対して、to victory では towards a victory の形もコーパスで実例が見つかる。

(12) In fact, it was an “A” team player who *helped* them *towards a good victory* over highly placed Malshanger on Wednesday

last week. (BNC)

ということは、to victory は一見形が同じでありながら、移動の経路としての性質を、to death よりも強く維持していると考えられる。

そこで to victory は、force に基づく状態変化でなく、メタファー的移動に基づく状態変化を表している、という分析を提案する。すなわち、to victory は、メタファー的に解釈された移動文における、メタファー的な goal を表している、ということになる。

では何故メタファー的移動に基づく状態変化と考えるべきなのか？ここで goal という語が二通りの解釈を許すことに注意してほしい。(13a)で goal とは、空間的に移動して行って到着する goal である。一方(13b)での goal とは、「goal を達成する」という意味での goal である。

(13) a. When you *reach the goal*, ask the name of the city and give flowers to the first person you meet.

b. CB is also most unlikely to *reach its ambitious goal* of generating half its earnings outside France by 1992.

(共に BNC)

同じ goal という語で表されているため、見落としてしまうかもしれないが、この二つの意味の goal は別物である。

そしてこの「達成する goal」は、しばしば「到着する goal」になぞらえて理解されている。そのため、「達成する goal」でも、(14)のように towards 句に生じることが出来る。

(14) As Europe moves *towards its goal* of a common internal market … (BNC)

そこで、二つの意味の goal は ACHIEVING A GOAL IS REACHING A GOAL というメタファーにより関連づけられている、と分析できる。二つの領域間の写像は図 1 のようになる。[1]

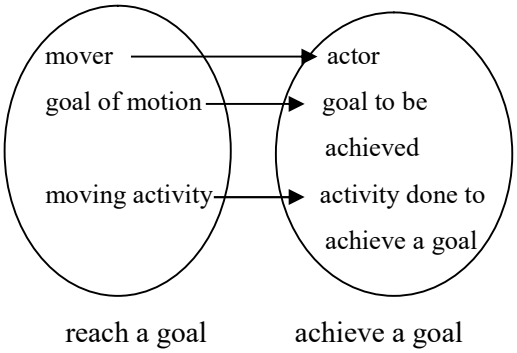


図１：２つの“goal”の対応関係

移動者が行為者に、移動の goal が達成すべき goal に、移動の行為が goal を達成するために成される活動に、それぞれ対応している。このメタファーにより、状態変化が抽象的な位置変化として捉えられることになる。

このように考えれば、何故 victory という語が to 前置詞句に現れるかも、納得がいくであろう。victory とは、正に様々な努力をして「達成する goal」である。そして「達成する goal」は、メタファーにより「到着する goal」と結びついている。その結果、to victory という表現が可能になる。つまり、（少なくとも英語においては）「勝つ」とは、苦労して進んで行った結果、goal にたどり着くこと、と概念化されている。

更に、実際にレースでは、先に goal に到着することが、正に勝利することである。この点からも、to victory という表現は動機づけられているのであろう。[2]

ではこの見方を具体例に当てはめてみよう。(15)は、競馬で競争馬が戦い抜いて勝利する、という状況を表している。

(15) Every time I watch that horse *battle to victory* it sums up what National Hunt racing is all about. (WB)

この表現は、空間的移動を表す(16)の run to the store と平行している。

(16)　She ran to the store.

両者の平行性は、図２・図 3 のように表すことが出来る。白い○は goal を表している。

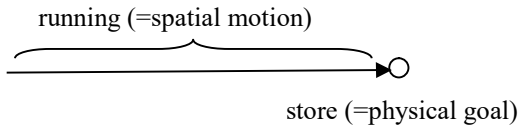


図２：*She ran to the store*

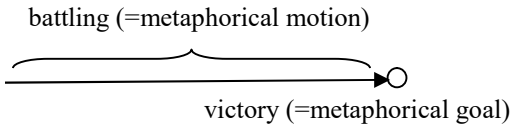


図３：*The horse battled to victory*

(16)の run to the store は、図２に示したように、running という空間的移動をした結果、物理的な goal である store に到着している。それに対して、battle to victory は、battling をした結果、勝利に至る訳だから、図３のように、battling というメタファー的移動をした結果、メタファー的な goal である victory に到着することになる。

このように to victory とは「goal を達成するための活動＝メタファー的移動」をした結果、到着する goal を表していることになる。

これは、移動動詞に to victory が続く場合であっても変わらない。例えば(17)の gallop to victory や run to victory のように移動動詞が to victory と共起する場合がある。ここで gallop や run は確かに空間的移動を表すが、実は単なる空間的移動というよりも、競技としての gallop・run として捉えられている。そしてその競技としての galloping・running が、図３の battling と同じく、メタファー的移動と解釈されている。

(17) a. And 70-year-old Florence Nagle *galloped to victory* in the courts.
　　b.　… as he *ran to victory*.　(共に WB)

このように、ここまで見てきた to victory を含む文は、要するにメタファー的な移動を表す表現だということである。これは、(18)でも変わらない。

(18) PHILIPPE ROZIER … *rode* the same horse *to victory* for France in the Euro Horse Trophy in Gothenberg yesterday.　(BNC)

この文で直接目的語は、「競馬で走る」という行為にとって単に付随的なものである。そしてメタファー的移動文において、直接目的語が to victory により叙述されなければならない理由は見当たらない。寧ろ、移動文であれば、移動の主体についての叙述になる。そしてこの場合、移動の主体は主語である。だから to victory が主語についての叙述になるのは、当然のことである。

最後に、to victory が現れながらも、直接目的語についての叙述になっている場合を考えてみよう。

(19) FLY-HALF Gareth Rees *kicked* **Canada** *to a convincing victory* in Port Elizabeth.

(18)と(19)の大きな違いは、(18)が単なる移動文であるのに対して、(19)は使役移動文である点である。つまり、(19)では kick することが抽象的な force を行使することと捉えられており、その抽象的な force が「カナダチームを勝利へ押しやった」ということを述べている。

どちらの文でも、to victory が抽象的な goal を表していることに変わりはない。しかし(18)の文では、主語の表す実体が、自ら移動

して goal に到達するのに対して、(19)では、主語が別の実体に働きかけて、その働きかけを受けた実体が、victory という goal に到達している。このように使役移動文であるからこそ、wipe the table clean のような例と同じく、force に基づく結果構文の事例となる。そのため、直接目的語制約を満たすことになる。

以上をまとめると、直接目的語制約が成立するのは、force に基づいて状態変化が起こるようなタイプの結果構文の場合だけである。しかし状態変化は、必ずしも force に基づく必然性はない。to victory を伴う結果構文は、メタファー的移動に基づいた状態変化を表すから、force に基づかない結果構文になりうる。そしてその場合は、直接目的語制約に従わない。ただし to victory を伴う結果構文が、使役移動文である場合は、force に基づいて状態変化を起こしていることになるから、直接目的語制約に従う。

4. 空間的移動により引き起こされる状態変化

ここで当然生じてくる疑問は、force に基づかないで状態変化を引き起すのは、to victory の場合だけだろうか、ということである。数は少ないが、そのような結果構文は確かに存在する。以下ではその幾つかを見ていくことにする。

(20)の例は、「伝えられるところによると、既に約百万人が、国境を越えた結果、安全になった」という意味であり、結果構文と考えられる。

(20) About 1 million had reportedly already *crossed* **the border** *to safety*. （COCA）

しかし、ここで安全になるのは直接目的語の the border でなく、主語の表す約百万の人達である。つまり、to safety を含む結果構文も、やはり直接目的語制約に従わない。

この事実も、やはり force に基づかない結果構文だと考えれば、説明がつく。ただし to victory の場合と違って、ここでは空間的移動が関わっている。Sweetser (1999)では、safe のフレーム意味論的分析を行っているが、safe という状態が成立する一つの状況は、「危害が及ばない場所にいる」ことだという趣旨のことを述べている。だから to safety とは、この意味の safe に対応しており、“to a place where one is safe”「安全なところへ」という意味であると考えられる。つまり、「誰かを safe にする」とは、その人を危険でない場所へ連れていくことであり、「safe になる」とは、危険でない場所に移動することである。つまり、先ほどまで見てきた to victory はメタファー的移動により状態変化が生じていたが、to safety では、空間的移動により状態変化が生じていることになる。

空間的移動を表す文だから、直接目的語の the border は force-recipient ではない。Jackendoff (1987)の言い方を借りれば、単なる landmark である。だから直接目的語制約に従わないことも、別に驚くべきことではない。

そして動詞が空間的移動を表しているから、空間的移動が辿った経路を表す前置詞句を、to safety と同時に表すことも可能である。

(21) a. … the heroine *pilots* the wounded hero <u>through the desert</u> *to safety* …

b. FIREFIGHTERS rescued a pensioner from an upstairs bedroom after his daughter *jumped to safety* <u>from their blazing home</u>. (共に BNC)

ここで through the desert・from their blazing home は空間的移動の経路を表し、to safety がそのような経路を辿った結果としての状態変化を表す、という恰好になっている。

この to safety とよく似ているのが、to freedom である。まず to freedom を伴う結果構文は、直接目的語制約に従わない。

(22) a. Well, not so long ago many Germans *crossed* **the borders** illegally *to freedom* to West Germany …
b. … each departing Cuban must pay the state $612 before they can *escape* **Cuba** *to freedom*. (共に COCA)

(22a)(22b)はそれぞれ、「国境を越えた結果、自由になった」「キューバを逃れた結果、自由になる」という意味である。ここで自由になるのは、主語の Germans・Cuban であり、直接目的語の the borders・Cuba ではない。

次に、空間的経路を表す前置詞句が to freedom と共起することも可能である。

(23) a. When a hardened criminal *jumps* <u>over the wall</u> *to freedom* …
b. When American hostages – mostly women and children – *fly to freedom* <u>from Iraq and Kuwait</u> … (共に WB)

これらの事実は、完全に to safety の場合と同じように説明出来る。つまり、to freedom とは「拘束されない場所へ」ということであり、これらの文は空間的移動による状態変化を表していることになる。だから(22)で直接目的語の the borders・Cuba は、単なる landmark を表しており、その結果、直接目的語制約に従わない。また空間的移動を表す文だから、その空間的移動の経路を表す前置詞句が to freedom と共起することも、何ら問題がない。

5. 結論

to victory を含む表現は、「動詞の表す行為をした結果、勝利する」という意味だから結果構文と考えられる。ところが直接目的語制約に従ったり、従わなかったりする。この一見不可思議に思える事実も、どのように状態変化を引き起こすか、に関して少なくとも 2 種類あると考えれば説明がつく。

まずこれまで先行研究で挙げられていたような例は、causal chain 分析でうまく扱えることからも分かるように、force に基づいて状態変化を起こすタイプの結果構文である。このタイプの結果構文では、直接目的語が force-recipient である。そして force を加えて状態変化を起こすとなれば、その force-recipient の状態変化でしかありえない。このため、直接目的語制約があてはまる。

しかし to victory を含む表現は、メタファー的移動に基づく状態変化を表している。このタイプでは、直接目的語が現れていても、force-recipient ではない。だから直接目的語制約が成り立つ理由は何もない。寧ろ、移動文であるから移動の主体である主語が、結果句の叙述対象となる。他にも to safety・to freedom 等を含む表現が、移動に基づく結果構文と考えられる。

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注

[1] このメタファーは、Lakoff & Johnson (1999) の PURPOSES ARE DESTINATIONS とほぼ同じものである。

[2] William Croft 教授よりのコメント。ただし、すべての勝利が、goal に到着することによって達成される訳ではないので、多分これは二次的なものとみなすべきであろう。

コーパス

British National Corpus (BNC)
Corpus of Contemporary American English (COCA)
Wordbanks Corpus (WB)

Extraction out of Subject Phrases and Labeling Theory *

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Keywords：Inactivity Condition, Labeling, sub-extraction, subject phrase

1. Proposal

The purpose of this paper is to discuss sub-extraction phenomena in labeling theory. Chomsky (2008) offers data in (1) to (3), arguing that sub-extraction out of subject phrases is impossible in transitive sentences while possible in passive or raising sentences.

(1) *It was the CAR of which [the driver [t caused a scandal]] (Chomsky (2008: 153))
(2) It was the CAR of which [the driver was found] (ibid.: 147))
(3) It is the CAR of which [the driver is likely [t to [t cause a scandal]]] (ibid.: 153)

In order to account for the grammaticality of the sentences in (1) to (3), Chomsky (2008) proposes the inactivity condition as a constraint on internal Merge.

In this paper, I will offer an alternative account based on a labeling theory. In a recent labeling theory, Merge, internal or external, is assumed to be free in its application (Chomsky (2013, 2015)). Given this assumption, I propose (4) as a licensing condition of copies created by the free application of internal Merge.

(4) The inactivity condition applies at the C-I interface.

I show that this proposal is able to account for the data in (1) to (3), exemplified in Chomsky (2008), and further demonstrate that the proposal is able to capture data that constitute counter-examples to Chomsky's account. Finally, I will offer various consequences for the adoption of this proposal.

2. Inactivity Condition

In this section, I compare Chomsky's (2008) inactivity condition with the proposal in (4), that is, the inactivity condition that is applied at the C-I interface. Chomsky (2008) claims that the inactivity condition applies in the following case:

(5) [*wh*-phrase … [$_{DPi}$ *wh*-phrase] … [$_{DPi}$]]]
X

In (5), the noun DP moves and is assigned a Case feature. After the valuation of the Case feature, the DP becomes inactive in the syntax, which means that the *wh*-phrase within the inactive DP cannot undergo internal Merge with an outside item. Chomsky's claim can then be summarized as follows:

(6) a. An argument with an unvalued Case feature becomes inactive in the syntax.
b. A *wh*-phrase within this argument cannot undergo internal Merge with an outside item.

On the other hand, this paper proposes that the inactivity condition should apply at the C-I interface. A different picture emerges from (6). First, the DP activity cannot be identified in

terms of the Case features, since Case features are uninterpretable features and are not sent to the C-I interface. However, the activity identification is possible through labeling. Specifically, when a DP moves to its final landing site, it enters into a φ-sharing relation with another item such as T to offer a label. In this case, the φ-shared argument DP is identified as the inactive item at the C-I interface. Second, under the recent labeling theory (Chomsky (2013, 2015)), Merge applies freely. Therefore, now some mechanism is needed to license a copy created by the free application of internal Merge. The proposal in (4) indicates that such a mechanism is our C-I version of the inactivity condition. Therefore, the proposal gives rise to the claims in (7), which are illustrated in (8), noting the differences between (7) and (6).

(7) a. A φ-shared argument DP becomes inactive at the C-I interface.

b. A *wh*-phrase within the inactive argument cannot be licensed as the same copy as in [Spec, CP].

(8) [*wh*-phrase … [$_{<\varphi, \varphi>}$ [$_{DPi}$ *wh*-phrase] [$_{DPi}$]]]

X

(at the C-I interface)

(8) shows that once the DP internally merges and undergoes the φ-sharing relation, the *wh*-copy within the DP cannot be licensed as the same *wh*-copy as in [Spec, CP].

3. Analysis

3.1. Data from Chomsky (2008)

In this section, I first show that the data in (1) to (3) from Chomsky (2008) can be properly captured by our proposed C-I version of the inactivity condition. Then, I give counter-examples to Chomsky (2008), to show that our proposal can correctly account for the grammaticality of those data.

(1) has the embedded CP structure shown in (9):

(9) [$_{CP}$ of which [$_{<\varphi, \varphi>}$ [the driver t_{PP}] [$_{vP}$ [the driver t_{PP}] caused a scandal]]]

In this structure, the upper DP enters into the φ-sharing relation and becomes inactive at the C-I interface. As a result, the *wh*-phrase within the DP cannot be identified as the same copy as in [Spec, CP]. Note that within the lower copy of the subject DP, the *wh*-phrase is also inaccessible. Chomsky attributes this to the edge condition (Chomsky (2008)), but I appeal to another reason, which will be discussed in section 4.3.

In the grammatical sentences in (2) and (3), the DP has the possibility to be interpreted at the C-I interface in a position that is irrelevant to a φ-sharing relation, and then the copy within the DP is licensed at the interface. As a result, the sentences are grammatical.

3.2. Counter-Examples to Chomsky (2008)

Chomsky (2008) assumes that the inactivity condition is a syntactic constraint. However, in this section, I offer five types of counter-example, and argue that these are explained using the current proposal that the inactivity condition applies at the C-I interface.

First, Chomsky's account cannot make a grammatical distinction in grammaticality between sentences with a stage-level predicate and those with an individual-level predicate. (10) is specific examples.

(10) a. Of which masterpiece is [one reproduction t_{PP}] already available?

b. ?*Of which masterpiece is [one reproduction t_{PP}] absolutely perfect? (Bianchi and Chesi (2015: 50))

Offering the contrast shown in (10), Bianchi and Chesi (2015) argue that the subject of the stage-level predicate *available* can successfully undergo a sub-extraction operation while the same operation cannot apply to the subject of the individual-level predicate *perfect*. The contrast in (10) shows that some additional assumption need to be added to (6) in order to account for the difference.

On the other hand, the current proposal is able to give an appropriate account for this contrast as follows. First, the subject noun phrases move to [Spec, TP] regardless of their interpretations in overt syntax. Moving to the position (that is, [Spec, TP]), they enter into the φ-sharing relation with TP, and then the whole clause is labeled <φ, φ>. Second, the whole structure is sent to the C-I interface, and the interface chooses one subject position for the semantic interpretation of the DP. When a sentence contains an individual-level predicate as in (10b), the subject must be semantically interpreted in the higher position. However, this is the same position at which the subject enters into the φ-sharing relation. Therefore, due to (4), the *wh*-phrase within the DP cannot be licensed as the same copy as in [Spec, CP], and the sentence is ungrammatical. On the other hand, when the sentence contains a stage-level predicate, the subject can be interpreted in the lower position, that is at [Spec, vP]. In this case, the *wh*-phrase within the lower subject phrase is correctly licensed as the same copy. Then, the sentence is judged as a grammatical sentence.

Second, contrary to the expectations in Chomsky's (2008) account, the sub-extraction operation can successfully apply to clausal gerunds in a subject position. Before giving concrete examples, I first show that clausal gerunds do not enter into φ-sharing relations with TP, as shown in (11).

(11) ?*Him winning and you losing are wonderful. (Ross (1973: 147))

This sentence indicates that clausal gerunds do not enter into φ-sharing relations, since the *be*-verb cannot inflect in its plural form even when two gerunds are coordinated. A prediction that comes from the current proposal is that so-called sub-extraction phenomena should be observed in clausal gerunds. This prediction is borne out in (12) and (13).

(12) a. For what reason did [PRO bursting into rooms t] get John fired
b. How would [PRO holding off a tiger t] make one famous (Hegarty (1992: 119))

(13) Who does baking ginger cookies for tire you out? (Kluender (2004: 119))

Furthermore, the licensing of a *wh*-copy within the clausal gerunds is also successful, regardless of the predicate types; that is, either stage-level predicate or individual-level predicate can appear, as shown in the followings:

(14) a. Who is preparing rump steaks to already ready? (stage-level adjective)
b. Who is serving rump steaks to very important? (individual adjective)

The grammaticality of the sentences in (14) indicate that a clausal gerund, whether it be in the higher position or the lower position at the

C-I interface, does not enter into a φ-sharing relation. The discussion here indicates that the possibility of the successful sub-extraction operation cannot be reducible to predicate types as Bianchi and Chesi (2015) show in (10). The relevant factor is the positions available to a subject at the C-I interface.

Third, the subject phrases in infinitival clauses also constitute counter-examples to Chomsky's analysis. It has been assumed that the raising infinitival T has an unvalued person feature, [uPerson] (Chomsky (2001)). Given this assumption, the infinitival T does not establish a φ-sharing relation with its subject DP. It then follows that a sub-extraction operation are possible for infinitival subjects. This prediction is actually borne out, as follows:

(15) Of which major$_i$ is it important for [[the students t$_i$] to take a course in physics]?
(Egashira (2015: 151))

The fourth counterexample to Chomsky's claim comes from agreeementless languages such as Japanese. Japanese is considered to have no φ-agreement system (Fukui (1986)). If this claim is true, sub-extraction phenomena should be able to be observed in Japanese. Actually, this prediction is borne out, as the following example from Saito (1985: 272) shows:

(16) ??Nani-o John-ga [Mary-ga t katta] koto]-ga mondai-da to] omotteru no?
What-Acc John-Nom [Mary-Nom t bought] fact]-Nom problem-is Comp think Q
'What, John thinks [that [the fact [that Mary bought t]] is a problem'

Note that (16) is not perfectly grammatical. However, as Saito (1985) emphasizes, what is important is that the sub-extraction out of subject phrases causes the same degree of degradation as in object phrases. Then, Saito (1985) concludes that there is no independent principle such as subject condition in Japanese.

Fifth, a counter-example can also be observed in rich-agreement languages such as Spanish and other Romance languages, in which there is a descriptive generalization that the sub-extraction out of subject DPs is possible for post-verbal subjects while not to pre-verbal subjects (Uriagereka (1988)). When a subject phrase occurs in the pre-verbal subject position, it enters into the φ-sharing relation. The sentences containing the sub-extracted item then become ungrammatical. On the other hand, in cases where the subject occurs post-verbally, it is a little *pro* that enters into the φ-sharing relation with TP. Therefore, a subject phrase in the post-verbal position does not enter into a φ-sharing relation, which means that a *wh*-phrase within the post-verbal subject can be licensed at the C-I interface without violating the inactivity condition.

To summarize, this section has shown that the current proposal can correctly give an account for not only the data that are shown in Chomsky (2008), but also those that constitute counterexamples to Chomsky's assumptions.

4. Consequences

4.1. Partial Labeling

This sub-section discusses several consequences of the current proposal, focusing on cases where in merging of XP and YP, either of them are φ-incomplete. In the previous section, following Chomsky (2001), I have assumed that the infinitival T has only an

unvalued person feature, [uPerson]. Under this assumption, infinitival clauses have the label of <person, person> due to the sharing of the [Person] with the subject DP, as shown in (17).

(17) It is important for [$_{<person,\ person>}$ [$_{DP}$ the students] [$_{TP}$ to learn English]].

In (17), the infinitival T only has [Person], and the labeling algorithm cannot find a full set of φ-features, but only find part of the full set, that is, [Person] feature on the $DP_{the\ students}$ and the infinitival T. Therefore, [Person] works as the prominent feature for labeling purposes.

I assume that this labeling occurs in infinitival clauses, and I name the labeling algorithm a partial labeling. Similarly, the labeling in merging a clausal gerund and TP becomes <person, person> since the clausal gerunds do not have a complete φ-features (see (11)).

The discussion here indicates that (7) holds only if both XP and YP are φ-complete in merging XP with YP.

The plausibility of the relation between the sub-extraction phenomena and the partial labeling comes from *there* constructions in which sub-extraction is possible for associates, as shown in (18).

(18) Who is there [a picture of *t*] on the wall?
(Stepanov (2001: 34))

The expletive *there* is considered to have a valued third-person feature, [Person: 3rd] (Chomsky (2001)). Therefore, the TP enters into the partial labeling relation with the expletive *there* with the clausal labeling becoming <person, person>. On the other hand, the lower associate DP enters into a partial labeling relation and offers <number, number> to the label of the small clause consisting of the set {DP, $PP_{on\ the\ wall}$}. In other words, it is assumed that the lower associate only enters into a partial labeling algorithm, which in turn indicates that the sub-extraction phenomena are not excluded in *there* constructions.

4.2. Speakers' Variation

It has been claimed that speakers' judgment regarding the sub-extraction out of subject phrases varies considerably from person to person. For example, some speakers judge both sentences in (10) to be ungrammatical and others find the grammatical status of (10a) to be only marginally grammatical. Specifically, not all speakers can successfully access a lower subject phrase. For those who cannot, (10a) is ungrammatical. In addition, even when the lower copy is accessible, grammaticality potentially degrades in dealing with the lower copy, which accounts for slight degradation observed by some speakers.

Importantly, the (in)accessibility of the copies in A-movement is not exclusive to the sub-extraction phenomena. For example, when observing so-called quirky subject constructions in Icelandic, Holmberg and Hróarsdóttir (2004) distinguish Icelandic speakers into three different groups (speakers A, B, and C). Speakers A and B are classified as being unable to "see" the lower copies left behind by A-moved items and speaker C is classified as being sensitive to the presence of these copies. Therefore, the differences in sensitivities to A-traces in speakers are found not only in extraction out of subject phrases but also some other constructions like quirky subject constructions.

4.3. The Edge Condition

The current paper has not so far discussed the edge condition, which plays an important role in Chomsky's (2008) account of sub-extraction phenomena. The current paper argues here that the edge condition as such does not have an independent theoretical status because some counter-examples have already been reported. Specifically, Chomsky himself shows that (19) is a grammatical example.

(19) Of which books did the authors receive the prize? (Chomsky (2008: 160, n. 39))

In (19), the transitive verb *receive* appears but it is judged as a grammatical sentence. In addition, Jiménez-Fernández (2009) offers (20):

(20) a. [Of which car]$_i$ did some pictures t_i cause a scandal?
b.?? [Of what]$_i$ did some pictures t_i cause a scandal?
c. (?)[Which car]$_i$ did some pictures of t_i cause a scandal?
d. [What]$_i$ did some pictures of t_i cause a scandal?
(Jiménez-Fernández (2009: 121))

In (20), the transitive verb *cause* is used, which is acceptable when subjects are the indefinite subject phrase *some pictures (of)*. Of these four sentences, (20b) is slightly marginal, but these four sentences are relatively fine, or at least, better in grammaticality than (1), which is originally shown in Chomsky (2008) to rule out sentences with sub-extraction out of subject phrases. Therefore, I claim that it is not necessary to have an independent edge condition in linguistic theory, and it can be reduced to (say) the definiteness condition, which prohibits the sub-extraction operation from applying to noun phrases that are headed by the definite article *the*.

4.4. Extraction out of Objects

As the final consequence of the current analysis, I now turn to object phrases. It has been generally assumed that it is possible to extract a *wh*-phrase out of object phrases, as shown in (21) with its structure in (22).

(21) Who did John hear stories about t?
(Chomsky (1973: 249))

(22) [$_{CP}$ who$_i$ … [Subj [$_{vP}$ v_{hear} [$_{<\varphi, \varphi>}$ [$_{DP}$ stories about t_i]$_j$ $\sqrt{}_{hear}$ [$_{DP}$ stories about t_i]$_j$]]]]

Important to the current analysis are the positions available to objects. Given Chomsky's (2013, 2015) recent assumption, an object that is originally generated in the complement position of a verb moves to a higher position. That is, there are two positions available to an object at the C-I interface. In the higher position, the object enters into a labeling relation for the [φ] features with another maximal projection (that is, the set of $\sqrt{}_{hear}$ and DP in (22)).

The lower object position is not for a labeled position, and the sub-extraction operation is licensed.

5. Conclusion

To summarize the discussion of the current paper, I have proposed that the activity condition applies at the C-I interface. This proposal is plausible under the current labeling theory. Furthermore, the current proposal can correctly capture the sub-extraction data.

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定冠詞の非特定的使用について*

（On the Non-Specific Use of the Definite Article）

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キーワード：定冠詞, 非特定性, 動詞, 情報量, 個別化

1. はじめに

定冠詞を持つ名詞句の機能の一つは特定の存在者を指すことである。しかし、以下に示すように、この種の名詞句は非特定的・総称的であり得る。

(1) Who invented the telephone? (Swan (1995: 64))

本研究はこの種の用法に焦点を当てる。本研究の目的は定冠詞を持つ目的語の非特定的使用に対するいくつかの言語環境を指定することである。

二人の米国人の英語母国語話者が本分析のデータを判定した。

本研究の主な論点を説明するために、以下の例を見て行こう。

(2) John took the train, though I am not sure which one.
(3) #/?John dribbled the ball, though I am not sure which one.

(2)では「乗る」という行為は「列車」という存在者に対してあまり情報量がない。この場合、その定目的語はそれの動詞によって特定しにくい。ここでは定冠詞の用法は非特定的である。(3)では「ドリブルする」という行為は様態に関する情報を含むから「ボール」という存在者に対して情報量が豊かである。この場合、その定目的語はそれの動詞によって特定しやすい。ここでは定冠詞の用法は非特定的ではない。こうした例に基づき、本研究は以下の仮説が成り立つと主張する。

(4)仮説

定冠詞を持つ目的語名詞句に焦点を当てる。これが非特定的であるのは話し手が談話内でそれを処理するときにそれによって喚起される存在者を含む確立した談話指示対象の参照集合の中からそうした存在者を選び出すことが難しいことに応じてであると提案する。この仮説は以下の三つの要因を持つ。即ち、(a)第一の要因は動詞がそれに対して情報量が乏しいことである。なぜならその動詞情報に基づいて定目的語の存在者を参照集合から選び出すことが難しくなるからである。(b)第二の要因はそれが動詞によって個別化されないことである。なぜならこのことが定目的語の存在者を参照集合から選び出すことを難しくするからである。(c)第三の要因はある時制や副詞などが、それが発話状況内で存在を確立したまたは確立するのを成り立たせないことである。なぜならこの種の定目的語の存在者は参照集合に属さないという事実がこの種の存在者を参照集合から選び出すことをそもそも不可能にするからである。

本研究はこの仮説の各要因を確証する。

2. 先行研究

先行研究を概観する。Hawkins (1978, 1991) と Lyons (1999)と Abbot (2004)などは定性と

いう概念とそのデータに包括的な仕方で取り組んでいる。Heim (1982)は定冠詞の適格性を familiarity の点から説明しかつこの概念を形式化する。Russell (1905)や Kadmon (1990)や Gundel, Hedberg and Zacharski (1993)などは定冠詞をその名詞句が一意的に同定可能であるかどうかの点から取り扱う。

本研究はいわゆる weak definite article がどんなときに現れるかを検討する。Birner and Ward (1994)や Birner (2013)などはこの種の冠詞に焦点を当てる。Birner (2013: 127)は以下の例を挙げる。

(5) Place that book on the shelf.

彼女はこの例が二つ以上の棚に関わるかもしれず、かつ、この場合は一意性の読みを標示しないと言う。さらに彼女は話者が特定の一つの個別の列車や車をコード化することを意図していないと定めて以下の例を挙げる。

(6) To get to my office, I suggest you take the train / #the car. (ibid.)

彼女は列車が予め決められた経路を有するので名詞“train”は一意的に同定可能になり、このことは名詞“car”には当てはまらないと言うことによってこの対比を説明しようと試みる。しかし、「予め決められた経路」という用語は不明確で特定的すぎる。さらにどのようにこの概念が名詞“train”を一意的に同定可能にするか明らかでない。当該の非特定的な使用に対する言語環境を指定することが重要な課題であることに注意してほしい。しかし、この課題はこれらの先行研究で十分に取り扱われていない。このことに対して、本研究はこの問題に取り組み、この現象により一般的で十全な説明を与えようと試みる。

3. 基本的分析

(7)では定冠詞の使用は非特定的である。

(7) John took the train, though I am not sure which one.

ここで(4)の仮説を提案する。この仮説に於ける個別の各要因を確証するつもりである。

このことに加えて、以下の定義を採用する。

(8)あまり情報量がない要素の定義

ある要素のもう一つの要素に対する情報量はそれらの間の情報上の関係の非総称性の程度であると定義する。無標の場合、ある言語的要素は、それを否定することができない程度に応じて、情報量があまりない。

この定義が与えられると、以下の例が上の仮説を確証する。

(9) #Participant A: John took the train.
Participant B: No, he did not take the train but approached it.

(7)の定目的語は動詞の情報によって特定しにくい。その理由は(9)が(8)の特性を持つからである。

異なる要因を探すために以下の例を見てほしい。ここでは定冠詞の使用は完全に非特定的ではない。

(10) ?John played the piano, though I am not sure which one.
(11) ?John destroyed the piano, though I am not sure which one.

一人の査読者は動詞句“play the piano”は有標であるからこの動詞句を動詞句“take the train”と比べることは正しくないかもしれな

いと言及する。しかし、前者は無標の動詞句“destroy the piano”と同様に振る舞い、この無標の動詞句は無標の目的語を持つ動詞句“destroy the ball”と同様に振る舞う。動詞句“destroy the ball”の例を(16)で見ることになろう。よって、定目的語の非特定性に関する問題に関して動詞句“play the piano”を有標な表現として取り扱う理由はない。上の仮説は定冠詞を持つ目的語の非特定的使用が得られやすいのは動詞が定目的語にとって情報量があまりないときであることを含意する。上の定義を念頭に置いて、以下の完全に容認不可能ではない例を見てほしい。

(12) ?Participant A: John played the piano.
Participant B: No, he did not play the piano but repaired it.

(13) Participant A: John destroyed the piano.
Participant B: No, he did not destroy the piano but removed it.

(13)が適格であるという事実は(11)が完全に不適格であることを予想するように導くが、これは事実でない。ある意味で、ピアノを壊すという行為は情報量が豊かである。この点で(13)は適格である。しかし、動詞“play”や動詞“destroy”は目的語“piano”を個別化する。もし話者はジョンがピアノを弾いたと断定すればそのとき話者は普通どれが関わっているか認識することができる。もし話者はジョンがピアノを壊したと断定すればそのとき話者は普通どれが関わっているか認識することができる。要因(b)により、このことは「ピアノ」という目的語を特定しにくくする。この定目的語は動詞“play”や動詞“destroy”の下で幾分特定しにくいので、この例は完全に不適格ではなくあまり容認可能ではない。

異なる要因を探すために以下の例で未来時制を試そう。

(14) (?)John will play the piano, though I am not sure which one.

(15) (?)John will destroy the piano, though I am not sure which one.

これらが容認可能であり得るという事実は以下のように説明される。未来時制がこれらの定目的語が発話状況内で存在を確立するのを妨げる。要因(c)により、このことは(10)と(11)の定目的語よりもこれらの定目的語を特定しにくくする。容認可能な判定を持つ話者は動詞“play”や動詞“destroy”の個別化能力が弱いという直観を持っているのに対してあまり容認可能でない判定を持つ話者は動詞“play”や動詞“destroy”の個別化能力が強いという直観を持っていることが非常にありそうである。もしこのことが真であれば、要因(c)と前者の論点の背後にある要因(b)の間の相互作用が容認可能な判定を説明するのに対して要因(c)と後者の論点の背後にある要因(b)の間の相互作用があまり容認可能でない判定を説明する。

上の分析を補強するために以下の例で無標の目的語を試そう。ここでは定冠詞の使用は完全に非特定的ではない。

(16) ?John destroyed the ball, though I am not sure which one.

上の仮説は定冠詞を持つ目的語の非特定的使用を得やすいのは動詞が定目的語にとって情報量があまりないときであることを含意する。同じ種類のテストを使う。対応する例はあまり容認可能でないのではなく適格である。

(17) Participant A: John destroyed the ball.
Participant B: No, he did not destroy the ball but removed it.

(17)が適格であるという事実は(16)が完全に不適格であることを予想するように導くが、これは事実でない。ある意味で、ボールを壊すという行為は情報量がある。この点で(17)は適格である。しかし、話者は動詞“destroy”が目的語“ball”を個別化することを認識する。もし話者はジョンがボールを壊したことを断定すれば話者は普通どれが関わっているか認識することができる。要因(b)により、このことは「ボール」という目的語を特定しにくくする。この定目的語は動詞“destroy”の下で幾分特定しにくいので、この例は完全に不適格ではなくあまり容認可能ではない。

上の分析を補強するために未来時制を持つ例とある副詞を持つ例を試そう。以下の例で、定冠詞の使用は完全に非特定的ではない。

(18) ?John will destroy the ball, though I am not sure which one.

(19) ?John often destroys the ball, though I am not sure which one.

確かに、一人の話者は(14)と(15)が適格であると判定する一方で(18)と(19)があまり容認可能でないと言う。その未来時制やその副詞がこれらの定目的語が発話状況内で存在を確立するのを妨げる。この判定を持つ話者は動詞“destroy”の個別化能力が強いという直観を持っていることが非常にありそうである。ピアノの一部の機能を壊すことはピアノを壊すことであるのに対して、ボールを壊すことはボールの大部分を破損することであることに注意してほしい。強い影響関係と弱い影響関係の間の違いが動詞“destroy”によって目的語“piano”よりも目的語“ball”を独立した存在者として同定するのを容易にすることを示す。このことが意味するように、前者の場合の個別化能力が後者の場合の個別化能力よりも強い。要因(b)により、このことは(16)の定目的語と並行する仕方でこれらの定目的語をより特定しやすくする。よって、これらはあまり容認可能ではない。それに対して、もう一方の話者は(14)と(15)の対と(18)と(19)の対があまり容認可能でないと判定する。両方の場合に於いて、動詞“destroy”の個別化能力が強いという直観を持っていることが非常にありそうである。もしこのことが真であれば、そのことがこのパターンの背後にある理由である。

異なる要因を探すために、以下の例で様態の成分を持つ動詞を試そう。ここでは定冠詞の使用は非特定的ではない。

(20) #/?John dribbled the ball, though I am not sure which one.

上の仮説は定冠詞を持つ目的語の非特定的使用が得にくいのは動詞が定目的語にとって情報量があるときであることを含意する。同じ種類のテストを使う。対応する例はあまり容認可能でない。

(21) ?Participant A: John dribbled the ball.
Participant B: No, he did not dribble the ball but kicked it.

確かに、「ドリブルする」という行為は「ボール」という存在者に十分な仕方で関連する。しかし、様態の成分がこの行為に於いて決定的である。このような様態の成分は有標である。後者の要因が前者の要因より強い。一般に、様態の成分はその語が情報量に関して豊かであるという証拠を構成する。ある言語的要素が情報量に関して豊かであるという証拠が少なくとも一つあれば、他の要因に関係なくその要素は情報量があることが帰結する。要因(a)により、当該の様態の成分は(20)の定目的語を特定しやすくする。従って、(20)は不適格である。

あまり情報量がない要素のテストを使う

方法に注意しなければならない。一人の話者は与えられたすべてのテストが容認可能であると判定する。この判定はその話者が情報量に関するこの種の直観を持っていないことを示す。

4. 他のデータ

ここで他のデータを検討する。この目的を念頭に置いて、助動詞“has to”を持つ例を試そう。

(22) John has to go to his workplace. But his car broke down, so for the time being he has to take the train, though I am not sure which one.
(23) John has to destroy the train, though I am not sure which one.

明らかに、「破壊する」という行為は「列車」という存在者を個別化する。しかし、(23)の助動詞“has to”は定目的語が発話状況内で存在を確立したまたは確立するのを妨げる。後者の要因が前者の要因より強いが、それに対する理由を明らかにするのは未解決の問題である。このことに対して助動詞“has to”は確立された存在を阻止する能力に関して未来時制や副詞“often”よりも強いと推測する。もしそうであるなら、このことは後者の要素を持つ例があまり容認可能でない場合があるのに対して(23)が適格であるという事実を説明する。いずれにせよ(23)は適格である。明らかに、「乗る」という行為は「列車」という存在者にとってあまり情報量がない。さらに、(22)の助動詞“has to”は定目的語が発話状況内で存在を確立したまたは確立するのを妨げる。この定目的語はこの助動詞の下で特定しにくい。よって、(22)は適格である。

このこととの関連で、進行形を持つ例を検討しよう。

(24) John is taking the train, though I am not sure which one.

行為が進行しているときそれに対する目的語を特定しやすいと言う人がいるかもしれない。しかし、この例がこの効果に従わないほどこの動詞は情報量がないと推測する。対応する完全な説明を将来の研究にゆだねる。

上の仮説を確証するために、この進行形を未来形または副詞“often”を持つ現在形で置き換えよう。

(25) John will take the train, though I am not sure which one.
(26) John often takes the train, though I am not sure which one.

「乗る」という行為は「列車」という存在者にとって情報量があまりない。さらに、助動詞“will”と副詞“often”はこれらの定目的語が発話状況内で存在を確立したまたは確立するのを妨げる。これらの定目的語は特定しにくい。よって、これらの例は適格である。

上の仮説を確証するために句“be good at”がどのように働くか探求しよう。

(27) #/?John is good at dribbling the ball, though I am not sure which one.
(28) #/?John is good at destroying the ball, though I am not sure which one.

明らかに、「破壊する」という行為は「ボール」という存在者を個別化する。しかし、句“be good at”は主語に関わる動詞句の行為の特定的性質である。この句は有標で、行為の性質の情報量増大の証拠になる。この定目的語は当該の句の下で特定しやすいので(28)は不適格である。確かに、「ドリブルする」という行為はボールという存在者に関連する。しかし、それは様態の成分を含むので

「ドリブルする」という行為は「ボール」という存在者にとって情報量がある。さらに、句“be good at”は主語に関わる動詞句の行為の特定的性質である。この句は有標で、行為の性質の情報量増大の証拠になる。この定目的語はこの句の下で著しく特定しやすいので(27)は不適格である。

上の仮説を確証するために、この句を未来形または副詞“often”を持つ現在形で置き換えよう。

(29) #/?John will dribble the ball, though I am not sure which one.
(30) #/?John often dribbles the ball, though I am not sure which one.

「ドリブルする」という行為は有標で様態の成分を含む。一般に、様態の成分は有標である。よって、この行為は「ボール」という存在者にとって情報量がある。しかし、助動詞“will”や副詞“often”はこれらの定目的語が発話状況内で存在を確立したまたは確立するのを妨げる。前者の表現の組み合わせは後者の要因に関係なく文の構成に於いて出現する。従って、前者の要因が後者の要因に関係なく働く。一般に、様態の成分はそれを持つ成分が情報量に関して豊かであるという証拠になる。ある言語的要素が情報量に関して豊かであるという証拠が少なくとも一つあれば、その要素は他の要因に関係なく情報量が豊かであることが帰結する。これらが意味するように、これらの例は不適格である。

動詞句の振る舞いを検討してきた。次に、異なる例を調べるために句“bread from the bakery”を取り上げよう。

(31) John bought bread from the bakery, though I am not sure which one.
(32) John stole bread from the bakery, though I am not sure which one.

(31)では動詞句は情報量があまりない。(32)では動詞句は情報量がある。後者の特性にも拘わらず、(32)は適格である。いずれにせよ、句“bread from the bakery”はあまり情報量がないことは疑いなく成り立つ。これらの例の各定表現は特定しにくい。よって、これらの例は適格である。

上の仮説を確証するために、これらの過去形を未来形や副詞“often”を持つ現在形で置き換えよう。

(33) (?)John will buy bread from the bakery, though I am not sure which one.
(34) (?)John often buys bread from the bakery, though I am not sure which one.

(33)では動詞句はあまり情報量がない。(34)でも動詞句はあまり情報量がない。句“bread from the bakery”はあまり情報量がないことは疑いなく成り立つ。さらに、助動詞“will”と副詞“often”はこれらの定目的語が発話状況内で存在を確立するのを妨げる。それらの定表現はこれらの要素の下で著しく特定しにくいのでこれらの例は適格である。 一人の話者がこれら二つをあまり容認可能でないと判定している。これに対しては、低い文法関係の階層の先行詞“bakery”は助動詞“will”と副詞“often”の下で代名詞“one”で指しにくいということが受け入れられる。

5. おわりに

本研究の目的は定冠詞を持つ目的語の非特定的使用に対するいくつかの言語環境を指定することであることを思い起してほしい。本研究では以下の対比に注目した。

(35) John took the train, though I am not sure which one.
(36) #/?John dribbled the ball, though I am not sure which one.

これを踏まえて以下の仮説を提案した。

(37)仮説

定冠詞を持つ目的語名詞句に焦点を当てる。これが非特定的であるのは話し手が談話内でそれを処理するときにそれによって喚起される存在者を含む確立した談話指示対象の参照集合の中からそうした存在者を選び出すことが難しいことに応じてであると提案する。この仮説は以下の三つの要因を持つ。即ち、(a)第一の要因は動詞がそれに対して情報量が乏しいことである。なぜならその動詞情報に基づいて定目的語の存在者を参照集合から選び出すことが難しくなるからである。(b)第二の要因はそれが動詞によって個別化されないことである。なぜならこのことが定目的語の存在者を参照集合から選び出すことを難しくするからである。(c)第三の要因はある時制や副詞などが、それが発話状況内で存在を確立したまたは確立するのを成り立たせないことである。なぜならこの種の定目的語の存在者は参照集合に属さないという事実がこの種の存在者を参照集合から選び出すことをそもそも不可能にするからである。

我々はこの仮説に於ける各要因を確証した。

*Richard Stone 氏の例文作成に関する助言と Joseph Karuzis 氏と Joseph Tomei 氏の本研究のデータの判定に感謝する。また本研究の口頭発表に際し、多くの有益なコメントをいただいた。コメントしてくれた方々に感謝する。

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Comparison of Prosody of American and British English Using a Speech Corpus: A Preliminary Analysis *

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Keywords：American and British accents, prosody, speech corpus, MULTEXT Prosodic Database

1. Introduction

This paper presents a preliminary comparative analysis of prosodic characteristics of American English (AE) and British English (BE) using a speech corpus. These accents have well-known differences in segmental (vowels/ consonants) pronunciation and word stress, but there has been little research on differences in rhythm and intonation.

Although they seem to be quite similar to each other, some authors have pointed out differences. Regarding rhythm, Collins and Mees (2013: 163) describe the impression of AE as "drawled" and BE as "clipped," attributing these to the lengthened /æ/ and apparently slower delivery rate of AE and the elimination of weakly stressed vowels and apparently more rapid delivery rate of BE. According to Ogawa and McKechnie (2015, 2-13), BE sounds "tekipaki" ('brisk'), or fast, because of several reasons, including the shortness of /ɒ, æ/, the reduction or elimination of weak vowels, and the loss of secondary stresses. Concerning intonation, Collins and Mees indicate that the AE intonation has fewer rapid pitch changes and the rises and falls are more spread out than BE, leading to AE sounding "monotonous" to British speakers and BE "exaggerated" or "affected" to the Americans. Takebayashi (1996: 467-468) and Kawagoe (2007: 198) state that the pitch in BE sentences is often high at the start and gradually declines, while in AE, it is often flat before the nucleus. Takebayashi and Saito (2008: 186) note that some tones are used more often in either AE or BE.

Part of the difficulty in the comparison of prosody is in its variability; any sentence can be spoken at any speed with a number of intonation patterns, depending on the situations and the speaker's intention. In addition, there are diverse social and regional accents, particularly in the UK. Nevertheless, the rhythm and intonation of the two accents might be compared in a quantitative manner, if we focus on the same texts in the same contexts. This has motived the use and expansion of a speech corpus called *MULTEXT*.

The MULTEXT prosodic database (1998) consists of the recordings of 40 different passages, each of English, French, Italian, German, and Spanish. The same passages are translated into each language. The translation is rather free, and the expressions, such as proper names, are often changed to be adapted to the local culture. The English speech is spoken by 10 speakers: Each speaker reads 15 of the 40 passages, allowing each passage to be read by three or four speakers. The collaborator confirmed that the English speech included is British standard. MUTEXT is a popular speech corpus for cross-linguistic research and has several derivations, including Japanese MULTEXT (2004) and Chinese MULTEXT (2010).

The American speech corpus is currently under development by the author. First, expressions and proper nouns in the original BE script in the MULTEXT were minimally modified to make the script natural in AE. Then, the script was recorded by professional American narrators. (These processes have not been completed but are under way.) This paper reports a preliminary analysis using the already available American speech and its British counterparts included in the original MULTEXT.

2. Analysis and Discussion

2.1. Data

This study analyzed five passages (Passages P1-P5), each of which was read by three AE speakers (2 males and 1 female: henceforth, AmM1, AmM2, and AmF1) and three BE speakers (1 male and 2 females: henceforth, BrM1, BrF1, and BrF2). Passage P1 was exactly the same for AE and BE (see Figure 1); however, passages P2-P5 were slightly modified from BE to AE (see Figure 2 for an example).

We are enquiring into possible catering arrangements for a large meeting. We would need to have the food delivered to the premises in a manner that would allow immediate consumption. There are no facilities for setting out the food in a separate room. We were thinking of a selection of sandwiches, meats, cheeses, and fruit. Do you have special corporate rates for academic institutions?

Figure 1. Passage P1. The passage is exactly the same for AE and BE.

Send an ambulance to sixteen Chadwick ~~Close~~ Court as soon as possible. An old man has slipped on the ice and broken his leg, and can't be moved. Access to the ~~Close~~ Court is via Church Street only. The Park Avenue approach has been closed for road repairs. Chester Grange Hospital has been informed, and ~~awaits~~ is waiting for their arrival.

Figure 2. Passage P2. Strikethroughs and underlines indicate changes from BE to AE.

In the author's overall impression, BrF1 and BrF2 spoke fast, albeit with some differences among the passages. BrM1 showed the intonation pattern where pitch starts high and gradually declines, which was not observed in the speech of the AE speakers.

Note that figures include analysis results for only Passage P1 due to space limitations, although results of other passages are discussed in the paper as well.

2.2. Speed

First, the speech data was segmented into phonemes and syllables using the web services of the Bavarian Archive for Speech Signals (BAS services, Version 2.21, https://clarin.phonetik.uni-muenchen.de/BASWebServices/interface) (see Schiel (1999), Kisler et al. (2017)). Based on the segmentation results, the speaking and articulation rates were calculated. Figure 3 shows the results for Passage P1.

The calculated rates mostly conformed to the author's impression that BrF1 and BrF2 spoke fast and AmM2 sometimes spoke fast. For example, according to the author's impression, the speed of Passage P1 of AmM2, BrF1, and BrF2 was very fast. This matches the rates shown in Figure 1, where these three speakers have higher rates than the others in any of the speaking rates and the articulation rates (words per s and syllables per s).

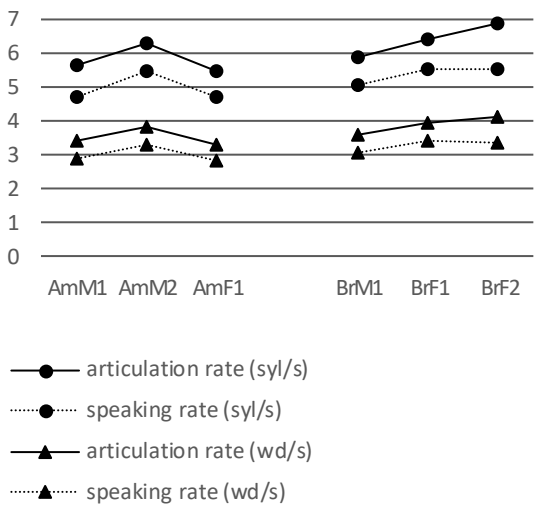

Figure 3. Speed of speech (Passage P1)

For Passages P3 and P5, on the other hand, the calculated rates did not exactly reflect the author's impression. This suggests that multiple factors, such as pauses and intonation as well as the actual speed, may have affected the impression of the speed. For instance, according to Ogawa and McKechnie (2015, 10-11), one of the reasons for BE to sound fast is that British females tend to utter many words in one breath. Therefore, perception tests would be necessary to reveal the factors that affect the impression of speed.

2.3. Rhythm Measures

The outputs of the BAS services were also used for the rhythm measures that have been proposed by Grabe and Low (2002) and Ramus et al. (1999). Figures 4 and 5 show these results for Passage P1.

Figure 4 indicates Grabe and Low's (2002) indices for Passage P1. For Passages P1-P4, *intervocalic rPVI* (raw Pairwise Variability Index) was higher in AE speech than in BE speech. This distribution of greater durational variability of consonantal intervals in AE may imply that AE is more stress-timed than BE. An inverse distribution was observed for Passage P5, though the reason for this is not clear. This was the only passage in which the author did not perceive the BE speakers to be faster than the AE speakers, though it is not clear if this impression of speed was related with the distribution shown here.

As for Ramus et al.'s (1999) indices, Passages P1 (see Figure 5) and P5 showed a distribution wherein AE had lower ΔC, indicating a lower durational variability of consonantal intervals, while Passages P2-P4 showed an inverse distribution. It is not clear why the distribution of Passage P1 was different between the measures of Grabe and Low and Ramus et al., while those of Passages P2-P5 were the same.

These measures were considered effective in discriminating between the rhythms of AE and BE because the distributions were consistent in most of the passages. However, these indices are text-dependent, and therefore for further discussion, it would be necessary to examine the effects of difference in scripts using phonological indices (Komatsu et al. (2005), Matsui et al. (2018)).

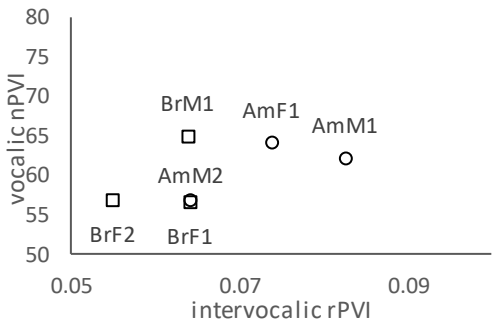

Figure 4. Grabe and Low's indices (Passage P1)

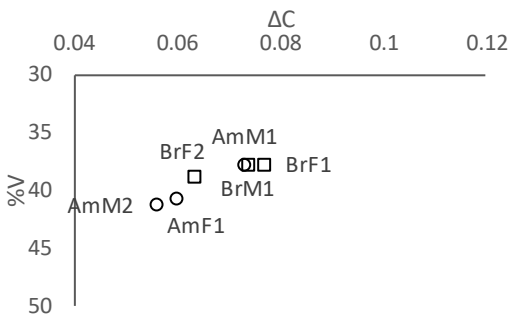

Figure 5. Ramus et al.'s indices (Passage P1)

2.4. Pitch

Figure 6 presents the means and *SD*s of the pitch of the first sentence in Passage P1. The scale was semitone (st) re 100 Hz: 0 st corresponds to 100 Hz, 7 st to approximately 150 Hz, 12 st to 200 Hz, and 16 st to approximately 200 Hz. The male speakers had lower pitch means than the female speakers. Moreover, AE speakers clearly had greater *SD*s in Passages P4 and P5, although it was not so clear in Passages P1-P3.

Figure 7 indicates the pitch contours of the first sentence in Passage P1 of Speakers AmF1 and BrF1. Although other speakers' results are not printed here due to space limitation, the AE speakers tended to have larger ups and downs, indicating the tendency of AE being more dynamic and BE being more monotonic. Furthermore, the BE speakers tended to have a slightly steeper slope in the linear regressions of the pitch contours. The slopes were: AmM1 −2.15, AmM2 −1.71, AmF1 −1.04, BrM1 −2.00, BrF1 −3.02, and BrF2 −2.36. This may suggest that the BE intonation tends to be a little more falling.

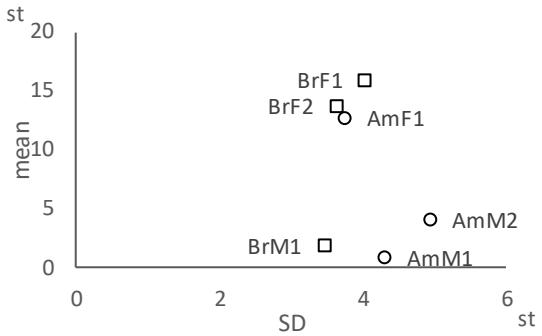

Figure 6. Pitch mean and SD (Sentence 1 of Passage P1)

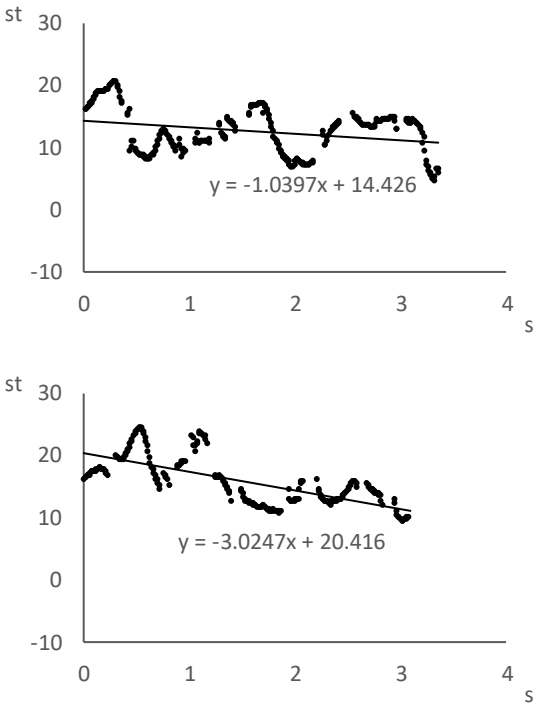

Figure 7. Pitch contours (Sentence 1 of Passage 1). AmF1 (Top) and BrF1 (Bottom)

3. Summary

In this study, a speech corpus was used to compare prosodic characteristics of AE and BE. To compare prosody, controlled speech is

necessary because prosody has variations depending on the situations and the speaker's intention. The use of MULTEXT enabled the comparison of almost the same sentences in the same contexts.

Several methods were employed for quantitative analyses. As for the speed of speech, speaking rates and articulation rates were calculated. These roughly conformed to the author's impression of speed but did not match exactly. Apparently, multiple factors affect the impression of speed, and perceptual tests are necessary for further investigation. As for rhythm, AE and BE were discerned for many passages both in Grabe and Low's (2002) and Ramus et al.'s (1999) indices. The results suggested that AE may be more stress-timed than BE. The effects of difference in texts must be excluded for further research. As for pitch, AE sentences tended to have a larger pitch variation than BE, and BE sentences tended to have a slightly steeper slope, i.e., a little more falling.

These results showed the effectiveness of the analysis methods presented in this paper. Although simple global acoustic parameters (e.g. means and *SD*s of pitch over all passages) did not show any prosodic differences between AE and BE (data not shown), such differences were found through passage- and sentence-wise analyses within the same context.

To derive definite conclusions about the difference in prosody between AE and BE, it would be necessary to analyze a larger amount of data and to exclude differences among individuals and the effects of texts. Moreover, it would be better to record BE speech too, instead of using MULTEXT released in 1998, to control for the speakers' generation and profession.

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CORPORA

Chinese MULTEXT Corpus (MULTEXT-C), National Institute of Informatics Speech Resources Consortium, Tokyo. (Ed. by Masahiko Komatsu, 2010)

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事態把握様式における他者
―認知文法から見た２つの間主観性―*

（Other Participants in Event Construals: A Cognitive Grammar Approach to Two Types of Intersubjectivity）

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キーワード：間主観性, グラウンディング, 事態把握様式, 認知文法, 自己の客体化

1. はじめに

事態把握の様式は、主観性（主体性）の指標を用いて２種類に分類されることがある（cf. Langacker 1985, 中村・上原 2016 など）。[1] 例えば、読者自身がボクシングをしている光景を絵に描いてみたら、おそらく、図１と図２に示されるように、少なくとも２つの可能性があるだろう。図１(a)は認知主体が事態参与者として事態に参加している構図であり、図２(a)は、認知主体が事態の外から傍観者的に自分自身を眺めている構図である。町田 (2012) では、前者を事態内視点、後者を事態外視点と呼んで区別している。

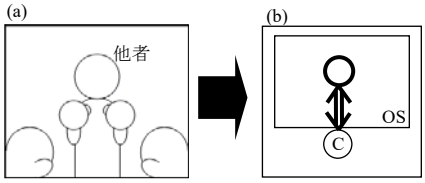


図１ 事態内視点

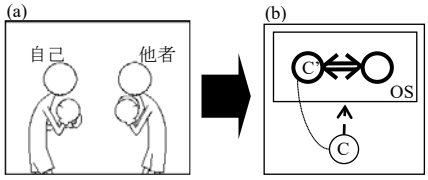


図２ 事態外視点

図１と図２の(b)はぞれぞれの事態把握様式を認知文法の枠組みで図式化したものである。太線はプロファイル、C は認知主体、OS はオンステージ領域を表している。

例えば、(1)のような表現では、図１に見られるような話し手の主観的「見え」がそのまま表現されているように感じられる。

(1) a. 新横浜駅が近づいてきた。
　　b. まず、フライパンを温めます。

(1a)において新横浜駅が近づいてくるのは話し手に対してであり、料理番組などでよく聞かれる(1b)でも、フライパンを温めるのは話し手であるが、通常、この話し手は言語的に表現されない。[2] これは、図１で示したような事態内視点をとっているため、認知主体である話し手が意識に上らないためであると考えられる。

しかしながら、このような事態把握の様式には疑問点も残されている。例えば、自己をもう一人の自己が別の場所から眺めるという事態外視点は現実にはあり得ないはずである。町田 (2016) によれば、事態外視点は事態内視点における認知主体が客体化されることによって得られるとしているが、これはどのような認知メカニズムによって生じるのであろうか。また、言語は本質的に間主観的であるとするならば、話し手の主観的な「見え」だけを表す事態内視点はそもそも存在しうるのであろうか（cf. 小柳 2014）。

本研究では、上記の２つの疑問に答えることを通して間主観性には２つの種類（対峙型と同化型）が存在することを示し、この違いがグラウンディングの仕方の違いを生み出すことを提案したい。

2. 提案

はじめに、事態外視点を生み出す自己の客体化について検討したい。これに関して

Langacker は、(2)に示すように、認知主体は自己の感情を分析したり、他の経験と比較したり、自分がそのような経験をしていることを意識したりすることによって、自己を客体視すると述べている。

(2) ... suppose I experience an emotion, such as fear, desire, or elation. If I merely undergo that experience nonreflectively, both the emotion and my own role in feeling it are subjectively construed. But to the extent that I reflect on the emotional experience -- by analyzing it, by comparing it to other such experiences, or simply by noting that I am undergoing it -- the emotion and my role therein receive a more objective construal. (Langacker 1990:317-8)

これに対し、Tomasello は言語習得の観点から子どもは大人の視点をモニターすることにより自分を外から見るようになると述べている。

(3) ... as the child begins to monitor the adults' attention to outside entities, that outside entity sometimes turns out to be the child herself—and so she begins to monitor adults' attention to her and thus to see herself from the outside, as it were. She also comprehends the role of the adult from this same outside vantage point, and so, overall, it is as if she were viewing the whole scene from above, with herself as just one player in it. (Tomasello 1999:99-100)

ここでは、Tomasello (1999) に従い、事態外視点は他者の視点を通して自己をモニタリングすることによって創発すると考える。その際、図３に示すように、他者の視点と自己の視点の融合(blend)が起こると考える。

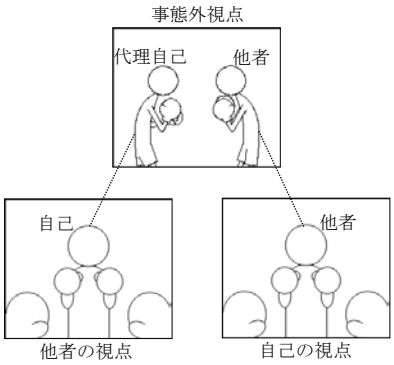


図３ 事態外視点の創発

実際、自己に言及する表現は、通常、相手との関係で相対的に決まる。例えば、日本語では、話し手は自身について「私」「僕」「俺」「お父さん」など様々に表現できるが、その選択には聞き手が大きく影響している。[3]

以上の議論から事態外視点は本質的に(4)に示すような意味での間主観性を有していると結論づけることができる。

(4) まず、共同主観の成立はシナリオ的に捉えられる。まずは Traugott の意味で「話者が聴者の意識に注意を向け」たりする形で始まり、更に Verhagen が述べる「聴者の意識や理解を調整・修正する」という段階を経て、自己と他者との間で体験が共有された結果「共同主観」が成立する、というシナリオである。
（早瀬 2016: 221, 傍線筆者）

次に、事態内視点は話し手の主観的「見え」だけを表すのかという点については、言語事実を見ると明らかに否であることがわかる。例えば、(5a)のように「ね」を付けることができる。これは、(5a)が話し手の主観的「見え」だけでなく、聞き手の「見え」も表していることを示している。また、(5b)では、行為者「私」を明示すると不自然となる。これは、明示されていない行為者には話し手だけでなく聞き手（この場合、テレビの視聴者）も含まれているためである。

(5) a.　新横浜駅が近づいてきたね。
　　b. ??まず、私がフライパンを温めます。

このように考えると、主観的事態把握と考えられていた事態内視点も明らかに間主観的であるということになる。ただし、事態内視点の間主観性をとらえるためには、(4)の規定では少し強すぎる。理由は、事態内視点における間主観性においては「話者が聴者の意識に注意を向け」るとは限らないからである。むしろ事態内視点における間主観性では聞き手の存在が意識されていない。そこで、もっとも緩い Zlatev et al. (2008) の間主観性の規定(6)を採用した上で、事態外視点と事態内視点の間主観性の差異について検討する。

(6) Intersubjectivity: the sharing of experiential content (e.g. feelings, perceptions, thoughts, and linguistic meanings) among a plurality of subjects. (Zlatev et al. 2008:1)

浜田 (1995) の考察を踏まえた上で、大薗 (2018:34) は、話し手と聞き手の関係には相補的スタンスと同型的スタンスの２つの型があると述べている。また、本多 (2005:230) も「キャッチボール」と「みんなで玉転がし」になぞらえられるような会話のモデルを提案している。本研究でもこの知見に従い、話し手と聞き手の関係には対峙型と同化型があると提案する。対峙型とは、例えば、デートなどで話し手が聞き手と向かい合って座る場合などに生じる関係である。この場合、話し手は聞き手である相手を意識すると同時に相手から自分がどう見えているかも意識することになる。これに対して、同化型とは、映画館の座席のように話し手と聞き手が並ぶ場合であり、話し手の意識の中からは相手の存在が消えてしまい、相手がその映画をどのように見ているかなどもあまり意識しなくなる。つまり、対峙型と同化型は他者の存在感という点では対照的な関係にあり、同化型における他者は話し手と同化することにより存在感が薄くなる。

上記の議論に従って、町田 (2012, 2016) などでこれまで提案されてきた事態把握様式の説明を以下のように修正したい。先に図１(a)は事態内視点を表していると述べたが、ここでの「他者」が聞き手である場合には、聞き手は話し手と対峙しており対峙型のスタンスをとっていることになる。そのため、図１(a)のような場面においては、聞き手の視点を通した自己の客体化が必ず生じることになり、結果として事態外視点になる。つまり、図１(a)も「他者」が聞き手である場合には事態外視点であったということである。図１(a)と図２(a)の違いは、前者は話し手と聞き手の二項関係を表した場合であり、後者はこれに客体化された自己を含む対象物（客体）を加えた三項関係を表した場合である（cf. Langacker 2008:261）。これにより、図１が真に事態内視点を表すのは、OS 上の「他者」が聞き手以外の事態参与者を指し、聞き手が認知主体 C として話し手に同化された場合のみということになる。

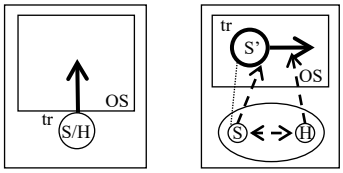
これを踏まえて、ここで２種類の間主観性について提案したい。対峙型間主観性(7a)は、(4)と同じであり、「他者にはこう見えているはずだ」という感覚をもとに話し手と他者の間に間主観を成立させる。一方、同化型間主観性(7b)は、「他者も自分と同じように事物を見ているはずだ」という感覚をもとに間主観を成立させる。他者を話し手の視点に同化させるため、他者の存在が消滅する。

(7) a. **対峙型間主観性**：話し手が他者の視点（意識）をシミュレート (simulate) することによって成立する。
　　b. **同化型間主観性**：話し手が他者の視点を自己に同化 (assimilate) させることによって成立する。

この２種類の間主観性を用いて(8)の事態把握の違いを検討してみよう。まず(8a)は否定表現であるため間主観的であるが（cf. Verhagen 200）、同時に、主語である認知主体が客体化されていないため事態内視点であるといえる。つまり、他者の視点をシミュレートしない同化型間主観に基づいた表現だということになる。図４(a)は(8a)に対応しており、tr である認知主体（S/H）は主体として把握されているため OS の外に位置付けられている。[4] なお、以後の図では、スラッシュ（/）で自己と他者の同化を、矢印（↔）で自己と他者の対峙をそれぞれ表すことにする。

(8) a. Don't really know.
b. I don't really know.

(Langacker 1985:126)



(a) 同化型　(b) 対峙型

図４

これに対し、(8b)は話し手が客体化を受けて *I* として表現されていることから事態外視点であることがわかる。自己の客体化は他者の視点を通して行われるので、対峙型間主観が成立しているといえる（図４(b)）。

もちろん、間主観性は話し手と聞き手の間だけに成立するものではない。第三者、最終的には世間一般の人にまで拡散(diffuse)する。実際、(9)における主体として把握され明示化されない概念化者は話し手のみであるが、(10)に示すように認知主体である概念化者が世間一般にまで拡散することがある。

(9) a. あー　眠い。
b. Hate Sunday night. ..... Have got to write catalogue copy for Perpetua before tomorrow.

(Bridget Jones's Diary, Helen Fielding)

(10) a. This door opens easily.
b. A cool breeze feels good on a hot day.
c. このきのこは食べられる。

(10)の例はそれぞれ中間構文、知覚構文、属性可能文であるが、これらの非明示的な行為者・経験者は話し手以外の他者も含みうる。

(10a)の中間構文を例にとり、従来の分析と本研究の分析を比較してみよう。図５(a)は Langacker が提案している中間構文の分析であり、図５(b)は同化型間主観性を取り入れた本研究の提案である。Langacker の分析の問題点は、*open* という動詞の結果側面だけにプロファイルが当たっており、行為側面がプロファイルから外されていることである。*easily* が修飾しているのは明らかに「開ける」という行為であることからもわかるように、中間構文において行為側面がプロファイルされていないとは考えにくい。また、行為者が特定の個人ではなく、しかも *by* によって行為者を明示することができないという中間構文の特徴も図５(a)の図式では予測することができない。[5]

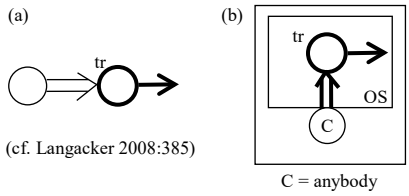


図５　中間構文(10a)の認知図式

これに対し、中間構文は事態内視点における同化型の間主観が最大限拡散したものであると捉えることにより、図５(b)の図式を用いて上述の問題に認知的な説明が与えられることになる。図５(b)における C は話し手・聞き手のみならず世間一般の人々（= anybody）を指すが、事態内視点をとっているために OS の外に位置付けられ明示化できないのである。

3. 帰結

このような間主観性の立場をとると、グラウンディングの概念を再考せざるを得なくなる。なぜなら、(11)に示すように、グラウンディングは間主観性と深く関係しているからである。特に、「話し手が聞き手の注意を対象に向けさせる」とあることが示唆しているように、従来、グラウンディングは聞き手を意識した対峙型間主観に基づいて分析されてきたことがわかる。

(11) Through nominal grounding (e.g. the, this .....) the speaker directs the hearer's attention to the intended discourse referent, ... (Langacker 2008:259)

それでは、聞き手の存在を意識しない同化型間主観性はグラウンディングに関与しないのであろうか。これに関しては、(12)で示されるような、日本語のグラウンディングの問題と関係づけて議論したい。

(12) グラウンディング要素が明示的かつほぼ義務的に名詞表現に存在する英語とは異なり、日本語にはそのような明示的文法要素は存在しない。（早瀬 2018:68）

英語のように明示的なグラウンディング要素（冠詞など）を持たない日本語はグラウンディングをしなくてもよいのであろうか。もちろん、日本語でもグラウンディングは必要であり、非明示的グラウンディング(Covert Grounding)が行われていると考えるしかない。グラウンディングしなければ聞き手は指示物を特定することができないことになるからである。実際、Langacker は(13)のように述べ、むしろ英語に見られる余剰性のほうが問題であると述べている。談話の中では、話し手が何を指しているのかはむしろ自明であり、自明な指示物を明示的に指示しなければならないことの方がむしろ余剰的であるからである。

(13) In the context of an ongoing discourse, the matter is usually clear: ..... So if anything is problematic, it is the redundancy of an English-type system, where explicit indication has to be given of something apparent on other grounds.

(Langacker 2008:496)

この問題に対する本研究からの回答は、以下の通りである。英語によく見られる対峙型間主観は話し手と聞き手の主観を調節する間主観であり、「聴者の意識や理解を調整・修正する」する必要がある。そのため、冠詞などのグラウンディング要素によって、間主観の成立を常に相手に促す必要がある。それに対し、日本語によく見られる同化型間主観は話し手の主観が聞き手の主観と一致しているという感覚に基づいているため、グラウンディングは成立済みであることが前提となっている。要するに、話し手は常に自分の言葉の指示対象が何であるかは知っているため、聞き手が話し手に同化された場合には、聞き手にとっても指示対象が何であるかは自明ということになる。この前提に立つと、同化型間主観においてはグラウンディング要素は不要ということになる。実際、日本語話者によく見られる「あいづち」は、聞き手が話し手と同じスタンスをとっていることを積極的に示すことによって、グラウンディングが成立していることを話し手に示すという側面がある（cf. 本多 2005:209-212）。

以上を踏まえて、(14)の *the man* と「男」におけるグラウンディングの成立過程について認知図式を用いて検討する。

(14) a. The man ran away.
b. 男が逃走しました。

従来の分析では、グラウンディングされた名詞要素は図６のように図示される。この図式自体は誤りとは言えないが、冠詞の有無の差異を図式化できないという問題点がある。

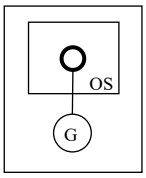
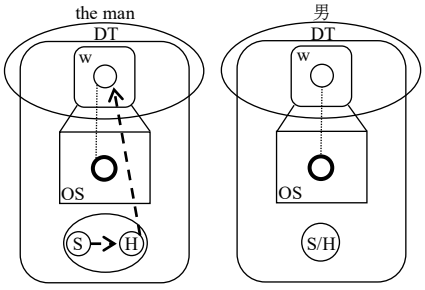


図６　グラウンディング（従来型）

これに対して、本研究では、Langacker (2017:280)の記述目標（DT: descriptive target）という概念を援用することにより、明示的グラウンディングと非明示的グラウンディングの区別を図式化する。Langacker (2017) の枠組みでは、認知主体は記述目標内にある要素を注意の窓(window)ごとに OS 上で言語化すると想定している。この枠組みで考えた場合、グラウンディングとは、記述目標内の要素と OS 上の要素の一致が図られることと捉え直すことができる。この一致を聞き手に対して明示的に指示または誘導するのが明示的グラウンディングである。図７(a)に示すように話し手が聞き手に対し記述目標内のある要素に注意を向けるように指示するのである。



(a) 対峙型　　(b) 同化型

図７　グラウンディング（本稿の提案）

一方、非明示的グラウンディングの場合には図７(b)に示すようにそのような指示がない。理由は、同化型間主観が成立している場合には、聞き手は話し手と同化している（同じ視点をとっている）ため、話し手が聞き手に指示する必要性がそもそも生じないからである。このように考えると、冠詞の有無は間主観性の様式の違いに起因しているということになる。

4. まとめ

本研究では、間主観性には２つの種類（対峙型と同化型）が存在することを示し、この違いがグラウンディングの仕方の違いを生み出すと提案した。そして、このモデルにより、話し手主語のゼロ化や冠詞の有無などに見られる認知メカニズムも明らかにすることができた。

また、本研究の議論に従うと、町田 (2012, 2016) などで提案されてきた事態内視点・事態外視点という対立は、概念化者 C が事態把握の主体であると同時に事態の参与者でもある場合にのみ有効であることがわかった。そして、概念化者が事態の参与者ではない場合も含めた事態把握の様式一般を決定しているのは、話し手とともに事態把握の主体となる他者を話し手がどのように捉えるかである。他者の存在を意識しない場合が同化型間主観であり、他者の存在を意識した場合が対峙型間主観である。

今後の課題としては、これまでのグラウンディングに関する分析が対峙型間主観に基づいていたことを踏まえて、同化型間主観によるグラウンディングの認知メカニズムを明らかにすることが挙げられる。これにより、日本語などの文脈依存型と呼ばれる言語の特徴を認知文法の枠組み内で詳細に記述・分析することが可能になるはずである。

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注

[1] 主観性（主体性）から見た事態把握様式の分類に関しては、中村・上原 (2016) を参照。

[2] (1b)のような主語のない文の存在については、三上 (1960) などで指摘されている。

[3] これらの表現は廣瀬・長谷川 (2010) が主張する公的自己に当たり、本研究の主張とも一致する。また、私的自己を指す「自分」は Langacker の言う内省による自己の客体視(2)の際に現れると考えられ、他者の視点をモニタリングしないという点では、後で検討する同化型間主観に見られる自己言及表現であると思われる。

[4] 定義上、tr は必ずプロファイルを受けなければならないが、Langacker (2008:469) では例外を認めている。

[5] ここでの議論は、本多 (2005:111-112) の指摘と軌を一にする。

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Fragmentary Questions in Japanese *

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1. Introduction

This paper investigates syntactic properties of Fragmentary Questions (FQs) in Japanese and offers a movement + deletion approach for the construction. FQ is illustrated in Speaker A's second utterance in (1), which involves deletion of the wh-interrogative clause that mirrors the preceding wh-interrogative part of Speaker A's first utterance, leading to the interpretation represented in A'.

(1) A: Nomikai-de-wa min'na
party-at-TOP everyone
nani-o nondeita no?
what-ACC drank Q
'What did everyone drink at the party?'
B: Yuki-wa biiru-o nondeita yo.
Yuki-TOP beer-ACC drank PART
'Yuki drank beer.'
A: Takasi-wa? (FQ)
Takashi-TOP
A': Takasi-wa nani-o nondeita no?
Takashi-TOP what-ACC drank Q
'What did Takashi drink?'
(Nagatsugu (2017), slightly modified)

To the best of my knowledge, FQ has received scant attention in the literature, except for Nagatsugu (2017) for Japanese and Wei (2013) and Li (2016) for Chinese. The primary object of this paper, therefore, is to reveal its syntactic properties and highlight its theoretical implications for contemporary theories of ellipsis. I argue that the derivation of FQ involves movement + deletion (cf. Merchant (2004) for Fragment Answers) by presenting data concerning linguistic antecedents, bound pronouns, Condition A/C of the Binding Theory, islands, and quantifier scope.

2. Proposal

I propose that FQs in Japanese be analyzed as in (2). The underlying structure of A's second utterance in (1) is a full-fledged *wh*-question. Here, a remnant, which is contrastively topicalized, undergoes movement to Top-FocP (see Erteschik-Shir (2007) for the assumption that a contrastive topic is endowed with both a topic feature and a focus feature, and see Bocci (2007) for the argument that a contrastive topic moves to Top-FocP in a cartographic CP periphery). In addition, a wh-phrase moves to FocP in a cartographic CP structure (cf. Rizzi (1997)). Subsequently, FocP is elided as shown in (2), resulting in a truncated *wh*-question.

(2) $[_{\text{Top-FocP}}\ \text{XP}_i\ \cancel{[_{\text{FocP}}\ \text{wh}_k\ [_{\text{TP}}\ t_i\ \ t_k\ ]]}]$

In section 3, I show the syntactic properties of FQ that suggest the presence of an underlying full-fledged CP structure and movement of a contrastively-focused remnant.

3. Syntactic Properties of FQ

3.1. Linguistic Antecedent

First of all, FQ reflects the interpretation of a linguistic antecedent; FQ in (1) is interpreted as a wh-interrogative sentence, while FQ in (3) is

interpreted as a Yes-No question, both of which reflect the interpretation of the preceding utterance. These indicate that FQ is a kind of elliptical construction.

(3) A: Kinoo, Yuki-wa gakko-ni itta no?
yesterday, Yuki-TOP school-DAT went Q
'Did Yuki go to school yesterday?'
B: Un.
'Yes.'
A: Takasi-wa?
Takashi-TOP
'(Intended.)Did Takashi go to school yesterday?'

One might assume that the second utterance of A in (1) is derived from *Takasi-wa dou?* 'How about Takashi?' construction by deleting *dou* 'how'. However, not all FQs are derived from *XP-wa dou* construction. When a remnant is marked with dative marker, the remnant may appear in FQ, but not in a *XP-wa dou* construction.

(4) A: Maki-wa Yuri-ni nani-o ageta no?
Maki-TOP Yuri-DAT what-ACC gave Q
'What did Maki give to Yuri?'
B: Oningyoo da yo.
doll COP PART
A: Ken-ni-wa? (FQ)
Ken-DAT-TOP
'(Intended.)What did Maki give to Ken?'
A': *Ken-ni-wa dou? (XP-wa dou)
Ken-DAT-TOP how
'How about Ken?'

Hence, I assume that FQ is different from *XP-wa dou* construction, although their outputs may coincide.

3.2. Contrastive Topic

Remnants in FQs require contrastive-topic marker *-wa*, as illustrated by the obligatory presence of a topic marker in (5).

(5) A: Kyoo-wa Yuuta-ni ringo-o ageta.
today-TOP Yuta-DAT apple-ACC gave
'Today, I gave Yuta an apple.'
B: Kinoo *(-wa)? / Ken-ni *(-wa)?
yesterday*(-TOP) Ken-DAT*(-TOP)
'(Intended.)Yesterday, what did you give to Yuta?/What did you give to Ken?'

The assumption that remnants in FQs yield contrastive topic interpretation is supported by the remnants' incompatibility with the exhaustive marker *dake* 'only' and the universal quantifier *subete-no* 'all' (cf. Li 2016).

(6) A: Yuki-dake-wa kootya-o nonda yo.
Yuki-only-TOP tea-ACC drank PART
'Only Yuki drank tea.'
B: Rumi(-*dake)-wa?
Rumi(-*only)-TOP
'(Intended.)What did only Rumi drink?'

(7) A: Oono-sensei-wa nani-o
Ohno-teacher-TOP what-ACC
nonda no?
drank Q
'What did Prof.Ohno drink?'
B: Koohii.
'Coffee.'
A: Oka-sensei-wa?
Oka-teacher-TOP
'(Intended.)What did Prof.Oka drink?'
A': *Subete-no sensei-wa?
all-GEN teacher-TOP
'(Intended.)What did all the teachers drink?'

Here, a question arises whether a contrastive topic phrase is licensed in situ or it moves to a dedicated position in the left periphery (see Neeleman et al. (2009) and Vermeulen (2012, 2013) for the latter assumption). The fact that the contrastive topic in (8B) appears in the TP-internal position indicates that a contrastive topic does not overtly move to the CP periphery position.

(8) A: Mari-wa paatii-de keeki-o tabeta?
Mari-TOP party-at cake-ACC ate
'Did Mari eat cake yesterday?'
B: I don't know about Mari, but…
Paatii-de Yuki-wa keeki-o
party-at Yuki-TOP cake-ACC
tabeta yo.
ate PART
'(I don't know about Mari, but)Yuki ate cake at the party.'

The next question would be whether a contrastive topic undergoes covert movement to the left periphery. Maki (1992) argues that the answer is positive, by showing that a contrastive topic is subject to a complex NP island.

(9) a. Mary-ga [sono mise-de
Mary-NOM the store-at
sono hon-wa katta] hito-o]
that book-TOP bought person
sagasiteita.
looking.for
'Mary was looking for the man who bought that book.'

I assume that contrastive topics undergo covert movement in non-elliptical clauses, while they undergo overt movement in FQs.

3.3. Binding

The assumption that FQ is derived from a full-fledged CP structure is supported by the fact that FQ remnants can be bound variables. For instance, *zibun* 'self' in (10B) can be interpreted as a bound pronoun that takes *subete-no otokonoko* 'every boy' as its antecedent. Given the general assumption that a bound variable needs a c-commanding antecedent, it follows that FQ in (10B) is underlyingly a clause structure where the quantified subject c-commands the remnant.

(10) A: Class-no [subete-no otokonoko]$_i$-ga
class-GEN every-GEN boy-NOM
zibun$_i$-no hahaoya-ni hana-o
self-GEN mother-DAT flower-ACC
ageta rasii yo.
gave heard PART
'I heard that [every boy]$_i$ in the class gave flowers to his$_i$ mother.'
B: Zibun$_i$-no titioya-ni-wa?
self$_i$-GEN father-DAT-TOP
'(Intended.)What did [every boy]$_i$ give to his$_i$ father?'

The Condition A/C of the Binding Theory further supports the underlying c-command relationship between the subject and the remnant.

(11) A: Ken$_i$-wa Yuki-ni chocolate-o
Ken$_i$-TOP Yuki-DAT chocolate-ACC
katta.
bought
'Ken$_i$ bought chocolate for Yuki.'
B: Karezisin$_i$-ni-wa?
himself$_i$-DAT-TOP
'(Intended.)What did Ken$_i$ buy for himself$_i$?'

(12) A: Kare$_i$-wa Yuki-ni chocolate-o
he-TOP Yuki-DAT chocolate-ACC

katta.
bought
'He$_i$ bought chocolate for Yuki.'

B: * Ken$_i$-ni-wa?
Ken$_i$-DAT-TOP
'(Intended.)What did he$_i$ buy for Ken$_i$?'

3.4. Complex NP Island

FQs in Japanese are subject to the complex NP island, as illustrated in the ungrammaticality of A's second utterance in (13); in this case, the large-scale pied piping is required, as shown in A'.

(13) A: Kimi-wa [[Syoota-ga katta] omotya]-o dare-ni ageta no?
you-TOP Shota-NOM bought toy-ACC who-DAT gave Q
'Who did you give the toy Shota bought?'

B: Yuki da yo.
Yuki COP PART

A: * Yuuta-wa?
Yuta-TOP
'(Intended.)Who did you give a toy that Yuta bought?'

A': [[Yuuta-ga katta] omotya]-wa?
Yuta-NOM bought toy-TOP

I argue that the island-sensitivity indicates that the derivation of FQ involves focus movement, which obey islands (see Nishigauchi (2011) on Japanese stripping and Wei (2013) on Chinese FQs).

3.5. Quantifier Scope

Finally, let us consider scope ambiguities in FQ. Japanese has been regarded as a scope-rigid language, that is, a language which reflects relative scope between two quantifiers through their surface order, as shown in (14a). Scope ambiguity obtains when the object is scrambled to the position c-commanding the subject, as shown in (14b) (Kuroda (1970), Hoji (1985)).

(14) a. Dareka-ga (kono heya-no) subete-no hon-o yonda.
someone-NOM this room-GEN every-GEN book-ACC read
'Someone read every book in this room.' (some » every, *every » some)
(Kuroda (1970: 136))

b. [(Kono heya-no) subete-no hon-o]$_i$ dareka-ga t_i yonda.
this room-GEN every-GEN book-ACC someone-NOM read
'Someone read every book in this room.'(some » every, every » some)
(Kuroda (1970: 137))

Now, let us consider scope possibilities in elliptical clauses. Fox (2000) proposes that syntactic derivation is constrained by an economy principle, which prohibits movements that do not yield a new interpretation at the interface. According to the economy principle, when movement is covert and does not contribute to a new output for the phonological interface, the movement should yield a new interpretation for the semantic interface. Fox argues that covert operations such as Quantifier Raising (QR) obey this economy condition, prohibiting scopally vacuous QR.

(15) Scope Economy (Fox (2000: 75))
Covert optional operations cannot be scopally vacuous (i.e., they must reverse the relative scope of two noncommutative quantificational expressions).

Fox assumes that scope vacuity is dependent on whether QR reverses the relative scope of two quantificational expressions. If QR does not change scope possibilities, the sentence is regarded as scopally uninformative. Scope Economy disallows the vacuous application of QR on the scopally uninformative sentences, leading to obligatory surface scope. Fox (2000) proposes another restriction on scope possibilities; that is, ellipsis must obey the Parallelism condition, as stated in (16). Parallelism ensures that in ellipsis environments two sentences will have isomorphic syntactic representations at LF. Specifically, Parallelism dictates that the antecedent and the elided clauses have the parallel scope under ellipsis.

(16) Parallelism (Fox (2000: 32))
In an ellipsis/phonological reduction construction the scopal relationship among the elements in β_A must be identical to the scopal relationship among the parallel elements in β_E.

The combination of Scope Economy and Parallelism yields an interesting prediction regarding scope possibilities between two sentences S and S′. Scope Economy licenses inverse scope if S is scopally informative, that is, if S is semantically distinct under surface and inverse scope. In such a case, Parallelism allows for inverse scope in S′. On the other hand, if S is scopally uninformative, that is, S is semantically equivalent under surface and inverse scope, then Scope Economy does not allow inverse scope in S. In such a case, it follows from Parallelism that inverse scope is not allowed in S′. Given that Parallelism is a condition under ellipsis, S and S′ can be restated as the antecedent clause and the elliptical clause, and vice versa. Therefore, scope-shifting operations such as QR are allowed only when the antecedent clause and the elided clause are both scopally informative.

Furthermore, Takahashi (2008a) argues that Scope Economy and Parallelism are at work with AE in Japanese as well (see also Takahashi (2008b, c, 2013) and Maeda and Takahashi (2016)). In Japanese, scope ambiguity under ellipsis obtains iff (i) both an antecedent clause and an elliptical clause are scopally informative (i.e. they contain more than two quantifiers), and (ii) scrambling occurs in both clauses.

Now, let us consider FQs in Japanese. Suppose that the antecedent clause of FQ exhibits scope ambiguities, with one of the quantifiers undergoing scrambling over another. If the elliptical clause, FQ with a quantificational remnant, also exhibits scope ambiguities, it should indicate that FQ has an underlying full-fledged structure, which contains two quantifiers. As the examples (17)-(18) show, this expectation is borne out; the second utterances show scope ambiguities that obey Scope Economy and Parallelism.

(17) A : Dansei-kyoosi hutari-ni
male-teacher two-DAT
zyosi-gakusei san'nin-ga
female-student three-NOM
nani-o ageta no?
what-ACC gave Q
'What did three female students give to two male teachers?' (2 » 3, 3 » 2)
B: Chocolate.
'Chocolate.'
A : Zyosei-kyoosi hutari-ni-wa?
female-teacher two-DAT-TOP
'(Intended.)What did three female students give to two female teachers?' (2 » 3, 3 » 2)

(18) A : Takusan-no kigyoo-o
many-GEN company-ACC
zyosi-gakusei-ni dare-ga
female-student-DAT who-NOM
syookaisita no?
introduced Q
'Who introduced many companies to a female student?'
(many » one, one » many)

B: Tanaka-sensei da yo.
Tanaka-teacher COP PART
'Prof. Tanaka.'

A : Dansi-gakusei-ni-wa?
male-student-DAT-TOP
'(Intended.)Who introduced many companies to a male student?'
(many » one, one » many)

This section gives evidence for the assumption that FQ is derived from a full-fledged CP structure, and a contrastive topic remnant moves to the CP periphery.

4. Conclusion

This paper investigates syntactic properties of FQs in Japanese. FQ is an intriguing construction in that the ellipsis site contains a wh-phrase, a kind of focus. Furthermore, FQ may have implications for the theory of Max Elide (Takahashi and Fox (2005), Merchant (2008)), given that the ellipsis of a wh-phrase is optional in FQs, as shown in A's second utterance in (19) (cf. (1)).

(19) A: Nomikai-de-wa min'na
party-at-TOP everyone
nani-o nondeita no?
what-ACC drank Q

B: Yuki-wa biiru-o nondeita yo.
Yuki-TOP beer-ACC drank PART
'Yuki drank beer.'

A: Takasi-wa nani-o?
Takashi-TOP what-ACC
'(Intended.)What did Takashi drink?'

A': *Nani-o Takasi-wa?
what-ACC Takashi-TOP

Furthermore, the fact that a contrastive topic element must precede a wh-phrase in multiple FQ, as shown by the ungrammaticality of (19A'), sheds a new light on the cartographic left periphery of Japanese (cf. (2)).

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examples *on the basis of which* to decide among the slightly different alternative analyses. (石居 (1985: 73))

ラベル付けに基づく不定詞関係節の派生について

（On the Derivation of Infinitival Relative Clauses Based on Labeling）

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キーワード : labeling, infinitival relative clause, infinitival interrogative clause, (un)interpretable tense feature

1. はじめに

(1)に示されるように、英語の不定詞関係節において関係詞は単独では現れることができず前置詞に随伴される場合にのみ、音形を持つ関係詞が現れる。一方、(2)に示されるように、顕在的な wh 語が現れる不定詞疑問節にはこのような制約はない。

(1) a. I found an usher from whom to buy tickets.
b. * I found an usher whom to buy tickets from. (cf. Emonds (1976: 192))
(2) a. I didn't ask from whom to buy tickets.
b. I didn't ask who(m) to buy tickets from.

また(3)に示されるように、単に wh 句が何かを随伴していればいいわけではなく、随伴された要素が全体として PP を構成していなければならない。

(3) a. * He bought a book *the content of which* to discuss with Mary.
b. It would be interesting to find clearer examples *on the basis of which* to decide among the slightly different alternative analyses. (石居 (1985: 73))

(1b)のような派生をどのようにして排除するかについて、これまでさまざまな解決案が提案されてきた。例えば、極小主義の枠組みにおいて、不定詞関係節 CP を補部に持つ空の前置詞を仮定する分析 (Hasegawa (1998), 西前 (2014)) や、不定詞節頭へ移動した wh 語または句によって不定詞関係節の範疇が変わる分析 (Pesetsky and Torrego (2006)) などが提案された。しかしながら、これらの提案は規定的なものであるように思われる。本稿の目的は、この不定詞関係節のみに課せられる顕在的関係詞の生起の制約について Chomsky (2013, 2015) で提唱されるラベル付けの分析に基づき原理的説明を与えることである。

2. 不定詞関係節の意味上の主語

本節ではまず Berman (1974) による不定詞関係節の意味上の主語と考えられる for NP が実際には不定詞関係節には属さないことを示す証拠を確認する。

第一に(4)に示されるように、for NP 内の照応形は主節の主語に束縛されることが可能であり、for NP 内の代名詞は主節の主語と同一指示ができない。従って、for NP は不定詞関係節ではなく主節に属しています。

(4) a. John brought a book for himself to read.
b. * John$_i$ brought a book for him$_i$ to read.
(Berman (1974: 38))

第二に、(5)に示されるように、不定詞関係節には TP 指定部に生起するとされる虚辞 there が生じることができず、イディオムチャンクを形成することができない。

(5) a. * He has some books for there to be in the library.
b. * Here is an opportunity for advantage to be taken of. (Berman (1974: 39))

第三に、(6)に示されるように、不定詞関係節の意味上の主語を修飾する数量詞の遊離が不可能である。これは、意味上の主語が vP 指定部から TP 指定部に移動する際に all を残置するという派生が不可能であることを示す。

(6) I baked a cake for (*all*) the children to (**all*) eat. (Berman (1974: 39))

第四に、(7)に示されるように、不定詞関係節の for NP には移動が適用されるが、これは for NP と to VP が構成素を形成していないことを示す。

(7) a. For whom did you buy a book to read?
b. * For whom would you prefer to leave? (Berman (1974: 40))

以上のことから、意味上の主語として現れる for NP は統語的には不定詞関係節に属さないと考えられるため、本稿では for NP を含まない不定詞関係節のみを考察の対象とする。

3. 理論的枠組み

3.1. Pesetsky and Torrego (2001, 2004)

Chomsky (2000) 以降、構造格付与は φ 素性の Agree の結果として名詞句の持つ値を持たない格素性[*u*Case]へ値付けされることで行われると仮定されてきた。これに対して、Pesetsky and Torrego (2001, 2004) は[*u*Case]を仮定せず、(8a)のように、格は D の持つ解釈不可能な時制素性であると主張する。主語 DP の[*u*T]は TP 主要部と Agree し、目的語 DP は v の持つ[*i*T]と Agree する。さらに、(8b)にあるように、名詞句内に[*i*T]があることで、DP 内部で[*u*T]への値付けが行われる場合があり、その名詞句内の[*i*T]は前置詞や内在格として具現される。

(8) a. Case is an uninterpretable T-feature (*u*T) on D.
b. When a nominal bears an interpretable T-feature (*i*T) on its head, the *i*T is realized as a preposition or inherent case.

3.2. Chomsky (2013, 2015)

Chomsky (2013, 2015) は併合によってできた統語体はインターフェースで解釈されるためにラベルが付される必要があり、その手順は最小探査の一種である(16)のラベル付けアルゴリズム (Labeling Algorithm: LA) に従うと主張する。

(9) a. In {H, YP}, where H is a head but YP is not, H is the label.
b. In {XP, YP}, where neither XP nor YP is a head, (i) by moving either XP or YP, the remaining head is selected as the label, or (ii) the label is the most prominent features that XP and YP share.

(9b)のラベル付けが適用される例として定形節の主語 DP の移動が挙げられる。

(10) a. $[_{\beta}$ T $[_{\alpha}$ DP-sbj. $[_{v^*P}$ v*-V DP-obj.]]]
b. $[_{\beta<\varphi,\varphi>}$ DP-sbj. T $[_{\alpha<v^*>}$ ~~DP-sbj.~~ $[_{v^*P}$ v*-V DP-obj.]]]

(10a)において、α のラベルは主語 DP と v*P という XP レベル同士の要素の併合なので決定されない。また Chomsky (2013, 2015) によ

ると、英語における T はそれ自体ではラベル付けができない弱い主要部であるので、β の主要部も決定されない。従って(10b)にあるように、主語 DP が移動することによって、α のラベルは<v*>に決定し、β のラベルは DP と TP の共有する素性のペア<φ, φ>に決定する。

4. 分析

4.1. 不定詞関係節の派生

以上の枠組みに基づき不定詞関係節の派生を考察していくが、その際に(11)を仮定する。

(11) a. Infinitival T is not a weak head, and can be a label.[1]

b. PRO has an inherent case (cf. Chomsky (1986)).

Chomsky (2013, 2015) によると、英語の主節の T は一致が豊かでないという点で弱く、それ自体でラベル付けができないため、(9bii)の方法でラベル付けが起こる。一方不定詞節では一般的に主語と動詞の一致は起こらないので、不定詞節の T は φ 素性を持たないと考えられる。従って、(9bii)によるラベル付けは行われず、(11a)に示すように(9a)の方法でラベル付けが行われる。

まず音形を持つ関係詞が前置詞を随伴した不定詞関係節(1a)の派生を考察しよう。

(12) a. C→Ø [$_{\beta<iT,\,iT>}$ PRO [$_{\alpha<T>}$ [$_{C/T}$ to] [$_{v*P}$ buy

inheritance of u*F and phasehood*

tickets [$_{PP}$ from whom]]]]

b. [$_{\gamma<iT,\,iT>}$ [$_{PP}$ from whom] [$_{\beta<iT,\,iT>}$ PRO [$_{\alpha<T>}$ [$_{C/T}$ to] [$_{v*P}$ buy tickets ~~[$_{PP}$ from whom]~~]]]]]

Chomsky (2013, 2015) に従うと、(12a)に示されるように、C に顕在的な要素が現れない場合は C から T への素性継承と同時に C のフェイズ性も T に継承され、C は削除される。(11a)にあるように、不定詞節の T はラベルになることができるので、α のラベルは T に決定する。次に α と PRO が併合し β を形成する。(8b)にあるように、PRO は内在格を持つので *i*T を持つ。また T が *i*T を持つことは明らかなので、β のラベルは共有する素性のペアである<*i*T, *i*T >に決定する。次に(12b)に示されるように、移動した wh 前置詞句の from whom が β と併合し γ を形成する。前置詞句 from whom は *i*T を持ち、β のラベルも<*i*T, *i*T>であるので、γ のラベルは共有する素性のペア<*i*T, *i*T>に決定する。以上のようにラベル付けは適正に行われるので前置詞随伴の不定詞関係節の派生は収束する。

次に関係詞が前置詞を随伴せずに現れる(1b)のような不定詞関係節がなぜ非文法的になるのかを考察しよう。

(13) a. C→Ø [$_{\beta<iT,\,iT>}$ PRO [$_{\alpha<T>}$ [$_{C/T}$ to] [$_{v*P}$ buy

inheritance of u*F and phasehood*

tickets from whom]]]

b. [$_{\gamma<unlabeled>}$ whom [$_{\beta<iT,\,iT>}$ PRO [$_{\alpha}$ [$_{C/T}$ to] [$_{v*P}$ buy tickets from ~~whom~~]]]]

(13a)は(12a)と同じ段階であり、C の持つ解釈不可能素性とフェイズ性が T へと継承され、C は削除され、α のラベルは T に、β のラベルは<*i*T, *i*T>に決定する。次の段階として、(13b)に示されるように、移動した whom と β が併合し γ を形成するが、ここで whom と β の間には共有する素性がないことに注意すべきである。すなわち、whom は(12)における from whom とは異なり *i*T を持たず、また元位置の前置詞句内 (from whom)で *u*T も既に値が付与され消去されている。whom と β との間には共有する素性がないため γ のラ

ベルが決定されず、派生は破綻する。

以上が(1)の対比についての分析であるが、ここで関係詞が現れない(14)のような不定詞関係節に対する説明が必要となる。すなわち、関係詞として wh 語が現れない場合でも、音形のない wh 語である空演算子があると一般的に仮定されており、その仮定の下では(14)は(13)と同じ理由で非文法的になると誤った予測がされてしまう。

(14) I found an usher to buy tickets from.

しかし、本稿では関係節形成に空演算子移動はないと主張する。その理由として、もし wh 語とパラレルに動く空演算子移動を仮定するなら、(15a)と同じく空演算子も前置詞を随伴して移動することが予測されるが、(15b)は許されない。

(15) a. the boy to whom Mary talked
b. *the boy to Op Mary talked.
(長谷川 (2014: 155))

ここでは長谷川(2014)に従い、関係節形成には移動ではなく元位置で長距離削除を受ける代名詞があると仮定する。従って、(16)に示されるように、(12a)(13a)と同じ段階で派生は収束する。

(16) C→Ø [$_{\beta<iT,\,iT>}$ PRO [$_{\alpha}$ [$_{C/T}$ to] [$_{v*P}$ buy
inheritance of u*F and phasehood*
tickets from ~~*pronoun*~~]]]]

4.2. 不定詞疑問節との対比

本節では不定詞関係節と同じく wh 移動が起こるにもかかわらず(1)のような分布が見られない不定詞疑問節について考察する。(17)に例示されるように、不定詞疑問節は疑問詞が前置詞を随伴しても、裸のままで現れても文法的となる。

(17) a. I didn't ask from whom to buy tickets.
b. I didn't ask who(m) to buy tickets from.

本稿は、不定詞関係節と不定詞疑問節の対比は C の持つ素性の種類の違いとそれによる構造の違いに起因するととらえる。具体的には、(18)のように主張する。

(18) Infinitival interrogative C bears an interpretable Q feature (*i*Q) and other uninterpretable features, while infinitival relative C has only uninterpretable features.

これは(19)に示されるように、間接疑問文の C は解釈可能な Q 素性とその他の解釈不可能素性を持つが、自由関係節の C は解釈不可能素性しか持たないという Ott (2011)の提案を拡張したものである。

(19) a. (I wonder) [what C_Q[*i*Q][*u*F] you cook].
b. (I eat) [what C_{FR}[*u*F] you cook]
(cf. Ott (2011: 183))

Ott (2011)によると、C の持つ解釈不可能な素性[*u*F]は T に継承されるが、解釈可能な Q 素性[*i*Q]は C に残り、それによって主節述語 wonder の選択特性を満たす。同様に、不定詞疑問節は主節述語の選択特性を満たすために C が解釈可能な Q 素性[*i*Q]を持つ必要があるが、不定詞関係節の C は Q 素性を持たない。(18)から、不定詞疑問節は素性継承の後も C に解釈可能な素性[*i*Q]が残るのに対して、不定詞関係節は素性継承の後に C に素性が何も残らないということが導かれる。このことからさらに、Q 素性を持つ不定詞疑問節において C のフェイズ性は保持されるが、不定詞関係節において C のフェイズ性は T に継承されると仮定することには問題はな

いだろう。

不定詞疑問節の派生は(20)のようになる。

(20) a. $[_{\gamma}\ C_{Q}\ [_{\beta<iT,\ iT>}\ \text{PRO}\ [_{\alpha<T>}\ [_{T}\ \text{to}]\ [_{v*P}\ \text{buy}$

inheritance of u*F* tickets from whom]]]]

b. $[_{\gamma<Q,\ Q>}$ from whom/who(m) $C_{Q}\ [_{\beta<\ iT,\ iT>}$ PRO $[_{\alpha}\ [_{T}$ to$]\ [_{v*P}$ buy tickets …]]]]

(20a)にあるように、C の持つ解釈不可能素性は T へと継承されるが、C には解釈可能素性 Q が残っているのでフェイズ性は継承されず保持されることに注意されたい。α と β のラベル付けは 4.1 節で見た不定詞関係節と同じように行われる。次に(22b)に示されるように、移動した wh 句は前置詞句 from whom であっても、あるいは裸の who(m)であっても、C と素性 Q を共有しているので、γ のラベルは<Q, Q>に決定し、派生は収束する。

5. 結語

本稿では音形を持つ関係詞が現れる不定詞関係節の派生について生成文法の最新の枠組みであるラベル付けに基づく分析を提案した。格と前置詞を異なる種類の時制素性として分析する先行研究に従い、前置詞を随伴する不定詞関係節が文法的になり、関係詞が裸で現れる不定詞関係節が非文法的となるのは、時制素性の共有によるラベル付けの可否によるものであることを示した。さらに、不定詞疑問節の疑問詞の生起に制限がないのは、いずれの場合も Q 素性の共有によるラベル付けが成立するためであると主張した。

注

[1] 主要部のラベル付与能力に関する議論については Mizuguchi (2017) を参照。そこでは、値未付与の素性を持たない場合にのみ主要部はラベルを付与することができると主張されており、これに従うと値を持たない φ を持たない不定詞節の T はラベルが付与できることが導かれる。

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素性の上方志向の継承と残余*

（Upward Inheritance and Residue of Features）

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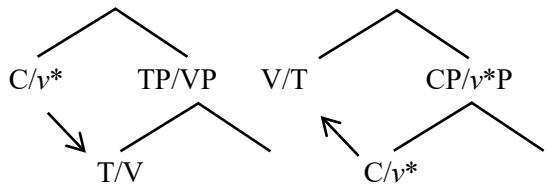
キーワード：一致, 素性継承, 格

1. はじめに

本稿では、素性継承が起こる際に、素性が継承される方向と継承後の素性の分布について議論する。伝統的には、素性継承は、(1a) に示すように、C から T、または *v**から V というように、構造的に上位の主要部から下位の主要部へと継承される下方志向の素性継承に限定されていた。これに対し、Citko (2014) は、(1b) に示すような、C から V、または *v**から T というように、下位の主要部から上位の主要部への上方志向の素性継承の論理的可能性を指摘している。

(1) a. CP/*v**P　　b. VP/TP



ただし、Citko は、上方志向の素性継承について経験的証拠を上げることなく、論理的可能性に言及するに留まっている。

本稿では、これらの素性継承に関する可能性について、従来の想定されていた下方志向の素性継承に加え、上方志向の素性継承が存在することを主張する。上方志向の素性継承の是非を議論するにあたり、(2) の例の統語派生を検討し、下線部の主格名詞句が補文内から主節へと移動しており、補文の主要部 C から主節内の V への上方に継承された素性との一致によって主格が与値されることを示す。

(2) 補文外主格名詞句構文
　a. 山田は 旅先が 京都が 最適だと思っている
　b. 山田は 京都が 旅先に 最適だと思っている

なお、下線部の主格名詞句を、補文外に移動しているとみなすことから「補文外主格名詞句」、そして、(2) の構文を「補文外主格名詞句構文」と呼ぶことにする。また、補文外主格名詞句を除く (2a) の主格名詞句を「補文内主格名詞句」とし、(2b) の与格名詞句を補文内与格名詞句と呼ぶことにする。

本稿の構成は、以下のとおりである。2 節では、(2) の下線部の名詞句が主節の要素であり、かつ、補文から主節へと移動した要素であることを示す。3 節では、補文外主格名詞句への主格の与値が、主節内の φ 素性との一致ではなく、補文内の φ 素性との一致によって可能になることを指摘する。また、補文内の C から主節の V への上方志向の素性継承を仮定することで、後者の一致が可能となることを示す。さらに、上方志向の素性継承を仮定するにあたり、継承される素性の分布について議論する。4 節では、上方志向の素性継承を仮定することで想定される過剰生成について議論する。5 節はまとめである。

なお、議論の前提として、本稿では主格、対格の与値は、Chomsky (2000, 2001) に倣い、C 及び *v**から継承された φ 素性と名詞句が持つ φ 素性との一致の結果得られるものとする。

2. 補文外主格名詞句構文

本節では、(2) の下線部の名詞句（補文外主格名詞句）が主節に生起しており、かつ補文内から主節へと移動した要素であることを主張する。

2.1. 補文外主格名詞句

はじめに、補文外主格名詞句が補文外に生起していることを示す。このことを支持する証拠の一つとして、主節にかかる副詞句の生起位置が挙げられる。Kuno (1976) は、(3) の目的語繰り上げ構文における補文主語の位置を議論する中で、主節にかかる副詞句の生起位置により判断できると主張している。(4) の対比からもわかるとおり、主格主語「田中が」は、主節の述語にかかる副詞句である「愚かにも」に先行することができないのに対し、対格主語「田中を」は「愚かにも」の前に現れることができる。

(3) a. 山田は 田中が 馬鹿だと 思っている
　　b. 山田は 田中を 馬鹿だと 思っている
(4) a.*山田は 田中が 愚かにも 天才だと 思っている
　　b. 山田は 田中を 愚かにも 天才だと 思っている

(4) の文法性の違いは、副詞句の起こる位置が関与していると考えられる。(4a) は、副詞句「愚かにも」が主節にかかる要素であるにもかかわらず、補文内の主格主語「田中が」に後続することで補文内に介在してしまうことから非文となっている。一方、(4b) において対格主語「田中を」が主節に繰り上がっているとすると、たとえそれが「愚かにも」に先行したとしても、ともに主節内の要素となるために文法性に影響がない。このように、主節にかかる副詞要素の位置により、名詞句の現れる節を特定することができる。[1]

この事実を基に、補文外主格名詞句構文に対し主節にかかる副詞句「不適切にも」を挿入すると、(5) 及び (6) に示すとおり、補文外主格名詞句のみがこの副詞句に先行することができる。

(5) a. 山田は 旅先が 不適切にも 京都が 最適だと 思っている
　　b.*山田は 旅先が 京都が 不適切にも 最適だと 思っている
(6) a. 山田は 京都が 不適切にも 旅先に 最適だと 思っている
　　b.*山田は 京都が 旅先に 不適切にも 最適だと 思っている

補文外の要素のみ主節にかかる副詞句に先行するはずであるから、もし補文外主格名詞句が補文内に生起するならば、補文外主格名詞句が副詞句に先行する (5), (6) ではいずれも非文となるはずである。しかし、(5) では、補文外主格名詞句が副詞句に先行する (5a) は文法的となり、補文内主格名詞句が副詞句に先行する (5b) のみが非文となる。また、(6)でも、補文外主格名詞句が副詞句に先行する (6a) は文法的であるが、補文内与格名詞句が副詞句に先行する (6b) は非文となる。

次に、補文外主格名詞句が主節に生起していることを示す証拠として、かき混ぜの可否があげられる。Saito (1985) によると、(7) にみられるように、補文内の主格主語はかき混ぜができないのに対し、対格主語はかき混ぜが可能である。

(7) a.*田中$_i$が 山田は t_i 馬鹿だと 思っている
　　b. 田中$_i$を 山田は t_i 馬鹿だと 思っている

補文外主格名詞句構文に現れる名詞句をかき混ぜする場合、補文内主格名詞句のかき

混ぜをした (8a) は非文となるのに対し、補文外主格名詞句をかき混ぜした (8b, c) は文法的となる。このことは、補文外主格名詞句が補文の主語として生起していないことを示している。

(8) a.*京都$_i$が 山田は 旅先が t_i 最適だと思っている
b. 旅先$_i$が 山田は t_i 京都が 最適だと思っている
c. 京都$_i$が 山田は t_i 旅先に 最適だと思っている

主格名詞句が補文外に生起することを示すさらなる証拠として、不定語束縛が挙げられる。Kishimoto (2001) によると、(9) にみられる「誰」などの不定語は「も」によって c 統御されなければならない。(9a) では、補文主語が不定語になっており、これは補文の主要部 C に付加する「も」に c 統御されるため、(9a) は文法的となる。一方、(9b) では主節主語が不定語となっており、補文の C に c 統御されないため、非文となっている。

(9) a. 山田は [$_{CP}$ 誰が 馬鹿だと]も思っていない
b.*誰$_i$が 山田は [$_{CP}$ t_i 馬鹿だと]も思っていない

これを基に、補文外主格名詞句構文での不定語の振る舞いを示すと (10), (11) のようになる。(10) は第一主格名詞句に不定語をとるものであるが、ともに非文となっており、これらの要素が補文外に生起していることを示している。一方、(11) は補文内主格名詞句や補文内与格名詞句を不定語に変えたものであるが、ともに文法的となっている。

(10) a.*山田は 何が [京都が 最適だと]も思っていない
b.*山田は どこが [旅先に 最適だと]も 思っていない

(11) a. 山田は 旅先が [どこが 最適だと]も思っていない
b. 山田は 京都が [何に 最適だと]も思っていない

以上の事実は、補文外主格名詞句が補文外、つまり主節の要素であることを示している。

2.2. 補文外への移動

次に、補文外主格名詞句が繰り上げによって主節に移動していることを示す。このことを示す証拠として、適正束縛条件が挙げられる。適正束縛条件とは、移動の痕跡が先行詞によって束縛されていることを求める条件である。(12) では、対格主語を伴う補文が対格主語のみを残して文頭に移動しているが、この移動は非文法的である。Saito (1992) は、この非文法性を対格主語が主節の目的語位置へと繰り上がったためだと説明する。

(12) a.*[t_i 馬鹿だと]$_j$ 太郎は 愚かにも花子$_i$を t_j 思っている
b.*[t_i 馬鹿だと]$_j$ 太郎は 花子$_i$を愚かにも t_j 思っている

これを基に、補文外主格名詞句構文の補文述語のみを移動させると、(12) と同様に、非文となる。

(13) a.*[t_i 京都が 最適だと]$_j$ 山田は旅先$_i$が t_j 思っている
b.*[t_i 旅先に 最適だと]$_j$ 山田は京都$_i$が t_j 思っている

この事実は、補文外主格名詞句が、補文から主節へと繰り上げにより移動していることを示している。

3. 上方志向の素性継承と素性の残余

3.1. 上方志向の素性継承

本節では、補文外主格構文内の主格名詞句が主格を得る仕組みを考察し、補文 CP の主要部 C から主節内の V へと継承された素性によって与値されることを示す。

補文外主格名詞句が主節の要素であるとすると、それに主格を与値する主要部の第一の候補として、主節の T が挙げられる。この予測が正しいとすると、補文の主要部の範疇にかかわらず、主格が与値されることが予想される。しかし、その予測に反し、補文外主格名詞句構文の補文を (14a) のような CP ではなく、(14b) のような小節 (SC) にすると非文となる。

(14) a.*山田は 旅先が 京都が 最適に
思っている
b.*山田は 京都が 旅先に 最適に
思っている

Takezawa (1987) は、主格主語及び対格主語をとる補文において、(15a) のように時制辞 T を含む CP では、主格主語と対格主語の両方が認められるのに対し、(15b) のように T を含まない小節では、主格主語が認められないことを指摘している。この観察を基に、Takezawa は、主格を与値する要素が時制辞であると結論づけている。

(15) a. 山田は [$_{CP}$ 花子が/を 美しいと]
思っている
b. 山田は [$_{SC}$ 花子*が/を 美しく]
思っている

(14a) の非文法性は、補文内主格名詞句が小節内に含まれるためであるとも考えられるが、ここで問題となるのは、(14b) が非文となる点である。なぜならば、(14b) は小節内には主格名詞句が生起していないにもかかわらず、非文となっているからである。もし補文外主格名詞句である「京都が」の主格が主節の T によって与値されるのであれば、[2] (14b) は文法的となるはずである。それにもかかわらず (14b) が非文であることから、補文外主格名詞句構文に生起する主格名詞句の主格は、主節内の時制辞 T によって与値されるものではないことがわかる。

(14) の対比からわかることは、補文外主格名詞句構文の主格主語は、補文が CP である場合のみ主格が与えられるということである。1 節で、従来の下方志向の素性継承だけでなく、上方志向の素性継承の可能性を指摘したが、ここで、補文外主格名詞句構文の主格名詞句は、(16) に示すように、補文の C から主節の V へと上方に継承された素性との一致によって与値されると仮定する。

一致

(16) [$_{CP}$ … [NP [$_{CP}$ C …] V] T]

[Nom] [uφ] 上方志向素性継承

この仮定に基づけば、補文外主格名詞句は、主節の T によらず主格が与値されることが可能となり、(14b) の非文法性を捉えることができる。つまり、(14b) は補文が小節であり、主格を与値する T を欠いているにもかかわらず、補文外の名詞句に主格が与値されているために非文となっていると説明できる。

3.2. ラベル付け

上方志向の素性継承は、ラベル付けの観点からも支持されるものであるといえる。

2 節では、補文外主格名詞句構文における第一名詞句が補文外の要素であり、かつ補文から主節へと繰り上がったものであることをみた。このように仮定すると、次なる問いとして、主節のどの位置に移動しているかという問いが生じる。第一に C の端 (edge) への移動が想定されるが、この想定はラベル付

けアルゴリズムの観点から棄却される。Chomsky (2013) によると、ある統語体が {XP, YP} 構造となる場合、どちらか一方の句が移動するか、XP と YP の間で共有される素性がなければ、そのラベルを決定することができない。

このことを念頭に置きながら、補文外主格名詞句が C の端に移動した構造を検討する。(17a) では、移動した「旅先が」と補文 CP によって構成される統語体αが、{XP, YP} 構造を成している。

(17) a. … [V [$_{\alpha}$ 旅先が [C …]]] …
b. … [$_{\beta}$ 旅先が [V [$_{\alpha}$ 旅先が [C …]]] …

ラベルαが決定されるためには、補文外主格名詞句である「旅先が」と補文 CP の主要部間で何らかの素性が共有されているか、もしくは「旅先が」がさらに移動するしかない。可能な共有素性として φ 素性があげられるが、これらの φ 素性をラベルαとすることはできない。なぜならば、もし C が補文内において φ 素性を T へと継承しているならば、両者が共有する素性が得られず、ラベルαは決定されないからである。また、たとえ C に φ 素性が残余したとしても、その φ 素性は一致を受けておらず値が与えられていないことから、共有素性としては認められず、ラベルαが決定されないことになる。つまり、いずれの場合においてもラベルを決定することができないために、補文外主格名詞句はさらなる移動が求められることになる。

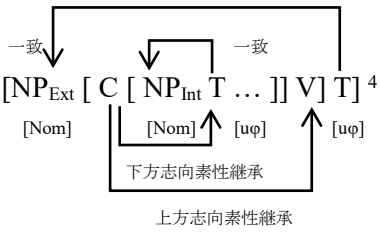
ではその後の派生についてであるが、さらなる移動先として (17b) のような V の端が想定される。ここでも補文外主格名詞句「旅先が」と V を主要部とする統語体は {XP, YP} 構造を成しており、再び次のラベル β を決定しなければならない。ここでは V に上方に継承された φ 素性は C の端にある補文外主格名詞句が持つ φ 素性との間で一致が起こり、値が与えられている。すると V の端に移動した「旅先が」と V の間で共有する φ 素性が得られることになり、この φ 素性を共有素性として β のラベルを決定することができるようになる。

3.3. 素性の残余

続いて、上方志向の素性継承が起こる際の素性の分布について議論する。

はじめに、補文内主格名詞句を伴う補文外主格名詞句構文 (=(2a)) における主格与値について再考する。補文外主格名詞句に与値される主格が、補文の C から主節の V への上方志向の素性継承により可能となることは、すでに述べたとおりである。一方、この構文では補文内主格名詞句にも主格が与値されている。この主格は、(18) に示すとおり、補文の C から T へと下方に継承された素性との一致により与値されると考えられる。すると、同一の C から補文内 T 及び主節内 V への素性継承が起こっている事になる。もし素性継承等の統語操作が位相レベルで行われるとすると、[3] C から V への上方志向の素性継承は、C から T への下方志向の素性継承の後に起こっていることになる。このことから、上方志向の素性継承が起こる際は、素性継承が起こった後でも素性は継承元の主要部に残余することがわかる。

(18) [… [NP_{Ext} [C [NP_{Int} T …]] V] T] [4]



一方、補文内与格名詞句を含む補文外主格名詞句構文 (=(2b)) では、補文内に主格名詞句が現れない。このことから、この構文では、補文内において C から T への下方志向の素性継承が行われないと考えることができる。

ただし、補文外主格名詞句に対する主格の与値が求められることから、(19) に示すとおり、補文内で C から T へと継承されずに残余した φ 素性が主節 V へと継承され、補文外主格名詞句との一致により主格が与値されるものと考えられる。

一致

(19) [… [NP_{Ext} [C [NP_{Int} T …]] V] T]

[Nom] [Dat] [uφ]

上方志向素性継承

Ouali (2008) は、素性継承の際の継承される素性の分布について、(20) に示す 3 つの可能性を主張している。(20a) は、素性が継承され、継承元の主要部に残余しないものである。(20b) は、素性継承後に、継承元の主要部にも素性が残余する例である。(20c) は、そもそも素性継承が起こらず、主要部に素性が残余する例である。

(20) a. C/*v**[_] T/V[F]
b. C/*v**[F] T/V[F]
c. C/*v**[F] T/V[_]

以上のことから、補文外主格名詞句構文は、Ouali (2008) が指摘する素性継承における素性の残余の証拠の一つとして捉えることができる。[5]

4. 過剰生成

最後に、上方志向の素性継承を仮定することで懸念される過剰生成の是非について考察する。査読者の一人から、上方志向の素性継承を認めることで、(21b) にみられる過剰生成が予期されるとの指摘を頂戴した。つまり、補文の C から主節の V への上方志向の素性継承が認められるならば、*v**から T への上方志向の素性継承も論理的には可能であるはずである。すると、*v**から T へと上方に継承された φ 素性は、主語名詞句が持つ φ 素性との一致により対格与値を行うことになり、(21b) のような多重対格を擁することになる。しかし、(21b) は当然非文であり、この事実は上方志向素性継承が過剰生成を予測してしまうように見える。

(21) a. 太郎が りんごを 食べる
b.*太郎を りんごを 食べる

この問題に関しては、上方志向素性継承自体の問題ではなく、それに付随する副次的要因によって引き起こされるものであると考える。まず、*v**から V への下方志向の素性継承が起こることで、目的語「りんご」への対格与値が可能となる。次に、(22) に示すとおり、*v**から T への上方志向の素性継承により、一致の結果、主語「太郎」への対格与値が引き起こされる。

一致

(22) [$_{CP}$ C [$_{TP}$ NP_i T [$_{v*P}$ t_i *v**…]]

[uφ] [Acc] [uφ] 上方志向素性継承

ただし、(21b) を非文にしている要因は、これらの素性継承及びその結果得られる一致ではなく、C に残余する φ 素性であると考えられる。C が持つ φ 素性は本来 T へと継承されるものであるが、このとき T はすでに *v**からの素性継承を受けているために、C からの素性継承を受け付けることができない。すると、解釈不可能な φ 素性が C に残余することになり、その派生は破綻し (21b) が非文となると説明できる。

このように、上方志向素性継承を認めることで懸念される過剰生成の問題は、上方志向素性継承自体の問題ではなく、それによって引き起こされる上位の主要部が持つ素性が一致を受けられないことに原因を求めることができる。

5. まとめ

本研究は、補文外主格名詞句構文の分析から、上方志向の素性継承が存在することを明らかにした。また、上方志向の素性継承が起こる際には、以前の派生における素性継承の際、位相主要部に素性が残余することになることを指摘した。

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注

[1] ただし、Hiraiwa (2005) は、語順による証拠は対格主語の繰り上げの証拠としては不十分であると指摘している。

[2] この場合、Hiraiwa (2005) の多重一致 (Multiple Agree) が起こると仮定し、主節の T に継承された φ 素性が、主節の主語と補文外主格名詞句の 2 つの名詞句と一致することで複数の主格が与値されると考えることにする。

[3] ここでは、併合 (MERGE) を除く全ての統語操作が位相レベルで適用されるものと仮定する。

[4] 図中の NP_{Ext} 及び NP_{Int} は、それぞれ補文外名詞句と補文内名詞句を表す。

[5] Ouali (2008) による素性継承の際の素性の分布に関する議論は、(20) の分布の優先順位にまで及んでいる。本稿では、補文外主格名詞句構文における上方志向の素性継承が起こる際の素性の分布の優先順位までは考察の対象としていない。この点については、今後の課題としたい。

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助動詞 ought の歴史的発達について*

（On the Historical Development of the English Auxiliary *Ought*）

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キーワード：ought to, to 不定詞節, 再構成, 目的語移動

1. 序

義務を表す助動詞 ought は、(1)に例示される所有を表す古英語の本動詞 agan を起源に持つ。そして(2)に示されるように、義務を表す ought の用法は古英語から観察される。

(1) þa Deniscan **ahton** wælstowe geweald
the Danes had of-battle-field power
'Danes had power (control) of the battle place'
(ChronE (Irvine) 833.1 (Plummer 63.9-11) / Kaita (2015: 110))

(2) nan man hit n**ah** to geahnianne
no man it not-ought to claim as one's own
'no man ought to claim possession of it'
(colaw2cn,LawIICn:24.3.79 / YCOE)

初期英語において、助動詞は再構成(restructuring)を引き起こすことが可能であったと指摘されている(Biberauer and Roberts (2005))。なお再構成とは、通常は節境界を越えて適用されない統語操作が、特に不定詞節を越えて適用されている現象を指す。(2)では to 不定詞節内の目的語 hit 'it'が主節の領域に移動しており、かつては ought が再構成を許していたことが分かる。

本論文では、歴史コーパス YCOE, PPCME2, PPCEME を用いた調査により、ought を含む文における再構成、すなわち(2)に見られるような to を越える目的語の左方移動が 14 世紀中に消失したことを示す。また、その原因は同時期までに完了した ought の助動詞化であると提案する。さらに、この提案に基づき、通常の to 不定詞節と ought が従える to 不定詞節における再構成の消失時期の違いが正しく説明されることを示す。

2. ought to における再構成

ought to における再構成の歴史的発達を明らかにするために、to 不定詞節の目的語が to を越えて左方移動する現象について調査を行った。この調査では、A バー移動の適用を受けると考えられる数量詞付きの目的語を除外し(Wurff (1999))、CP 領域への話題化の可能性を排除するために、目的語が to に先行し主語に後続している(3)-(6)のような例を収集した。[1] 再構成を受けた目的語は囲み線で示され、ought が従える to 不定詞には下線が引かれている。調査結果は表 1 にまとめられているが、後期中英語 2 件の年代は 1390 年と 1400 年であり、目的語の左方移動が 14 世紀中に消失したことが分かる。

古英語 (-1150)	初期中英語 (1150-1350)
13	10
後期中英語 (1350-1500)	近代英語 (1500-1710)
2	0

表 1: ought to における再構成の分布

(3) þus **ahte** ech of us him seluen
thus ought each of us himself
to cnowen
to know
'thus each of us ought to know himself'
(CMTRINIT,123.1648 / PPCME2)

(4) hie **awh** gode to beseken
he ought God to beseech
'he ought to beseech God'
(CMVICES1,143.1776 / PPCME2)

(5) nan man hit n**ah** to
no man it not-ought to
geahnianne
claim as one's own
'no man ought to claim possession of it'
(colaw2cn,LawIICn:24.3.79 / YCOE)

(6) im min unȝewill **awh** aure ma
I my willfulness ought ever more
te þoliȝen
to suffer
'I ought to suffer my willfulness evermore'
(CMVICES1,15.167 / PPCME2)

3. 通常の to 不定詞節における再構成

ought to の歴史的発達および再構成の消失について論じる前に、通常の to 不定詞節に関する議論から始める。Tanaka (2007)は、受動形態素は項であるという提案(Baker et al. (1989))を不定詞形態素に拡張し、(7)の条件を提案している。その帰結として、不定詞形態素が存在する時期においては、それが項として機能し不定詞節の外項が抑制されるため、受動文の *v*P と同様に不定詞節の *v*P がフェイズではないことが導かれる。

(7) The infinitival morpheme functions as an argument iff its Case feature is licensed (via Agree or inherent Case assignment).
(Tanaka (2007: 48))

Tanaka は(7)の仮定の下で、古英語と中英語の to 不定詞節は(8)に示される構造を持つのに対し、後期中英語に(9)に示される構造が新たに出現したと提案している。(8)では不定詞節は前置詞である不定詞標識 to を主要部とする PP であるが、これは to 不定詞節が前置詞句と等位接続可能であったこと、また、to が不定詞に格付与(古英語:与格-enne、中英語：目的格-en/e)していたことにより支持される。[2] 一方、新たな構造(9)では to が機能範疇 T としての位置付けを持つ。

(8) 古英語・中英語
$[_{PP}$ to $[_{vP}$ V*enne*/*en*/*e*-*v* $[_{VP}\ t_V$ … Obj ...]]]
(*v*P is not a phase)

(9) 後期中英語
$[_{TP}$ PRO $[_{T'}$ to $[_{vP}\ t_{PRO}$ V-*v* $[_{VP}\ t_V$ … Obj …]]]]
(*v*P is a phase)

(8)では to による格付与の下で不定詞形態素が外項として機能するため、*v*P はフェイズでないのに対し、(9)では機能範疇としての to が不定詞に格付与しないため、*v*P はフェイズとなる。再構成に関わる目的語移動がフェイズのエッジを経由しない A 移動であるとすると(Tanaka (2009))、フェイズ不可侵条件(cf. Chomsky (2000))により、(8)の構造においてのみ再構成が許されることになる。田中(2012, 2016)によれば、(10)に示されるように、通常の to 不定詞節における再構成、すなわち to を越える目的語の左方移動は 16 世紀まで観察されるが、(8)の構造は 16 世紀における不定詞形態素の消失に伴い利用不可能になるため、再構成も同時期に消失したという事実が正しく説明される。

(10) a. from that tyme hytherwarde, was there neuer so vndeuowte a Kinge, that durst

that sacred place violate, or so holye a Bishoppe that durste it presume to consecrate
(MORERIC-E1-P1,28.68 / PPCEME / 田中 (2012: 71))

b. I am come to you a little matter to breake
(UDALL-E1-P2,L813.75 / PPCEME / 田中 (2016: 124))

4. ought to の歴史的発達

ought to は、所有を表す本動詞から発達したという意味的側面、および to 不定詞節を補部にとるようになったという統語的側面において、have to と類似している(中島 (1979), 宇賀治 (2000))。have to については、概略(11)に示される歴史的発達を遂げたことがいくつかの文献において論じられている。(11a)では have が to 不定詞節に修飾される NP を補部にとるのに対し、(11b)では have が不定詞節を直接補部にとっている。

(11) a. [have [NP [to V]]]
→ b. [have [to [V NP]]]
(cf. Heine (1993), Krug (2000))

本論文では、本動詞としての ought は既に古英語において(11b)に対応する(12)の段階にあったと仮定する。なお、(12)は通常の to 不定詞節に関する前節の提案を踏まえた構造である。

(12) Subj … [$_{VP}$ ought [$_{PP}$ to [$_{vP}$ V*enne*/*en*/*e-v* [$_{VP}$ *t*$_{V}$ NP]]]]

この仮定は 3 つの証拠により支持される。第一に、(13)に示される古英語の例において、that 節は agan ではなく smeagenne 'consider' の目的語であり、that 節を含む to 不定詞節全体が agan の補部となっている。この事実は、ought が古英語において既に(12)の段階にあったことを示唆する。

(13) Þonne **agan** weofodðenas **to smeagenne** symble, **þæt** [...]
then have priests to consider always that
'Then priests always **ought to consider that** [...]'
(Wpol 2.1.1 (Jost) 209 / Kaita (2015: 50))

第二に、(14)に示されるように、agan が従える to 不定詞節には、faran 'go'のような自動詞が生起可能であった。

(14) N**ah** naðer **to farenne** ne Wilisc man on Ænglisc land ne Ænglisc on man to English land nor English to Wylisc ðe ma, butan gesettan Welsh that further except-for settled landmen native-man
'Welsh man **ought** not **to go** to the English land nor (ought) English (man) (to go) to the Welsh (land) the further, except for native one as settled'
(LawDuns 6 / Kaita (2015: 51))

(11)に示される have to の発達においては、(11b)に示されるような他動詞が生起している段階からさらに進むと、自動詞が生起可能になるという発達の流れがいくつかの文献において論じられている。have to の発達に関する以上の議論を鑑みると、(14)に示される自動詞の生起可能性もまた、ought が古英語において既に(12)の段階にあったことを示唆する。

第三に、独自の調査により得られた YCOE からの例も有力な証拠となる。

(15) … ne he **nah** mid rihte **oðres**
nor he not-ought rightfully another
mannes **to onfonne**
person.GEN to receive
'... nor ought he to receive another person rightfully'
(colaw1cn,LawICn:22.6.133 / YCOE)

agan は対格目的語をとるが、(15)では agan に後続する oðres mannes 'another person'は onfonne 'receive'が付与する属格を持つため(小野・中尾 (1980))、その名詞句は agan ではなく不定詞節の目的語であると分かる。したがって、(15)の例からも ought が古英語において既に(12)の段階にあったことが示唆される。

次に、現代英語における ought to の構造について考察する。助動詞と不定詞標識 to が共に TP の主要部を占めるという標準的仮定は、ought to の構造分析にとって常に問題となってきた。仮に ought と to が複合主要部として T の位置を占めるとすると、"ought not to"のように not が ought と to の間に生起するという事実を説明することができない。ここではこの問題を解決するため、Harwood (2014)における精緻化された動詞句領域の構造を採用する。(16a)では法助動詞が Mod の位置に基底生成され、原形屈折を担う専用の機能範疇 Inf(initival)P を選択する。その後、助動詞は T の位置に移動し時制屈折と結合する。本論文では、法助動詞に関するこの提案を ought に拡張し、ought は(16b)のように to を主要部に持つ InfP を選択すると仮定する。(16b)の構造を採用すれば、TP と ModP の間に NegP が投射されることにより、(17)に示されるように"ought not to"という語順が正しく派生される。

(16) a. $[_{TP}$ T $[_{ModP}$ will/can $[_{InfP}$ -ø $[_{vP}$ V-*v* …]]]]
(cf. Harwood (2014))
b. $[_{TP}$ T $[_{ModP}$ ought $[_{InfP}$ to $[_{vP}$ V-*v* …]]]]

(17) $[_{TP}$ ought $[_{NegP}$ not $[_{ModP}$ t_{ought} $[_{InfP}$ to …]]]]

以上の議論が正しければ、英語史において ought to の構造が(12)から(16b)へと変化したことになるが、この構造変化の時期および動機を探るために、ought の助動詞化について概観する。宇賀治 (2000)によれば、owe/ought はもともと表 2 の上側の欄のような時制パラダイムを持っていたが、12 世紀末に現在時制において ought が owe を駆逐した。さらに、本来の現在形 owe は 15 世紀に-ed の屈折を持つ新たな本動詞用法を発達させた(Ono (1989))。以上の観察に基づき、ought は初期中英語に助動詞化され始め、14 世紀中に本動詞用法と分化することにより、助動詞として確立したと結論づけられる。

中英語	
現在	過去
owe, oughte	oughte
初期近代英語	
現在	過去
ought	

(cf. 宇賀治 (2000: 233))
表 2: owe/ought の時制パラダイム

助動詞化により ought が項構造を失ったことが、(12)から(16b)への構造変化の動機となる。古英語では ought は表層の主語を自身の項としてとっていたが、初期中英語に助動詞化が始まり項構造を失うことになる。項構造を失う際、(12)の構造では不定詞形態素が外項となるため、表層の主語が to 不定詞節内に基底生成されることは不可能である。(12)の構造のままでは表層の主語が認可されないため、助動詞化が完了する 14 世紀に構造変化が強いられた結果、(16b)に示されるような、外項の抑制を伴わず、表層の主語を外

項とする *v*P を含む構造に取って代わられた。ought to を含む文では ought が TP の主要部を占めているため、to が T の位置を占める通常の不定詞節とは異なり、to は機能範疇 Inf へと変化したと考えられる。次節では、この構造変化の提案に基づき、ought to における再構成の消失、すなわち to を越える目的語の左方移動の消失について説明を試みる。

5. 分析

ought to における再構成の歴史的発達は、4 節の提案に基づき、以下のように説明される。まず、再構成が観察される古英語から 14 世紀に関して、(18)に示されるように、ought がとる to 不定詞節では外項が抑制されており *v*P はフェイズではないため、目的語移動が可能であったという事実が説明される。

(18) 古英語から 14 世紀

$[_{VP}$ ought $[_{PP}$ to $[_{vP}$ V*enne*/*en*/*e*-*v* $[_{VP}\ t_V$ …

Obj …]]]] (*v*P is not a phase)

(= (12))

次に、前節の提案によれば、初期中英語に始まった ought の助動詞化により(16b)の構造が新たに出現したが、この構造では外項が抑制されておらず不定詞節の *v*P がフェイズとなるため、(19)に示されるように、目的語の左方移動はフェイズ不可侵条件により許されない。(12)と(16b)の構造は競合を経て、ought が助動詞として確立した 15 世紀以降は(16b)の構造に一本化されたため、ought to において 14 世紀中に目的語の左方移動が消失したという事実が正しく説明される。

(19) ought の助動詞化により出現した構造

Subj … $[_{ModP}$ ought $[_{InfP}$ to $[_{vP}\ t_{Subj}$ V-*v*

$[_{VP}\ t_V$ … Obj …]]]] (*v*P is a phase)

(= (16b))

3 節で述べたように通常の to 不定詞節における再構成は不定詞形態素が消失する 16 世紀まで可能であったのに対し、ought to の場合は ought の助動詞化により 14 世紀中に(16b)への構造変化が強いられるため、両者において再構成の消失時期が異なることが導かれる。

6. 結語

本論文では、ought が従える to 不定詞節における再構成の消失が、通常の to 不定詞節における消失時期である 16 世紀よりも早い 14 世紀中に起こったことをコーパス調査により明らかにした。そして、14 世紀中に完了した ought の助動詞化に伴って、ought to の構造が(12)から(16b)へと変化したという提案に基づき、通常の to 不定詞節とは異なる ought to における再構成の歴史的発達を説明した。

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注

[1] (3)-(6)の例から明らかであるように、本調査では代名詞目的語と完全名詞句である目的語が区別されていない。これは、収集され

た例に関する限りにおいて、両者を区別することが再構成の分布に関して重大な影響を与えないためである。

[2] (8)では前置詞が動詞句を補部にとる構造が示されているが、この構造には、Tanaka (2007)で指摘されるように、不定詞形態素の起源が関係していると考えられる。Los (1999, 2005)によれば、古英語以前において、不定詞形態素はもともと名詞派生の接辞と屈折接辞から成るものであった。古英語以前の to 不定詞の形式を例示した(i)では、動詞語幹 ber-に名詞派生接辞-*anja-および与格単数の屈折接辞-*i が付加されている。

(i) Primitive Germanic: *to beranjōi
(OE: to berenne)
to (preposition) + *ber-* (verb stem) + -**anja-* (derivational suffix) + -**i* (dat sg inflection) (cf. Los (2005: 156))

派生接辞-*anja-はその他の名詞派生接辞との競合に勝利し、古英語以前の段階で屈折接辞へと変化したため、それに伴い不定詞は名詞的範疇から動詞的範疇へと変化した。ゆえに、(8)に示されるように、前置詞が動詞句を補部にとる構造が支持される。さらに、以上の発達の流れを踏まえると、不定詞形態素は名詞的性質の名残であると考えられるため、上述(7)の条件における不定詞形態素が格素性(および Agree に関わるファイ素性)を持つという仮定が支持される。

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On Two Types of Adjectives Derived from the Same Stem in Japanese *

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Keywords : adjectives, classifying modifiers, direct/indirect modification, Japanese, relative clauses

1. Introduction

The rigid ordering among adnominal adjectives has been observed in many languages.

(1) a. a large white house/??a white large house
b. a small round table/??a round small table

This fact can be explained by the proposal that adnominal adjectives obey the hierarchy in (2), which specifies the merge positions of adjectives according to their semantic classes (Scott 2002 among others).

(2) *Hierarchy of Attributive Adjectives*
subjective comment > ?evidential > size > length > height > > speed > ?depth > width > weight > temperature > ?wetness > age > shape > color > nationality/origin > material
(Scott 2002: 114)

In Japanese, on the other hand, adjectives do not exhibit the rigid ordering in most cases.[1]

(3) a. ooki-i siro-i ie /
large white house
siro-i ooki-i ie
white large house
'large white house'
b. taka-i huru-i too /
tall old tower
huru-i taka-i too
old tall tower
'tall old tower'

Given that only direct modification adjectives obey the hierarchy in (2), it has been proposed that adnominal adjectives in Japanese are indirect modification adjectives (Baker 2003). According to Sproat and Shii (1991), indirect modification adjectives modify a noun predicatively and form a part of a relative clause. In fact, Japanese prenominal adjectives exhibit some properties of relative clauses in English. First, adnominal adjectives in Japanese usually have only an intersective reading. In English, prenominal adjectives have both an intersective and a nonintersective interpretations, while relative clauses have only the former one.

(4) Olga is a beautiful dancer. (ambiguous)
a. 'Olga is a dancer and she is beautiful.' (intersective)
b. Olga is a dancer who dances beautifully.' (nonintersective)

(5) Olga is a dancer who is beautiful.
(intersective, #nonintersective)

(6) Olga-wa utukusi-i odoriko-da.
Olga-Top beautiful-I dancer-Pred.Nonpast
'Olga is a beautiful dancer.'
(intersective, #nonintersective)

Second, as observed in (3), Japanese adjectives do not show the rigid ordering. The same fact can be found in the case where multiple relative clauses modify a noun in English, as in (7).

(7) a. the house that's large that's white
b. the house that's white that's large

Contrary to these observations, this paper demonstrates some cases in which adnominal adjectives in Japanese do not behave as indirect modification adjectives and examines their syntactic and semantic properties.

2. Two Types of Adjectives Derived from the Same Stem

In Japanese, there are two morphological types of adjectives; one is the *i*-form (or *i*-adjective), whose stem the morpheme *-i* attaches to, and the other is the *na*-form (or *na*-adjective), whose stem the morpheme *-na* attaches to in the prenominal position. Either *-i* or *-na* attaches to an adjectival stem in most cases.[2]

(8) a. taka-i biru
high-I building
'high building'
b. sizuka-na heya
quiet-NA room
'quiet room'

(9) a. *taka-na biru
high-NA building
b. sizuka-i heya
quiet-I room

Some adjectival stems, on the other hand, allow both *-i* and *-na* to attach to.

(10) a. ooki-i/ooki-na te
big-I /big-NA hand
'big hand'
b. tiisa-i/tiisa-na koe
small-I/small-NA voice
'small voice'
c. yawaraka-i/yawaraka-na nuno
soft-I /soft-NA cloth
'soft cloth'

Sasaki (2002) observes that there is a semantic difference between the *i*- and *na*-forms derived from the same stem. In (11) and (12), the *i*-form is interpreted ambiguously while the *na*-form is not.

(11) a. ooki-i ani
big-I elder.brother
'elder brother who is physically big'
'older elder brother'
b. ooki-na ani
big-NA elder.brother
'elder brother who is physically big'
#'older elder brother'

(12) a. yawaraka-i hon
soft-I book
'soft book,' 'accessible book'
b. yawaraka-na hon
soft-NA book
'soft book,' #'accessible book'

The following subsections demonstrate that the *i*- and *na*-forms derived from the same stem have some syntactic properties different from other adjectives in Japanese.

2.1. Syntactic Behaviors of the *I*-Forms

As observed in (11) and (12), the *i*-form has the reading that the *na*-form derived from the same stem lacks. But the *i*-form is not always interpreted ambiguously. First, the *i*-form *ooki-i* 'big,' for example, cannot have the interpretation 'being older' when another modifier intervenes between the *i*-form and the modified noun.

(13) a. ooki-na ooki-i ani
big-NA big-I elder.brother
'older elder brother who is physically big'
b. ??ooki-i ooki-na ani
big-I big-NA elder.brother

(14) a. kogara-na ooki-i ani
small-NA big-I elder.brother
'older elder brother who is physically small'
b. *ooki-i kogara-na ani
big-I small-NA elder.brother

The example in (13b) sounds odd and redundant because the two adjectives *ooki-i* and *ooki-na* have the same meaning 'physically big.' (14b) is ungrammatical, since the meaning of *ooki-i* is contradictory to that of *kogara-na* 'small.'

Second, when the *i*-form is used predicatively, it only has the same meaning as the *na*-form.

(15) a. Ani-ga ooki-i.
elder.brother-Nom big-I.
'The brother is physically big.'
#'(My) brother is older.
b. Hon-ga yawaraka-i.
book-Nom soft-I
'The book is soft.'
#'The book is accessible.'

These observations suggest that the *i*-form with a certain meaning behaves differently from other adjectives in Japanese. Although the ordering among adnominal adjectives usually does not matter in Japanese, the *i*-form must be adjacent to the modified noun. The *i*-form does not seem to form a predicate of a relative clause, since it cannot be used predicatively.

2.2. Syntactic Behaviors of the *Na*-Forms

There are some cases where the *na*-forms have some properties of direct modification adjectives. First, some *na*-forms cannot be used predicatively.

(16) kare-no me-no ooki-i/??-na koto
he-Gen eye-Gen big-I/-NA fact
'(the fact that) his eyes are big'

Second, only the *na*-form can be used in idiomatic expressions. Given that only direct modification adjectives can have idiomatic interpretations (Cinque 2010), the *na*-forms in (17) directly modify a noun.

(17) a. ooki-na/??-i kao-o su-ru
big-NA -I face-Acc do-Nonpast
'swagger around'
b. ooki-na/??-i osewa
big-NA -I care
'Non of (your) business'
c. oki-na/??-i kuti-o kik-u
big-NA -I mouth-Acc say-Nonpast
'boost'

Thus, it seems that the *na*-forms are direct modification adjectives; they do not have the predicative use, and they can give rise to idiomatic readings.

3. Syntactic Structures of the *I*- and *Na*-Forms Derived from the Same Stem

We have seen that both the *i*- and *na*-forms derived from the same stem do not behave as indirect modification adjectives. In this section, I propose that some *na*-adjectives directly modify a noun, while the *i*-forms do not.

3.1. The *I*-Forms as Classifying Modifiers

As in (11) and (12), the meaning of the *i*-form is ambiguous, while that of the *na*-form derived from the same stem is not. I propose that the *i*-form serves as a classifying modifier when it has a different meaning from the *na*-form.

Let us consider the case where the *i*-form

ooki-i 'big' is interpreted as 'being older,' for example. Notice that *ooki-i ani* has the meaning '(the) older elder brother,' but it does not mean 'elder brother who is old.' Since the *ooki-i* has the comparative meaning 'being older,' it is presupposed that there exists more than one elder brother. That is, the *i*-adjective *ooki-i* with this meaning classifies the subtype of elder brothers; the *i*-adjective singles out the elder brother who is older than other elder brothers.

But it is not adjectives but nouns that serve as classifying modifiers: nouns refer to objects and kinds, while adjectives denote properties of a single object and cannot refer to kinds (Carlson 1980, Shimamura 2014). In Japanese, classifying modifiers usually have the "noun -*no*" form, as in (18).

(18) a. tyuugoku-no kabin
Chinese-NO vase
'Chines vase'
b. aka-no wain
red-NO wine
'red wine'

Given that the *i*-adjective with a certain meaning also functions as a classifying modifier, I claim that the adjective merges with a phonologically empty pronoun and projects an NP, which serves as a classifying modifier, as in (19).[4]

(19) [[$_{NP}$ [$_{DegP}$ Ø[CMPR] [$_{AP}$ ooki-i]] [$_{N}$ e_{N}]] [$_{NP}$ ani]]

I suppose that the *i*-adjective projects DegP, whose head has the feature [comparative (CMPR)], based on the fact that *ooki-i* has the comparative meaning 'being old.'

This proposal explains the fact that another modifier cannot intervene between *ooki-i* with the meaning 'being older' and the modified noun, as in (13) and (14). It has been observed that nouny modifiers appear closer to the head noun than other modifiers (Vendler 1967). Since the *i*-adjective merges with an empty noun and forms an NP to function as a classifying modifier, it appears closer to the modified noun than other adjectives.

A similar analysis applies to the case of the adjective *yawaraka-i* 'soft' with the meaning 'accessible.' The *i*-adjective merges with an empty pronoun, which denotes type, and forms an NP to serve as a classifying modifier. I suppose that the DEG head in this case does not contain the feature [CMPR], because *yawaraka-i* can be modified by the degree adverb *totemo* 'very.'

(20) [[$_{NP}$ [$_{DegP}$ [$_{AP}$ yawaraka-i]] [$_{N}$ e_{N}]] [$_{NP}$ hon]]

In sum, in order to function as a classifying modifier, the *i*-form merges with an empty noun and forms an NP.

3.2. The *Na*-Forms as Direct Modification Adjectives

This subsection shows some cases of *na*-adjectives as direct modifiers.

Recall that the *na*-form can be used in idiomatic expressions, as in (17). In English, some adjectives can appear both prenominally and postnominally. But postnominal adjectives cannot give rise to idiomatic readings, as in (21).

(21) a. a white lie b. *a lie white in spirit
c. *a lie which was white
(on the intended meaning)
(Cinque 2010: 88)

According to Cinque (2010), prenominal

adjectives in English are ambiguous between direct and indirect modification adjectives, while postnominal adjectives are always indirect modification adjectives. From the fact observed in (21), he claims that only direct modification adjectives can have idiomatic interpretations. Following his claim, I suppose that the *na*-forms in idiomatic expressions are direct modification adjectives.

There are other cases where *na*-adjectives directly modify a noun. When *na*-adjectives denote the degree of the modified noun, they behave as direct modification adjectives. In (22) and (23), *na*-adjectives such as *kanzen-na* 'complete' and *oohaba-na* 'big' have noninter-sective readings, and they must appear adjacent to the modified noun.

(22) a. monomidaka-i kanzen-na baka
burningly.curious-I complete-NA fool
'burningly curious complete fool'
b.*?kanzen-na monomidaka-i baka
complete-NA burningly.curious-I fool
(cf. Ayano 2010)

(23) a. kyuugeki-na oohaba-na neage
sudden-NA big-N rise.in.price
'sudden sharp rise in price'
b. *?oohaba-na kyuugeki-na neage
big-NA sudden-NA rise.in.price
(Morita 2017)

We have seen two cases where *na*-adjectives directly modify a noun; the case of idiomatic expressions, and the case in which *na*-adjectives function as degree modifiers of the head noun.

3.3. The *I*- and *Na*-Forms as Indirect Modification Adjectives

When the *i*- and *na*-forms derived from the same stem have the same meaning, I claim that both forms are indirect modification adjectives; they have an intersective interpretation and do not exhibit the rigid ordering.

But the *i*- and *na*-forms have some different syntactic properties. First, as in (16), the *i*-form can be used predicatively while the *na*-form cannot. Second, Shibata et al. (1982) observe that the subject of the *i*-form can be marked either with nominative Case or with the genitive Case, while the subject marked with nominative Case is degraded in the *na*-form, as in (24).

(24) a. kuti-ga/-no tiisa-i kabin
mouth-Nom/-Gen small-I vase
'vase whose opening is small'
b. kuti-no/??ga tiisa-na kabin
mouth-Gen/-Nom small-NA vase

Given that the T head assigns nominative Case to the subject, the *i*-form projects TP, while the *na*-form only projects PredP, as in (25).

(25) a. [[$_{TP}$ [$_{PredP}$ [$_{AP}$ ooki-]-i]-Ø] [$_{NP}$ ani]]
b. [[$_{PredP}$ [$_{AP}$ ooki-]-na] [$_{NP}$ ani]]

3.4. A Semantic Difference between the *I*-and *Na*-Forms

Last, let us return to the fact that the *na*-form has a restricted meaning than the *i*-form derived from the same stem, as observed in (11) and (12). We have seen that these two forms exhibit different syntactic properties. First, the *na*-forms do not have the predicative use, as in (16). Second, only the *na*-forms can be used in idiomatic expressions, as shown in (17). These observations suggest that the *na*-form is strongly connected to the modified noun than *i*-form.

Based on the above facts, Obata and Morita (2018) propose that the morpheme *-na* is realized if the functional head Pred(ication)

triggers φ-agreement with a nominal argument; the morpheme *-i* is realized as the default form if the Pred head does not trigger agreement.[5] Obata and Morita claim that the ambiguous meanings of the *i*-form is restricted to a single meaning in the *na*-form by φ-agreement. A similar observation can be made in Cape Verdean Creole, as in (26).

(26) a. Elsa e un bon mudjer.
Elsa Cop a good woman.
'Elsa is a good woman.'
b. Elsa e un boa mudjer.
Elsa Cop a good woman.
'Elsa is an attractive woman.'
(Baptista 2002: 68)

In (26a), the adjective *bon* 'good' does not show morphological agreement with the noun. When agreement takes place, the adjective changes to the form *boa* and its interpretation is restricted to 'attractive,' which is one of the meanings of 'good,' as in (26b).

To sum up, with the stems that allow both *-i* and *-na* to attach to, the *na*-form is obtained by agreement, which results in semantic restriction.

4. Summary

This paper showed some cases where the *i*- and *na*-forms derived from the same stem exhibit some different syntactic properties from other adjectives in Japanese. First, I proposed that *i*-adjectives with certain meanings serve as classifying modifiers, by merging with a phonologically empty noun. Second, I claimed that some *na*-adjectives directly modify a noun. Third, I showed that the two forms derived from the same stem have different syntactic structures although they have the same interpretation. Last, I proposed that the *na*-form is obtained by φ-agreement, which causes semantic restriction.

* I thank the audience at the 36th meeting of the English Linguistic Society of Japan and at the meeting of Lexicon Study Circle (LSC) for their valuable comments and suggestions. Needless to say, all remaining errors are mine.

NOTES

[1] It has been observed that certain types of prenominal modifiers, such as nationality/origin and material, must be adjacent to the head noun.

(i) tiisa-na ki-no hasi /
small wooden bridge
??ki-no tiisa-na hasi
woodern small bridge
'small wooden bridge' (Watanabe 2012: 507)

[2] Following Nishiyama (1999), I assume that the functional category Pred(ication) is an extended projection of AP. I suppose that the morphemes *-i* and *-na* are the overt realizations of the Pred head. See Morita (2017, 2018) for more details.

[3] When *na*-adjectives are used predicatively in the matrix clause, the morpheme *-da*, an allomorph of *-na*, attaches to a stem. But *-da* cannot attach to the stems such as *ooki-* 'big' and *tiisa-* 'small.'

(i) a. *Ani-ga ooki-da.
elder.brother-Nom big-DA
'(My) brother is big.'
b. *Imooto-ga tiisa-da.
sister-Nom small-DA
'(My) sister is small.'

[4] There is a semantic difference between the "noun-*no*" form and *i*-adjectives as classifying modifiers: the *i*-form does not only classify the subtype of the head noun but also requires the noun to have the property denoted by the adjective. Suppose that both forms in (i) refer to the Keikyu Main Line, most of whose rolling stocks are red.

(i) aka-no/-i densya
red-NO/-I train
'red train'

But some rolling stocks of the Keikyu Main Line are not red but yellow. To refer to a yellow rolling stock of the Keikyu Main Line, only the example in (iia) is possible.

(ii) a. akaku-nai aka-no densya
red-Neg red-NO train
'the red train which is not red'
b. *akaku-na aka-i densya
red-Neg red-I train

[5] As mentioned in footnote 2, Obata and Morita (2018) also suppose that the Pred head is overtly realized either as *-i* or as *-na*. We also suppose that φ-agreement occurs only in the case of the stems allowing both *-i* and *-na* to attach to.

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Multiple Case Valuation and the Middle Construction *

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Keywords：multiple Case valuation, phases, Transfer, Agree, the middle construction

1. Introduction

This paper aims to argue for the system of multiple Case valuation and to offer a new syntactic analysis of the English middle construction like (1).

(1) This book reads easily.

Specifically, I argue that Case may be assigned to a nominal more than once and that the DP *this book* in (1) receives both accusative Case and nominative Case in the course of the derivation.

This paper is organized as follows. Section 2 outlines some theoretical assumptions and the system of multiple Case valuation (cf. Nagamori 2018). Section 3 discusses some empirical properties of the English middle construction and offers a new syntactic analysis based on the system of multiple Case valuation. Section 4 touches on the realization of multiple Case values. Section 5 concludes the paper.

2. Multiple Case Valuation via Agree

2.1. Free Merge

Merge is assumed to be the fundamental structure-building operation in human language. It is defined as a set-formation operation that takes two syntactic objects (SOs), α and β, and forms a new SO.

(2) Merge (α, β) → {α, β}

Merge has two modes of application, namely External Merge (EM) and Internal Merge (IM). EM takes two SOs that are distinct from each other, whereas IM takes two SOs that are not distinct from each other.

In recent minimalism, however, EM and IM have been reanalyzed as instantiations of the *single* operation Merge (cf. Chomsky 2013, 2015, Epstein, Kitahara, and Seely 2014). The *single* operation Merge is the same in both cases, the only difference being that α and β are distinct in one case (EM), while one of α and β is part of the other in the other case (IM). It is now also assumed that Merge, in its simplest form, applies freely. That is, Merge applies with no such trigger as EPP or the edge feature. Merge is now free to apply, or not apply with only certain choices converging (cf. Chomsky 2015). If Merge applies freely and if EM and IM are instantiations of the *single* operation Merge, then both EM and IM apply freely.

2.2. Phases, Transfer, and PIC

Minimalist theory assumes that the syntactic derivation proceeds by phase (cf. Chomsky 2000, 2001, 2007, 2008, 2013, 2015). Phases include (transitive) *v*P and CP. Within phase theory, the phase edge, the phase head, and the phase complement are distinguished from each other.

(3) [XP [H [YP]]

In (3), XP is the phase edge, H is the phase head, and YP is the phase complement. With these

distinctions in mind, Chomsky (2000) proposes the following constraint.

(4) Phase Impenetrability Condition (PIC)
In phase α with head H, the domain of H [i.e., the complement of the phase head] is not accessible to operations outside α, only H and its edge are accessible to such operations. (cf. Chomsky 2000: 108)

PIC states that once a phase has been formed, the complement of the phase head becomes inaccessible to any further syntactic operations. This periodic "forgetting" of derivational information is known as Transfer. Importantly, however, PIC also says that although the complement of the phase head becomes inaccessible to any further syntactic operations, the phase head and its edge are exceptions. They are still accessible to any further syntactic operations. This implies that the complement of the phase head can bypass the effects of PIC by moving to the phase edge before/at Transfer. That is, the phase edge acts as an escape hatch for elements that would otherwise not be able to escape Transfer. This escape hatch effect is necessary because movement can apply across multiple clauses, as shown below.

(5) a. What do you think that John bought?
b. [$_{CP}$ what do [$_{TP}$ you [$_{vP}$ <what> think [$_{CP}$ <what> that [$_{TP}$ John [$_{vP}$ <what> John bought <what>]]]]]]

As shown in (5b), the *wh*-phrase *what* needs to move to the phase edge before/at Transfer. Otherwise, it would be trapped inside the Transfer domain. As I will argue later, the escape hatch effect also plays an important role in multiple Case valuation.

2.3. The Timing of Agree and Transfer

In the conventional Agree model advocated by Chomsky (2000, 2001), it is assumed that the unvalued Case feature of a nominal is valued by means of Agree. That is, in this model, in order to value the unvalued Case feature of a nominal, the functional head has to establish an agreement relation with the bearer of the Case feature (T for nominative, *v* for accusative, etc.). It is also widely assumed that once an agreement relation is established between the functional head and the bearer of the Case feature, the latter is *inactivated* and further access to it is barred by the Inactivity Condition (cf. Chomsky 2000, 2001).

However, Bruening (2001) and Narita (2007) suggest the possibility that Agree *only values* the unvalued Case feature of a nominal and the inactivation of it is done by Transfer at each phase in a cyclic manner. That is, Agree *only values* the unvalued Case feature of a nominal and the inactivation of it is suspended till the point when the Case feature of a nominal undergoes Transfer. This implies that as long as the Case feature of a nominal is not affected by Transfer, it still remains active and retains its ability to receive another Case value via further Agree. Following this line of reasoning, Nagamori (2018) argues that even after a nominal has received a Case value via Agree, nothing would prevent it from undergoing free IM into the edge of a phase before/at Transfer. If it undergoes free IM into the edge of a phase, escaping Transfer, it still remains active and retains its ability to receive another Case value via further Agree. This is the basics of the system of multiple Case valuation via Agree, as illustrated below (cf. Nagamori 2018).

(6) *Agree* *Agree*

$H_{2[u\phi]}\ldots XP_{[v\phi][Case2]}\ldots H_{1[u\phi]}\ldots XP_{[v\phi][Case1]}$

Internal Merge

In (6), H_1 agrees with XP and XP is assigned a Case value. Here, Agree *only values* the unvalued Case feature of XP. Then, XP undergoes free IM into the phase edge before/at Transfer. Hence, XP is still active and agrees with H_2. As a result, it is assigned another Case value. In English, when a nominal receives more than one Case, the last one received will be realized morphologically (see Nagamori 2018 for further discussion).

3. The Middle Construction in English

3.1. Implicit Agents and *v* [+Tr]

In this section, I argue that the middle construction in English can be best analyzed as involving multiple Case valuation. The middle construction has a verb with active morphology, as shown in (7).

(7) This book reads easily.

But, like the passive construction, the surface subject is obligatorily interpreted as the underlying object of the verb. The Agent theta-role is not usually expressed overtly. However, Stroik (1992, 1995, 1999, 2006) convincingly argues that the Agent theta-role is structurally present.

(8) Books about oneself never read poorly.
(Stroik 1992: 129)

In (8), an anaphor like *oneself* can emerge in the subject position. Stroik (1992) argues that if *oneself* is to be properly licensed in (8), it must be bound by a non-overt NP argument that c-commands it at some syntactic level (cf. Belletti and Rizzi 1988). For Stroik (1992), the relevant NP is the Agent argument, which is syntactically realized as PRO in the VP adjunct position. Then, the grammaticality of (8) can be explained if we assume that the subject-contained anaphor has been moved from the position lower than the Agent argument (i.e., the object position).

On the other hand, according to Hoekstra and Roberts (1993), the Agent argument is *pro*, which is generated in the canonical external argument position (i.e., spec*v*P). In this paper, I will remain agnostic as to the exact nature of the Agent argument and simply represent it as PRO/*pro*. The important point is that the verb in the middle construction projects two arguments: the overt Theme argument which manifests itself as the surface subject and the non-overt Agent argument PRO/*pro*.

Further evidence showing that the Agent argument is present in the middle construction comes from the following examples.

(9) a. This window opens easily with a knife.
(Marelj 2004: 116)
b. This cup breaks easily (*all by itself).
(Fujita 1994: 75)
c. This car fixes easily even unaided.
(Fujita and Matsumoto 2005: 118)
d. That book reads quickly for Mary.
(Stroik 1992: 131)

(10) a. Books about herself read quickly for Mary.
b. *Books about oneself read quickly for Mary.
c. *Books about himself read quickly for Mary.
d. *Books about themselves read quickly for Mary. (Stroik 1992: 136)

In (9a), the instrument phrase *with a knife* requires the presence of the Agent argument. In contrast, the phrase *all by itself* in (9b) does not require the presence of the Agent argument, hence the ill-formedness. In (9c), the secondary predicate *unaided* requires the Agent argument as its subject. In (9d), the Agent argument is overtly realized as a *for*-phrase. As shown in (10a-d), Stroik (1992) further argues that since the Agent argument is syntactically realized as a *for*-phrase, the anaphor licensed by the Agent argument must agree in features with the argument. Thus, it can be concluded that the verb in middle construction projects its Agent argument.

Here, I would like to adopt Collins's (1997) implementation of Burzio's (1986) generalization, which treats *v* as either active [+Tr] or inactive [–Tr], where the active head *v* assigns both an external theta-role and accusative Case, and the inactive head *v* assigns neither an external theta-role nor accusative Case. The following examples may be taken to indicate that the verb *v* in the middle construction is [+Tr].

(11) a. This book just sells itself.
(Levin 1993: 84)
b. Dieses Buch liest *(sich) leicht
this book-NOM read RP-ACC easily
'This book reads easily.'
(Steinbach 2002: 1)

In (11a), the verb takes a reflexive pronoun as its direct object. In (11b), the verb in the German middle construction takes a reflexive pronoun as its direct object. However, one might argue that the reflexive pronoun in the middle construction is an adverbial element (cf. Fiengo 1980). However, Tokizaki (1988) demonstrates that the reflexive pronoun in the middle construction is not an adverbial element.

(12) a. This book sells itself here.
b. * This book sells here itself.
(Tokizaki 1998: 244)

In (12b), the adverbial element *here* intervenes between *sell* and *itself*, blocking accusative Case assignment to *itself* (i.e., the condition of Case adjacency). Therefore, according to Tokizaki (1998), the reflexive pronoun in the middle construction is an object of the verb, not an adverbial element. This means that the verb in the middle construction is *v* [+Tr] in the sense of Collins (1997). That is, it assigns both an external theta-role (i.e., Agent) and accusative Case.

3.2. Derivation:Case_{Nom}+Case_{Acc}

Given the discussion above, I argue that the DP in (13) moves from the object position into the subject position and that the DP receives two Case values in the course of the derivation.

(13) {this book, {T, {this book, {PRO/*pro*,
{*v*, {easily {read, {this book}}}}}}}}

The DP *this book* is first merged as the object of the verb and valued as accusative via Agree with *v*. Recall that under the proposed system, Agree *only values* the unvalued Case feature. Then, the DP undergoes free IM into the phase edge before/at Transfer. This makes it possible for the DP to be *revalued* as nominative via Agree with T since it is still active. In this way, the DP in (13) receives both accusative Case and nominative Case in the course of the derivation. I assume that in English, when a nominal receives more than one Case, the *last* one

received will be realized morphologically (cf. Nagamori 2018).

Note that the proposed analysis is compatible with data such as the following.

(14) a. New seedlings water *t* flat easily.
b. Those cookies break *t* into pieces easily.
c. My running socks don't scrub *t* clean easily.
d. Permanent press napkins iron *t* flat easily. (Carrier and Randall 1992: 218)

Since the resultative predicate can only be predicated of an object (cf. Simpson 1983), the surface subjects in (14a-d) must originate in the object position. Therefore, these data lend further support to the movement analysis.

3.3 Full Interpretation

Under the proposed analysis, the object in a regular transitive sentence would also be expected to undergo free IM into the edge of *v* before/at Transfer, as shown in (15b).

(15) a. John read this book.
b. {T, {this book, {John, {*v*, {read, {this book}}}}}}

The DP *this book* in (15b) undergoes free IM into the phase edge before/at Transfer. If T agrees with *this book*, then *John* remains Case-less, hence crashes at the interfaces. The only way to "rescue" the derivation (15b) is to move the DP *this book* into the edge of C before T-agreement takes place, as shown below.

(16) {this book, {C, {T, {this book, {John, {*v*, {read, {this book}}}}}}}}

On the assumption that minimality is calculated at the phase level (cf. Chomsky 2007, 2008), at the stage of the derivation (16), the occurrence of *this book* at the edge of *v* is a lower copy in a movement chain, thus invisible to Agree. Therefore, T can successfully agree with *John*, assigning nominative Case to it and *John* moves into SpecTP. Then, the following topicalization structure results.

(17) a. This book, John read.
b. {this book, {C, {John, {T, {this book, {John, {*v*, {read, {this book}}}}}}}}}

The DP *this book* at the edge of C is interpreted as a topicalized element. The grammaticality of (17) thus lends further support to the hypothesis that Merge, external or internal, applies freely with only certain choices converging (cf. Chomsky 2015).

4. A Note on Multiple Case Values

I am proposing that a nominal can receive more than one Case and that in English the last Case value received will be the one that is realized morphologically (cf. Nagamori 2018). However, when a nominal receives more than one Case, there are in fact three possibilities to consider.

(18) a. **Case_2**+Case_1
b. Case_2+**Case_1**
c. **Case_2+Case_1**

In (18a), the last Case value received is realized. In (18b), the first Case value received is realized. In (18c), all the Case values received are realized. The second and the third possibilities are instantiated by Icelandic and Cuzco Quechua (and Korean), respectively (cf. Bejar and

Massam 1990, Svenonius 2005, Narita 2007, Baker 2015, Nagamori 2018). If this is correct, it lends further support to the hypothesis that a nominal can receive more than one Case. See Nagamori (2018) for further discussion.

5. Conclusion

In this paper, I have argued for the system of multiple Case valuation and proposed that the derivation of the English middle construction involves multiple Case values. That is, the DP receives both accusative Case and nominative Case in the course of the derivation. This analysis opens up the possibility that a whole class of lexical rules which manipulate argument structure can be eliminated from the grammar (cf. Hoekstra and Roberts 1993).

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日英語の移動表現：経路概念の合成と空動詞*

（Motion Expressions in English and Japanese: Path Composition and Empty V）

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1. はじめに

本稿は、日本語と英語の移動表現を、着点の許容性という観点から比較し、そこから生じる２つの問いに対して、理論的説明を試みる。

(1) a. Mary came into/in the room.
b. John walked into/in the room (from the outside).
c. Bill danced into/??in the room (from the outside).

(2) a. 花子が部屋（の中）に来た。
b. ?? 太郎が部屋（の中）に歩いた。
c. * 次郎が部屋（の中）に踊った。

(1a, b) では、into the room の経路前置詞句と in the room の場所前置詞句の両方が着点項になる (Nikitina 2008, Svenonius 2010)。一方、(1c) では場所前置詞句は着点項にはなれない。(2) の日本語の例では、(2a) と (2b, c) との間で着点項の許容性に差があることは、すでに周知の事実であるが、より詳しくデータを観察すると、(2b) と (2c) の間にも許容度に差があることがわかる (cf. 影山 2002)。

ここで、(1-2) の比較から生じる問いを (3) にまとめる。

(3) a. 着点項の許容性における日英語の違いはどこから生じるのか。
b. 英語の (1b) と (1c) の違い、ならびに日本語の (2b) と (2c) の違いはどこから生じるのか。

(3a) は日英語の比較から生じる問い、また、(3b) は個別言語内での比較によって生じる問いである。本稿は、上記２つの問いに対して、加賀 (2007) の理論的枠組を援用しつつ、経路概念の合成という観点から、統一的な説明を試みる。

本稿の構成は次のとおりである。2 節では、「問い (3a)」に対して独自の統語理論による説明を試みている加賀 (2007) を概観する。3 節では、加賀 (2007) の理論的道具立てである空動詞 e_v の機能を一部修正する形で援用し、「問い (3b)」に対する説明を試みる。4 節では、3 節の提案を支持する証拠となる言語事実を示す。5 節では本稿の結論を述べる。

2. 問い (3a) への答え

2.1. 加賀 (2007)

Kaga (2007) では、Larson 流の動詞句階層構造に、〈動作主 (AGENT)〉、〈場所 (LOCATIOIN)〉、〈存在者 (LOCATUM)〉という３つのマクロな意味役割が配置された、統語構造と意味役割の対応が提案されている。

(4) $[_{VP1}$ AGENT $[_{V'1}$ V_1 $[_{VP2}$ LOCATION $[_{V'2}$ V_2 LOCATUM]]]] (Kaga 2007:9)

この３つのマクロな意味役割は、「VP1 の指定部位置」「VP2 の指定部位置」「VP2 の補部の位置」に、常に対応すると主張されている。

そして、〈場所〉や〈存在者〉は、従来の意味役割研究で仮定されてきたミクロな意味役割の上位概念にあたるもので、これらマクロな意味役割だけが統語的な項の位置と直接的に結びついていることになる。なお、意味役割の割り振りに関して、ミクロな意味役割である被動者が〈場所〉の役割をもち、結果が〈存在者〉の役割をもつという点に注意されたい。この分析は、状態変化の過程を、変化主体がある特性を獲得ないし喪失するプロセスであると考える立場に基づくものであり、この考えに基づけば、〈場所〉は結果という特性が存在する場所であり、結果はその場所に存在するもの、つまり、〈存在者〉となる。

そして、加賀 (2007) は、この独自の意味役割理論に基づき、音形を持たない空の動詞要素 e_v の認可にかかわるパラメータを設定している。空動詞 e_v は、位置変化や状態変化といった、「変化」に相当する意味を担うものと仮定されている。

以上２つの理論的道具立ての関係性を説明するために、加賀 (2007) における英語の結果構文の分析を概観したい。

(5) a. I froze the ice cream solid.
b. [$_{VP1}$ I [$_{V'1}$ V1 [$_{VP2}$ the ice cream [$_{V'2}$ froze solid]]]]
(加賀 2007:184、一部修正)

(5a) はいわゆる弱い結果構文の例である。状態変化動詞 freeze は、V2 の位置に基底生成され、マクロな意味役割である〈場所〉と〈存在者〉を選択する。より具体的には、〈場所〉はミクロな意味役割である被動者に、〈存在者〉は結果に相当する。このように、弱い結果構文では、V2 に基底生成された動詞によって、〈場所〉と〈存在者〉の両要素が選択される。

(6) a. John hammered the metal flat.
b. [$_{VP1}$ John [$_{V'1}$ V1 [$_{VP2}$ the metal [$_{V'2}$ hammered-e_v flat]]]]
(加賀 2007:185)

(6) はいわゆる強い結果構文の例である。打撃接触を表す hammer は、結果状態を含意しない動詞であり、衝撃の受け手を表す〈場所〉の要素だけを選択し、結果を表す〈存在者〉の要素は選択しない。しかし、「変化」の意味に相当する空動詞 e_v と合体することで、ひとつの複合動詞の形をとり、〈場所〉と〈存在者〉の両要素が選択される。

2.2. 問い (3a) への答え

前節で概観した理論的枠組を用いて、加賀 (2007) は「問い (3a)」に対して、着点項の許容性における日英語の違いは、音形を持たない空の動詞 e_v の利用可能性に還元されると説明している。

加賀 (2007) における英語の移動表現の分析を (7-8) に示す。

(7) a. Mary came into the room. (= (1a))
b. [$_{VP1}$ [$_{V'1}$ V1 [$_{VP2}$ into/in the room [$_{V'2}$ came Mary]]]]

まず、非対格動詞 come が用いられている (7a) では、移動主体である Mary が VP_2 の補部の位置に、着点である into the room ないし in the room が VP_2 の指定部の位置にそれぞれ基底生成される。

(8) a. Mary swam to the shore.
b. [$_{VP1}$ [$_{V'1}$ V_1 [$_{VP2}$ to the shore [$_{V'2}$ swam-**e_v** Mary]]]]
(加賀 2007:202-203)

次に、本来は非能格動詞である swim が用いられている (8) では、swim が空動詞 e_v と合

体することにより、V_2 の位置に生じて、全体として非対格的な移動の状況が表現されることになる。

一方、日本語は空動詞を利用することが許されない言語であることから、本来的に着点項を取らない動詞が着点項を選択した (9b) は、認められる構造とはならない。

(9) a. ?? 太郎が部屋の中に歩いた。(= (3b))
b. [$_{VP1}$ 太郎が [$_{V'1}$ [$_{VP2}$ 部屋の中に] 歩いた]]

そして、加賀は、行為動詞と空動詞 e_v の合体について、(10) の認可条件を満たす必要があると論じている。

(10) 行為動詞と空動詞が合体できるのは、その行為動詞の表す「行為」と空動詞 e_v の表す「変化」が一体化した事象を構成するときである。
(加賀 2007:203)

(8) では、泳ぐという行為が岸への到着の手段となっており、到着と同時に泳ぐ行為も終了するという関係が成立する。一方、(11) のような文では、動詞が表す行為が移動の手段なっているとは通例考えられず、行為の完了と移動の終了に必然的な関係は存在しない。従って、主語は移動主体とは解釈されず、非文法的な文になると説明される。

(11) a. * Sam joked into the meeting.
b. * Dorothy sang out of the room.
(加賀 2007:202)

つまり、加賀は「問い (3a)」に対する答えとして、この空動詞 e_v が英語では利用できるが、日本語では利用できないために、(2b, c) が非文法的になると説明している。

2.3. 問い (3b) への適用

本稿では、この理論的枠組みを用いて、(3b) の問いについて考えてみたい。空動詞 e_v が「変化」の意味を担うとするならば、合体条件を満たす dance の例では、into 句の場合と同様に、in 句も着点項として解釈されるはずである。しかしながら、(1c) で示したように、dance は in 句を着点項として取ることができない。(1b) と (1c) の比較で観察したような、場所前置詞句を着点項とする場合の許容度の違いは、in 句に限らず、他の場所前置詞句でも同様に観察される。

(12) a. The mouse crawled on the table.
(Levin and Rapoport 1988:281)
b. When I opened the door to say hello, however it [=the kitten] <u>scurried under the porch</u>.
(Levin et al. 2009:11、下線は筆者)

(13) a. A famous singer danced onto/??on the stage. (Namiki 2018:71)
b. ?? They danced under the chandelier from the door.
(Estigarribia and Levin 2007:1)

以下では、「問い (3b)」に対して、加賀 (2007) における空動詞 e_v の機能を再検討するとともに、移動事象の中心的概念である「経路」を考慮に入れて、適切な説明を試みる。

3. 提案：問い (3b) への答え

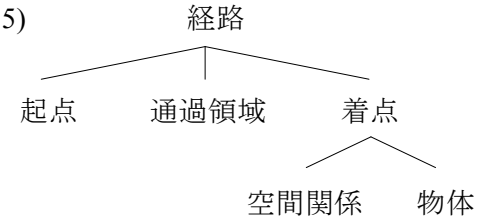
本稿の提案を (14) にまとめる。

(14) a. 空動詞 e_v は、マクロな意味役割である〈存在者〉の項を導入する。
b. 〈存在者〉がミクロな意味役割である移動主体として解釈されるためには、経路概念が必要となる。経路概念が前置詞によって明示的

に表されない場合は、既存の意味的構成素を経路として合成しなければならない。

(14a) にあるように、本稿では、空動詞 e_v の機能を、〈存在者〉の導入に限定する。また、(14b) について、本稿は経路という概念を、Jackendoff (1983)、Talmy (2000)、松本 (2017) などが定義するように、「経路」は単一の概念ではなく、「起点」「通過領域 (route)」「着点」の３つの概念によって構成される、複合的な概念であると仮定する。「着点」はさらに、移動の参照物である「物体」と「空間関係」に分解される。

(15)



提案 (14) を用いて、(1b, c) と (2b, c) の例を分析する。

(16) John walked into the room. (= (1b))

[$_{VP1}$ [$_{V'1}$ V_1 [$_{VP2}$ into the room [$_{V'2}$ walked-$\mathbf{e_v}$ John]]]]

[空間関係 通過領域] 物体 ⇒ 経路

(16) では、経路前置詞句 into the room が用いられており、空間関係を in が、通過領域を to が、そして物体を the room が表しており、全体として、経路概念が明示されているといえる。

(17) John walked in the room. (= (1b))

[$_{VP1}$ [$_{V'1}$ V_1 [$_{VP2}$ in the room [$_{V'2}$ walked-$\mathbf{e_v}$ John]]]]

空間関係 物体 通過領域

⇒ 経路

一方、(17) の場所前置詞句が着点項を担う場合、通過領域を明示する前置詞要素は、当該述語内に存在しない。そこで、通過領域の意味的構成素を動詞が含むと仮定する。したがって、当該述語が経路概念に必要な意味的構成素をすべて有することになるので、経路合成が成立し、空動詞 e_v によって付与された〈存在者〉が移動主体として解釈されることになる。つまり、 (1b) と (1c) の文法判断の違いは、「通過領域」の意味的構成素が当該述語に内在するか否かという点に還元されることになる。

(18) ??Bill danced in the room. (= (1c))

[$_{VP1}$ [$_{V'1}$ V_1 [$_{VP2}$ in the room [$_{V'2}$ danced-$\mathbf{e_v}$ Bill]]]]

空間関係 物体

≠ 経路

(18) は「通過領域」を含まないために、経路概念を合成することができず、空動詞 e_v によって付与された〈存在者〉を移動主体として解釈できないために、容認されないことになる。

次に、日本語の例について分析する。前節で示したように、日本語は空動詞 e_v の利用が認められないために、非能格動詞は着点項を取ることができず、それゆえに (1b, c) の容認度は低くなると分析できる。さらに、本稿の提案 (14) は、(1b) と (1c) の間に見られる容認度の差も捉えることができる。

(19) ??太郎が部屋の中に歩いた。 (= (2b))

[$_{VP1}$ 太郎が [$_{V'1}$ [$_{VP2}$ 部屋の中に] 歩いた]]

物体 空間 通過領域

⇒ 経路

(19) は動詞「歩く」が用いられているが、

英語の例 (17) で分析したように、通過領域の意味的構成素を持つものと考えられる。そうすると、経路概念の合成に必要な意味的構成素を当該述語がすべて有することになり、構造的には許されないものでありながらも、意味構造としては移動事象として解釈し得る。一方、(20) の「踊る」の場合は、(18) で分析したように、通過領域が存在しないために、経路の合成も許されない。

(20) *太郎が部屋の中に踊った。　　(= (3c))

[$_{VP1}$ 太郎が [$_{V'1}$ [$_{VP2}$ 部屋の中に]　踊った]]

物体 空間

≠ 経路

つまり、(19) では空動詞 e_v が利用できないため許される構造ではないが、経路概念に必要な構成要素が備わっていると分析でき、このことが容認度に影響していると考えられる。他方、(20) では構造上許されないだけでなく、経路合成に必要な構成素を有していないため、容認されないと判断されるといえる。

4. 証拠の提示

前節で提案した「問い (3b)」に対する答えは、動詞が通過領域を有するか否か、という点が極めて重要な要因となる。以下では、日英語を問わず、場所表現が着点項となれる場合の非能格動詞には、通過領域の意味的構成素が含まれていることを、３つの言語事実を示しながら論じていく。

１つ目は、通過領域の具現に関する言語事実である。

(21) a.　Mary {ran / walked /crawled} the street to the station.

b. *　Mary {roved / danced} the street to the station.

(22) a.　花子は歩道を駅に向かって {歩いた/走った}。

b. *　花子は歩道を駅に向かって {さまよった/踊った}。

ある動詞に通過領域の意味的構成素が含まれているとすれば、その要素を言語要素で明示できると予想できる。実際、(21-22) に示すように、着点句と共起可能な動詞は、通過領域を表す名詞句を目的語として取ることができるが、共起できない動詞は容認されない。

２つ目は、移動の距離を表す数量表現の許容性である。ある動詞が通過領域を移動することを表すなら、その移動距離を示す表現と共起できると予測できる。(23-24) はこの予測の妥当性を示している。

(23) a.　John {ran / walked} a certain distance.

b. *　John {roved / danced} a certain distance.

(Zubizarreta and Oh (2007:131))

(24) a.　太郎はある程度の距離を {歩いた/走った}。

b.　太郎はある程度の距離を {?さまよった/*踊った}。

Zubizarreta and Oh (2007) では crawl の例が記載されていなかったが、(25) に示すように、crawl も移動の距離を表す数量表現と共起することができる。

(25) We kept crawling and crawling and crawling, and then we crawled some more. Even though it felt like <u>we crawled a mile</u>, I knew we had really only crawled for about 20 feet. (Charlie McCarthy, *Wave of Destruction*、下線は筆者)

最後に、英語の until や日本語「まで」の共起可能性を証拠として提示する。until や「まで」は、通過領域に限界点を与えることで、移動の着点として解釈される (Beavers 2008)。つまり、移動表現における until 句やマデ句は、当該述語に通過領域という意味要素が含まれていることを前提とする。

(26) a. John {ran / walked / crawled} until the station.
b. ?? John {roved / danced} until the station.
(27) a. 次郎は駅まで {歩いた/走った}。
b. 次郎は駅まで {?さまよった/??踊った}。

以上、３つの言語事実を用いて、場所表現の着点解釈が可能となる場合の動詞には、通過領域という意味的構成素が含まれることを論じた。

5. 結論

本稿は、日英語における移動表現について、着点項の種類とその許容性の観点から、言語間ならびに個別言語内で比較をし、そこから生じる２つの問いに対して、加賀 (2007) の枠組みを援用しつつ、空動詞 e_v の機能を再検討し、経路概念の合成性という分析方法を組み合わせることで、適切に説明されることを示した。本稿の「問い (3)」に対する回答を (28) にまとめる。

(28) a. (3a) への回答：加賀 (2007) における空動詞 e_v のパラメータに還元される。
b. (3b) への回答：e_v の利用可能性と経路概念の合成の可否によって決定する。

本稿分析が正しい方向へと進んでいれば、以下のような予測が得られることになる。

			空動詞	
			利用可	利用不可
動詞	経路動詞		✓	✓
	移動様態動詞	[+route]	✓	??
		[-route]	??	*

表１　場所句の着点解釈を可能にする要因

表１の予測が、日英語以外の言語においても成り立つかどうか、今後さらに調査を進めていきたい。

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We talked over coffee.タイプ文の意味的・統語的特徴について*

（On the Constructions with Accompanying Circumstances）

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キーワード：時間枠設定機能, over-句, 出来事の継続・完結, 付加詞

1. はじめに

英語には、(1)に示す Quirk et al. (1985)が accompanying circumstances と呼ぶ over-句を含む文(以下、AC 文)が可能である。

(1) We discussed it over a glass of wine.
(Quirk et al. (1985:685)

本稿では、i) AC 文に生起する動詞の種類と意味的・統語的特徴、ii) over に後続する名詞句の種類とその機能、iii) over-句と動詞が表す出来事との関係を明らかにする。

2. over-句の機能と動詞の特徴

ここでは、AC 文に生起している over-句の特徴について見ていく前に、AC 文以外で時間表現として機能している前置詞 over について概観し、その特徴を確認する。前置詞 over に関しては、Lakoff (1987)、Dewell (1994)、Tyler and Evans (2001, 2003)等において空間認識の観点から詳細な分析が行われている。しかしながら、over の時間枠設定機能と AC 文を結びつけた分析は少ないように思われる。

(2) a….to help keep their families going over the winter.
b. My friends had a marvelous time over the New Year.
c. The number will increase considerably over the next decade.

(2)であげた over は、空間を表す over のイメージスキーマに Time is space. (Lakoff (1993) 等を参照)というメタファーを介して、時間枠を設定する機能を有していると考えられ、over が示す時間枠内で生じる出来事と結びついている。(2a)は、出来事が時間枠全体に及ぶ場合、(2b)は時間枠のいずれかの時点で出来事が生じる場合、(2c)は設定された時間枠の最初の時点で出来事が生じる場合を表している。AC 文内の over-句は、(2)で示した時間よりも比較的短い時間枠を設定していると考えられるが、AC 文における over は、後述するように、(2)に用いられている前置詞 over の特性を基本的に継承していると考えられる。

次に、AC 文内に生じる動詞の特徴に関して考察する。

(3) chat, discuss, explain, linger, read, relax, sit, study, say, talk

(3)は、AC 文に生起する動詞を COCA を用いてコーパス検索を行い、使用頻度が高い動詞順に列挙したものである。AC 文の場合、(3)に見られる動詞の種類から「継続性」を意味する動詞が生起しやすいことがわかる。継続性という意味合いを AC 文が有するということは、進行形が可能であることを予測する。実際、(4)における we were laughing over a game の部分が示すように、AC 文に生起する動詞は、進行相を表すことができる。

(4) And the night before that, we were laughing over a game of Trivial Pursuit with my sister and brothers,… (COCA)

これまで見た事実から、「反復性」「継続性」がAC文に生起する動詞に課せられる必要条件のように思われる。しかしながら、必ずしも「反復性」「継続性」が必要条件ではないことを(5)-(6)の事実が示している。(6)の例は、いずれも COCA からの用例である。

(5) a. Over a glass of wine he confided that a friend had suggested he place a personal ad.
b. Ellen gave her the news over coffee in a Forbes Avenue Starbucks. (COCA)
c. She spoke to me for the first time over a glass of wine.
d. He had a heart attack and died over his breakfast. (Wasow (p.c))

(6) a. Mr. Trump said one of the conversations came over dinner as Mr. Comey was making a pitch…
b Many business meetings occur over breakfast or lunch…
c….over a glass of fourteen-year-old Talisker, my proposal was accepted.

(5)では over-句が示す時間枠のいずれかの時点において生じる出来事、一回きりの出来事もAC文に生起可能であることを示している。これは、先に見た時間を表す over-句である(2b)の場合に該当する。例文(5)における動詞 confide、 give、 die、及び speak to me for the first time が表す意味には、反復性は認められない。また、例文(6)における動詞 come、occur、 accept についても同様に反復性は認められない。さらに、例文(6)からは、(3)に示した動詞に限定されず、二重目的語を取る動詞 give や非対格動詞 come、occur も生起できることがわかる。次に、(7)を見てみよう。(7)の例は、出来事に中断が含まれる例である。

(7) a.…and years later out of the blue she would clear her throat while I doze over a Civil War volume in the evening… (COCA)
b.…dozing over a game of Scrabble… (COCA)

(7)の例は、途中中断がある場合も含む居眠りの行為がAC文に生起できることを示している。doze と結びつく over-句は、(7a)の読書の対象に加えて、(7b)のゲーム類が挙げられる。これらの例には、反復性は認められるが、必ずしも時間枠いっぱいに継続しているとは限らない。

これまでに見た事実に加えて、AC 文は動詞に意味合成が適用された例と共起可能である。(8)がこの事実を示している。

(8) a. We partied the night away over cocktails. (time-away 構文)
b. The audience laughed the actor off the stage over dinner. (caused-motion 構文)

(8a)は、time-away 構文と共起している例、(8b)は使役移動構文(caused-motion 構文)と共起している例である。(8)の事実からは、ある時間枠内の行為、及びその行為と結びついている結果を出来事としてAC文が表すことが可能であることを示していると言える。換言すると、over-句が設定する時間枠内において、(8a)では「パーティに興じ、その結果、夜が明けた」と言うことを表し、他方、(8b)では時間枠内で「観客が俳優の演技を笑う」と言う行為が生じ、その結果、「その俳優が舞台をあとにした」ということを表している。

2 節で議論した over が指定する時間枠と

出来事の関係をまとめると、(9)のようになる。

(9) a. 出来事の継続が over-句が設定する時間枠全体に及ぶ。
b. (中断を含む)出来事が over-句が設定する時間枠内で完結している。
c. over-句が設定する時間枠内のいずれかの時点において出来事が生じ、完結している。

2 節では、AC 内に生起する over-句と動詞が表す出来事との関係を明らかにした。

3. over に後続する名詞句の特徴

AC 文内の over に続く名詞句として、飲み物、食べ物に加えてゲームの類や(7a)でみた読書の対象が生起でき、その中身は楽しみやくつろぎの対象でなければならないという特徴が見られる。また、飲み物、食べ物の場合、数量指定が可能であることを併せて(10a) - (10c)の例が示している。

(10) a. We talked over [drinks / (a bottle of) beer, wine / two glasses of whisky]
b. We talked over [(a plate of) breakfast / lunch / dinner / pasta].
c. We talked over [(a game of) chess / one-on-one basketball / cards].
d.*Some of the people in the room discussed it over a series of lectures.
e. We talked over *(a glass of) water.

AC 文は、(10d)のように、楽しみやくつろぎの対象でないものは容認されない。[1] また、over に後続する名詞句が飲み物を表す場合、(10e)が示すように、単独で water が生起する場合は容認されない例となる。これは、water 単独では楽しみやくつろぎの対象であることが明示されないことに起因していると考えられる。注意すべき点は、リラックスするためにコップ一杯の水を飲んで何かを行う場合、AC 文は容認される。

さらに、over に後続する名詞句は一定の時間幅を意味すればよく、短い時間幅や繰り返しのない場合も可能になる。(11)がこの事実を示している。

(11) a. She told me her secrets over [the last cup of coffee he ever had].
b. We chatted over [a quick lunch] and a glass of our favorite beverages.

(11a)では、the last cup of coffee が繰り返しのない行為を表し、(11b)では a quick lunch が短い時間幅での行為であることを示している。

これまでの観察から、AC 文の over-句は、比較的短い時間枠を設定していると考えられる。over-句は、時間枠の設定にとどまり、over に後続する名詞句と動詞が表す行為・出来事が継続する時間を明示する場合、over-句のあとに for-句や until-句などが生じる。これらの事実を(12)が示している。(12)では、それぞれ until around midnight、for a couple of hours が over-句と共起し、行為継続の時間がどれくらいであったかを明示している。

(12) a. Customers are welcome to linger over coffee until around midnight.
(Collins COBUILD on-line Dictionary)
b. Sometimes he would linger over dinner for a couple of hours,… (COCA)

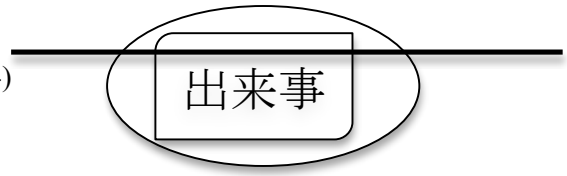
AC 文の over-句が持つ比較的短い時間枠の設定という機能は、より長い時間枠を設定し、さらにその中で over-句が設定する短い時間枠の中で出来事を描写できることを予測する。実際、この二重の時間枠の設定とともに用いられている AC 文の例を(13)に挙げる。

(13) a. We chatted over dinner during the conference with recent alumni.
b. They often sat together on their porches and talked, over coffee in the morning and beers in the evening. (COCA)
c. Guests normally join their host now and sit and chat over a glass of wine while the meal is being prepared.
(English Web 2015)

(13a)では、during-句が長い時間枠を設定し、さらに over diner が短い時間枠を設定し、その短い時間枠の中でチャットと言う行為がなされたことを意味している。他方、(13b)(13c)では、in the morning、in the evening、及び while 節が長い時間枠を設定し、over coffee と over a glass of wine がそれぞれ短い時間枠を設定し、その中での出来事を表している。これまでに見た時間枠設定を示すと(14)のようになる。(14)では、太字線は長い時間枠を表し、丸で囲んだ部分が over-句が設定する短い時間枠を表している。

line: in the morning

(14)



over coffee

(9)及び(14)に示した時間枠とその中で生じた出来事の捉え方は、AC 文の over と 2 節の例文(9)で確認した over の捉え方が基本的に同じであることを示している。このことに関連して、(15)における over-句は、必ずしも over-句が短い時間枠を設定するとは限らないことを示している。ここで押さえておきたいことは、より幅の大きい時間枠の想定がある場合、over-句が短い時間幅の設定機能を担うということである。

(15) Jackson knows that perceptions, whether of an individual or of a team that lost its first eight games before finishing 4-12 last year, can only be changed over time through performance. (COCA)

4. 付加詞としての over-句

この節では、over-句が付加詞であるという事実を確認する。これまでの研究では、付加詞が複数存在する場合、その順序を入れ換えても非文にならないことが指摘されている。

(16) a. the student with long hair in the corner
b. the student in the corner with long hair
(Radford ((1988:189))

(16)では、with long hair と in the corner の語順を入れ替えても容認されると言う事実を示している。これらの前置詞句は、付加詞であると分析されている。同様のことが AC 文の over-句にもあてはまることを(17) - (18)が示している。

(17) a. We discussed the issues [over lunch] [with a group of students].
b. We discussed the issues [with a group of students] [over lunch].
(18) a. We discussed it [in more detail] [over lunch].
b. We discussed it [over lunch] [in more detail].

(17)では、over-句と with-句の入れ替え、(18)では in-句と over-句の入れ替えが可能であることを示している。(17) - (18)に示す語順に関わる事実から、over-句が付加詞であることは明らかである。

次に、抜き出しに関する事実を考察するこ

とにする。これまでの生成文法研究から、付加詞からの要素の一部の抜き出しは阻止されることが指摘されている。over-句が付加詞であれば、要素の一部を抜き出すと付加詞条件違反(adjunct condition)となり、非文になることが予測される。[2] 予測の通り、(19)の非文法性が示すように、over-句からの抜き出しは阻止される。

(19) *What did you discuss the problem over a glass of?

(19)の例は、付加部からの抜き出しを適用しており、付加詞条件に違反している。また、この例は意味的にも問題があり、容認されない例になっていると考えられる。既に見たように、AC 文は over-句が時間枠を設定し、その中での出来事を表す文であるため、意味的には時間枠設定が必要であり、時間枠そのものを疑問の対象にできないものと考えられる。

これまでの議論から、over-句は付加詞であることは明らかである。ここで、over-句が動詞に後続している場合、構造的には動詞句内に付加されていることを確認することにする。

(20) a. I got together over dinner to strategize a response. (COCA)
b....he'd announced over breakfast that as soon as he could get away from the office,…they were going on a two-week vacation. (COCA)

(20a)(20b)では、それぞれ目的節と that 節の左側に over-句が生起している。Rochemont and Culicover (1990)の分析では、VP 削除 (VP ellipsis)、VP 話題化 (VP topicalization)の統語テストをもとに、目的節は VP に付加されていることが指摘されている。この事実を示したものが(21)の例である。

(21) a. John came into the room to fix the sink, and Mary did, too.
b….and come into the room to fix the room he did.
(Rochemont and Culicover (1990: 85))

動詞句内では、(20)が示すように、問題の over-句は、目的節や項である that 節の左側に生起することから、問題の over-句は、vP-shell 内の VP に付加されていると考えることができると思われる。

問題の over-句が付加詞であれば、動詞句内だけでなく、名詞句を修飾する付加詞として認可されることを予測する。また、over-句は、副詞としての働きをする付加詞として、副詞節とともに共起できることを予測する。これらの予測が正しいことを(22)が示している。

(22) a. That night over dinner, Beth's brother kept asking Tom Toolan what he did for a living. (COCA)
b. Back in December, he had spent the night wrestling with angels or some crap like that because, after being MIA for almost thirty years, he had showed up on my front porch, expecting hugs, tears, and a heartfelt chat over cups of International Foods coffee. (COCA)
c. After a friendly introduction over tea and cookies on the veranda of the Capital, the governor made clear that he would brook no dissent. (COCA)
d. When he comes home, over cups of hot chocolate, she tells him about the wonderful novel she read and… (COCA)

(22a)-(22c)における over-句は、それぞれ that

night、a heartfelt chat、a friendly introduction などの名詞句を修飾する付加詞と考えられる。他方、(21d)では、over-句が副詞節である when-句と同格的に用いられている。これらの事実も over-句が付加詞であることを示していると考えられる。
ここで、問題の over-句が名詞句を修飾する場合も over-句と他の要素の語順を入れ替えることが可能であることを確認しておく。

(23) a. a one-on-one discussion [over dinner] [that lasted as long as an hour…] (COCA)
b. a one-on-one discussion [that lasted as long as an hour…][over dinner]

(23)は、名詞句内に over-句が生じている例である。興味深いことは、名詞句である a one-on-one discussion を修飾する関係詞 that 節と over-句の語順を入れ替えることが可能であるという事実である。この事実からも over-句が付加詞であることは明らかである。
これまでの議論から、AC 文に生起する over-句は、動詞句内、名詞句内のいずれにおいても他の修飾語句と順序の入れ替えが可能である付加詞であることが確認できた。
最後に、問題の over を含む前置詞句は、文末にも文頭にも生じることを見ておきたい。

(24) a. But at home that night over dinner he tried not to think about that,… (COCA)
b. Ms. Orman has her own approach, scheduling her financial check-ins with her wife on a relaxing Saturday night over a glass of wine. (COCA)

(24)の例は、文頭、文末に問題の over-句が生起できることを示している。また、文頭に over-句が生じている(24a)では、(場所)・(時間枠 1：より広い時間枠)・(時間枠 2 = over-句)の配列を取っていることがわかる。これは、over-句が文頭に生じても前に見た(14)の見方が反映されていることを示すものと考えられる。ただし、時間枠 1 と時間枠 2 は、文頭の位置では(25)のように逆になる場合があることを付け加えておきたい。

(25) Over dinner that evening, at our favorite Spanish restaurant,… (COCA)

(25)の例では、話し手の記憶の中で短い時間枠に最初の関心が向けられ、その後、より広い時間枠を示す語句を afterthought 的に挿入して出来事全体を描写しようとしたものであるとみなすことができると思われる。ここで大切なことは、ある出来事を描写する際、時間枠の設定の仕方に、i) 狭い時間枠からより広い時間枠、ii) 広い時間枠から狭い時間枠の二通りが存在するということである。この設定の違いは、話し手の関心が出来事と結びつくどちらの時間枠にあるのかに起因していると考えられる。

5. 結語

本稿では、AC 文に生起する over-句の意味的・統語的特徴について、コーパスによる用例を中心に考察した。AC 文の意味的特徴として、i) over-句は、出来事を表現する短い時間枠を設定すること、ii) AC 文で表現対象となっている出来事は、設定された時間枠内のいずれかの時点、もしくは枠内全体に生じればよいこと、iii) over-句は楽しみやくつろぎの対象に限定されるという特徴をもつことを明らかにした。他方、統語的には、i) over-句は付加詞としての特徴をもつこと、ii) 付加詞であることから、動詞句、名詞句内に生起できること、iii) 動詞に後続する場合、統語テストから動詞句内要素であることを明らかにした。

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注

[1] over-句が表すものが楽しみやくつろぎの対象に限定される事実が何に起因するのかは明らかではない。本論での主張のように、over-句が時間枠を設定する機能を有するだけであれば、楽しみやくつろぎの対象に限定されないはずである。事実、over a series of days のように時間設定のみの場合は容認される。今後は、構文としての意味を持ちうるのかを検討したい。AC 文は、enjoy という意味を内包した構文の可能性があることを指摘しておきたい。

[2] 付加詞条件に関しては、Huang (1982)、Chomsky (1986)、Rizzi (1990)等を参照のこと。

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コーパス

Corpus of Contemporary American English (COCA)

English Web 2015

Global Web-Based English

辞書

Collins COBUILD Dictionary (online)

日本語属格主語文の通時的縮約と最小構造の原理*

（The Diachronic Shrinking of the Genitive Subject Clause in Japanese and the Minimal Structure Principle）

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キーワード：主格属格交替, 通時的変化, 最小構造の原理, ミクロパラメータ

1. 導入

日本語には、名詞に前接する節の主語を、主格でも属格でも標示できる「主格属格交替」と呼ばれる現象がある。属格主語文のうち、現代日本語で最も典型的なのは(1a,b)のような状態動詞か所有関係形容詞を述部にもつ関係節・同格節であるが、100 年ほど前の文学作品には、あらゆる意味タイプの述部が属格主語とともに生起できたばかりでなく、(2a,b)のように、「か」「という」などの顕在的補文標識と属格主語との共起もできた。

(1) a. 太郎のいる部屋／時間のあること
　　b. 髪の長い女性／お金のないこと
(2) a. 軍隊の飯のいかにまずいかなど話して
　　（志賀直哉「剃刀」）
　　b. 夜の明けるということがそう早く来てはならない　（芥川龍之介「芋粥」）

属格主語文については、対応する主格主語文との自由交替であることを前提とする Hiraiwa (2002)の「連体形の（adnominal）CP」分析と、対応する主格主語文にはない生起制限が存在することを前提とする Miyagawa (2011)の「欠陥のある（defective）TP」分析に代表される 2 つの主要分析がある。

(3) Hiraiwa (2002)が提案する構造：
　　$[_{CP}\ [_{TP}$ DP-Gen $[_{T'}\ [[_{vP}$ … V]] T]] C-ADN]
　　(属格主語：C が連体形屈折)
(4) Miyagawa (2011) が提案する構造：
　　a. $[_{CP}\ [_{TP}$ DP-Nom $[_{T'}\ [[_{vP}$ … V]] T]] C]
　　(主格主語：C が TP を選択)
　　b. $[_{DP}\ [_{TP}\ [_{vP}\ [_{VP}$ DP-Gen V] v] T] NP D]
　　(属格主語：D が TP を選択)

しかし、これらの分析はいずれも、共時態としての属格主語文の構造の解明を目指すものであり、その通時的変化についてのよく知られた事実を説明することを目的としていない。したがって、(2a,b)の容認性は説明できない。これに対して、本稿では、属格主語文の生起環境が 100 年程前に「制限なし」の状態であったのが、この 100 年間で緩やかにその生起制限を増し、コーパス上でのそれぞれの構文の生起頻度を減らしていったという言語変化の事実を重視した上で、新たな統語的仮説を提案し、その仮説が予測する母語話者の容認性判断の世代間差が、予測通りに確かめられたことを示す。

本稿での提案は(5)と(6)である。

(5) 主格主語文は、(4a)の構造で安定しているが、属格主語文の構造は、最近 100 年間で、若い世代ほど(6a)から(6d)の方向に縮小しつつある。
(6) 属格主語の認可子に関するミクロパラメータの変化と通時的変化:
　　a. Dialect A: $[_{DP}\ [_{CP}\ [_{TP}\ [_{VoiceP}\ [_{vP}\ [_{VP/AP}$ DP-Gen V/A] v] Voice] T] C] (NP) D_{Gen}]
　　b. Dialect B: $[_{DP}\ [_{TP}\ [_{VoiceP}\ [_{vP}\ [_{L\text{-}AspP}\ [_{VP/AP}$ DP-Gen V/A] L-Asp] v] Voice] T] (NP) D_{Gen}]

c. Dialect C: [$_{DP}$ [$_{L\text{-}AspP}$ [$_{VP/AP}$ DP-Gen V/A] L-Asp] (NP) D_{Gen}]

d. Dialect D: [$_{DP}$ [$_{VP/AP}$ DP-Gen V/A] (NP) D_{Gen}]

(6a-d)が示すのは、100 年前に言語獲得をした幼児は、属格主語文に対して(6a)の CP 構造（つまり、主格主語文と同じ構造）を獲得したが、1950 年頃に言語獲得をした幼児は、CP の投射のみを欠いた(6b)の TP 構造を獲得し、より現代に近づくほど、(6c)の AspP 構造、(6d)の裸 VP/AP 構造を獲得する傾向が高まっている、という主張である。

この主張は、機能範疇 D の補文の統語サイズが CP→TP→AspP→VP/AP という方向に縮小していったというものであるが、いずれの段階でも D が属格主語の認可子であるという点では共通している。この意味で、本稿は、Miyagawa (2011)の主張を基盤としている。しかし、近代以前の日本語では、名詞も形式名詞も存在しない環境（準体節）でも属格主語が認可できていたのも事実であり、この時代には、Hiraiwa (2002)が主張するように、連体形の C が属格主語の認可子であった可能性が高い。コーパスからわかる、1000 年間の主格・属格主語文の頻度変化の事実については、Ogawa (2018)を参照されたい。

いずれにせよ、わずか 100 年の間に、ほぼ世代交代のたびに親世代と子世代で異なるミクロパラメータの値が選択され続けてきた結果として、属格主語文の統語構造について、急速な変化が進行しつつあるというのが、(5)-(6)に示す主張の骨子である。

2. 通時的変化についての先行研究

生成文法では、このように、親世代と子世代が微妙に異なる文法を獲得することによってのみ言語変化が起きるとの主張が、その当初からなされてきた。実際、主格属格交替についても、この現象をはじめて生成文法統語論の文脈で取り上げた Harada (1971)が、この主張を行っている。Harada は、1970 年当時に関東圏で生まれ育ち、社会的階層も均質であった十数名の日本語母語話者に属格主語文の容認性判断を求めた結果、当時 40 歳代であった被験者は、(7a,b)のような文を容認するとの内省的判断を示したのに対し、当時 20 歳代であった被験者は、同じ文に対して低い容認性判断を示したという事実をもとに、属格主語文を生成する変形規則には、出身地や性差や社会階層の差などには還元できず、年齢差によって説明するしかない Dialect A と Dialect B の 2 種類の文法があり、Dialect A から Dialect B への変化が進行中であることを主張した。

(7) a. 父親が／(?*)の大音楽家であった物理学者

b. 芽が／(?*)のなかなか出ない桜の木

主格属格交替についてのその後の統語論研究は、すべてが Harada (1971)に言及しつつも、その分析の際には、あたかもすべての日本語母語話者が Harada の Dialect B の文法をもつかのような前提でその議論が進んできている。このため、言語の通時的変化の理由や、変化前と変化後の構造の違いが論じられることは一度もなかった。しかし、原理とパラメータの理論のもとでは、このような言語変化の事実こそ、言語獲得途上でのパラメータの値の変化として説明すべきである。このパラメータ統語論を属格主語文に適用するに当たって少なくとも必要なのは、構文ごとの属格主語の生起頻度がどのように変化してきたかを明らかにすることであろう。

コーパス（国会議事録検索システム）に収録された関東圏出身の国会議員 100 名の発言の中での属格主語文の頻度が過去 100 年間で顕著に減少していることを最初に示したのは Nambu (2014)である。ただし、Nambu

の研究では、属格主語文の頻度が全体として減少していることと、構文ごとの生起頻度に差があることは示されているが、構文ごとに属格主語文の生起頻度が過去 100 年間でどのように変化してきたかの事実は示されていない。

そこで、Ogawa (2018)は、1890 年代から 2010 年代までの 130 年間に刊行された新書 45 冊、小説・随筆 57 冊、自伝・伝記 28 冊（計 130 冊）から属格主語 15723 例を抽出し、それらを刊行年代ごと、構文ごとに分類した。その結果、以下の事実が判明した。

(8) a. 属格主語文全体の頻度は 73%減少。
b. 顕在的な補文標識をもつ属格主語文の頻度は 99%減少し、ほぼ消失。
c. 述語が属性叙述の名詞である属格主語文 (cf. (8a))の頻度は 95%減少。
d. 述語が属性叙述の形容詞である属格主語文の頻度は 95%減少。
e. 述語が 1 回限りの活動を表す動詞である属格主語文の頻度は 91%減少。
f. 属格主語と述語の間に副詞・内項が介在する文(cf. (8b))は 90%減少。
g. 述語が過去時制である属格主語文の頻度は 80%減少。
h. 述語が動詞受動態・非対格変化動詞である属格主語文の頻度は 80%減少。
i. 述語が所有関係形容詞・状態動詞である属格主語文の頻度は 64%減少。
j. 属格主語文の述部が状態述部である割合は、51%から 74%へ上昇。
k. 述語が 1 回限りの活動を表す動詞である属格主語付き名詞節の頻度は、1920~30 年代に、対応する主格主語付き名詞節の頻度と逆転。
l. 述語が活動の結果状態の持続を表す属格主語付き名詞節の頻度は、1940~50 年代に、対応する主格主語付き名詞節の頻度と逆転。

このように、属格主語文は過去 100 年間で、全体としてもその頻度を 73%減らしているものの、頻度の減少率は構文ごとに異なる。具体的には、(8b-f)は 90%以上の減少率であるのに対して、(8g,h)は 80%の減少率であり、(8i)については、その減少率は 64%に留まっている。結果として、属格主語文全体に占める「状態述部と共起する属格主語文」の割合は、(8j)のように 51%から 74%に大幅に上昇し、属格主語文の「状態化」が進行中であると言える。また、(8k,l)は、それぞれ異なる時期に、特定の述部と共起する属格主語文の頻度と、対応する主格主語文の頻度が逆転したことを示す。

3. 頻度と言語変化・言語獲得

パラメータ統語論については、従来、言語間変異を説明するための方法論として多用されてきたが、古英語から近代英語にかけての SOV から SVO への語順変化、V-to-I 繰り上げを含む文法から do 挿入を含む文法への変化、屈折の豊かな言語から屈折の乏しい言語への変化などの言語変化の事実も、パラメータ統語論のもとで説明されてきた（Kemenade 1987; Lightfoot 1991）。

これに対して、Roberts (2007: 451)は、 (9)の「言語変化の論理的問題（Logical Problem of Language Change）」を指摘している。

(9) In the context of the idea that language change arises through the language acquisition process, the problem of why acquirers would converge on a system different from that which produces the primary linguistic data they are exposed to: if that system generates the data, how are acquirers led to postulate a distinct system?

また、Bybee (2015: 243)は、パラメータ統語論のもとで予測される言語変化とは、変化が

前の文法と変化後の文法の間の唐突な変化が親子 2 世代の間で起きるというものであり、言語変化が一般的に緩やかな（gradient）変化の傾向を示すという事実と整合しない、という意味で、パラメータ統語論にもとづく言語変化の説明には問題があるとしている。

しかし、このような問題は、パラメータの性格付けに起因する経験的な問題であって、パラメータ統語論そのものの概念的な問題ではない。例えば、1つ1つのミクロパラメータが引き起こす変異・変化は微かなものであり、それらの微妙な変化が連続的に起きた結果が、大規模な変化が起きたかのように見えるのだとするLightfoot and Westergaard (2007: 411)の(10)のような提案を仮定すれば、Bybee (2015)の批判は回避することができる。

(10) If parameters and cues are of a smaller scale than has previously been thought, then one will not say, for example, that a V2 language changes into a non-V2 language from one generation to the next, [...] On the other hand, it is also not necessary to argue that change is always gradual, spanning several hundred years. On our view, change may affect one (micro-)cue at a time, a series of smaller scale bumps, giving the impression that there is gradual change over centuries.

また、Bybee (2015)では、言語変化に関係する頻度の問題として、(11)が示されている。

(11) High-frequency forms are resistant to change on the basis of the structure of other forms or patterns, and more likely to serve as the basis of such change in low-frequency forms. (ibid.: 102))

一方で、生成文法では、頻度に基づく構文の獲得や、頻度変化に基づく言語変化の説明は極力避けられてきた傾向がある。たしかに、頻度だけが言語獲得や言語変化の原因でないことは明らかであるし、頻度のどの程度の増減がどのような言語変化を引き起こすのかについての正確なメカニズムはまだ何もわかっていないに等しいのも事実であるが、頻度変化が言語変化を引き起こしたと考えるしかない事実や、言語獲得に頻度が重要な役割を果たしていることを示す証拠も複数発見されている（Ambridge 2010; Lieven 2010; Rinke & Elsig 2010）。このことから、生成文法の領域でも、言語獲得途上の幼児にとっての PLD に含まれる特定の言語データの頻度の変化が、獲得できる文法の質を変化させ、言語変化を引き起こしたとする明示的な仮説が提言されるようになってきている。例えば、Snyder (2017: 241)は、「言語変化の途上にあって、「文法的に両立しない（grammatically incompatible）」文法 A と文法 B が生成する文の集合が PLD の中に混在する場合、言語獲得者に最初に接する可能性が高いのは頻度が高い方の表現であるので、頻度の低い方の文の集合を生成する文法は衰退していく」という仮説を提案している。

頻度変化と言語獲得についての Snyder の仮説と、「属格主語文と主格主語文が文法的に両立しない」という仮定と、属格主語文の頻度についての(8a-l)の事実を踏まえると、本稿で提案する仮説(5)-(6)は、実際に起きた言語変化の様相をかなり正確に捉えることができる。このことを示すために、まず、Bošković (1997)の最小構造の原理（Minimal Structure Principle; MSP）を、原著での提案と異なるが、言語獲得の原理として仮定しよう。

(12) Provided that lexical requirements of relevant elements are satisfied, if two representations have the same lexical structure and serve the same function, then

the representation that has fewer projections is to be chosen as the syntactic representation serving that function.

例えば、顕在的な補文標識を含む属格主語文が一定の頻度で含まれるPLDから、これがほとんど全く含まれないPLDに向かって言語が通時的に変化したとしよう。このとき、PLDに含まれる肯定証拠のみから獲得可能な属格主語文の統語構造は、CPである可能性とTPである可能性があるが、(12)の原理によれば、TP構造の方がCP構造よりも小さく、かつ、音形のない補文標識を含むCPと、そもそもCPを含まないTPは、意味的機能においても差がないので、幼児はこの段階では、属格主語文の統語構造としてTPかそれ以下の小さい構造を獲得することになる。同様に、(13a-g)のような統語的特徴（(10)におけるmicro-cues）が、属格主語文の最小統語サイズを決定する際の肯定証拠として機能するとすると、属格主語とこれらの統語的特徴が共起する頻度が減少し、(13g)の状態述部と属格主語が共起する事例が属格主語文全体の4分の3を占めるまでになってきた過去100年の間に、属格主語文の統語サイズをTP, vP, AspPなどに設定すべき根拠が失われ、これとMSPが、属格主語文のサイズを、(6b), (6c), (6d)の順に縮小させつつあると考えられる。

(13) a. CP 副詞、wh 句、顕在的な補文標識が可能 → CP が必要
b. 名詞を述部とするコピュラ文（主語は常に焦点）が可能 → CP が必要
c. 属性叙述の形容詞とその主語が可能 → TP が必要 (cf. Diesing 1992)
d. 他動詞の受動態が可能 → VoiceP (> vP)が必要 (cf. Collins 2005)
e. vP 副詞、他動詞、非対格変化動詞が可能 → vP が必要
f. 活動の結果状態を表す動詞が可能 → Lower AspectP (cf. Travis 2010)
g. 形容詞・状態動詞のみが可能 → MSP により裸 VP/AP が選択

4. 大規模質問調査による仮説の裏付け

上記の仮説の妥当性を大規模質問調査によって検証するために、本稿では、次の補助仮説も採用する。

(14) a. 若い世代ほど、属格主語文の無標構造は小さい。(CP>TP>vP>VP/AP)
b. 自身の文法が生成する属格主語文の無標構造からの逸脱が大きい文ほど容認性が低いと判断される。

この仮定によれば、CP 構造の属格主語文は、Dialect B, C, D の話者にとって、それぞれ、「逸脱度 1, 2, 3」となるので、この順で容認性が低くなると予測されることになる。

また、Harada (1971)では、当時 40 歳代の母語話者は Dialect A をもち、当時 20 歳代の母語話者は Dialect B をもつとされているが、Harada の Dialect A/B は、属格主語文について、それぞれ、本稿で仮定する Dialect A/B の統語構造(6a,b)をもつ、と仮定する。Dialect A の話者とは、属格主語文が名詞述部と共起することを許し(= (7a))、属格主語と述部の間に副詞の介在(= (7b))を許す話者であった。「名詞述部をもつ文は必ず CP 構造をもつ」という西垣内 (2016)の主張や、「主語が副詞に先行する語順では主語は TP 指定部に移動していなければならないため、C から T への EPP 素性の継承が必要である」とする Miyagawa (2011: 1274)の主張が正しい限りにおいて、(7a,b)を容認する Dialect A 話者の属格主語文を CP と同定し、これらを容認しない Dialect B 話者の属格主語文を TP 以下のサイズとみなすことは妥当であろう。

また、Harada (1971)が刊行された当時に 20 歳代であった話者は、約 45 年後のいまは概

ね 65~74 歳になっていると考えられる。

このことから、本稿では、大規模質問調査への参加者として、関東圏（東京都、千葉県、埼玉県、神奈川県）に生まれ育ち、現在も関東圏に在住で、2018 年 1 月時点で、25~34 歳、45~54 歳、65~74 歳の 3 世代のいずれかに属していた男女・各世代 100 名ずつの計 600 名を選んだ。ここで、65~74 歳は(6b)の Dialect B を、45~54 歳は(6c)の Dialect C を、25~34 歳は(6d)の Dialect D をもつと想定している。

その上で、当該の参加者には、述部が他動詞受動態・非対格変化動詞である(15a,b)のような主格主語文と属格主語文のペアを計 6 文ずつ、ラテン方格法で配置した全 24 文と、フィラー12 文の計 36 文をウェブ画面上にランダムに提示し、それらの各文の容認性を 1（不自然）~5（自然）の 5 段階で評定してもらった（Ogawa, Niikuni, and Wada (2018)）。

(15) a. 防犯カメラ{が／の}つけられている玄関（他動詞受動態; PT）
b. 防犯カメラ{が／の}ついている玄関（非対格変化動詞; EU）

また、同じ被験者に対して、述部が状態動詞(SV)・所有関係形容詞(ADJ)である(1a,b)のような主格主語文と属格主語文のペアを提示して、これらの文の容認性も同様の方法で 5 段階で評定してもらった（cf. 新国・和田・小川 (2017)も参照）。

その結果は以下のようになった。

(16) a. (15a,b)類に対応する主格主語文では容認性に有意な年齢群間差はなかった。
b. (15a,b)類とも、全年齢群で、属格主語文は、対応する主格主語文より容認性が低かった。
c. (15a)類の属格主語文は、(15b)類の属格主語文に比べて、容認性が低かった。
d. (15a,b)類とも、属格主語文は、若い世代ほど容認性が低かった。
e. (15a,b)類とも、属格主語文は、全年齢群で、(1a,b)類の属格主語文よりも容認性が低かった。

5. 分析

上記の結果の詳細な分析の説明は、紙幅の都合上、本稿では割愛せざるを得ないが、要点だけを述べると、次のようになる。(i) 他動詞受動態(PT)＋「ている」を述部に含む属格主語文は、少なくとも、Travis (2010)の提案する Higher Aspect を含まなければならない。(ii) 非対格変化動詞(EU)＋「ている」を述部に含む属格主語文は、vP と VoiceP の間に存在する Middle AspectP を最小構造として持つことができる。(iii) 状態述部(SV/ADJ)を含む属格主語文は、VP/AP の語彙投射を最小構造として持つことができる。このような可能な最小構造に関する 3 構文の差と、Dialect B, C, D をもつ 3 グループがそれぞれ、属格主語文の無標構造として TP、Lower AspP、VP/AP をもつとする(6b-d)の仮定からすると、 (15a,b)と(1a,b)に対して必要な属格主語文の最小構造が、それぞれの話者が属格主語文に対して生成する最小構造から逸脱する度合いは、以下の表のようになる。

Age groups	25-34	45-54	65-74
Unmarked GSCs	VP/AP	L-AspP	TP
PT-teiru (H-AspP)	4	2	0
EU+teiru (M-AspP)	3	1	0
SV/ADJ (VP/AP)	0	0	0

このため、全年齢群にとって、属格主語文は、他動詞受動態のほうが非対格変化動詞より容認性が低くなり、後者も状態述部よりも容認性が低くなるという事実や、同じ他動詞受動態や非対格変化動詞の属格主語文でも、年齢が若くなるほど容認性が低くなるという事実が、(14a,b)の補助仮説のみから説明されるのである。

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A Comparative Study of Unaccusativity Alternation and Its Theoretical Implications *

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Keywords: Unaccusativity Alternation, light verb GO, Transitivity Alternation, labeling

1. Introduction

Under the unaccusativity hypothesis (Perlmutter 1978, Levin and Rappaport 1995 (L&R), among others), the single argument NP of an unergative verb is the "D-structure subject," while the single argument NP of an unaccusative verb is the "D-structure object." As one of the unaccusativity diagnostics (Grimshaw 1986, L&R), an English verb *freeze*, for instance, allows a resultative secondary predicate as in (1a) but the fake reflexive *itself* cannot co-occur as in (1b), a typical property of unaccusative verbs. A motion verb *run*, on the other hand, requires a fake reflexive to have a resultative secondary predicate, shown in (2a) and (2b), indicating that *run* is an unergative verb.

(1) a. The river froze solid.
b. * The river froze itself solid.
(2) a. * John ran exhausted.
b. John ran himself exhausted.

Interestingly, it has been observed (e.g., L&R) that unergative verbs (a manner of motion type) turn to acquire unaccusativity when the resultative secondary predicate denotes a change of location ("unaccusativity alternation", UA henceforth). As shown in (3), the fake reflexive is not allowed with *run* when the secondary predicate is a change of location phrase.

(3) a. John ran clear of the car.
b. * John ran himself clear of the car.

Yamada (1998) proposes that there is a light verb GO which attaches to an unergative and induces UA. GO is phonologically null in English and can be realized as *teiku* 'and-go' in Japanese; and *GO* semantically requires a change-of-location phrase, thus *run* in (3a) can be analyzed as a complex verb [$_V$ *run*-GO].

In this paper, we first argue that Japanese also has the covert version of GO as well as the overt *-teiku* (Section 2). Secondly, expanding Qiu's (2017) observation and analysis, we argue that Chinese also has an instantiation of both overt realization and covert counterpart of the light verb in question (Section 3). Finally, in Section 4, we will briefly discuss implications for the theory of verbal structure building.

2. Unaccusativity Alternation in Japanese

In this section, we first discuss the Japanese UA case induced by *teiku*, based on and revising Yamada (1998) (Section 2.1). Then we argue that the null GO can also induce Transitivity Alternation (TA, henceforth) in Japanese.

2.1. GO's Overt Realization *teiku* and Unaccusative Structure

It is known that in Japanese Floating Quantifier (FQ) is allowed with the object NP (4a) but not with the subject NP (4b and 4c). However, FQ is possible with the surface subject

of unaccusative verbs as in (4d) (Miyagawa 1989, Tsujimura 1994, Kageyama 1993, Kishimoto 2005, among others).

(4) a. Kodomotati-ga [$_{VP}$ **mikan$_i$**-o
children-NOM **orange**-ACC
san-ko$_i$ tabeta].
3-CL ate
'Children ate three oranges.'

b. * **Kodomotati$_i$**-ga [$_{VP}$ mikan-o
children-NOM orange-ACC
san-nin$_i$ tabeta].
3-CL ate

c. * **Kodomotati$_i$-ga** [$_{VP}$ hiroba-de
children-NOM ground-in
san-nin$_i$ hasitta].[1]
3-CL ran

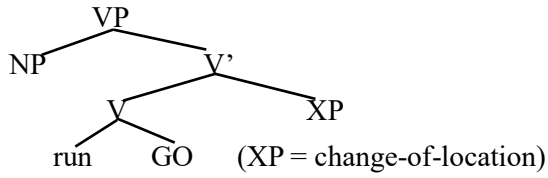
d. **Kodomotati$_i$-ga** [$_{VP}$ hiroba-ni
children-NOM ground-in
san-nin$_i$ ita].
3-CL existed
lit. 'Children were three in the ground.'

Miyagawa (1989) argues that this is because the surface subject of unaccusative verbs is base-generated at the object position where it and the Numeral Quantifier c-command each other. Now, if we add a light verb *-teiku* 'and-go' to *hasi* 'run', FQ becomes much better than (4c):

(5) **Kodomotati$_i$-ga** [$_{VP}$ hiroba-e
children-NOM ground-to
san-nin$_i$ hasit-*teitta*].
3-CL run-*and-went*
lit. 'Children ran-and-went to the ground.'

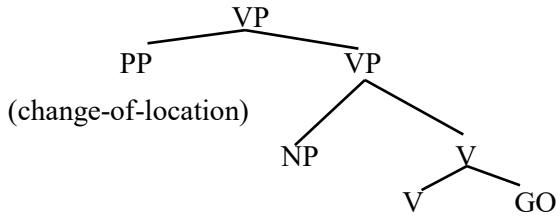
Yamada argues that the light verb *-teiku* 'and-go' makes the verbal complex *hasit-teiku* 'run-and-go' an unaccusative verb and thus FQ becomes possible. Yamada further claims that in English, there is a null light verb GO corresponding to Japanese *-teiku*, which is responsible for UA we saw in (3a) above. The underlying structure is shown as in (6).

(6) Yamada (1998)



There are, however, some problems in (6). First, although the single argument NP is within VP, it is not clear whether the NP is in the selected position by the verbal complex head. Further, the adjunct XP (which is not a theta-assigned selected element by the complex verb) is directly adjoined to V^0. Therefore, we modify Yamada's original structure in (6) to (7) below, where the argument NP is the complement (i.e., the sister) of the complex verb making a VP, and the change-of-location phrase is adjoined to the VP.

(7) Our proposal



(the head-complement order irrelevant)

We are proposing that the change-of-location phrase PP c-commands the argument NP at the underlying structure. One piece of evidence for this proposal is obtained from scope interaction. Japanese is claimed to be a scope rigid language (e.g. Kuno 1973, Lasnik and Saito 1992).

(8) Onnanoko-ga hitori dono
girl-NOM one every

otokonoko-mo suisensita.
boy-MO recommended
'A girl recommended every boy.'

(9) a. ∃ > ∀ b. * ∀ > ∃

For (8), it is very hard to get the inverse scope interpretation (9b). The same scope rigidity applies between the subject and the location phrase with an unergative verb. The inverse scope reading is not easy to obtain in (10).

(10) kodomo-ga hitori dono
child-NOM one every
hiroba-de-mo hasitta.
ground-in-MO ran
'A child ran in every ground.'
a. ∃ > ∀ b. * ∀ > ∃

Oku (2018) argues, however, that when the verb is unaccusative, the inverse scope is easily available as in (11).

(11) kodomo-ga hitori dono
child-NOM one every
hiroba-ni-mo ita.
ground-in-MO existed
'A child was in every ground.'
a. ∃ > ∀ b. ∀ > ∃

It is natural to assume that the surface subject of the unaccusative verb *ita* 'existed' in (11) is the underlying complement and thus is c-commanded by the universally quantified location phrase underlyingly as in (12a), where the "∀ > ∃" scope reading is obtained.

(12) a. [$_{VP}$ dono hiroba-ni-mo
every ground-in-MO
[$_{VP}$[$_{NP}$ kodomo-ga hitori] ita]]
child-NOM one existed

b. [$_{NP}$ kodomo-ga hitori]$_i$ [$_{VP}$ dono
child-NOM one every
hiroba-ni-mo [$_{VP}$ t_i ita]]
ground-in-MO existed

Given this, it is predicted that if we add *–teiku* 'and-go' to the verb *hasi* 'run' in (10), the inverse scope reading becomes possible since the verbal complex is unaccusative and the underlying structure as shown in (7) where the change-of-location phrase c-commands the argument NP. The prediction is borne out.

(13) kodomo-ga hitori dono
child-NOM one every
hiroba-e-mo hasit-teitta.
ground-to-MO run-and-went
'A child ran-and-went to every ground.'
a. ∃ > ∀ b. ∀ > ∃

In the next subsection we are going to show that the null light verb GO also exists in Japanese.

2.2. Japanese Null GO and Transitivity Alternation

When we change the location adjunct in (4c) and (10) to change-of-location adjunct, as shown in (14a, b), FQ and inverse scope interpretation become available while both are fairly degraded as shown in (4c) and (10) above.

(14) a. Kodomo-ga san-nin dono
child-NOM 3-CL every
koen-ni-mo hasitta. (3>∀: ∀>3)
park-to-MO ran (cf. (10))
'Children three ran to every park.'

b. <u>Kodomo</u>-ga dono koen-ni-mo
<u>child</u>-NOM every park-to-MO
<u>san-nin</u> hasitta. (FQ)
<u>3-CL</u> ran

Based on these facts, we claim that it is the null light verb GO that requires a change-of-location adjunct but not a location adjunct; thus GO is responsible for the UA. We propose the underlying structure as shown in (14c) in which PP c-commands the argument NP.

(14) c. [[$_{VP}$ [$_{PP}$ to every park] [$_{VP}$ [$_{NP}$ children three] [$_{V}$ run-GO]]]-Past]

Furthermore, as Kuno (1973) and Teramura (1982) report, there are some types of Japanese verbs which can mark the source phrase either by accusative *-o* or by oblique *kara* 'from' as shown in (15).

(15) a. Kodomo-ga heya-o deta.
child-NOM room-ACC came-off
'A child left the room.'

b. Kodomo-ga heya-kara deta.
child-NOM room-from came-off
'A child came out of the room.'

Fukuda (2012) convincingly shows that when *deru* 'leave' has the oblique marked source phrase as in (15b), the verb is syntactically unaccusative. (15a) is, with the accusative "object," the transitive version of the verb *deru* 'leave' of the same verb. Fukuda reports the following contrast shown in (16a, b).[2]

(16) a. * Kodomotati-ga heya-o san-nin
children-NOM room-ACC 3-CL
deta.
came-off
lit. 'Children came three out of the room.'

b. Kodomatati-ga heya-kara san-nin
children-NOM room from 3-CL
deta.
came-off

FQ is much better in (16b) than in (16a). Furthermore, we also find that difference between (15a, b) can be attested by the inverse scope interaction as shown in (17a, b).

(17) a. Kodomo-ga san-nin dono
child-NOM 3-CL every
heya-mo deta. (3>∀: ??∀>3)
room-MO came-off
'Three children left every room.'

b. Kodomo-ga san-nin dono
child-NOM 3-CL every
heya-kara-mo deta. (3>∀: ∀>3)
room-from-MO came-off
'Three children came out of every room.'

As a transitive version in (17a) inverse scope interpretation is not easily available, but as an unaccusative version (17b) can make an inverse scope interpretation. Given the underlying structure in (7), it is reasonable to assume the null light verb GO makes *deru* in (15b) unaccusative. We analyze the underlying structure as shown in (18a, b) respectively.

(18) a. [$_{v^*P}$ NP$_{subj}$ [$_{VP}$ NP-ACC V] *v**] <transitive>

b. [$_{VP}$ PP [$_{VP}$ NP [**V-GO**]]] <unaccusative>

3. Unaccusativity Alternation in Chinese

In Chinese, the distinction between unergative and unaccusative has long been acknowledged: unaccusative verbs allow the single argument NP to appear in the post-verbal position as in (19), while unergative verbs do not as in (20): surface Unaccusativity (Sybesma

1999, Xu 2001, Huang 2007, among others)

(19) a. Xuduo ren si-le.
many people die-ASP
b. Si-le xuduo ren.
die-ASP many people
'Many people died.'

(20) a. Xuduo ren pao-le.
many people run-ASP
'Many people ran.'
b. * Pao-le xuduo ren.[3]
run-ASP many people

Qiu (2017) observed that when we add a change-of-location phrase such as *jin fangjian* 'into room' to (20b), the sentence becomes grammatical as in (21a). Moreover, when the verb *jin* 'enter' attaches to *pao* 'run' as shown in (21b) surface Unaccusativity emerges.

(21) a. Pao-le xuduo ren jin fangjian.
run-ASP many people into room
lit. '(There) ran many people into the room.'
b. Fangjian **pao-jin**-le xuduo ren.
room **run-enter**-ASP many people
'(There) ran-and-entered many people (the) room.'

Qiu takes these as instances of UA and argues that in (21a) there is a null light verb GO which attaches to the unergative verb *pao* 'run' and induces the UA as shown in (22).

(22) Pao-GO-le xuduo ren jin fangjian.
run-GO-ASP many people into room

Qiu further claims that *jin* 'enter' in (21b) is an overt realization of the light verb GO; *jin* 'enter' makes the verbal complex *pao-jin* 'run-and-enter' an unaccusative verb and thus surface Unaccusativity emerges. Further, we find that Chinese also has TA. Look at (23) and (24).

(23) chu 'leave' = transitive
a. Xudou ren chu-le wuzi.
many people leave-ASP room
'Many people left the room.'
b.?? Chu-le wuzi xuduo ren.
leave-ASP room many people

(24) chu-qu 'leave-go' = unaccusative
a. Xudou ren cong wuzi **chu-qu**-le.
many people from room **leave-go**-ASP
b. Cong wuzi **chu-qu**-le xudou ren.
from room **leave-go**-ASP many people
'Many people left-and-went out of the room.'

Surface Unaccusativity is not observed in (23) where *chu* 'leave' is a transitive. However, as shown in (24b) the complex verb *chu-qu* 'leave-go' allows the single argument *xudou ren* 'many people' to appear in the post-verbal position, suggesting that *chu-qu* 'leave-go' is an unaccusative. We claim that *qu* 'go' is an overt realization of light verb GO which is responsible for the surface Unaccusativity.

Expanding Qiu's (2017) observation and analysis, we argued that in Chinese there is also abstract verb GO inducing UA. The verb GO in Chinese either can be a null light verb, or can be realized as a lexical verb *jin* 'enter' or *qu* 'go'.

4. A Speculation on Verbal Structure Building

In the sections we argued above that UA is induced either by a null light verb GO or by an overt lexical verb in Japanese and Chinese. On the other hand, English seems to have only a

phonologically empty version but not have an overt realization. One serious question at this point is why this is so. In this section, we will briefly consider this question in terms of labeling mechanism (Chomsky 2013, 2015).

According to Chomsky's labeling algorithm, if two heads merge as a set $\{H_1, H_2\}$, there must be some mechanisms to decide which is the head, otherwise the set remains unlabeled and thus uninterpretable at the interfaces. Chomsky (2013) suggests that roots are weak heads and do not qualify as a label, while functional heads such as *n*, *v* will determine the label of the complex. Expanding this idea, we assume that the null light verb GO is an abstract functional head. Then, we assume that if a verbal root merges with GO which is a strong head, GO is always the label and there is no labeling problem. As far as the labeling of the complex verb is concerned, $\{V_1 + GO\}$ is universally available, which accounts for the fact that this pattern is possible in all three languages we discussed in the current paper.

What if V_2 is an overt lexical verb? Saito (2016) suggests that preverbal form of V_1 (*renyookei*) in Japanese has an anti-labeling feature [γ]) and thus $\{V_1, V_2\}$ is labeled as V_2. English V_1, however, does not seem to have this anti-labeling feature [γ]; hence, English GO has no overt realization because of the labeling problem. This accords with the fact that in English, V-V compounds are rare and not productive. Now, how about the situation in Chinese? Verbal compounds are very common and productive in Chinese but Chinese complex verbs have no specific preverbal form like *renyookei* in Japanese. When V_2 is a lexical verb such as *jin* 'enter,' what makes it the head in the complex of {*pao*, *jin*}, without causing any labeling issue? Chomsky (2015) suggests that a weak verbal √R becomes a strong head with the aid of *v*. Further, to account for the fact that object argument ellipsis is possible in Chinese but not in English, Saito (2016: 170) suggests that v is merged with VP only after the internal NP merges with the root V in English, while in Chinese, v can be merged with a root V before the object argument is merged. In other words, Chinese has an option that a root V and v directly merge. When v merges with V_2, V_2 is a unique strong head in $\{V_1, V_2\}$ and thus the label of the complex. If this line of argument is on the right track, Chinese has a mechanism which determines the only one of the verbal heads in $\{V_1, V_2\}$ complex as the unique head. This is compatible with the fact that verbal complexes are very productive in Chinese.

5. Summary

In this paper, we argued for UA in English, Japanese, and Chinese. The phenomenon in question is induced by an abstract light verb GO. The inducer GO may be phonologically null or realized as an overt lexical verb in Japanese and Chinese. However, English has only the phonologically null version of GO but not an overt realization. The differences might be attributed to the differences with respect to labeling systems for verbal complexes: Japanese V_1 can be preverbal form with anti-labeling feature [γ], Chinese can have a device to make V^0 strong within a verbal complex, while English has neither of them.

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NOTES

[1] The judgment is Yamada's (1998: 32). Some speakers of Japanese may find (4c) not that bad but we find there is a sharp contrast between (4c) and (5) in the desired direction.

[2] Fukuda's (2012) data is based on judgment task experiment and thus the result in Fukuda is presented as a statistic data.

[3] *Pao* may mean 'escape' as well as 'run', and when *pao* means 'escape,' the sentence in (20) is grammatical. Throughout the paper, we will stick to the second meaning of *pao*, i.e., 'run,' in which case (20) is not acceptable.

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from に後続する前置詞句の補語句用法について－*BNC* の調査を通じて－

（A Corpus-Based Analysis of '*from* + Prepositional Phrase'）

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キーワード：前置詞句の補語句用法, *from*, *BNC*, 強調用法と参照点用法

1. はじめに

本稿では、前置詞句の補語句用法（＝[[前置詞 $_1$][前置詞句 $_2$]]）を分析するために、[[前置詞 $_1$][前置詞句 $_2$]]の組み合わせの中で、最も頻繁に生じる[[from][前置詞句 $_2$]]を考察対象として、[前置詞句 $_2$]内に現れる前置詞と名詞句の傾向を定量的に明らかにする。

英語の前置詞は補語句として名詞句をとる品詞と定義される（Quirk et al 1985）。一方で、英語の前置詞には補語句として前置詞句をとる用法が指摘されている。

(1) (a) He picked up the gun <u>from</u> *under the table*.
(b) We didn't meet <u>until</u> *after the show*.
(c) Food has been scarce <u>since</u> *before the war*. (Quirk et al. 1985: 658n)

(1)では、下線部が引かれた前置詞の補語句が前置詞句となっている。文法書において、前置詞は補語句として名詞句をとる品詞と定義されるように、(2)のような構造は、一般的な文法規則の例外となる。

(2) [[前置詞 $_1$][前置詞句 $_2$]]

本稿では、[[前置詞 $_1$][前置詞句 $_2$]]が持つ形式的・意味的な特徴を明らかにするために、[[前置詞 $_1$][前置詞句 $_2$]]の組み合わせの中で、最も頻繁に生じる[[from][前置詞句 $_2$]]に対して、*British National Corpus* (World Edition)を用いて以下の 3 点を検証する。

(3) (a) [[from][前置詞句 $_2$]]に現れる前置詞の頻度
(b) [前置詞句 $_2$]が表す意味の分類
(c) [前置詞句 $_2$]の機能的な分類

結論を先取りすると、[前置詞句 $_2$]の機能は、名詞句が表す領域を強調する「強調用法」と、名詞句が表す領域に関連した領域を表す「参照点用法」に大別され、両用法では使用される動機づけが異なる。

2. 前置詞句の名詞的用法

前置詞句の名詞的用法には前置詞句が主語位置に現れるものと、前置詞の補語位置に現れるものがある（Quirk et al. 1985; Huddleston and Pullum 2002）。多くの文献は、前置詞句が主語位置に現れる前置詞句主語用法を考察している（Jawarska 1986; 坪井 1990; 出原 1998; 岩﨑 2009）。これらの分析では、前置詞句主語構文は空間的用法が最も多いと同時に、指示性が高い前置詞句が主語位置に現れやすい点を指摘している。

一方、前置詞句主語に比べて、前置詞の補語となる前置詞句の研究は進んでいない。Huddleston and Pullum (2002）では、前置詞句補語をとる典型的な前置詞は *from*, *since*, *till*, *until* であり、句全体の意味は空間的意味と時間的意味に限られると述べている。しかし、コーパス内の実例を見ると、[前置詞句 $_2$]（すなわち、前置詞句補語となる前置詞句）は均質的なカテゴリーを形成するのではなく、先

行研究では指摘されていない様々なタイプの用法が見られる。

(4) His mother's voice was cold <u>from</u> *behind the make-up towel*.
(5) Mr. Gonzalez has also come in for criticism <u>from</u> *within his own party*.
(6) The price of the base DCE license costs <u>from</u> *between $150-$2,400*

(4)は空間的意味を持つ用法であるが、前置詞句の名詞的な用法が表す領域の指示性は高くない。つまり、タオルの向こう側の領域は必ずしも周囲から明確に区切られているわけではない。(5)は前置詞句の名詞的な用法が表す領域が、空間や時間的なものではなく組織を表す例である。(6)も同様に、前置詞句の名詞的な用法が値段を表している。このように、前置詞句の補語句用法に注目すると、前置詞句が名詞的に使われる用法は均質的ではなく、様々な用法が含まれていることが示唆される。

このような状況の中、大谷（2015）では前置詞の補語句として現れる前置詞句について、45 の主要な前置詞を、*BNC* を用いて定量的に調査することで、以下の点を明らかにした。

(7) [[前置詞 $_1$][前置詞句 $_2$]]の[前置詞 $_1$]には *from* が最も定着している（T スコアが有意に高い前置詞の組み合わせで、15/17 が *from* を含んでいた）。
(8) [[前置詞 $_1$][前置詞句 $_2$]]の[前置詞句 $_2$]には、二音節以上の接頭辞 *a-*, *be-*を含むものが非常に多い（behind, beneath, among, across, between など）。
(9) [[前置詞 $_1$][前置詞句 $_2$]]全体の意味は空間的意味が多いが、先行研究では指摘されていない集団や組織を表す意味（from within the group; from outside experience）や値段を表す意味（from between $150-$2,400）も存在する。
(10) [[前置詞 $_1$][前置詞句 $_2$]]は機能に注目すると 3 種類に分類できる。
  (i) **強調型**：補語句となる前置詞句が主要部となる前置詞の意味を強調する（例: from within the company, from around the world, through till April）
  (ii) **特定型**：補語句となる前置詞句が主要部となる前置詞の意味を特定する（例: from under the table, from behind the make-up towel）
  (iii) **付与型**：補語句となる前置詞句が主要部となる前置詞に意味を付与する（例: e.g. from across the field, until after his death）

本発表では、大谷（2015）の調査を進め、他の前置詞の組み合わせに比べて、出現頻度が著しく高い、[[from][前置詞句 $_2$]]に対して、*BNC* を用いた網羅的な調査を行うことで、前置詞の補語句用法が持つ特徴を明らかにする。

3. データと方法論

本発表では、[[from][前置詞句 $_2$]]の事例を収集するため、*BNC* の網羅的な調査を行った。第一に、*BNC* に付属のコンコーダンサーを用いて、[前置詞 *from* + 前置詞]の検索を行い、ヒットした全 4162 例を前後の文脈とともに、Excel に抽出した。第二に、抽出されたデータに基づいて、前置詞句補語句内に現れる前置詞と名詞句の傾向を調査した。最後に、*BNC* の調査に基づいて、[[from][前置詞句 $_2$]]の機能に対して認知言語学の観点から考察を行った。

4. 結果と考察

4.1. 考察 1: [[from][前置詞句 $_2$]]に現れる前置詞の頻度

最初に、[[from][前置詞句 $_2$]]に現れる前置詞の頻度の考察を行った。表 1 は *from* に後続する前置詞を頻度順に並べたものである（括弧内は前置詞の使用頻度順位）。表 1 では、各前置詞の主な用法とコーパス内での総頻度を記している。例えば、*behind* は、[[from][前置詞句 $_2$]]内で 610 回出現する一方で、*BNC* 内の総頻度は 19,073 回、前置詞全体の使用頻度順では 33 位である。また、表 2 は[前置詞句 $_2$]の主な用法と前置詞句内に現れる代表的な名詞をまとめたものである。

#	前置詞	頻度	主な用法	総頻度	#	前置詞	頻度	主な用法	総頻度
1	behind	610	空間	19073 (33)	11	beyond	77	空間	10137 (41)
2	within	587	組織・抽象	44420 (21)	12	amongst	73	組織	4447 (45)
3	under	472	空間	54804 (18)	13	outside	73	抽象・空間	11186 (39)
4	around	283	空間	25986 (26)	14	throughout	67	空間・時間	11451 (40)
5	among	233	組織・空間	22439 (29)	15	off	62	空間	29452 (24)
6	across	217	空間	20704 (30)	16	over	62	空間	80369 (15)
7	beneath	180	空間	4403 (45)	17	before	53	時間	45272 (20)
8	between	115	数字・空間	88930 (14)	18	up	42	空間	22542 (28)
9	about	110	時間・数字	150569(11)	19	down	38	空間	17465 (34)
10	out of	95	空間・抽象	46796 (19)	20	beside	33	空間	5359 (44)

表 1　*from* に後続する前置詞 [1]

	前置詞	主な用法	補語の性質とおもな補語
1	*behind*	空間	cloud, desk, counter, door, wheel, screen (見えない場所)
2	*within*	組織	10 miles,　program, party, community, Europe (組織、PC、距離)
3	*under*	空間	feet, nose, nail, brow, stone, lash, tree (身体、身近な物)
4	*around*	空間	world (多い), Britain, Europe, neck, mouth (地理、身体部位)
5	*among*	組織、空間	a number of people,　member, grass (人、選択肢が多い)
6	*across*	空間	world (多い), country, Britain, Atlantic (国、道、河など地理)
7	*beneath*	空間	lash, tree, bed, bottle (身近な物)
8	*between*	数字、空間	10am and 4pm, 15% and 20%, teeth, fingers, stars (数字、身体部位)
9	*about*	時間、数字	10.5% to 11.5% , mid-1870s, the year, their back　(大体、空間もあり)
10	*out_of*	空間、抽象	bag, nowhere, hands (身近な物、身体部位)
11	*beyond*	空間	grave, wall, mountain, stars (高さがあるもの)
12	*amongst*	組織	number, members, workers, list (人、選択肢)
13	*outside*	抽象、空間	university, interference, competition, contact (抽象名詞、空間)
14	*throughout*	空間、時間	Britain, Africa, UK, year (国、時間もあり)
15	*off*	空間	table, nose, earth,　Florida (動的、静的)
16	*over*	空間	boarder, horizon, shoulder (離れた上の領域)
17	*before*	時間	century, war, birth (世紀、出来事)

18	*up*	空間	there, here, north, lane, hill (場所、方向、直示)
19	*down*	空間	river, road, valley, there (場所、直示)
20	*beside*	空間	bed, wall (身近)

表 2　[前置詞句 $_2$]の主な用法と前置詞句内に現れる代表的な名詞

表 1 と表 2 の結果から、*from* の補語句として現れる前置詞と名詞に関して次の 4 つの傾向が明らかになった。第一に、各前置詞の *BNC* 内での出現頻度と、*from* に後続する前置詞の頻度はかなり異なる。*at*, *in*, *on*, *to*, *for* 等、総頻度が高い前置詞は、[前置詞句 $_2$]の位置には現れない。[2] 第二に、出現頻度がそれほど高くなく、形態的にも二音節以上の前置詞が前置詞句補語の主要部として現れる傾向がある。第三に、類義的な前置詞では、*in* < *within*, *out* < *outside*, *through* < *throughout* のように、頻度が低く典型的でない前置詞の方が[前置詞句 $_2$]内に現れやすい。第四に、[前置詞句 $_2$]は、空間的な位置を表す用法が多いが、時間的・抽象的な用法も見られる。

4.2. 考察 2: [前置詞句 $_2$]が表す意味の分類

次に、考察 1 の分析を進め、[前置詞句 $_2$]が表す意味を分類すると表 3 にようになる。

空間：位置（静的）	強調型	It came <u>from</u> *within the cottage* / Guests came <u>from</u> around the world / Child care experts have gathered <u>from</u> *throughout Scotland*.
	特定型	The sun came out <u>from</u> *behind a cloud* / Something had crawled <u>from</u> *under a stone*.
	付与型	There was a rival <u>from</u> *across the Atlantic too* / She waited for the shouts <u>from</u> *beyond the trees* / if you're <u>from</u> outside the village ...
空間：経路（動的）		We'll soon wipe the smile <u>from</u> *off your face*. / … an urgent hiss came at her <u>from</u> *down the gallery*
時間		this is a statement <u>from</u> *before the war*. / … choose <u>from</u> *throughout the year*. / Wine and Cider will increase by two pence a bottle <u>from</u> *after Christmas*.
その他		… elected <u>from</u> *among the members* …　（組織）/ You … write about it <u>from</u> *outside experience*.（経験）/ Dating <u>from</u> *between 1875 and 1885*　（年代）/ This varies <u>from</u> *about 2.5% to around 10%*.（単位）/ … immigrants came <u>from</u> *within a 10-mile radius*（距離）

表 3　[前置詞句 $_2$]の意味の分類

表 3 は、[前置詞句 $_2$]の意味を空間、時間、その他に大別したものである。調査の結果、[前置詞句 $_2$]では、空間を表す意味を持つものが最も頻度が高く多様な機能を持っている点が確認された。また、前置詞の名詞的用法を扱う先行研究では、一般的に、空間的な位置関係を表す静的な用法が指摘されていたが、本稿の調査では、経路を表す動的な用法も観察された。さらに、静的な位置関係を表す用法は、大谷（2015）の分類に基づくと、強調型、特定型、付与型に分けられる。強調型は、*from within the cottage* のように、[前置詞句 $_2$]全体が表す領域と、[前置詞句 $_2$]内の名詞句が表す領域は一致するものである。対照的に、特定型（from under the table など）、付与型（from across the field）と進むにしたがって、[前置詞句 $_2$]全体が表す領域と、[前置詞句 $_2$]内の名詞句が表す領域は離れていく。特定型と付与型は、[前置詞句 $_2$]が表す領域が参照点となり、名詞句を基準とした相対的な領域が、前置詞によって表される点で共通している。

また、空間関係を表す用法には[前置詞句$_2$]が動的な経路を表す用法も見られる。例えば、*wipe the smile <u>from</u> off your face* おいて前置詞の *off* は位置関係ではなく、顔から離れる経路を表している。

さらに、今回の調査では、[前置詞句$_2$]に、大谷（2015）等の一部の先行研究を除いては指摘されていない、組織、経験、単位、距離などを表す意味が見られ、抽象的な意味が幅広く定着している点を明らかになった。

4.3. 考察 3: [前置詞句$_2$]の機能的な分類

表 3 の分類をさらに進め、[前置詞句$_2$]を機能的に分類すると[前置詞句$_2$]は、(i) [前置詞句$_2$]全体が名詞句的な属性を持つものと、(ii) [前置詞句$_2$]内の前置詞が副詞的になり後続する名詞句全体を修飾するものに分けられる。

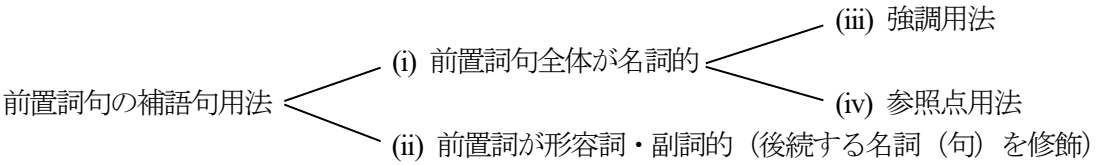

図 1　前置詞句の補語句用法の分類

最初に、(i)の前置詞句全体が名詞句的な属性を持つものに注目すると、その中には、(iii)のような、名詞句が表す領域と[前置詞句$_2$]全体が表す領域が一致するものと、(iv)のような一致しないものに分かれる。

一致するタイプ	一致しないタイプ
from within the company, from among the members, from across the world, from throughout the country	from behind the curtain, from under the bed, from across the channel, from beneath a tree, from beyond the grave

表 4　[前置詞句$_2$]とその 中の名詞句が表す領域

本稿では、(iii)の一致するタイプを前置詞句補語の「強調用法」と呼ぶ。強調用法では、名詞が表す領域全体の境界が強調される。名詞句が表す領域と[前置詞句$_2$]全体が表す領域が一致するため、*from (within) the company*, *from (among) the members* のように、[前置詞$_2$] 内に現れる前置詞を省略しても客観的な事態は変わらない。一方、本稿では、(iv)の一致しないタイプを「参照点用法」と呼ぶ。参照点用法では、名詞句が表す領域と[前置詞句$_2$]全体が表す領域が一致しない。*from behind the curtain* を例にすると、「カーテンの後ろから」というように、名詞句の *the curtain* が参照点となり、カーテンからの相対的な関係が前置詞の *behind* によって表される。

強調用法と参点用法では、前置詞句が表す領域と名詞句が表す領域が一致するかどうかが異なると同時に、前置詞句が名詞的に用いられる動機づけも異なると考えられる。強調用法は、前置詞によって客観的な事態に変化が起こるわけではなく、話者が、名詞句が表す領域を強調するために用いられる。これは 4.1 節で示したように、類義的な前置詞において、より強い意味を表す前置詞が多用されることからも支持される（news from {outside/throughout/within} the country など）。対照的に、参照点用法では、前置詞が現れることで、表される事態が変化する。参照点用法では、「名詞句の｛うしろ、わき、した、向こう｝」などの空間的な位置関係が表されるが、これらの領域は名詞句を用いて適切に表すのが難しい領域であるため、名詞句が参照点となり、名詞句が表す領域からの相対的

な位置関係が前置詞によって表されていると考えられる（from outside the company など）。

また、前置詞句補語句には、(ii)のように、[前置詞句 $_2$]内の前置詞が副詞的に名詞句全体（あるいは形容詞的に名詞）を修飾するものもある。

(11) (a) The event runs from <u>between</u> *10am and 4pm*.
(b) As the baby grows up, 24-hour rhythms begin to appear from <u>about</u> *the second month of life onwards*.

(11)では、*between* や *about* が後続する名詞句全体を修飾しており、前置詞が副詞的な機能を持つと言える。

前置詞句主語の先行研究では、前置詞句が名詞的に使用される場合は指示性が高いとされてきた。しかし、前置詞句の補語句用法が示すように、前置詞句の名詞的用法には様々なタイプが含まれる。参照点用法の中には、前置詞句が表す領域の指示性が高くなく、名詞句が表す領域を参照点とした漠然とした領域を表すものもある（from outside the library, from beyond the wall）。[3] 参照点用法が表す領域の場合、前置詞句が表す領域は必ずしも周りから区切られた指示性の高いものになるとは限らない。

一方で、参照点用法にも一つ共通点が見られる。それは、[前置詞句 $_2$]全体が表す領域がそのほかの領域から少なくとも一つの境界によって区切られる点である。例えば、*from outside the library* では、*outside the library* が表す区域全体が周りから区切られているとは考えにくいが、図書館の内側と外側の領域が対比され両者の間には明確な境界が存在する。また、*from beyond the wall* でも同様に、壁の向こう側の区域が区切られた空間であるとは必ずしも言えないが、話者のいる場所とは壁の向こう側では視覚的にも区切られており、両者の間には境界が存在する。他にも、*from behind the make-up towel* や *from under the table* のような参照点用法の例でも、タオルの後ろやテーブルの下の領域は必ずしも区切られた指示性の高い領域ではないが、話者の視点を中心に考えると、[前置詞句 $_2$]は、話者の視界からは見えない境界の向こう側の領域を指していると言える。

さらに、[前置詞句 $_2$]には、*from <u>between</u> 10am and 4pm.* のように、[前置詞句 $_2$]内の前置詞が副詞的に名詞句全体（あるいは形容詞的に名詞）を修飾していると考えられるものもある。この用法は、前置詞句の補語句用法と言っても、[[前置詞 $_1$][前置詞句 $_2$]]のような一般化ではなく、[[前置詞 $_1$][[前置詞の副詞的用法][名詞句]]]のような捉え方が妥当かもしれない。[4]

5. まとめ

本稿では、*BNC* の網羅的な調査に基づいた[前置詞句 $_2$]の分析を行うことによって、前置詞句補語句は、名詞句が表す領域を強める強調用法と、名詞句が表す領域に関連する領域を表す参照点用法に分類できる点を明らかにした。後者は必ずしも、指示性が高いわけではなく名詞句が表す領域を参照点とした漠然とした領域を表すこともある。

また、本稿では、図 1 のように、前置詞句の補語句用法は均質的なカテゴリーを構成するのではなく、異なる機能を持つことを示した。前置詞句の補語句用法は、一般的に、標準的な文法規則からは外れるが、それぞれに異なる動機づけを持つ具体的な下位構文としても捉えられるであろう（Taylor 2012）。

今後の課題としては、通時的・共時的な[[from][前置詞句 $_2$]]の広がりの考察が考えられる。現在、予備的な調査を行っており、通時的なコーパスである、*Corpus of Historical American English* (*COHA*)を用いた調査では、*from under*, *from behind*, *from within* は近年増

えている一方で、*from among*, *from off* は近年減っている等の、各前置詞における顕著な違いが確認されている。また、方言が収集されている、*Corpus of Global Web-based English* (*GloWbE*)による調査では、US, GB, Canada, Ireland, Australia, New Zealand の 6 つの方言の振る舞いが比較的似ている点や、Pakistan 方言で多用される *from among*, *from amongst* のように、一部の方言だけと結びつきが強い[[from][前置詞句 $_2$]]がある点が確認されている。

考察の範囲を広げ、様々な変種に注目することで、非標準的とされる[[前置詞 $_1$][前置詞句 $_2$]]がどのような形で知識として定着しているかについて今後も探っていきたい。

注

[1] *from* に後続する前置詞の調査では、*from*, *in*, *to*, *on* のような前置詞も出てきたが、ほとんどが、言い直し、自動詞の受動態+前置詞であったため、表 1 からは除外した。

[2] ただし、表 1 を見ると、前置詞の出現回数が 14 以上の前置詞と 15 位以下の前置詞では系統が多少異なる。

[3] 英語において、前置詞句の名詞的用法の参照点用法が発達している理由として、英語は、空間的な位置を「上、下、前、後ろ」のような名詞で表す日本語のような言語とは異なり、関係を表す前置詞で表すことが挙げられるであろう。前置詞の中には、*He appeared from {behind/beneath}.*の *behind* や *beneath* のように名詞的に使われるものもある。

[4] 実際、辞書の中には、*from between 10am and 4pm* や *from around 9 o'clock* の *between* や *around* を副詞に分類しているものも多いが、本稿では、*BNC* の品詞タグに基づいた分類をしているため、前置詞としている。

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コーパス

BNC: British National Corpus (Available at http://www.corpora.jp/~scn/bnc.html?page=top)

COHA: Corpus of Historical American English (Available at https://corpus.byu.edu/coha/)

GloWbE: Corpus of Global Web-based English (Available at https://corpus.byu.edu/glowbe/)

A Phonological Analysis of VP-Ellipsis*

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Keywords：VP-Ellipsis, infinitival clause, phonological phrase, intonational phrase, focus restructuring

1. Introduction

The goal of this paper is to propose a new phonological analysis of VP-Ellipsis (VPE) in infinitival clauses. The VPE is licensed in a complement of a predicate, as in (1a), but it cannot be allowed in a subject infinitival clause, as in (1b). A missing VP is indicated by underline "__" here and below.

(1) a. Bill wants to leave, but Mary doesn't want to __.
b. *You shouldn' t play with rifles because to __ is dangerous.
(Johnson (2001: 445))

This restriction has been analyzed in terms of phonology by Zwicky (1982) and O'Flynn (2008). However, their analyses do not provide a sufficient account in that they involve some problematic structural assumptions. I propose an alternative analysis by assuming that phonological phrases (Φ-phrases) in a VPE sentence are restructured by applications of Focus Restructuring Rule in Kenesei and Vogel (1995), and that VPE is permitted if an infinitive marker *to* can form a Φ-phrase with its prosodic host via the restructuring operation.

2. Previous Analyses and Their Problem

In this section, I review previous phonological analyses in Zwicky (1982) and O'Flynn (2008). Zwicky assumes that an infinitive marker *to* is phonologically too weak to stand alone. Therefore, an infinitive marker requires a prosodic host. This assumption is supported by the following examples, where two short answers are contrasted.

(2) Do you want to leave, or not to?
a. Not to.
b. *To. (Zwicky (1982: 7))

(2a), as opposed to (2b), is grammatical because the infinitive marker co-occurs with its prosodic host (the negation *not*).

Zwicky observes that the phonological dependency is usually established between an infinitive marker and a following element like (3a), and that, in the absence of the following element as a result of VPE, it (re)attaches to the preceding element like (3b). A Φ-phrase is indicated by round bracket with Φ "$(\quad)_{\Phi}$" here and below.

(3) a. $(\text{We want})_{\Phi}$ $(\text{to leave})_{\Phi}$
b. $(\text{We want to})_{\Phi}$ __

Zwicky formulates this prosodic restructuring operation as follows.

(4) *To* Reattachment (Zwicky (1982: 29))
When it does not form a VP constituent with an immediately following VP, the English infinitive marker *to* attaches to the constituent immediately to its left, to form a phonological phrase with it.

In addition, Zwicky proposes that applications of (4) is restricted in particular syntactic environments, as stated by the condition of (5).

(5) The Own-S Condition
An infinitive marker cannot move out of its surface-structure S.

Furthermore, O'Flynn (2008) articulates the concept of "S" which prevents restructuring operations, and then defines the boundary for the operations as follows.

(6) S-boundary is a CP boundary.
(cf. O'Flynn (2008: 15))

As a result, restructuring across a CP boundary is prohibited, while restructuring which crosses a TP is permitted.

Now, I briefly review O'Flynn's analysis of the data in (1). First, let us see how the VPE is allowed in (1a). O'Flynn assumes that a complement infinitival clause forms a TP. This means that there is no CP boundary between a verb selecting an infinitival clause and an infinitive marker of the clause. I roughly schematize a syntactic structure of (1a) in (7a), and its phonological representation in (7b).

(7) a. Bill wants to leave, but Mary doesn't $[_{VP}$ want $[_{TP}$ to __]] (= (1a))
b. Bill wants to leave, but Mary doesn't (want to)$_{\Phi}$

In (7b), restructuring makes a Φ-phrase contain both the infinitive marker and its host. The resulting prosodic structure is legitimate, and thus the sentence is grammatical.

Next, let us turn to how O'Flynn blocks VPE in infinitival clauses in (1b). She assumes that subject clauses are CPs. Then, sentence (1b) has the phonological representation in (8b). The CP boundary is indicated by round bracket with CP "( )$_{CP}$."

(8) a. *You shouldn't play with rifles because $[_{CP}$ to __] is dangerous (= (1b))
b. you shouldn't play with rifles because ((to)$_{\Phi}$)$_{CP}$ is dangerous

As in (8b), Φ-phrase restructuring across the CP boundary is blocked. As a result, the infinitive marker stands alone within a Φ-phrase, and hence the phonological output is illegitimate. Therefore, the VPE is disallowed.

Although this kind of analysis solves the distribution of VPE in infinitival clauses, they are not without problems. As O'Flynn herself suggests, there is no convincing support to take a complement clause of a control verb as TP. In fact, control predicates have been assumed to take a CP, but not a TP. This is supported by the difference in the movability between a complement clause of a control verb and that of a raising verb, as exemplified in (9).

(9) a. ? It was to win the race that we wanted.
b. *It was to be winning the race that she seemed. (O´Flynn (2008: 19))

In (9a), the complement clause of a control verb can move into the focus position of the cleft sentence, while, in (9b), that of a raising verb cannot. The contrast can be attributed to the structural difference: control verbs take CP complements, which can move, whereas raising verbs take TP complements, which cannot move. This suggests that the structural assumption that a complement infinitival clause in (7a) forms TP is incorrect.

3. Proposal and Analysis

In this section, I propose a new phonological analysis which does not appeal to a particular syntactic constituent to regulate restructuring operations.

To begin with, I make two assumptions for my argument. First, following Samko (2014) and Lopez and Winkler (2000), I assume that VPE involves focus which is realized on a T-element.[1] Specifically, VPE in infinitival clauses is licensed by the focus on an infinitive marker. This assumption is supported by the fact that VPE is not licensed by a contracted form of *to*, which Wilder (1997) observes is not compatible with focus:

(10)*John is leaving, and I wanna __ too.
(Zagona (1988: 96))

The ungrammaticality of (10) suggests that VPE in infinitival clauses requires the infinitive marker to be focused.[2]

Second, I adopt Focus Restructuring Rule proposed in Kenesei and Vogel (1995). They argue that English has the Focus Restructuring Rule in (11).

(11)Focus Restructuring Rule: English
If some word in a sentence bears focus, place a Φ-phrase boundary at its right edge, and join the word to the Φ-phrase on its left.

According to this rule, a focused word is phonologically separated from the word on its right side even if they form a Φ-phrase in a non-focus circumstance. Instead, such a focused word is added to a preceding Φ-phrase. This restructuring rule is motivated by the effect on the Rhythm Rule, which prevents the clash of two adjacent primary word stresses within a Φ-phrase. See the examples in (12), where stress is explicitly expressed, and a focused word is marked by bold font with square bracket "**[ ]**."

(12) a. It's hard (to $\boxed{\text{outcláss}}_{\Phi}$ (Délaware's football team)$_{\Phi}$.
→ … (to outcláss)$_{\Phi}$ (Délaware's football team)$_{\Phi}$
b. It's hard (to $\boxed{\text{outcláss}}_{\Phi}$ $\boxed{\textbf{([Délaware's]}}$ football team)$_{\Phi}$.
→ … (to óutclass **[Délaware's]**)$_{\Phi}$ (football team)$_{\Phi}$ …
(Kenesei and Vogel (1995: 19, 22))

In (12a), two stresses are adjacent, but neither of them shifts to avoid the clash of the stresses because they do not exist within a Φ-phrase. However, when focus is placed on the latter word, the Rhythm Rule may apply, as shown in (12b). This fact follows from the restructuring rule in (11). That is, the focused word is added to the Φ-phrase on its left via the Φ-phrase restructuring, and then Rhythm Rule applies.

Notice that Kenesei and Vogel argue that applications of the rule in (11) is restricted in particular circumstances such as (13), where two stresses are separated by an Intonational Phrase (ι-phrase) boundary. An ι-phrase boundary is indicated by round bracket with a symbol ι "( )$_{\iota}$."

(13)Martha, (according to $\boxed{\text{Paulíne,)}_{\iota}}$ $\boxed{\textbf{([ówns])}_{\Phi}}$ the house.
→*... (to Páuline)$_{\Phi}$)$_{\iota}$ (**[ówns]**)$_{\Phi}$ (the house)$_{\Phi}$
(ibid.: 29)

Rhythm Rule does not apply to (13) even if the verb *owns* has focus. This data suggests that Focus Restructuring does not apply over an

ι-phrase boundary, and the two stresses exist in a different Φ-phrase.

As a consequence of the above assumptions, an infinitive marker that is focused in VPE contexts undergoes Focus Restructuring, and it is added to a preceding Φ-phrase. However, such restructuring is blocked if an ι-phrase boundary is intervened between an infinitive marker and its preceding word. I propose that the restructuring explains the distribution of VPE in infinitival clauses.

Now, let us turn to my analysis of the distribution of VPE shown in (1). First, consider (1a). Following Selkirk's (2005) observation that there is no ι-phrase boundary between a verb and its complement clause, (14a) undergoes the Φ-phrase restructuring as in (14b).

(14) a. Bill wants to leave, but Mary doesn't want to __. (= (1a))

b. … (want)$_{\Phi}$ (**[to]** leave)$_{\Phi}$

→ … (want **[to]**)$_{\Phi}$ ~~(leave)~~$_{\Phi}$

As shown in (14b), the focused infinitive marker can be combined with a preceding verb via Focus Restructuring. The legitimate prosodic structure is obtained, so that the sentence is grammatical.

Next, consider (1b). Following An (2007) and Selkirk (1981), I assume that a subject clause forms an ι-phrase. Then, sentence (15a) obtains the phonological representation of (15b).

(15) a. *You shouldn't play with rifles because to __ is dangerous. (= (1b))

b. because ((**[to]** play)$_{\Phi}$ (with rifles)$_{\Phi}$)$_{\iota}$

→ because **(**((**[to]**)$_{\Phi}$ ~~(play)~~$_{\Phi}$ ~~(with rifles)~~$_{\Phi}$)$_{\iota}$

(15b) shows that incorporation of *to* into a preceding Φ-phrase is impossible because it is blocked by the ι-phrase boundary. Since the infinitive marker stands alone within a Φ-phrase, the obtained prosodic structure is illegitimate, and hence the sentence is ungrammatical.

In contrast, if an infinitive marker co-occurs with a negation as shown in (16a), VPE is possible. Its phonological representation is given in (16b).

(16) a. You should unload rifles because not to __ is dangerous.

(Johnson (2001: 447))

b. because **(**((**[not to]**)$_{\Phi}$ ~~(unload)~~$_{\Phi}$ ~~(rifles)~~$_{\Phi}$)$_{\iota}$

In (16b), the infinitive marker is combined with a preceding element *not*. The phonologically weak word can depend on the preceding material, and therefore the sentence is grammatical.

4. Consequences

4.1. Extending the Data Range

The current proposal predicts that VPE is always impossible if the operation strands an infinitive marker alone within a Φ-phrase as a result of blocking Focus Restructuring. In this subsection, I provide further data to show that the prediction is borne out.

The first data involves parentheticals and non-restrictive relatives (NRR), which are well-known to form an ι-phrase on their own (see Selkirk (1984)). My proposal predicts that VPE stranding an infinitive marker is disallowed if the phonologically weak word directly follows a parenthetical phrase or an NRR. This prediction is borne out by the data in (17a, b), whose phonological representations are presented in (18a, b), respectively.

(17) a. *For John to help Mary will make her happy and for Bill, as she hopes, to __ will make her happier.

b. *For John to help Mary will make her happy and for Bill, who she likes the best, to __ will make her happier.

(18) a. For John to help Mary will make her happy and for Bill, (as she hopes,)$_{\iota}$ (**[to]**)$_{\Phi}$ will make her happier

b. For John to help Mary will make her happy and for Bill, (who she likes the best,)$_{\iota}$ (**[to]**)$_{\Phi}$ will make her happier

In (18), Φ-phrase restructuring is prevented by ι-phrase boundaries, and hence the VPE sentences are ungrammatical. The phonological analysis is supported by the fact that VPE is allowed if a parenthetical phrase or an NRR follows an infinitive marker. The relevant examples are presented in (19) with their phonological representations in (20).

(19) a. For John to help Mary will make her happy and for Bill to __, as she hopes, will make her happier.

b. For John to help Mary will make her happy and for Bill to __, who she likes the best, will make her happier.

(20) a. For John to help Mary will make her happy and (for Bill **[to]**)$_{\Phi}$, (as she hopes,)$_{\iota}$ will make her happier

b. For John to help Mary will make her happy and (for Bill **[to]**)$_{\Phi}$, (who she likes the best,)$_{\iota}$ will make her happier

In (20), the infinitive markers are not separated from their host by ι-phrase boundaries, and therefore the legitimate prosodic structures can be obtained by Focus Restructuring.

Second, VPE stranding an infinitive marker is prohibited in a remnant of gapping, which Selkirk (2005) argues forms an ι-phrase on its own. The VPE data and its phonological representation are presented in (21).

(21) a. *John wants not to leave, but Bill, to.

b. John wants not to leave, ((but **[Bill]**)$_{\Phi}$)$_{\iota}$ ((**[to]**)$_{\Phi}$)$_{\iota}$

The VPE is prohibited because Focus Restructuring is prevented and the infinitive marker stands alone.

The grammaticality of VPE improves if an infinitive marker co-occurs with a negation within the formed ι-phrase.

(22) a. John wants to leave, but Bill, not to.

b. John wants to leave, ((but **[Bill]**)$_{\Phi}$)$_{\iota}$ ((**[not to]**)$_{\Phi}$)$_{\iota}$

In (22), the infinitive marker can be combined with its host, and thus the VPE is licensed.

The third context is brought from the case of rightward-movement of a clausal constituent. An (2007) proposes that this kind of moved constituent forms an ι-phrase. VPE stranding an infinitive marker in such a rightward-moved position is impossible, as shown in (23a). The relevant prosodic structure is schematized in (23b).

(23) a. *John wants for some reason to leave, and Bill wants for another reason to __.

b. … Bill wants, for another reason ((**[to]**)$_{\Phi}$)$_{\iota}$

Sentence (23a) is degraded because Focus Restructuring is blocked and the infinitive marker stands alone within a Φ-phrase.

In contrast, VPE is allowed if the infinitive

marker co-occurs with a negation within a moved clause:

(24) a. John wants for some reason to leave, and Bill wants for another reason not to __.

b. … and Bill wants for another reason (([**not to**])$_{\Phi}$)$_{\iota}$

The grammaticality of VPE improves in (24) because the infinitive marker can be combined with its prosodic host.

4.2. Effect of Copy Deletion

This subsection shows that VPE in infinitival clauses is also affected by another phonological factor other than restrictions on Φ-phrase restructuring. Specifically, VPE cannot be licensed if an additional phonological operation, Copy Deletion, destructs an existing legitimate prosodic structure. This is shown by the contrast in (25), where an infinitival clause has an overt subject (and it strands in (25a) but moves in (25b)).

(25) a. I want John to leave, and you want Bill to __.

b. The public wanted Shultz to resign;
* Who did you want to __?

(Zagona (1988: 103))

The grammaticality of sentence (25a) is straightforwardly accounted for by the current proposal. It has the phonological representation in (26).

(26)… and you want (Bill to)$_{\Phi}$ ~~(leave)$_{\Phi}$~~

Since the infinitive marker is added to the preceding Φ-phrase, the VPE is allowed.

In contrast, the ungrammaticality of (25b) is accounted for with an additional phonological operation, Copy Deletion. The VPE sentence roughly has the syntactic structure in (27a), and obtains the phonological representation in (27b) as a result of VPE and Copy Deletion.

(27) a. who did you want <u>who</u> to resign

b. who did you (want)$_{\Phi}$ (~~who~~ [**to**])$_{\Phi}$ ~~(resign)$_{\Phi}$~~

In (27), the infinitive marker forms a Φ-phrase with a copy of the *wh*-word via Focus Restructuring. However, it loses the prosodic host as a result of Copy Deletion. Hence, the phonological output is illegitimate, and the VPE is disallowed.

In this subsection, I have shown that VPE in infinitival clauses is also affected by another phonological factor, Copy Deletion: The ban on VPE with the movement on *wh*-word can be also accounted for in terms of phonology.

5. Conclusion

In this paper, I have proposed a new phonological analysis of VPE in infinitival clauses. I have reviewed previous phonological approaches to the VPE, and have pointed out their problem regarding their structural assumption. My claim is that VPE is possible if an infinitive marker forms a phonological phrase with a preceding word via Focus Restructuring, and that the restructuring operation is prevented by an ι-phrase boundary. Then, the legitimacy of VPE depends on the applicability of the prosodic phrase restructuring. The proposed analysis is supported by additional data. In addition, I have shown that VPE in infinitival clauses is affected by another phonological factor, Copy Deletion.

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NOTES

[1] This is known as Verum Focus, which is marked on Laka's (1990) Σ and is usually realized on T-elements.

[2] One might doubt this assumption because an infinitive marker cannot have focus stress. I assume with Zwicky that this fact follows from the inherent status of an infinitive marker: it is phonologically too weak to stand alone even when it is focused. Remember that an infinitive marker cannot be stranded alone as a Fragment Answer, as illustrated in (2).

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The Effectiveness of the Control Cycle for an Analysis of Directionality of *to*-Infinitives *

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1. Introduction

There have thus far been many previous studies about the directionality observed in various uses of *to*-infinitives. For example, Wierzbicka (1988) ascribes a future orientation to *to*-complement constructions, and Verspoor (1999) argues that *to*-infinitives always express movement toward an action, but not being there yet, just projecting toward it. Also, Smith and Escobedo (2001) divide examples of *to*-infinitives into four groups as in (1a-d), depending on the meaning of the matrix predicates. For example, they claim that in a sentence like (1a) *to* keeps its spatial path-like sense which clearly overlaps with the path-like sense of the matrix verb, while an example like (1b) evokes purpose (itself directional), which motivates *to* in this context. The subjects in both (1a) and (1b) perform the actions in order to attain the goals. But while the matrix verb in (1a) evokes the path-like sense, the one in (1b) does not. As for a sentence like (1c), they state that it evokes future-oriented volition; the matrix predicate strongly evokes future intention and volitionality, which reflects the inherent directionality of *to*. However, they argue that an example like (1d) does not evoke any sense of directionality.

(1) a. Jethro went (out) to feed the pigs.[1]
b. He does those things to annoy his mother.
c. They want to start a new job.
d. It is difficult/easy to repair a VCR.
(Smith and Escobedo (2001: 553-555))

However, they do not make explicit the factors that motivate the classification of each example and effect a similar sense of directionality in the examples within the same class. In this paper, by analyzing examples with *to*-infinitives in terms of the control cycle (Langacker (2009)), I claim that the meanings of the directionality in the use of *to*-infinitives are globally divided into three groups, and make explicit the factors that motivate the groupings and effect a similar sense of directionality in the examples within the same class.

The organization of this paper is as follows. Section 2 reviews the notion of the control cycle, with resource to Cognitive Grammar (Langacker (2009)). In Section 3, I will explain the factors that motivate the groupings and effect a similar sense of directionality in the examples within the same class, basing my analysis on the control cycle. Also, I will examine some examples with *to*-infinitives in which the meaning of the directionality is not specific. Section 4 is the conclusion of this paper.

2. The Control Cycle

At the outset of our discussion, let us briefly look at the notion of the control cycle (Langacker (2009)), which will provide the basis for my later analysis of the directionality of *to*-infinitives. According to Langacker (2009),

the control cycle is a general cognitive model applicable to many aspects of human experience. He (2009) sketches the basic form of the model as in Figure 1, and raises an instance of physical capture, as when a cat catches a mouse, as the prototype of the cognitive model.

terms of the control cycle.

Langacker (2009: 307) states that "the Control Cycle represents a fundamental pattern inherent in many aspects of living and functioning in the world."

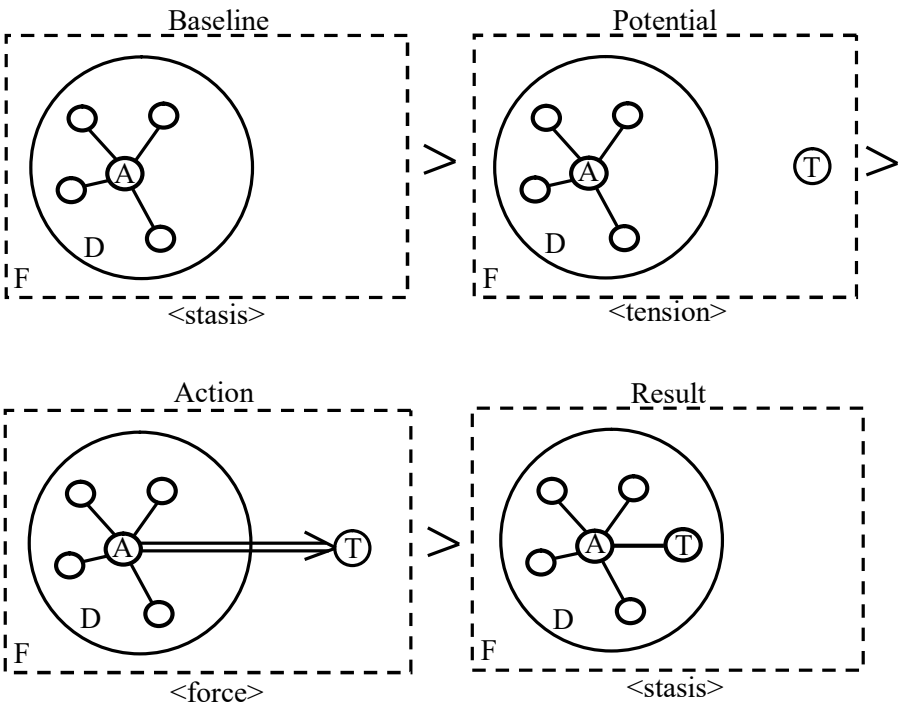

Figure 1 The basic form of the control cycle (Langacker (2009: 130))

According to Langacker (2009: 306-307), a cat (A) is normally in a state of relaxation (Baseline Phase (BP)), but if a mouse (T) should wander into its field of view (F), this creates a state of tension (Potential Phase (PP)). In the next phase (Action Phase (AP)), the cat releases the tension by pouncing on the mouse. If the cat is successful, the mouse is under its control (D) (Result Phase (RP)). Based on the control cycle, Langacker (2009) analyzes examples with *that*-clauses: he divides each example into a certain phase of the control cycle, depending on the meaning of the main predicates. However, he (2009) does not analyze *to*-infinitives in

For example, he (2009: 307) claims that bodily functions like breathing, eating and drinking instantiate the control cycle, as do the directing and focusing of attention, and meeting someone new. Given that it applies to a wide range of phenomena, it follows that matrix clauses involving a *to*-infinitive, which symbolize some part of such a world, also reside in a certain phase of the control cycle. Besides, a *to*-infinitival clause is one that elaborates part of the matrix clause in a certain phase of the control cycle. Therefore, in the next section, I divide examples with *to*-infinitival clauses into several groups in terms of the control cycle, and

examine the directionality of *to*-infinitives.

3. *To*-Infinitives and the Control Cycle

3.1. A Classification Based on the Control Cycle

In Section 3.1, I utilize the concept of the control cycle to specify the factors that motivate the classification of examples with *to*-infinitives and effect a similar sense of directionality in the examples within the same class.

First, let us consider some examples of *to*-infinitives, dividing them into three phases as in (2).

(2) PP: a. They want to start a new job. (=1c)
b. Mary intends to read the article. (Smith and Escobedo (2001: 553))
AP: c. Jethro went (out) to feed the pigs. (=1a)
d. He does those things to annoy his mother. (=1b)
RP: e. I know Mary to be a Mormon. (Wierzbicka (1988: 51))
f. It is difficult/easy to repair a VCR. (=1d)

Later, I claim that the meaning of the directionality is influenced by whether the main clauses are within the potential phase, the action phase, or the result phase.

Before analyzing the directionality in *to*-infinitives in terms of the control cycle, let us verify that it is plausible to apply the control cycle to the analysis of *to*-infinitives. My claim is based on the fact that *to*-infinitives have a higher degree of dependence on main clauses. First, other adverbial clauses like the underlined portions in (3a-c) are relatively independent of the main clauses. Therefore, the meaning of the adverbial clauses is not influenced by whether the main clauses are within the potential phase, the action phase, or the result phase, as in (3a-c).

(3) PP: a. <u>When I danced with him</u>, I wanted to escape from him.
AP: b. <u>When I danced with him</u>, I stepped on his toes.
RP: c. I knew he was nervous, <u>when I danced with him</u>.

On the other hand, *to*-infinitives are conceptually more dependent on the main clauses. For example, *to*-infinitival clauses depend on the matrix clauses for the identification of their trajector (Langacker (2008: 438)). In addition, the matrix clauses predetermine the tense-mood of the *to*-infinitival clauses, and the outcome of the *to*-infinitival clauses are typically dependent on the agent of the main clauses (Croft (2001: 352)). It follows therefore that they are conceptually dependent on the matrix clauses. Due to their conceptual dependence on the matrix clauses, *to*-infinitival clauses are semantically affected by them: matrix clauses in the potential phase causes their *to*-infinitival clauses to evoke 'directionality of intention', matrix clauses in the action phase motivate their *to*-infinitival clauses to mean 'directionality toward a purpose', and matrix clauses in the result phase do not evoke specific directionality in their *to*-infinitival clauses.

Let us examine the examples in (2) in detail in terms of the control cycle. First, sentences (2a-b) are grouped into the same class, because both of them are in the potential phase, where the target (T) designated by the *to*-infinitives is within the clausal subject's field of awareness and intended to be carried out by the subject.

The *to*-infinitival clauses are used with matrix clauses being within the potential phase, which motivates the directionality of intention toward the event (T) to emerge at the composite structure level.

Also, sentences (2c-d) are grouped into the same class, because both of them are within the action phase, where the actor physically moves (as in (2c)) or performs a concrete action (as in (2d)) in order to bring the target (the *to*-infinitival clauses) under the actor's control. The matrix clauses being within the action phase motivates the directionality toward a purpose to emerge at the level of the composite structures of the matrix clauses and the *to*-infinitival clauses.

Finally, the reason why sentences (2e, f) are grouped into the same class is that both of them are within the result phase, where the conceptualizer incorporates the target as part of his knowledge (D), and says he knows this of Mary ('*she is a Mormon*') or shows his judgment toward the target ('*difficult/easy*'). The matrix clauses in the result phase, unlike those in the potential phase or the action phase, do not evoke any intention or action to carry out the target. Therefore, the meaning of the directionality is not specific even at the level of the composite structures of the matrix clauses and the *to*-infinitival clauses.

Thus, the sense of directionality of *to*-infinitives is not haphazard but divided into the three discrete groups in the range of the control cycle. Each example with a *to*-infinitival clause is within a certain phase of the control cycle, which motivates the groupings and a similar sense of directionality in the examples within the same class.

However, it is not still evident why sentences (2e, f) take *to*-infinitives; in these examples, the sense of directionality, which motivates the use of *to*-infinitives, is not specific compared to the other examples within the potential phase and the action phase. I will explain the issue in Section 3.2.

3.2. Examples within the Result Phase

Let us now consider why the examples within the result phase whose directionality is not specific do take *to*-infinitival clauses. First, in order to entertain the proposition 'I know Mary to be a Mormon' as in (2e), it is necessary to go through the potential phase and the action phase of (2e) as in (4a, b).

(4) PP: a. I believe Mary to be a Mormon.[2]
AP: b. I discovered Mary to be a Mormon.

The examples in (4a, b) evoke relatively specific directionality. That is, the clausal subject entertains the mental attitude 'believing (4a)' or carries out the action 'discovering (4b)' in order to incorporate the process into his knowledge (D). Therefore, in (4a, b), the directionality is evoked between Mary and the process designated by the *to*-infinitival clauses: the mental attitude in (4a) or the action in (4b) leads the subject to the conclusion that Mary is a Mormon. Figure 2 represents the directionality. In the diagram, the bold circle represents Mary, and the box the process designated by the non-finite clause. The bold arrow represents the directionality from Mary to the process.

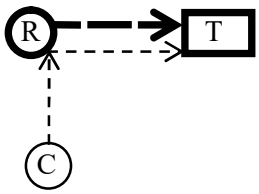

Figure 2

What should be noticed here is that the reference point ability is immanent in the directionality in (4a, b).[3] As shown by the thin arrows in Figure 2, the conceptualizer (C) directs attention to *Mary* as a reference point (R) to establish mental contact with '*Mary is a Mormon*' (target (T)) (cf. Langacker (2015: 73)). The reference point ability that is inherent in the *to*-infinitival clauses with the specific sense of directionality as in the potential or action phases is also applied to (2e) in the result phase, where the objective notion of directionality is attenuated, as shown in Figure 3.

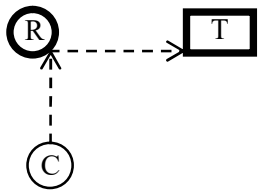

Figure 3

The objective notion of directionality fades away, but when the conceptualizer (C) apprehends the relationship between *Mary* and a *Mormon*, the reference point ability that is immanent in the objective directionality still remains (cf. Langacker (2009: 84-85)): the diagram shows that the conceptualizer (C) first invokes *Mary* as a reference point (R) to mentally access the target (T) *Mary is a Mormon*.[4] I claim the cognitive operation is the one motivating the use of the *to*-infinitive in (2e). Thus, it is possible to explain the motivation for the use of the *to*-infinitive even in examples like (2e), where the objective notion of directionality fades away, by examining such examples in terms of the control cycle as a whole, including the potential phase and the action phase.

The reference point ability is also immanent in examples like (2f), as shown in Figure 4. The diagram indicates that the conceptualizer (C) directs attention to the matrix clause expressing his judgment '*easy*/*difficult*' as a reference point (R), and via the reference point he accesses '*to repair a VCR*' as a target (T) out of a set of potential targets (e.g. *to drive a car*), all of which are in the vicinity of the judgement (dominion (D)) and hence accessible via the reference point.

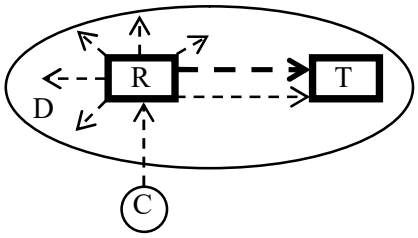

Figure 4

Also, the conceptualizer directs his judgment toward the target, which is represented by the bold arrow from R to T. Therefore, sentence (2f) evokes the directionality of the judgement with the reference point ability, which motivates the use of the *to*-infinitival clause in (2f).

4. Conclusion

This paper has examined examples of *to*-infinitives and analyzed them in terms of the control cycle. Dividing the examples into potential phase, action phase and result phase depending on the meanings of the matrix clauses, I have specified the factors that motivate the groupings and effect a similar sense of directionality in the examples within the same class.

* An earlier version of this paper was presented at the 36th ELSJ Conference. I am grateful to the audiences there for their helpful comments and questions. My thanks also go to Dane

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NOTES

[1] Smith and Escobedo (2001) quote sentence (1a) from Langacker, Ronald W. (1992) "Prepositions as grammatical(izing) elements," *Leuvense Bijdragen* 81.

[2] During and after the presentation, Keisuke Sanada and Mariko Higuchi pointed out that (4a) could be regarded as being in the result phase. According to Langacker (2009: 132-133), the verb *believe* can indicate either that the proposition is already established in the conceptualizer's epistemic dominion (i.e. the result phase) or that the conceptualizer inclines toward accepting the proposition as part of the conceptualizer's view of reality (i.e. the potential phase) (see also (Langacker (2009: 312-313)). This paper treats (4a) as being in the potential phrase.

[3] The reference point model is "a fundamental cognitive model based on our capacity to invoke one conceived entity (a reference point) for purposes of establishing mental contact with another (the target) (Langacker (1991: 552))." Langacker (2008: 83) cites the following example (i).

(i) Do you see that boat out there in the Lake? There's a duck swimming right next to it.

(Langacker (2008: 83))

In (i), "the speaker wants to direct the hearer's attention to the duck, but from a distance the boat is easier to pick out (Langacker (2008: 83))." Therefore, Langacker (2008: 84) states that, in the case of (i), the reference point is the *boat*, and the target is the *duck*.

[4] In cognitive grammar, such linguistic phenomena are examples of what is called subjectification. That is, "mental operations inherent in a certain kind of experience are applied to situations with respect to which their occurrence is extrinsic (Langacker (2008: 528))." Langacker (2008: 528) gives the fictive motions in (ia, b) as examples of subjectification.

(i) a. An ugly scar runs from his elbow to his wrist.
b. An ugly scar runs from his wrist to his elbow.
c. The pitcher ran from the bullpen to the mound.

(Langacker (2008: 529))

He (2008: 529) states that in expressions like (ia, b), "cognitive operations inherent in the conception of spatial motion are applied to static scenes as a way of mentally accessing them."

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wh 融合体の形態・統語構造について*

（On the Morpho-Syntactic Structure of *Wh*-Amalgams）

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キーワード：融合体, 疑問縮約, 挿入句, Spell-Out, インターフェイス

1. はじめに

wh 融合体は、２つの節で表される内容が統語的に１つの文にまとめられ、縮約された間接疑問文が文中で句のように機能する現象である。

(1) John invited *you'll never guess how many people* to his party. (Lakoff 1974: 321)
(= John invited a lot of people to his party, but you'll never guess how many.)

(1)において、斜字体で示された融合体は、統語的に主節の内部に埋め込まれているが、２つの節でパラフレーズされるように、主節とは独立した発話力を持っている。そのため、融合体の介在節と呼ばれる *you'll never guess* に相当する部分は、主節の作用域には含まれない。例えば、(2)に示すように、介在節の主語 *he* は主節主語 *Almost every student* によって束縛されない。

(2) **Almost every student*$_i$ kissed *he*$_i$ didn't even remember how many classmates.
(Johnson 2014:258)

先行研究では、介在節に観察される不透明性を根拠に、*wh* 融合体、または、その一部である介在節は、統語的に、主節とは独立した挿入句であると考えられてきた。本稿では、新たな経験的事実を提示し、融合体は形態統語的には挿入句ではなく、複合的な語を形成していると主張する。

本論は次のように構成されている。２節では、*wh* 融合体の統語的特徴について概観する。３節では、*wh* 融合体を挿入句として扱う先行研究を概観し、その経験的問題点について述べる。４節では、*wh* 融合体を複合的な語とする分析を提案し、５節で、本分析の経験的また理論的帰結について論じる。６節は結論を示す。

2. *wh* 融合体の統語的特徴について

wh 融合体は、意味の観点から、主要部と修飾部の 2 つに分けられる。Huddleston and Pullum (2002)と松山 (2014)は、(1)の *wh* 融合体を、名詞 *people* を主要部とした名詞句であると分析している。(1)において、*people* が *wh* 融合体の主要部であると考えられるのは、*people* が主節動詞 *invited* から θ 役割を付与されているためである。事実、松山 (2016)が指摘しているように、*wh* 融合体には *invited* の選択制限が観察される。

(3) a. John invited {people/*books/*cars} to his party.
b. John invited you'll never guess how many {people/*books/*cars} to his party.
(松山 2016: 127)

また、介在節を含む *wh* 句である *you'll never guess how many* は、語用論的に *a lot of* に相当する数量表現に解釈されるように、*wh* 融合体の主要部を修飾する役割を果たしている。

このように、意味的には、*wh* 融合体の主要部は名詞句であるように思われる。しかし、

wh 句に注目して見てみると、*wh* 融合体の主要部は、統語的には、疑問縮約 (sluicing)により省略された節の形をしている。

wh 融合体が疑問縮約を受けた節であることは、介在節の述語の選択制限から裏付けられる。例えば、動詞 *know* は補部に形容詞句を選択することができないが、(4a)に示すように、形容詞を主要部とした *wh* 融合体を形成することができる。同様に、形容詞 *unclear* は、補部に名詞句を選択することができないが、(4b)に示すように、名詞句を主要部とした *wh* 融合体を形成することができる。

(4) a. John became I don't know how sick yesterday. (Johnson 2014: 259)
b. He devoured it's completely unclear how many cookies. (Johnson 2014: 277. fn. 13)

(4)に示すような *know* や *unclear* は、wh 節を補部に選択することができるため、それぞれ補部に形容詞句や名詞句を選択しているのではなく、CP を選択していると分析される。そして、この CP 内部で、*wh* 移動と TP 削除が適用されることにより、表層上の構造が派生される。

(5) a. John became I don't know [$_{CP}$ how sick$_i$ [$_{TP}$ ~~he became t_i~~]] yesterday.
b. He devoured it's completely unclear [$_{CP}$ how many cookies$_i$ [$_{TP}$ ~~he devoured t_i~~]].

また、*wh* 融合体は、どのような *wh* 語でも形成できるわけではなく、*whether* や *if* を用いた融合体は許されない。[1]

(6) *The truth is only God knows {whether/if}.

(6)の非文法性は、*wh* 融合体に疑問縮約が適用されていることを示唆している。次の例に示すように、疑問縮約においても、*whether* と *if* は空の TP 補部を認可することができない (Ross 1969, Lobeck 1995, Merchant 2001)。

(7) *The Pentagon leaked that it would close the Presidio, but no-one knew for sure {whether/if}. (Merchant 2001: 56)

したがって、*whether* や *if* を用いた融合体が形成できないことは、*wh* 融合体に特有な性質ではなく、疑問縮約に課せられる一般的な認可条件に起因していると考えられる。

さらに、*wh* 融合体が疑問縮約を受けた節であることは、疑問縮約の一種である Swiping (sluiced wh-word inversion with preposition in Northern Germanic)が *wh* 融合体において観察されることからも裏付けられる。Swiping は、疑問縮約において、前置詞とその目的語の *wh* 語が倒置を起こす現象であり、疑問縮約が適用されない場合、疑問詞が前置詞に先行する語順は許されない (Merchant 2002)。Grosu (2010)は、*wh* 融合体においても、前置詞と *wh* 語が倒置した語順が許されることを指摘している。

(8) Mary seems to have eloped only God knows who with an hour ago. (Grosu 2010: 183)

したがって、Swiping 型の *wh* 融合体が許される例は、*wh* 融合体において疑問縮約が適用されていることを示している。

ここまで、*wh* 融合体は意味的には形容詞や名詞となるが、統語派生の観点からは、疑問縮約を受けた節であることを見てきた。次節では、*wh* 融合体の構造に関する先行研究を概観する。

3. 先行研究

wh 融合体の特異な性質は、融合体の主要部の修飾部の構造的問題だけでなく、1 節で述べた介在節の不透明性もある。先行研究で

は、介在節の挿入句的性質を直接的に構造から捉える分析が提案されてきた。近年の代表的な研究の１つである Kluck (2011)は、介在節の挿入句的特徴を対併合(pair-Merge)の一種である *par*-Merge (Parenthetical Merge)から導き出している。彼女は、*invited* の目的語に潜在項を仮定し、潜在項と融合体を特殊な対併合をさせることによって、融合体を主節とは別の平面に置きながら、*wh* 融合体の主要部に付与される θ 役割を融合体の省略箇所で満たす分析を提案している。[2]

(9) [$_{CP}$ John invited [$_{NP}$ *e* <$_{ParP}$ Par^0 [$_{CP}$ you'll never guess how many people$_i$ [$_{TP}$ ~~he invited t_i to his party~~]]>] to his party.]

潜在項を仮定することについては、いくつか問題点があるが、*wh* 融合体の統語的特徴を構造に基づいて説明している点で、標準的な分析とされている。[3]

また、Guimarães (2004)や Johnson (2014)は、介在節の挿入句的特徴をいわゆる Parallel Merge から導き出している。彼らは、*wh* 融合体の主要部を、介在節の動詞と（主節）動詞の両方と併合させる多重支配構造を提案している。多重支配構造では、特有の線形化に関する問題が生じるが、*wh* 融合体の選択関係を直接構造に反映させることができる。

しかし、対併合や多重支配構造を仮定したとしても、挿入句分析には、経験的な問題がある。第一に、介在節は、常に主節から不可視であるというわけではなく、省略や照応形の解釈には可視的である。私のインフォーマントは、融合体を含む動詞句（斜字体）が省略や照応の先行詞となることを指摘している。

(10) a. John *ate I don't know what yesterday*, and Mary {did / did so} too.
(adapted from Johnson 2014: 261. fn. 4)

b. She *invited you'll never guess how many people to her wedding party*, and her husband {did / did so} too.

一方、挿入句は省略や照応の先行詞には含まれない。

(11) John sold Mary, his best friend, a lemon, and Max did too.
= Max sold Mary a lemon.
≠ Max sold Mary, who was his best friend, a lemon. (Peterson 1999: 247)

(12) John talked to us, it seems, about literature, but Mary would never do that.
= Mary would never talk to us about literature.
≠ Mary would never talk to us, it seems, about literature. (Kaltenböck 2007: 35)

したがって、省略や照応の解釈も考慮すると、介在節は統語的には主節と別の平面にあるのではなく、同一平面上に存在していると考えられる。

第二に、融合体の主要部である *wh* 句も、数の一致の事実から、主節と同一平面にあることが示唆される。例えば、(13)に示すように、融合体の主要部である *how many mistakes* は主節の動詞と数の一致を引き起こす。

(13) There {are/*is} I don't know how many mistakes in this paper. (松山 2016: 127)

一方、主節と構造的に独立している挿入節は、次の例に示すように、主節の *be* 動詞と数の一致を引き起こさない。

(14) a. My favorite food, pork chops, {is/*are} not on the menu.
b. Car accidents, the major cause of deaths in Australia, {are/*is} increasing.

(Peterson 1999: 246)

したがって、*wh* 融合体の主要部は、主節と同一節内にあると考えられる。

ここまでの議論をまとめると、*wh* 融合体は主節と同一平面上にあり、介在節は併合による構造的要因ではなく、他の理由により不透明な領域を形成していると考えられる。

4. 提案

本論では、*wh* 融合体は統語と形態のインターフェイスで形成される複合的な語であると提案する。以下では、(15)に再掲する *how many* を伴う融合体を例に、本分析を示す。

(15) John invited you'll never guess how many people to his party.

how many 融合体は、Huddleston and Pullum (2002)や松山 (2014)が分析しているように、*people* が融合体の主要部をなし、その主要部を *you'll never guess how many* が修飾していると考えることができる。先行研究における複合語分析では、*wh* 融合体の派生に疑問縮約が仮定されていないが、本論では、*wh* 融合体の派生には疑問縮約が適用されていると提案する。

(16) John invited [you'll never guess how many ~~people he invited to his party~~] people to his party.

wh 融合体に疑問縮約が適用されることは、３節で見たように、述語の選択制限や省略の認可条件から裏付けられる。[4] そして、疑問縮約が適用された節は、Uriagereka (1999)が提案する Spell-Out を受けることで、形態的に複雑な１つの語が形成されると仮定する。

Spell-Out により形成された語は、形態部門において、右側主要部規則 (Williams 1981) によって再分析される。これにより、*you'll never guess how many* は *how many* を主要部とする数量詞として再分析される。介在節の *you'll never guess* については、Haspelmath (1997)に従い、一種の不定標識 (indefinite marker)であると仮定する。

(17) John invited [$_{Q}$ [$_{\text{indefinite marker}}$ you'll never guess] [$_{Q}$ how many]] people to his party.

次に、再分析によって数量詞となった *you'll never guess how many* は、本来的に主節目的語である *people* と併合することで、QP を形成し、主節に組み込まれる。

(18) John invited [$_{QP}$ [$_{Q}$ [$_{\text{indefinite marker}}$ you'll never guess] [$_{Q}$ how many]] [$_{NP}$ people]] to his party.

実際に、*how many* 融合体が、数量詞の性質を示すことは、松山 (2014)によって指摘されている。例えば、*how many* 融合体は、数詞の 12 や 13 と等位接続することができる。

(19) …I'm a victim of extreme, bizarre behavior that went unchecked for 12, 13 and God knows how many years… (COCA)

等位接続される要素が統語的に同一範疇しか接続することができないと仮定すると、*God know how many* は数詞と同じ統語範疇である。

また、*how many* 融合体が数詞と同じ役割をすることは、次の例からも裏付けられる。

(20) This is a school for kids who are on their I don't know how many (-th) chance.

(20)に示すように、*how many* 融合体は所有格の代名詞に後続する位置を占め、さらに、私

のインフォーマントによると、接尾辞-*th* を付加することができる。[5]接尾辞-*th* の付加が許されることからも、*how many* 融合体が数量を表す語としての性質を持っていることが確認できる。

ここまで、*how many* のような複合的な *wh* 融合体について述べてきたが、本分析は、*I don't know what* のような単純な *wh* 語を伴う融合体についても同様に扱うことができる。

(21) John ate I don't know what yesterday.

本分析に従うと、例えば、(21)のような *what* 融合体は、統語派生のある段階では、(22a)のような節の形をしている。そして、当該の節は、疑問縮約が適用された後、Spell-Out (Uriagerka 1999)を受け、複雑な一語を形成する。Spell-Out によって形成された語は、右側主要部規則による再分析を受け、*what* を主要部とする決定詞（または名詞）として再分析される。

(22) a. John ate [I don't know what ~~he ate~~] yesterday.
b. John ate [$_{\text{indefinite marker}}$ I don't know [$_{D}$ what]] yesterday.

再分析された語 *I don't know what* は、それ自体が目的語となり、本来的に主節の要素である *ate* と併合し、主節に組み込まれる。

5. 帰結

本分析は、*wh* 融合体の統語的な分布特性だけでなく、挿入句分析では捉えることができなかった主要部に見られる一致現象についても説明することができる。

how many 融合体は、挿入句とは異なり、主節の動詞と数の一致を引き起こす。本分析に基づくと、*how many* 融合体における融合体の主要部は、本来的に主節の要素である。したがって、*be* 動詞は挿入句と一致 (Agree) をしているのではなく、主節の要素同士（下線部）が通常の一致をしていると分析される。

(23) There {<u>are</u>/*is} [$_{QP}$ [$_{Q}$ I don't know how many] [$_{NP}$ <u>mistakes</u>]] in this paper.

また、本分析は融合体の介在節に関する不透明性に関しても説明を与えることができる。以下に例を再掲するように、介在節は束縛に関して不透明な領域を形成する。

(24) **Almost every student*$_{i}$ kissed *he*$_{i}$ didn't even remember how many classmates.

この介在節に見られる不透明性は、語の性質の帰結として得られる。本分析に基づくと、(24)に示すような複合的な *wh* 語を伴う融合体では、*he didn't even remember how many* が一つの語を形成する。Postal (1969) の Anaphoric Islands や Bresnan and Mchombo (1995: 189-192)の Lexical Integrity Principle によると、語の内部には代名詞は生じることができるが、外部から束縛されることは許されない。それゆえ、介在節の主語は、(25)のように、談話上、偶然的に同一指示となることがあっても、量化詞によって束縛される解釈はない。

(25) ?*He*$_{i}$ had been kissing *the professor*$_{i}$ (himself) didn't remember how many students. (Johnson 2014: 258)

一方、(24)において *classmates* に相当する融合体の主要部は、本来的に主節の要素である。したがって、次の例に示すように、融合体の修飾部ではなく、主要部の要素は主節主語によって束縛される解釈が可能である。[6]

(26) *Almost every student*$_{i}$ kissed you can't

imagine how many of *his*$_i$ *classmates*.
(Johnson 2014:261)

このように、融合体を語として分析することで、pair-Merge や Parallel Merge といった特別な併合操作を用いなくとも、一致や不透明性の問題が解決される。

6. おわりに

本稿では、*wh* 融合体が疑問縮約を受けてできた複雑な語であると提案した。本提案により、融合体の分布特性、一致現象、介在節の不透明性が説明される。本提案が正しい限りにおいて、*wh* 融合体は統語部門で形成される語であり、統語と形態のインターフェースは、形態部門から統語部門への一方通行ではなく、Ackema and Neelman (2004)が提案しているように双方向の関係があることが示唆される。

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注

[1] 出典が表記されていない例は、筆者のインフォーマントによるものである。

[2] 議論を簡潔にするため、本文では、*par*-Merge の詳細に触れていないが、(9)において、*par*-Merge されているのは、Par^0 と CP である。そして、*par*-Merge によって形成された挿入句 ParP は潜在項と対併合される。

par-Merge の理論的意義については、de Vries (2012)を参照。また、*par*-Merge を用いた統語的融合体の分析については、Kluck (2011)や Griffiths (2015)を参照。

[3] 融合体に仮定される空項 (null argument)は、通常の潜在項とは性質が異なる。そのため、空項を補部に選択する動詞に制限がないことや、空項の範疇が名詞に限らないとことが問題とされている。その他、融合体における潜在項の経験的問題については、Johnson (2014)を参照。

[4] (16)に示すような、*how many* 融合体では、疑問縮約（TP 削除）に加え、名詞句省略（NP 削除）が適用される。

(i)John invited [you'll never guess [$_{QP}$ how many [$_{NP}$ ~~people]] [$_{TP}$ he invited to his party~~]] people to his party.

[5] (20)のオリジナルは、以下に示す(i)であり、(20)の例における接辞-*th* とハイフネーションの有無は、筆者のインフォーマント調査によるものである。

(i) These are not kids who are getting their second chance. This is a school for kids who are on their I-don't-know-how-many chance.
<https://www.huffingtonpost.com/entry/new-orleans-school_us_583e3b29e4b0ae0e7cdac9a3>

[6] 主節主語から融合体の主要部への束縛は、束縛条件に従う。詳しい事実については、Guimarães (2004)と Kluck (2011)を参照。

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コーパス

Corpus of Contemporary American English (COCA)

フェイズに基づくコントロール理論*

（The Phase-Based Analysis of Control）

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キーワード：フェイズ, PRO, 義務的・非義務的コントロール

1. はじめに

本稿では、Chomsky (2000, 2001)で仮定されているフェイズ理論に基づいて、非定形節の発音されない主語 PRO と先行詞のコントロール関係を決める新たな解釈条件を提案する。

2. 義務的・非義務的コントロール

非定形節が生起する統語位置により、PRO と先行詞のコントロール関係には相違点が見られる。非定形節が動詞の目的語として生起する場合、不定詞節を直接支配する定形節の項が PRO の先行詞として解釈される。

(1) a. John hated to nominate himself.
b.* Mary realized that John hated to nominate herself.

(1a)の不定詞節を直接支配する定形節は文全体であり、文の主語 John が PRO の先行詞となる。その結果、John が再帰代名詞 himself の先行詞として解釈され、(1a)は許される。他方、(1b)の不定詞節を直接支配する定形節は従属節であり、従属節の主語 John が PRO の先行詞となるが、John を herself の先行詞と解釈できず、(1b)は非文となる。

同様の制限が副詞節として生起する非定形節にも見られる。

(2) a. Our son should apologize after embarrassing himself.
b.* Mary thought that our son should apologize after embarrassing herself.

(2a)では、副詞節を直接支配する定形節は文全体であり、文主語の our son が副詞節内の PRO の先行詞となり、(2a)は許される。(2b)では、副詞節を直接支配する定形節は従属節であり、従属節の主語 our son が PRO の先行詞となり、(2b)は非文となる。

他方、非定形節が主語として生起する場合、同様の制限が見られない（Manzini (1983), Landau (2001)）。

(3) a. We thought that to expose herself would help Mary.
b. We thought that to expose ourselves would help Mary.

(3a)では、不定詞節を直接支配する定形節は従属節であり、その従属節の項である目的語 Mary が PRO の先行詞として解釈される。(3b)では、不定詞節を直接支配する従属節の項ではなく、主節の主語 We が PRO の先行詞として解釈される。

このように、非定形節が生起する統語位置により、非定形節の主語である PRO と先行詞とのコントロール関係が異なるパターンを示す。非定形節が動詞の目的語、または、副詞節として生起する場合、不定詞節を直接支配する定形節の項が義務的に PRO の先行詞として解釈されるため、この様なコントロール関係は義務的コントロールと呼ばれる。他方、非定形節が主語として生起した場合、PRO の先行詞は義務的に決まらず、この様なコントロール関係は非義務的コントロー

ルと呼ばれる。次節では、義務的・非義務的コントロールの違いを移動操作に基づいて説明を試みる Hornstein (1999, 2003)の分析を概観し、その分析の問題点を指摘する。

3. 移動分析とその問題点

Hornstein (1999, 2003) は、非定形節が動詞の目的語や付加詞として生起する場合のコントロール関係を移動により説明している。この分析によると、(1a,b)には(4a,b)の構造が与えられる。

(4) a. [$_{TP}$ John$_1$ [$_{vP}$ t$_1$ hated [$_{TP}$ t$_1$ to [$_{vP}$ t$_1$ nominate himself]]]]
b. [$_{TP}$ Mary$_1$ [$_{vP}$ t$_1$ realized that [$_{TP}$ John$_2$ [$_{vP}$ t$_2$ hated [$_{TP}$ t$_1$ to [$_{vP}$ t$_1$ nominate herself]]]]]]

(4a)では、John が埋め込み節の vP 指定部から不定詞 TP 指定部に移動し、更に、主節の vP 指定部を経由して主節の TP 指定部へ移動する。この移動により、John は埋め込み節の動詞 nominate の主語であり、かつ、主節の動詞 hate の主語であると解釈される。つまり、非定形節の主語は、A 移動により残された痕跡となる。他方、(4b)では、Mary が従属節の主語 John を飛び越えて移動するが、この様な移動は最小連結条件に違反する。そのため、(4b)は排除され、(1b)は派生されない。

また、移動分析の下、(2a)は次の派生を持つ。

(5) a. [$_{PP}$ after [$_{TP}$ our son embarrassing himself]]
[$_{vP}$ v^0 [$_{VP}$ apologize]]
b. [$_{vP}$ our son v^0 [$_{VP}$ apologize]]
c. [$_{vP}$ [$_{vP}$ our son apologize] [$_{PP}$ after [$_{TP}$ our son embarrassing himself]]]
d. [$_{TP}$ our son$_1$ should [$_{vP}$ [$_{vP}$ t$_1$ apologize] [$_{PP}$ after [$_{TP}$ ~~our son~~ embarrassing himself]]]]

(5a)では、従属節の PP と主節の vP が、それぞれ独立に存在する。次に、主節の vP 指定部に名詞句を挿入しなければいけない。Hornstein は付加詞節内から主節への横方向移動を仮定し、(5a)から(5b)が派生すると論じている。(5b)では、(5a)の従属節 PP の主語 our son がコピーされ、コピーされた要素が vP 指定部に挿入される。次に、(5a)の PP が(5b)の vP に付加し、(5c)が派生する。その後、(5c)に時制の T が併合することにより TP 投射が作られ、TP 指定部に our son が移動することにより、(5d)が派生する。(5d)が音声形式（Phonetic Form (PF)）部門に送られ、主節 TP 指定部に移動した our son が従属節内の TP 指定部に生起する our son を C 統御することにより、これらの 2 つの要素は 1 つの連鎖を形成する。その結果、従属節内の our son が削除され、(2a)が得られる。

この分析の下では、(2b)は、派生のある段階で、(6)の構造を持つ。

(6) [$_{vP}$ v^0 thought that [$_{TP}$ our son$_2$ should [$_{vP}$ [$_{vP}$ t$_2$ apologize] [$_{PP}$ after [$_{TP}$ Mary to nominate herself]]]]]

(2b)を派生させるためには、(6)の Mary を主節の vP 指定部に移動しなければいけない。しかし、この移動は（影で示した PP 部分の）副詞節内からの抜き出し操作であり、付加詞条件に違反する。そのため、(2b)は派生されない。

最後に、不定詞句が主語位置に生起する(3)は、(7)の派生を持つ。

(7) a. [$_{CP}$ C [$_{TP}$ Mary$_1$ to [$_{vP}$ t$_1$ to expose herself]]]
V = help
b. [$_{VP}$ help Mary]
c. [$_{vP}$ [$_{CP}$ Mary$_1$ to [$_{vP}$ t$_1$ to expose herself]] v^0 [$_{VP}$ help Mary]]

d. [$_{TP}$ we$_1$ [$_{vP}$ t$_1$ thought that [$_{CP}$ ~~Mary$_1$~~ to [$_{vP}$ t$_1$ to expose herself]] would help Mary]]

(7a)は、不定詞句である CP と動詞 help がそれぞれ独立に存在する段階である。CP 内の Mary に横方向移動を適用し、Mary と動詞 help を併合する。その結果、(7b)が派生する。このVPに軽動詞vが併合し、vP指定部に(7a)の CP を挿入することにより、(7c)が派生する。この vP に助動詞 would が併合することにより TP が投射し、TP 指定部に CP が移動する。その後、主節の構造が作られた(7d)が PF に送られ、CP 内の Mary が削除されることにより、(3a)が派生する。

また、移動操作により(3b)を派生する場合、(3b)は派生のある段階で(8)の構造を持つ。

(8) [$_{vP}$ we$_1$ v^0 thought that [$_{CP}$ t$_1$ to [$_{vP}$ t$_1$ to expose ourselves]] would help Mary]

(8)では、we が従属節の主語内から主節の vP 指定部に移動するが、この様な移動は、（影で示した CP 部分の）主語内からの抜き出し操作であり、主語条件に違反する。そのため、移動操作により(3b)を派生できない。Hornstein は、移動操作が適用できない場合にのみ、最後の手段として発音されない代名詞 pro が不定詞節の主語として生起すると仮定し、(3b)に(9)の構造を与えている。

(9) [$_{TP}$ we thought that [$_{TP}$ *pro* to expose ourselves] would help Mary]

(9)では、pro が主節主語 we を先行詞に取る。その結果、 (3b)において、不定詞節の主語は主節の主語 we として解釈される。

このように、Hornstein は、動詞の目的語や付加詞として生起する非定形節の主語は A 移動の痕跡として、また、主語に生起する非定形節の主語は空の代名詞として分析している。この分析の基本的なアイデアは、「移動が許されない場合に限り、不定詞節の主語は pro となる」というものだが、これは「2 つの統語位置 X と Y を関連づけるものとして、移動と代名詞による照応関係の 2 つが許される場合、移動の方が優先する」という仮定が前提になってる。しかし、代名詞による照応関係よりも移動操作が優先すると仮定した場合、(1b)が問題となる。(4b)で見たように、(1b)の Mary は不定詞節の主語位置から主節の主語位置に移動できない。そのため、不定詞節の主語位置には pro が生起し、(10)の構造が生成される。

(10) [$_{TP}$ Mary realized that [$_{TP}$ John hated [$_{TP}$ *pro* to nominate herself]]]

(10)において、空の代名詞 pro は Mary を先行詞に取ることができるため、(1b)を排除できない。

この問題を解決するために、Boeckx, Hornstein and Nunes (2010: 205-206)では、義務的・非義務的コントロールの違いを、移動操作に課せられる条件ではなく、文解析に課せられる条件に基づいて説明している。この分析は、次の仮定に基づく。

(11) a. Parsers move from left to right and project structure rapidly and deterministically on the basis of local information.
b. Parsers are transparent with respect to grammars. So, if grammars encode a condition, parsers respect it.

(12) a. A parser prefers to treat a potential gap as a copy/trace rather than a *pro* if it can.
b. A parser likes to assign interpretations to empty categories very quickly.

(11a)によると、文は左から右に順次に解析され、解析のプロセスと並行的に統語構造が構築されていくが、その際、直近の情報に基づいて一義的に構造が構築される。そのため、(11b)が示すように、文解析と統語構造を構築する文法とは密接な関係に有り、構造構築に課せられる条件が、文解析のプロセスも制限する。「移動と代名詞による照応関係の 2 つが許される場合、移動の方が優先する」という条件を文法の条件として仮定した場合、この条件が文解析のプロセスにも適用される。その結果、(12a)に示すように、文中の空所 gap は、空の代名詞 pro ではなく、移動操作の copy/trace として優先的に解析される。また、(12b)が示すように、文中の空所の意味内容もできるだけ早く決まる。なぜなら、(11a)の仮定によると、解析のプロセスと同時並行的に進行する統語構造の構築は、できるだけ早く、一義的に行われなければならないためである。

(11-12)を仮定すると、(13a)の不定詞 to の前の空所を解析する方法として、(13b)と(13c)の 2 つの可能性がある。

(13) a. Mary realized that John hated __ to nominate himself.
b. Mary realized that John$_1$ hated t$_1$ to nominate himself.
c.*Mary$_1$ realized that John hated *pro*$_1$ to nominate himself.

(13b)では空所が痕跡 copy/trace として解析され、(13c)では空の代名詞として解析される。(13b)では、文法の規則の 1 つである最小連結条件が解析のプロセスにも適用されるので、痕跡の先行詞は一番近い John として解析される。他方、(13c)では、照応関係は最小連結条件に従わないため、pro の先行詞は主節主語の Mary として解析される。これら 2 つの内で、空の代名詞よりも痕跡を優先させる(12a)の条件を満たすのは(13b)であるため、(13b)が(13a)の文解析として選ばれる。

しかし、この分析にも問題がある。

(14) a. John said/shouted ___ to behave oneself.
b.* John$_1$ said/shouted [t$_1$ to behave oneself].
c. John said/shouted to Mary ___ to behave herself.

(14a)の不定詞節内の照応形が oneself であるため、不定詞節の主語は恣意的解釈を持つ。この場合、不定詞節の主語の先行詞は、文中に生起しない、主節動詞 said/shouted の潜在項である。実際、Mary が主節動詞の与格項として生起する(14c)では、Mary が不定詞節の主語として解釈され、不定詞節内の照応形も herself となる。従って、(14a)においても、不定詞節の主語は、主節動詞の潜在項である与格項を先行詞に取る。しかし、(11-12)の条件は、(14a)を説明できない。(14a)の文解析の候補である(15)を見てみよう。

(15) a. John said/shouted [$_{PP}$ P *pro*$_1$] [*pro*$_1$ to behave oneself].
b.*John$_1$ said/shouted [$_{PP}$ P *pro*] [t$_1$ to behave oneself].

(15a,b)では、潜在項として発音されない代名詞 pro が前置詞の目的語に生起する。(15a)では、不定詞 to の前の空所が空の代名詞として解析され、その先行詞は主節動詞の潜在項である。他方、(15b)では、空所が痕跡 copy/trace と解析され、主節主語の John と連鎖を形成する。この様な移動は、英語では許される（John$_1$ seemed to Mary t$_1$ to be happy.）。そのため、(12)の条件によると、(15a)ではなく、(15b)が選ばれることになる。しかし、(15b)は(14a)の文の解釈としては不適格であ

る。このように、(11-12)の文解析に関する条件に基づく分析は、(14a)を説明できない。

更に、横方向移動にも問題がある。

(16) * Mary's colleagues hated __ to nominate herself.

(16)では、主節動詞 hate の目的語として不定詞節が生起し、不定詞節内に herself が生起する。(16)が許されないことは、不定詞節の主語を主節主語に含まれている Mary として解釈できないことを示している。しかし、横方向移動を仮定する分析の下では、(16)の派生として(17)が許される。

(17) a. [$_{CP}$ C [$_{TP}$ Mary$_1$ to [$_{vP}$ t$_1$ to nominate herself]]]
N = colleagues
b. [$_{NP}$ Mary's colleagues]
c. [$_{vP}$ [$_{NP}$ Mary's colleagues] v^0 [$_{VP}$ hate [$_{CP}$ Mary$_1$ to [$_{vP}$ t$_1$ to nominate herself]]]]
d. [$_{NP}$ Mary's colleagues] hated [$_{CP}$ ~~Mary$_1$~~ to [$_{vP}$ t$_1$ to nominate herself]]

(17a)では、不定詞節である CP と名詞 colleagues がそれぞれ独立に存在する。CP 内の Mary に横方向移動を適用し、Mary と名詞 colleagues を併合すると、(17b)が派生する。この NP を主節の vP 指定部に挿入することにより、(17c)が派生する。この vP に T が併合することにより TP が投射し、TP 指定部に NP が移動する。その後、この構造が PF に送られ、CP 内の Mary が削除されることにより、(17d)が派生する。(17d)では、不定詞節の主語として生起する Mary が herself の先行詞になる。このように、横方向移動を仮定する分析は、(17)を排除できない。

次節では、非定形節内に発音されない主語 PRO を仮定し、PRO の新しい解釈条件を提案する。

4. 代案

生成文法の最新モデルである極小主義プログラムにおいては、統語構造はフェイズと呼ばれる CP と vP を単位に構築される（Chomsky (2000, 2001)）。本稿では、PRO の意味解釈がフェイズに基づいて(18)のように決まると提案する。

(18) PRO は、論理形式（Logical Form (LF)）に転送される段階で同一の転送領域内に PRO を束縛する要素が存在する場合、その変項として解釈される。他方、同一の転送領域内に PRO を束縛する要素が存在しない場合、PRO の値は未指定のまま LF に転送される。

この提案によると、PRO は値が決まっていない変項として派生に導入され、その値は派生のできるだけ早い段階で統語構造に基づいて決まる。派生の段階で値を決めることができない PRO は文脈により値が決められる。また、転送領域を決めるフェイズに関して(19)を仮定する。

(19) 非定形節の CP はフェイズではない。

この仮定の下では、動詞句の vP と定形節の CP がフェイズを形成する。

提案(18)と(19)の仮定に基づき、先ずは、非定形節が動詞の目的語として生起する場合の派生を考えてみよう。本論の分析によると、(20a)は派生の段階で(20b)の構造を持つ。

(20) a. John hated to nominate himself.
b. [$_{vP}$ John v [$_{VP}$ hate [$_{CP}$ Op C [$_{TP}$ PRO$_1$ to [$_{vP}$ t$_1$ v [$_{VP}$ nominate himself]]]]]]

主節の動詞句 vP が形成された段階(20b)では、主節動詞 hate が選択する CP の指定部には空演算子 Op が生起する。(19)によると、(20b)

において、PRO を含む転送領域は、不定詞節を形成する CP、TP、vP の先端以外に、主節の VP から成る。また、(18)によると、この転送領域内で PRO は CP 指定部の Op により束縛され、Op の束縛代名詞として解釈される。そのため、転送後の LF において、CP 全体が λx. [x nominate himself] という一項述語として解釈される（Lebeaux (1984, 1985), Clark (1990)）。CP 自体は hate の補部に生起するため、その語彙特性により、この一項述語の主語は主節主語の John として解釈される。（Chierchia (1989)）。その結果、 (20a)における不定詞節内の PRO の先行詞は John となる。このように、非定形節が動詞の目的語として生起する場合、非定形節の主語である PRO の先行詞は、必ず主節動詞の項になる。そのため、(1b)や(16)は許されない。

潜在項を含む(14a)も同様に説明できる。

(21) a. John said/shouted ____ to behave oneself.

b. [$_{vP}$ John v [$_{VP}$ [$_{PP}$ P *pro*] [$_{v'}$ say/shout [$_{CP}$ Op C [$_{TP}$ PRO$_1$ to [$_{vP}$ t$_1$ v [$_{VP}$ behave oneself]]]]]]]

(21a)は派生の段階で(21b)の構造を持つが、PRO を含む転送領域は影で示した部分になる。この場合、主節の動詞句 VP の指定部には、主節動詞 say/shout の与格項が空の代名詞として生起し、また、PRO は CP 指定部の Op により束縛される。転送後の LF において、主節動詞 say/shout の語彙特性により、CP 全体が表す λx. [x behave oneself] という一項述語の主語として、与格項が選ばれる。与格項自体は、LF において存在閉包により存在量化詞により束縛される。その結果、不定詞節の主語は恣意的に解釈される。

次に、非定形節が副詞節として生起する場合の派生を考えてみよう。(22a)は、派生の段階で(22b)の構造を持つ。

(22) a. Our son should apologize after embarrassing himself.

b. [$_{CP}$ C [$_{TP}$ our son$_1$ should [$_{vP}$ [$_{vP}$ t$_1$ v [$_{VP}$ apologize] [$_{CP}$ after [$_{TP}$ PRO$_2$ [$_{T'}$ –ing [$_{vP}$ t$_2$ v [$_{VP}$ embarrass himself]]]]]]]]]

(22b)では、副詞節を形成する CP が vP に付加し、主節主語の our son が vP 指定部から TP 指定部へ移動している。(19)によると、(22b)における PRO を含む転送領域は影で示した部分、つまり、非定形節を形成する CP、TP、vP の先端に加え、主節 TP と主節 vP の先端から成る。(18)の提案の下、この転送領域内において、PRO は主節主語の our son により束縛される。その結果、従属節内の動名詞の主語 PRO は、主節主語 our son の束縛代名詞として解釈される。

このように、非定形節が副詞節として生起する場合、非定形節内の PRO は主節主語の束縛代名詞となり、それ以外の要素を先行詞とすることができない。そのため、(23a)は許されない。

(23) a.* Mary thought that our son should apologize after embarrassing herself.

b. [$_{CP}$ C [$_{TP}$ our son$_1$ should [$_{vP}$ [$_{vP}$ t$_1$ v [$_{VP}$ apologize] [$_{CP}$ after [$_{TP}$ PRO$_2$ [$_{T'}$ –ing [$_{vP}$ t$_2$ v [$_{VP}$ embarrass herself]]]]]]]]]

(23a)は、派生の段階で、(23b)の構造を持つ。この構造において、非定形節の副詞節の PRO と同一の転送領域内にあり、かつ、PRO を束縛できる要素は、従属節の主語 our son である。そのため、PRO は our son の束縛代名詞として解釈されるが、副詞節内の再帰代名詞 herself の人称と一致しない。従って、(23a)は非文となる。

最後に、非定形節が主語として生起する場合の派生を考えてみよう。(24a)は、派生の段階で(24b)の構造を持つ。

(24) a. We thought that to expose herself/ourselves would help Mary.

b. [$_{CP}$ that [$_{TP}$ [$_{CP}$ C [$_{TP}$ PRO$_1$ to [$_{vP}$ t$_1$ v [$_{VP}$ expose herself/ourselves]]]]$_2$ would [$_{vP}$ t$_2$ v [$_{VP}$ help Mary]]]]

c. [$_{CP}$ We thought [$_{CP}$ that [$_{TP}$ [$_{CP}$ C [$_{TP}$ PRO$_1$ to [$_{vP}$ t$_1$ v [$_{VP}$ expose herself/ourselves]]]]$_2$ would [$_{vP}$ t$_2$ v [$_{VP}$ help Mary]]]]]

(24b)では、従属節内において、不定詞節を形成する CP が vP 指定部から TP 指定部に移動している。(19)によると、(24b)における PRO を含む転送領域は影で示した部分、つまり、不定詞節内の CP、TP、vP の先端に加え、従属節の TP と vP の先端から成る。この転送領域内に PRO を束縛する要素は存在しない。その結果、(18)の提案の下、転送後の LF において PRO は自由変項として解釈される。その後、主節の構造も造られ、最終的には(24c)の LF が派生する。まだ決まってない PRO の値は、文脈により同一節内の目的語 Mary、または、主節主語の We として解釈される。

5. まとめ

本稿では、不定詞節の主語の解釈に見られる義務的・非義務的コントロールの違いを移動操作に基づいて説明を試みる Hornstein (1999, 2003)の分析の問題点を指摘し、その代案として、構造構築の基点となるフェイズに基づく PRO の解釈理論を提案した。

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Spelling Out the Spell-Out of an XP-YP Structure: A Case of Coordinate Structure*

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Keywords : XP-YP, coordinate structure, spell-out, syntax-prosody interface

1. Introduction

Much work has been done on the syntax and semantics of coordinate structure. For example, Munn (1993) analyzed the whole coordinate structure as a projection of a coordinator (ConjP). In more recent years, Chomsky (2013: 45-47) takes coordinate structure as an instance of XP-YP structures, and analyzes its derivation as in (1):

(1) a. $[_{\alpha}$ Conj $[_{\beta}$ XP YP]]]
b. $[_{\gamma}$ XP $[_{\alpha}$ Conj $[_{\beta}$ XP YP]]]

The underlying structure of coordination (XP and YP) is (1a), capturing the semantic symmetry of coordination. To label β, one of XP or YP must raise, say XP, yielding (1b). Then, β receives the label of YP. Due to minimal search, γ receives the label of XP. It follows that Conj and the construction α that it heads are not available as a label (but Conj must still be visible for determining the structure) (Chomsky (2013: 46, fn.40)). The underlying assumptions behind the derivation depicted in (1) are:

(2) a. A label is required for interpretation at the interfaces;
b. Syntactic Object (SO) = {XP,YP} needs to be modified to be labeled.

This analysis of coordinate structure is not without problems. Theoretically, although a label is taken as a necessary condition for interpretation, how an SO is interpreted at the Sensori-Motor (SM) interface is not clear. In particular, the conjunction (Conj) is phonetically realized as *and* or a prosodic boundary (PB) in English, but the system of phonetic realization of Conj is not formulated. Having said these, the aim of this paper is to (i) reexamine the examples of English and Japanese coordinate structure with focus on their phonological properties; and (ii) spell out the spell-out of coordinate structure in the phonological component.

2. Examples of Coordination in English and Japanese

Let us first look at coordination with two conjuncts in English (3) and Japanese (4):

(3) a. [John] and [Mary] went to the movies.
b. John always [pushes the table] and [makes the vase fall].
c. [What] and [when] did you eat?

(4) a. [Tatu] to/, [Minami] (to)-ga,
T *to* M *to*-Nom.
eiga-o miniitta.
movie-Acc. went.to.watch
'T and M went to watch a movie.'
b. Tatu-wa itsumo [teebru-o
T-Top. always table-Acc
osi]-(te), [kabin-o otosu].
push-*te* vase-Acc. drop
'T always pushes the table and drops the vase.'

c. [Nani-o], (sosite) itu tabeta-no
what-Acc. *sosite* when ate-Q
'What did you eat, and when?'

The (a) sentences involve the coordination of nominals, (b), verbal phrases, and (c) interrogative phrases. In English, Conj is realized as *and* optionally accompanied by a PB, whereas in Japanese Conj is realized as *to* or a PB in (a), a PB with optional *te* in (b), and a PB with optional *sosite* in (c).

Next, let us look at what Winter (2018) calls "coordinate structure complexes":

(5) a. Dylan, Simon, and Garfunkel wrote songs in the sixties.
b. Dylan and Simon and Garfunkel wrote songs in the sixties.

(6) a. [Minami], [Tatu], (??to/sosite)
M. T. *to*/*sosite*
[Kazu]-ga, siai-de tatakatta.
K-Nom. competition-at competed
'M, T, and K competed in a competition/competitions.'
b. [Minami] to [Tatu]to [Kazu] (to)-
M *to* T *to* K *to*-
ga siai-de tatakatta.
Nom. competition-at competed
'M, T, and K competed in a competition/competitions.'

According to Winter (2018), distributive and collective readings are available in (5a), and in (5b), in addition to distributive and collective readings, a subgroup reading (i.e. 'one artist wrote songs by himself while the other two wrote songs together') is also available. In the Japanese counterparts, all three readings are available in both (6a) and (6b). In the following section, we will focus on coordination with *and* or a PB in English, and *to* or a PB in Japanese, setting aside *te* and *sosite* in Japanese.

3. Analysis

3.1. Two Structures for Coordination: Winter (2018)

Following Winter (2018), I postulate the structures (7) and (8) for coordinate structure complexes in English (5b) and (5a), respectively:

(7) [XP [Conj [YP [Conj ZP]]]]
(8) a. [XP [Conj ZP]]
b. [XP [YP [Conj ZP]]]

Notice that Winter does not assume internal merge in coordinate structure, and in (8), the second conjunct YP is "Penultimate-Merged" into the structure *after* the first conjunct XP is merged.

3.2. Derivation and Spell-Out in the Phonological Component

First, let me introduce the assumptions as to the spell-out of an SO in the phonological component:

(9) Assumptions specifically for coordination
a. Conj determines a phase boundary. (cf. Miwa (2014))
b. Conj determines a phonological phrase (Φ) boundary. (cf. Dobashi (2017a,b))

(10) General assumptions for spell-out
a. Head position is determined phonologically upon spell-out. (cf. Nespor et al. (2008), Tokizaki (2011))
b. A complement PO receives prosodic prominence in each Φ in the unmarked case. (cf. Cinque (1993))

Based on these assumptions, SOs in (7) and (8) are spelled out as in (11) and (12) below, respectively. Note that (8) can be spelled out in two different ways depending on the timing of spell-out of XP-ZP and Penultimate Merge of YP. (A phonological phrase is indicated by Φ below.)

(11) [$_{\Phi}$ $\boxed{PO_{XP}}$] [$_{\Phi}$ *and* $\boxed{PO_{YP}}$] [$_{\Phi}$ *and* $\boxed{PO_{ZP}}$]

(12) a. [$_{\Phi}$ $\boxed{PO_{XP}}$] [$_{\Phi}$ *and* $\boxed{PO_{ZP}}$] → [$_{\Phi}$ $\boxed{PO_{XP}}$] [$\boxed{PO_{YP}}$] [$_{\Phi}$ *and* $\boxed{PO_{ZP}}$]
(spell-out before Penultimate Merge) or

b. [$_{\Phi}$ PO_{XP} PO_{YP}] [$_{\Phi}$ *and* $\boxed{PO_{ZP}}$]
(penultimate merge before spell-out)

Thus, in (11) and (12a), it is predicted that there should be a prosodic boundary (PB) between all conjuncts, whereas in (12b) it is predicted that there should be no PB between XP and YP. The observational fact is that there is (or can be, at least) a PB between XP and YP in the case like (7) (Dobashi (2017a: 16)), which is consistent with the analysis in (11), whereas there *should* occur a PB between XP and YP in (8b), which raises a problem for the analysis depicted in (12b) (though not for (12a)).

Going back to the simpler case of coordinate structure of SO = {XP, YP} like (1) with the concrete example (3a), it should be wrongly spelled out as in (13) at the point where Conj is merged (i.e. (1a)), where the coordinator *and* precedes, not follows the first conjunct XP:

(13) [$_{\Phi}$ *and* PO_{XP} PO_{YP}]

At this point, let us focus on the fact that the problematic cases in (12b) and (13) contain the phonological XP-YP sequence, i.e. PO = <PO_{XP}, PO_{YP}>, and propose the phonological condition in (14):

(14) PO_{Φ} = < PO_{XP}, PO_{YP} > must be modified in order to determine prosodic prominence.

This condition works to modify the PO in (12b) into (12a), inserting a PB between PO_{XP} and PO_{YP}, whereby PO_{XP} and PO_{YP} receive prominence in their own prosodic domain. Alternatively, it may be supposed that the condition requires that the derivation of (8) follow the course of (12a) from the beginning, not (12b).

Turning back to (13), now we understand that what labelling the XP-YP structure for interpretation means at the SM interface is determining the pattern of prosodic prominence. In other words, to modify the XP-YP structure in (1a) into (1b) is an operation that obviates the PO_{XP}-PO_{YP} sequence before it happens.[1] Once it happens, the phonological condition in (14) works to insert PB between PO_{XP} and PO_{YP}. It seems that in satisfying the condition in (14), the principle of minimal computation works here to choose *covert* PB over any other *overt* coordinator (Chomsky (2013: 41)).

Now let us look at how the present analysis applies to the derivation of coordinate structure in Japanese. Since subgroup readings are available in Japanese coordinate structure complexes (see sec.2), the structure should be the same as (7), and based on the assumptions in (9) and (10), it should be spelled out as in (15):

(15) [$_{\Phi}$ $\boxed{PO_{XP}}$ (*to*)] [$_{\Phi}$ $\boxed{PO_{YP}}$ (*to*)] [$_{\Phi}$ $\boxed{PO_{ZP}}$ (*to*)-ga]

This is consistent with the observational fact that there is (or can be, at least) a PB at the left edge of each conjunct in Japanese. Table 1 summarizes the syntax and phonology of coordination in English and Japanese:

		English	Japanese
Phonetic realization of Conj		*and*	*to* or PB
Coordinate structure complexes	syntax	(7) or (8) (cf. (1))	(7)
	phonology	(11) or (12) (head-initial)	(15) (head-final)

Table 1: Summary: coordination in English and Japanese

We saw that the coordinator *and* in English and the coordinator *to* and a PB in Japanese are phonetic realizations of the syntactic category Conj, whereas a PB in English is inserted after spell-out by the phonological condition in (14). This is consistent with the fact that English is an intonation language and its prosody is more mobile than that of Japanese, a language with lexically determined pitch-accents.

4. Remaining Issues

4.1. Intrinsic Coordinator and Inheriting Coordinator

The first remaining issue has to do with the Japanese example we saw in (4). We noted that the Conj *to* coordinates nominals and the Conj *te*, predicates. That is to say, the selection of Conj is sensitive to the syntactic category of conjuncts. In order to capture a fact like this, Winter (2018), following Zhang's (2010) analysis of Chinese coordination, and contra Chomsky (2013), assumes that coordinators with intrinsic categorical features (e.g. Japanese, Chinese) as well as coordinators which inherit categorical features from their external conjunct (e.g. English) *do* label the coordinate structure. We can assume the same for the present analysis of English and Japanese coordination.

4.2. Presence or Absence of Coordinators

The next issue has to do with the fact that in Japanese, (i) it is natural to have only a pause (PB) between conjuncts and (ii) it is possible to repeat Conj *to* after the last conjunct, neither of which is allowed in English.

For the first matter, the principle of minimal computation seems to work to choose a PB over an overt coordinator in Japanese. English is an intonation language and an overt conjunct normally gets deaccented and functions the same way as a PB.

In this connection, and for the second matter, it is worth pointing out that Japanese coordination has commonalities with that in Nunggubuyu (Australian) in that (i) they employ intrinsic coordinators (16), they do not need an overt coordinator (17a), and (iii) they can repeat a coordinator at the edge (17b) in multiple coordination (Kubo (2017)):

(16) Coordination with two conjuncts in Nunggubuyu (Kubo (2017: 48))
  a. mari NP mari NP
  b. ŋa VP ŋa VP

(17) Coordination with multiple conjuncts in Nunggubuyu (Kubo (2017: 49))
  a. NP NP NP…
  b. mari NP mari NP mari NP…

Kubo (2017) analyzes this language from the viewpoint of evolution and takes it as an example of "living fossil" with non-hierarchical structure. Although there is enough evidence that suggests Japanese should have hierarchical structure for coordination and in general, these commonalities between Japanese' and Nunggubuyu's coordination seem worth exploring from an evolutional linguistic point of view.

4.3. Other Types of Coordinators

Yet another remaining issue has to do with the Japanese example we saw in (3c): Japanese employs yet another coordinator *sosite*. I argue that this example cannot be treated along the line of the current analysis since *sosite* is prosodically different from other coordinators *to* or *te* in that it constitutes a prosodic unit with the *following* element, and it is used in clausal coordination as well (Kasai (2016)). I leave further analysis of *sosite* for future research.

5. Conclusion

This paper analyzed coordination in English and Japanese as an instance of general XP-YP structures, with focus on their phonological properties. My main claim is that labelling the XP-YP structure for interpretation means determining the pattern of prosodic prominence at the SM interface. This implies that syntactic modification of the XP-YP structure should be an operation that obviates the phonological XP-YP sequence before it happens. In order to test the adequacy of the present analysis, it should be promising to examine the relationship between the prosody and the possible interpretations of coordinate structure complexes in English and Japanese in detail, and XP-YP structures other than coordination, which I have just started.

* This paper is based on the talk I gave at the 36th annual meeting of the English Linguistic Society of Japan (Yokohama National University, 24-25 November 2018). I am indebted to the audience there for thought-provoking questions and comments, both observational and theoretical. Thanks also go to Chris Tancredi for stylistic suggestions. Needless to say, any remaining errors or misunderstandings are my own.

NOTES

1. Takaomi Kato pointed out that the PO in (13) can be modified by the condition in (14), deriving "[$_{\Phi}$ *and* PO_{XP}][$_{\Phi}$ PO_{YP}]." This suggests that we need to distinguish between the two cases where the condition (14) works after spell-out (e.g. (12b) modified to (12a)) and before spell-out as a look-ahead condition (e.g. (1)). This makes a big loose end of the present analysis, which, however, I cannot pursue further at this point.

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Proposal of a Hierarchy for Manner Salience Affecting Motion-Framing Choices in English: At What Point Did I Make This Weird?

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Keywords：motion events, cognitive linguistics, typology, manner verbs

1. Introduction

Talmy (1985) introduced the idea that two events could be conflated and thought of as one single macro-event. By far, the most studied example of this type of conflation is motion events, in which the path and manner of an object in motion are encoded into a single expression, as in (1), wherein both the path (entering the room) and manner (running) of motion are expressed in one sentence.

(1) Jack ran into the room.

Talmy (1991) suggested that a linguistic typology was possible depending on where each type of information was generally encoded. For example, Talmy (1991) called English a satellite-framed language because generally in English, the manner of motion is encoded in the main verb of a sentence (e.g. *ran*), and the path of motion is encoded in a satellite (such as a particle or preposition; e.g. *into*) as in (1). However, since the introduction of his initial theory of event conflation and corresponding typology, a number of studies have pointed to contradictory evidence, such as the fact that English, a satellite-framed language, contains path verbs like *enter*, and therefore can also produce verb-framed expressions. However, it is generally accepted that though many languages allow both satellite and verb-framed expressions to some extent, and thus there has been much debate about what factors influence event conflation (e.g. Beavers, Levin and Tham, 2010; etc.). However, while many studies focus on the resources and factors influencing where and how to conflate path (Beavers et al., 2010; Imbert, 2012; etc.), this study argues that the quality of the manner of motion may also be a confounding factor.

2. Confounding Factors in Motion Event Conflation

A number of studies have shown that English does indeed tend to favor satellite-framing (Slobin, 2004; Spring & Horie, 2013; etc.), but the exact reasons for this are still a mystery. Though Talmy (2000) seems to suggest that the choices were linked to cognitive factors (i.e. focus), Beavers et al. (2010) argue that the tendency for speakers of a particular language to favor one type of framing over another could be explained by available lexical resources and ease of processing. For example, they claim that Japanese speakers note the manner of motion less often than English speakers because of what expressions are allowed in the two languages and the processing difficulty of each. First, they argue that Japanese speakers use fewer satellite-framed expressions because manner of motion verbs are often not able to combine with particles, as illustrated by (2a, b). They continue to say that Japanese speakers are then less likely to encode the manner of motion because to do so

would require them to use more syntactically complex sentences, such as (2c). Furthermore, Beavers et al. (2010) argue that English speakers encode the manner of motion more commonly than Japanese speakers because (i) satellite-framed expressions are not as limited as they are in Japanese, and (ii) adding manner of motion information to them does not add to processing difficulty, since expressions such as (2d) are no more syntactically complex than (2e). However, this ignores the fact that English also allows verb-framed expressions such as (2f), which are even less syntactically (and semantically) difficult, and yet not used preferentially by native English speakers (Spring & Ono, 2014; Slobin, 2004; etc.). Spring and Ono (2014) argued this point, and showed that rather than ease of processing, native English speakers seemed to be more influenced by which framing type they encountered more from a younger age, a notion also suggested by (Choi, 2011).

(2) a. John ga eki ni itta.
Nom station Dat went
'John went to the station'
b. *John ga eki ni hashitta.
Nom station Dat ran
'John ran to the station.'
c. John ga hashitte, eki ni itta.
Nom run.and station Dat went
'John ran and went to the station.'
d. John went into the room.
e. John ran into the room.
f. John entered the room.

Furthermore, recent studies applying Talmy's (1985) typology to SLA have found that native speakers do not always make the same choices, and English speakers also show a highly variable degree to which they choose satellite-framing to describe videos or pictures depicting motion events (Brown, 2015; Hendriks & Hickmann, 2015; Slobin, 2004; Spring & Horie, 2013; etc.). While part of the reason for these discrepancies may be due to variance in sample sizes, it should not go unnoticed that the materials used to test native speakers in these conditions were different, from original videos (Spring & Horie, 2013) to wordless picture books (Slobin, 2004) and highly stylized cartoons (Brown, 2015). Some studies have noted that there is even variance in English speaker conflation methods for individual motion events (Brown, 2015; Spring & Horie, 2013). However, it is not clear why this occurs.

Some papers argue that since path is considered to be the main event in motion expressions, it is therefore likely to be the most influential factor on framing choices and therefore warrants more attention (Imbert, 2012; Talmy, 2009). Many such works point to the fact that the boundedness of the path can influence framing choices made by native speakers of romance languages such as French (Hendriks & Hickmann, 2015; etc.) and other verb-framed languages such as Japanese (Beavers et al., 2010). However, this paper takes the stance that manner is equally important, as conflated motion expressions must contain both, and speakers of satellite-framed languages such as English tend to focus more on the manner of motion (Talmy, 1991; Slobin, 2004; etc.). Specifically, this paper hopes to investigate whether the type and noticeability of the manner of motion (manner salience) might also affect English native speaker's conflation patterns. As pointed out by many works such as Slobin (2004) and Brown (2015), speakers of satellite-framed languages tend to notice and encode the manner of motion

more often than speakers of verb-framed languages, and thus many studies looking at motion event typology focus on whether or not speakers made any note of the manner of motion or simply didn't express it at all (e.g. Brown, 2015; Slobin, 2004; Spring & Horie, 2013). However, it would seem that some types of manner of motion are more salient than others, which would make them more likely to be encoded than ignored. For example, some studies have noted that caused motion is conflated differently and more frequently than other types of motion (Fukui, 2013; etc.). Spring & Horie (2013) also noted that there is a possibility that since deictic information can be conflated on the main verb in English in the same ways as other manners of motion, there appears to be some competition as to which to encode in the main verb when both deictic manner and other manner types are shown in the same video. Thus, it is possible that the difference in framing choices in native English speakers observed in various previous studies could be due, in part, to the fact that the manner of motion being depicted was different. Furthermore, it also begs the question, which types of manner are more salient, and which types of manner will be more likely to be encoded in the main verb? As there are not many other studies that look specifically at the salience of manner as an influential factor in English motion-framing choices, this study seeks to investigate:

(i) To what degree does manner salience (specifically type of manner) influence English native speaker motion-framing?

(ii) Does manner salience determine the preference given to the main-verb position in motion expressions?

3. Experimentation

I surveyed 39 native English speakers (34 from U.S. / Canada, 4 from the UK, and 1 from Australia) and asked them to conduct an acceptability test of a number of sentences in English, on a 4 point scale (acceptable = 3, strange = 2, very strange = 1, unacceptable = 0) following common linguistic studies on event conflation. Each sentence contained one of the five verb types: non-volition (caused motion), agentive, speed, deictic, and path. With the exception of sentences containing path verbs, sentences conflated the path into a particle and then one type of manner into the main verb and another separate type of manner outside of the main verb. The scores of sentences with the two types of manner in question conflated alternately in and outside of the main verb were then compared. For example, when comparing deictic manner (coming towards the speaker) and agentive manner (running), the scores of the sentences '*He ran in the room towards me*' and '*He came in the room, running*' were compared. Sentences with the path conflated into the main verb and each type of manner conflated outside of the main verb (e.g. *'He entered the room, running'*) were also scored and compared to other sentences. Sentences with only one type of manner of motion, conflated in the main verb, and the path of motion conflated in a satellite (e.g. *'He ran into the room'*) were also considered, as were sentences with only the path conflated in the main verb with no manner of motion information included at all (e.g. *'He entered the room'*). Two types of path, entering (boundary-crossing) and ascending (non-boundary-crossing) were considered, but no significant differences were found between the results in any of the sentences with these two types of path, so the answers were combined in

the final results. The resulting sentence types are summarized in Table 1.

Encoded information	**Conflated on main verb**	**Conflated outside of the main verb**
non-volition	John pushed him ~	He ~from John's push
agentive	He ran ~	~, running
speed	He hurried ~	~ in a hurry
deictic	He came ~	~ towards me
path	entered / ascended	~into the room / ~up the hill

Table 1. Types of sentences considered

Sentences that were rated completely acceptable by all participants received an average score of 3, and sentences that were rated completely unacceptable by all participants would receive an average score of 0. Sentences that received an average score higher than 2.5 were considered to be generally acceptable, sentences scored between 2 and 2.5 were considered to be strange (but acceptable) and sentences scored between 1 and 2 were considered to be very strange (but still acceptable), and sentences scored lower than 1 were considered to be unacceptable.

The strength of manner salience was determined by comparing the average scores of pairs of sentences in which different types of manner were conflated respectively into and outside of the main verb, with the path being conflated outside of the main verb. Since the information encoded on the main verb is argued to be focused on (Talmy, 1985; 1991; Slobin, 2004; etc.) and therefore more salient in the speakers' mind, significant higher ratings for sentences with one type of manner conflated in the main verb over another type was considered to be evidence that it draws more focus, and is thus more salient. For example, to determine whether agentive manner or deictic manner was more salient, the ratings of sentences such as *'He ran up the hill towards me'* and *'He came up the hill, running'* were compared, and if one sentence was scored significantly higher than the other, the manner type encoded in the main verb of the more highly scored sentence was considered to be more salient. Chi-square tests were used to check for significance between pairs of sentences, as the data was ordinal.

4. Results

The results of the native English speaker acceptability test are represented in Table 2, below. It indicates that sentences with the manner of motion conflated into the main verb and the path of motion conflated outside of the verb, with no other manner conflated into the sentence, were all rated as perfectly acceptable by all participants. Furthermore, though not reported in Table 2, all sentences with only the path of motion conflated in the main verb, and no manner conflated in the sentence at all (*'He entered the room'* and *'He ascended the hill'*) were also all rated as perfectly acceptable by all participants, earning each sentence of this type an average score of 3.

In main verb					
Non-volition	X	2.8	2.6	2.9	3
Agentive	2.4	X	2.9	2.9	3
Speed	1.4	2.3	X	3	3
Deictic	1.6	2.2	2.8	X	3
Path	1.7	2.5	2.5	2.3	X
Outside of main verb	**Non-volition**	**Agentive**	**Speed**	**Deictic**	**Path only**

Table 2. Average scores of sentences

**Gray coloring indicates strange sentences, black coloring indicates very strange sentences, and X indicates non-considered sentences as they would result in information being reduplicated both in the main verb and outside of it*

The results of Chi-square tests to see if there was a statistically significant difference in the preference of one manner type or the other revealed significant differences for all manner types except for speed and deictic information. Non-volition manner was shown to most salient, as it was significantly more highly rated when it was conflated in the main verb than agentive ($\chi^2(3, 78) = 14.69$, $p=0.002$), speed ($\chi^2(3, 78) = 11.08$, $p=0.004$), deictic ($\chi^2(3, 78) = 102$, $p<0.001$) or path ($\chi^2(3, 78) = 111$, $p<0.001$) information. Agentive manner was shown to be the next most salient, with it being preferred in the main verb when compared with speed ($\chi^2(3, 78) = 50.29$, $p<0.001$), deictic ($\chi^2(3, 78) = 25.09$, $p<0.001$) or path ($\chi^2(3, 78) = 41.85$, $p<0.001$) information. Speed and deictic information seemed to be of relatively equal salience, as native speakers showed no preference for either to appear in the main verb ($\chi^2(3, 78) = 0.693$, $p=0.41$), but both were given significantly more priority to this slot than path information ($\chi^2(3, 78) = 10.57$, $p=0.005$ and $\chi^2(3, 78) = 50.34$, $p<0.001$, respectively). This indicates that native speakers are most likely to conflate verbs of non-volition in the main verb, followed by agentive, then speed and deictic verbs and finally path verbs, creating the following basic hierarchy:

non-volition > agentive > speed, deictic > path

Sentences with only path information, encoded in the main verb, and no manner of motion information included were also rated significantly higher than sentences in which path was encoded in the main verb and any of the manner types was encoded outside of the main verb: vs. non-volition outside $\chi^2(3, 78) = 111$, $p<0.001$, vs. agentive outside $\chi^2(3, 78) = 41.85$, $p<0.001$, vs speed outside $\chi^2(3, 78) = 10.57$, $p=0.005$, vs. deictic outside $\chi^2(3, 78) = 50.34$, $p<0.001$.

5. Conclusions and Discussion

The results of this study indicate that manner salience is likely a contributing factor to English motion event conflation, and that certain types of manner seem to be more salient than others. First, statistically significant different results were found, indicating that native English speakers showed a clear preference for encoding certain manner verbs in the main verb position over others. Though this was not apparent when only one type of manner was encoded in the sentence (i.e. all sentences with only one manner type encoded in the main verb were all scored perfectly), it became evident when native speakers were forced to make a choice as to which type of manner should take the main verb slot in sentences that contain multiple pieces of

manner of motion information. Second, since the information encoded in the main verb is said to be foregrounded and most focused on (Talmy, 1985; 2000; Slobin, 2004; etc.), it seems that some manner types were more salient (i.e. drew more focus) than others. Though only two types of path and five types of manner were tested, the results of Table 2 seem to show that non-volition is the most salient type of manner, followed by agentive motion, then followed by speed and deictic information, which seem to be equally salient.

Some other notable results should also be discussed here. For one, it is striking that all of the English native speakers surveyed gave perfect scores to verb-framed sentences with no manner conflated in the sentence, but scored all sentences with any manner of motion manner conflated outside of the main verb and path conflated in the main verb as at least somewhat strange, resulting in significantly different scores. This suggests that for motion events, where the manner of motion is conflated (i.e. inside the main verb or outside of it) is more influential to native English speakers' conflation preference than where the path is conflated. When coupled with the fact that sentences with only one type of manner conflated in the main verb and no other manner conflated outside of it also resulted in perfect scores, it becomes apparent that native speakers of English seem to prefer any manner information (regardless of type) to be encoded in the main verb, rather than outside of it. However, when there is competition for the main verb slot, preference for certain manner verbs over others can be observed, which suggests some manner types are more salient than others.

These results could help to explain some of the conflicting results of previous studies regarding native speaker framing preferences as mentioned in Section 2. It suggest that when conducting studies in which native speakers describe motion events, the type of the manner of motion seems to be an influential factor on framing choice. Therefore, when comparing results within and across studies, due regard must be given to the manner types used in the response stimuli, not only the path type.

However, it should be mentioned here that in order to further show how salient manner type actually is, more experimental studies should be conducted. For example, future studies might include categorization tasks, such as those used in Soroli and Hickmann (2010) to see if manner type will influence the preference of native English speakers to prioritize categorizing motion events with the same type of manner together over motion events with the same type of path. Such results should also be tested against native speakers of verb-framed languages to see if manner type influences its salience universally across languages.

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Labeling Algorithm に対する経済性条件と抜き出し

（Economy Condition on Labeling Algorithm and Extraction）

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1. 導入

最近の極小主義の枠組みにおいては、移動は(1)に示す Merge に統一され、自由に適用されると仮定されている(以下、自由併合)。

(1) Merge (X, Y) = {X, Y}

したがって、移動を駆動する EPP 素性や EF 等に頼らずに移動(抜き出し)現象に説明が与えられなければならない。

本稿の目的は、Chomsky (2013, 2015)によって提案された Labeling Algorithm (以下、LA)に修正を加え、LA に対する経済性条件を提案し、(2)-(5)に示す抜き出しの対比に関して統一的な説明を試みることである。

(2) a. ? [To whom]$_i$ did you know what John sent t_i?
b. * [To whom]$_i$ did you destroy what John sent t_i?
(Cecchetto and Donati (2015: 99))

(3) a. (?)Who$_i$ does John regret that he offended t_i?
b. ??Who$_i$ does John regret it that he offended t_i? (cf. Melvold (1991: 107))

(4) a. [On which table]$_j$ did Lee say that [only these books]$_i$ would she put t_i t_j?
b. * [On which table]$_j$ did Lee say that [these books]$_i$ she will put t_i t_j?
(cf. Koizumi (1999: 141))

(5) a. [Of which article]$_i$ did [a review t_i] come out yesterday?
(cf. Mizuguchi (2009: 322))
b. [Of which car]$_i$ was [the driver t_i] awarded a prize?
c. * [Of which car]$_i$ did [the driver t_i] cause a scandal? (cf. Chomsky (2008: 147))

(2)において、間接疑問節からの抜き出しが許されるのに対して、自由関係節からの抜き出しは許されない。(3)において、通常の叙実節からの抜き出しが許されるのに対して、*it* を伴う叙実節からの抜き出しは許されない。(4)において、焦点要素を越える移動が許されるのに対して話題要素を越える移動は許されない。(5)において、内項主語からの抜き出しが許されるのに対して、外項主語からの抜き出しは許されない(主語の島)。

2. Chomsky (2013, 2015)

Chomsky (2013, 2015)は、Merge によって構築された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、(6)に示す 3 種類の LA を提案している。

(6) a. $\{_{\alpha}H, XP\}$ (α = H)
b. $\{XP_i, \{_{\alpha}t_i, YP\}\}$ (α = YP)
c. $\{_{\alpha}XP_{[F]}, YP_{[F]}\}$ (α = <F, F>)

(6a)の主要部 H と句 XP からなる H-XP 構造では、H がラベルとして決まる。2 つの句からなる XP-YP 構造の場合は、(6b)のように、XP が移動することにより、XP がコピーとなり LA にとって不可視的となるので YP がラベルとなる。あるいは、(6c)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。これらを踏まえ、Chomsky (2015)では *that* 痕跡効果は(7)のように説明されている。

(7) Who do you think read the book?

a. $[_{CP}\ C\ [_{\alpha}\ who_{[\varphi]i}\ [_{TP}\ T_{[\varphi]}\ [_{v^*P}\ t_i\ [_{VP} \ldots]]]]]$

b. $[\cancel{_{CP}}\ \cancel{C}\ [_{\alpha}\ who_{[\varphi]i}\ [_{TP}\ T_{[\varphi]}\ [\cancel{_{v^*P}}\ \cancel{t_i}\ [\cancel{_{VP}} \ldots]]]]]$ ($\alpha = <\varphi, \varphi>$)

c. who_i do you think $[_{<\varphi, \varphi>}\ t_i\ T\ [_{v^*P}\ t_i \ldots]]$

(7a)において、埋め込み節の C 主要部が併合され、C から T にファイ素性が継承される。Chomsky によると、操作はフェイズレベルで適用されるので、(7b)において、転送の一部として、α のラベルはファイ素性の共有により、<φ, φ>と決まる。この時、C 削除が適用され、C のフェイズ性が T において活性化する。結果として、TP がフェイズとなり、T の補部の *v**P が転送される。したがって、(7c)のように、wh 句は主節に移動することが可能となる。Chomsky はフェイズ内で決まった情報は保持されるという趣旨の phase-level memory を仮定しており、たとえ、(7c)において、wh 句が移動によりコピーになったとしても 1 度決まったラベルの情報は保持されるので問題は生じない。

3. 提案

Chomsky の枠組みでは、目的語疑問文は(8)のように派生すると考えられる。

(8) What do you think that John read?

a. $[_{\alpha}\ what_j\ [_{CP}\ that\ [_{<\varphi, \varphi>}\ John_i\ T\ [_{v^*P}\ t_i\ read\ t_j]]]]$ ($\alpha = ?$)

b. $what_j$ do you think $[_{\alpha}\ t_j\ [_{CP}\ that\ [_{<\varphi, \varphi>}\ John_i\ T\ [_{v^*P}\ t_i\ read\ t_j]]]]$ ($\alpha = CP$)

(8a)の埋め込み節が完成した時点で、フェイズである CP 全体に LA が適用される。ただし、この時点では α のラベルは決まらない。(8b)のように、wh 句が移動した後にもう 1 度 LA が適用され、α のラベルは CP と決まる。この派生においてラベルを決めることに関して問題はない。しかし、α に 2 度 LA が適用されていることに関しては、極小主義が指針とする最小計算や経済性の観点から好ましいとは言えない。[1] この問題を解決するために、(9)を提案する。

(9) LA に対する経済性条件

ある統語対象に 1 度 LA が適用されると、その統語対象はラベル付けされたかどうかに関わらず、再び LA を受けることができない。

(9)の条件は 1 度 LA を受けた統語対象が再び LA を受けることを禁じる条件であり、より厳密に phase-level memory を捉え直したものであるが、ラベルが決まる・決まらないに関わらず、その情報が保持されることが含意される。また、(9)の提案に加えて、本稿では、Chomsky (2001)で提案された弱いタイプの PIC を採用する。

(10) Phase Impenetrability Condition (PIC)

The domain of H is not accessible to operations at ZP; only H and its edges are accessible to such operations. (HP and ZP are phases.) (cf. Chomsky (2001: 14))

このタイプの PIC の下では、あるフェイズのラベル付けは次のフェイズ主要部が併合される時点で適用されることになる。さらに Epstein, Kitahara and Seely (以下、EKS) (2016)に従い、架橋動詞などは R と *v**の外的対併合により、フェイズ性を失った状態で派生に導入されると仮定する。

(11) Phase Cancellation (cf. EKS (2016))

ファイ素性を欠いた動詞(架橋動詞・受動動詞・非対格動詞)は、R と *v**との外的対併合により、フェイズ性を失った状態で派生に導入される。

(表記上は *v**と *v* を区別しておく)

これらを踏まえ、目的語疑問文の派生は(12)のように進むと主張する。

(12) a. [$_{CP}$ C…[$_{\beta}$ what$_i$ [$_{vP}$ you think [$_{\alpha}$ t_i [$_{CP}$ that [$_{<\varphi, \varphi>}$ John T read t_i]]]]]] (α = CP)

b. [$_{<Q, Q>}$ what$_i$ do you$_j$ [$_{\beta}$ t_i [$_{vP}$ t_j think [$_{CP}$ t_i [$_{CP}$ that [$_{<\varphi, \varphi>}$ John T read t_i]]]]]] (β = *v*P)

(12a)に示すように、α を含む埋め込み節の CP に LA が適用されるのは主節の C 主要部が併合される時点である。この時、α に含まれる wh 句は主節の *v*P への移動によりコピーとなっているので、α のラベルは CP と決まる。最終的には(12b)のように、他のラベルも適切に決まる。重要なことに α のラベルは 1 度だけの LA によって決まる。

4. 分析

本節では前節での提案の下で、1 節で概観した(2)-(4)の対比を説明する。

まず(13)に再掲される間接疑問節と自由関係節からの抜き出しの対比について考察する。

(13) a. ? [To whom]$_i$ did you know what John sent t_i?

b. * [To whom]$_i$ did you destroy what John sent t_i?

(Cecchetto and Donati (2015: 99))

間接疑問節の構造が CP までの構造しか持たないのに対して、自由関係節はその名詞性に基づき、CP の上にさらに D 主要部が併合されると仮定する(cf. Caponigro (2002), Cecchetto and Donati (2015))。本稿では、Cecchetto and Donati (2015)の分析を採用し、*what* が D 主要部として機能すると仮定する。加えて、CP と *v**P と同様に DP もフェイズを構成すると仮定する。これを考慮すると間接疑問節からの抜き出しは(14)のように派生する。

(14) a. [$_{\beta}$ [to whom]$_j$ [$_{\alpha}$ what$_i$ C [$_{<\varphi, \varphi>}$ John sent t_i t_j]]]

b. [$_{vP}$ [to whom]$_j$ you know [$_{\beta}$ t_j [$_{\alpha}$ what$_i$ C [$_{<\varphi, \varphi>}$ John sent t_i t_j]]]]

c. [$_{CP}$ C… [$_{<\varphi, \varphi>}$ you$_k$ [$_{vP}$ [to whom]$_j$ t_k know [$_{\beta}$ t_j [$_{\alpha}$ what$_i$ C [$_{<\varphi, \varphi>}$ John sent t_i t_j]]]]]] (α, β = <Q, Q>)

(14a)のように、中間着地点に *to whom* が移動した時点で α と β のラベルはまだ決まらない。(14b)の時点で *to whom* は主節の *v*P に移動する。そして(14c)の主節の C が併合された時点で、埋め込み節の CP に LA が適用され、α のラベルは素性共有により<Q, Q>と決まる。β のラベルも *to whom* がコピーとなっているので<Q, Q>と決まる。

一方で、自由関係節からの抜き出しの派生は(15)に示される。

(15) [$_{DP}$ what$_i$ [$_{\beta}$ [to whom]$_j$ [$_{\alpha}$ C [$_{<\varphi, \varphi>}$ John sent t_i t_j]]]] (α = CP, ***β = ?**)

to whom が中間着地点の CP に移動し、その後に D 主要部(*what*)が併合された時点で β を含む CP 全体に LA が適用されるが、β のラベルは決まらない。(9)の条件により 1 度 LA を受けた β は再び LA を受けないので、β のラベルは未決定のままとなる。提案された分析は、(16)に示す Bošković (2015)によって導かれた一般化を自由併合を保持した形で説明することができる。

(16) フェイズが連続する配列は抜き出しにとって島となる。

(cf. Bošković (2015: 634))

似た配列として、regret が補部としてとる叙実節が挙げられる。(17)に再掲されるように、*it* を伴う場合は叙実節からの抜き出しは許されない。

(17) a.(?)Who$_i$ does John regret that he offended t_i?

b.??Who$_i$ does John regret it that he offended t_i? (cf. Melvold (1991: 107))

it を伴わない通常の叙実節が CP 構造までしか持たないのに対して、*it* を伴う場合は構造がより複雑になっていると考えられる(cf. Kiparsky and Kiparsky (1971))。Kiparsky and Kiparsky の分析を援用し、この *it* を D 主要部と仮定する。これを考慮するとそれぞれの派生は(18)のように進む。

(18) a. [$_{CP}$ C…[$_{vP}$ what$_i$ John regret [$_{\alpha}$ t_i [$_{CP}$ that … t_i]]]] (α = CP)

b. [$_{vP}$ regret [$_{DP}$ D (it) [$_{\alpha}$ what$_i$ [$_{CP}$ that … t_i]]]] (***α = ?**)

(18a)のように *it* を伴わない場合は、α は適切にラベルが決まるのに対して、*it* を伴う場合は(18b)のように DP と CP のフェイズが連続するため、(15)と同様に抜き出しが許されないことが説明される。

同じように(19)に再掲される焦点要素を越える移動と話題要素を越える移動の対比も説明される。

(19) a. [On which table]$_j$ did Lee say that [only these books]$_i$ would she put t_i t_j?

b. *[On which table]$_j$ did Lee say that [these books]$_i$ she will put t_i t_j?

(cf. Koizumi (1999: 141))

Totsuka (2013)は Rizzi (1997)が提案する左周辺部の中でも(20)のように ForceP に当たる最上位の CP と TopP がフェイズであると主張している。

(20) CP = [**ForceP** [**TopP** [FocP [FinP [TP…

(cf. Totsuka (2013: 205))

本稿でも(20)を仮定し、それぞれの派生を(21)に示す。

(21) a. [$_{CP}$ C…[$_{vP}$ wh$_j$ Lee say [$_{CP}$ C (Force) [$_{\alpha}$ t_j [$_{FocP}$ XP$_i$ Foc [$_{TP}$…t_i t_j]]]]]] (α = FocP)

b. [$_{CP}$ C (Force) [$_{\alpha}$ wh$_j$ [$_{TopP}$ XP$_i$ Top [$_{TP}$…t_i t_j]]]] (***α = ?**)

(21a)の焦点要素を越える移動の派生では、埋め込み節の FocP に焦点要素 XP が移動し、その FocP を中間着地点として wh 句が移動する。埋め込み節の C 主要部が併合された時点では、FocP はフェイズではないので α に LA は適用されず、wh 句が主節に移動することができる。主節の C 主要部が併合された時点で α に LA が適用されるので、FocP と正しくラベルが決まる。一方で、(21b)に示す話題要素を越える移動の場合は、wh 句が中間着地点としてフェイズである TopP に移動する。しかし、その直後に C が併合されるため、α に LA が適用されるがラベルは決まらず、(9)の条件により α のラベルは未決定のままとなる。

5. 主語の島

提案された分析は(22)に再掲される主語の島の対比にも拡張することができる。[2]

(22) a. [Of which article]$_i$ did [a review t_i]

come out yesterday?

(cf. Mizuguchi (2009: 322))

b. [Of which car]$_i$ was [the driver t_i] awarded a prize?

c. *[Of which car]$_i$ did [the driver t_i] cause a scandal?

(cf. Chomsky (2008: 147))

まず外項主語からの抜き出しは、(23)のように説明される。

(23) a. $[_{v^*P}\ [_{\alpha}\ \mathrm{wh}_i\ [_{DP}\ \mathrm{DP}\ t_i]]\ v^*\ \ldots]$

b. $[_{TP}\ [_{\alpha}\ \mathrm{wh}_i\ [_{DP}\ \mathrm{DP}\ t_i]]_j\ \mathrm{T}\ [_{v^*P}\ t_j\ v^*\ldots]]$

c. $[_{CP}\ \mathrm{C}\ [_{<\varphi,\ \varphi>}\ [_{\alpha}\ \mathrm{wh}_i\ [_{DP}\ \mathrm{DP}\ t_i]]_j\ \mathrm{T}\ [_{v^*P}\ t_j\ v^*\ \ldots]]]$ **(*α = ?)**

(23a)に示すように、DP はフェイズであるので wh 句が DP の末端に併合された状態、すなわち XP-YP 構造として、*v**P と併合する。Chomsky (2015)によると、(23b)に示すように、C が併合される前に外項は TP に移動する。(23c)の C 主要部が併合された時点で、DP フェイズ全体に LA が適用される。この時、α は XP-YP 構造であるのでラベルは決まらず、(9)によりラベルは未決定のままとなる。

一方で内項主語からの抜き出しは、(24)のように説明される。

(24) a. $[_{vP}\ \mathrm{R}\text{-}v\ [_{\alpha}\ \mathrm{wh}_i\ [_{DP}\ \mathrm{DP}\ t_i]]]$

b. $[_{vP}\ \mathrm{wh}_i\ \mathrm{R}\text{-}v\ [_{\alpha}\ t_i\ [_{DP}\ \mathrm{DP}\ t_i]]]$

c. $[_{TP}\ [_{\alpha}\ t_i\ [_{DP}\ \mathrm{DP}\ t_i]]_j\ \mathrm{T}\ [_{vP}\ \mathrm{wh}_i\ \mathrm{R}\text{-}v\ t_j]]$

d. $[_{CP}\ \mathrm{C}\ [_{<\varphi,\ \varphi>}\ [_{\alpha}\ t_i\ [_{DP}\ \mathrm{DP}\ t_i]]_j\ \mathrm{T}\ [_{vP}\ \mathrm{wh}_i\ \mathrm{R}\text{-}v\ t_j]]]$ (α = DP)

e. $[_{<Q,\ Q>}\ \mathrm{wh}_i\ \mathrm{C}\ [_{<\varphi,\ \varphi>}\ [_{DP}\ t_i\ [_{DP}\ \mathrm{DP}\ t_i]]_j\ \mathrm{T}\ [_{vP}\ t_i\ \mathrm{R}\text{-}v\ t_j]]]$

EKS に従い、架橋動詞と同様に非対格動詞、受動動詞も非フェイズ主要部として派生に導入されると仮定する。まず(24a)のように、wh 句が DP の末端に移動し、XP-YP 構造を形成した DP と *v*P が併合する。その後、(24b, c)のように wh 句は *v*P に、DP は TP にそれぞれ移動する。そして(24d)において C 主要部が併合された時点で、α に LA が適用される。wh 句はすでにαから移動しているため、α のラベルは DP と決まる。そして(24e)のように他のすべてのラベルも適切に決まる。(24)では、フェイズではない *v*P が中間着地点として機能している。これは、外項からの抜き出しであっても中間着地点として利用可能な非フェイズが加われば、外項からの抜き出しも可能になるという予測を生む。この予測は、繰り上げ・ECM 述語の補部節の外項からの抜き出しが可能であるとする Chomsky (2008)の観察により支持される。

(25) a. [Of which car]$_i$ is [the driver t_i] likely to cause a scandal?

b. [Of which car]$_i$ did they believe [the driver t_i] to have caused a scandal? (cf. Chomsky (2008: 153))

繰り上げ述語の補部節の外項からの抜き出しは(26)のように説明される。

(26) a. $[_{v^*P}\ [_{\alpha}\ \mathrm{wh}_i\ [_{DP}\ \mathrm{DP}\ t_i]]\ v^*\ldots]$

b. $[_{TP}\ \mathrm{wh}_i\ \mathrm{to}\ [_{v^*P}\ [_{\alpha}\ t_i\ [_{DP}\ \mathrm{DP}\ t_i]]\ v^*\ldots]]$

c. $[_{CP}\ \mathrm{C}\ [_{<\varphi,\ \varphi>}\ [_{\alpha}\ t_i\ [_{DP}\ \mathrm{DP}\ t_i]]_j\ \mathrm{is\ likely}\ [_{TP}\ \mathrm{wh}_i\ \mathrm{to}\ [_{v^*P}\ t_j\ v^*\ldots]]]]$ (α = DP)

d. $[_{<Q,\ Q>}\ \mathrm{wh}_i\ \mathrm{C}\ [_{<\varphi,\ \varphi>}\ [_{DP}\ t_i\ [_{DP}\ \mathrm{DP}\ t_i]]_j\ \mathrm{is\ likely}\ [_{TP}\ t_i\ \mathrm{to}\ [_{v^*P}\ t_j\ v^*\ldots]]]]$

*v**P に外項が併合されるまでは、(23)と同じように派生は進む。しかし、(26b)の時点で T 主要部の *to* が併合された後に、wh 句は中間着地点として TP に移動することができる。(26c)において外項の DP が主節の TP に移動して、C が併合された時点で、DP に LA が適用される。この時、wh 句はすでに移動した後なので、α のラベルは DP と決まる。そ

して wh 句が CP に移動した後に他のすべてのラベルも適切に決まる。ECM 述語の補部節の外項からの抜き出しの派生も同じように進む。

(27) a. $[_{v^*P}\,[_{\alpha}\,\mathrm{wh}_i\,[_{DP}\,\mathrm{DP}\,t_i]]\;v^*\ldots]$

b. $[_{TP}\,\mathrm{wh}_i\,\mathrm{to}\,[_{v^*P}\,[_{\alpha}\,t_i\,[_{DP}\,\mathrm{DP}\,t_i]]\;v^*\ldots]]$

c. $[_{v^*P}\,\mathrm{R}\text{-}v^*(\mathrm{believe})[_{<\varphi,\,\varphi>}\,[_{\alpha}\,t_i\,[_{DP}\,\mathrm{DP}\,t_i]]_j\;\boldsymbol{t_R}\,[_{TP}\,\mathrm{wh}_i\,\mathrm{to}\,[_{v^*P}\,t_j\;v^*\ldots]]]]$

(α = DP)

d. $[_{v^*P}\,\mathrm{wh}_i\,\mathrm{they}\,\mathrm{R}\text{-}v^*(\mathrm{believe})\,[_{<\varphi,\,\varphi>}\,[_{DP}\,t_i\,[_{DP}\,\mathrm{DP}\,t_i]]_j\;\boldsymbol{t_R}\,[_{TP}\,t_i\,\mathrm{to}\,[_{v^*P}\,t_j\;v^*\ldots]]]]$

e. $[_{CP}\,\mathrm{C}\,[_{<\varphi,\,\varphi>}\,\mathrm{they}_k\,\mathrm{T}\,[_{v^*P}\,\mathrm{wh}_i\,t_k\,\mathrm{believe}\,[_{<\varphi,\,\varphi>}\,[_{DP}\,t_i\,[_{DP}\,\mathrm{DP}\,t_i]]_j\;\boldsymbol{t_R}\,[_{TP}\,t_i\,\mathrm{to}\,[_{v^*P}\,t_j\;v^*\ldots]]]]]]]$

この派生も(27b)までは、(26)の派生と同じである。(27c)において、埋め込み節の TP と R が併合される。そして、R の指定部に埋め込み節の外項が移動する。*v**が併合された時点で、α のラベルが DP と決まる。Chomsky (2015)によると、*v**から R に素性継承が適用され、R が *v**に対併合すると RP がフェイズとなる。(27d)で wh 句が *v**P に移動し、(27e)で主節の C が併合された時点で、フェイズとなった RP に LA が適用され、R の補部が転送される。wh 句はすでに主節に移動しているため、PIC に違反しない。

さらに、外項がフェイズではない場合も抜き出しが許されるという別の予測が生じる。これは Kluender (2004)の観察により支持される。

(28) a. * Who_i does [that she can bake ginger cookies for t_i] give her great pleasure?

b. Who_i does [being able to bake ginger cookies for t_i] give her great pleasure?

(cf. Kluender (2004: 117))

Kluender によると、(28)に示すように、定形の節主語からの抜き出しは許されないが、節的動名詞主語からの抜き出しは許される。

(29) $[_{CP}\,\mathrm{C}\,[_{<\varphi,\,\varphi>}\,[_{\alpha}\,\mathrm{who}_i\,[_{CP}\,\mathrm{that\ she\ can}\ldots t_i]]_j\,\mathrm{T}\,[_{v^*P}\,t_j\,\mathrm{give\ her}\ldots]]]$ (*α = ?)

定形の節主語は CP であるので、wh 句が CP の末端に移動した後に、その CP が *v**P と併合する。そして主節の C が併合された時点で、節主語である CP に LA が適用される。しかし、当該の CP はラベルの決まらない XP-YP 構造であるため、(9)の条件により、ラベルは未決定のままとなる。これに対して、Pires (2007)に従い、節的動名詞は C を欠いた TP までの構造しか持たないと仮定する。TP までの構造しか持たないということは、節的動名詞はフェイズを構成しないということになる。したがって、(30a)に示すように主節の C が併合された時点でも、α はフェイズではないので LA は適用されない。結果として、(30b)のように、wh 句が移動した後の LA 適用時に α のラベルは適切に TP と決まる。

(30) a. $[_{CP}\,\mathrm{C}\,[_{<\varphi,\,\varphi>}\,[_{\alpha}\,\mathrm{who}_i\,[_{TP}\,\mathrm{being\ able\ to}\ldots t_i]]_j\,\mathrm{T}\,[_{v^*P}\,t_j\,\mathrm{give\ her}\ldots]]]$

b. $[_{<Q,\,Q>}\,\mathrm{who}_i\,\mathrm{C}\,[_{<\varphi,\,\varphi>}\,[_{\alpha}\,t_i\,[_{TP}\,\mathrm{being\ able\ to}\ldots t_i]]_j\,\mathrm{T}\,[_{v^*P}\,t_j\,\mathrm{give\ her}\ldots]]]$ (α = TP)

6. 結語

本稿では、Chomsky (2013, 2015)により提案された LA に修正を加え、(9)に示す LA に対する経済性条件を提案した。この条件の下で、(2)-(5)に示す対比に統一的な説明を与えた。

注

[1] Chomsky (2015)では、LA がフェイズ全体に適用されるのか、あるいはフェイズ主要部の補部に適用されるのかは明言されていないと思われる。もし後者であれば、経済性の

問題は生じない。しかし、フェイズ主要部の補部に LA が適用されるならば、当該のフェイズの最上位のラベルは次のフェイズで決まる。そうすると、フェイズが A バー移動を受ける場合、ラベル未決定の統語対象がインターフェイスに送られるという問題が生じる。

[2] Kobayashi (2013)においても、LA と(10)のタイプの PIC に類する制約によって(22)の対比が説明されている。

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助動詞の XX 構文への
関連性理論によるアプローチ
（A Relevance Theoretic Approach to the XX Construction of Auxiliaries）

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キーワード：XX 構文, 手続き的情報, 助動詞, モダリティ, アスペクト

1. はじめに

ある言語表現 X を繰り返すインフォーマルな重複型表現形式について、本稿では、XX 構文と呼ぶことにする。例えば、(1)の例文中の French French が XX 構文である。「彼はいわゆるフランス人か、あるいはルーツも生まれも育ちも、生粋のフランス人なのか」というニュアンスの解釈が可能である。

Ghomeshi et al. (2004)では、このような XX 構文を contrastive focus reduplication (CR) と呼んでいるが、(2)に示すように、XX 構文には機能的項目は生起しないとして、Are you sick, or are are you sick? を非文としている。しかし実際には(3)のような機能的項目としての助動詞 BE の XX 構文の例が存在する。(3)の B では、A に対して、本当に確実に家を買おうと思っているのかどうかを確かめている。

(1) Is he French or French French?
(Corpus of English Contrastive Focus Reduplications)

(2) "If the function of CR (contrastive focus reduplication) is to restrict the meaning of an item to its central or prototypical meaning, and if functional items lack the appropriate sort of semantic variation, then CR should not occur with functional items. This prediction is borne out by the ungrammatical examples below.
*Are you sick, or are are you sick?
[Auxiliary]" (Ghomeshi et al. (2004:313))

(3) A: I'm going to buy a new house.
B: You are are, or probably are going to buy a new house?

本稿では、(3)の事実に基づいて、以下のことを主張する。

[1] (2)の助動詞の XX 構文は非文であるという主張に対して、機能的項目である助動詞の XX 構文は存在するということを示す。その際、助動詞 BE の XX 構文にはアスペクトが関わり、法助動詞の XX 構文にはモダリティが関わるということを指摘する。

[2] 助動詞の XX 構文の解釈は、助動詞にコード化された手続き的情報と、時政 (2018) の規定する XX 構文の手続き的情報との 2 つの手続き的情報がそれぞれ同時に満たされて成立する。XX 構文の手続き的情報は次の通りである。

「XX 構文の手続き的情報は、X にコード化された情報と文脈に沿って、『X を単独で用いた場合の発話の解釈』もしくは『X』を、それらとは異なる話し手の意図の方向に狭め、限定して解釈することを求めるものである。」(時政 (2018:38))

[3] 助動詞の XX 構文には、「法助動詞 X のモダリティの狭めを要求するもの」と「助動詞 BE を単独で用いた発話文全体の解釈の狭めを要求するもの」の 2 つのタイプがある。同様のことが概念語の XX 構文にもいえる。例えば概念語の XX 構文 salad salad は、グリーンレタスだけのサラダであると解釈される。これは、概念語である salad が XX 構文

の手続き的情報によって狭められることによるものである。一方で、このような語の狭めではなく、概念語 X を含む発話の解釈全体の狭めを要求するタイプのものがある。助動詞の XX 構文と概念語のＸＸ構文にはこのような類似性が観察されることを指摘する。

[4] 法助動詞のモダリティに関わる XX 構文は、X を単独で用いた発話文の高次表意の上位節を強調する働きをしていることを示す。

2. XX 構文の事例

本節では、助動詞による XX 構文が存在することを指摘し、それぞれの例がどのような解釈を受けるかを観察する。法助動詞の WILL, CAN, MIGHT, それから助動詞 BE の順に事例を示す。なお、法助動詞に関する関連性理論を用いた分析は 4 節で行う。

(4) 法助動詞 WILL①

Devon: Well, I just got two (tickets) for, uh, for you and me.

Lily: Oh, well, um, can you get two more?

Devon: I don't know. Why?

Lily: 'Cause I know you guys will hit it off, and...

Devon: I'm not really interested in hitting it off with your date.

Lily: No, no, no. No, no, no. No, you <u>will will</u> like him, and what I meant to say that's even better is that his cousin is gonna be in town that weekend, so I said that you'd go out with her. (*Young and Restless* 2007) (SOAP)

Lily の発話である you will will like him.は、「間違いなく 100 パーセント、あなたは彼を気に入るわよ。」という解釈が可能である。この二人称主語に用いられている WILL は、話し手の認識的判断が加わり、高い確率で出来事がおこることを示す(柏野 (1999:40), citing Bland (1996:221))。さらに、この WILL の用法において、WILL に強勢が置かれると、100 パーセントに近い確率で出来事が起こると解釈される(柏野 (1999: 40))。XX 構文は、第一の X に必ず強勢がかかることが特徴であるため、You *will* will like him.は、You *will* like him.の解釈をさらに確信のあるものに限定し、I'm confident you will like him.という話し手の意図を伝達する。

(5) 助動詞 WILL②

A: I don't wanna eat carrots, I 'm not gonna...

B: You <u>will will</u> eat your carrots.

インフォーマントによれば、(5)の B は You will will eat carrots,..or...を含意し、「絶対に食べなさい。そうしないと…」という「脅し」として機能する。この WILL は、二人称主語に用いられて、聞き手に対する話し手の指示・命令を表す (中野 (2014:131))。話し手は、命令的な態度を伝達することで、聞き手によってその行為が確実に遂行されると確信している。したがって、この WILL は話し手と聞き手の間の上下関係が明らかな場合に使われる (柏野 (1999:46))。例えば、上司と部下、親と子のような関係がこれにあたる。

(6) 法助動詞 CAN

A lot of people with CP (cerebral palsy) don't walk, but my parents didn't believe in “can't”. My father's mantra was, “You can do it. Yes, you <u>can can</u>.” ...My name is Maysoon Zayid, and if I <u>can can</u>, you <u>can can</u>.

(NHK: E テレ「スーパープレゼンテーション」2018.02.15)

女優でありコメディアンであるパレスティナ系アメリカ人が、出生時の医療ミスで障がいをもち、多くの困難を乗り越えてきたこれ

までのことを語っている場面である。父親の言う You can can. 及びメイスーン・ザイード自身の言う If I can can, you can can. は、You can do it.の do it を省略して、XX 構文で強調したものと考えられる。インフォーマントによれば Nothing is impossible.と解釈される。

(7) 法助動詞 MIGHT

A: Can you watch my kids tonight?

B: It's possible. I <u>might might</u> be able to watch them for you.

A: That would be a big help, if you could.

MIGHT は「発話時点(＝現在）における話者の tentative な気持ちを表すために用いられる。ここで tentative というのは、話者が発言内容に対して確信が持てず、何らかの条件付きで発話している（したい）という思いを持っているということである」(中野 (2014:85))。法助動詞 MIGHT の機能は、法助動詞に続く動詞部分の叙述性を弱める（中野 (2014:86))ことである。(7)は、その MIGHT を含む XX 構文であり、話し手の確信度の度合いはさらに半減し、実現性がきわめて低くなることを聞き手に推論させることができる。

(8) 助動詞 BE①

Paul: Gwen has money?

Will: Yeah, out of nowhere.

Paul: She didn't tell you where it came from?

Will: No.

Paul: Well, she has <u>been been</u> working a lot of double shifts.

(*As the World Turns* 2005) (SOAP)

Paul の発話の BEEN は進行形助動詞である。完了進行相の動詞は work という活動動詞で、「いずれは終わる活動の持続」を表す。進行形 been working のアスペクトの明示的な表現形式のうち、進行相の助動詞の BEEN のみが XX 構文を形成している。XX 構文 been been が、単独の X=been を用いた場合の発話である she has been working a lot of double shifts.の解釈全体を狭めるように要求するので、(8)における Paul の最後の発話は、「働く」動作の継続してきた期間が for a long time であるということ、すなわち「彼女は、たくさんのダブルシフトをしてずっとずっと長い間働いてきた」ということを伝達する。XX 構文は、少ない言語情報で効率的かつ豊かに話し手の意味を伝達することが可能である。

(3) 助動詞 BE②

A: I'm going to buy a new house.

B: You <u>are are</u>, or probably are going to buy a new house?

この擬似法助動詞 BE GOING TO は、「形式的にはアスペクト(継続・未完了)である。しかし、概念においては予測性を持ち、モダリティを表すと考えられる」(西川 (2005:100))。よって、助動詞 BE の XX 構文の解釈は、アスペクトとモダリティのどちらの要素も持つと考えるべきである。

澤田 (1992:237) は、発話前から意図していたことを述べる BE GOING TO を「語用論的に見て特殊な用法」として、「話し手が聞き手の未来の行為について言及していることに含意されているのは、その行為が実行されるかどうかを話し手が確かめる」ものであると述べている。また、B の発話は形式的にはエコー疑問文である。先行発話の一部あるいは全部を繰り返すエコー疑問文の働きは、「先行発話の形式および内容を明らかにすることで、確認したり念を押したりする」(東森・吉村 (2003:121))ことであり、「話し手はエコーすることによって、もとになる表示に対して自分の態度を示す」(東森・吉村 (2003:127) citing Noh (1995:126))。擬似法助動

詞BE GOING TOの一部であるBEのみのXX構文は、Aの予測される未来の行為が実際なされるのか確かめたいという話し手 B の心的態度を経済的に伝達している。さらに、この XX 構文 are are が probably are との対比で使用されることによって、新しい家を買うという行為が本当に実行されるのか不確定なのかを尋ねようとしている話し手の意図を明確に示しており、聞き手はそのことをより容易に推論できる。

3. 理論的前提

本稿では、関連性理論における手続き的情報についての標準的な説明に基づいて考察する。すなわち、ここでの手続き的情報とは、聞き手が行う推論処理の仕方に制約を課す情報のことをいう。手続き的情報は、聞き手が、話し手によって意図された解釈にたどり着くために探さなくてはいけない解釈仮説の範囲を狭める働きをする。

(9) [T]he standard relevance-theoretic account of procedural meaning treats procedural expressions as guiding the inferential comprehension process by constraining the construction of contexts and/or the derivation of cognitive effects. (Wilson (2014:145))

4. 考察

2 節の事実観察をふまえて、3 つのことを考察する。まず第一は、法助動詞と助動詞 BE の XX 構文の違いを整理し、明確にする。第二に、法助動詞 CAN を例に、関連性理論での法助動詞へのアプローチを説明する。第三に、助動詞の XX 構文と概念語の XX 構文の解釈を対比し、その類似性を明らかにする。

4.1. 法助動詞と助動詞 BE

第一は、法助動詞と助動詞 BE の XX 構文の解釈には、それぞれモダリティ、アスペクトが関わっていると考えられることである。WILL, CAN, MIGHT の法助動詞は、モダリティに関する意味的特徴を備えていて、法助動詞の XX 構文は、法助動詞 X が持つモダリティ、つまり話し手の心的態度、命題的態度を狭めて解釈されると考えられる。

一方、助動詞 BE の XX 構文は、助動詞 BE という語自体のレベルの狭めではなく、助動詞 BE を含む発話全体の解釈を狭めて解釈するようにガイドすると考えられる。例えば、(8) の助動詞 been + ing の完了進行相は、活動動詞 work の時間的継続（未完了）の概念を表す。XX 構文 been been は、発話全体に関わる時間的概念の継続性を「長期間」という一定の方向へ狭めるようにガイドする。(3) では、be going to + 原形動詞で表現されるアスペクトは、ある時点ではまだ実現していないが、これから起こる事態を表す一方で、擬似法助動詞としての話し手の心的態度も関わると考えられる。形式的には擬似法助動詞 BE GOING TO の一部の助動詞 BE のみで構成された XX 構文 are are の手続き的情報は、BE GOING TO を含む発話全体のアスペクト、モダリティの両方に関わる解釈の狭め及び限定を要求する。つまり、「発話前にすでに意図され、かつ、これからゴールに向かって起こる事態の方向性」と「実現性の確認という話し手の心的態度」を強調する方向へ狭めることになる。

このように、助動詞 X はアスペクトやモダリティに関する解釈的指示をコード化し、助動詞の XX 構文は、「助動詞 BE を単独で用いた場合の発話の解釈」あるいは「法助動詞Xのモダリティ」を、単独の助動詞だけでは表現できない話し手の意図の方向に狭め、限定する。そして、助動詞自体が備えている手続き的情報と助動詞の XX 構文が備えている手続き的情報に衝突はなく、両者が同時に満たされる。

4.2. 法助動詞の意味確定度不十分性

例えば、法助動詞 CAN は、能力、可能性、許可などのいろいろな意味がコード化されていると考える多義性の議論がある一方で、関連性理論では、法助動詞の意味はきわめて「意味確定度不十分」であって、完全な、あるいは具体的意味は、聞き手の推論によって確定するという立場に立つ。関連性理論の枠組みによる Papafragou (1998) の法助動詞の分析では、「CAN が符号化しているのは、『法助動詞を抜いた裸の命題は事実的命題領域中のどの命題とも両立する』というところまでにすぎず、より具体的意味は、聞き手の推論を通じた肉付けによって得られる」(今井 (2001:131)) と説明される。事実的領域とは「現実の世界を記述したもの、つまりさまざまな出来事やものごとに関する一般的常識や、特定の時間的空間的枠内での個々の人物や出来事に関する記述」(今井 (2001:122)) とされる。このことを、(6)の法助動詞 CAN を例に説明すると、父からみた娘に関するこれまでのさまざまな経験、娘の属性に関する事実的命題（百科事典的知識）が、裸の命題である you do it と矛盾しないということで、聞き手は CAN の意味を能力もしくはそれから広がる可能性に確定していくことになる。その結果、XX 構文 can can は、「絶対にできる、不可能なことはなにもない」というように you can do it を強調した解釈となる。

4.3. 概念語の XX 構文と助動詞の XX 構文の解釈の類似性

概念語の XX 構文と対比して、助動詞の XX 構文の特徴を掘り下げる。

概念語の XX 構文には、その手続き的情報によって 2 タイプの狭めがあることはすでに指摘した (時政 (2017, 2018))。一つは、(1)のような French という概念語 X を、話し手の意図に沿って狭めるように聞き手に推論させるものである。もう一つは、(10)のように、X を単独で用いた場合の発話の解釈を話し手の意図に沿って狭め限定するものである(時政 (2018:38))。

【概念語 X の狭めの例】

(1) Is he French or French French?

【概念語 X を単独で用いた発話の解釈の狭めの例】

(10) [Dialogue between a married couple, recently separated and now living apart]

A1: Maybe you'd like to come in and have some coffee?

B1: Yeah, I'd like that.

A2: Just coffee coffee, no double meanings.

(Ghomeshi et al. (2004:315))

(1)の概念語 French は「いわゆるフランス人」という一般的な解釈がなされる。それと対比される形での French French という表現は、1 節で示したように、単独の French とは異なる、単独の French では表現できない話し手の意図が込められた解釈となる。

(10)での coffee coffee は、コーヒーらしいコーヒー、濃いめのコーヒーなどのような語そのものの狭めの解釈では、話し手の意図する意味にはたどり着けない。A1 の発話は、その文脈や会話の状況から、単なるお茶への誘いとする解釈と、関係修復を含意した誘いの解釈とが可能であるが、XX 構文が前者の解釈に限定して解釈する方向に聞き手を向かわせる。つまり、XX 構文 coffee coffee が、A1 の発話全体の解釈に関わるということである。

一方、すでにみてきたように、助動詞の XX 構文も手続き的情報による狭めには 2 つのタイプがあることを確認する。法助動詞の XX 構文は、法助動詞 X のモダリティ、つまり、話し手の心的態度を狭める語レベルの狭めであり、(1)の概念語の狭めに類似する。助動詞 BE の XX 構文は、助動詞 BE を含む

発話全体の解釈の狭めを要求するもので、(10)と類似する。

このようにみていくと、助動詞の XX 構文と概念語の XX 構文には、どちらにも、XX 構文が持つ手続き的情報によって「語レベルの狭め」あるいは「発話全体の解釈の狭め」が起こる 2 タイプがあると考えられ、両者の類似性が指摘できる。

4.4. 助動詞の XX 構文の性格

まず法助動詞に関して、(4)の you will will like him.の WILL と同様の例として、(11)を示す。この this will work の WILL は、「このことが絶対うまくいく」という話し手の確信的な態度を示す。しかし、この(11)を XX 構文にした場合は、(12) に示すように容認されない。I guarantee と言う表現を使用すると、will will という XX 構文による重複は余剰となり、容認されなくなるのである。このことから観察されることは、this will will work における will will の働きは、I guarantee (you)という上位節の機能と近いと考えられる。

(11) Well, how can I guarantee you this will work? (G. Gipe, *Back to the Future,*柏野(1999:40))
(12) *Well, how can I guarantee you this will will work?

以上の観察に基づいて、(5)の WILL による XX 構文の例を考えてみる。

【XX 構文】
(5) You will will eat your carrots.
【単独の X】
(13) You will eat your carrots.
【(5), (13)の表出命題】
→(14) The hearer will eat his/her carrots.
【(13)の高次表意】
→(15) <u>The speaker insists</u> that the hearer will eat his/her carrots.
【(5)の XX 構文を含む発話の高次表意】
→(16) <u>The speaker insists more threateningly</u> that the hearer will eat his/her carrots.

助動詞 WILL を単独で用いた You will eat your carrots.の発話行為に関する話し手の態度は、(14)に示される表出命題を埋め込んだ高次表意として(15)のように表すことができる。法助動詞の XX 構文を含む発話は、法助動詞のモダリティを強調して狭めるということを 4 節で説明した。WILL の XX 構文を含む発話(5)は、(13)と基本的に同じ表出命題を持ち、かつ話し手のさらに強い心的態度を表す。(5)の話し手の心的態度は、(16)のような高次表意で表される。すなわち、下線部で示す(16)の上位節は、XX 構文が持つ手続き的情報によって、法助動詞 WILL のモダリティに関する意味が狭められた（この場合は強調された）ことにより得られるものである。

この説明に沿って、2 節で挙げた法助動詞について、XX 構文の高次表意の例を考えると以下のようになる。

(4)の <u>will will</u>
→(17) The speaker assumes more confidently that the hearer will like him.
(6)の <u>can can</u>
→(18) The speaker believes more strongly that the hearer can do it.
(7)の <u>might might</u>
→(19) The speaker suggests to the hearer more tentatively that the speaker might be able to watch them.

(17) (18) (19) のそれぞれの上位節は、法助動詞の X を単独で用いた場合の発話の高次表意を狭め強調したものになる。

一方、助動詞 BE に目を向けると、XX 構文の手続き的情報が、発話全体が表す事態の

アスペクト解釈に関する狭めを要求することで、その発話の解釈が成立する。

冒頭の(2)の are are は、純粋に文法機能のみの項目、つまり意味の実体のない語であり、狭める対象がないために XX 構文は生起できないと考えられる。

5. 終わりに

本稿での議論をまとめると以下の通りである。

[1] 機能的項目は XX 構文に生起できないという指摘に反し、機能的項目とされる助動詞の XX 構文の例が実際に存在する。機能的項目、そのうちの助動詞については、「純粋に文法機能のみを担うもの」と「何らかの意味的特徴をもつもの」（法助動詞では、モダリティ、助動詞 BE ではアスペクト）とに区別される。個々の機能的項目について意味的に詳細に観察した上で XX 構文への生起可能性を議論すべきである。

[2] 助動詞と XX 構文がコード化しているそれぞれの手続き的情報は同時に満たされる。

[3] 助動詞の XX 構文と概念語の XX 構文には、どちらにも、XX 構文が持つ手続き的情報によって「語レベルの狭め」または「発話全体の解釈の狭め」が起こる 2 つのタイプがあると考えられ、両者の類似性が指摘できる。

[4] XX 構文の解釈は、本来、語彙化に逆らうもので、文としては完全に表現しえないものである。しかし、あえて表現を試みた場合、モダリティに関する法助動詞の XX 構文の働きは、X を単独で用いた発話の高次表意の上位節を狭めて強調させるものとして表すことができる。

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コーパス

Corpus of English Contrastive Focus Reduplications

Corpus of American Soap Operas (SOAP)

ラベル付けアルゴリズムと
カートグラフィー*
（Labeling Algorithm and Cartography）

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キーワード：カートグラフィー，ラベル付けアルゴリズム，話題化構文，焦点化構文，主文現象

1. 序

本論では、カートグラフィーによる知見がChomsky (2013, 2015)のラベル付けアルゴリズムによってどのように捉えられるかを検証する。Chomsky et al. (2017)では、カートグラフィーが仮定する階層化された機能範疇の構造をそのままの形で扱うことが理論上難しいことが指摘された。具体的には、素性の乱立、機能投射の乱立があげられる。この背景としては、自由併合 (Free Merge)の考え方に基づく素性による移動の破棄や投射(“Projection”)を併合操作から切り離しラベル付けアルゴリズムによる捉え直しが行われたことがある。これによりカートグラフィーが仮定する機能投射の構造を作り出すための道具立てが使えなくなった。特に、トピック基準やフォーカス基準等の考え方により、機能投射の主要部がそのの指定部へと要素を移動させることがカートグラフィーにとっては重要であったが、移動自体に素性の作用が無いとするとその移動の動機付けを保証することができなくなる。また、投射の概念が併合操作から独立したものであり、投射自体が構造関係によって決まることから、あらかじめ構造化された機能投射の配列が存在するという形では説明ができないことになる。さらには複雑に階層化された機能投射がどのように創発されたかという進化的な観点からの問題である。[1]

この点を踏まえ、本論の目的は、Chomsky (2013, 2015)のラベル付けアルゴリズムがカートグラフィーの対象になっている文の左方周縁部の現象にどのように適用できるかを検証することである。具体的な現象は英語の話題化構文と焦点化構文である。これらの構文はカートグラフィーで中心に扱われることが多いが、Chomsky (2013, 2015)では特に扱われていない。そのため、これらの構文のラベル付けアルゴリズムを考察することによって両者の統合を図ることが言語理論の深化に貢献できると思われる。

以下、2 節ではラベル付けアルゴリズムを概観する。3 節では、話題化構文と焦点化構文に対してのラベル付けアルゴリズムを提案する。4 節では話題化構文と焦点化構文の非対称性が本提案から説明できることを論じる。5 節はまとめである。

2. ラベル付けアルゴリズム

Chomsky (2013, 2015)において、ラベルは意味と音韻の両インターフェースが解釈するために必要な情報であるとしている。このラベルの決定は、併合操作とは独立したものであると考えており、Chomsky (2013, 2015)では最小探査によりラベルが決定されるとしている。具体的なラベルの決定は(1)、(2)で示したものである。[2]

(1) a. $\{_{\alpha}\mathrm{H}, \mathrm{XP}\}$ b. $\{_{\alpha}\mathrm{XP}, \mathrm{YP}\}$

(2) a. $\{\mathrm{YP}, \mathrm{Z}\ \{_{\alpha}\mathrm{XP}, t_{\mathrm{YP}}\}\} \Rightarrow \alpha = \mathrm{XP}$

b. $\{_{\alpha}\mathrm{XP}_{<F>}, \mathrm{YP}_{<F>}\} \Rightarrow \alpha = <F, F>$

(1a)のように主要部 H と最大投射 XP が併合

した場合はラベル付けアルゴリズムによって、主要部 H がラベルになる (α = H)。(1b)のような最大投射同士の場合は、二つの可能性でラベルが決定されるとしている。一つ目は、一方の最大投射、(2a)では YP、が移動することで移動した要素の元位置がコピーとなり、ラベル付けアルゴリズムからは不可視となる。これにより残った要素、(2a)では XP、がラベルとなる。二つ目は、(2b)のように XP と YP が共有している素性がラベルとなる。

ラベルはインターフェースでの解釈に重要な情報であるとすると、次の可能性が出てくる。これまでの主語、述部といった文法機能の決定や項構造における θ 役の決定がラベルによって決まるという可能性である。なぜならば、唯一の統語操作の併合 (Merge)は 2 つの統語対象物を組み合わせるだけなので、この操作自体から文法機能や θ 役を決めることは難しいと考えられる。この点を踏まえて、例えば(3)で示すように、主語と述語の叙述関係は従来 TP とラベル付けされていた部分での素性共有によるラベル<φ, φ>がインターフェースで解釈された結果だと捉えることができる。

(3) $[_{CP}\ C\ [_{<\varphi,\varphi>}\ \underbrace{DP_{<\varphi>}}_{主語}\ \underbrace{T_{<\varphi>}\ [_{vP}\ \ldots]}_{述語}]]$

本論ではこの可能性を踏まえて、Chomsky (2013, 2015)では扱われていない英語の話題化構文と焦点化構文のラベル付けを探求していく。これらの構文はカートグラフィーでは、トピックやフォーカスといった素性が仮定され、その素性がそれぞれの機能投射を持つものとされている。しかし、前節で触れた Chomsky et al. (2017)の指摘により再検討が必要とされている。これまでの素性ありきの考え方ではなく、ラベル決定における構造関係が重要であるとする観点から、次節では、これらの構文をラベル付けアルゴリズムによって捉え直すことを試みる。

3. 提案

話題化構文や焦点化構文は、それぞれ話題化要素と焦点化要素が文頭へと移動する。

(4) a. *Your book*, you should give to Paul, (not to Bill). (話題化構文)
b. **YOUR BOOK** you should give to Paul, (not mine). (焦点化構文)

カートグラフィーでは、それぞれの移動にトピック素性、フォーカス素性を仮定し、それらが主要部を成す機能投射が形成され、その指定部にそれぞれの要素を移動させると考えてきた。様々な文法素性が仮定されているが、Rizzi (2004)はその文法素性の分類を行い、大きく 4 クラスに分かれること、さらにそれぞれのクラスにどのような素性が属するかを提示している。

(5) a. Argument: person, number, gender, case
b. Quantificational: **Wh**, Neg, measure, **focus** ...
c. Modifier: evaluative, epistemic, Neg, frequentative, celerative, measure, manner ...
d. **Topic**

(Rizzi 2004:243, 下線・強調は著者による)

ここで注目したいのは焦点化要素と wh 要素が同じクラスに属していること、話題化要素が独立したクラスを形成していることである。本論では、この素性のクラス分けを基にして、この違いがラベル付けアルゴリズムによるラベルの決定の仕方の違いから生じるものであると考え、(6)を提案する。

(6) a. 焦点化構文は、焦点化要素が Q 素性を持ち、C 主要部との素性共有によりラ

ベルが決定される。

b. 話題化構文は、ラベルを持たない{XP, YP}構造を持つ。

先ず、(6a)について考える。wh 要素と同じクラスの焦点化要素は、wh 疑問文で起きるラベル付けが適用できると考えられる。Chomsky (2013, 2015)では、wh 疑問文は移動した wh 句が持つ Q 素性と C 主要部が持つ Q 素性が素性共有を行うことで<Q, Q> (= (7a))というラベルを持つとしている。これと同様のラベル付けが焦点化構文でも起こると考えられる。というのも、どちらも移動した要素と元位置との間に演算子・変項関係を持つため、ラベル決定の際にこの関係を保証するのが素性共有によるラベル付けアルゴリズムであると考えられる。wh 疑問文と同様に、移動した焦点化要素が持つ Q 素性と C 主要部が持つ Q 素性が素性共有して<Q, Q> (= (7b))というラベルを持つ。このラベルは結果的にインターフェースで、演算子・変項関係の量化の解釈として読み取られる。さらに焦点化構文では、焦点化要素と後続する文との間に、「焦点と前提」の関係も形成される。

(7) a. $[_{\alpha}\ \mathbf{Wh}_{<Q>}\ C_{<Q>}[_{TP}\ \ldots\ \_\ ]]$: $\alpha = <Q, Q>$

b. $[_{\alpha}\ \mathbf{Focus}_{<Q>}\ C_{<Q>}[_{TP}\ \ldots\ \_\ ]]$: $\alpha = <Q, Q>$
$\Rightarrow$ Focus

次に、(6b)について考える。Rizzi (2004)は話題化要素が独立したクラスを形成すると論じている。本論ではこの特性はラベルの特性に還元されるものと考え、(6b)の提案により(8)の構造を持つとする。(8)の構造は、話題化要素が移動した後にラベル付けがされない{XP, YP}構造が形成される。ラベル付けがされていないという点で、素性共有によるラベルや一方が移動し残った要素がラベルとなるといった構造とは、全く異なる性質を(8)の構造は持つことになる。この構造の特異性が話題化要素が独立したクラスを形成している理由であると考える。結果的にこの構造はインターフェースでトピックであると解釈される。さらに、{XP, YP}構造となっていることが話題化要素と後続文の間に「トピックとコメント」という一種の叙述関係を形成することにも繋がる。

(8) $[_{\alpha}\ \mathbf{XP}\ C\ [_{TP}\ \ldots\ \_\ ]]$: $\{_{\alpha}\ XP, YP\}$
$\Rightarrow$ unlabeled = Topic

Chomsky (2013, 2015)ではインターフェースによる解釈にラベルが必要であると考えているが、本論ではラベルを持たない構造も実際の統語派生では許されると考える。ただし、このラベル付けされない構造が許されるのは統語派生が収束する段階に限られると仮定する。この仮定により、この構造が許される環境がいわゆる主文現象であると考えられる。

(9)の話題化構文、(10)の左方転移構文、(11)の定形節の文主語、そして、(12)の非定形節の文主語は、それぞれ埋め込み文での生起が許されない。[3]

(9) a. *John*, the article really bothered.
b. ?*I regret that *Mary*, my antics upset as much as they did.
c. ?*Mary wishes that *John*, the article bothered more than it did.
(Alrenga (2005: 179))

(10) a. *This movie*, you wouldn't like it much.
b. **John's sister*, she won't do anything rash. (Emonds (1976: 32))
c. *I told you that *this movie*, you wouldn't like it much.
d. *Bill hopes that *John's sister*, she won't do anything rash. (Emonds (1976: 33))

(11) a. Although *the house's emptiness* depresses

you, it pleases me.

b. ?*Although *that the house is empty* depresses you, it pleases me.

(Alrenga (2005: 178))

(12) a. I regret that our smoking bothers her so much.

b. Mary wishes that our smoking bothered her more than it did.

c. ?*I regret that *for us to smoke* bothers her so much.

d. ?*Mary wishes that *for us to smoke* bothered her more than it did.

(Alrenga (2005: 178))

これらの構文は基本的に主文のみで許される。[4] 埋め込み文でこれらの構文が許されないのは、埋め込み文は統語派生が収束する段階ではないため、話題化要素、左方転移要素、文主語のそれぞれが(8)のラベル付けがされない構造を持つことになるとインターフェースでは解釈ができないからである。派生の途中にラベル付けがされていない構造があるとその文が非文法的になることは、Chomsky (2013)での連続循環移動と関節疑問文で議論されていることである。

4. 話題化構文と焦点化構文の非対称性

本節では、話題化構文と焦点化構文の非対称性について、本提案からの説明を与えていく。具体的に見る違いは、音韻上の違い、語順の制限、そして、話題化の統語的な島の形成についてである。

4.1. 音韻上の違い

(13)に示すように話題化構文と焦点化構文では Intonational Phrase (IntP)の形成に違いがある。

(13) a. (*Your book*)$_{IntP}$, (you should give to Paul.)$_{IntP.}$ (話題化構文)

b. (**YOUR BOOK** you should give to Paul.)$_{IntP}$ (焦点化構文)

(13a)の話題化構文はコンマが話題化要素と後続節との間に置かれ、IntP がそれぞれに形成される。一方、(13b)の焦点化構文はコンマは置かれずに全体が一つの IntP を形成する。この違いを本提案から考えると、先ず、(13b)は(7b)で示したように素性共有が行われラベル付けがされた構造となる。このラベルがインターフェースで解釈される時に全体が一つの単位として解釈されて IntP が全体で一つに形成される。一方、(13a)は(8)で示したようにラベル付けされない{XP, YP}構造を持つ。この時、XP である話題化要素と YP である後続節は一つの単位としてではなく、それぞれがインターフェースで解釈されることになる。その結果それぞれが IntP を形成することになり、その音調上の区切りとしてコンマが置かれることになる。

4.2. 語順の制限

(14)に示すように話題化と焦点化が同時に起きるときには、必ず話題化要素が焦点化要素に先行する必要がある。

(14) a. *This book*$_i$ **to ROBIN**$_j$ I gave t_i t_j.

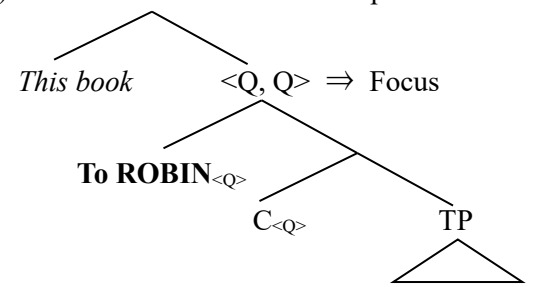
b. * **To ROBIN**$_j$ *this book*$_i$ I gave t_i t_j.

(Culicover (1991: 33))

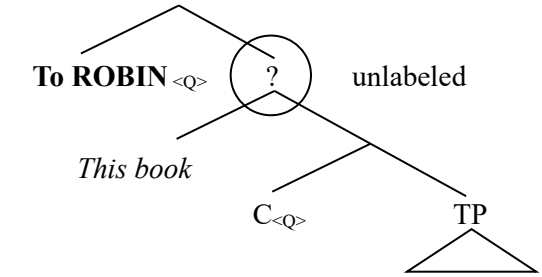
本提案によれば、(15a)に示すように、先ず焦点化要素が移動し C 主要部との素性共有を行い、次に話題化要素が移動すると、派生の収束段階でのラベル付けがされない構造を持つことができるので、インターフェースで解釈ができる派生になる。一方、(15b)が示すような派生では焦点化要素は、話題化要素が介在するため、最小探査による C 主要部との素性共有が行えずインターフェースが解釈できない派生になる。もしくは、話題化

要素と C 主要部との間でのラベル付けされない{XP, YP}構造が派生の収束しない段階において現れてしまためにインターフェースが解釈できない派生になる。そのため、語順の制限について非対称的になると考えられる。

(15) a.



b. *



4.3. 話題化の島 [5]

話題化要素は統語的な島を形成するが、焦点化要素は島を形成しない。

(16) a. *These prices*$_i$, **to whom**$_j$ should we give t_i t_j? (Watanabe (1988: 129))

b. ***To whom**$_j$ *these prices*$_i$, should we give t_i t_j? (Pesetsky (1989: 13))

(17) a. *Suzanne*$_j$, **what else**$_i$, does she$_j$ do t_i to relax?

b. ***What else**$_i$, *Suzanne*$_j$, does she$_j$ do t_i to relax? (Emonds (2012:38))

Rizzi (2004)の素性に基く相対的最小性によれば、wh 句と話題化要素は同じ素性のクラスではないのでどちらかの要素が他方の要素に対して、移動の障壁にはならないと予測する。しかし、実際は(16b)、(17b)に示すように派生は破綻する。本提案からはこの島の形成について説明が可能である。4.2.の語順の制限と同様に、wh 要素が話題化要素を超えているときには、wh 要素と C 主要部の素性共有ができないため非文法的となる。または、ラベル付けされない構造が派生の途中の段階に存在するために非文法的となる。これにより、Rizzi (2004)では捉えられなかった話題化の島の説明ができる。

本発表での提案は、Goto (2016)の抜出しに対する提案、これはラベル付けがされていない{XP, YP}構造からの抜出しができないとする提案とも関連するかもしれない。つまり話題化構文はラベル付けがされない{XP, YP}構造を持つという本提案が正しければ、(16b)の話題化要素が抜出しができない統語環境を形成することになる。このことは、文法機能や θ 役の決定だけではなく、ラベルが持つ役割は島の形成といった統語環境にも役割を果たすことを示していると思われる。

5. まとめ

本論では Chomsky (2013, 2015)のラベル付けアルゴリズムが話題化構文と焦点化構文という文の左方周縁部における現象にどのような形で適用出来るかを考察してきた。具体的には Rizzi (2004)の素性のクラス分けに基き、焦点化構文は Q 素性を持ち wh 疑問文同様に素性共有によるラベル付けが行われること、話題化構文はラベル付けがされない{XP, YP}構造を持つことを提案した。そして、本提案によりカートグラフィーで捉えられてきた知見の一部が極小主義のラベル付けアルゴリズムによってとらえられる可能性を示唆した。

本論では、Chomsky (2013, 2015)とは異なり、ラベル付けがされない構造が許されること仮定した。この構造が他の現象についても見られるかは重要な点である。1 つの可能性としては、Hornstein and Nunes (2008)や

Hornstein (2009)の付加詞が挙げられるかも知れない。[6] 彼らは、付加詞は構造を作っていく段階でラベルを持たないまま付加することを提案している。ラベル付けの考え方がChomsky (2013, 2015)とは異なっているものの非常に興味深い考え方である。本論とどの程度合致したものであるか、または、どのような違いがあるかという点は今後の研究課題となるが、ラベルを巡る議論は理論研究と記述研究を統合する上で非常に重要な役割を果たすものであるといえるかもしれない。

* 発表の際には、土橋善仁先生、藤田耕司先生、星浩司先生、Jason Ginsburg 先生、前田雅子先生、宮本陽一先生、瀧田健介先生、富澤直人先生から大変貴重な示唆を頂いた。また、発表の準備段階においては、菅野悟先生、三好暢博先生、戸澤隆広先生から大変有益なコメント頂いた。ここに記して感謝申し上げる。本研究は JSPS 科研費 JP16K16854 の助成を受けている。

注

[1] 藤田耕司先生より、階層化された機能投射の構造については文化進化の観点からの検討が重要であるとのコメントを頂いた。今後の課題としたい。

[2] 本論では主要部同士のラベル決定については扱わない。

[3] 瀧田健介先生より、文主語の TP 指定部での素性共有に関して指摘して頂いた。この点に関しては、文主語の特性をどのように捉えるかが重要な点である。富沢直人先生から、文主語が φ 素性を持たない可能性について示唆していただいた。これらの点を踏まえて今後の課題としたい。

[4] 前田雅子先生より、話題化構文の埋め込み文での生起が可能であることの指摘を頂いた。理論的な面で、転送 (Transfer)の役割が関係するかもしれないと考えているが、この事実に関しては、筆者も把握していることであり、今後の課題としたい。

[5] 星浩司先生より、話題化の島の形成について、（狭義の）統語部門と意味・談話部門に関わる性質からも導ける可能性についての示唆を頂いた。この点は今後の課題としたい。

[6] 宮本陽一先生より、この点を示唆して頂いたことに感謝申し上げる。

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Economy in Pronominal Binding*

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Keywords：pronominal binding, crossover, global economy, comparison of derivations

1. Introduction

Since Postal's (1971) seminal work, it has been recognized that the distribution of bound-variable pronouns is restricted in a systematic way. Among others, how to treat weak crossover discovered by Wasow (1972) has been one of the most controversial issues in generative grammar. A weak crossover effect is exemplified by the contrast in (1). A descriptive generalization is given in (2):

(1) a. ?*Who$_i$ does his$_i$ mother love t$_i$?
b. Who$_i$ t$_i$ loves his$_i$ mother?

(2) An operator cannot move across a constituent dominating a pronoun and variable-bind it at the same time.

Various accounts have been offered to (1) in the literature including Chomsky's (1976) leftness condition, Reinhart's (1983) c-command condition, and Koopman and Sportiche's (1982-1983) bijection principle, to name a few. However, the generalization (1) itself faces a number of systematic counterexamples like:

(3) a. Who$_i$ did only his$_i$ clients hate t$_i$?
b. Who$_i$ did even his$_i$ clients hate t$_i$?

(4) Which professor$_i$ do his$_i$ students admire t$_i$?

(3) and (4) indicates that adding a focus particle to the crossed constituent obviates weak crossover effects (Postal (1993)), and that D-linking triggered by the use of *which*-NP in the sense of Pesetsky (1987) has the same effect (Falco (2007)), respectively. As the proposed condition mentioned above targets the generalization (1), they all fail to account for the amelioration effects in (3) and (4) without any additional stipulation. The aim of this paper is to provide a unified account for (1), (3), (4), and other binding phenomena in line with Ruys' (1994) global economy analysis of weak crossover, which involves comparison of interpretively identical derivations (see also Chomsky (1992)). The story is this: When a derivation competes with another, the more economical one excludes the other. The degree of economy is measured by movement length, i.e., the shorter movement a derivation involves, the more economical the derivation is.

The rest of the paper is organized as follows: Section 2 outlines the analysis of Ruys (1994). Since, as Ruys admits, his formulation is somewhat tentative and leaves room for improvement, I propose to add details to his general ideas in section 3. In section 4 I analyze the data above of focus particles and D-linking. Section 5 concludes this paper.

2. A Global Economy Analysis

Ruys (1994), building on Chomsky (1992), applied the general idea of global economy to the domain of pronominal binding. According to this, derivations that are equivalent in a relevant sense are compared to each other (he is indecisive about how some derivations but not others forming an equivalence class. This matter

will be the topic of section 3). Those derivations that are chosen to compete with each other will be ranked based on the movement length. Shorter derivations are preferred to longer ones as economical and global economy excludes the latter in favor of the former.

To be more concrete, Ruys argues that a weak crossover derivation like (1a), repeated below in (5a) is excluded as a result of the trans-derivational comparison with the possessor binding derivation (5b).[1] They are assumed to compete since they form an equivalence class because of both entailing 'for whom x, x's mother loves x.' As mentioned above, Ruys put aside the exact characterization of the competing derivations. Suffice it for now to say that one can come up with a competing alternative to a target sentence by altering the positions filled by an antecedent operator and a bound pronoun.

(5) a. ?*Who$_i$ does his$_i$ mother love?
b. Whose$_i$ mother loves him$_i$?

Notice that (5a) involves wh-movement from the object position while (5b) only moves the wh-phrase from the subject position. Clearly, the movement involved in (5b) is shorter than that in (5a), and hence (5b) excludes the weak crossover derivation (5a) by global economy.

An interesting point about Ruys' analysis is that the system is built in such a way that it allows of apparent weak crossover derivations under certain conditions. That is, a derivation is chosen by default if its potentially competing alternative derivations are all ungrammatical on a dependent ground. This is because an ungrammatical derivation does not compete in the first place; only the grammatical derivations are compared. This point is relevant for example when a bound pronoun occurs inside a syntactic island. (6) exemplifies this point. (6a) covertly raises the quantifier across the subject containing the bound pronoun, while its potential alternative (6b) would need QR out of the subject clause to yield the intended binding relation, resulting in the sentential subject condition. Thus, (6a) has no competitor and is licensed despite its apparent weak crossover configuration.

(6) a. that people hate him$_i$ disturbs every president$_i$.
b.* that people hate every president$_i$ disturbs him$_i$. (Ruys (1994: 226))

With this much in place, we can move to the analysis of the counterexamples to weak crossover (3-4), but before that let me focus in the next section on the problem of defining the "equivalence" of derivations left unanswered in Ruys (1994).

3. What Derivations Compete?

Ruys considers, several possibilities of defining the class of compared derivations: D-structure identity, LF identity, and logical equivalence. As for the first candidate, Ruys dismisses that on a conceptual ground that minimalism should do away with such a level of representation, but I argue that D-structure identity is also empirically incorrect. That would prohibit comparison of (5a) and (5b) because they differ with respect to the base-generated positions of operators and pronouns at D-structure. LF identity is also argued to be too strong because different paths of operator movement would lead to different LF representations. These two approaches thus would ban any competition and incorrectly license weak crossover derivations.

The third possibility, logical equivalence, is more permissive than the first and the second. However, as Ruys himself notices, it might threaten to make classes of competing derivations too large, leading to an undergeneration problem. For example, such a system would make (7a) and (7b) compete, an unwelcome result:

(7) a. which book$_i$ did you file t$_i$ without reading pg$_i$?
b which book$_i$ did you file t$_i$ without reading it$_i$? (Ruys (1994: 232))

(7a) and (7b) contains a parasitic gap and a pronoun in the adjunct respectively. If both of them are interpreted as a bound variable, these sentences will be logically equivalent ('for which book x, you filed x without reading x').

Now, what should we do in order to come up with a better formulation of competition classes? To this end, it is suggestive to consider where in the language faculty the global economy condition is operative. I assume the current framework of the Minimalist Program given in (8):

(8) each language incorporates a mechanism that determines an infinite array of hierarchically structured expressions that are transferred for interpretation to two interfaces: the sensorymotor system SM for externalization, and the conceptual-intentional system CI for thought (broadly understood). (Chomsky (2013: 35))

Since the global economy condition must access to the interpretation of each derivation, I assume that it is operative at CI interface. Now it becomes clear what information the economy condition may employ: first, a semantic interpretation that a derivation yields; second, the hierarchical structure that leads to the interpretation handed from narrow syntax; third, the numeration for the derivation, i.e. the list of lexical items that constitute the structure. I propose that the global economy condition fully employs these pieces of information; the condition compares grammatical derivations that share the semantic interpretation (logical equivalence in Ruys' terms) and the numeration, and it assigns a different status to each derivation regarding to its movement length read off from the structure. Here, by *grammatical*, I mean those derivations that do not involve any syntactic or semantic violation. The definition is given in (9).

(9) If a numeration allows more than one derivation with the same logical interpretation, rank them based on the length of movement chain.

With this much in place, it can be confirmed that *who$_i$ does his$_i$ mother love* and *whose$_i$ mother loves him$_i$* can actually compete because they are both grammatical and share the interpretation 'for whom x, x's mother loves x' and the numeration (C, T, v, V, mother, he, who, 's).[2] Furthermore, this formulation correctly distinguishes between (7a) and (7b); even if they are both grammatical and are interpretively equivalent, their numerations are different in whether a null operator or a pronoun is contained in them, so they do not compete with each other for economy.

In the next section, I return to the counterexamples to the weak crossover generalization and show that these are accounted for in terms of the theory developed.

4. Analysis

4.1. Focus Particle

Let us move on to the analysis of the focus effects in (3), repeated here as (10):

(10) a. Who$_i$ did only his$_i$ clients hate t$_i$?
b. Who$_i$ did even his$_i$ clients hate t$_i$?

Recall from the discussion of (6) that the theory gives a better status to a derivation if and only if it is more economical than any other *grammatical* competing derivation. Those 'exceptionally' acceptable sentences can be proved to be allowed by showing that the sentence is in fact the most economical of all because an otherwise more economical one is actually ungrammatical on an independent ground.

As we expect, (10a) and (10b) are the only derivations that yields the intended interpretation with the given numerations. The (b) examples in (11) and (12) are known to be bad due to the focus intervention effect, which bans any configurations where a focus particle c-commands a *wh*-phrase as well as a focus (Pesetsky (2000), Beck (2006), Kotek (2014), and Li and Law (2016), among others). And whatever explains the left-branch condition will exclude the (c) examples in (11) and (12) from the class of competing derivations.

(11) a. Who$_i$ did only his$_i$ clients hate t$_i$?
b. * Only whose$_i$ clients hated him$_i$?
c. * who(se)$_i$ did only t$_i$('s) clients hate t$_i$?

(12) a. Who$_i$ did even his$_i$ clients hate t$_i$?
b. * Even whose$_i$ clients hated him$_i$?
c. * who(se)$_i$ did even t$_i$('s) clients hate t$_i$?

Summarizing sentences like *who$_i$ did only/even his$_i$ clients hate t$_i$?* are grammatical because they are the only ways to convey the meaning they do. Potential alternatives to them are independently excluded from the economy competition due to the focus intervention effect or the left-branch condition violation.

4.2. D-Linking

The global economy principle has been seen to determine statuses of competing sentences in the cases discussed above. However, it is possible to imagine such a situation that the economy principle itself is suspended for some reason. In such a case, if any, it is predicted that sentences do not compete with each other even though they share numeration and interpretation. As a result, I argue, two seemingly competing sentences will be both acceptable because no trans-derivational comparison ranks one of them over the other.

I propose that this pattern is attested by D-linked wh-questions. The numeration (13) allows the crossover derivation in (14a) and the possessor binding derivation in (14b) at the same time:

(13) (C, T, v, V, which, famous, professor, he, students)

(14) a. Which professor$_i$ do his$_i$ students admire t$_i$?
b. Which professor's$_i$ students admire him$_i$?

The question to ask is why the economy principle ceases to operate in D-linked *wh*-questions. I speculate that the economy principle is rooted to the preference for reducing processing cost. Therefore, if D-linking on a *wh*-phrase plays a role in reducing computational load on parser engaged in filler-gap resolution between the *wh*-phrase and

its trace, it provides a good reason to assume that D-linking helps suspend the economy constraint. This line of reasoning seems supported by what Goodall (2015) shows based on experiments. According to him, questions with a D-linked wh-phrase are in general better accepted than questions with non-D-linked wh-phrases.

5. Conclusion

This paper proposed to modify Ruys' (1994) global economy analysis of weak crossover by articulating the definition of the class of derivations that compete for economy; those that are grammatical and share the numeration and the interpretation do so. The theory offered a unified account for the weak crossover amelioration effect of D-linking and focus particles as well as typical weak crossover effects.

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NOTES

[1] Choice of the theory of possessor binding does not bear on the discussion. For concreteness, I assume with Chomsky (1992) that *whose mother* is converted to an operator part *who x* and a restrictor part *x's mother* with the former interpreted at spec-CP and the latter "reconstructed" to the base position. Then, the operator (and antecedent) comes to c-command, or take scope over, the pronoun at LF.

[2] I assume that nominals enter a derivation with its Case value unspecified and it is assigned in the course of derivation or at the interfaces. I capitalize nominals to show that their Case is not yet determined. In addition, note that (5a) and (5b) differ in whether *do*-support occurs or not. I assume with Lasnik (1999) that *do* is inserted at PF and is not contained in the numeration.

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補部としての述詞関係節－亜種の属性分析と再解釈－*

（Predicative Relative Clauses as Complements: A Property Analysis of Subkinds and Reinterpretation）

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キーワード：種−亜種, 意味タイプ, 再解釈, 「命題」らしい関係節, 意味的空所

1. はじめに

本稿では、(1)の下線部にあたる述詞関係節（*be* の述詞を空所（'__'の部分）とする関係節）の意味機能と空所の性質は何かという問いに対して、Grosu and Krifka (2007)（以下、GK とする）の「亜種の属性分析」を援用し、先行詞と関係節との間に「種−亜種」関係を認めることにより答える。

(1) Bill is the doctor <u>(that) John is __</u>.

(1)の関係節は先行詞名詞の亜種 [1] を定義する成分の一部として不可欠と考える。亜種の属性分析を踏まえて述詞関係節の「補部」機能を導出する。さらに、主要部名詞の亜種の属性は補部としての述詞関係節が埋めるべき「意味的空所」となる可能性を指摘する。

2. 先行研究

2.1. 長原 (1990)の補部の関係節

長原 (1990)では、補部の関係節の空所は総称的概念(generic concept)を表すとされる。述詞関係節も補部として空所には総称的概念が措定されているが、①「補部」（述語の項となり得る）と「関係節」（空所を含み、X 束縛と R 束縛が同時に成立）という 2 つの全く異なる概念をどのように整合させるのか、②述詞としての主要部名詞（元来 1 項述語）の「意味的空所」の存在をどのように導出するのかに関する考察が不十分であった。

2.2. GK (2007)の「亜種の属性分析」

GK (2007: 465)によると、(2)の *kind of* N 先行詞関係節は、分類学上の階層(taxonomic hierarchy)を前提とし、主要部名詞の表す種または属性と分類学的関係にある種または属性のいずれかを指示する。GK (2007: 465-466)は「亜種の属性分析」を仮定し、「関係「亜種」」(a relation SUBKIND)を措定する。この関係「亜種」により、先行詞の属性（たとえば(2)の'mathematician'の属性）が取り出され、その下位属性(subproperty)―亜種の成分となる追加的特徴を共有する存在者（=関係節主語のこと）に妥当するような属性―に写像される。制限節 [2] のための標準的な積(intersection)の意味解釈により、関係節主語 *Bill's mother* にも適用されるように *mathematician* の亜種を定義する述語の集合 P が措定される（P⊆MATH が含意される）。(3)に、意味の合成の手順を示す。

(2) Bill is [$_{DP}$ the (kind of) mathematician [$_{CP}$ that his mother was *t*]].

(3) a. 〖[$_{CP}$ (*that*$_i$) *his mother was* $t_{set,\,1}$]〗(i)
$= \lambda P_1\,[P_1\,(i)(\text{BILL'S MOTHER}(i))]$

b. 〖[$_{NP}$ (*kind of*) *mathematician*]〗(i)
$= \lambda P\,[\text{SUBKIND}(i)(\text{MATH})(P)]$

c. 〖[$_{NP}$ [$_{NP}$ (*kind of*) *mathematician*] [$_{CP}$ (*that*$_i$) *his mother was* $t_{set,\,1}$]]〗(i)
$= \lambda P\,[$ 〖[$_{NP}$ [$_{NP}$ (*kind of*) *mathematician*]]〗(i)(P)
$\wedge$ 〖[$_{CP}$ (*that*$_i$) *his mother was* $t_{set,\,1}$]〗(i)(P)]

$= \lambda P\ [\mathrm{SUBKIND}(i)(\mathrm{MATH})(P) \wedge$
$P\ (i)(\mathrm{BILL'S\ MOTHER}(i))]$
(Grosu and Krifka (2007: 465))

本稿では、GK (2007)の亜種の属性分析を拠り所とするが、GK の分析では亜種を定義する述語 P の根拠が不十分であるとする。

3. 述詞関係節を含む総称的 DP の指示対象

本節では、P によって定義される下位属性つまり亜種の属性は、形容詞などの形式でしばしば文脈内に述語として具体化実現することをみる。本稿の提案の背後にある分析的直観は、*John is* [$_{\mathrm{Pred}}$ *a doctor*]の述詞の関係詞化による（非指示的）表現[$_{\mathrm{DP}}$ *the doctor* [*that John is*__]]の外延は〖*DP*〗の意味論的値である上記の形容詞などの実現形で、関係節の空所の要素によりその存在が「前提」とされるとするものである。まず(4)をみてみよう。

(4) It's quite clear he's after her job. He's quite ambitious, you see. I believe that <u>the kind of person which this letter shows him to be</u> is not fit to be our boss.

(4)では下線部の総称的複合 DP[3] の指示対象（外延）は文脈内の(*He's*) *quite ambitious* の部分と考えられる。外延としての(*He's*) *quite ambitious* は DP *the kind of person which ... him to be* 全体によって表された *person* の「下位属性」であり、（種'person'の）「亜種の属性」（つまり、「<u>彼の</u>人となり」の集合の総体(totality)）の個物[4]（としての属性）とみなせる。この亜種は主要部を介して空所（'kind of person$_{\langle e^k, t\rangle}$'を措定）にその存在が<u>前提</u>とされると仮定する。[5]

次の(5)-(7)の *kind of* N 先行詞でない関係節の場合でも、同様の事象が観察できる。

(5) […] *I'm* the one, *I alone*, who caused Juliet's and Dwight's baby, my grandson, to be the way <u>he is</u>－a useless mockery of a human being. (SM, 358)

(6) Noah Townsend, now fifty-eight, had for many years appeared to represent everything <u>a seasoned, experienced physician should be</u>. He was conscientious, treating all who came to him, whether wealthy or poor, with equal concern. (SM, 81)

(7) … it is reasonable to suggest that only definite determiners are associated with D and its projection DP. (…) D is definiteness (…) and DP is a definiteness phrase. So the grammatical category <u>which I have claimed definiteness is</u> has its representation in syntax in the form of this functional head. (Christopher Lyons, 1999, *Definiteness*, 298 の地の文)

(5)(6)の *a useless mockery of a human being*/ *conscientious* が種「有り様/属性」の下位属性でさらに亜種の属性（「<u>誰かの</u>有り様/属性」の集合の総体）の個物でこれが外延である（*-thing* は属性の代用表現とする）。*Kind of* N 関係節同様、主要部を介して空所に措定された'way/-thing$_{\langle e^k, t\rangle}$'に亜種の属性の具体化の存在が前提とされる。(7)では文脈内の *D* が種'gram. cat.'の亜種の属性（'definiteness'に当てはまる下位属性）の外延である。空所に亜種'gram. cat.$_{\langle e^k, t\rangle}$'を措定する。

Dayal (2004: 423)によると、(8)の *lion* は（量化された）すべての亜種のライオンの集合について真となる述語として解釈される（ライオンの種類<u>すべて</u>が絶滅したと述定）。

(8) <u>Every (kind of) lion</u> is extinct.
(Dayal (2004: 423))

同様に、(9)の述詞関係節でも *way*/*-thing* の亜種の属性の集合が *every* によって量化されて

いる([…]/(…)は複合DPの外延とみなせる)。たとえば(9a)は「ベテラン内科医のあるべき有り様すべての種類(亜種)」の解釈である。

(9) a. I'm sure that Mr. Townsend represents every way that an experienced and seasoned physician should be. [He is conscientious, …].
b. He is everything I hoped he would be (intelligent, non-sexist, vegetarian, etc.).
(Partee (1987: 134))

4. 亜種と「部分集合」関係

これまでの議論から、述詞関係節の意味機能は先行詞名詞の種に対する亜種の属性(空所の要素として措定される)を定義するものであることが明らかとなった(先行詞と関係節との間に「種ー亜種関係」を仮定する点はGKの亜種の属性分析との相違である)。

本節では、上記の種ー亜種関係は「部分集合」(subset)関係にもとづくと主張する。Carlson (1977: 230ff.)の観察によると、亜種を指示する *such* N の *such* はそれが修飾するNの「部分集合」を選び出し(cf. (10a))、*such* Ns は「種」を形成しうる個体の集合でなければならない(cf. (10b))。さらに、*such* が名詞句全体を後方指示する場合、その名詞句は *such* が修飾するN(種)の「亜種」を指示しなければならない。(10c)の *mammals* は種 *animals* の部分集合でかつその亜種となっている点に注意されたい(Carlson (1977: 233))。

(10) a. future teachers … ??**such** teachers
b. people in the next room … ??**such** people
c. mammals … **such** animals

(11)の'such'テストの結果から明らかなように、(*kind of* N 先行詞でない)述詞関係節でも、先行詞と関係節との間に種ー亜種関係が認められる。

(11) Bill is the mathematician that his father was, but John is not such a mathematician, as has often been claimed.

インフォーマントの判断によると、(11)の *such a mathematician* は'the same kind of mathematician as Bill's father is'の読みをもつ。したがって、*the mathematician that his father was* は *mathematician* の表す種の亜種である。(11)の種ー亜種関係は(10c)の単純な名詞句の例から独立に支持されるといえる。

次に、先行詞と関係節との間の「部分集合」関係に関し、[$_{DP}$ *the* [*way* [$_{CP}$ *that Bill's mother was*__]]]の関係節 CP の指示対象〖*CP*〗について考える。

(12) {X⊆K | 〖B's moth. was (way$_{<e^k,t>}$)〗⊆ X} (K は種領域を示す)

(13) a. { bill's_moth_way$_{<e^k,t>1}$, bill's_moth_way$_{<e^k,t>2}$, …}
b. bill's_moth_way$_{<e^k,t>1}$∈X, bill's_moth_way$_{<e^k,t>2}$∈X, …
c. 〖B's moth. was (way$_{<e^k,t>}$)〗⊆X

(12)の集合論の表記はXの部分集合、すなわち〖B's moth. was (way$_{<e^k,t>}$)〗という亜種の集合(cf. (13a))(GKの述語Pにより定義される)を含む全ての K の部分集合から成る集合を表す。Xは種 WAY とする。B's mother がいろいろな way$_{<e^k,t>}$という属性をもつので、それぞれの「有り様」は X のメンバーであり(cf. (13b))、このXは *B's mother* のすべての「有り様」に共通の亜種 way$_{<e^k,t>}$の属性(の集合)ということになり、X(= 種 WAY)の部分集合ということである(cf. (13c))。このように考えると、(9)において亜種の属性が *every* により量化されている事実が説明される。

Xの中から、*B's mother* の「有り様」の1つとしての下位属性(亜種)(たとえば、bill's_

moth_way$_{<e^k, t>i}$）を部分集合として定義する述語 P（3 節冒頭の意味での P）により、(14)の CP の意味論的値として(15)が定義される。

(14) [$_{DP}$ the [way [$_{CP}$ (that) [$_{IP}$ Bill's mother was [way$_{<e^k, t>}$]]]]]

(15) 〚B's moth. was (way$_{<e^k, t>i}$)〛 = B's moth. was [$_{Pred}$ α] (e.g., [$_{Pred}$ α] = [$_{Pred}$ very conscientious])

5. PP 補部・PP 付加詞と亜種

本節では、亜種の属性を定義する述詞関係節は「補部」であるとする間接的議論の 1 つとして（補部として議論の余地のない）PP の亜種の議論を展開し、仮説(16)を提案する。

(16) 仮説：補部の意味内容は亜種を形成できるものに制限される。

まず、総称を表す特徴づけ文(17a)は条件文(17b)でパラフレーズできる（前件は後件を含意し、後件はライオンの亜種についても成立すると仮定する）。(17)を(18)(19)の「学生」の総称性（亜種）に援用してみる。((18)-(20)の「A⊃B」は「A（前件）は B（後件）を含意する」の意。普通名詞[$_N$ *student*]の意味タイプは<*e*, <*e*^{k}, *t*>> (2 項)である。）

(17) a. A lion has a bushy tail.
b. If x is a lion, x has a bushy tail.

(18) a. student of physics
b. 「x は[$_N$ student]である」⊃「x は常に専門分野を研究する」

(19) a. student with long hair
b. ?「x は[$_N$ student]である」⊃「x は常にある髪形をしている」

(18)では後件は学生の亜種について成立する陳述となっている。PP の意味内容の実質が主要部「学生」にとって「制限的」(restricted)、すなわち「学生」の内包に含まれる要素に制限されるのである。*Student* の意味内部にある「専門分野」が代入された「物理学専攻学生」は「学生」の亜種、したがって「物理学の」(PP *of physics*)は補部となれるという説明をするわけである。一方(19)では、「髪形」は付随的、偶然的性質であり、長髪の学生の集団は学生の亜種を構成できず、髪形は「学生」の内包に含まれない。PP の意味内容は「無制限的」(unrestricted)であるので「長髪の」(PP *with long hair*)は補部でないことが帰結するという説明となる。

次に、(20)の述詞関係節について考える。

(20) a. the way that Bill's mother is
b.「x は[$_{Pred}$ way]である」⊃「x の下位属性は空所において[$_{Pred}$ [$_{DP}$ way]]として関係節主語 s について述定する」

述詞関係節は、後件が亜種の属性について成立する陳述である点では PP 補部と同様である。既述のとおり、述語 P により関係節主語 s、つまり亜種になるための成分を共有する個体に適用されるように空所の亜種[$_{Pred}$ [$_{DP}$ way]]が定義されるのであるから、P は先行詞が表す種の亜種の属性でなければならないこと、よって述定の対象としての s を必要とすることが述詞主要部の内包に含まれる。よって、述詞主要部[$_{Pred}$ way]の内包に含まれる P により後件が含意されることになる。これは（*way* に限らず）、D の補部である（裸の）'NP'述語を先行詞（種の属性を表す）とする関係節一般の性質である可能性がある。このような関係節は付随的、偶然的性質では決してなく、主要部の内包に対し「制限的」である。なぜならば、先行詞が表す種の「亜種」の属性と関係節 CP が（空所を介して）「結びついている」(associated)からである。[6] 結果として、複合 DP 全体も主要部を通じて亜種（「Bill's mother の有り様」の総体）を指示

することになる。したがって、形容詞などによる文脈の具体化実現形がこの亜種の属性の外延となることが帰結する。述詞 DP の外延を(21)に示す（P はすべての属性の集合、X^s は関係節主語 s の下位属性、$[_{Pred}\ \alpha]$は文脈内に生じた形容詞の属性をそれぞれ表す）。

(21) $[\![DP]\!] = f : P \rightarrow \{1, 0\}$:For all $X^s \in P$, $f(X^s) = 1$ iff X^s is $[_{Pred}\ \alpha]$.

以上のように述詞の複合 DP が亜種の属性を表すとすると、仮説(16)により、次に述詞関係節が「補部」である可能性が出てくる。

6. 提案：再解釈―関係節から補部へ―

ここまで、述詞関係節は先行詞の亜種の属性を定義する機能をもつこと、さらに補部である可能性があることをみてきた。本節では、元来 1 項ソータル述語の普通名詞が述詞として先行詞である場合、なぜ主要部名詞が関係節を補部にとれるのかについて「再解釈」(reinterpretation)という一種の再分析規則により答える。以下[1]-[6]について考察する。

[1]「関係節」としての側面：

①派生において *wh* 移動を含む。(4)(7)では顕在的(overt)な移動（*which*）、(5)(6)では空演算子が移動する。関係詞（*wh* 句・空演算子）と空所の痕跡 *t* との間に（同一指標関係にもとづき）X 束縛が成立する。②関係節 CP の意味は合成的に組み立てられる。*Wh* 移動後の空所の痕跡 *t* は$[_{Pred}\ [_{DP}\ way_{<e^k, t>}]]$（*way* の亜種の属性）と解釈され、$[\![CP]\!]$ は *Bill's mother* の亜種の属性の集合の解釈となる。空所$[_{Pred}\ [_{DP}\ way_{<e^k, t>}]]$については、$[\![DP]\!]$ の意味論的値が、亜種の外延としてその存在の前提読みが空所$[_{Pred}\ [_{DP}\ \alpha]]$に生じると仮定するので、この$[_{Pred}\ [_{DP}\ \alpha]]$は亜種の「変項」を措定するのに似る（仮に「擬似変項」(quasi-variable)[7]と呼ぶ）。③ソータル内部解釈（関係詞と先行詞との間の同一指標関係にもとづく）により先行詞が空所に仮定された擬似変項を束縛すると仮定すると、関係節における R 束縛が説明される。

[2]「命題」らしい関係節：

上述の擬似変項は文脈に生じる形容詞などから補充されそれを意味論的値として指示対象とするので、擬似変項は「代名詞的」であると考えられる。この点で、擬似変項は「変項らしくない」変項といえ、関係節 CP は（制限節の場合のような）命題関数というよりもむしろ命題―「真偽が問える」形式―に類似しているといえる。

[3]「再解釈」とその条件：

述語 P によって先行詞の種の部分集合として亜種が定義される（4 節参照）ということが正しいとすると、関係節の残りの表現 *Bill's mother* (*is*)は先行詞（種）自身の亜種を定義する成分の一部であることから結果として先行詞名詞にとって関係節は不可欠となると考えられる。しかし、不可欠であることが直ちにそれが「補部」要素であることにはならないであろう。そこで本稿では、①主要部 *way* と関係節の空所とが'$way_{<e^k, t>}$'の要素を共有し（ソータル内部解釈による）、かつ②文脈上の具体化実現形（外延）により空所の擬似変項の意味が補充されることの 2 つを条件として、先行詞－関係節を「述語－項」の関係へ「再解釈」することを提案する。再解釈により *way* は 1 項（$<e^k, t>$）から 2 項述語（$<<<e^k, t>, t>, <e^k, t>>$（下線部は内項））となるので、内項としての関係節（$<<e^k, t>, t>$）との併合に際して合成規則として関数適用(Functional Application, FA)の適用条件を完全に満たす。関係節 CP は$<<e^k, t>, t>$タイプであり（よって制限節と異なり述部ではない）、これは *e* タイプとともに項となり得る名詞句の一般的意味タイプ$<<e, t>, t>$と基本的に同じであるので、述詞関係節は項として機能する資格をもち、意味関数がとる関数項の 1 つとして機能できる（真の命題は *t* タイ

プであるが、擬似変項の値が補充され$<<e^k, t>, t>$は実質的に t タイプとなると考える)。

[4]「補部」としての側面：

主要部 *way* は（述語として）CP を内項にとりそれを N′/NP（文脈内の亜種の属性）に写像する意味関数である。補部である述詞関係節は厳密下位範疇化に関与する。また、述詞関係節が補部であるなら、(22)の非文法性はその帰結となる。なぜなら通常補部は付加詞（(22)の *at Oxford*）の外側に生じられないからである（(22)は *student at Oxford* が亜種でないため述詞関係節を不可とする説明（5 節）とも矛盾しない）。一方、(23)は補部（*of physics*）+補部（*that he is*）で文法的である。

(22) *I am not the **student** at Oxford *that he is*.

(23) I am not the **student** of physics *that he is*.

[5]「意味的空所」の説明：

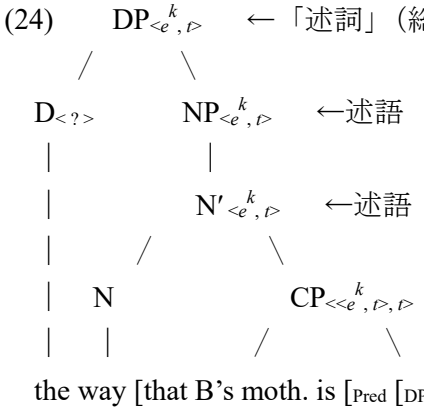
再解釈を仮定すれば、元来 1 項ソータル述語である普通名詞が述詞関係節を項としてとって（2 項となる）、それが統語的補部として埋めるべき「意味的空所」を主要部に措定できることが帰結する。しかし、(23)から補部の述詞関係節では必ずしも主要部名詞の語彙的意味の中に意味的空所が存在する必要はない。(23)では *student* の意味的空所は PP 補部によりすでに埋められており、その結果 *student* は 2 項述語（関係）から、項をとって全体が 1 項述語（属性）となっている。

本稿では、主要部名詞（述詞）の亜種の属性が、部分集合を定義する述詞関係節が埋めるべき意味的空所として機能していると主張する。(23)では、*student of physics* という亜種のそのまた「亜種」の成分が意味的空所として機能し、それを関係節が埋めていると考えるのである。このような意味的空所の存在は「亜種の属性分析」の帰結である。

[6] DP の統語構造と各節点の意味タイプ：

本稿では意味計算は割愛し、(24)に述詞の DP *the way that Bill's mother is* の統語構造と各節点の意味タイプのみ示すにとどめる。

(24) $DP_{<e^k, t>}$ ←「述詞」（総称的 DP）



空所には先行詞 *way* の亜種の唯一の属性（文脈内の実現形のこと）が存在し、定冠詞はそのような唯一の属性の存在を前提としている。これにより述詞 DP の定性が説明される。

7. 結論

伝統文法以来、英語の関係節は制限節と非制限節の 2 つに大別されてきた。述詞関係節も制限節として分類される。しかし、近年関係節の細分化の研究が進むにつれ、これまで制限節とされてきたものの中に、実はそれとは全く性質の異なるタイプの関係節が存在することがいろいろと指摘されている。「細分化」とは、構造と意味の対応をよりきめ細かく述べる規則を立てることである。空所の性質により名詞句全体の性質が合成的に決まるとすると、空所の性質をよりきめ細かく見極める研究が細分化には求められる。本稿では、述詞関係節の意味機能は先行詞名詞の亜種の属性を定義するものであり、空所はこの亜種の属性（しばしば文脈内に表される）の存在を前提とする擬似変項あるいは「代名詞的」要素であると主張した。

さらに、空所がこのような性質であるとすると関係節は命題関数ではなく「命題」らしい性質を帯びることを論じた。さらに、関係節が命題らしい性質をもつことが、関係節が

「補部」として再解釈される引き金となると主張した。河野 (2012)は、制限節とされるものの中にも「非制限的な制限節」が存在し、そのような関係節は「制限的制限節」が命題関数であるのに対して命題であると主張している。もしも制限節の中に命題として扱われる関係節があるとすると、本稿の述詞関係節を命題と考えることは命題としての関係節の存在に対するさらなる証拠事例となる。

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注

[1] 本稿では、Chierchia (1998: 348-352)の意味での「種」（ある個体概念によって表象することができ、この個体概念とはたとえば種 ‘dog’を例にとると、可能世界からすべての ‘dogs’なる個物の集合の総体へと写像する全体関数）を想定する。また、和泉 (2016: ch. 5)に倣い種の下位区分である亜種に対しても個物の集合体を仮定することとし、そのような亜種の集合体に先立って亜種が抽象的存在者として存在しているとは考えない。本稿では亜種の属性を$<e^k, t>$タイプと仮定する。

[2] (3c)にあるように、集合の「積」により、概略「「P = kind of person かつ he is P」である P の集合」の解釈となる。

[3] 長原 (1990)同様に、述詞を総称的概念を表す DP と考える。本稿では、述詞に生じる限定詞 *the* の意味タイプは無視する。

[4] 本稿での亜種を構成する「個物」とは、文脈内に生じる形容詞などの属性に対応すると仮定している。

[5] 述詞関係節では先行詞名詞は「ソータル内部」(sortal-internal)に解釈される（先行詞名詞が空所内で意味解釈に貢献する）と仮定する。したがって、制限節と異なり、先行詞名詞は関係節と独立に集合を形成しない。

[6] この「制限的」の条件は先行詞名詞のソータル内部解釈を想定することで説明される。

[7] 正確には「亜種の変項付き」種である。*Kind of* N では語彙的な‘kind’を亜種の変項とする。

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Small Clauses Further Specifying Verbal Meaning*

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Keywords：further specification, small clause, change-of-position, *hole* construction, *apart* reciprocal alternation

1. Introduction

The verb *drink* generally takes an object that refers to liquid, and the verb *talk* is used as an intransitive verb.

(1) a. John drank a cup of coffee.
b. They were talking on the phone.

These verbs, however, can take a non-subcategorized object when it is followed by a secondary predicate.

(2) a. They drank the pub dry.
b. The professor talked us into a stupor.
(Goldberg and Jackendoff (2004: 536))

The direct objects *the pub* and *us* in (2) are not selected by the verbs. In fact, these sentences will become unacceptable if the secondary predicates *dry* and *into a stupor* are omitted.

(3) a.* They drank the pub.
b.* The professor talked us.
(Goldberg and Jackendoff (2004: 536))

In previous studies, it has been analyzed that the direct object and the secondary predicate in this type of sentence form a small clause (e.g., Hoekstra (1988)).

(4) a. They drank the pub dry.
b. They drank [$_{RSC}$ the pub dry].

(5) a. The professor talked us into a stupor.
b. The professor talked [$_{RSC}$ us into a stupor].

Notice that the event denoted by the external argument and the verb (i.e., *they drank* and *the professor talked* in (4)) are causally related to the event designated by the small clause (i.e., *the pub dry* and *us into a stupor*). The former denotes a causing event and the latter a result event. For this reason, we will call this type of small clause a resultative small clause (RSC) hereafter.

There is another type of small clause, however, which we will call co-extensive small clause (CSC) (Yasuhara (this volume)). This type of small clause is exemplified by the following example.

(6) John { hit/knocked/beat/pounded }
the stone against the wall.

The sentence in (6) has two interpretations: (i) John hit the stone and it came into contact with the wall, and (ii) John held the stone and brought it into contact with the wall. Yasuhara (this volume) observes that the second interpretation is associated with a CSC. We can assume the structure in (7) for this sentence.

(7) John { hit/knocked/beat/pounded }
[$_{CSC}$ the stone against the wall].

The purpose of this paper is to argue for the empirical validity of the CSC analysis by showing that it can be applied to various types of phenomena.

The organization is this paper is as follows. Section 2 will give an overview of RCS and CSC. Section 3 will argue that the CSC analysis can be applied to at least four types of phenomena. Section 4 will provide concluding remarks.

2. Two Types of Small Clauses

This section offers an overview of the two types of small clauses, RSCs and CSCs. Let us first consider RSCs in (8).

(8) a. The professor talked <u>us into a stupor</u>.
b. The professor talked [$_{RSC}$ us into a stupor]. (= (5))
c. * The professor talked us. (= (3b))

The underlined text in (8a) forms a small clause. This observation is supported by the fact that the object *us* is predicated of by the secondary predicate *into a stupor*. Further, the object is licensed by the secondary predicate rather than the verb *talk*, as evidenced by (8c). These two pieces of evidence indicate that a small clause is involved in sentence (8a).

The question that arises here is which type the small clause is. The event expressed by the external argument and the verb *the professor talked* is causally related to the small clause event *us into a stupor*. Therefore, we can conclude that sentence (8a) includes an RSC.

A CSC is exemplified by the following sentence in interpretation (9ii).

(9) John { hit/knocked/beat pounded} the stone against the wall. (= (6))
i. John hit the stone and it came into contact with the wall.
ii. John held the stone and brought it into contact with the wall.

The sentence in (9) has two interpretations, (i) and (ii). In interpretation (ii), this sentence cannot omit the PP *against the wall*, as shown by the following sentence in (10).

(10) # John { hit/knocked/beat/ pounded} the stone.

The sentence in (10) is acceptable in the interpretation related to (i), in which John brought something into contact with the stone, but this interpretation is not relevant here. The sentence in (10) is unacceptable in the interpretation related to (ii), in which John held the stone and brought it into contact with something. In other words, the object of sentence (9) in interpretation (ii) requires the occurrence of the PP *against the wall*. Further, this PP is predicated of the object; the stone moved against the wall. Based on these facts, we can conclude that sentence (9) in interpretation (ii) includes a small clause.

The event denoted by the external argument and the verb (e.g., *John hit*) is not causally related to the small clause event (i.e., *the stone against the wall*). Instead, the small clause further specifies the meaning of the verb.
In other words, the verbal event occurs at the same time, or is co-extensive, with the small clause event (Yasuhara (this volume)). Thus, we refer to the small clause involved in this sentence as a CSC, as shown in the following structure in (11).

(11) John { hit/knocked/beat/pounded}
[$_{CSC}$ the stone against the wall].

Sentence (9) in interpretation (i) includes an RSC. In this interpretation, the event denoted by the external argument and the verb is causally related to the small clause event.

To sum up, this section showed that there are two types of small clauses, RSCs and CSCs. The former is causally related to the verbal event whereas the latter further specifies the verbal event.

3. The Phenomena That Involve Co-Extensive Small Clauses

This section will investigate the applicability of the CSC analysis and show that it can be applied to at least four types of phenomena: bodily motion expressions, *hole* constructions, *apart* reciprocal alternations, and change-of-position expressions.

3.1. Bodily Motion Expressions

The first phenomenon that we will consider is related to bodily motion expressions (Nemoto (2007)), as exemplified by the following sentences in (12).

(12) a. He slapped his hand on the table.
b. John wiped his hand across his mouth.
c. John pushed his hands into his pockets.
d. John threw his arms around her neck.

(Nemoto (2007: 390))

Bodily motion expressions describe the motion of a body part of an agent. In sentence (12a), for example, he moved his own body part and brought it into contact with the table. The same is true of the other sentences in (12).

Bodily motion expressions do not allow the occurrence of the object if the directional phrase is absent, as shown by the following examples.

(13) a.# He slapped his hand.
b.# John wiped his hand.
c.# John pushed his hands.
d.# John threw his arms.

(Nemoto (2007: 390))

The # mark on the sentences in (13) indicate that they are not acceptable in the interpretations corresponding to the sentences in (12). Sentence (13a), for example, is acceptable in the interpretation in which he hit his hand, but this interpretation is not relevant here. The point is that this sentence is unacceptable in the interpretation in which he moved his hand and brought it into contact with something. This fact indicates that the object of the sentences in (12) is licensed by the directional phrase rather than the verb. Further, the object is predicated of by the directional phrase. In sentence (12d), for example, his arms were moved around her neck. For this reason, we can assume that these sentences involve a small clause.

In the sentences in (12), the verbal event is co-extensive with the small clause event. In sentence (12d), for example, John's throwing action and his arms' moving around her neck occur at the same time. The same is true of the other sentences. For this reason, we can conclude that bodily motion expressions involve CSCs, as shown by the following structures.

(14) a. He slapped [$_{CSC}$ his hand on the table].
b. John wiped [$_{CSC}$ his hand across his mouth].
c. John pushed [$_{CSC}$ his hands into his pockets].
d. John threw [$_{CSC}$ his arms around her neck].

3.2. *Hole* Constructions

The next phenomenon that we will investigate is called a *hole* construction, which is exemplified by the following examples in (15).

(15) a. Matilda poked a hole in the rice paper screen (with her cane).
(Levin and Rapoport (1988: 278))
b. It is possible to cut a hole in an existing window, but stresses in the glass will sometimes cause it to crack.
(Albert Jackson and David Day, *Popular Mechanics Complete Home How-to*)
c. He smashed windows and broke a hole in a wall and killed two dogs looking for you.
(Colin Harrison, *Bodies Electric*)

In *hole* constructions, the NP *a hole* occurs in the object position. The object *a hole* of *hole* constructions has to be followed by a PP denoting the place where the hole is located.

(16) a. Matilda poked a hole in the rice paper screen.
b.* Matilda poked a hole.
(Nogawa (2008: 3))

Sentence (26b) is not acceptable because a locative phrase such as *in the rice paper screen* is absent. This fact suggests that the object is licensed by the locative phrase rather than the verb. Notice that there is a predicative relation between the object and the locative phrase in the sentences in (15). A hole is located in the rice paper screen in (15a), in an existing window in (15b), and in a wall in (15c). These facts indicate that a small clause is involved in *hole* constructions.

Our next task is to reveal to which type the small clauses belong. The verb *poke* means making a hole in something, and the verbs *cut* and *smash* also denote making a damage or a hole in something. The small clauses [$_{SC}$ a hole in the rice paper screen], [$_{SC}$ a hole in an existing window], and [$_{SC}$ a hole in a wall] also indicate that a hole exists in something. The small clause event further specifies the verbal meaning. Therefore, we can conclude that *hole* constructions in (15) involve CSCs.

(17) Matilda poked [$_{CSC}$ a hole in the rice paper screen].

The sentence in (17) instantiates the structure of sentence (16a).

Hole constructions are also compatible with verbs, such as *kick*, that do not imply the creation of a hole.

(18) Frances kicked a hole in the fence (with the point of her shoe).
(Levin and Rapoport (1988: 278))
(19) Frances kicked { the fence/*a hole } (with the point of her shoe).
(Nogawa (2008: 3))

The presence of a locative phrase such as *in the fence* is obligatory, and the object is predicated

of by the locative phrase. These facts suggest that sentence (18) also involves a small clause. In sentence (18), however, the verbal event is causally related to the small clause event. Frances made a hole in the fence by kicking it. Therefore, we can assume that this sentence involves an RSC.

3.3. *Apart* Reciprocal Alternation

The alternation between a pair such as (20) is called an *apart* reciprocal alternation (Levin (1993)).

(20) a. I broke the twig off (of) the branch.
b. I broke the twig and the branch apart.
cf.* I broke the twig and the branch.
(on roughly the interpretation of the (a) sentence)
(Levin (1993: 166))

The occurrence of *apart* in (20b) is obligatory and the object *the twig and the branch* is predicated of by *apart*, so we can assume that a small clause is involved in sentence (20b).

The verb *break* denotes the separation of an object and the small clause *the twig and the branch apart* also designate the separation of a twig and a branch, so the latter further specifies the former. Based on this observation, we can conclude that sentence (20b) involves a CSC.

(21) I broke [$_{CSC}$ the twig and the branch].

The sentence in (21) instantiates the structure of sentence (20b).

3.4. Change-of-position Expressions

Finally, we will look at expressions that denote change-of-position, as exemplified by the following in (22).

(22) a. The door blew open.
b. The lid of the box snapped shut.
(Horton (1996: 330))

This type of expression describes a situation in which the shape or position of an object changes. For example, in sentence (22a) the board of a door moved and as a result the door became open, and in sentence (22b) the lid of a trap moved and as a result the trap became shut. The result phrases *open* and *shut* in these sentences are predicated of the subject NPs *the door* and *the trap*, and they cannot be omitted, as shown by the following in (23).

(23) a. The door blew open.
=/=? The door blew.
b. The lid of the box snapped shut.
=/=? The lid of the box snapped.
(Horton (1996: 330))

Based on these facts, we can assume that the sentences in (22) include a small clause.

Notice that the verbal event (i.e., *blew* or *snapped*) occurs at the same time with the small clause event (i.e., *the door open* or *the trap shut*). Thus, we can say that these sentences include a CSC. The following structures illustrate the structures of the sentences in (22).

(24) a. blew [$_{CSC}$ the door open].
b. snapped [$_{CSC}$ the trap shut].

4. Concluding Remarks

This paper demonstrated that there are two types of SC: RSCs and CSCs. RSCs are associated with verbs that denote causing events, whereas CSCs are associated with verbs

that they further specify. It argued that the CSC analysis could be applied to at least four types of phenomena in which the occurrence of a non-subcategorized object is licensed by the presence of a secondary predicate.

Although this paper restricted our attention to phenomena associated with a non-subcategorized object, I suppose that the distinction between RSCs and CSCs can also be applied to strong and weak resultative constructions (Washio (1997)), respectively.

(25) *strong resultative*
John pushed the door (open).

(26) *weak resultative*
John broke the vase (into pieces).

The occurrence of the object *the door* or *the vase* is permitted even if the result phrase *open* or *into pieces* is omitted. The object is predicated of by the result phrase in these sentences, so they involve a small clause. Since the small clause event *the door open* is causally related to the verbal event *John pushed* in sentence (25), this sentence involves a CSC. In sentence (26), on the other hand, the small clause *the vase into pieces* further specifies the meaning of the verb *break*, so the small clause involved in this sentence is a CSC.

(27) John pushed [$_{RSC}$ the door open].

(28) John broke [$_{CSC}$ the vase into pieces].

In this way, the distinction between RSCs and CSCs is determined by their relationship with the verbal event. The small clause has status as an RSC when its event is causally related to the verbal event, whereas it is a CSC when it further specifies the verbal event.

Yasuhara (2013) argues that there are several cases in which an internal argument and a secondary predicate denote a causing event and the verb designates a result event, as exemplified by the following in (29) and (30).

(29) John broke the vase against the wall.

(30) The refrigerator door clicked open.
(Levin and Rappaport Hovav (1995: 191))

Sentence (29) describes a situation in which John hit a vase against the wall and it broke. Sentence (30) denotes that a refrigerator door opened and it made a short, sharp sound. Since the internal argument is predicated of by the secondary predicate in these sentences, we can assume that a small clause is involved in these sentences.

(31) John broke [$_{SC}$ the vase against the wall].

(32) [$_{vP}$ v [$_{VP}$ clicked [$_{SC}$ the refrigerator open]]].

The small clause in the sentences in (31) and (32), however, denotes a causing event and the verbal event expresses a result event, so it is neither an RSC nor a CSC. Thus, it seems to be more reasonable to generalize that there are two types of SC, one further specifies the verbal event and the other is not. Assuming that there are only a causing event and a result event in a complex event structure, the latter designates either a causing event, as in (31) and (32), or a result event, as in (27). I would like to leave further exploration of this issue for future research.

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<Symposium Report>

名詞句をめぐる拡張の諸相
（Aspects of the Grammatical Extension of Noun Phrases）

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キーワード：名詞句, 意味論, 統語論, 拡張

1. はじめに

このシンポジウムは、統語論・意味論・語法などの点において英語名詞句が拡張的に用いられる構造について、実証的に議論を深めることを目的とする。英語の名詞あるいは名詞句のかかわる現象のうち、これまであまり注目が集まらなかった拡張的な構造について各講師それぞれの立場から着目し、英語の多様な姿を解明することを目指す。

2. （発表 1）英語における名詞句の反復に見られる意味的特徴について（金澤）

英語の話し言葉において、名詞句が反復される場合がある。名詞句に対比的焦点 (contrastive focus) が置かれる場合、句が反復される場合と、されない場合とでは、対比の対象に違いが見られる (Ghomeshi et al. (2004: 317))。

(1) a. It wasn't a GOAT.
b. It wasn't a GOAT-goat.

a goat が、(1a) では他の動物と対比されるのに対して、(1b) ではヤギのカテゴリー内の成員と対比される。本発表は、Ghomeshi et al. (2004) の分析を援用し、(2) のように反復が見られる名詞句の意味的特徴を明らかにする。

(2) a. … you still have *a life*, *a good life*. (SOAP)
b. Because you believe that they make for *a good life*, *a fulfilling life*. (SOAP)
c. … he has *a good life*, *a better life* than he would ever have here. (SOAP)

名詞句の反復は、文法形式 [N, A-N] または、[A-N, A-N] によって表される。また、意味的には、1 番目の名詞句（以下、第 1 要素）による実体の状態を、2 番目の名詞句（以下、第 2 要素）が詳述する場合 ((2a), (2b)) と、第 1 要素による状態の程度の度合いを、第 2 要素が詳述する場合 (2c) がある。

特に [A-N, A-N] において、第 1 要素内、形容詞の語彙的意味に内在する境界性 (boundedness (Paradis (2001))) が、第 2 要素の形容詞の分布を決定付ける重要な役割を果たしている。また、第 1 要素が外延を表し、第 2 要素が、その外延の成員を詳述する、意味的分業が見られる。その上で、当該名詞句が、状態を詳述するか、状態の程度を詳述するかが決定される。

さらに、第 1 要素内の形容詞の境界性の種類 (Scalar, Extreme, Limit) によって、具現化の程度に違いが見られる。状態を詳述する場合、第 1 要素には、Scalar に分類される形容詞 (ex. a *good* life, a safe life) が生起し易く、次いで Limit に分類される形容詞 (ex. a *new* life, a happy life) が生起し易い。Extreme の場

合、第 2 要素に形容詞修飾の用例が見られない (ex. a *great* life, a life with you)。また、状態の程度を詳述する場合も、第 1 要素には Scalar に分類される形容詞が生起し易く (ex. a *happy* life, a much happier life)、次いで、Limit, Extreme に分類される形容詞が続く (ex. a *new* life, a brand-new life; a *great* life, a really great life)。

本分析により、名詞句の反復の多様性は、類像性のうち、量の原理 (quantity principle) によって動機付けられること、また、同族目的語構文において、名詞句の反復が制限されるのは、動詞と同族目的語との間で、動作を詳述していることに起因することを示した。

3. （発表 2）動的な構文拡張の基盤としての名詞句：付加的不変化詞から等位接続詞へ（藤）

擬似等位接続詞 *as well as*（AWA）に関する藤 (1986a,b) の動的文法理論による分析を拡張する。6 歳頃習得される *as well*（AW）構文には、意味と形式の乖離がある。(1a) の AW 構文は、「（*Misty* に加えて）*Tigger* も好きだ」というような個体同士を対比する意味を持つ。この括弧内の意味は、(1a) の第一文が談話レベルの意味表示に導入する指示物 *Misty* を、次の AW 構文が文レベルの意味表示に取り込む談話表示理論上の仕組みにより実現する。この結果、AW 構文には、意味の一部を音形上表すことができないという事態が生じる。しかし、意味と形式の乖離を埋めようとする UG の原理により、習得の次の段階で（8 歳頃）、同等比較構文 (2) をモデルとして、AWA 構文(1b) が派生的に習得され、この乖離が解消される。

(1) a. I love Misty. I love Tigger as well.
　　b. I love Tigger as well as Misty.
　　c. I love Tigger and Misty.
(2) a. Dad is tall. Mom is as tall.
　　b. Mom is as tall as Dad.

次に、AWA は、等位接続詞（CC）構文 (1c) をモデルとして、CC としての属性を発達させる。その際、NP に意味的に類似した範疇から徐々に等位接続可能範疇が拡張される（cf. 3a）。しかし、[+tense]を持つ範疇（T’）に到達すると、制約(4)が適用され、等位接続が困難になる（cf. 3b, 3c）。定形文（TP）は一切等位接続が許されない（cf. 3d）。

(3) a. NP⇒PP⇒AP⇒VP⇒$^{*/??/OK}$T′$\not\Rightarrow^{*}$TP
　　b. *She [$_{T'}$ continued her own works] as well as [$_{T'}$ helped me].
　　c. Characters [$_{T'}$ sang] as well as [$_{T'}$ acted].
　　d. *[$_{TP}$ The president is incompetent] as well as [$_{TP}$ the governor is crooked].
(4) 等位項対比制約 : 等位項が対比的な時のみ、T′ 接続が可能となる。

動的分析の利点として、まず、AWA 構文の等位項 T′ が対比的であることを要求する制約が、AW 構文が持っている個体同士を対比するという属性を引き継いでいることが挙げられる。

第二に、(3) の諸例を説明する際に利用した NP を始発点とする範疇拡張という仕組みが、Haspelmath (2004) で実質的に提案された等位接続可能範疇原理（CCP）とその例外の導出にも応用できる（cf. 5, 6, 7）。

(5) CCP : 等位接続を支配する範疇階層（e.g., NP>PP>AP>VP>TP）が存在し、各言語の CC は単独又は複数で同階層上の領域を、連続してかつ余すところなく占有しなければならない。
(6) CCP の例外：範疇階層の中間部の範疇（e.g., AP）のみが等位接続できない言語が存在する。
(7) 動的説明の概略 : 範疇階層自体が両端か

ら意味的類似に基づき動的に形成される。並行して、各 CC は範疇階層の両端からそれぞれ内側に向かって徐々に接続可能領域を拡張してよい。ただし、その拡張は途中で止まることも許されている。（cf. Kajita 2007）

4. （発表 3）英語の限定詞と名詞の統語的関係：特殊と一般（前川）

英語においては、単数形可算名詞と限定詞の統語的関係について次のような一般化が成り立つ。

(1) 単数形可算名詞とそれが義務的にとる限定詞の間には、数の一致がなければならない。

本発表では、 (2) に挙げるような名詞句の統語構造に特に注目したい。

(2) a. these <u>thousand</u> students
b. these <u>size</u> shoes
c. these <u>sort</u> of skills

これらの構造から限定詞を省略すると非文法的となる（e.g., *(these) thousand students）。これは下線部の単数形可算名詞 thousand / size / sort が限定詞を必要としているからであると言える。しかし (2) ではこれらの名詞は一般化 (1) に反して限定詞と数の一致を示していない。つまり、限定詞を必要とする要素とその限定詞が数の一致をする要素にズレが存在すると言える。

従来の統語論では、数の一致を引き起こすメカニズムと限定詞の義務性をつかさどるメカニズムとが一体となったシステムが採用されており、限定詞を必要とする要素とその限定詞が数の一致をする要素にズレがある (2) の構造には適用できない。

しかし、Van Eynde (2006) などが Head-driven Phrase Structure Grammar（Pollard and Sag (1994)）の枠組みで提案している名詞句の構造では、限定詞の義務性と数の一致は別々のメカニズムが担っており、(2) の各名詞句の構造も、一般的な名詞句とまったく同じように説明できる。

言語というものは一般性の高い現象から特殊な現象までが連続体となっており、経験的に妥当な言語理論はそのような現象をすべて説明できなくてはならないとすると、今回の提案はまさにその目的にかなうものであると考えられる。

5. （発表 4）潜伏名詞句の意味論と統語論をさぐる（中澤）

本発表は (1) の角括弧部分を分析する。

(1) It is our impression that there are very few *pure syntactic constructions*, that is, constructions which have *no* specific semantic or pragmatic functions associated with them and which mention no specific lexical items. [The closest we can come to that] is the *subject-predicate* construction of English. [italics original authors']

(Fillmore and Kay 1987: 13)

(1) には奇妙な点がある。角括弧部分は主語であり、その意味的主要部は「純粋に統語情報のみを持つ構文に最も近似のもの」という、あるスケール上の 1 点を表わす名詞句である。しかし、統語的には、この部分の主要部は the closest で、これは名詞句ではなく形容詞句である。何故なら、角括弧の中で the closest を元の位置に戻すと we can come (the) closest to that は可ゆえ the closest は形容詞句だが、*we can come (the) closest <u>point/place</u> to that は不可ゆえ the closest に名詞句の主要部として point や place などを補えず、これは名詞句ではないことがわかる。上例の the

closest のような形式は、形は名詞句に非ず、しかし意味は名詞句ゆえ、本発表ではこれを潜伏名詞句 concealed NP と呼ぶ。

本発表の主張は以下の通り。(1) の構文は、(2) を基体とし、統語的モデル・意味的モデルをそれぞれ (3) と (4) とした上での構文拡張の結果 (5) (= (1)) である（ここで p_x = a place that is the closet to x とする）。

(2) we can come the closest to that
[GO (w, $p_{t(GOAL)}$)]

(3) Relativization of $AP_{Superlative}$: The state's economy is [the worst it has been in recent history].

(4) Relativization of '$y_{(GOAL)}$' in 'GO (x, $y_{(GOAL)}$)' as in: "John visited the plant. [GO (x, $y_{(GOAL)}$)]" ➔ "the plant (that) John visited"

(5) [The closest we can come to that] is the *subject-predicate* construction of English.

本分析では、構文拡張において、そのモデルとして意味表示を用いたが、実は従来の拡張分析においても意味表示に言及していた。さらに興味深いこととして、意味表示のみに言及する構文拡張も存在し、その一例として名詞句 this side の前置詞化を指摘しておく。

(6) The river Trent was chosen as the dividing line: the two officers were styled "Justice of the Forest this side Trent" and "Justice of the Forest beyond Trent", according to where the king was at that particular time.
(BNC)

本発表は、潜伏名詞句の分析には、その拡張の過程で意味に言及する必要があることを明らかにし、さらに、意味のみに言及して拡張が促される場合さえあることを、this side を以て例証した。

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コーパス

British National Corpus (BNC)

Corpus of American Soap Operas (SOAP)

<Symposium Report>

異文化理解と多文化共生―ミクロ・マクロアプローチからみる『ことば』の諸問題*

(Intercultural Understanding and Multiculturalism: Micro and Macro Approaches to Language Issues)

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キーワード：ミクロ・マクロアプローチ，共生の取り組み

1. はじめに

近年活発になっている移民・移住などの人的流動は、人口減少、高齢化、グローバル化といった現象と密接に関わっている。

本シンポジウムは、その関わりが持つ可能性と引き起こし得る諸問題をミクロ・マクロアプローチから炙り出し、異文化理解と多文化共生につなげることを目指すものである。

とりわけ、言語使用や言語政策に焦点を絞り、異言語が存在する教育現場や職場における異文化摩擦と共生の取り組み、政府の言語政策とその効果等について、各講師が報告を行う。

まず、秦は、Brexit に流れる風潮に象徴される、移民に厳しい英国の社会変動期に生きる英国日本人移民調査から、それでも英国に住み続けるという彼女らの声に耳を傾けることで日本の多文化共生の可能性を探った。次に山口は日本在住カナダ人調査によって、移民から学ぶという発想の転換を提案する。3 番目に村田は、さまざまな海外での職場談話研究事例を考察し国内での研究可能性を論じる。さらに、チャプルは多文化共生の先進例としてのニュージーランドの教育制度を論じ、日本は海外から何をどのように援用すべきかを論じた。以下、各報告の要約を記す。

2. （発表 1）異文化理解と多文化共生－在英邦人女性調査からの提案－（秦）

本発表は、Brexit の賛否を問う国民投票後に実施した在英邦人移民に対するインタビュー調査を通じて、大きな社会変動期に移民として生きる人々がその社会の中でどう振る舞い、どのような「多文化共生」を結び直そうとしたかについて検討した。

発表では、2010 年から実施している在英邦人女性約 30 名に対する継続調査から国民投票直後の 2016 年から 2018 年までの 3 年間を取り上げ、そのナラティブのミクロレベルからの分析を報告した。特に２組４名を取り上げ、経年変化を例証した。その結果、彼女らは夫の国籍、居住地域、居住年数、職業、義父母の居住地域、人種などの属性によって新たな社会秩序における自らの社会的立ち位置の確保を行い、様々な反応を行なっていることが明らかとなった。共通することは、今後の先行きを不安視し、移民への差別を実際に経験・体感しながらも、日本への帰国は念頭におかず、「英国との共に生きる関係」から「ロンドンと共に生きる関係」に結び直すことで、自らをその社会に積極的に適応させようとする様子が観察されたことである。

今回の調査では、長期調査という調査方法と談話分析という分析手段を用いて研究を行うことで、一見虐げられているようには見えないEU移民でも難民でも経済難民でもない日本人移民も、EU 離脱の国民投票で揺れ

る英国社会で相応の影響を被っていることが明らかになった。そしてそれでも全てを笑い飛ばしてそこで「生活者」として生きる生の声が 1 年毎の心理変化を通して描かれた。

本発表を通して、英国という功罪併せ持つ移民先進事例の 1 つを紹介すると共に、談話分析、特に長期調査が、多文化共生、移民研究にいかに貢献できるかについて論じた。

3. （発表 2）異文化理解と多文化共生－日本在住カナダ人の視点からの提案－（山口）

本発表では、カナダから来日し 30 年以上教育に専心しているカナダ人女性へのインタビューから、日本の異文化理解と多文化共生に貢献し得る実践例を含むナラティブを提示した。まず、社会科学的ナラティブ研究の背景説明と考察を行った(秦ほか 2017)。そこで、「調査者」対「被調査者」の社会的関係性を常に念頭に入れた分析の必要性について論じた。具体的データ分析では、NPO/NGO のボランティアという形でのサービスラーニングを日本人大学生が実践した例を用いた。このナラティブの内容は、サービスラーニングを移民・避難民のコミュニティーで実践することで、「異文化理解」を教育に取り入れられるというものである。更に、インタビュー場面での関係性を考慮にいれたコンテクスト分析で、「移民から学ぶ」というナラティブを聞くことで、調査者自身も非調査者であるカナダ人移民から学ぶことができるというナラティブ研究の利点を論じた。

上記の方法論的考察に関して詳述すると、人々が自らの経験をリサーチ・インタビューで語る際の、真実性の度合いについて文化人類学の方法論の観点から考察した(Bernard 2006)。その際、注意すべきは、人間の記憶の限界とインタビュアーに対する配慮などからデータには必然的にバイアスが入り込んでしまう点である。そこでインタビューで移民が語る経験をその「真実性」ではなく、非調査者の普段は語られない「内面世界」を知る機会となり得る点、非調査者の普段言語化されない「文化的前提」を知る機会となり得る点、更に、非調査者と調査者の「社会的関係性」を知ることができる点の 3 点に留意して調査を行うとした (Hill 2005)。

具体的分析では非調査者であるカナダ人の学生が大阪の難民収容施設で行った「サービスラーニング」と呼ばれるボランティア活動をすることで学びの機会を得る教育活動について語った部分に焦点を当てた。ここではカナダ人女性の移民の受け入れ国である日本へのスタンス及び調査者との関係性を明らかにするために、人称代名詞 we/us 及び they/them の使用による「自己」と「他者」の創造に注目した (van Dijk 2018)。その結果、日本人である自分の学生を「自己」の一員とし(us)、難民受け入れ局の日本人を否定的に「他者」(them)として表した。つまり、ステレオタイプ的「日本人(them)」vs「カナダ人(us)」ではない微妙な関係性 がナラティブ分析で解明された。

異文化理解と多文化共生に対する貢献の可能性に関しては、研究者が、移民の話に耳を傾け常に、初心者の役割を担う意思を持つ重要性を強調した。そうすることで「移民について」だけではなく「移民から」学ぶという二重の学びが可能であると結論づけた (cf. Ochs1996)。

4. （発表 3）異文化理解と多文化共生－職場談話研究からの提案－（村田）

本発表では、実際の職場談話の分析や、国内で働く外国人・海外で働く日本人へのインタビューを通して、職場談話の特徴や企業の国際化を阻むコミュニケーション上の課題について考えた。

まず、最初に、国内で働く（働いた経験のある）外国人および海外で働く日本人への

ビジネスの場でのコミュニケーションについてのフォーカスインタビューの結果を紹介した。共通して指摘されるのが、日本における職場の上下関係が言語行動に反映されることや、対人関係機能面に関わる言語行動がミスコミュニケーションにつながる場合が多いということであった。

続いて、実際のビジネスミーティングにみられるユーモアの特徴を紹介した。3 社に共通しているのが、職場内の「パワー」がユーモアをめぐる言語行動に大きく影響を及ぼしているという点を指摘した。

発表後半では、職場談話研究プロジェクトとして大規模展開している Language in the Workplace Project（ビクトリア大学、ニュージーランド、以下 LWP）[1]を紹介した。LWP は、1996 年に設立し、これまでに 33 機関、700 名以上の協力のもと 2200 以上の職場談話を収録し、リーダーシップ、異文化間コミュニケーション、マネージメント、ユーモア、ナラティブ等多様なテーマで実際の談話に基づいた実証研究を進めてきた。研究成果の学術的発信は言うまでもなく、社会貢献にも積極的に取り組み、海外からの移住者向けの多様な教育プログラムを開発してきた。

発表では、先進事例の考察をベースに、談話研究が異文化理解と多文化共生にどのように貢献できるかや、国内においてどのような研究の可能性があるかについても論じた。

5. （発表 4）Intercultural Understanding and Multiculturalism - Suggestions from International Education （Chapple）

This presentation discussed the potential benefits for Japan that could be gained through the education system from greater openness to diversity and collaboration with international forms of education. In particular, it looks at what opportunities are being missed and how reforms could benefit both language learning and integration policies. Using examples from New Zealand's education system, as well as the results of interviews with Japanese migrants living there, it illustrates the importance of family and home language policies and the value of schools being involved.

Japan is now at a crossroads and will gradually need to face up to the reality that a greater number of migrants will be needed to meet labour demands (as witnessed by law changes implemented late in 2018). In order to ensure the successful societal integration of these increasing numbers of migrants, education policies (in particular language related ones) need to be reformed and modified to accommodate the needs of everyone - both migrant and native.

A re-examination of the content and delivery of education, and particularly language policies, is essential. Some of the issues most pressing in terms of education relating to migrants which were identified include such things as insufficient specialized JSL teachers (and training opportunities), a lack of language assistants, an overwhelming bias towards English and a disregard for first language maintenance.

The presentation addressed findings from interviews with teachers and parents in New Zealand, Japan and the USA. The suggestions the findings revealed were that schools need to foster students capable of living anywhere and communicating with people of different backgrounds by utilizing 4'C's (*Critical thinking, Collaboration, Creativity and Communication*). Further, they showed that education systems need to 'future proof' their systems by addressing greater diversity. In concrete terms this refers to substantial reforms ranging from

teacher training, curriculum content, delivery and methods to classroom layout and the role of technology.

In conclusion, the presentation reiterated the fact that intercultural understanding and multicultural education are some of the most significant vehicles for facilitating the political, economic and socio-cultural integration of migrants and the linguistic resources they represent need to be recognised and utilized by authorities for the benefit of Japan's youth as well as those from overseas.

6. まとめ

4 件の発表の後、短時間ではあったが、オーディエンスとの活発な議論が行われた。外国人材の受け入れはすでに始まり、今後ますます増えることは必至である。フロアからは、自分自身の研究から、多文化共生や異文化理解にどうすれば貢献できるのか、本シンポジウムへの参加を通してあらためて考える契機となったというコメントや、各講師が紹介した具体的な多文化共生の取り組みについてさらに詳しい説明を求める場面も見られた。

本シンポジウムでは、ミクロとマクロをつなぐアプローチを採用し、異文化理解と多文化共生の可能性の実態に迫った。海外の先進事例と日本の事例を並べ、単純に取り入れるのではなく、村田がまとめるように、それをどこまで日本の今後に貢献させていくかが重要である。それを、引き続き本研究のテーマとしたい。

* 本研究は、龍谷大学国際社会指定研究「異文化理解と多文化共生―人口減少社会を見据えたミクロ・マクロからのアプローチ」（2017～2019 年度）の研究成果の一部である。

注

[1] LWP について詳細は、https://www.victoria.ac.nz/lals/centres-and-institutes/language-in-the-workplace.

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<Symposium Report>

ツリーバンク開発と言語理論*
（Development of Treebank and Theoretical Linguistics）

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1. はじめに

世界の言語研究においてコーパスはすでに重要な研究手段となっているが、日本語に関しては従来形態素情報を中心とするコーパスしか存在しなかったため、その用途は限られていた。

国立国語研究所では平成 28 年度より、文の統語・意味解析情報を付加したコーパス (ツリーバンク) の開発を開始した。その文法情報を利用することにより、これまでは出来なかった、構文や文型にもとづく柔軟で正確な言語データの検索が可能となる。ツリーバンク開発の動機、意義、および使用法についてディスカッションを行うことを目的としてこのシンポジウムを企画した。

2. (発表 1) 趣旨説明 (パルデシ)

文の統語解析情報 (句構造) を付加したツリーバンクは、すでに以前から先進諸国におけるコーパス開発の主流となっている。日本語に関して従来公開されてきたコーパスは、文の文節への分析を基礎として、形態素解析情報および文節間の係り受け関係をタグ付けしたものが中心である。しかし、言語研究に必要となる階層的な深い情報を文節とその係り受け関係から自動的に得ることには限界がある。そこで、現在、国立国語研究所で文の統語解析情報 (句構造) をアノテートした NINJAL Parsed Corpus of Modern Japanese (NPCMJ)の開発が進められている (バトラー他 2016)。本コーパスはペン通時コーパス (Santorini 2010) のアノテーション方式を採用している。統語情報のアノテーションは表層的、中立的なものであり、特定の形式言語理論にコミットしていない。本シンポジウムでは NPCMJ の開発、このコーパスを検索するための検索ツールおよびコーパスに基づく言語研究の可能性について最新の研究成果を報告する。

3. (発表 2) 言語研究と統語・意味解析情報付きコーパス (吉本)

本発表では、NPCMJ 開発の動機、その特色、アノテーションの方法について説明する。さらに、検索利用による日本語の実態の解明について具体例を挙げ、NPCMJ により日本語の量的研究と質的研究の統合がもたらされることを述べる。

従来の日本語コーパスは、文の文節への分析を基礎として、形態素解析情報および文節間の係り受け関係を付加したものが中心であった。しかし、これらによっては、文の意味を反映する適切な統語情報を得ることは

できない。それは、文節の中で自立語に後続する付属語が独立した機能を果たすことがあること、および係り受けだけでは統語情報として不十分なことによる。

NPCMJ は、文に対し統語解析情報 (句構造) をタグ付けした初の本格的な日本語コーパスである。さらに、意味解析情報 (述語論理式) も各文に対してタグ付けされている。これにより、文中の語句間の文法的関係 (依存関係) をすべて把握することができる。

ペン通時コーパスの方式に従い、文の統語構造をラベル付きの括弧によって表示する。すべての単語に対して品詞情報を表す品詞タグが、句に対しては統語タグが付加される。NPCMJ の統語解析の基礎をなすのは X-bar 理論だが、そのスキーマは考えられる限りフラットなものである。また、上記の品詞タグや統語タグに対して必要に応じてさらに機能タグを付加して、曖昧な統語構造からの正確な意味情報の抽出に利用する。

アノテーションは以下の原則を立てて行われている。まず、いくつかの単語が緊密に連結して 1 つの機能語として働くものは、1 つの助詞 (P) やモーダル助動詞 (MD) として扱っている。「内の関係」の関係節の場合は、関係節内に空所に相当するノードを与えて文法役割を明示する。さらに、主語や目的語が文中で表現されていない多くの場合について、それらをゼロ代名詞として明示する。

NPCMJ を利用したパイロット・スタディとして、日本語のモダリティ表現に関する調査を行った。9 つのモダリティ表現について、コーパスの中から、各々が出現する全用例、過去時制マーカー「た」が後接する例、従属節の述語を構成する例、および関係節を構成して名詞を修飾する例をすべて抽出した。

結果を検討すると、まず、関係節となることが非常にまれな「だろう」および「かもしれない」と、きわめて頻繁に関係節となる「べきだ」および「そうだ」とが目につく。次に、意味の近接する、推量・推定を表す「ようだ」「そうだ」「らしい」がきわめて従属節となりやすいことが目につく。

日本語には推定・推量を表す助動詞の数が多く、NPCMJ はこれらの間の違いに関して貴重なデータを提供する。「だろう」がその他の助動詞に対して有する特異性は明白である。「らしい」「そうだ」「ようだ」についても、従属節や関係節の中での用法を詳しく検討することにより、互いの使い分けについてヒントが得られる。

4. (発表 3) 構文検索ツール NPCMJ Explorer (鈴木、窪田、パルデシ)

本発表では、ユーザーフレンドリーなインターフェースの整備、および言語研究とコーパス構築の連携の必要性について報告する。

従来のコーパスにもとづく文法研究は、大名 (2017) が指摘するとおり、「要素の異同と線形順序から機械的操作により得られる情報に基づき抽出可能な言語現象についてはデータが得やすいが、(終端連鎖の線形順序以外の) 統語情報、意味情報、語用論的情報は利用が困難か不可能であり、無形の要素や局所化できない意味を含む例の検索も困難か不可能である」という欠点があった。Kubota & Lee (2015)では日本語・韓国語の並列構文制約 (CSC) について、線形順序で検索を行った。これは、日本語および韓国語についてツリーバンクが利用できなかったためである。これに対し、Kubota & Kubota (2018) が示したように、NPCMJ を利用することにより、CSC のような構文を持つ言語データの検索が可能になる。しかし、データの検索には一定の技術が必要であり、一般の文法研究者には利用しにくい。

ツリーバンクで具体的な現象を検索しようとした時、問題になりやすい点として、第一に、ツリーバンクの検索言語に慣れていないこと、および検索言語を理解していても、

具体的な言語現象とツリーバンクのアノテーションが結びつかないことが挙げられる。

上記の問題を解消し、かつ日本語の言語現象とアノテーションの結びつきを網羅的に示す構文検索ツールとして、NPCMJ Explorer を開発した。自分で検索式を書くのではなく、あらかじめ用意された検索式に従ってデータを観察できる。また、具体的な言語現象に対応した項目を備え、 用意された検索式に対して、独自の指定を加えることも可能である。初心者にとっては、ツリーバンクに最初に触れる目的で使用でき、上級者にとっては、言語現象の索引のためのツールとなる。

開発の工程は以下のとおりである。まず、日本語研究において主要と考えられる現象を網羅的にリストアップした。益岡・田窪(1992)の特定の文法現象を扱っている節項目を対象に、検索式を用意した。検索式は、著者のうちの 1 人が用意し、共著者間で確認した。記述の一部のみを満たす場合は、項目をさらに細分化した。さらに、生成文法の教科書 (Kishimoto (in press)) に、NPCMJ のデータを参照して解く問題をふくめる予定である。また、中級者向けインターフェースの開発の可能性も検討している。

NPCMJ Explorer で用意することのできた文法項目は、益岡・田窪 (1992) の 136 の節項目のうち、73 項目であった。これらのうちの多くは、統語的な構造と意味が直接結びつきにくい現象である。言語研究の蓄積をコーパス構築へより有機的に結びつけていく必要性が示唆される。

5. (発表 4) A Unified Interface for Exploring English and Japanese (Butler)

This paper introduces: the NINJAL Parsed Corpus of Modern Japanese (NPCMJ) (which is also available in an early release form as the Keyaki Treebank) and the Treebank Semantics Parsed Corpus (TSPC). While these corpora are for Japanese and English, respectively, there is considerable overlap. There is a significant amount of parallel data, both from original Japanese translated into English, and original English translated into Japanese, and covering a wide spectrum of genres and language abilities, from simple textbook examples and children's fiction, through to newswire, Ted talks, general fiction, and examples from written law. But what is especially notable is that the analysis is maximally shared. Also, the results of analysis can be seen through a single web-interface.

For their analysis, both corpora adopt parsing schemes influenced by the Penn Historical Corpora scheme (Santorini 2010) and the SUSANNE scheme (Sampson 1995). The Penn Historical Corpora scheme has informed the “look” of the annotation, and the CorpusSearch format (Randall 2009). From the SUSANNE scheme, there is adoption of construction analysis, functional and grammatical information, and methods for representing complex expressions.

The results of annotation are made available through a shared web-interface that has been designed to allow for sophisticated searches of syntactic structure using a flexible path based query language, and flipping between results for either resource, as well as sophisticated visualisations for highlighting different aspects of the parsed analysis, including views to explore syntactic dependencies across tree structures in discourse, track multiple modifier-head dependencies, follow cross-sections of valence information, and observe resulting displays from semantic calculations that produce predicate language based formulas.

The `Word dependencies' interface facilitates exploring dependencies based on word selection. Basic string search allows you to search for

sequences of characters in the text of the corpus. This is particularly helpful for finding out about the segmentation of words. Tree search provides a text area into which a TGrep-lite search expression can be entered. The TGrep language allows formulating queries to find trees with expressions that are able to match tree nodes and relationships defining links or negated links to other tree nodes. Once the parsed analysis has been reached, different analysis views are available to look into the result.

6. (発表 5) English/Japanese Contrastive Study Based on Normalization: a Step in the Semantic Processing (Horn, Butler)

In a Scope Control Theory (Butler 2015) driven corpus, annotation directly encodes local dependencies like head::complement, predicate:: argument, clause::subject. Other dependencies like pronoun::antecedent, extraction site:: extracted element, controller::null subject, etc. can be indirectly established by reading generalized structural definitions into a semantic calculation. Whether for Japanese or for English, if the annotation is sufficiently principled, it can be normalized into input for the calculation. Put into practice in the treebanks, the relationship between the annotation and the normalization, and the language-specific aspects of the normalization program itself, both encapsulate contrasts between Japanese and English.

We have shown how expressions in natural languages of different types can be normalised into forms that serve as inputs to the same system of semantic calculation. We hope this brief sketch suggests how the same approach scales to complex structures including non-local dependencies, anaphoric relationships, etc.

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<Workshop Report>

併合手続きを再考する*
（Generative Procedures Revisited）

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キーワード：極小主義, 併合操作, 第三要因

1. はじめに

言語の計算システムでは、(1)に定義される併合操作が働くと仮定されてきており、その連続適用から人間言語に固有の性質である階層性を導くことができる。

(1) Merge (α, β) = {α, β}

さらにこの定義により、構造構築のための操作と考えられていた外的併合（External Merge: EM）と、構造を変形する移動操作と考えられてきた内的併合（Internal Merge: IM）が、単一の操作であることが原理的に説明できるようになった（Chomsky 2004）。

本ワークショップの目的は、この併合操作の手続きを見直し、それを支える基礎的な仮説群を再検討することである。研究発表は個々に独立させず、各発表者が分担し、全体でひとつの発表となるように構成した。

2. 隠れた仮説としての作業空間

Chomsky (2017)の指摘によれば、{XP, YP}（例えば、NP-VP の構造など）を形成するには、併合操作が並行して独立に二つの統辞体を形成し、さらにそれらを一つの統辞体として併合する必要があるが、この一連の作業には、背後に共通の作業空間（Workspace: WS）を仮定せざるを得ない。この概念はこれまで明示化されてこなかったが、たとえば Chomsky (1995)においても、併合操作は、「二つの統辞体に適用して一つの統辞体を形成し、適用前の二つの統辞体を除去する」ものとして特徴づけられていた。このとき、どこから除去するのかを考えれば、WS を暗黙のうちに仮定していたと考えるべきであり、その概念的必要性は明らかである。

3. Merge から MERGE へ

「併合操作が第三要因の原理に従う形で派生を進める」という図式において WS が明示化されれば、併合操作の対象を個々の統辞体から WS へ転換し、派生を WS の状態遷移の過程と捉えることができる。この転換を、Chomsky et al. (2017) の表現を借りて Merge から MERGE への移行と捉えよう。

(2) MERGE (WS) = WS’

a. WS = [SO_i, SO_j]

b. WS' = [SO_{i+j}]

WS を更新する手段は、MERGE を適用する場合に加えて、語彙項目をレキシコンから加える場合も考えられる。

ここでの新たな課題は、MERGE を第三要因を含む合理的な条件のもとで適切に定義し、その入出力にあたる WS にどのような要素が含まれるかを検討することである。より具体的には、従来提案されてきた様々な併合の変種（EM、IM のほか、Parallel Merge、Sideward Merge や Late Merge など）が、適切に定義された MERGE から妥当なものとして導かれるかを検証することである。

4. MERGE の定義と決定性

今回のワークショップでは、Chomsky

(p.c.)によるものを具体案として取り上げた。具体的な定義は発表資料に譲るが、この定義では、入力の WS にある二つの統辞体に併合操作は対称的に適用され、また、その出力の WS が決定性をもつように定式化されている。決定性の概念は第三要因の原理と考えられる。これが遵守されるには、WS の各段階において、アクセス可能なターム（term）が一つであるように、MERGE が適用されなくてはならない。

このような定義の帰結として、MERGE は、従来 EM と IM で捉えられてきた過程のみを妥当なものとし、それ以外の「拡張版」による過程はあり得ないものとして除外される。

5. 関連する仮説群の再検討

決定性の概念を仮定すると、ある WS に、あるタームのコピーが複数含まれる場合、アクセス可能ではないが可視的なタームも考慮に入れる必要があり、これら二つの概念を区別する必要がある。

このために、可視性を探索によって定義し、あらゆるタームを可視的であるとするところから始める。さらにフェイズ不可侵条件（Chomsky 2000）を仮定すれば、フェイズ主要部の補部にあるものは MERGE にとってアクセス可能でないことが導かれる。

同一フェイズ内に複数コピーが残る場合については、MERGE 適用の際に構造的により高いコピーを選ぶことを求める「最短移動の帰結」（Chomsky, p.c.）を、最小探索の帰結として仮定する。これによって、「αのすべての生起が領域 D のタームであるときにのみ、αは領域 D 内に生じている」とする規定（Chomsky 2013）をあえて設けなくてよい。

6. 本研究の含意

MERGE の具体的な定義と関連する基礎的仮説群によって、Chomsky (2017)において提示された「七つの要望（seven desiderata）」各項目の位置づけについても具体的な提言が可能となる。

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<Workshop Report>

形態論から見た統語論・意味論：軽動詞構文、程度表現、オノマトペ*

（Syntax and Semantics from the Morphological Point of View: Light Verb Construction, Degree Expressions and Onomatopoeia）

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キーワード：軽動詞, 程度表現, オノマトペ

1. はじめに

本ワークショップでは、日本語の軽動詞構文、程度表現、オノマトペを英語などの他言語と比較しながら分析することによって、それぞれについてこれまで一般的に想定されてきた枠組みや分析に一石を投じるような経験的証拠を提示することを試みた。そして、そのことを通して形態論と文法の各部門の関係、とりわけ、辞書部門（the lexicon）の存在と語彙的操作、統語構造と意味の対応などについての理論的帰結を考察した。

2. （発表 1）軽動詞構文に現れる項の認可について（岸本）

「動名詞+する」の形式を持つ軽動詞構文では軽動詞「する」に（構文に対して実質的な意味を与える）動名詞が組み合わされ、複雑述語のようにふるまう。この軽動詞構文に関しては、軽動詞の「する」がそれ自体では項に与える意味役割を持たないとする Grimshaw and Mester (1988)の考え方と、「する」が項に与える意味役割を持つとする考え方が対立する（後者については Uchida and Nakayama (1993)などを参照）。本論では、軽動詞構文の「する」が意味役割を持つという考え方に対する支持を与える新たな経験的なデータを提示した上で、動名詞と軽動詞が複雑述語を形成するのではなく、軽動詞が動名詞を項にとる構文を形成し、項の意味役割の付与が動名詞と「する」のそれぞれの領域で起こることを示した。さらに、動作主主語構文と非動作主主語構文で「する」の持つことができる項構造が異なることも論じた。特に、動作主構文の主語の意味役割が「する」に由来するのに対して、非動作主主語構文の主語の意味役割は動名詞に由来することを示した。

3. （発表 2）名詞の最上級？（渡辺）

本発表は、「一番」という最上級をあらわす程度修飾表現が名詞に直接結びついているように見える場合の分析として、音形のないサイズ修飾語が構造上存在しており、通常の最上級のように「一番」は名詞ではなくサイズ修飾語の方と結びついていると考えるのが妥当であると提案した。主たる根拠は、当該のパターンが可能な名詞が、「だい」や「おお」の接頭辞、または、「だいの」による修飾を受け入れて程度の意味をあらわす名詞とほぼ重なるという事実である。意味的におおよそ対応すると見られる英語の名詞が *big* による修飾を許しているという、Morzycki (2009) による観察もこれを後押しする。このことに、最上級で補充形態がみられる数少ないパターンにサイズ修飾語が含まれているという Bobaljik (2012) による類型論的知見を加えれば、音形なしの形態も補充法の一種であると理解でき、本提案をさらに補強する材料となる。発表では、最上級以

外にも音形のないサイズ修飾語を想定した方がよいと思われる場合を日本語や英語その他でいくつか指摘した。

4. （発表 **3**）オノマトペの述語化（漆原）

本発表では分散形態論の枠組みで日本語オノマトペの様々な形態的実現を分析した。

Halle and Marantz (1993)、Embick and Noyer (2007)、等によれば、統語論における終端節点には音形表示のある語根と音形表示を持たない抽象的形態統語素性があり、 語根は範疇を持たず、範疇は機能範疇によって決定される。オノマトペはその本質から範疇が明確とは言えず、特に日本語はその豊富さと範疇的実現の多様性から DM の主張を検証する事例となる。一方、認知言語学、語彙意味論等でオノマトペの様々な意味的特性が指摘されてきたが、DM の枠組みでは論理形式での解釈にかかわるすべての素性は統語論に存在しなくてはならない。

そこで、オノマトペの韻律的・鋳型的な一般化と生産性を捉えるための道具立てとして、範疇決定にかかわる機能範疇の内部に意味的な素性を仮定し、韻律（例えば Mester and Ito (1989)が提案する口蓋化による liquid 素性の付与（「パタパタ」→「パチャパチャ」）や鋳型（「すっきり」「はっきり」等 cf. McCarthy and Prince (1995) 他）が Spell-Out 後に語彙項目として挿入されると分析し、日本語オノマトペの形態と意味の規則的対応の統語的分析が可能となると提案した。

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[II]

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The Structure of Free Relatives and Decomposition of *Wh* Operators*

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Keywords：syntax, free relatives, *wh* operators, labeling algorithm

1. Introduction

In this paper, we will explore the structure of Free Relatives: FRs. And I will propose that by decomposing *wh* operators FRs count as head in Chomsky's (2015) labeling algorithm.

First, I will make a brief introduction. FRs shown in (2) and (3) are relative clauses which have no antecedent, unlike a restrictive relative clause: RRC shown in (1).[1]

(1) I will eat the staff (that/which) you cook. (RRC)
(2) I will eat what you cook. (FR)
(3) I will eat whatever you cook. (Ever-FR)

This paper is organized as follows. First, we will see the empirical data to be explained in section 2. In addition to the empirical data, we will introduce two theoretical problems concerning FRs in section 3. Then, to explain the empirical data and to solve the theoretical problems, we will make some assumptions in section 4. With the assumptions, we will consider the derivation of FRs in section 5. Section 6 contains some concluding remarks.

2. Five Empirical Data

2.1. Simple FRs and Embedded *Wh* Interrogatives

The first and second data concern dichotomy between simple FRs and embedded interrogatives. See (4) and (5), which are examples of FRs and embedded *wh* interrogatives, respectively.

(4) I will eat what you cook. (=(2))
(5) I wonder what you cook.

The first controversy is whether the two clauses have the same structure or not. Cecchetto and Donati: C&D (2015) discuss the two constructions uniformly. They propose the labeling algorithm based on the one of Chomsky (2008). According to their labeling algorithm, in FRs, *what* projects by its lexical property. In *wh* interrogatives, since C probes and attracts the *wh* *what*, C projects. The structure of FRs and embedded *wh* interrogatives in their analysis are shown in (6) and (7).

(6) I will eat [$_{DP}$ what [$_{CP}$ you cook ~~what~~]]
(7) I wonder [$_{CP}$ what you cook ~~what~~]

In this way, C&D derive two different interpretations of *what you cook*. Although they assume the same underlying structure, some data show that the internal structures are different. In Bulgarian and Greek, the morphologically distinct *wh* operators are involved in the two constructions, as in (8). C&D's analysis cannot capture these crosslinguistic data.

(8) a. kojto koj (Bulgarian)
'who$_{FR}$' 'who$_{wh}$' (Izvorski (1998: 165))
b. o-pjos pjos (Greek)
'who$_{FR}$' 'who$_{wh}$' (Izvorski (1998: 165))

2.2. FRs with *Wh* Phrases

The third data makes C&D's analysis harder to adopt. This concerns FRs with *wh* phrases like (9).

(9) Give me what books you have on the subject. (Declark (1991: 546))

Since their analysis of FRs hinges on the lexical property of the *wh* operator, *wh* phrases cannot project.[2] To make matters worse, C cannot project either, since (9) is an FR, not an interrogative clause, because *give* does not select interrogatives, and C does not probe *what*. Therefore, C&D's analysis cannot derive (9).

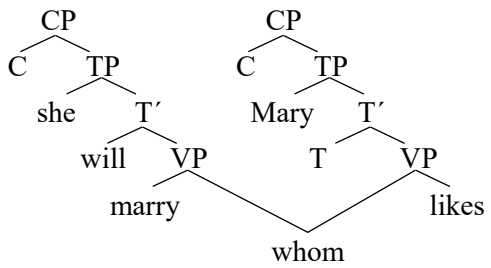
2.3. Binding Condition in FRs

The forth data is concerned with the Binding Condition C. Consider (10).

(10) She$_i$ will marry whom she$_j$ / Mary$_i$ likes.

This ill-formedness can be attributed to the violation of Binding Condition C. This data is important because it rejects the Riemsdijk's (2006) multidominance structure like (11). (11) cannot explain the ill-formedness of (10).[3]

(11)



2.4. PP FRs

The last data is PP FRs like (12a).

(12) a. I'll live in whatever town you live. (Bresnan and Grimshaw (1978: 351))

b. I'll live in whatever town you live *e*

(13) You live *(in) the town.

(12b) shows the gap by *e*. As shown in (13), just filling the gap by DP is not sufficient to complete FRs. We need to assume PP in the gap. These FRs are problematic for the head hypothesis, which regards FRs as RRCs whose antecedent is a *wh* operator. See also Bresnan and Grimshaw (1978) for this analysis. Simple FRs have the structure like (14b) under this hypothesis. A null operator in the RRC is shown as *op*.

(14) a. I will eat what you cook. (=(2))

b. I will eat [$_{DP}$ what] [$_{CP}$ op you cook ~~op~~]

In PP FRs, since PP cannot act as antecedents, the structure like (15b), where the PP antecedent and a PP operator are involved, is prohibited.

(15) a. I'll live in whatever town you live. (=(12a))

b. [$_{PP}$ in whatever town] [$_{CP}$ op$_{PP}$ you live op$_{PP}$]

The next possibility is to assume the DP antecedent and a PP operator like (16). However, the RRC counterpart (17) is ill-formed, so the null PP operator cannot be assumed also in (16). Therefore, PP FRs are problematic for the Head hypothesis.[4]

(16) [$_{PP}$ in [$_{DP}$ whatever town] [$_{CP}$ op$_{PP}$ you live ~~op$_{PP}$~~]]

(17) a. *the town you live

b. [$_{DP}$ the town] [$_{CP}$ op$_{PP}$ you live op$_{PP}$]

So far, we have seen the empirical data. Next, we will see theoretical problems on FRs.

3. Two Theoretical Problems

3.1. Unvalued Feature

The first one concerns an unvalued feature of *wh* operators. It is assumed that *wh* operators have an unvalued feature. See also Kuroda (1965), Nishigauchi (1990), Chomsky (2015), and Saito (2017). Although C assigns a value to an unvalued feature of *wh* operators in *wh* interrogatives, it is unclear how the unvalued feature is valued in FRs.

3.2. Chomsky's (2013, 2015) System

Before introducing the second problem, we must touch on Chomsky's (2013, 2015) labeling algorithm: LA, on which we are based. In Chomsky's system, Merge counts as a free operation, and the LA evaluates the derivation. According to the LA, Head serves as the label of the set of Head and phrase. When both members are phrases, an agreement feature provides the label. The second case is involved in *wh* interrogatives, where an unvalued feature and C provides the <Q, Q> label.

3.3. The Status of *Wh* Operators

Within this system, we clarify the other theoretical problem. It concerns the status of the *wh* operator. In FRs, DP, not CP projects because of the selectional property of the matrix verb. Therefore, we can assume that *wh* operators count as head in the LA. However, *wh* operators should be regarded as phrases in interrogatives, in order to provide the <Q, Q> label. If the *wh* operator counts as head in interrogatives, the whole label would become DP. So, *wh* operators seem to have contradictory statuses.

4. Assumptions

Now, we will set the stage for my proposal by making three assumptions. First, I assume that *wh* operators have an unvalued quantificational feature, following Kuroda (1965), Nishigauchi (1990), and Saito (2017). Second, I propose that in FRs, their unvalued features are valued by D or *ever*, which is part of a *wh* operator. Third, we deconstruct *wh* operators into two parts: the operator part and the restriction part, following Kuroda (1969) and Chomsky (1995), Di Sciullo (2005), and Kayne (2005). I summarize them in (18).

(18) a. *Wh* operators have an unvalued quantificational feature: [*u*Q].
b. The [*u*Q] feature is valued by D or *ever* in FRs.
c. *Wh* operators are decomposed into operator and restriction.

Let us consider each assumption. The first assumption is based on crosslinguistic data. In Japanese, Saito (2017) observes that different particles yield different interpretations of *wh* operators: *ka* yields the interrogative interpretation and *mo* the universal one. Following Saito (2017), we argue that *ka* and *mo* value the [*u*Q] feature of *wh* operators and determine their interpretations in Japanese. Next, recall the previously-mentioned Bulgarian and Greek data, where morphologically complex *wh* operators are used in FRs. In these languages, the affixes attached to *wh* operators are derived from definite articles. I propose that in English as well, the null D affix is involved in FRs and that the affix values the [*u*Q] feature of *wh* operators. In *ever* FRs, the overt *ever* values the [*u*Q] feature. This affix *ever* is derived from the universal quantifier *every*, so *ever* FRs receive the universal interpretation.

(19) a. kojto → koj + -to Bulgarian

b. o-pjos → pjos + o- Greek

wh_{FR} wh_{int} D affix

(20) a. *wh*[*u*Q] + D[def] English

b. *wh*[*u*Q] + *ever*[universal] English

Moreover, it naturally follows from our analysis that FRs show the definiteness effect in (21) because of the presence of the internal D.

(21) *There is what he cooked on the table.

(Izvorski (1998: 162))

Next, we will consider the second assumption. Kuroda (1969) proposes that *wh* operators have some complex structure. Although we change his proposal slightly for simplicity's sake, we adopt his proposal and deconstruct *wh* operators into operator and restriction. The operator is a *u*feature-holder and the restriction satisfies the selection of matrix verbs. (22) shows that different restriction yields different *wh* operators.

(22) op [*u*Q] + restriction (REST) [THING/ PERSON/PLACE...] → what/who/where...

As shown in (23), this deconstruction directly reflects the semantics of *wh* operators.

(23) a. Who likes Mary?

b. [who x: x a person] [x likes Mary]

Finally, we get the *wh* operators in interrogatives and FRs shown in (24).

(24) a. $what_{int}$: op[*u*Q] + REST [THING] → what [*u*Q]

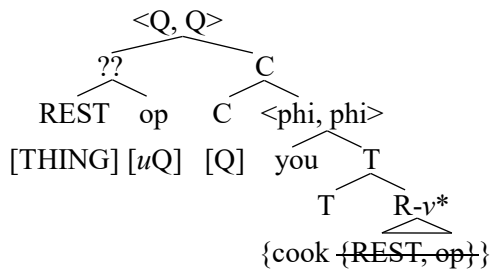
b. $what_{FR}$: op[*u*Q] + D + REST [THING] → what[D]

5. Derivations

Now, we will discuss the derivation of FRs and the related issues individually. First, we will discuss embedded *wh* interrogatives. The structure of the embedded clause is as in (25b).

(25) a. I wonder what you cook. (=(5))

b.



I make some comments in order. In (25b), *op* and *REST* merge. This set is eventually spelled out as *what*. The [*u*Q] feature of *what* is valued via the agreement with C. However, in determining the labels by the LA, we face a problem with the labeling within *wh* operators. Both *op* and *REST* are regarded as head and there is no shared agreement feature. Chomsky (2013, 2015) argue that this H-H set is formed in the first Merge, where the merged objects are some categorizer and a semantic root. In this case, a semantic root is too weak to serve as the label, and the categorizer serves as the label. We adopt a similar solution. In the configuration of operator and restriction, I tentatively assume that the operator is weak because there is similarity between operators and roots in that their interpretations are determined by other objects. Therefore, the undefined label ?? becomes REST in (25b).

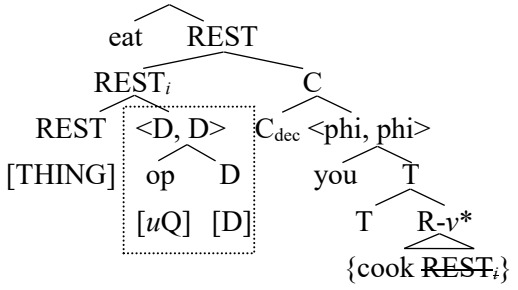
Next, we will discuss the derivation of FRs. I assume that *wh* operators in FRs have the structure like (26).

(26) $<_{REST}$ REST [$_{<D, D>}$ op[*u*Q], D]>

First, the set Merge applies to the operator with the [*u*Q] feature and D, and this set pair-merges to the restriction. Following Chomsky (2004), the pair-merged object merges at a separate plane, and therefore, *wh* operators in FRs count as head, since the only item visible in syntax is the restriction. In interrogatives, the matrix V selects the <Q, Q> label, so the operator with the [*u*Q] feature must be visible in syntax, and the pair-Merge option is prohibited. Unlike interrogatives, what is required in FRs is the restriction, which is selected by the matrix V. The structure of FRs are shown in (27), where I show pair-Merge by a dotted box.

(27) a. I will eat what you cook. (=(2))

b.



I assume that the declarative C, not interrogative C is involved in FRs, since FRs do not act as questions. After merging C with the traditional TP, the pair including REST is internally merged. REST serves as the label in the FR because it counts as head. Then, the whole structure is selected by matrix R. By replacing D with *ever*, we get the structure of *ever* FRs.

(28) a. I will eat whatever you cook. (=(3))

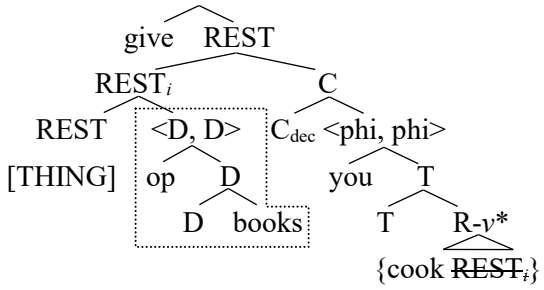
b. [$_{REST}$ <$_{REST}$ REST [$_{<Q, Q>}$ op, ever]> [$_{C}$ C [$_{<phi, phi>}$ you cook ~~<REST [op, ever]>~~]]]

In our derivation, since FRs are selected by the matrix R, the violation of Binding Condition C should be observed in an example like (10).

Next we will discuss FRs with *wh* phrases. Here, I assume that the internal D selects the NP, and that the set pair-merges to the restriction so that the restriction counts as head. The relevant example and structure are shown in (29).

(29) a. Give me what books you have on the subject. (=(9))

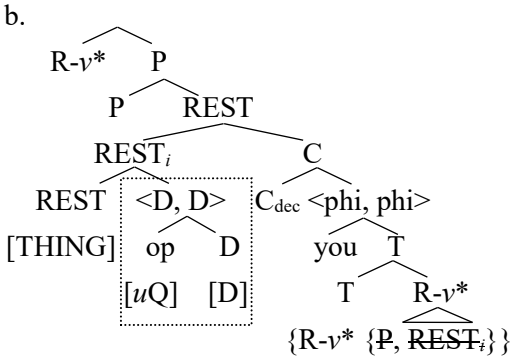
b.



Finally, I focus on the PP FRs. Since we will use R-to-*v** external pair-Merge, which is discussed by Epstein, Kitahara and Seely: EKS (2016), first we will review their proposal. They argue the derivation of the bridge verb. In Chomsky (2015), the agreement between R and internal arguments provides the <phi, phi> label. Chomsky assumes that R remains weak without this <phi, phi> label. So, the agreement between R and internal arguments is essential. However, in the bridge verb construction, R selects CP, which has no [phi] features. Therefore, the bridge verb construction poses a problem for Chomsky's (2015) system. To derive this construction, EKS pair-merge R to *v** before the derivation. By this external pair-Merge, because R-*v** amalgam can serve as the label, the labeling problem is solved. EKS also assume that phase is cancelled by the external pair-Merge. Now, let us consider the derivation of PP FRs with external pair-Merge.

(30) a. I'll live in whatever town you live. (=(12a))

b.



Because of the phase cancellation by the external pair-Merge, PP is not transferred in the *v**P phase. After C merges, the restriction and P internally merges in order, and the consequent projection becomes PP, which the matrix R-*v** selects.

Finally, let us consider the second Merge of the restriction and preposition. If second Merge of P is allowed, one may suspect that the present analysis would derive the sentence like (31).

(31) *I'll search for that you searched *t* books.

(31) would be derived as follows. P merges in the initial position, marked by *t*. After the embedded clause is completed, P merges with the embedded CP to make the clause PP, which the matrix V selects. In fact, even if there is no problem with labeling, (31) results in gibberish because selectional requirement of *for* cannot be satisfied by CP. That is why the second Merge of P is blocked in this derivation. Unlike *for*, the restriction of *wh* operators have no concrete meaning. It is just an abstract feature such as [THING] or [PERSON]. Therefore, they have no selectional requirement. That is why we can remerge the restriction in FRs. Once the restriction serves as the label, P can remerge now because the selectional requirement can be satisfied by the restriction.

6. Conclusion

To conclude and sum up, we have seen the empirical data which pose problems for the previous analyses. We have also seen that there are theoretical problems about an unvalued feature and the status of *wh* operators. I have proposed to deconstruct *wh* operators and postulate null D or *ever* to value the unvalued feature. Finally, we have checked the proposed derivations, which are including reprojection, and found that they do not cause the problem of overgeneration.

* I am greatly indebted to Nobuaki Nishioka for providing me with invaluable comments. I would like to express my gratitude for fruitful comments to the audiences in the English Linguistic Society of Japan 11th International Spring Forum. I am also truly thankful to Edmund Cruz Luna for suggesting stylistic improvements. Needless to say, all remaining errors are my own.

NOTES

[1] We will not treat concessive clauses with *wh* operators and indefinite FRs in this paper. Izvorski (2000) discusses that concessive clauses like (i) has a different structure from the one of FRs.

(i) Whatever John cooks, he will win the cooking contest. (Izvorski (2000: 233))

See Izvorski (1998) for the properties of concessive clauses.

Indefinite FRs do not exist in English. Grosu (2004) and Kotek and Erlewine (2016) observe that they have different properties from FRs.

[2] This problem is also noted by Tozawa (2015).

[3] In this paper, I use tree diagrams for complex structures, but just for expository purposes. Moreover, I sometimes omit details of the structure because of space limitation.

[4] To derive PP FRs, Bresnan and Grimshaw (1978) stipulate null P or *pro* in English.

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A Monster in English *

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Keywords : *come*, *go*, past, context, RP

1. Introduction

This paper analyzes the following sentences:

(1) a. I am coming now.
b. I found it. The book was here.

The motion verb *come* is used for movement toward the addressee in (1a), even though, from the perspective of the speaker, her movement is rather *going* from or *leaving* her location. *Coming* is chosen in accordance with the viewpoint of the addressee (Fillmore (1997)). In (1b), the past tense is used for the current location of the book. These data suggest the existence of the Kaplanian monster, the context change function that maneuvers the context of utterance (Kaplan (1977, 1989)).

2. Previous and Alternative Analyses

Before I present my analysis, in this section I provide an overview of three analyses of motion deictic verbs *come* and *go*.

2.1. Oshima (2006)

Oshima (2006) considers the deictic verbs *come* and *go* to be indexicals that pick reference points (RP) from the context. The context is a tuple <agent, (addressee,) time, place, RP>, and the verbs *come* and *go* refer to a RP supplied in the context. *Go* requires that no member of RP be at the goal of movement while *come* needs to have some RP at the goal. The speaker is always a member of RP, and the addressee is preferably a member as well. A third person can be included only when neither speaker nor addressee is the subject.

Although Oshima (2006) explains why *come* and *go* can take goals other than the speaker's location, it is questionable whether primitive context parameters can include additional parameter RPs, for Kaplanian context parameters evaluate the meaning of indexicals before deriving an intensional meaning.

2.2. Fillmore (1997)

According to Fillmore (1997), *come* indicates motion towards the location of either the speaker in (2a) or the addressee in (2b), at either the time of utterance (coding time) or the reference time.

(2) a. Mary is coming here. (toward the speaker's location at the utterance time)
b. I am coming. (toward the hearer's location at the utterance time)
c. I am coming to see you even when you are not home. (toward the hearer's metonymical location)

What Fillmore (1997) calls the "home base" of the discourse participant can also be the destination of *come* in (2c). In (2c), the destination is not the addressee's location but

her home even though she is away from it. I take such a case as metonymy whereby the home base is identified with the location of participant. Thus, if *come* is an indexical, it is taken to be polysemous between the movement toward the speaker's location and the hearer's.

(3) a. $[come]^{<ac,hc,tc,lc,wc>,<ai,hi,ti,li,wi>} =$
λe.come(e) & goal(e) = l_c
b. $[come]^{<ac,hc,tc,lc,wc>,<ai,hi,ti,li,wi>} =$
λe.come(e) & goal(e) = l_i

In (3), context (c) and index (i) are tuples: < *a, h, l , t, w* >—author (a), hearer (h), location (l), time (t), and world (w). $c = <a_c, t_c, w_c>$ and $i = <a_i, t_i, w_i>$ (cf. Lewis (1980)).

2.3. Binding Approach

Another possible analysis would take a binding approach in which *come* carries with it an additional deictic parameter that is treated as a free or bound variable in the object language.[1] (2b) would be something like (4) where the goal argument of *come* is bound by the addressee.

(4) I am telling you 1 λx.I am coming to x_1.

The intransitive verb *come* is usually considered a one-place predicate, a function from an individual to truth-values.

(5) λx.come(x)

The binding approach assumes that *come* is instead a two-place predicate with an additional goal parameter, that can be saturated with either a speaker, hearer, or a contextually salient goal, which in this case is the addressee's location in (2b).

(6) a. λx,y.come(x)(y)
[*I*]= s $_{<e>}$ (s: speaker)
[*come*] = λx,y.come(x)(y) $_{<e,et>}$
b. [*I come*] = [*come*] ([I])
= λx.come(x)(s)
= come(h)(s)

However, such an analysis overgenerates unlikely readings. Even though Kenya is not either the speaker's or the hearer's location, the goal argument of coming may be bound by Mary or someone else contextually salient but such a reading is difficult to obtain.

(7) a. # Mary is coming (to Kenya). (The speaker is in Japan and has never been to Kenya)
b. Mary λx,y.come(x)(y)
= λx.come(x)(m)
= come(m)(m)

(8) a. # A typhoon is coming to Alaska. (I am now in Cairo.)
b. A typhoon is coming to x_i to Alaska$_i$.

Thus, the binding approach generates impossible readings.

3. Proposal

3.1. Monster

Instead, let us assume that there is a context shifter called the monster, OP, which changes the context location to the hearer's location, instead of positing an additional context parameter RP, as Oshima (2007) argues.

(9) context = < a, h, t, l, w>

$[\![OP come]\!]^{<ac,hc,tc,lc,wc>,<ai,hi,ti,li,wi>} =$

$[\![come]\!]^{<ac,hc,tc,li,wc>,<ai,hi,ti,li,wi>}$

$= \lambda$e.come(e) & goal(e) = l_i

The advantage of this approach is the straightforward adoption that it permits of the Kaplanian and Lewisian notion of context. The context parameters do not contain anything other than agents, location, time and a world (cf. Lewis (1980)).

Claiming the existance of a monster is contra Kaplan (1977, 1989) who claimed that indexicals such as *I*, *you*, *here*, *now*, and *yesterday* are directly referential, meaning that their reference is fixed by the context of utterance. Except for direct quotations as in (10a), *I* can only refer to the speaker or writer, as in (10b). The locative indexical *here* refers to Tokyo, which is the location of the speaker, instead of Okinawa in (11).

(10) a. Baali said "I am genius."

b. Baali said that I am genius.

(11) John said (in Okinawa$_o$) Mary was here$_{i=/=o}$.

Kaplan's claim has inspired much debate on whether contexts are shiftable. Schlenker (2003) and Anand and Nevins (2004), among others, have argued that context shifters, referred to as monsters, exist in languages such as Amharic and Zazaki. Further, Anand and Nevins (2004) and Anand (2006) claim the existence of three kinds of Kaplanian monsters selected by different attitude verbs in Slave.

There are three kinds of monstrous operators: (a) $OP_{\forall}$ maneuvers all indexicals in its scope so that the person, locative, temporal, and world parameters are all overwritten by the index; (b) OP_{per} only applies to first and second person pronouns, namely, the agent *a* and the hearer *h*; and (c) OP_{auth} exclusively shifts the reference of the first person, or author. Given that the location parameter is overwritten in the case of *come*, the monster in English is a fourth type (d) that maneuvers the location parameter, as the example in (12b) indicates.

(12) a. Type I: $[\![OP_{\forall}\varphi]\!]_g^{c,i} = [\![\varphi]\!]_g^{i,i}$

b. Type II: $[\![OP_{per}\,\varphi]\!]^{g^{c,i}} =$

$[\![\varphi]\!]^{g^{<ai,hi,lc,tc,wc>,i}}$

c. Type III: $[\![OP_{auth}\varphi]\!]_g^{c,i} =$

$[\![\varphi]\!]_g^{<ai,hc,lc,tc,wc>,i}$

(Anand and Nevins (2004), Anand (2006))

d. Type IV: $[\![OP_{loc}\,\varphi]\!]_g^{c,i} =$

$[\![\varphi]\!]_g^{<ac,hc,li,tc,wc>,i}$

(13) a. $[\![OP_{loc}\,come]\!]^{g^{c,i}} =$

$[\![come]\!]^{g^{<ac,hc,li,tc,wc>,i}}$

b. $[\![OP_{loc}\,go]\!]^{g^{c,i}} = [\![come]\!]^{g^{<ac,hc,li,tc,wc>,i}}$

3.2. A Possible Counterexample

The goal of movement is not limited to a singular individual. In (14), there are three individuals that the movement targets. Also, neither the speaker nor the addressee is RP.

(14) At least three students came to talk to three professors.

(Oshima (2006, 114))

When the speaker or the hearer is not affiliated with the same school as the three students and three professors, (14) is

infelicitous. Therefore, the location of the three professors is identified with the speaker or the hearer's location in a broad sense. The example in (15) is felicitous if the speaker location is Tokyo which is identified with Ueno Park there, but infelicitous in other locations.

(15) a. $l_i = l_c$

b. $[\ OP\,come\ ]^{c,i} =$
$[\ come\ ]^{<ac,hc,li,tc>,<ai,hi,li,ti>}$

(16) Many people come to Ueno Park to see pandas but few come for gorillas.
(The speaker is in {Tokyo/*China})

So, the phenomena related to come is accountable by positing a context-change function.

4. Shifty Tense

This section further argues that temporal parameter is also shiftable in English.

4.1. Surprise Past

(19) is the utterance when the speaker has been looking for her lost book and just found it (Nishiguchi (2006, 2007, 2014, 2015)).

(19) I found it. The book was here.

There have been discussed parallel examples in Japanese, called *hakken-no -ta* '*-ta* of discovery.'

(20) a. Koko-ni at-ta. (Japanese)
here-LOC be-PAST
'It was here.'

b. A, densha-ga ki-ta.
oh train-NOM come-PAST
'Oh the train is coming.'

The past tense is used for cancelled or forgotten future as in (21b). (21b) is the speech of a student who had forgotten about the exam ahead.

(21) a. There was an exam tomorrow but it was postponed.

b. I had a party tomorrow but I have forgotten about it.

c. Weren't we going to a movie tomorrow or was it next week?

When requesting forgotten information, the use of the past tense implies that the speaker is supposed to already know the answer:

(22) a. Where did you live, again?

b. Osumai-wa dochira-deshi-ta-ka.
residence-TOP where-HON-PAST-Q
'Where did you live?'

The past tense can be used when the speaker suddenly finds something that was lost (Teramura 1984, among others). Such 'fake' past has also been analyzed as evidence of the context shift (Nishiguchi 2006).

(23) $[\ OP\ \text{PAST}\ ]^{c,i} = [\ \text{PAST}\ ]^{<ac,hc,lc,ti,wc>,i}$

As in (23), the temporal parameter of the context is overwritten using the monstrous function so that the interpretation of the past tense marker differs. Then, a fifth type of a monster seems to shift time in English:

(24) Type V: $[OP_{loc,tense}\ \varphi]_g^{c,i} =$
$[\ \varphi\ ]^{g\ <ac,hc,lc,ti,wc>,i}$

4.2. Temporary Mismatched Past

It is also remarkable that temporal

mismatch occurs between temporal adverbials and the past tense morpheme when recalling a future schedule as in (25), in which the speaker had forgotten about a future event. The future adverbial *asu* "tomorrow" and the past tense marker seem to show a mismatch.

(25) a. It was off tomorrow. I forgot about it.
b. Asu-wa yasumi-dat-ta.
tomorrow-TOP off-be-PAST
'Tomorrow was a day off.'

Ogihara (2000) and Ippolito (2003) discuss mismatched counterfactual conditionals, in which the past tense without a past time interpretation co-occurs with a future adverbial e.g., *tomorrow* or *next week* :

(26) a. If it rained tomorrow, I would go shopping.
b. If Lucy played with Charlie tomorrow, she would make him happy.

4.3. Context Shift

Such a "fake" past has also been analyzed as evidence of the context shift (Nishiguchi (2006)).

(27) $[\, OP \text{ PAST} \,]^{c,i} =$
$[\, \text{PAST} \,]^{<ac,hc,lc,ti,wc>,i}$

As in (27), the temporal parameter of the context is overwritten by the monstrous function so that the interpretation of the past tense marker differs.

In the framework of the double index system developed based on Lewis (1980), the index time of ordinary past tense sentences is located prior to the utterance time:

(28) $[\, \text{PAST } \varphi]^{<c,i>} = 1$ iff there is t_i such that $t_i < t_c$ and $[\varphi]^{<c[ti/tc],i>}$
("$t_1 < t_2$" means t_1 precedes t_2 in time)

However, with the fake past tense, the context parameter itself is shifted to the past so that the past tense morpheme is interpreted as having present reference, as in (29a). We can also assume the semantic type of a monster to be a function from one function from a product of context and index to truth-values to another function from a product of context and index to truth-values.

(29) a. $[OP\varphi\,]^{<c,i>} = 1$ iff $[\,\varphi\,]^{<c[ti/tc],i>} = 1$
b. OP : $((c \times i) \longrightarrow t) \longrightarrow ((c \times i) \longrightarrow t)$

The monstrous operator *OP* manipulates the temporal parameter of the context. The semantic type of *OP* is a function from $((c \times i) \longrightarrow t)$ (a function from the context and index to a proposition) to another function from the context and index to a proposition.

The above discussion has revealed that locative and temporal context parameters are shiftable in English. They also shift together in the following examples:

(36) a. I was coming tomorrow. I have forgotten about it.
b. Three students were coming to three professors on Tuesday.

Therefore, the sixth type of the monster shifts both tense and location:

(37) Type VI: $[\, OP_{loc,tense}\varphi\,]_g^{c,i} =$
$[\,\varphi\,]^{g<ac,hc,li,ti,wc>,i}$

5. Conclusion

This paper discussed the fact that the motion verb *come* indicates the presence of the context-shifter *OP*, which overwrites the context location so that the goal of motion is shifted from the speaker's location. Furthermore, the past tense of discovery and amnesiac signals context change. The given data suggests the existence of different types of monsters in addition to the other three types posited in Anand and Nevins (2003) and Anand (2006).

* The origin of this paper traces back to 2003-2004 when I presented a paper at a seminar at UCLA. I thank Tim Stowell for drawing my attention an example. This paper is also the extension of the project supported by JSPS KAKENHI Grant Number 16K02643.

NOTES

[1] I owe this idea to a reviewer.

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Labeling and Feature Sharing in *Wh-In-Situ* Questions*

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Keywords : freely applying Merge, feature sharing, labeling, Q-feature, *wh-in-situ* questions

1. Introduction

In this paper, I first point out that the system of feature sharing (i.e. agreement) in the current minimalist model (Chomsky (2013, 2015), EKS (Epstein, Kitahara and Seely) (2017, 2018) and Kitahara (2017) among others) potentially raises a problem of feature sharing in *wh-in-situ* questions such as *echo* questions and *quiz-show* questions in English. Then, I resolve this problem by proposing a new type of application of Merge, which applies freely in any order whether it is external or internal. Finally, it is shown that the analysis based on this proposal not only explains the structure and the derivation of *wh-in-situ* questions in English and Japanese but also suggests an interesting generalization of cross-linguistic *wh-in-situ* phenomena.

2. Analytic Assumptions and a Potential Problem

In the current framework of the Minimalist Program (Chomsky (2013, 2015)), Merge, which freely applies, takes two objects, say a and b, and forms the simplest set {a, b}. Pair-Merge, which also freely applies, takes two objects, say a and b, and forms the ordered pair <a, b> (see EKS (2016)). Although this conception of Merge does not yield labels (and projections), the interpretive systems (i.e. the SM and CI systems) require labels for interpretations. To label a syntactic set, minimal search, conforming to a third-factor principle (i.e. Minimal Computation), locates one head (e.g. C or T) and selects it as a label, where the other possible head is invisible or simply does not exist. For example, {$\boxed{\text{DP}}$, v*P} is labeled as v*P because the lower copy $\boxed{\text{DP}}$ is, by definition, invisible.[1] In addition, labeling by minimal search locates a pair of matched features <valued, unvalued> in the so-called Spec-Head relation (see Chomsky (2013, 2015), EKS (2017, 2018), Kitahara (2017)) and selects its shared-prominent feature (e.g. <Q, Q> and <Phi, Phi>) to be a label, when identifying the label of a symmetric structure {XP, YP}. This shared-prominent-feature option is called agreement.[2] According to Chomsky (2015) and EKS (2017, 2018), *wh*-phrases bear uQ (unvalued Q), and C_Q bears lexically/inherently valued Q. Given these basic assumptions, the structure and the derivation of *who did John hit* are as follows:[3]

(1) $\{_{\alpha}$ who$_{[uQ]}$, $\{_{\beta}$ <T_{do}, C_Q>, {John, {$\boxed{T_{do}}$, {$\boxed{\text{John}}$, {<R_{hit}, v*>, $\{_{\delta}$ $\boxed{\text{who}_{[uQ]}}$, $\{_{\gamma}$ $\boxed{R_{hit}}$, $\boxed{\text{who}_{[uQ]}}$}}}}}}}}

i. Merge externally forms $\{_{\gamma}$ R_{hit}, who$_{[uQ]}$} and internally forms $\{_{\delta}$ who$_{[uQ]}$, $\{_{\gamma}$ R_{hit}, $\boxed{\text{who}_{[uQ]}}$}}.

ii. Merge externally forms {John, {v*$_{[uPhi]}$, $\{_{\delta}$ who$_{[uQ]}$, $\{_{\gamma}$ R_{hit}, $\boxed{\text{who}_{[uQ]}}$}}}}.

iii. R_{hit} inherits features from v*, and labeling by minimal search takes place: δ and γ are labeled as <Phi, Phi> and RP, respectively (who$_{[uQ]}$

is assumed to bear a set of lexically/inherently valued phi-features).

iv. Pair-Merge internally forms <R_{hit}, v*> with v* affixed: such a v* becomes invisible, and the phase-hood is activated on $\boxed{R_{hit}}$. Thus, the complement of $\boxed{R_{hit}}$ gets transferred.

v. Merge externally and internally forms {$_{\alpha}$ $who_{[uQ]}$, {$_{\beta}$ C_Q, {John, {T, {$\boxed{John}$, {<R_{hit}, v*>, {$_{\delta}$ $\boxed{who_{[uQ]}}$, {$_{\gamma}$ $\boxed{R_{hit}}$, $\boxed{who_{[uQ]}}$}}}}}}}}.

vi. T inherits features from C_Q, and labeling takes place: α and β are labeled as <Q, Q> and C_QP, respectively (note that the Q feature of C_Q does not disappear even after feature inheritance).

vii. Pair-Merge internally forms <T_{do}, C_Q>, and Transfer applies.

Notice that R_{hit}, which is the root of *hit*, alone is too weak to serve as a label, but it becomes labelable when its feature is shared in the Spec-Head relation (see (1i–iii)). The T of the English-type languages is also weak and unable to serve as a label without agreement.[4] Furthermore, Chomsky (2015: 12) mentions that internal pair-Merge that forms <R_{hit}, v*> is "a unique operation, with special properties." In other words, the internal pair-Merge of heads could be affected by externalization (see Nomura (2017: 399, fn. 3)). Therefore, internal pair-Merge of heads applies after labeling, which is part of Transfer (see Chomsky (2013, 2015)). It is also important that the <Q, Q> in (1vi) is interpreted as a *wh*-question by the interpretative systems.

However, these premises demonstrated in (1i) readily raise a potential problem of feature sharing in *echo* questions as in (2):

(2) a. A: I hit ASIMO.
B: You hit what? (*echo* question)
b. A: John kissed Mary.
B: John kissed who? (*echo* question)

Let us suppose that the structure of the *echo* question in (2a) is as follows: {C_Q, {you, {T, {$\boxed{you}$, {<R_{hit}, v*>, {$_{\gamma}$ $QP_{what\ [uQ]}$, {$_{RP}$ $\boxed{R_{hit}}$, $\boxed{QP_{what\ [uQ]}}$}}}}}}}. Given that feature sharing holds for a pair <vF, uF> in the Spec-Head relation, the uQ of QP, which is a *wh*-phrase, remains unshared with a Q-feature. This uQ violates Full Interpretation and causes the derivation to crash.

(3) A Potential Problem:
The uQ of QP remains unshared with Q in a structure of a *wh-in-situ* question such as follows: {C_Q, {you, {T, {$\boxed{you}$, {<R_{hit}, v*>, {$_{\gamma}$ $QP_{what\ [uQ]}$, {$_{RP}$ $\boxed{R_{hit}}$, $\boxed{QP_{what\ [uQ]}}$}}}}}}}.

3. A New Type of Application of Merge

To solve the problem of feature sharing in *echo* questions in (3), I propose the following structure and derivation of the *echo* question:

(4) {$_{\alpha}$ C, {you, {T, {$\boxed{you}$, {<R_{hit}, v*>, {$_{\beta}$ $QP_{what\ [uQ]}$, {$_{\gamma}$ $\boxed{R_{hit}}$, {$_{\delta}$ $\boxed{QP_{what\ [uQ]}}$, {$_{\varepsilon}$ C_Q, $\boxed{QP_{what\ [uQ]}}$}}}}}}}}}

i. **Merge externally forms {$_{\varepsilon}$ C_Q, $QP_{what\ [uQ]}$} and internally forms {$_{\delta}$ $QP_{what\ [uQ]}$, {$_{\varepsilon}$ C_Q, $\boxed{QP_{what\ [uQ]}}$}}.**

ii. **Labeling by minimal search takes place: δ and ε are labeled as <Q, Q> and C_QP, respectively**.

iii. The complement of C_Q gets

transferred.

iv. Merge forms {you, {v*, {$_{\beta}$ QP_{what}, {$_{\gamma}$ R_{hit}, {$_{<Q,\ Q>}$ $\boxed{QP_{what}}$, {$_{CQP}$ $C_{Q,}$ $\boxed{QP_{what}}$}}}}}}.

v. The relevant computations in the v*P phase occur.

vi. Merge forms {$_{\alpha}$ C, {you, {T, {$\boxed{you}$, {<R_{hit}, v*>, {$_{<Phi,\ Phi>}$ QP_{what}, {$_{RP}$ $\boxed{R_{hit}}$, {$_{<Q,\ Q>}$ $\boxed{QP_{what}}$, {$_{CQP}$ C_{Q}, $\boxed{QP_{what}}$}}}}}}}}}.

vii. T inherits features from C, and labeling takes place: α is labeled as CP.

viii. Transfer applies.

Step (i) is remarkable in this derivation. This application of external and internal Merge is logically available under freely applying Merge. The merger leads to the shared-prominent-feature agreement between uQ and Q in step (ii). Because C_Q is a phase head, labeling and feature sharing occur when phase-by-phase Transfer applies. Therefore, the problem in (3) is solved. Interestingly, the structure in (4) has two C heads, C for declaratives and C_Q for interrogatives. The labels given by these two C heads seem to cause the special interpretation of *echo* questions.

The problem of feature sharing in (3) could occur in *quiz-show* questions, as *wh*-phrases remain *in situ*.

(5) They thought JFK was assassinated in which Texas city? (Chomsky (2013: 44))

We can explain this case as well by assuming that the relevant parts of the structure and the derivation of (5) are essentially similar to those of (4). Thus, the problem in (3) does not occur in *wh-in-situ* questions. Because the proposed analysis can explain the derivation of the *wh-in-situ* questions as in (2) and (5), it is plausible that this analysis also explains that of the other types of *wh-in-situ* questions. Let us consider below *echo* questions with *how*, *when*, *where* or *which*.

(6) John hit Mary how/when/where/in which room? (*echo* question)

The *wh*-phrases listed above are all adjuncts, contrary to (2). As has been argued, the structure of these *wh*-phrases can be illustrated as {$_{<Q,\ Q>}$ $QP_{wh\ [uQ]}$, {$_{CQP}$ C_Q, $\boxed{QP_{wh\ [uQ]}}$}}. Labeling by minimal search simultaneously locates Q bearing uQ and C_Q bearing Q in this structure. The pair of uQ and vQ, <uQ, vQ>, then induces agreement by feature sharing in the so-called Spec-Head configuration. In other words, the label of the entire structure of the *wh*-phrases becomes <Q, Q>. Accordingly, there is no unshared uQ left in (6).

In an *in-situ* language, such as Japanese, *wh*-phrases can remain *in situ* in *wh*-questions:

(7) Taro-wa dare-o tatakimashi-ta ka?
Taro-TOP who-ACC hit-PAST C_Q
'Who did Taro hit?'

The analyses above suggest that in Japanese, C_Q and a *wh*-phrase externally merge in a *wh*-question. The relevant part of the set-theoretic notation for the structure of this construction is as follows:[5]

(8) {$_{\alpha}$ {$_{\beta}$ Taro-wa, {$_{\delta}$ $QP_{dare\ [uQ]}$, {$_{\varepsilon}$ $\boxed{QP_{dare\ [uQ]}}$, $\boxed{C_{ka\ [Q]}}$}}, tatakimashi-ta}, $C_{ka\ [Q]}$}

As in (4), $QP_{dare\ [uQ]}$ first externally merges with

$C_{ka\,[Q]}$ and then internally merges with ε, which is going to be labeled as C_QP. Given that agreement effects are the instantiation of the Spec-Head relation, this internal merger is essential to share Q-features between the head *ka* and the head of *dare*. Because of this feature sharing, δ is labeled as <Q, Q>. Crucially, $C_{ka\,[Q]}$ further internally merges with β as illustrated in (8). In other words, $C_{ka\,[Q]}$ generates within v*P phase and moves to $\{_{\beta}$ Taro-wa…}. Since $C_{ka\,[Q]}$ is the closest head for labeling α, the entire structure or set α is labeled as C_QP, which leads to the interpretation of general questions. The interpretation of *wh*-questions is yielded by the label <Q, Q> (i.e. δ).

4. Cross-linguistic Generalization

The analyses so far suggest that C_Q does not internally merge with the structure in the higher CP phase (i.e. {EA, {T,…,}}) in English because the internal merger of C_Q causes the agreement failure.[6] In (4), for example, the external argument *you* must share phi-features with T that has inherited uPhi from C. It seems that sharing the prominent feature Q makes the uPhi of C_Q inactive as a secondary effect of labeling <Q, Q>. If this assumption is on the right track, then T cannot inherit the "active" uPhi from C_Q after C_Q has internally merged. In contrast, in a language without the phi-agreement such as Japanese, C_Q can internally merge, as external arguments do not share phi-features with T. If this analysis is tenable, the following generalization holds, abstracting away word order:

(9) English (*wh-in-situ* question):
$\{_{CP}$ C, {EA, {T,…,{<R, v*>,…,$\{_{<Q,\ Q>}$ $QP_{[uQ]}$, $\{_{CQP}$ C_Q, $\boxed{QP_{[uQ]}}$}}}}}}
Japanese (*wh-in-situ* question):
$\{_{CQP}$ C_Q, {EA, {T,…,{<R, v*>,…,$\{_{<Q,\ Q>}$ $QP_{[uQ]}$, $\{_{CQP}$ $\boxed{C_Q}$, $\boxed{QP_{[uQ]}}$}}}}}}

Recall that the existence of both C for declarative and C_Q for interrogative in (9) could yield the special interpretation of *wh-in-situ* questions such as *echo* questions and *quiz-show* questions in English. In contrast, we do not need to assume that the two different Cs occur in Japanese, since Japanese is an *in-situ* language.

But what if such semantic implications by the existence of both C and C_Q are just an illusion? In this case, there is no place for the assumption of the secondary effect of <Q, Q>. Let us consider (4) again, without the two assumptions: (i) special interpretations by C_Q and C (ii) and the inactivation of uPhi as the secondary effect of <Q, Q>. After QP and C_Q externally merge, and the former subsequently internally merges at the very first point of the derivation, the Q features of QP and C_Q are shared. When this sharing occurs, the uPhi of C_Q remains "active" unless we assume that the secondary effect of <Q, Q> exists. When the derivation is reaching the final step, the C_Q internally merges with the entire set {EA, {T,…,}}. Then, T inherits the "active" uPhi from C_Q. Due to this uPhi of T and the appropriate structural configuration, feature sharing/agreement takes place, and the derivation converges. The derivation just shown above works and poses no problem but does not capture the cross-linguistic phenomena. Specifically, this alternative derivation does not account for why *wh*-phrases necessarily remain *in situ* in the *echo*/*quiz-show* questions in English and why they freely remain *in situ* or freely move higher in Japanese. Thus, the assumption of the secondary effect of <Q, Q> seems to be necessary.

This secondary effect, however, might be "optional" in English if we consider

multiple-*wh*-questions. We will explore this possibility in the next section.

5. Multiple *Wh*-Questions

The analyses, which we have reviewed, can also explain the derivation of multiple *wh*-questions. The derivation of *who bought what*, for example, is shown below.

(10) $\{_{\alpha}\ C_Q, \{_{\zeta}\ QP_{who\ [uQ]}, \{T, \{\boxed{QP_{who\ [uQ]}}, \{<R_{hit}, v^*>, \{_{\beta}\ QP_{what\ [uQ]}, \{_{\gamma}\ \boxed{R_{buy}}, \{_{\delta}\ \boxed{QP_{what\ [uQ]}}, \{_{\varepsilon}\ C_Q, \boxed{QP_{what\ [uQ]}}\}\}\}\}\}\}\}\}\}$

i. Merge externally forms $\{_{\varepsilon}\ C_Q, QP_{what\ [uQ]}\}$ and internally forms $\{_{\delta}\ QP_{what\ [uQ]}, \{_{\varepsilon}\ C_Q, \boxed{QP_{what\ [uQ]}}\}\}$.

ii. Labeling by minimal search takes place: δ and ε are labeled as <Q, Q> and C_QP, respectively.

iii. The complement of C_Q gets transferred.

iv. Merge forms $\{_{\zeta}\ QP_{who\ [uQ]}, \{v^*, \{_{\beta}\ QP_{what}, \{_{\gamma}\ R_{buy}, \{_{<Q,\ Q>}\ \boxed{QP_{what}}, \{_{CQP}\ C_{Q,}\ \boxed{QP_{what}}\}\}\}\}\}\}$.

v. The relevant computations in the v*P phase occur.

vi. Merge forms $\{_{\alpha}\ C_Q, \{_{\zeta}\ QP_{who\ [uQ]}, \{T, \{\boxed{QP_{who\ [uQ]}}, \{<R_{hit}, v^*>, \{_{<Phi,\ Phi>}\ QP_{what}, \{_{RP}\ \boxed{R_{hit}}, \{_{<Q,\ Q>}\ \boxed{QP_{what}}, \{_{CQP}\ C_Q, \boxed{QP_{what}}\}\}\}\}\}\}\}\}\}$.

vii. **T inherits all features of C_Q including Q, and labeling takes place: α and ζ are labeled as C_QP and <Q, Q>, respectively**.

viii. Transfer applies.

Following the basic assumptions in Chomsky (2015), T inherits the Q feature of C_Q along with the phi-features. Accordingly, it is unnecessary that QP_{who} merges with α because the uQ of QP_{who} is shared with the Q of T at the Spec-T. Recall that C for declarative emerges in *echo* questions or *quiz-show* questions. Contrary to those cases, C_Q (i.e. C for interrogative) is introduced at step (vi) in (10). This is because multiple *wh*-questions usually do not have a special interpretation as *echo*/*quiz-show* questions have. Meanwhile, multiple *wh*-questions bear another special interpretation called "pair" reading.

In multiple *wh*-questions, we have two interpretations, which are pair-list reading and single-pair reading. Let us consider the following examples concerning the two interpretations:

(11) Who bought what?

a. John bought a book, Mary bought a bag, Bill bought a cup. (pair-list reading)

b. ?? John bought a book. (single-pair reading)

(12) Who just bought what?

a. ?? John bought a book, Mary bought a bag, Bill bought a cup. (pair-list reading)

b. John bought a book. (single-pair reading)

As a possible reply to each multiple *wh*-question in (11)–(12), pair-list reading (11a) is preferable in the former while single-pair reading (12b) is preferred in the latter. The proposed analyses in (10) can shed light on these linguistic phenomena from a derivational point of view.

Assuming that the "a-type" answer (i.e. (11a) or (12a)) is the default, the derivation in (10) is for pair-list reading. In contrast, the derivation for single-pair reading is as follows:

(13) $\{_{\alpha}\ C_Q, \{_{\zeta}\ QP_{who\ [uQ]}, \{T, \{\boxed{QP_{who\ [uQ]}}, \{<R_{hit},$

v*>, $\{_{\beta}$ $QP_{what\ [uQ]}$, $\{_{\gamma}$ $\boxed{R_{buy}}$, $\{_{\delta}$ $\boxed{QP_{what\ [uQ]}}$, $\{_{\varepsilon}$ $\boxed{C_Q}$, $\boxed{QP_{what\ [uQ]}}\}\}\}\}\}\}\}\}\}$

i. Merge externally forms $\{_{\varepsilon}$ C_Q, $QP_{what\ [uQ]}\}$ and internally forms $\{_{\delta}$ $QP_{what\ [uQ]}$, $\{_{\varepsilon}$ C_Q, $\boxed{QP_{what\ [uQ]}}\}\}$.

ii. Labeling by minimal search takes place: δ and ε are labeled as <Q, Q> and C_QP, respectively.

iii. The complement of C_Q gets transferred.

iv. Merge forms $\{_{\zeta}$ $QP_{who\ [uQ]}$, {v*, $\{_{\beta}$ QP_{what}, $\{_{\gamma}$ R_{buy}, $\{_{<Q,\ Q>}$ $\boxed{QP_{what}}$, $\{_{CQP}$ $C_{Q,}$ $\boxed{QP_{what}}\}\}\}\}\}\}$.

v. The relevant computations in the v*P phase occur.

vi. Merge forms $\{_{\alpha}$ C_Q, $\{_{\zeta}$ $QP_{who\ [uQ]}$, {T, $\{\boxed{C_Q}$, $\{\boxed{QP_{who\ [uQ]}}$, $\{<R_{hit}$, v*>, $\{_{<Phi,\ Phi>}$ QP_{what}, $\{_{RP}$ $\boxed{R_{hit}}$, $\{_{<Q,\ Q>}$ $\boxed{QP_{what}}$, $\{_{CQP}$ $\boxed{C_Q}$, $\boxed{QP_{what}}\}\}\}\}\}\}\}\}\}\}$.

vii. T inherits all features of C_Q including **active uPhi**, and labeling takes place: α and ζ are labeled as C_QP and <Q, Q>, respectively.

viii. Transfer applies.

The steps shown in (vi)–(vii) are crucial. Compared with (10), the C_Q that merges with QP_{what} internally merges with ζ in this derivation. Interestingly, this internal merger of C_Q seems to contribute the non-default interpretation (i.e. single pair-reading) because the relation between *what* and *who* becomes stronger via one C_Q. In other words, this C_Q plays a role of "proxy" which makes the unique connection between the two *wh*-phrases. Also, notice that T inherits uPhi from the C_Q along with other features like Q after C_Q has internally merged with ζ. We can assume that this inherited uPhi is still active although the C_Q has undergone the Q sharing at the very first point of derivation. That is, the secondary effect of <Q, Q> does not occur. Therefore, we should assume that this secondary effect is optional (see the relevant discussions in the immediately former section). Why it is optional needs to be explained, but I leave this issue to the future research.

We did not see any case of Japanese multiple *wh*-questions, but the analyses in (10) and (13) can apply to Japanese cases. Given that a C_Q can internally merge easily in languages lacking (overt) phi-agreement, it is the null hypothesis that another C_Q can be introduced in the multiple *wh*-question. Thus, it is expected that the proposed analyses can be tenable cross-linguistically, although we need further investigations.

6. Concluding Remarks

This paper has argued that QP, which are *wh*-phrases such as *who* and *what*, can merge with C_Q externally, before the argument structure has been built. It has also been shown that the new application leads to account for some empirical linguistic phenomena, specifically *wh-in-situ* questions (e.g. *echo*/*quiz-show* questions, *in-situ*-questions in Japanese). As a result, the analyses have led to the cross-linguistic generalization of the structure of *wh-in-situ* questions between English and Japanese, leaving the technical issue concerning inactivation of uPhi as the secondary effect of <Q, Q>.

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mistakes in this paper are, of course, my own responsibility.

NOTES

[1] The letters in framed boxes denote the lower copies.

[2] Epstein, Obata and Seely (2017) argue that Probe-Goal Agree as in Chomsky (2000, 2001) still holds for the free Merge model. See also Chomsky (2016) on this view.

[3] We assume that $<T_{do}, C_Q>$ is formed by internal pair-Merge (see (1iv)) just as $<R_{hit}, v^*>$ is.

[4] Another option of making R and T "strong" is (external) pair-Merge of heads. See EKS (2016), Kitahara (2017), Mizuguchi (2016), Nomura (2017) and Sugimoto (2016) among others.

[5] The word order is irrelevant in the set-theoretic notation.

[6] EA: external argument.

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Lexical Creativity: Contrastive Focus Reduplication and Constructional Reduplication

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Keywords : reduplication, lexicon, Japanese

1. Introduction

In the present paper, I would like to address the question of lexical creativity, i.e. how the coining of new words takes place in the lexicon and how existing words are manipulated into novel lexical combinations, through a discussion of a certain type of word formation in English and Japanese. The word formation process that I will focus on is the so-called *Contrastive Focus Reduplication* (CFR) in English (Ghomeshi et al. 2004), exemplified in (1a) and *Constructional Reduplication* (CR) in Japanese (Ono 2015) exemplified in (1b).[1]

(1) a. I'll make the tuna salad, and you make the **salad-salad**. (Ghomeshi et al. 2004)
b. **Onnanoko-onnanoko** sita onna-wa sukidesuka. (Ono 2015)
girl- girl LV woman-TOP like
'Lit. Do you like a girl-girl woman?'

As the names suggest, both of them are a type of reduplication, thus they have some similar formal and semantic properties in common. But despite their apparent similarities, there are some fundamental differences between them. In what follows, I will show that they exhibit some parallelisms in form and meaning, but at the same time they differ crucially from each other. Finally, I will attempt to explicate the reason that superficially similar lexical processes differ from one language to another.

2. Contrastive Focus Reduplication

Contrastive Focus Reduplication is a type of reduplication (the doubling of the base word), which is said to pick out a prototypical interpretation of the reduplicated word. Some examples are taken from Ghomeshi et al. (2004) as in (2):

(2) a. I'll make the tuna salad and you make the SALAD-salad.
b. Look at all the yellow vans on the road. Not vans like ours [i.e., minivans], but VAN-vans.
c. She wasn't a fancy cow, a Hereford or Black Angus or something, just a COW-cow.
d. Should I wear a HAT-hat? [as opposed to a yarmulke]
e. And Charley is no more like a DOG-dog than he is like a cat.
f. I had a JOB-job once. [a 'real' 9-to-5 office job, as opposed to an academic job]

The term "Contrastive Focus" is used by Ghomeshi et al. because the first element of a reduplicated word is copied from the base and obtains a contrastive stress. Thus, "one meaning of the [reduplicated] word is being contrasted with other possible meanings" (ibid. 317). The same construction has been discussed in the literature in the last 15 years under various different names, such as *Lexical Clone* (Horn

2006, Huang 2009), *Identical Constituent Compounding* (Hohenhaus 2004) and *Reduplicated Compounding* (Lieber 2009). The varied names represent that this type of reduplication is still under intense debate.

Most research on CFR in English has largely focused on its semantic properties (Horn 2006, Ghomeshi et al. 2004, Song and Lee 2014, among others). Researchers agree, more or less, that any particular CFR picks out a prototypical reading of the reduplicated word; for instance, the reduplicated expression *salad-salad* in (2a) is said to denote a prototypical instance of a category denoted by the base noun, i.e. something like "a green salad" in this case. Thus, CFR serves to single out, as Horn (2006: 15) puts it, "an element or subset of extension of the noun corresponding to a true, real, default, or prototype category member".

What is more interesting about the semantics of CFR is that the interpretation of a reduplicated expression is often heavily dependent on contextual factors. The meanings of CFR vary depending on the context in which they occur. Researchers have pointed out that an instance of CFR, e.g. *coffee-coffee*, can signal a literal meaning, in contrast with its figurative meaning, with no reference to prototypicality (Ghomeshi et al. 2004: 315). Thus, a CFR merely picks out a contextually salient reading and the reference to prototype is one of the possible senses, as pointed out by, e.g. Horn (2006), who claims that there are at least two more readings, depending on the context they are used in, that a typical CFR often represents.

(3) a. Prototype meaning
I'll make the tuna salad and you make the salad-salad.

b. Literal meaning
[From a wife to her husband] I'm going home-home.

c. Value-added or intensifying meaning
A: [To B, who is about to give a recital] Are you nervous?
B: Yeah, but, you know, no nervous-nervous.

The context-dependency of CFR may follow from, or at least be closely related with, the fact that CFR is a phenomena of colloquial language. Widlitzki (2016) has pointed out that, based on a corpus study she conducted, CFRs most frequently emerge in contexts where the intended meanings are clarified by the speaker (see the examples in (2)) and they tend to appear in blogs maintained by women and young speakers.

Some researchers have pointed out that a prototype analysis does not satisfactorily account for the semantics of CFR since prototypes of a category vary depending on the contexts and speaker's background knowledge. This fact leads Song and Lee (2011) to propose a "dynamic" prototype analysis where CFRs are only interpretable in relation with relevant alternative categories in the discourse. Another approach to the prototype meaning of CFR is taken by Lexical Pragmatics. Lexical Pragmatics adopts an idea that lexical interpretation typically involves the construction of an ad hoc concept or occasion-specific sense, based on interaction among encoded concepts, contextual information and pragmatic expectations or principles (Wilson and Carston 2007: 230). CFR is one of the ad hoc concept constructions in English, where the lexical meaning (a truth-conditional sense) is narrowed down to a prototypical sense of the reduplicated

element (Horn 2006, Huang 2009).

3. Constructional Reduplication

Now, let us turn to Constructional Reduplication (CR) in Japanese. In contrast with the CFR in English, scarce research has been conducted so far on CRs. To the best of my knowledge, Ono (2015) is the only systematic analysis of the CR. In what follows, I will show some of the findings discussed in Ono (2015).

There are three major types of reduplication in Japanese: (i) noun-based reduplication (e.g. *yama-yama* mountain-mountain '(a series of) mountains', (ii) adjective-stem based reduplication (e.g. *hiro-biro* wide-wide 'very wide', and (iii) mimetic-based reduplication (e.g. *sube-sube* mimetic-mimetic 'smooth'). In the Japanese lexicon, (i) and (ii) are lexicalized.[2] In other words, they are conventionalized and unproductive. Conventional reduplications express plurality of individual entities or repetition of events, or the intensifying meaning, which is a commonly observed property of reduplication across the world (Hurch 2011). However, this is not the case in reduplication of onomatopoeic or mimetic words. There are numerous mimetic reduplicated words in the Japanese lexicon and they are produced by a powerful lexical process.

Ono (2015) has revealed that CRs are completely different from conventional noun-based or adjective-based reduplications. Take a look at the examples of CRs below.

(4) a. onnanoko-onnanoko sita onna
girl-girl LV woman
'a woman who behaves like a girl'
b. kodomo-kodomo sita onna
child-child LV woman
'a woman who behaves like a child'
c. yasai-yasai siteiru suupu
vegetable-vegetable LV soup
'soup that contains a lot of vegetables'

They represent a prototypical or default instance of the category denoted by the reduplicated word; *onnanoko-onnanoko sita* in (4a), for example, signals the most prototypical meaning of the reduplicated word.[3] Note that the interpretation of CR may vary depending on contextual factors. In (4c), the CR *yasai-yasai siteiru* usually picks out a sense of an ample amount of (or sometimes an excessive amount of) the entity expressed by the noun; thus, the CR in this case does not mean a prototypical amount of vegetable. In other contexts, however, it may denote the prototype of vegetable.

As shown with the examples in (4), a CR consists of two parts: the reduplicated base nouns followed by the light verb *suru* 'do'. In the above examples, the light verb appears as the adnominal form, which modifies the head noun. Though the CRs in (4) are attributively used, they can be used predictively if the head noun appears as the grammatical subject. I will point out some of the characteristics of CR below.

First and foremost, it should be noted that CRs are much more productive than conventional reduplications. As mentioned above, conventional reduplications are fixed and lexicalized, i.e., there are a limited number of conventional reduplications in Japanese, thus (5a, b) are existing lexemes in Japanese but (5c, d) are not.

(5) a. yama-yama
mountain-mountain
'(a series of) mountains'

b. hito-bito
person-person
'(a group of) people'
c. *inu-inu
dog-dog
'dogs'
d. *neko-neko
cat-cat
'cats'

In contrast, CRs are remarkably productive. The reduplications of *dog* and *cat*, which do not exist as conventional reduplications as shown in (5c, d) above, are in fact possible if they appear in the form of CR. Thus, we find that (6a, b) are acceptable.

(6) a. inu-inu sita inu
dog-dog LV dog
'a typical dog'
b. neko-neko sita ugoki
cat-cat LV motion
'a typical motion of cat'

This shows that the reduplication forms in (6) are not based on existing forms of conventional reduplication. In fact, if we perform an online search, we can find numerous instances of novel CRs, which one may never have encountered before. One may find not a few instances of nonce expressions as well.

The second fact that I would like to point out is that reduplication of a base noun is mandatory, i.e., base words must be doubled. Thus, the single occurrence of the base in (7b) is not acceptable.

(7) a. onnanoko-onnanoko sita onna
girl-girl LV woman
b. *onnanoko sita onna
girl LV woman

In this respect, it is important to note that obligatory doubling of the base is also observed in mimetic reduplications.

(8) a. sube-sube sita hada
mime.-mime. LV skin
'very smooth skin'
b. *sube sita hada
mime. LV skin

We will discuss later that the parallelism between CRs and mimetic reduplications is a strong piece of evidence that they are produced on the same ground.

The third point that CRs are different from conventional reduplications is that sequential voicing, which is often referred to as *Rendaku* in Japanese linguistics, does not apply to CRs. As we have seen in (5b), the initial consonant of the second element of reduplication is subject to a voicing rule (*hito* > *bito*) under certain conditions. However, sequential voicing does not take place in CRs (Oho and Yamada 2011). See the contrast in (9) and (10), where in (9a) and (10a), sequential voicing occurs in conventional reduplications and in (9b) and (10b) the same base words do not undergo voicing in CRs.

(9) a. sima-zima
island-island
'island'
b. sima-sima siteiru sima
island-island LV island
'a typical island'
(10) a. ki-gi
tree-tree
'trees'

b. kii-kii sita ie
wood-wood LV house
'a very woody house'

Here again, I would like to point out that CRs parallel with mimetic reduplications since mimetic reduplication does not require sequential voicing.

Finally, the semantics of constructional reduplication is different from conventional reduplications. In Ono (2015), I have pointed out that CRs serve as gradable modifiers. Being a gradable modifier, a CR can be modified by adverbs such as *totemo* or *sugoku* (very).

(11) a. totemo onnanoko-onnanoko sita onna
very girl-girl LV woman
'a very girly woman'
b. sugoku oosaka-oosaka sita matinami
very Osaka-Osaka LV street
'a very Osaka-like street'

This semantic function of CR is remarkably distinct from conventional reduplications.

Note that CRs and mimetic reduplications are parallel in this respect as well. As shown below mimetic reduplications can be modified by the adverb *totemo* 'very'.

(12) a. totemo sube-sube siteiru
very smooth-smooth LV
'very smooth'
b. totemo gotu-gotu siteiru
very rugged-rugged LV
'very rugged'

This is another piece of evidence that CRs are more like mimetic reduplications than conventional ones.

4. Lexical Resources

We have seen so far that CFR and CR show some parallelisms but differ crucially from each other. The question is why this is so. I would like to suggest that the difference is boiled down to the lexical resources that CFR and CR make use of when the coining of novel lexical expressions takes place. I would claim that the lexical resource that delivers CFRs to the English lexicon is compounding; whereas the lexical resource that creates CR in Japanese is reduplication of mimetic words, such as *sube-sube* 'smooth'. Compounding and mimetic reduplication are highly productive lexical processes in each language. Thus, the productivity of CFR and CR crucially hinges on the productivity of their lexical resources.

The whole picture that I would like to suggest in the present paper is the following.

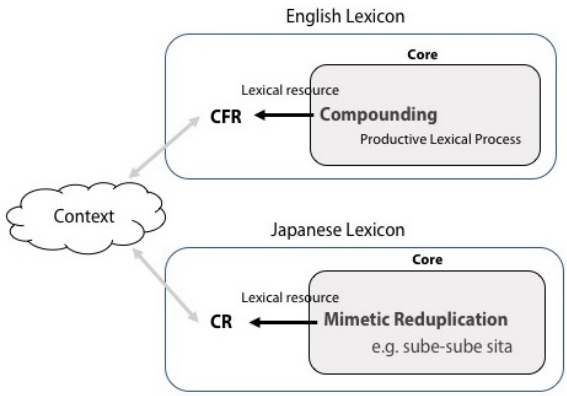

Figure 1

In English, CFRs are derived on the basis of structural properties of compounds. Especially, they take over endocentric structure from nominal compounds. Thus, *salad-salad* looks like an equipollent combination of the reduplicated word; however, it should be noted that its structural property is in fact endocentric. The first element, being a dependent, serves to modify the second element, which is the head of

the reduplication. Semantically, the dependent noun functions to narrow down the denotation of the head noun. As pointed out by many researchers (see Section 2), prototypical reading of CFR follows from the narrowing-down function of the modifier element.

In contrast, CRs in Japanese exploit a different lexical resource. I have pointed out that CRs exhibit some parallelisms with the mimetic reduplication, such as (i) Productivity, (ii) Obligatory doubling of the base, (iii) Lack of sequential voicing, and (iv) Implication of gradable interpretation. Structurally, there is no head-dependent relation in CR. Unlike CFR, the two elements of reduplication are concatenated equally. I assume that the formation of CRs is based on a template that is derived from existing mimetic reduplications.

Ono (2015) has observed that CR in Japanese does not exhibit as much contextual variability as English CFR does. Instead, a CR is viewed as a degree modifier in which a denotation of the reduplicated noun is turned into a scalable object. Ono proposed a scale structure analysis of CR and claimed that the prototypicality of a category signaled by CR follows from a scalar interpretation of the object.

Moreover, CR takes over the expressive power of mimetics. It is often the case that speakers intentionally choose CRs to express an emotive meaning, or to describe the object or situation with greater vividness. These performative effects are, according to Sadanobu (2016), characteristics of mimetics (onomatopoeia). He claims mimetics are characterized as (i) the direct coding of sensation (visual, auditory, tactual senses), (ii) the addition of vividness and vitality to a factual description (as shown by the contrast between a simple adjective such as *aoi* 'green' vs. a reduplication *aoao* 'green'), and (iii) the expression of sensational and emotion. Thus, a CR is often used in colloquial speech to express the speaker's emotive feelings about individual entities that he or she wants to describe.

5. Summary and Conclusion

Throughout the present paper, I have attempted to answer the question of lexical creativity, i.e. how the coining of new words takes place in the lexicon and how existing words are manipulated into novel lexical combinations. I have discussed some formal and semantic properties of CFR in English and CR in Japanese. CFR and CR exhibit some parallelisms in form and meaning, i.e., (i) they primarily represent the prototypical meaning, (ii) the interpretation is context dependent, and (iii) they are used productively in colloquial speech.

I have claimed that the CFR and CR exploit different lexical resources when novel lexical expressions are coined in the lexicon. I have suggested that CFR uses compounding as its resource and CR, mimetic reduplication. CFR and CR are creative lexical formations at the level of colloquial speech. Thus, the productivity of CFR and CR crucially depends on the productivity of the lexical resources. I hope to have explained the lexical creativity as a function of lexical resources from which the lexical processes originate and contextual factors in which the lexical processes are used.

NOTES

[1] LV stands for light verb. As we discuss later, in constructional reduplication, reduplicated words are obligatorily followed by the light verb *suru*, which appears in the adnominal or predicative

form.

[2] There are a limited number of verb-based reduplications, which are fixed and lexicalized as adverbs, such as *kasane-gasane* 'repeatedly'.

[3] 'Stereotypical' would be perhaps more appropriate to describe the meaning of CR than 'prototypical'. This is because speakers tend to select a CR when they want to express the emotive meaning related with the object they describe.

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The Verbal Noun Use of Borrowed English Prepositions in Japanese Recipe Names*

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1. Introduction

It is generally agreed that the difference between Japanese and English concerns head position. English is a head-initial language, and English prepositions such as *in* and *with* take locative and instrumental complements, respectively.[1] On the other hand, Japanese, a head-final language, does not use prepositions. However, as is shown in the present study, a great many examples where *in* and *with* are used in Japanese recipe names can be observed in the database of CookPad.[2] One of the questions in contact linguistics is whether the recipient language (here Japanese) is able to borrow prepositions from the donor language (in this case, English).

Namiki (2003, 2005) closely investigated the use of the borrowed preposition *in* appearing in the structure [Noun_1 + *in* + Noun_2]. A well-known example is given in (1):

(1) rinsu *in* shanpū
rinse in shampoo
"shampoo with rinse in it"
(Namiki 2005: 8, gloss and translation are mine)

According to Namiki's analysis, the linker *in* in (1) is not an English preposition. If it were, it should project the left-headed structure [Noun_1 + [*in* + Noun_2]], in which Noun_1 should be the head of the entire expression. The expression in (1) is strictly right-headed, instantiating a structure in which Noun_2 is the head of the entire expression and the *in* takes Noun_1 as its complement. In reality, (1) is not a type of hair rinse but a type of shampoo. Namiki further argues that the *in* is used as a morphological alternate for the native deverbal noun "*iri* (入り)."

Shimada and Nagano (2014) and Nagano and Shimada (2018) extend this "*in* as a verbal noun" analysis to creative and productive recipe names in Japanese, intensively and extensively examining the CookPad database. CookPad is an attractive corpus for its size, its popularity, and for being up-to-date. In most cases, people who post their recipe attempt to make their titles original to enhance their appeal. For that reason, CookPad is a resource for the spontaneous production of novel names by average Japanese speakers (Shimada and Nagano, 2014). The most crucial findings concern ambiguity in cases in which two different structures refer to the same locational relationship in a dish. In (2), what we call TYPE I, examples with right-head structure are given. Note that the head NP is in boldface.

(2) <u>TYPE I: [[Noun_1 + *in/on*] + **Noun_2**]</u>
a. chīzu *in* hanbāgu
cheese in hamburger
"cheese-stuffed hamburger"
(https://cookpad.com/recipe/5425243)
b. kasutaado *on* koohii pan
custard topped coffee bread
"coffee bread topped with custard"

(https://cookpad.com/recipe/2541312)

Their survey of the website revealed a certain amount of data involving different structures. Some examples are given in (3), where we call the structure TYPE II.

(3) TYPE II: [**Noun$_1$** + [*in/on* + Noun$_2$]]

a. hanbāgu in chīzu[3]
hamburger in cheese
"cheese-stuffed hamburger"
(http://recipe.sp.findfriends.jp/?pid=recipe_detail&id=11637)

b. tomato on siokonbu
tomato on salty seaweed
"tomatoes with salty seaweed"
(https://cookpad.com/recipe/1401320)

A series of studies by Shimada and Nagano (2019) and Nagano and Shimada (2018) proposed an analysis to deal with two structures referring to the same recipe. Their solution is based on the utilization of generalized borrowing strategies proposed by Muysken (2000); that is, "insertion" and "adjunction." To the right-headed pattern, i.e., TYPE I, the "insertion" strategy is applied to produce the structure [[Noun$_1$ + *in/on*] + **Noun$_2$**], while the application of "adjunction" to the left-headed structure, i.e., TYPE II, results in the structure [**Noun$_1$** + [*in* + Noun$_2$]].

Shimada and Nagano (2014) and Nagano and Shimada (2018) further observed a new type of structure, here called TYPE III. Examples of this type are given below in (4):

(4) TYPE III: [**Noun$_1$** + [$_{pp}$ *in* + Noun$_2$]]

a. samurai *in* Atene
samurai in Athens
"samurais in Athens"

b. Shinsengumifesuta *in* Hino
Shinsengumi festival in Hino
"The Shinsengumi festival in Hino"

c. Seimitsukōgakkai
Precision-engineering-society
Shūkitaikai Gakujutsukōenkai *in* Sendai
autumn-meeting lecture in Sendai
"The Precision Engineering Society's autumn meeting lecture in Sendai"
(Nagano and Shimada (2018: 72))

In all the examples in (4), the glosses and translations show that the [*in* + Noun] combination is structurally and semantically similar to an English locative *in*-phrase. The complement is not an ingredient but a location, which makes it impossible to interpret *in* as a deverbalized nominal with the meaning of "*iri*." Thus, Nagano and Shimada (2018: 73) suggest that the use of *in* the examples in (4a-b) should be seen as "a replication of the preposition *in*, retaining its word-order and selectional properties." The present paper simply assumes that *in* in these examples marks an English prepositional phrase (PP), as indicated in the heading for TYPE III in (4).

We have observed that there are three types of borrowed *in,* in line with the analysis of Shimada and Nagano (2014) and Nagano and Shimada (2018). In the sections that follow, we would like to present supporting evidence obtained from the acceptability judgement test that especially concerns the parallelism between TYPE I and TYPE II and the contrast between TYPES I/II and TYPE III. In addition, this paper shows that this analysis is applicable to borrowed *with* by showing the data obtained from the same acceptability judgement test. Lastly, this paper points out the unique behavior of *with*, which raises an important issue for a

future research agenda concerning the acceptability–frequency mismatch.

2. Acceptability Judgement Test: Three Types of *in*

In order to examine whether or not the predicted contrasts between verbal nominal *in* and English prepositional *in* are real, a total of 240 university students (men: 38, women: 202) participated in this questionnaire survey. Before starting the survey, we confirmed that most of the participants are fond of visiting the CookPad site regularly by administering a five-point Likert scale survey (mean=3.381, SD=1.103, min=1, max=5). Thus, the participants can be thought of as a representative sample from the population of young people who have shared creative and productive recipe names. We constructed several minimal pairs with the sole difference of word order, as in Part 1 (6a-b), and type difference of the same structure as in Part 2 (6c-d). Participants took a look at the picture and the description of the recipe, as shown on the CookPad site. However, they were not allowed to see the actual title posted on the web. The question sheet is illustrated in (5), and the pairs for analysis in this study are given in (6a-d) below:

(5) Question Sheet

Example Question

ベーコンで旨味がぐ～んとUP！中からホワイトソース入りのクリームポテトとチーズがとろ～り♡

1. この料理は
①ハンバーグの料理である
②ポテグラの料理である
③ ①、②でもない

2. 次のネーミングは有りか、無しか（4段階）

1 ポテグラinハンバーグ
2 ハンバーグinポテグラ

(6) **Part 1 [Word Order Difference]**

a. (i) potato-gratin *in* hamburg
− (ii) hamburg *in* potato-gratin

a. (i) fried pork *in* Shanghai
− (ii) Shanghai *in* fried pork

Part 2 [Type Difference]

b. fried pork *in* Shanghai
− potato-gratin in hamburg

d. Shanghai *in* fried pork
− potato-gratin in hamburg

(7) Descriptive Statistics of Acceptability Judgment Test on *in*

		Mean	SD	SE
a-i	right-headed	2.9250	1.20780	0.07796
a-ii	left-headed	2.5875	1.24786	0.08055
b-i	right-headed	3.0672	1.08095	0.07007
b-ii	left-headed	1.8361	1.02420	0.06639
c-i	right-headed	2.9289	1.20884	0.07819
c-ii	left-headed	3.0669	1.07869	0.06977
d-i	right-headed	2.5816	1.24711	0.08067
d-ii	left-headed	1.8368	1.02210	0.06611

(8) Results of Paired *t*-test

	t-score	*p*-value	*r*
a (i-ii)	2.403	0.017	0.15
b (i-ii)	12.556	0.000***	0.63
c (i-ii)	1.355	0.177	0.09
d (i-ii)	7.901	0.000***	0.46

Note. ***: $p<0.001$

Regarding Part 1 of (6), the examples (a-i) and (a-ii) are typical of TYPE I and TYPE II, respectively. We expected that both forms would be structurally possible given the framework given in Nagano and Shimada (2018), which was indeed the case according to our acceptability judgement test. The ambiguity was

confirmed by findings of little or no significant difference between the two structures. However, regarding TYPE III, where the English preposition-like *in* was concerned, only the structure [**Noun$_1$** + [$_{pp}$ *in* + Noun$_2$]] was permitted, whereas that of [[**Noun$_1$** + *in*] + Noun$_2$] was not allowed since this structure violated the headedness condition. This was proven by the *p*-value significance (indicated as "***") and the large effect size shown in (8). Note that r=0.63 is the value of a large effect size (Field (2005)).[4]

Part 2 in (6) compares the verbal noun *in* and the prepositional *in* in either structure. The crucial pair is (f), where a significant difference in acceptability would be expected since the structure of *[[**Noun$_1$** + *in*] + Noun$_2$] is impossible if the *in* is an English preposition. The result was in accordance with our expectation; that is, statistical significance was obtained (indicated as "***") with a "medium" effect size (r=0.46).

Overall, the result showed that the assumed structural knowledge for these examples are reflected onto the acceptability judgment test.

3. Acceptability Judgement Test: *with*

In addition to borrowed *in,* we can observe a lot of examples involving *with* among the Japanese recipe names in the CookPad database. Again, we can observe all the three types, as seen in the case of *in*. See the examples below:

(9) TYPE I: [[Noun$_1$ + *with*] + **Noun$_2$**]

a. tara-no munieru *with* kinoko kuriimu
tara-no munieru with mushroom cream
"Cod meunière with mushroom cream sauce"
(https://CookPad.com/recipe/1640783)

TYPE II: [**Noun$_1$** + [*with* + Noun$_2$]]

b. remon *with* negi-shi-o yakisoba
remon with onion-salt-yakisoba
"Salt-seasoned fried noodles with lemon dressing"
(https://cookpad.com/recipe/501182)

TYPE III: [**Noun$_1$** + [$_{pp}$ *with* + Noun$_2$]]

c. osashimihu saamon-no karui sumooku *with* ohashi
Sashimi-style salmon-no (GEN) lightly smoked with chopsticks
"Lightly-smoked sashimi-style salmon with chopsticks"
(https://news.mynavi.jp/article/20170528-a073/)

Type I and Type II of *with* are almost similar to those of *in*. These examples were created by Japanese people who posted on CookPad. The potential counterparts to *with* are Japanese "soe (添え)" or "kake (かけ)." As for TYPE III, the *with* is considered as a preposition selecting an instrumental complement NP. *Ohashi* (chopsticks) is not an ingredient but rather something to eat especially Japanese food with. Thus, this example cannot be thought of as a verbal noun from a semantic point of view.

In order to confirm whether the same analysis of *in* should be applied to *with*, another acceptability judgement test was conducted. A bit fewer but almost the same number of students as in the previous survey participated in this survey (N=207). The procedures and instrument are the same as what was used in the survey of *in*. We constructed several minimal pairs with the sole difference of word order (Part 1) and type difference of the same structure (Part 2). Participants took a look at the picture and the description of the recipe, as shown on the CookPad site. However, they were not allowed to see the actual title posted on the web. The target examples for analysis are given in (10) and the results were obtained as in (11) and (12).

(10) **Part 1 [Word Order Difference]**

e. (i) tara-no munieru *with* kinoko kuriimu

−(ii) kinoko kuriimu *with tara-no munieru*

f. (i) negi-shi-o yakisoba *with* remon

−(ii) remon *with* negi-shi-o yakisoba

g. (i) osashimihu saamon-no karui sumooku *with* ohashi

−(ii) ohashi *with* osashimihu saamon-no karui sumooku

Part 2 [Type Difference]

h. (i) osashimihu saamon-no karui sumooku *with* ohashi

−tara-no munieru *with* kinoko kuriimu

i. (i) ohashi with osashimihu saamon-no karui sumooku

−(ii) kinoko kuriimu *with* tara-no munieru

(11) Descriptive Statistics of Acceptability Judgment

Test on *with*

	Mean	SD	SE
e-i left-headed	3.7475	0.5735	0.0403
e-ii right-headed	1.7475	0.8813	0.0620
f-i left-headed	3.6766	0.6782	0.0478
f-ii right-headed	1.5821	0.8273	0.0584
g-i left-headed	2.6436	1.1683	0.0822
g-ii right-headed	1.6040	0.8986	0.0632

(12) Results of Paired *t*-test

	t-score	*p*-value	*r*
e (i-ii)	26.345	0.000***	0.88
f (i-ii)	27.383	0.000***	0.89
g (i-ii)	11.015	0.000***	0.61
h (i-ii)	13.774	0.000***	0.70
i (i-ii)	1.819	0.070	0.08

The contrast is not clear in the case of *with*, compared with that of *in*. In the result given in (11), the difference in acceptability in Part 1 is larger as indicated by the *p*-value and *r*-value. However, note that the example (9b) was posted by a native Japanese people and that the worse examples in the pairs are not very unacceptable. As shown in Ono (2018), the examples are significantly better than the structure [Noun_2 + $\mathbf{Noun_1}$ + *with*] or [*with* + $\mathbf{Noun_1}$ +Noun_2], where *with* and its selected Noun are not constituent. Thus, it can be considered that some other individual factors might have affected the judgment.

Secondly, what is crucial in this paper is the difference in acceptability shown in (12h-i). Verbal noun use of *with* and its P-use showed a clear contrast as indicated by the *p*-value and *r*-value. Thus, the parallelism between *in* and *with* was confirmed.

4. On the Acceptability-Frequency Mismatch

We have thus far not only shown that each of the borrowed prepositions *in/with* in Japanese recipe names are of a trifold composition in terms of word-order and the status of the borrowed item but also provided supporting evidence for the claim that each of the structures must be treated differently; that is, the *in/with* of TYPE I and TYPE II are deverbal nominals that constitute the recipe titles through strategies of

"insertion" and "adjunction," respectively, while that of TYPE III applies a prepositional property to the selection of its complement.

Although we have confirmed that the contrast between TYPES I/II and TYPE III was real, we found that there is a sharp difference between *in* on the one hand and *with* on the other hand. In the case of *in*, of the 5,847 instances obtained on the site, 3,499 instances (59.8%) were of the structure TYPE I: [[Noun_1 + *in*] + $\mathbf{Noun_2}$], while 2,079 instances (35.6%) were of TYPE II: [$\mathbf{Noun_1}$ + [*in* + Noun_2]]. In the case of *with*, however, the number of instances of TYPE I: [[Noun_1 + *with*] + $\mathbf{Noun_2}$] was only 56 (4.7%) out of 1,192 instances, and almost all of the instances (1,113; 95.1%) were of the structure TYPE II: [$\mathbf{Noun_1}$ + [*with* + Noun_2]]. In the face of the difference, the following two questions on the acceptability–frequency mismatch arise: (i) Why is *with* almost exclusively used in [Head + *with* + Mod]? and (ii) Why is [Mod + *with* + Head] possible in such an exceptional fashion? Since space is too limited for us to discuss this issue, we would like to propose that these questions could be solved with reference to a Japanese native particle *de* in the near future.

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NOTES

[1] The author tentatively employed *in* as a borrowed preposition. However, English prepositions consist of "directional" type, also called particle, and "static" type and *in* is ambiguous in the donor language as given in below (Shimada and Nagano (2018)). This paper does not reject the possibility of the former type of *in* might be borrowed into Japanese. Note that this might be related to the result of (11) and (12).

(i) a. John came *in*. PARTICLE
b. a man *in* the room STATIC PREP

[2] CookPad is Japan's biggest recipe site where visitors can search through user-created recipes. Shimada and Nagano (2017) point out the advantage of using this database due to the vast quantity and the freshness of the data of ordinary speakers' spontaneous linguistic expressions. Another advantage, they point out, is that the pictures and instructions of the dishes help us check and identify the intended interpretation and the grammatical structure of a given recipe name.

[3] An anonymous reviewer challenged the acceptability of this example. However, we find it acceptable, as witnessed the example in the following blog post by a legendary Japanese chef, Katsuyo Kobayashi, repeated here below: http://recipe.sp.findfriends.jp/?pid=recipe_detail&id=11637

[4] It is generally suggested that descriptors for magnitudes of r= 0.1, 0.3, and 0.5 are for weak, medium, and strong effect size, respectively. (Field (2005), Mizumoto and Takeuchi (2008))

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The Role of the Past Tense Morpheme in Japanese Epistemic Conditionals*

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Keywords：Epistemic Conditionals, counterfactuality, Temporal Interpretation

1. Introduction

It has been argued that Japanese conditionals do not have an explicit tense marker of counterfactuality in the antecedent clause (Arita 2006, 2009). On the other hand, it is proposed that some languages such as English and Modern Greek convey counterfactuality by past tense morphology in the consequent clause (Iatridou 2000).

Ogihara (2014) proposes that the Japanese past tense morpheme *-ta* in the consequent clause is a marker of counterfactuality.

In this paper, following Iatridou (2000) and Ogihara (2014), I will claim that Japanese *-ta* in the consequent clause of the conditional can signal counterfactuality. Specifically, I will make the following three proposals for Japanese conditionals.

A. Modals which can be made into past tense may signal counterfactuality.
B. Modals that cannot be made into past tense morphologically, but which may select a past-tense proposition, can signal counterfactuality.
C. The past-tense marking in the consequent clause of the Japanese epistemic conditionals decides the interpretation of the entire conditional sentence.

Section 1 provides an introduction and briefly discusses previous approaches to conditionals by Arita (2006, 2009) and Ogihara (2014). Section 2 discusses the morphological restrictions of modals in the consequent main clauses. It will be shown that modals in Proposal A turn out to be mostly deontic modals, and modals in Proposal B are epistemic modals. Section 3 analyzes the temporal relations in the Japanese epistemic conditionals. Section 4 gives the concluding remarks.

I will exclude from the analysis here the conditionals which do not allow the insertion of adverbials "*mosi*" (if) or "*man-iti*" (provided) as in (1). These conditionals are what Iori (2001:209-213) calls "definite conditionals, constant conditionals, and factual conditionals."

(1) (*Mosi) zyuzi-ni nat-tara, syppatusi-masyo.
*if 10 o'clock become-TARA leave-let's
"[When/*if](it's) 10 o'clock, let's leave."

This paper treats only *tara* conditionals and *nara* conditionals. Other conditional expressions with the subordinators "*-to*" and "*-ba*" are not discussed here. The subordinator *-tara* morphologically selects verb stems and *-nara* selects propositions with *-ru* forms, *-ta* forms and negation. Historically *-tara* is said to be derived from *-ta+ra*.

1.1. Previous Approaches to Conditionals

Table 1 shows the classification of three types of conditionals of the form "*if p, then q*" based on Arita (2006, 2009). The feature of the

truth value of *p* being determined at the time of utterance is called "settledness."

Table 1. Classification of conditionals based on Arita (2006:133)

Classification	**Truth condition of *p* at utterance time**	**Speaker's attitude toward *p***
Predictive conditionals	not determined (- settled)	———
Epistemic conditionals	determined (+settled)	does not know the truth
Counterfactual conditionals	determined (+settled)	knows the truth (*p* is F)

Table 1 shows that conditionals are ambiguous between epistemic readings and counterfactual readings. Just by looking at the truth value of the antecedent *p* one cannot disambiguate the two readings of conditionals.

This paper supports the claim of Ogihara (2014) that the past tense marking in the consequent *q* is a sufficient condition for the counterfactual reading. Ogihara (2014) proposes two functions of *-ta* based on Iatridou (2000): 1) *-ta* excludes context time (utterance time), 2) *-ta* excludes context world. The former will result in the interpretation of epistemic conditionals about the past time. The latter will result in the counterfactual interpretation.

2. Morphology of the Consequent Clause

Section 2 gives the description of the morphological properties of modal expressions that constitute the consequent clause. Section 2.1 shows that modals have a restriction on whether or not they can select past-tensed propositions. Section 2.2 shows that modals which cannot select past-tensed propositions, can be made into past tense. These modals, mainly deontic modals, can receive counterfactual reading when the consequent clause is in past tense (Proposal A). It is also shown that the modals which can select past-tensed propositions, i.e. epistemic modals can signal counterfactuality (Proposal B).

2.1. Morphological Restrictions on Modal Expressions

Modal expressions in Japanese can be classified according to the following three criteria, which are considered to be the selectional properties of each modal expressions.

(2) 1) modals which do not select verb stems and which can follow [Verb stem +*ru*], [Verb stem +*ta*], or negation
2) modals which do not select verb stems and which can follow [Verb stem +*ru*], but cannot follow [Verb stem +*ta*], or negation
3) modals which cannot follow [Verb stem +*ru*], or [Verb stem +*ta*], or negation, and which must follow directly the verb stem

The morphological properties of seven modals in Japanese are summarized in Table 2.

Table 2. Forms of propositions selected by modal expressions

	Modals	**Verb stem**	***-ru***	***-ta* / negation**
(A)	*hazu-da* (inferential *should*)	*	Yes	Yes

(B)	*daro* (*will*)	*	Yes	Yes
(C)	*ni-tigainai* (inferential *must*)	*	Yes	Yes
(D)	*kamosirenai* (possibility *may*)	*	Yes	Yes
(E)	*beki-da* (*had better*)	*	Yes	*
(F)	*nakerebanaranai* (obligatory *must)*	Yes	*	*
(G)	*nakutemo yoi* (*not have to*)	Yes	*	*

Modals (A)-(D) satisfy the criterion 1) in (2). These modals are regarded as epistemic modals. The modal (E) *beki-da* satisfies the criterion 2) in (2). Modals (F) and (G) satisfy the criterion 3) in (2). Modals (E)-(G) are deontic modals. The following examples illustrate their morphological restrictions.

(3) Taro-wa [*ku-/ku-ru/ki-ta/ko-nai]
T-top[*come/come-pres/come-pst/come-neg]
hazu-da.
HAZU-cop
"Taro shall {come/ have come/ not come}"

(4) Taro-ga [*ku-/ku-ru/*ko-nai/*ki-ta]
T-nom[*stem/come-pres/*come-neg/
*come-pst]
beki-da.
BEKI-cop
"Taro had better come."

(5) Taro-ga [ika-*ik-u/*i-tta/*ika-nai]
T-nom [go(stem)/*go-pres/*go-pst/*go-neg]
nakerebanaranai.
NAKEREBANARANAI
"Taro must go."

In the next section, it will be shown that the deontic modals (E)-(G), which cannot select past-tensed propositions, can be made into past tense and signal the meaning of counterfactuality. I will also show that epistemic modals that cannot be made into past tense, can signify counterfactulity.

2.2. Modals interacting with the past tense morpheme

In this section, I will show that deontic modals, which cannot select past-tensed propositions, can be made into past tense and convey the meaning of counterfactuality. Table 3 shows the possibility of modals themselves co-occuring with *-ta* forms.

Table 3. Possibility of modals co-occurring with *-ta* forms

	Modals	**co-occurrence with *-ta* form**
(A)	*hazu-da* (inferential *should*)	Yes
(B)	*daro* (*will*)	*
(C)	*ni-tigainai* (inferential *must)*	?*
(D)	*kamosirenai* (possibility *may*)	?*
(E)	*beki-da* (*had better*)	Yes
(F)	*nakerebanaranai* (obligatory *must*)	Yes
(G)	*nakutemo yoi* (*not have to*)	Yes

The following examples illustrate that Proposal A holds. Modals (A) and (E)-(G), which can be made into past tense, may signal counterfactuality.

(4') Taro-wa [mosi kikai-ga at-tara] [ik-u]
T-top if chance-nom have-TARA go-pres
beki-dat-ta.
BEKI-cop-pst
"Taro should have gone if he had a chance."
a. Demo ika-nakat-ta.
but go-neg-pst
"But (he) did not go."
b. ? Sosite it-ta.
"and (he) went."

(5') Hanako-wa [Taro-ga ika-nakat-tara]
H-top T-nom go-neg-TARA
[ika-] nakerebanaranakat-ta.
go- NAKEREBANARANAI-pst
"Hanako would have had to go if Taro did not go."
a. Demo ika-nai-de sun-da.
but go-neg finish-cop
. "But she ended up not having to go."
b. # Sosite, kanozyo-wa it-ta.
and she-top go-pst
"and (she) went."

The sentences in (4'b) and (5'b) above indicate the cancellability of the counterfactual implicature. It seems that their counterfactual implicatures are not readily cancellable.

Proposal B is verified by the following examples which show epistemic modals, which cannot be made into past tense, but may select a past-tensed proposition. They can indicate counterfactuality when accompanied by the antecedent clauses.[1]

(6) Mosimo Einstein-ga iki-tei-tara
if E -nom live-asp-TARA
[a-e-ta/*a-e-ru] daro .
[see-po-pst/*see-po-pres] DARO
"If Einstein were alive, (I) could have seen (him)."

(7) Mosimo Einstein-ga iki-tei-tara
if E -nom live-asp-TARA
[a-e-ta/*a-e-ru] ni tigainai.
see-po-pst/*see-po-pres NITIGAINAI
"If Einstein were alive, (I) could have surely seen (him)."

(8) Mosimo Einstein-ga iki-tei-tara
if E -nom live-asp-TARA
[a-e-ta/*a-e-ru] kamosirenai.
see-po-pst/*see-po-pres KAMOSIRENAI
"If Einstein were alive, (I) might have seen (him)."

The past tense *-ta* in the proposition of the consequent in (6), (7), and (8) indicates that these sentences can receive the counterfactual interpretation.

3. Interpretation of Epistemic Conditionals

In this section, I will show that the past tense marking in the consequent clause of Japanese epistemic conditionals determines the interpretation of the entire conditional sentence (Proposal C). Furthermore, a temporal sequential analysis of the conditional clause using notations based on Mihara (1992) reveals that the counterfactual reading may be obtained even when the epistemic reading is not available.

3.1. Temporal Interpretation of Epistemic Conditionals

In this section, I will examine Proposal C: the past tense marking in the consequent clause of the Japanese epistemic conditionals decides the interpretation of the entire conditional sentence. In relation to Proposal C, a case will be shown in which the past tense *-ta* in the consequent unambiguously signals the counterfactual reading. The unambiguous example is obtained through the temporal

analysis of the epistemic conditionals.

The following examples show that the tense form of the antecedent does not affect the interpretation of the conditional sentences.

(9) a. (Mosi) kono kusuri-o
(If) this medicine-acc
[non-dara/nom-u-nara/ non-da-nara],
drink-TARA/drink-pres-NARA/
-pst-NARA
byoki-ga nao-ru daro.
sickness-nom cure-pres DARO
"If (you) drink this medicine, the sickness will be cured."

b. (Mosi) kono kusuri-o
(If) this medicine-acc
[non-dara/? nom-u-nara/ non-da-nara],
drink-TARA/ drink-pres-NARA/
-pst-NARA
byoki-ga naot-ta daro.
sickness-nom cure-pst DARO
"If (you) drank this medicine, the sickness would be cured." (epistemic)
"If (you) drank this medicine, the sickness would have been cured." (counterfactual)

The interpretation of (9a) is determined by the present tense *-ru* in the consequent. Two readings of (9b) are decided by the past tense *-ta* in the consequent.

To specify the temporal relation of the antecedent *p* and the consequent *q*, I will adopt the following notations for temporal sequence used in Mihara (1992), where *ut* stands for utterance time.

(10) Mihara (1992)

1) the event *p* and the event *q* occurs simultaneously : $p=q$
2) the event *p* temporarily precedes the event *q* : $p< q$
3) the event *q* temporarily precedes the event *p* : $q< p$
4) the event *p* and the event *q* overlaps in time, and the event *q* follows *p* : $p\leq q$
5) future $ut<p,q$
past $p,q < ut$
present $p,q= ut$

The following examples show that the interpretation of tense of the antecedent *p* depends on the tense of the consequent *q*. The notations in parentheses in (11a, b, c) indicate the temporal relation between *p* and *q*.

(11) a. Mosi [John-ga ku-ru]-nara, [asu
If J-nom come-pres-NARA tomorrow
Mary-wa kaer-u]-daro. *(ut<p≤q)*
M-top go=back-pres-DARO
"If John comes, Mary will go back tomorrow."

b. Mosi [(*asu) John-ga ku-ru]-nara,
If (*tomorrow) J-nom come-pres-NARA
[Mary-wa kaet-ta]-daro. **(q< ut<p)*
M -top go=back-pst -DARO
"If John comes, Mary will go back."

c. Mosi [John-ga san-nen-mae ki-ta]-nara,
If J-nom 3-years-ago come-pst-NARA
Mary-wa kare-o[*yurus-u/yurusi-ta]
M-top go he-acc *forgive-pres/ -pst
daro. **(p< ut<q)*
DARO
"If John came 3 years ago, Mary would have forgiven him."

In (13) the tense of the antecedent and the tense on the consequent are explicitly specified by the time adverbials such as "*asu*" (tomorrow) and "*san-nen-mae*" (three years ago). (11a) shows that "*asu*" in *p* is compatible with the present

tense form of the verb "*kae-ru*" in *q*. (11b) shows that "*asu*" in *p* is incompatible with the past tense "*kae-tta*" in *q*, assuming the temporal interpretation. In (11c) the adverbial "*san-nen-mae*" in *p* requires the verb forms both in *p* and *q* to be in the past tense form.

A temporal restriction on the epistemic conditionals in (11) seems to be that the antecedent *p* and the consequent *q* cannot be intervened by the utterance time.[2]

It is interesting to note that although (11b) does not have an epistemic reading, in which Mary went back tomorrow, it could have a counterfactual reading as follows:

(11b') Mosi [asu John-ga ku-ru]-nara,
If tomorrow J-nom come-pres-NARA
[Mary-wa kae-tta]-daro(-ni). ($p \leq q$)
M-top go=back-pst -DARO(-NI)
Demo John-wa ko-naka-tta.
but J-top come-neg-pst
"If John came tomorrow, Mary would have gone back, but he wasn't coming."

This reading, which is expressed by ($p \leq q$), is called future counterfactual reading in Ogihara (2014).[3] "*Asu*" in the antecedent clause in (11b') does not specify the event occurring at the future time. It indicates "fake future" in the sense of Iatridou (2000). Crucially, utterance time is not indicated in the temporal relation.

4. Concluding Remarks

In this paper, I have presented some examples to show that the past tense morpheme *-ta* in the consequent of conditionals can signal counterfactuality. The examination of these examples seems to confirm that my Proposals A, B, and C are supported.

A. Modals, which can be made into past tense, mostly deontic modals, may signal counterfactuality.
B. Epistemic modals, which cannot be made into past tense, but which may select a past-tensed proposition, can signal counterfactuality.
C. The past tense marking in the consequent clause of the Japanese epistemic conditionals decides the interpretation of the entire conditional sentence.

Furthermore, the following points are discussed.

1) The past tense morpheme *-ta* in the consequent clause is a sufficient condition (but not a necessary condition) for the conditional to be interpreted as counterfactual.
2) The relative temporal relation between the antecedent *p* and the consequent *q* does not differentiate the epistemic reading from the counterfactual reading.
3) The counterfactual reading is possible when the conditional is interpreted in unspecified time (i.e. the time not related to the utterance time).

More studies should be done in the future on when the time adverbial in the antecedent can function as a fake marker of tense, which is related to 3).

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NOTES

[1] It has been pointed out that epistemic modals with a past-tensed proposition cannot have a counterfactual reading by themselves. They need the antecedent clause. For instance, the following example does not have a counterfactual reading, but indicates the speaker's inference about Taro's completed action.

(i) Taro-wa imagoro gakko-e it-ta daro.
T-top by=now school-to go-pst DARO
"Taro would have gone to school by now."

It is interesting to note that the sentence in (i) still shows that the speaker does not know that *q* is true at the utterance time. Thus the past tense *-ta* in (i) seems to indicate irrealis.

[2] The temporal sequence *ut<p<q* is possible in epistemic conditionals, but the sequence *q<ut<p* does not seem acceptable since (ii) below shows a semantically and pragmatically impossible inference.

(i) Mosi [John-ga asu ku-ru]-nara, [Mary-wa asatte kaer-u]-daro. (*ut<p<q*)
If J-nom tomorrow come-pres-NARA M-top day=after=tomorrow go=back-pres-DARO
"If John comes tomorrow, Mary will go back the day after tomorrow."

(ii) ?*Mosi [John-ga asu ku-ru]-nara, [Mary-wa kino kaet-ta]-daro. ?*(q<*ut<p*)
If J-nom tomorrow come-pres-NARA M-top yesterday go=back-pst-DARO
?*"If John comes tomorrow, Mary would have gone back yesterday."

[3] Ogihara's examples are as follows (with minor modification):

(i) (Mosi) asu yakyu-ga a-ru-nara, mi-ni it-ta-daro (-ne).
if tomorrow baseball-nom exist-pres-NARA watch go-pst-DARO
"If there had been a baseball game tomorrow, (I) would have gone to watch it." Ogihara (2014:16)

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How Japanese Speakers Use *Nanka* in Quasi-Internal Monologues during Interactional Discourse

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Keywords：quasi-internal monologues, *nanka*, interactional discourse, TV program

1. Introduction

In their daily lives, the Japanese tend to speak their own internal monologues out loud, whether they are in the presence of others or not. A good example of this is when someone wanders around saying, **"*Nanka…, are doko-yatta-kana?*" (*Nanka…*, where did that thing go?)**,[1] subconsciously and to no one in particular. However, another party might be nearby and respond with, "*Shinbun? Sakki, ojii-chan ga yon-de-ta-yo.*" (The newspaper? Your grandpa was reading it a minute ago.) Once the monologue is replied to, it leads to a conversation between the two. Vygotsky (1962) states that a monologue occurs when a speaker's psychological mental state fluidly floats between the thinking and speaking regions of his or her brain. When people produce internal monologues, they use the word *nanka* quite often. (The meaning of *nanka* is complex and will be discussed later.) These two, internal monologue and *nanka,* have been studied independently and separately. Therefore, this study tries to tie the two together to illustrate unique aspects of social interaction.

Regarding internal monologues, there are two possible situations in which *nanka* is used. The first is when a person is literally alone and the second is when someone else is present. It is the second situation that will be considered here. In this situation, the monologue produced is what Noda calls "a quasi-internal monologue" (2006). This study will concern itself with the use of *nanka* in quasi-internal monologues, and will use that term when analyzing data.

2. Previous Studies

When a speaker produces a quasi-internal monologue, the speech volume is lowered to a murmur and the speed of speech is slowed (Mimaki 2013). In terms of non-linguistic features, the speaker inclines his or her head or pulls his or her eyes away from a particular object (Mimaki 2013). In addition, Shikano (2016) says that the final particle of *-kana* with falling intonation (hereinafter abbreviated as ↓) can be easily seen in quasi-internal monologues. Nitta (1991) shows the clear differences between the final particle of *-ka?* and *-kana*↓. The final particle of *-ka* with a rising intonation turns the sentence into a question. This means that the speaker provides sufficient information for a recipient to give a response. On the other hand, the final particle of *-kana* with a declining intonation is used when the speaker is trying to resolve a particular problem on his or her own. Having said that, the final particle *-kana*↓ makes the speaker's utterance oblique to the recipient even when the utterance is produced in the presence of others (Shikano 2016). Moreover, the author says that a speaker of a quasi-internal monologue does not pursue a recipient's response because the focus

of the monologue is on the speaker's thoughts rather than anyone else's.

The earlier section stated that people frequently use *nanka* in their quasi-internal monologues. Although according to the dictionary, *Daijirin* (1995), the literal meaning of *nanka* is "some, any, something, and anything," and it shows uncertainty, the meaning of *nanka* is actually untranslatable because it changes meaning depending on context. The previous research, Takubo & Kinsui (1997), suggests that *nanka* works as a filler or softener. Uchida (2001) says that *nanka* is not "a habit of saying" to make introductory remarks, but a discourse marker which introduces new concepts for listeners. Iio (2006) states that *nanka* serves several functions, such as turn initiator, filler, and softener. Furthermore, Sugisaki (2018) reveals *nanka* in self-disclosure functions to show the speaker's inner feeling co-occurring with filler or repair words. Although there are several previous studies about *nanka*, it has not been studied much within the context of quasi-internal monologues. Considering these previous studies, this study serves to more definitively answer the following two questions: (1) What is the function of quasi-internal monologues? (2) What is the function of *nanka* in the context of quasi-internal monologues?

3. Data

3.1. Data and Methodology

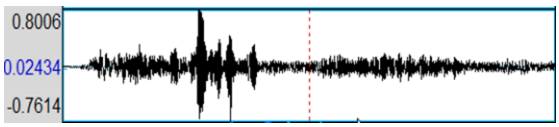
The data for this study came from a Japanese TV program called *Tsurube no kazoku ni kanpai* (or *Tsurube's Toast to Families*), which was broadcast on NHK. In this study, fifteen 75-minute-long episodes were used. In each episode, the host, Mr. Tsurube, travels with a guest to a rural area of Japan. When they arrive, they wander around and have conversations with the local people.

In terms of quasi-internal monologues, either the host or the guest is considered to be the speaker or recipient, depending on who is talking at any given time. During those times when the host or the guest is alone in a scene, the recipient is considered to be the TV viewer, a member of the TV crew, or a local person.

For the data, those quasi-internal monologues from the TV show that used *nanka* were extracted, and related words and phrases were analyzed. In terms of methodology, analysis concerned both the linguistic and non-linguistic features in this study: speech volume is lowered to a murmur, speed of speech is slowed, and the speaker inclines his or her head or pulls his or her eyes away from a particular object.

3.2. Monologues or Discourse?

In order to show the clear differences between discourse and quasi-internal monologues, all the targeted quasi-internal monologues with *nanka* were input into the scientific software application PRAAT. PRAAT is an acoustic intonation analyzer that investigates aspects of speech sounds. One such aspect is the amplitude of waveforms, as in the following:



wari-to koma-ga *are-nano-kana*

Figure 1: Utterance contains a partial quasi-internal monologue

Figure 1 shows the waveform in PRAAT for the utterance ***"wari-to koma-ga are-nano-kana."*** The utterance to the left of the dotted line,

"wari-to koma-ga," shows mountain-like waveforms. Whereas the utterance to the right of the dotted line, *"are-nano-kana,"* which shows a flat waveform, is treated as an example of quasi-internal monologue in this study.

4. Results and Data Analysis

4.1. With a Final Particle *-kana*

In the first example, the host (Mr. Tsurube, abbreviated as A) and the guest (abbreviated as B) are wondering where they should visit. When A tells B that the college A used to attend is just around the corner, B insists they go there:

1:A: *son-nan yu-n-ya-tta-ra, daigaku iko-u-ka?*
"(If you) insist on that, shall we go to the university?"
Fujimoto-yu-te-ne, ore-no mukou-no oendan-no tomodachi-ga-ne.
"(There is) Fujimoto, a friend of mine, from cheerleading group."

2:B: …

→ 3:A: *are-ga mukou-no jimu-no,* ***nanka ya-tto-n-no chau-kana*** ↓[1]***, erai-san***.
"(Fujimoto) **may be working** as an administrator and **doing something. (He is an) executive."**

4:B:....

A is surprised to hear B's request, but he accepts it, uttering, in his first line, "*son-nan yu-n-ya-tta-ra, Daigaku iko-u-ka?"* (If you insist on that, shall we go to the university?) Upon hearing A's utterance, B simply glances at him without saying anything. Then A initiates going to the university, saying monologically in his third line that there is a man called Fujimoto, who possibly works as an administrator in the university. He says, "***nanka ya-tto-n-no chau-kana, erai-san***." ([He is] **doing something. [He is an] executive**.)

In his quasi-internal monologue, A expresses his inner feelings of wondering to himself by using the final particle *-kana*↓ with a falling intonation. A's expression of his inner state both echoes and is supported by the findings of Shikano (2016).

Within this excerpt, quasi-internal monologue shows when the A has uncertain feeling about going to the university. It is a challenge for both the host and the smooth filming of the TV program. Upon hearing B's wish of going to the university, A confirms going there. However, he then becomes concerned about two things. He doesn't know if the TV crew can enter the university premises without permission and he doesn't know if they will be able to film there.

He starts trying to shift responsibility away from himself when he mentions his friend Fujimoto, an administrator who might be able to help. In his quasi-internal monologue, A says, "***nanka ya-tto-n-no chau-kana*** ↓***, erai-san***." (He is doing something. [He is an] executive.) This idea gives him a positive feeling about their attempt to film at the university, and helps him overcome his worry.

In the previous study of Shikano (2016), quasi-internal monologue is explained as revealing a speaker's feelings of uncertainty and implies that he or she is having troubling thoughts. When *nanka* is used with the utterance within the falling intonation of *-kana*↓ in the context of quasi-internal monologue, the production of a quasi-internal monologue enhances a speaker's feelings of uncertainty and his or her deliberation over a problem. Moreover, the A does not even pursue a response from B. This is because the speaker of a quasi-internal

monologue is not concerned with a recipient's reply, since the speaker is not talking directly to the recipient (Shikano 2016). Therefore, it could be said that the speaker of a quasi-internal monologue effectively considers himself or herself to be alone when speaking. This is why A interpreted B's non-responsiveness as approval of going to the university—and why the TV program continued to go smoothly.

4.2. Direct Quotation

In this example, C is walking around a street with TV crews, when he finds a coffee shop. He wonders if he should enter the shop.

→1:C: *Aa, tezukuri-koohii-mame-koubou*" "Ah, (there is) a home-made coffee (shop)."
Ah, ***cho-tto nanka koohii-demo non-n-de-mitai-na, nan-tu-tte***.
"For some reason, now, (I) want to drink coffee or something like that."
(As C enters the coffee shop,)
Shitsurei-shi-masu.
"Excuse me."

At first, he loudly says, "*Aa tezukuri-koohii-mame-koubou,"* (Ah, [there is] a home-made coffee [shop]) and points to the shop. Then, he monologically utters, "Ah, ***cho-tto nanka koohii-demo non-n-de-mitai-na, nan-tu-tte***." (**For some reason, now, [I] want to drink coffee or something like that.**) C uses the phrase ***nan-tu-tte*** (**like that**) as if he is expressing his inner feelings with the use of *nanka*. Abe (1999) states that inner speech expresses a speaker's profound feelings. Moreover, according to Sugisaki (2018), *nanka* is used to introduce a speaker's words in mind.

In this example, C finds a shop that he wants to visit, but he reveals his inner feelings by hesitantly saying *nanka* aloud to confirm with either the TV crew or TV audience that it is okay for him to go inside the shop. Because he is not completely aware of the reason behind his desire to go in. In his quasi-internal monologue, he says, "*cho-tto nanka*" (for some reason). This shows both his preference to drink coffee and his hesitation to make a decision. Moreover, both *cho-tto* and *nanka* show the meaning of uncertainty. Therefore, *nanka* in the context of quasi-internal monologue can be used when a person feels uncertain about what he or she should do next.

4.3. Interjection

For a third and final example, D is about to enter an old man's house:

→1:D: ***o-jama shi-masu,***
"Excuse me,"
waa, sugoi kirei-na,
"wow, very nice,"
nanka ii-nioi-ga suru,
"somehow (it) smells nice,"
natsukashii-nioi
"(It) smells familiar."

When she says, "***o-jama shi-masu***" (**excuse me**), she is browsing the house and looking for something to show to the TV audience. However, she has not yet found something suitable. The video shows her hesitating and acting uncertain about the items she looks at. Instead of showing something she's found, she expresses her surprise by saying, "***waa, sugoi kirei-na"*** **(wow, very nice),** out loud. Then, she says, monologically, "***nanka ii-nioi-ga suru"*** (**somehow, it smells nice**). Her quasi-internal

monologue then continues with "***natsukashii-nioi***" (**it smells familiar**), indicating something reminds her of her past. However, she does not reveal what it is.

To explain these expressions grammatically, she uses two adjectives: *kirei* (or *nice)* and *natsukashii* (or *familiar)*. These adjectives reveal her inner feelings about what the house looks like and how the house smells. In this example, using these adjectives with her quasi-internal monologue indicates her profound feelings.

As she enters the house, D politely talks to the owner of the house using forms of speech ending in *masu*. When she uses these polite forms of speech, the owner recognizes that D is paying her respect. However, in her quasi-internal monologue, D does not continue to use this polite form of speech. This means that rather than showing her respect to the owner of the house, she is revealing her inner feeling (Shikano 2016).

In this example, D's compliments about the house ensure that the owner of the house is comfortable with the unexpected disturbance of a TV crew. The simple quasi-internal monologue creates social integration between the speaker herself, the TV crew, and the owner. While D is trying to be social with the owner of the house, she is also trying to find something to introduce to the TV audience.

In this example, *nanka* expresses a speaker's feelings of uncertainty. Moreover, this instance of quasi-internal monologue does not necessitate a reply from the recipient.

5. Discussion

Within the quasi-internal monologues seen on this TV show, *nanka* is used when it is required by the host or a guest. They use it when they decide where they want to go or what they want to do without consulting anybody else. They reveal their disorganized or uncertain inner feelings through their use of *nanka* in their quasi-internal monologues.

In addition, since a specific feature of quasi-internal monologue is that it does not require a recipient's reply, speakers should receive a hint from the expressions of recipients when deciding what to do next.

Several aspects of the use of *nanka* within quasi-internal monologues should be noted or reiterated:

(1) In an interactive discourse, a speaker's quasi-internal monologue can produce uncertain feelings of "if I do this, maybe this kind of situation will happen."
(2) *Nanka* can serve to reveal a speaker's inner feelings.
(3) Speakers should receive a hint from a recipient's response concurrently.
(4) *Nanka* in the context of quasi-internal monologue helps create social integration between speakers and others.
(5) Both quasi-internal monologue and *nanka* function as communicative devices.

6. Conclusion

This study discussed one type of social interaction among the Japanese: quasi-internal monologues that use the word *nanka*. The data has shown that speakers unconsciously produce quasi-internal monologue out loud in the presence of others, but that speakers mostly only speak only when they feel something intuitively without the second thought, and often without an awareness of a recipient. This study also showed that quasi-internal monologues often indicate a speaker's feelings of uncertainty and doubt.

NOTES

[1] Arrow pointed down, ↓ , indicates the speaker's intonation shift to an especially low tone.

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DICTIONARY

Daijirin (1995) 2nd. ed. Sanseido, Tokyo.

TRANSCRIPTION CONVENTIONS

…	Pause within same turn
↓	Low pitch
Bold	The length of quasi-internal monologue

A Generative Analysis of Reduced Relative Clauses in English*

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Keywords：aspect, external determiner, functional category

1. Introduction

The purpose of this study is to attempt to reveal the syntactic structure of reduced relative clauses in English within the framework of generative grammar. I examine the noun phrase postmodified by the present participle, its argument and adjuncts, as shown in (1).

(1) a. Look at the boys [playing tennis over there].
b. Tell me about a man [living in Tokyo].

I refer to the bracketed part in (1) as *reduced relative clause*, and the underlined part in (1) as *head noun* or *head noun phrase*.

This paper is organized as follows: in section 2, I will show that reduced relative clauses are distinguished from gerundive clauses from the syntactic and semantic viewpoints. In section 3, I will reveal the function and role of Asp in reduced relative clauses. In section 4, I will give the derivation of reduced relative clauses. In section 5, I will show that the proposed structure answers the question about the historical development of reduced relative clauses. Section 6 concludes this paper.

2. The Distinction between Reduced Relative Clauses and Gerundive Clauses

Reduced relative clauses and gerundive clauses are similar in the two points: First, they both appear in Case positions. Second, they have a similar surface form: the noun phrase followed by V-ing, as shown in (1) and (2).

(2) John quickly leaving surprised everybody. (Pires (2006: 17))

However, they should be distinguished from the syntactic and semantic viewpoints in the three points. First, an adverb *currently*, which expresses an ongoing action, is possible in the reduce relative clause, as shown in (3a), while *currently* is impossible in the gerundive clause, as shown in (3b, c).

(3) a. the womble [currently making an ass of himself]
b. * Currently stealing socks is a common habit of wombles.
c. * Uncle Bulgaria's currently stealing (of) my socks is really ruining the party. (cf. Harwood (2017: 11))

Second, perfective *have* is not acceptable in the reduce relative clause, as shown in (4a), while it is acceptable in the gerundive clause, as shown in (4b).

(4) a. * The womble [having stolen my bike] proceeded to ride round the village naked.
b. Uncle Bulgaria's having stolen my bike was a disappointment to everyone. (cf. Harwood (2017: 11))

Third, an idiom *be dying to*, which means *be*

keen to, as in (5a), has the idiomatic interpretation only in the progressive form. When we look at the reduced relative clause in (5b), we find out that *dying to* has the idiomatic interpretation but it does not in the gerundive clause, as shown in (5c).

(5) a. The wombles are dying to see the new Star Wars film.
=The wombles are keen to see the new Star Wars film.
b. The person [dying to see the new Star Wars film the least] is probably Geroge Lucas.
= The person keen to see the new Star Wars film the least is probably Geroge Lucas.
c. Dying to see the new Star Wars film does not necessarily make one a hardcore fan.
(cf. Harwood (2017: 12))

The semantic difference between (5b) and (5c) implies that the idiomatic interpretation of *dying to* might be licensed by some feature in the reduced relative clause.

Thus, reduced relative clauses and gerundive clauses are readily distinguished.

3. An AspP Analysis of Reduced Relative Clauses

This section reinforces an AspP analysis of reduced relative clauses by Thompson (2001), paying attention to the function and role of Asp.

3.1. Thompson (2001)

There are many previous studies of reduced relative clauses within the framework of generative grammar: Williams (1975), Burzio (1986), Kayne (1994), Siloni (1995), Bianchi (1999, 2000), Krause (2001), Thompson (2001), Bhatt (2002), Doron and Reitinges (2005), Belikova (2008), Tozawa (2013, 2014), Sugiura (2014, 2015, 2017), Douglas (2016), Harwood (2017) and Suzuki (2017).

This subsection reinforces Thompson (2001) which argues for an AspP analysis of reduced relative clauses.

Many scholars observes that reduced relative clauses do not have CP or TP. First, the reduced relative clause disallows the overt complementizer, as shown in (6).

(6) * The passengers that waiting for flight 307 complained to the flight attendant. (Thompson (2001: 297))

Second, reduced relative clauses disallow sentence-level adverbs such as *evidently*, *unfortunately*, *honestly* and *probably*, as shown in (7).

(7) a. * I met the boy evidently/unfortunately/ honestly reading the book.
(Tozawa (2014: 222))
b. * The person probably playing the music you heard used to be my roommate.[1]
(Thompson (2001: 297), attributed to Williams (1975: 251))

Third, the absence of TP in reduced relative clauses is also supported by the grammatical fact in (8a, b): in (8a), the past tense form of the matrix verb *complained* is only compatible with the past event represented by the reduced relative clause, while in (8b), the future tense form of the matrix verb is only compatible with the future event denoted by the reduced relative clause.

(8) a. * A passenger waiting (yesterday/ *tomorrow) for flight 307 complained to the flight attendant.

b. A passenger waiting (*yesterday/ tomorrow) for flight 307 will complain to the flight attendant.

(Thompson (2001: 292))

I assume that Thompson's AspP analysis is insufficient in that she does not reveal what role the Asp plays. The next subsection discusses the function and role of Asp.

3.2. The Function and Role of Asp

Following Van Valin and Lapolla (1997: 40), I assume that aspect expresses "the internal temporal structure of the event itself," and it also shows whether the event is completed, is ongoing, or is recurring. Based on the assumption that the functional category AspP bears these roles, I assume the clausal structure in (9), where AspP expresses whether the event represented by *v*P is ongoing or not, habitual or not, and completed or not.

(9) $[_{AspP}$ Asp $[_{vP}$ Subj $[_{v'}$ V-*v*]]]

Next, I examine the function of the present participle suffix -*ing*. I suggest that -*ing* merges in the head of Asp, bearing the [+progressive] feature. After it merges and the Subject noun raises into the upper position, -*ing* lowers onto the verb in PF under adjacency without undergoing agreement, as shown in (10).

(10) $[[_{XP}$ Subj$_i$ $][_{AspP}$ $[_{Asp'}$ $[_{Asp'}$ t_j] $[_{vP}$ t_i $[_{v'}$ V-*v*-ing$_{j[+progressive]}$]]]]]

It is traditionally assumed that inflectional suffixes adjoin to the host by undergoing agreement, but this paper distinguishes -*ing* from other inflectional suffixes such as -(*e*)*d* and -(*e*)s because the inflectional suffixes are involved in agreement and Case assignment, while the suffix -*ing* is not involved in agreement or Case assignment.

Based on the assumption that the suffix -*ing* has the [+progressive] feature, I claim that when the AspP has the [+progressive] feature, an action denoted by the verb is interpreted as progressive. I assume that stative verbs such as *live* bear the [+stative] feature, and adverbs expressing frequency or habit such as *frequently* or *often* bear the [+habitual] feature.

Following Mizuno (1999), I assume that adverbs expressing frequency or habit adjoin to AspP. Thus, at the time when -*ing* adjoins to the verb, the syntactic structure of reduced relative clauses that have a frequency adverb is (11).

(11) $[[_{XP}$ Subj$_i$ $][_{AspP}$ $[_{Asp'}$ Adverb$_{[+habitual]}$ $[_{Asp'}$ t_j] $[_{vP}$ t_i $[_{v'}$ V-*v*-ing$_{j[+progressive]}$]]]]]

I claim that the aspect represented by the reduced relative clause is determined by what features the AspP has. I will illustrate it with the examples in (12) and (13).

(12) a. Look at the <u>boys</u> $[_{AspP}$ playing$_{[+progressive]}$ tennis over there].

b. Tell me about a <u>man</u> $[_{AspP}$ living$_{[+stative][+progressive]}$ in Tokyo].

(13) a. His grotesquely amusing account presents the <u>entire family</u> $[_{AspP}$ frequently$_{[+habitual]}$ communing$_{[+progressive]}$ with ghosts].

(cf. Collins, brbooks, BB-Ym02210, biog)

b. But many more are known only in a <u>heavily condensed form</u>

[$_{AspP}$ often$_{[+habitual]}$
consisting$_{[+stative][+progressive]}$ of no more than a few lines of text].
(cf. Collins, brbooks, BB-Bm89-693, culture)

In (12a), the AspP *playing tennis over there* represents an ongoing action because it has the [+progressive] feature. In (13a), there is an adverb expressing frequency *frequently* before the present participle *communing*. The AspP *frequently communing with ghosts* represents a habitual and ongoing action because it has the [+habitual] and [+progressive] features; the [+habitual] feature is carried by *frequently*; the [+progressive] feature is carried by *communing*.

In (12b), the reduced relative clause consists of the present participle of a stative verb *live* and its argument *in Tokyo*. The AspP *living in Tokyo* expresses an ongoing state because the AspP has the [+stative] features. I stipulate that the suffix -*ing* does not make semantic contribution when it adjoins to stative verbs. Lastly, in (13b), a stative verb *consist* occurs with a frequency adverb *often*. The AspP *often consisting of no more than a few lines of text* denotes that a state often occurs. This is because the AspP has the [+habitual], [+stative] and [+progressive] features; the [+habitual] feature is carried by *often*; the [+stative] and [+progressive] features are carried by *consisting*. Note that the suffix -*ing* does not make semantic contribution because it adjoins to stative verbs.

Recall that in (5b), repeated as (14), I stated that some feature would license the idiomatic interpretation of *dying to*. I argue that what licenses the idiomatic interpretation of *dying to* would be the [+progressive] feature of -*ing*.

(14) The <u>person</u> [dying to see the new Star Wars film the least] is probably Geroge Lucas.
= The person keen to see the new Star Wars film the least is probably Geroge Lucas.

4. A Head Noun Raising Account

I have provided the intermediate structure of reduced relative clauses in (11), where I did not reveal the landing site of the head noun. Section 4 deals with the syntactic structure of the noun phrase postmodified by the present participle phrase.

To start with, I follow Cecchetto and Donati (2015) in assuming that NPs can merge in the complement of unaccusative and passive verbs in past participle reduced relative clauses, as shown in (15), since it is not the Case position.

(15) the [$_{NP}$ philosopher [$_{VP}$ admired ~~philosopher~~ (by Marx)]]
(cf. Cecchetto and Donati (2015: 77))

Based on this idea, I claim that NPs can also merge in spec, *v*P because spec, *v*P is also not the Case position. Next, I adopt the head noun raising analysis of relative clauses given by Kayne (1994), Bianchi (1999, 2000) and Radford (2016). Extending their analysis to the reduced relative clause, I propose that the reduced relative clause has the structure in (16), where D takes NP as its complement, and NP selects AspP. The head noun phrase NP raises from spec, *v*P inside the reduced relative clause to spec, NP without involving the determiner. I assume that the determiner is merged outside the reduced relative clause.

(16) [$_{DP}$ D [$_{NP}$ NP$_i$ [$_{NP'}$ Ø]
[$_{AspP}$ [$_{Asp'}$ Adv$_{[+habitual]}$ [$_{Asp'}$ t_j]
[$_{vP}$ t_i [$_{v'}$ V-*v*-ing$_{j[+progressive]}$]]]]]]

Let me explain why the head noun promotes from the base position, and why the determiner must be merged outside the reduced relative clause. To start with, I will consider the example of full relative clauses. *Headway* of an idiom *make headway* can be relativized, as shown in (17a, b). (17c) shows that *headway* cannot be used without *make*.

(17) a. We made headway.
b. The headway that we made was satisfactory.
c. * (The) headway was satisfactory.
(cf. Schafter (1973: 31))

This means that *headway* receives the idiomatic interpretation at the complement of *make*, and then raises to the antecedent position, as shown in (18).

(18) The headway$_i$ [that we made t_i] was satisfactory.

In addition, we should notice that in (17b) *headway* involves the determiner *the*, while, as shown in (19), we cannot say *make the headway*. Therefore, *the* in (17b) does not raise with *headway* from the complement of *make*; instead, *the* would be merged outside the relative clause.

(19) * We made the headway on that problem. (Browning (1987: 129))

There is another piece of evidence for the external determiner analysis of full relative clauses. A proper noun *Paris* cannot have *the,* as shown in (20a), but when it is modified by the relative clause, *the Paris I love* becomes grammatical, as shown in (20b).

(20) a. * the Paris
b. the Paris I love
(cf. Bianchi (1999: 42))

Based on these data, Kayne and Bianchi argue for the syntactic structure of relative clauses in (21), where the external D selects CP as its complement and the head noun is in spec, CP.

(21) a. [$_{DP}$ the [$_{CP}$ [picture]$_i$ [that [$_{IP}$ Bill liked t_i]]]]
b. [$_{DP}$ the [$_{CP}$ [$_{DP}$ [$_{NP}$ picture] [$_{DP}$ which t]]$_i$ [$_{IP}$ Bill liked t_i]]]
(Bianchi (2000: 124))

Radford (2016) modifies (21) because the head noun can be a phrase such as *photo of John*, and argues for the derivation in (22), where *which photo of John* originates in the complement of *hates*, and it undergoes WH-movement to spec, CP. And then, the head noun phrase *photo of John* undergoes Antecedent raising to spec, NP.

(22) [$_{DP}$ [$_D$ the [$_{NP}$ photo of John$_i$ [$_N$ Ø [$_{CP}$ [which ~~photo of John$_i$~~]$_j$ [$_C$ Ø [$_{TP}$ he hates ~~which photo of John$_j$~~]]]]]]]
(cf. Radford (2016: 434))

Let us return back to reduced relative clauses. We can get the same grammatical facts. (23) and (24) show that *headway* and the proper noun can be the head nouns postmodified by the reduced relative clauses. Please notice that *headway* in (23) and *America* and *Paris* in (24) have the determiner *the*.

(23) In other words, you are of the opinion

that the Government was becoming increasingly alarmed at the headway [being made by the Communists]?

(cf. *Hearings*, written by United States. Congress. House. Committee on Un-American Activities, p. 1942)

(24) a. The America [withdrawing from the Paris Accords] will not be a world leader.

b. The Paris [being visited by Japanese] is different from the one being visited by Indians.[2]

On the basis of the facts in (23) and (24), and extending Radford's analysis in (22) to the reduced relative clause, I propose the derivation of the reduced relative clause in (25).

(25) a. Look at the girl from Italy [always speaking Japanese].[3]

b. $[_{DP}$ the$_{[u\text{-}N]}$ $[_{NP}$ girl from Italy$_{i[i\text{-}N]}$ AGREE

$[_{NP'}$ Ø] $[_{AspP}$ $[_{Asp'}$ always$_{[+habitual]}$ $[_{Asp'}$ t_j] $[_{vP}$ t_i $[_{v'}$ speak-ing$_j$ Japanese]]]]]]

In (25b), an NP *girl from Italy* merges in spec, *v*P without being assigned Case, and moves to spec, NP. Applying Bianchi's (2000: 129) idea, I assume that this movement is triggered by AGREE between the determiner *the* and the head noun phrase *girl from Italy*. The determiner *the* serves as Probe because it bears an uninterpretable N feature which is related to categorial selection, and the head noun phrase *girl from Italy* serves as Goal because it has an interpretable N feature. Finally, the DP *the girl from Italy always speaking Japanese* receives Case from the preposition *at* and is licensed as an argument.

5. Historical Consideration

Finally, I would like to consider the external determiner analysis of reduced relative clauses in relation to the emergence of the functional category D in the history of English.

Sugiura (2014, 2015, 2017) investigate the historical development of reduced relative clauses and report that they appeared around the thirteenth century. (26) is one of the first examples of reduced relative clauses.

(26) and alle heore teres beoð berninde
and all her tears are berning
gleden glidende ouer heore aȝene
glede gliding over her own
nebbe
neb
'and all her tears are bearing kites gliding over her own neb'
(1225, (CMLAMBX1,43.554), from PPCME2 Corpus)

Then we have two questions: first, why did reduce relative clauses appear around the thirteenth century? Second, why were there no reduced relative clauses before the thirteenth century?

The answer is that, following Osawa (2000), there was no functional category D before the thirteenth century. Osawa (2000: 75) proposes that 'no syntactic case assignment was operative in earlier English,' and 'around the 13th century, structural case assignment became activated.' This would suggest that the functional category D was introduced into the determiner system around the thirteenth century.

Please remember that in the structure (25b), the functional category D is indispensable since the determiner is merged outside the reduced relative clause. Therefore, I assume that before

the thirteenth century, speakers could not produce reduced relative clauses because they did not have the functional category D, but after the thirteenth century, along with the introduction of the D system, speakers came to produce reduced relative clauses that have the structure in (25b).

6. Conclusion

This paper discussed the function and role of the Asp and the derivation of reduced relative clauses. In section 3, I compensated for the deficiency in Thompson (2001) and claimed that the aspect denoted by the reduced relative clause depends on what features the AspP has. In section 4, I showed that reduced relative clauses are explained correctly under the head noun raising account. Finally, in section 5, I showed that the proposed structure answers the two questions about the emergence of reduced relative clauses in the thirteenth century.

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NOTES

[1] Some scholar may consider the example like the one in (7b) to be fine. According to my six informants, three of them answered that (7b) is ungrammatical, and the rest of them, that is, three informants answered that (7b) is grammatical. However, two out of the three informants that judged (7b) to be grammatical answered that *probably* modifies the matrix predicate *used to be my roommate*, and only one informant answered that *probably* modifies the reduced relative clause *playing the music*. Thus, five informants disallow the interpretation of *probably* modifying *playing the music*. Therefore, I assume that sentence adverbs are usually disallowed in reduced relative clauses. This means that they lack TP.

[2] (24a, b) were provided by my informant.

[3] (25a) was also provided by my informant.

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Eliminating String-Vacuous Movement: C-Deletion and Phasehood Inheritance*

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Keywords: String-Vacuous Movement, C-Deletion, Phasehood Inheritance, *Only*-Subjects, Topic-Subjects

1. Introduction

Adopting the POP framework of Chomsky (2013, 2015), this paper proposes an analysis in which string-vacuous movement of subjects is eliminated due to C-deletion and phasehood inheritance. More specifically, building on Chomsky (2015) and Tanigawa (2017), this paper claims that C-deletion and phasehood inheritance take place uniformly in a variety of constructions with A'-movement—*Wh*-question, Negative Inversion and Topicalization—in which string-vacuous movement of subjects has been postulated. It is argued that this analysis captures peculiar properties of subjects observed in the constructions.

This paper is organized as follows. Section 2 gives an overview of Chomsky's (2015) analysis of null-*that*-clauses and Tanigawa's (2017) analysis of *Wh*-subject questions. Section 3 and Section 4 apply their analyses to Negative Inversion and Topicalization, respectively, demonstrating the advantages of the proposed analysis. Section 5 makes the concluding remarks.

2. *Wh*-Questions and *Wh*-Subjects

Chomsky (2015) proposes C-Deletion and Phasehood Inheritance for null-*that*-clauses such as in (1a), according to which C is deleted and phasehood is inherited from C to T.

(1) a. I think John read the book.
b. ~~[$_\beta$ C~~ ~~[uφ]~~ [$_\alpha$ John$_{[\varphi]}$ T~~[uφ]~~ $t_{subj.}$ read the book]~~]~~
c. [$_\gamma$ I think ø [$_\alpha$ John T~~[uφ]~~ $t_{subj.}$ read the book]]

In (1b), the embedded C and its non-head β undergo deletion as soon as C discharges unvalued φ-features [uφ] to T.[1] Due to the deletion of C and β, the phasehood of C is inherited by and activated on T, and α merges with the matrix verb *think*.

This analysis is extended to matrix sentences and *Wh*-subject questions by Tanigawa (2017). In matrix sentences such as (2a), C and its non-head β undergo deletion once [uφ] is discharged from C to T.

(2) a. John likes cats.
b. ~~[$_\beta$ C~~ ~~[uφ]~~ [$_\alpha$ John$_{[\varphi]}$ T~~[uφ]~~ $t_{subj.}$ like cats]~~]~~

In (2b), T becomes the derived phase head in the same way as in (1b).[2] This deletion is feasible based on (3a).

(3) a. C and its non-head are deleted if all features are discharged from C and if no lexical item sits in C or SPEC-C.
b. Due to the deletion of C, the phasehood of C is inherited by and activated on T.

The implementation of phasehood inheritance stated in (3b) is a necessary consequence from (3a).

Tanigawa (2017) employs (3a, b) to resurrect the Vacuous Movement Hypothesis for *Wh*-subject questions proposed by George (1980) and Chomsky (1986) among others, as illustrated in (4).

(4) a. Who saw Mary?

b. ~~[$_{\beta}$ C$_{[u\varphi][Q]}$~~ [$_{\alpha}$ who$_{[\varphi]}$~~[uQ]~~ T$_{[u\varphi]}$[Q] t_{who} see Mary]~~]~~

In (4b), the *wh*-subject, which bears an unvalued Q-feature [uQ], does not undergo string-vacuous movement from SPEC-T to SPEC-C. Instead, it remains in SPEC-T, while a valued Q-feature [Q] is inherited from C to T concomitantly with [uφ]. This feature inheritance empties C, which elucidates the deletion of C and β and the inheritance of phasehood from C to T. Consequently, {$_{\alpha}$ *wh*-DP, TP} obtains the labels of <φ, φ> and <Q, Q>, and due to the dual labels, SPEC-T is regarded both as A-position and A'-position. In the remainder of this paper, this analysis is referred to as the C-deletion analysis.

According to this analysis, the derivation of *Wh*-subject questions is differentiated from that of *Wh*-object questions, in which *wh*-objects are dislocated to SPEC-C, as shown in (5).

(5) a. Who did John see?

b. [$_{\beta}$ who$_{[uQ]}$ C$_{[u\varphi]}$[Q] [$_{\alpha}$ John$_{[\varphi]}$ T$_{[u\varphi]}$ t_{John} see t_{who}]]

Note that the following derivation, in which the *wh*-subject undergoes string-vacuous movement from SPEC-T to SPEC-C, gives rise to a crucial problem of labeling.

(6) [$_{\beta}$ who$_{[\varphi][uQ]}$ C$_{[u\varphi]}$[Q] [$_{\alpha}$ t_{who} T$_{[u\varphi]}$ t_{who} see Mary]]

According to Chomsky (2013, 2015), the lower copy of *who* in SPEC-T is invisible to LA at phase level β in (6). Even though {$_{\alpha}$ *wh*-DP, TP} is subject to agreement by virtue of <φ, uφ>, the dislocation of *who* from SPEC-T de-labels {$_{\alpha}$ *wh*-DP, TP}, which induces the derivation to crash. Under the framework of Chomsky (2013, 2015), therefore, the inheritance of [Q] from C to T is mandatory to the derivation of *Wh*-subject questions for successful labeling. This feature inheritance is accompanied by C-deletion and phasehood inheritance.

The C-deletion analysis provides a straightforward account of the fact that *Wh*-subject questions lack Subject-Auxiliary Inversion (hereafter, SAI), as is clear from the complementary distribution between (7) and (8).

(7) a. Who saw Mary? *wh*-subject

b. * Who did see Mary?

(8) a. * Who John saw? *wh*-object

b. Who did John see?

This paper assumes that the interrogative C in the matrix clause, that is, C with [Q] is affixal to attract an auxiliary verb. This is why SAI must be present in *Wh*-object questions such as (8b). In this respect, the C-deletion analysis makes a significant difference to *Wh*-subject questions such as (7a). Under the C-deletion analysis, the affixal C disappears from the derivation due to C-deletion. The disappearance of C then results in the absence of SAI.

In addition, the C-deletion analysis has no difficulty dealing with the distributions of interrogative intensifiers such as *on earth* and *the hell*. Pesetsky (1987) observes that these intensifiers modify *wh*-phrases in SPEC-C, but do not modify *wh*-in-situ, as shown in (9a, b).

(9) a. Who on earth did John see?
b. * Who saw what on earth?
c. Who on earth saw Mary?

In this respect, (9c) would pose a problem to the C-deletion analysis, according to which the *wh*-subject is located in SPEC-T rather than SPEC-C. The C-deletion analysis successfully handles this problem by reformulating Pesetsky's generalization: the intensifiers at issue modify *wh*-phrases in A'-position. Recall that in the C-deletion analysis, SPEC-T is regarded both as A-position and A'-position due to the dual labels. As a result, the *wh*-subject *who* in (5c) can host the intensifiers, since it is located in A'-position.[3]

3. Negative Inversion and *Only*-Subjects

This section applies the C-deletion analysis to another type of A'-movement, Negative Inversion. This paper assumes that unmarked examples of Negative Inversion such as (10a) have a derivation in (10b), in which negative elements bearing an unvalued focus feature [uFoc] move up to SPEC-C while C is endowed with a valued focus feature [Foc].

(10) a. Only to Mary did John give any flowers.
b. [$_{\beta}$ only to ... $_{[uFoc]}$ C$_{[u\varphi][Foc]}$ [$_{\alpha}$ John T$_{[u\varphi]}$ give any flowers t_{PP}]]

With this assumption, this paper proposes that negative subjects, even though they are assigned [uFoc], remain in SPEC-T and that [Foc] is discharged from C to T.[4] Consider (11).

(11) a. Only John gave any flowers to Mary.
b. ~~[$_{\beta}$ C$_{[u\varphi][Foc]}$~~ [$_{\alpha}$ only Mary$_{[\varphi]}$~~$_{[uFoc]}$~~ T$_{[u\varphi]}$[Foc] $t_{subj.}$ show any respect ...]~~]~~

As shown in (11b), C and β undergo deletion, and phasehood is inherited from C to T. This also means that {$_{\alpha}$ DP, TP} obtains the labels of <φ, φ> and <Foc, Foc>, which lends SPEC-T its dual status as occupying both A-position and A'-position.

The major advantage of this analysis is that it provides a straightforward account for why SAI is suspended in negative subjects. Consider the difference between (12) and (13).

(12) a. Only Mary likes John. subjects
b. * Only Mary does like John.
(13) a. * Only John Mary likes. objects
b. Only John does Mary like.

Assuming that C with [Foc] is affixal to attract an auxiliary verb, the proposed analysis guarantees the absence of SAI in negative subjects in (12) as C, the locus of the head-moved auxiliary, disappears from the derivation.

In addition, the proposed analysis is appealing in that it deals with the peculiar licensing of negative polarity items (hereafter, NPIs) observed by Progovac (1993, 1994). Consider (14).

(14) a. Only to his girlfriend did John give any flowers. (Progovac (1993: 176))
b. [$_{CP}$ only to ... C=did [$_{TP}$ John ... any]]

Progovac claims that *only*-phrases license NPIs if they occupy SPEC-C, i.e. A'-position, proposing that Negative Inversion as in (14a) is the typical environment for this licensing. In fact, as shown in (15), *only*-objects, which lack overt movement to SPEC-C, do not license NPIs.

(15) ?*John gave only his girlfriend any flowers. (Progovac (1993: 176))

In this respect, the question arises as to why the *only*-subject in (16) can license *any* even though it is located in SPEC-T, which has been traditionally defined as A-position rather than A'-position.

(16) Only Mary showed any respect for the visitors. (Progovac (1993: 176))

To overcome this problem, Progovac assumes that *only*-subjects undergo string-vacuous movement from SPEC-T to SPEC-C at LF and that *only*-phrases license NPIs if they are located in SPEC-C at S-Structure or LF. However, these assumptions are unilluminating because they would wrongly rule in (15): not only *only*-subjects but also *only*-objects could be eligible for LF-movement to SPEC-C.

This problem is successfully handled by the C-deletion analysis in (11b) without assuming LF-movement. According to (11b), SPEC-T is regarded as taking both A-position and A'-position due to the dual labels. In light of this analysis, *only*-subjects count as proper NPI licensers, occupying SPEC-T as the derived A'-position.[5]

3. Topicalization and Topic-Subjects

This section extends the C-deletion analysis to yet another type of A'-movement, Topicalization. According to the well-known typology proposed by Li and Thompson (1976), Japanese is a topic-prominent language, in which clause-initial elements are not necessarily subjects but instead, topical/thematic elements, while English is a subject-prominent language, in which subjects count as unmarked clause-initial elements (see also É. Kiss (1995)). In essence following Miyagawa (2001, 2010), this paper proposes that the topic-prominent property of Japanese is attributable to the mandatory inheritance of a valued topic feature [Top] from C to T, and that phasehood inheritance from C to T reanalyzes SPEC-T as the derived topic position. According to this analysis, any element with an unvalued topic feature [uTop] undergoes movement to SPEC-T, as shown in (17) and (18).

(17) a. John-wa syasin-o totta.
John-TOP picture-ACC took
'John took a picture.'

b. ~~[$_{\gamma}$~~ [$_{\beta}$ John-wa~~$_{[uTop]}$~~ [$_{\alpha}$ $t_{subj.}$ syasin-o totta] $T_{[Top]}$] ~~C~~ ~~[Top]~~ ~~]~~

(18) a. Kono syasin-wa John-ga totta.
this picture-TOP John-NOM took
'This picture, John took.'

b. ~~[$_{\gamma}$~~ [$_{\beta}$ kono syasin-wa~~$_{[uTop]}$~~ [$_{\alpha}$ John-ga $t_{obj.}$ totta] $T_{[Top]}$] ~~C~~ ~~[Top]~~ ~~]~~

When a non-subject targets SPEC-T, as in (18), the subject remains within vP (see Kuroda (1988) and Miyagawa (2001, 2010)). If Saito's (2014, 2016) analysis, in which C in Japanese potentially lacks [uφ], is adopted, [Top] is obligatorily inherited from C to T while C and its non-head are deleted. Consequently, SPEC-T counts as the unmarked topic position, and {Topic-XP, TP} is labeled <Top, Top>.

With respect to the subject-prominent property of English, this paper adopts the standard assumption that [uφ] is inherited from C to T. Yet, this paper departs from traditional analyses in that [Top] is inherited from C to T only when subjects bear [uTop].

(19) a. He likes Mary.

b. ~~[$_\beta$ C$_{[u\varphi][Top]}$~~ [$_\alpha$ he$_{[\varphi]}$~~[uTop]~~ T$_{[u\varphi]}$[Top] $t_{subj.}$ like Mary]~~]~~

Even in subject-prominent languages like English, there is a case where SPEC-T counts as the topic position. When subjects bear [uTop], [Top] as well as [uφ] is inherited from C to T, which enables [uTop] to undergo agreement with [Top] inherited to T (cf. Agbayani (2006)). Namely, what are called topic-subjects do not undergo string-vacuous movement from SPEC-T to SPEC-C even in English; regardless of the typological difference, topic-subjects are treated in the same way, as shown in (17) and (19).[6, 7]

One well-attested example of topic-subjects in English is the sentential subject construction, such as in (20).

(20) a. That John won the first prize is true.
b. For John to win the first prize is impossible.

This construction is analyzed by Tanigawa (2018), who criticizes the string-vacuous movement approach proposed by Stowell (1981) and Takahashi (2010). Details aside, Tanigawa proposes the derivation in (21), which is on a par with (19b).

(21) ~~[$_\beta$ C$_{[u\varphi][Top]}$~~ [$_\alpha$ SS$_{[\varphi]}$~~[uTop]~~ T$_{[u\varphi]}$[Top] t_{SS} is true]~~]~~ SS = sentential subject

In this analysis, sentential subjects remain in SPEC-T rather than undergo string-vacuous movement to SPEC-C. Instead, [Top] as well as [uφ] is inherited to C, and C and its non-head are deleted. As a result, {$_\alpha$ SS, TP} obtains the label of <Top, Top>.

With respect to the information structure of this construction, Hooper and Thompson (1973) argue that the proposition of sentential subjects is necessarily presupposed. Roughly speaking, this is equivalent to saying that sentential subjects necessarily serve as a topic of the sentence. In the proposed analysis, the topic status of sentential subjects is attributed to their possession of [Top] and the label of <Top, Top> assigned to {$_\alpha$ SS, TP}.

One of the peculiar properties of the sentential subject construction is that it is incompatible with SAI, as shown in (22).

(22) * Is that John won the first prize true?

The C-deletion analysis in (21) straightforwardly accounts for the absence of SAI by assuming (23a, b).

(23) a. There is only one occurrence of C in the matrix left periphery in English (cf. Rizzi (1997)).
b. The sole C is endowed with only one [F], in which F is either Q, Top or Foc.[8]

Given these assumptions, [F] in C is realized as [Top] in the derivation of sentential subjects, as shown in (21), which rules out the possibility that [Q] occurs in C. The inheritance of [Top] and [uφ] from C to T contributes to the deletion of C. Consequently, the auxiliary verb has no place to head-raise in the structure, and the ungrammaticality of (22) follows.

4. Concluding Remarks

Analyses have been proposed where string-vacuous movement is eliminated in a variety of constructions involving A'-movement. It has been argued that *only*-subjects and topic-subjects, as well as *wh*-subjects, remain in

SPEC-T due to feature inheritance and C-deletion. Peculiar properties of these subjects, such as those in the interrogative clause, have been dealt with in terms of C-deletion and phasehood inheritance.

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NOTES

[1] This paper leaves aside an unvalued case feature [uCase], which must be assigned to DPs. See Goto (2015) and Tanigawa (2018) for the contribution of [uCase] to labeling.

[2] Feature inheritance, as a form of feature movement, must observe constraints on movement. The deletion of C avoids a violation of the Proper Binding Condition. Without the deletion of C, the trace of [uφ], which remains in C, is not bound by its antecedent inherited by T.

[3] In addition to interrogative intensifiers, the C-deletion analysis deals successfully with other phenomena such as selectional restrictions, *wh*-islands, and sluicing. For details, see Tanigawa (2017).

[4] String-vacuous movement does not apply to *only*-subjects from SPEC-T to SPEC-C. As discussed in (6), this movement would de-label $\{_{\alpha}$ DP, TP$\}$.

[5] This paper leaves open the question of why NPI licensing requires that *only*-phrases must be located in A'-position.

[6] Topic-subjects do not undergo string-vacuous movement of from SPEC-T to SPEC-C. As discussed in (6), this movement would result in the de-labelling of $\{_{\alpha}$ DP, TP$\}$. See also note 4.

[7] The question remains as to whether the same analysis should be given to topic-subjects in the embedded clause. Because of space limitations, this paper leaves in-depth discussion of this issue for future research.

[8] Unlike Tanigawa (2018), this paper assumes with Chomsky (2008, 2013, 2015) that C bears a valued feature [F] while phrases in SPEC-C bear an unvalued counterpart [uF]. Personally, however, the author believes that the opposite must be true. For detailed discussion of this issue, see Tanigawa (2018).

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Be on the Point of -ing and Its Variant Forms in Early Modern English*

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Keywords：Early Modern English, EEBO, rivalry

1. Introduction

Be on the point of is said to be a calque of the French phrase *être sur le point de* and was first attested in English as early as the thirteenth century, but its form in early times varied considerably. Mossé (1938: 162-163), collecting some examples of *be on the point of -ing* and its variant forms, summarises that the variation was seen in the choice of the first preposition (*on, upon, at,* etc.) and the second preposition (*of* followed by a gerund/noun or the infinitival *to*). To Mossé's observation, the presence or absence of *the* before *point* may be added as yet another indicator of variation (see below).

However, little has been known about the historical relationship—or rivalry—between those variant forms of *be on the point of -ing*. Mossé (1938: 162-163) comments that *upon* was the most favoured preposition corresponding to the French *sur*, but he does not go further than this. The OED (s.v. *point* n.[1]) merely labels as "archaic" or "obsolete" such forms as *at (the) point to* (D.1.c), *in point to* or *of* (D.4.f), and *on* or *upon the point to* (D.5). Poutsma (1914-1929: Pt. I, second half, 909), in the description of *be on the point of -ing*, refers to the form *at* (*the*) *point* and notes that "*To be at the point* [*of -ing*] is an unusual variant [...]. In older English *to be at the point* is also found construed with an infinitive [...]. The archaic *to be at point* appears to stand regularly with an infinitive [...]" (see also Poutsma (1914-1929: Pt. II, Sec. II, 246, 728)). However, his observation is sketchy and fails to pay attention to other variant forms. It might be said, though, that these scholars had no choice but to be satisfied with making brief comments on this matter because the use of *be on the point of -ing* and its variant forms has been rather infrequent throughout the history of English. In other words, without large-scale corpora, it is quite hard to carry out a detailed survey of expressions with low frequency of use. Accordingly, this paper seeks to give a more detailed account of the rivalry between *be on the point of -ing* and its variant forms with the help of Early English Books Online (EEBO) (Davies 2017)—a large-scale corpus of Early Modern English (EModE) with 755 million words from 25,000 texts. The specific aim is to tackle the question why *be on* or *upon the point of -ing* became the norm while other forms, especially those ending with *to do*, died out.

The rest of the paper is organised as follows: Section 2 shows the methodology adopted in the study. Section 3 presents details of the rivalry of *be on the point of -ing* and its variant forms. Section 4 discusses possible factors that led to the establishment of *be (up)on the point of -ing*. Section 5 concludes the study.

2. Methodology

The data for the study was collected from EEBO, by using the following search queries:

(1) a. Prep (THE) POINT OF _v?g*
    b. Prep (THE) POINT TO _v?i*

(Prep=UPON, AT, IN, ON)[1]

These queries were intended to include all of the variant forms cited in the literature introduced in the section above.[2] Instances with variant spellings were collected by conducting lemma searches (i.e. by capitalising the search words). The query in (2a), for example, matches the instance in (2b):

(2) a. AT THE POINT OF _v?g*
b. euen after the charges of the cure serued, the Tenthes and Subsidie paied, and **at the poincte of receiuyng** that, whiche was before labored for and deserued (*A defence of priestes mariages*, 1567)[3]

In total, the corpus search yielded more than 2,000 relevant instances.

Although the size of EEBO is much larger than any existing corpora of EModE, it should be borne in mind that the number of words and texts by decade is quite imbalanced, and this might affect the results in some way or another. As indicated on the webpage of the corpus[4], most of the texts and words are distributed in the second half of the seventeenth century. In the sixteenth century, in contrast, the size of the corpus is very small. Despite such shortcomings, however, the data from EEBO adequately reveals the rivalry between the variant forms of *be on the point of -ing*, as will be shown in the next section.

3. Details of the Rivalry

3.1. The Choice of the First Preposition

The results show that the choice of the first preposition varies depending on the second preposition, that is, whether it is *of* followed by a gerund or *to* followed by an infinitive.

As summarised in Figures 1 and 2, the most favoured preposition preceding (*the*) *point of -ing* is *upon*, and its frequency rises from the mid-seventeenth century onwards. They also show that in *of -ing* variants, the use of *the* before *point* is almost mandatory. Some early examples of *upon (the) point of -ing* are quoted in (3a-b):

(3) a. they [theeues] were euen **vpon the point of opening** his chamber doore where he laye (*The morall philosophie of Doni*, 1570)
b. whether it be likely, that hannibal was **vpon point of flying** out of Italie, when the romans pressed him to fight (*The history of the world*, 1617)

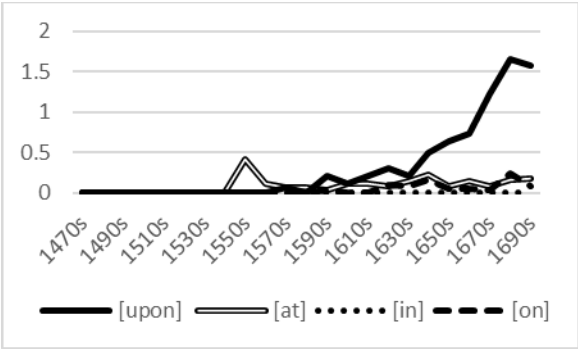

Figure 1: Frequency of Prep *the point of -ing*[5]

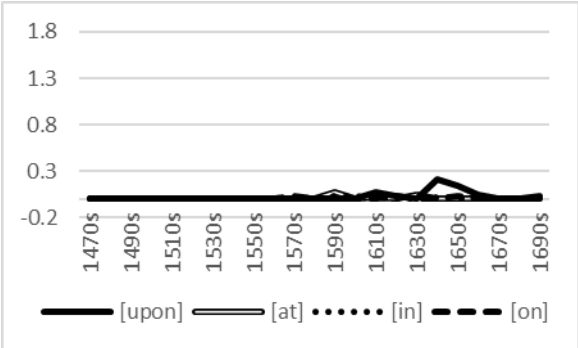

Figure 2: Frequency of Prep *point of -ing*

In variants ending with *to do*, the choice of the first preposition is different according to the presence or absence of *the* before *point*. In variants with *the*, *at* is most frequent throughout nearly the entire period as in Figure 3; in variants without *the*, meanwhile, the most frequent preposition is *in* until the mid-sixteenth century, when it changes to *at*, as in Figure 4. These findings support and supplement Poutsma's description of *at* (*the*) *point* that "In older English *to be at the point* is also found construed with an infinitive […]. The archaic *to be at point* appears to stand regularly with an infinitive" (Poutsma (1914-1929: Pt. I, second half, 909)). Early instances of *at* (*the*) *point to* and *in point to* are quoted in (4) and (5):

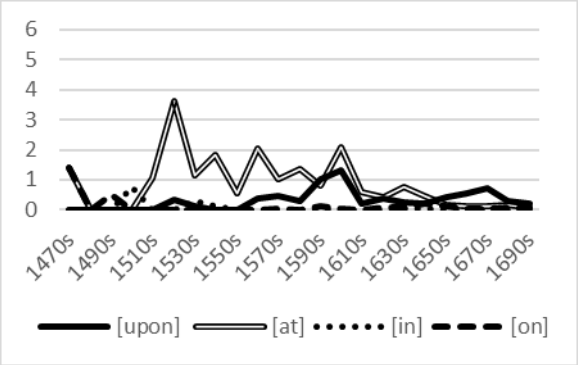

Figure 3: Frequency of Prep *the point to*

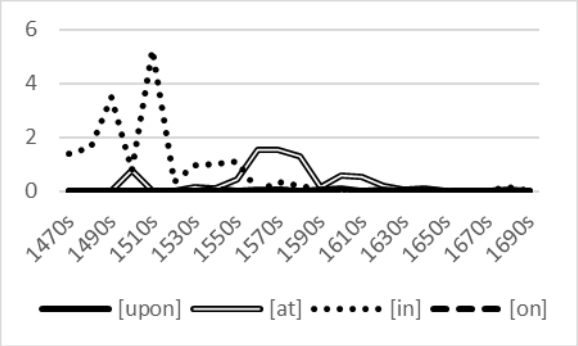

Figure 4: Frequency of Prep *point to*

(4) a. and all full of oon ryght good will desired the medles / whan hercules had achieuyd his exortacon he wente to the bataill / for hit was **at the point to fighte**: (*The historyes of Troye*, 1474)

b. johan launoy who was in the steple / seinge hym selfe **at the poynt to be brent** / cryed to them without / raunsome raunsome: and offred his cote / whiche was full of florens to saue his lyfe: (*Sir Iohan Froyssart of the cronycles*, 1523)

(5) a. Almyghty god that saueth alman kynde / Haue on custaunce &; her child [s]um mynde / that fallen is in hethen lond eftsone / **in poynt to spille** as i shal telle you sone (*The Canterbury Tales*, 1477)

b. than he tolde vnto ponthus how he was robbed &; **in poynte to be deed** / and how yt he came beggy[n]ge his brede fro dore to dore (*The noble history of King Ponthus*, 1511)

3.2. With or without *The* before *Point*

As shown in Figure 5, except for the early sixteenth century, the period when *in point to* is frequently used, variants without *the* are infrequent. From the mid-sixteenth century onwards, variants with *the* continue to be dominant.

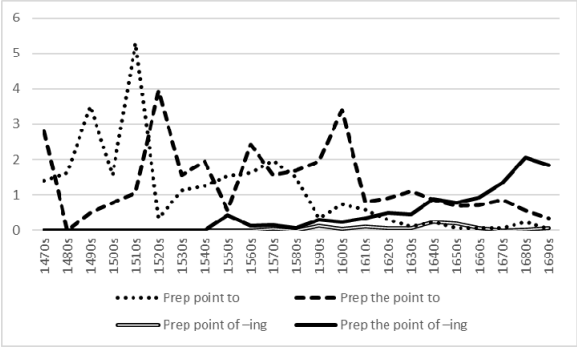

Figure 5: Frequency of Prep *(the) point to* and Prep *(the) point of -ing*

3.3. The Choice of the Second Preposition

Figure 5 also shows changes in the second preposition. Up to the end of the sixteenth century, the *to do* variants are favoured (especially *at the point to* and *in point to*), but in the seventeenth century, the *of -ing* variants (especially *upon the point of -ing*) gradually become dominant.

3.4. Summary

The findings presented so far reveal the rivalry between *be on the point of -ing* and its variants from the historical perspective. Up to the early sixteenth century, the most frequent form is *in point to*; in the sixteenth century, *at the point to*; and finally in the seventeenth century, *upon the point of -ing*. The next section discusses why *upon the point of -ing* became the norm.

4. The Establishment of *Upon the Point of -ing*

This section addresses two factors which are likely to have led to the establishment of *upon* (later *on*) *the point of -ing*: the structure "Prep *the point of* + event noun," in which *of* is the only possible preposition, and the development of complex prepositions in EModE.

The structure "Prep *the point of* + event noun" is attested from very early times. The most common pattern is where *point* is followed by *death*. According to Orr (1962: 104), who suggests a parallel between *at the point of death* and *sur le pointe de la mort*, this very phrase, too, is probably a borrowing from French. Some examples of Prep (*the*) *point of death* are quoted in (6a-c):

(6) a. neuertheles he [the ypocryte] hath a condycyon within hym self / that is to w[it] / that he shold rather see a man **at the poynt of dethe** / than for to saue his lyf of an halfpeny (*The subtyl historyes and fables of Esope*, 1484)

b. luke wryteth of a man that laboured in goynge from Ierusalem vnto ierico: luce:: and theues fell vpon hym, spoyled hym, robbed hym, wounded hym and lefte hym for deade: there lyeynge soore wounded **at poynte of deathe**, it chaunced a priest to passe by: (*A sermonde made before the kynge*, 1538)

c. to whom he answered, you see my friend i am now **vpon the point of death**, it is no time to dissemble; (*A catalogue of the bishops of England*, 1601)

In the seventeenth century, nouns other than *death* begin to appear—*victory* in (7), *execution* in (8), and *marriage* in (9):

(7) so the horsemen who had the upper hand before, and were **at point of victorie**, were now with a foule feare discomfited &; scattered, (*The Romane historie*, 1600)

(8) he […] discouered alexandras secret enterprise to the king: who dissembling the matter vntill it was **vpon the point of**

execution, surprised her at such time as she thought to flye, and yet notwithstanding he pardoned her that fault (*The famous and memorable vworkes of Iosephus*, 1602)

(9) it hapned that the kings sonne of the assyrians, being **upon the point of marriage**, was very desirous himselfe in person, against that time to hunt: (*Cyrus le Grand*, 1632)

When followed by an event noun as in (6)-(9), the second preposition should always be *of* but never *to*. The repeated use of this structure might have assisted the reduction of the variation in the choice of the second preposition (*of* or *to*) because it is not economical for an expression to have multiple forms when there is no semantic or functional difference between them. It would be thus natural to assume that the spread and establishment of the pattern "Prep *the point of* + event noun" led to the supremacy of *upon the point of -ing* over variants ending with *to do*.

Another factor is the development of complex prepositions in EModE (Akimoto 1999, Hoffmann 2005). According to Hoffmann (2005: 86):

> By the beginning of the seventeenth century, the sequence 'preposition + noun + preposition' was already well established as a potential unit-like structure via a number of combinations. In addition, the continuously strong French influence on English—where the same construction (e.g. *en faveur de*) can also be found—may have contributed to its familiarity.

Figures 6-1 and 6-2 show changes in frequency of the ten complex prepositions which Hoffman (2005: 62) lists as those established between 1500-1700: *in common with, in conjunction with, in favour of, in need of, in relation to, in search of, on behalf of, on top of, with regard to,* and *with respect to*. All of these complex prepositions, to different degrees, increased in frequency, especially in the second half of the seventeenth century. Similarly, an increase in frequency was observed in the use of *upon the point of -ing* towards the end of the seventeenth century (Figure 1). Thus, it would be reasonable to say that, in the course of the establishment of complex prepositions, the variants ending with *to do* gave way to those ending with *of -ing*, especially *upon the point of -ing*.[6]

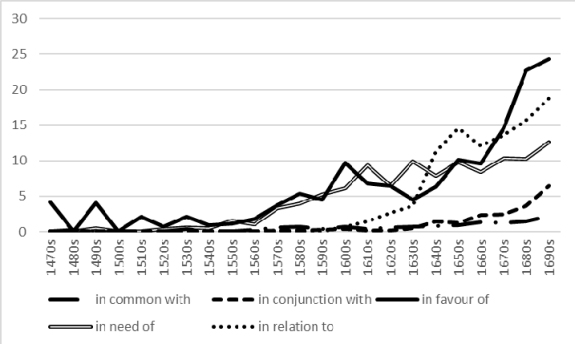

Figure 6-1: Frequency of complex prepositions established between 1500-1700 (1)

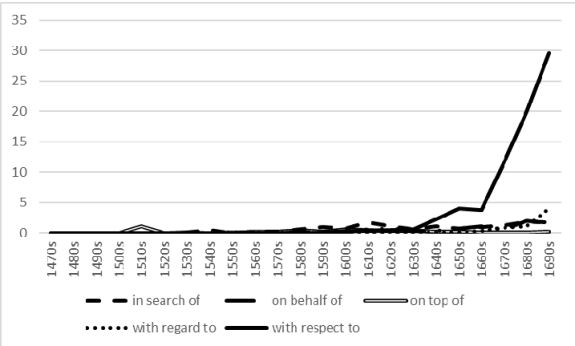

Figure 6-2: Frequency of complex prepositions established between 1500-1700 (2)

5. Conclusion

This paper has revealed the rivalry between variant forms of *be on the point of -ing* in EModE with the data retrieved by searching EEBO, the detail of which is summarised in Table 1. The findings presented here complement and elaborate on what has been described in the literature. The paper has also suggested possible factors behind the establishment of *upon* (later *on*) *the point of -ing*: the structure "Prep *the point of* + event noun" and the development of complex prepositions in EModE. Both of these are likely to have assisted the prevalence of variations ending with *of*, especially *upon the point of -ing*, in the seventeenth century.

Table 1: Rivalry between variant forms of *be on the point of -ing* in chronological order

up to the early 16th c.	*in point to*
in the 16th c.	*at the point to*
in the 17th c.	*upon the point of -ing*

* I would like to express my gratitude to Christie Provenzano for stylistic improvements. This work was supported by JSPS KAKENHI Grant Number JP16K16858.

NOTES

[1] "_v?g*" and "_v?i*" are POS tags for a gerund and an infinitive, respectively.

[2] However, *up the point to* (Mossé 1938: 163) was not included because no instance of it was found in EEBO.

[3] Emphases in example sentences are mine.

[4] https://corpus.byu.edu/eebo/help/texts.asp

[5] In all of the figures, frequencies are normalised per million words.

[6] Although Hoffmann (2005) only deals with complex prepositions without an article, his argument seems equally applicable to those with an article since the category of complex prepositions is gradient (Quirk et al. 1985: 670-671). Poutsma (1914-1929: Pt. II, Sec. II, 728) includes *upon the point of -ing* and its variant forms in the list of complex prepositions ("group-prepositions" in his terminology).

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Expressiveness from a Bayesian Perspective*

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Keywords : expressiveness, addressee-honorifics, Bayesian statistics, dynamic pragmatics, variation theory

1. Introduction

Expressive elements are linguistic units that performatively express the speaker's emotive attitude which are independent from the regular descriptive content of the sentence (*aka.*, the at-issue meaning), such as (anti)honorifics, slurs, and epithets (Potts 2003, 2007; Potts and Kawahara 2004; Sells and Kim 2007; Hom 2010; McCready 2014, to appear; Hedger 2013; Blakemore 2015; Cepollaro 2015; Croom 2015; Yoon 2015; Davis and McCready 2016; Yamada 2018; *amo.*). For example, the sentence in (1) has two independent messages. The at-issue meaning is given in (i); *i.e.*, Mary ate the apple. The expressive meaning in (ii) (in this case, the honorific meaning) is subsidiary information associated with this sentence but orthogonal to the speech act of reporting Mary's apple-eating event. Likewise, when we compare (2)a with (2)b, it is clear that they both share the same primary information about Akitaka's nationality (the at-issue meaning) but (2)a departs from (2)b in that it also encodes the speaker's negative attitude toward a group of people to which he belongs (the expressive meaning) (Cepollaro 2015).

(1) *Mary-ga ringo-o tabe-masi-ta.*
Mary-NOM apples-ACC eat-HON$_A$-PST
(i) 'Mary ate the apple.' (ii) 'I respect you.'

(2) a. Akitaka is a Jap. b. Akitaka is Japanese.

While the language system only provides categorical distinctions (e.g., 'Jap' vs. 'Japanese' or the plain form vs. the *des-mas* form in Japanese), the intensity of our feeling is continuous. The main goal of this paper is propose a pragmatic model that links (i) the discrete choice in our language and (ii) the underlying continuous, latent, extra-linguistic variable(s).

Previous studies have proposed that real number intervals are appropriate for the denotation of expressive meanings as well as the information stored in the context (Potts 2007; McCready 2014; *cf.*, Potts and Kawahara 2004). While such real-based approaches give us flexible accounts for the semantics and the pragmatics of expressive elements --- with McCready (2014) being the most recent, sophisticated model ---, there are some issues not extensively discussed in the extant approaches. The first issue is a conceptual one. Under the previous approaches, discourse participants are assumed to know a particular range as the semantics for these expressive elements. But it remains unclear how they know what the range should be. I will argue that a slight modification of some assumptions under the real-based approach can circumvent the criticism about acquisition of the denotation of an expressive element. The second issue is about the record of the expressiveness. Previous theories only compare the interval of the current sentence with the interval of the immediate context. But I will show that the information of expressiveness in much earlier contexts should

not be dismissed. In improving these real-based approaches, I will propose that (i) we can adopt a categorical denotation for the semantics of expressive elements (ii) while maintaining the gradability in our feelings expressed in the context if we regard the context shift in expressiveness as a Bayesian update of a relevant parameter/parameters stored in the structured discourse context.

2. McCready's (2014) Proposal

The most elaborated version of the real-based approach is given by McCready (2014) who proposes that the appropriateness of expressiveness is determined by the compatibility of (i) an interval proposed by the sentence (a subinterval of [0,1]) and (ii) an interval given by the context (also a subinterval of [0,1]; the degree of expressiveness is reflected in the magnitude of the interval, *e.g.*, High ⊑ [.6, 1), Mid ⊆ [.3, .7], Low ⊑ [0, .4]). If there is an overlap, the sentence is judged appropriate in the given context. The context update is triggered when the utterance interval is not wider than the context interval. For example, suppose the given context has the interval of [.9, 1.0] and the sentence gives the interval [.0, .1]. Clearly, there is no overlap between the two, so the use of the sentence is inappropriate (*e.g.*, saying a casual word in a very formal setting) but the fact that the utterance interval is not wider than the context interval updates the context interval. For illustration's sake, she adopts the arithmetic average for the new context interval: $[(.9+.0)/2,\ (1.0+.1)/2] = [.4,\ .45]$. In contrast, if the sentence gives the interval [.5, .95], the context interval does not change because the utterance interval is wider (= less informative) than the interval of the immediate context.

3. Issues

Although the basic idea that expressive meanings dynamically update the structured discourse context is attractive, there is room for improvement.

The first issue comes from the assumption that each discrete linguistic expression is associated with a particular continuous, real-based range. Some researchers, while admitting the gradability or the continuity of the scale in the conceptual/extralinguistic system, hesitate to incorporate the gradability (*i.e.*, the real-based denotation) into the semantics (Portner et al. to appear). If we adopt [.75, .9] for the range of *des* for illustration purposes, this means that the meaning is different from [.75, .89] or [.750001, .9]. In this framework, a child born to the Japanese speaking society is expected to identify the interval for these expressions. Since, by definition, [.75, .9] is sharply distinguished from [.750001, .9], finding a unique range does not sound like a plausible task.

The second issue is the record of the expressiveness in the discourse. Under previous approaches, once the context interval is updated at the time of t_i, the information on what level of expressiveness *had been* maintained before t_i becomes inaccessible, which seems unlikely. To see this, compare the two scenarios below.

(Scenario A) Previously, the speaker A had produced sentences with low range of intervals, such as [.2, .5], [.3, .4], … and [.2, .3]. However, at a point, he shifts to a high register and the context interval of the immediate context is set to [.75, .8], for example.

(Scenario B) Previously, the speaker A had produced sentences with a relatively high range of intervals, such as [.9, 1.0], [.8, .9], … and [.7, 1.0]. And now the context interval is set to

[.75, .8].

In both scenarios, the context interval of the immediate context is the same. Suppose, however, that in the next move the same speaker A has produced a sentence whose utterance interval is [.3, .4]. If we only track the immediate context, what we take into account is the relation between the immediate context interval [.75, .8] and the utterance interval of the new sentence [.3, .4]. We would predict that the new sentence should be surprising in both cases. But if we are in Scenario A, the new utterance range is indeed a familiar register despite the fact that it is far from the context interval of the immediate context. If we correctly predict that the move in Scenario B is more surprising, we somehow want to look at the record of the expressive dimension in earlier contexts. Certainly, one can propose a discourse context such as in (3), where, in addition to our familiar components of the discourse context, we have $h^{(n)}$, which stores ALL the previous context intervals up to the current n-th utterance. But if our conversation continues, h becomes a lengthy list, suggesting we remember too many past states. Is there any better model in which the history of prior contexts sufficiently influences our decision in measuring the surprisingness or the appropriateness of the current utterance without serious memory overload?

(3) a. $c_n = \langle cg, qs, tdl, \ldots, h_n \rangle$
b. $h_n = \langle h^{(1)}, h^{(2)}, h^{(3)}, \ldots, h^{(n)} \rangle$
where $h^{(i)} \in \{[\alpha, \beta]: 0 \leq \alpha \leq \beta \leq 1\}$.

4. Proposal

We can kill two birds with one stone if we adopt some ideas from the Bayesian statistics. I maintain the assumption that the context is modeled as in (3)a, but instead of having a lengthy list of past expressive states in (3)b, in my model h is a set of a few representative parameters that summarize what the past situations were like. For simplicity's sake, I adopt a model with two summary parameters (for reasons stated below). Under this model, the context update is seen as a function from $h_{i-1}=(\alpha_{i-1},\beta_{i-1})$ to $h_i=(\alpha_i, \beta_i)$, leading to the architecture in (4).

(4) a. $c_n = \langle cg, qs, tdl, \ldots, h_n \rangle$
b. $h_n = (\alpha_n, \beta_n)$

However, the question remains of how to find a reasonable set of summary parameters that capture the past states. Below, I will propose that a Bayesian interpretation of the context update in expressiveness gives us a clue as to how to set up these parameters. To this end, we will begin with a brief introduction on the philosophy of this statistic framework and then discuss how the context parameters are updated.

4.1. Bayesian Statistics and Dynamic Semantics/Pragmatics

The main purpose of the inferential statistics is to make an inference about the parameters of a statistical model from the available data. In the Bayesian paradigm, (i) probability is used to measure any subjective uncertainty and, thus, (ii) parameters of a statistical model are given a probability distribution if we have some uncertainty about them; *cf.*, these assumptions are not made in non-Bayesian approaches.

For example, assume that we have a coin, which can be fair but may be biased. If we keep flipping the same coin, we will gain a sequence of outcomes and, based on them, we can infer with what probability the coin lands on heads.

Suppose the outcome of the coin toss follows

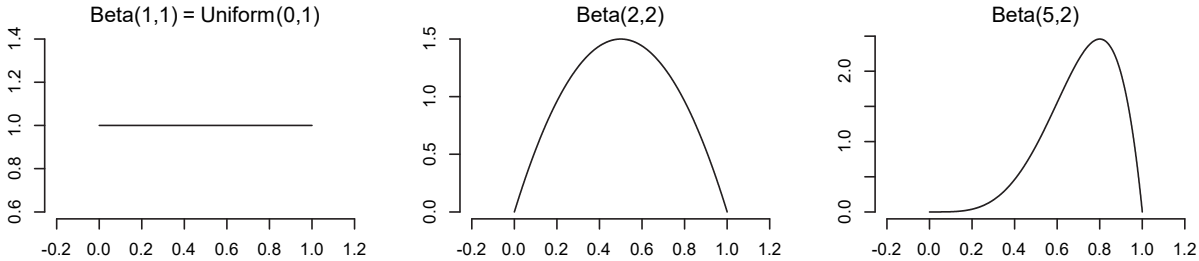

Figure 1. Modeling our uncertainty.

the Bernoulli distribution with an unknown parameter π. We will keep updating our estimation of this parameter every time we see the outcome. Since the uncertainty is captured in the form of a probability distribution in this framework, the estimation process is understood as an update of the probability distribution for π. For instance, before we see the results, we might have been completely agnostic about the possible value for π; it can be very small, *e.g.*, .05 or .08; it can be very high, *e.g.*, .97 or .94; or, it can be fifty-fifty. The probability distribution in the leftmost panel in Figure 1, for example, represents this agnostic state. But, after seeing the data, we update our uncertainty about π. If we observe one head and one tail, we may infer that this is a fair coin (the center panel in Figure 1, in which the values around .5 are most likely). But, if we have seen three heads in a row, we are more inclined to believe that π should take a high value, though it remains true that we never know the definite value for π (the rightmost panel in Figure 1).

We can understand this estimation process as a particular type of context update. Under the tradition of dynamic approaches to the discourse, the meaning of a sentence is regarded as a context change potential; the new context C' is derived from the previous context C and the current utterance S. This process is expressed as in (5)a. What the Bayesian statistics does is update our uncertainty with our new data --- which is expressed as a probability distribution as in Figure 1. If we refer to the previous uncertainty and the new uncertainty as U and U', and the data as D, the process of our estimation is expressed as in (5)b. The similarity is evident.

(5) a. C+S=C' b. U+D=U'

4.2. Context Shift in Expressiveness is a Bayesian Update

The main thesis of this paper is to adopt (5)b for the update mechanism in the expressive dimension of the discourse, which leads to the architecture in (4)b. The probability distribution is uniquely identified once we have specified the parameter(s) of that model. Thus, the nature of the update in (5)b is seen as the change of the values of these parameters. When we model a variable that ranges between 0 and 1, *i.e.*, in our case π, it is common to adopt the Beta distribution for its simplicity, which have two parameters α and β. Certainly, if we want to assume a more complicated model, a different set of summary parameters are used in place of (α, β). But, for simplicity's sake, I will keep using the Beta distribution and regard (α, β) as the summary parameters (= (4)b).

In the case of flipping coins, we estimate the parameter of the Bernoulli distribution π by observing the number of heads and tails. By analogy, we can interpret the pragmatics of addressee-honorification as an update of our subjective uncertainty parameter of the speaker's consistency of the *des-mas* form by observing

how many *des-mas* forms we have heard in prior contexts. For example, when we meet a new person, we do not know how consistently this person uses an addressee-honorific marker when addressing us. So, again, the leftmost panel in Figure 1 is a fair starting distribution. There is uncertainty about this π. If this person keeps producing an addressee-honorific marker, we start getting a skewed distribution as in the rightmost panel in Figure 1. If this person wants us to have a good impression of him, he will try to produce as many utterances with *des*/*mas* as he can so that we end up having a very skewed distribution. In other words, the goal of producing an addressee-honorific marker is to let the hearer make a Bayesian update. By interpreting $h=(\alpha, \beta)$ as the set of parameters for the probability distribution for π (the parameters of the Beta distribution), the nature of the context update is seen as the change from the previous state $h_{i\text{-}1}=(\alpha_{i\text{-}1},\beta_{i\text{-}1})$ to the new state $h_i=(\alpha_i,\beta_i)$.

In our model, the semantic contribution of *des*/*mas* is essentially the same as the information that we gain when we see a head in the coin toss; *i.e.*, they are context change potentials updating α and β. In the coin-flipping setting, with little mathematics, it can be easily shown that (i) every time we see a head, we increment α by one and (ii) every time we observe a tail, we add one to β. The dynamicity of the context change triggered by the addressee-honorific marker and the plain form (which has no morphological realization; so I use ϕ to refer to this form) is defined as in (6).

(6) a. $h_{i\text{-}1} + [\![\textbf{\textit{des/mas}}]\!] = h_i$
where $h_{i\text{-}1}=(\alpha_{i\text{-}1},\beta_{i\text{-}1})$ and $h_i=(\alpha_{i\text{-}1}+1,\beta_{i\text{-}1})$

b. $h_{i\text{-}1} + [\![\, \phi \,]\!] = h_i$
where $h_{i\text{-}1}=(\alpha_{i\text{-}1},\beta_{i\text{-}1})$ and $h_i=(\alpha_{i\text{-}1},\beta_{i\text{-}1}+1)$

4.3. Solution to the Problems

Notice that we depart from the assumption of the interval-based approach that the denotation of expressive elements is an interval. In (6), the meaning of *des/mas* is an instruction to change the context parameter. No interval is assigned to the denotation of *des/mas*. This is a desirable consequence because our model is not sensitive to very small differences in real number intervals. As pointed above, in the previous interval-based approach, a new born child needs to identify the right intervals for *des* and *mas* and is expected to be sensitive to the difference between [.75, .9] and [.750001, .9]. On the other hand, our theory assumes the only thing a child is supposed to realize is that we add one to α when we encounters *des/mas*. Sensitivity to the difference between [.75, .9] and [.750001, .9] never arises in our semantics.

The other problem is sensitivity to the past conversation. The two parameters α and β succinctly and sufficiently summarize what the past expressive states were like. Since the presence of an addressee-honorific marker only increments the value of α, but not β, the magnitude of α reflects how much exposure we have to *des/mas* forms in the past. Likewise, the magnitude of β summarizes how often we have seen the plain form in earlier contexts. Though what we keep tracking are only two things, α and β, and not the entire conversation, we can still to some extent reconstruct what past interactions were like by interpreting the magnitude of these values.

Figure 2 displays some instances of Beta distributions with different parameter specifications. When α and/or β take a large value, the spread of the distribution gets smaller and smaller, suggesting we are confident in possible range for π.

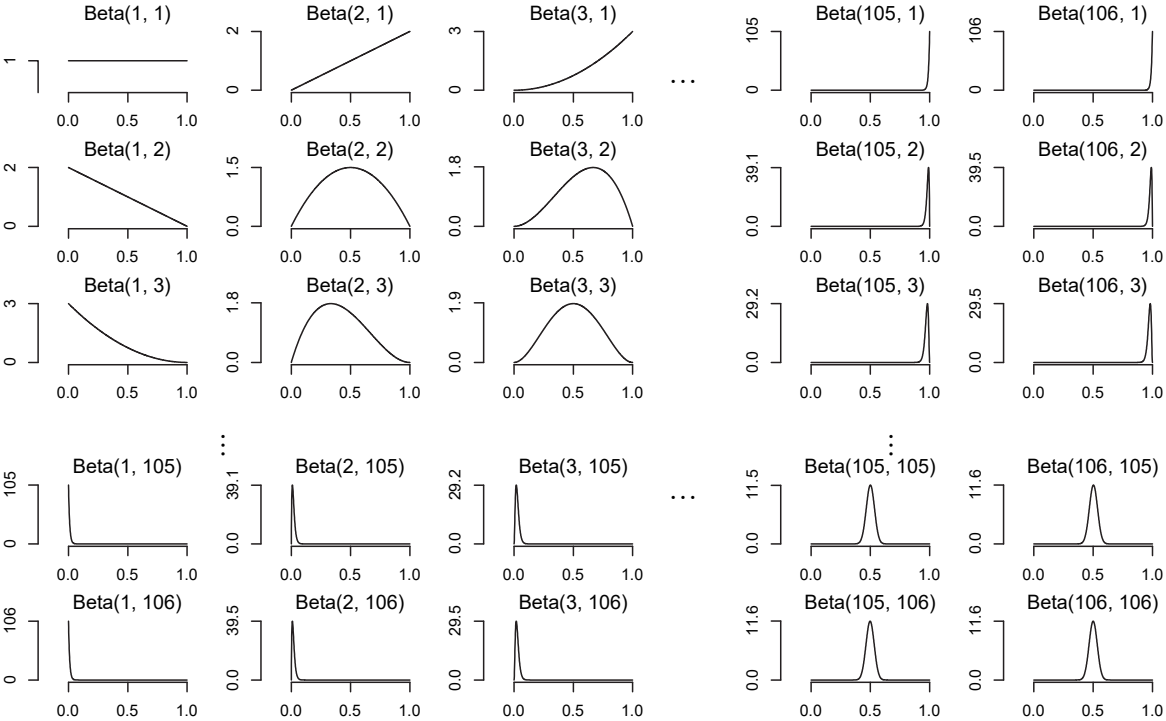

Figure 2. Beta distributions.

If we have enough exposure to, for example, plain forms, as assumed in Scenario A in Section 3, our expressive state is something like Beta (1, 105). Even though the speaker temporarily uses a few utterances with *des/mas*, that is, even if we update the expressive state to Beta (3, 105), we still have a relatively large value for β and thus we can predict, as expected, that the speaker will go back to his original tone and will consistently keep producing the plain form, as illustrated in the panel for Beta (3, 105), whose distributional peak is still leaned toward to the left. Thus, even though we see a new utterance without *des/mas*, we will not be surprised at all.

In this way, we can quantitatively predict which form is more likely to be used in the next utterance without remembering all the past honorific/expressive states.

5. Conclusion and Future Directions

Inheriting the insight from previous studies that a specific component in the structured discourse context represents our real-based emotional state, this paper has proposed that the contextual update of such an expressive dimension (in our case h) is better understood as a Bayesian update. The denotation of expressive elements is seen as an instruction on how to change the parameters. No interval needs to be assumed for the denotation of expressive elements and the influence of non-immediate contexts is sufficiently captured.

In future studies, we can extend this analysis in many ways. First, we can elaborate the expressive state by taking into account different discourse participants. Alice's consistency in using *des/mas* to Bob would be different from Bob's consistency in *des/mas* to Alice. By replacing (4)b with the set of triples as in (7), we can track as many dimensions as we want.

(7) $$h_n = \left\{ \begin{array}{c} <Alice, (\alpha_n, \beta_n), Bob>, \\ <Bob, (\gamma_n, \delta_n), Alice>, \\ \vdots \end{array} \right\}$$

Second, we can also flesh out the structure

for π. Alice's consistency in *des/mas* can be affected by many factors. Some are global indices such as the gender(s) of the participants, the social hierarchy and the age difference, while others are temporary, such as emotional state (*e.g.*, anger), power management, face-threat and sarcasm (McCready 2014; Brown 2015; Portner et al. to appear). Incorporation of such factors in the model is achieved by relating π_n with such variables via a link function, *e.g.*, $\mathrm{logit}(\pi_n)=\lambda_0+\lambda_{\mathrm{hier}}\, x_{\mathrm{hier},\, n}+\lambda_{\mathrm{age}}\, x_{\mathrm{age},\, n}+\ldots$.

This formula is equivalent to the Bayesian interpretation of the formula used in Variation Theory (Cedergren and Sankoff 1974). Attempts to improve the discourse model, thus, end up crossing a bridge between sociolinguistics and formal semantics/pragmatics, which have been conceived of as rather independent domains in linguistics (Yamada 2018).

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Break a Branch off a Tree: An Account Based on Further Specification*

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1. Introduction

In this paper, we will discuss transitive or intransitive change-of-state verbs that take a non-subcategorized internal argument. Such verbs are exemplified by the following in (1).

(1) a. John broke a branch off a tree.
b. I cut all the branches off the tree.
c. Mary tore the leaf off a tree.
d. The sticker on the computer has been ripped off.
e. A branch split off from the tree.

In sentence (1a), for example, the verb *break* takes the object NP *a branch*, which is not subcategorized for by the verb. The object NP is selected by the directional phrase *off a tree*. The interpretation of the object NP will be different if the directional phrase is absent. The same is true of the other sentences in (1).

The purpose of this paper is three-fold. Firstly, I aim to explain what makes it possible for change-of-state verbs such as *break* to take a non-subcategorized object, as in (1). Secondly, I aim to propose that these sentences include a specific type of Small Clause, which I will call a Co-extensive Small Clause (CSC). Finally, I aim to reveal to which type of verb classes CSCs can be applied.

The organization of this paper is as follows. Section 2 will propose a new type of Small Clause, which we will call a CSC. I will show that change-of-state verbs can take a non-subcategorized object when it is a part of a CSC. Section 3 will show that the CSC analysis has a consequence for the Unique Path Constraint. Section 4 will show that the CSC analysis can be applied to various verb classes. Section 5 will give concluding remarks.

2. A Co-extensive Small Clause

Rappaport and Levin (2010) argue that verbs can be divided into two types, manner verbs and result verbs, as shown in (2).

(2) Manner verbs: *nibble, rub, scribble, sweep, flutter, laugh, run, swim…*
Result verbs: *clean, cover, empty, fill, freeze, kill, melt, open, arrive, die, enter, faint…*

Manner verbs specify a manner of carrying out an action, and result verbs specify the coming about of a result state.

The manner/result verb distinction is closely related to the availability of a non-subcategorized object. Manner verbs generally permit the occurrence of a non-subcategorized object when it is followed by a secondary predicate, as exemplified by the following examples in (3) and (4).

(3) a. Cinderella scrubbed her knees sore.
b.* Cinderella scrubbed her knees.
(4) a. Cinderella scrubbed the dirt off the table.

b.* Cinderella scrubbed the dirt.

(Beavers and Koontz-Garboden (2012))

These are examples of the manner verb *scrub*. In sentence (3a), for example, the object NP *her knees* is not subcategorized for by the verb *scrub*. It is licensed by the secondary predicate *sore*. This sentence will be unacceptable if the secondary predicate is omitted, as in (3b).

Result verbs, on the other hand, generally do not permit a non-subcategorized object, as shown by the following sentence in (5).

(5) a.* The toddler broke his hands bloody.
b.# The toddler broke his hands.

(Rappaport and Levin (2010:22))

The intended interpretation of the sentence in (5a) is that a toddler broke something and his or her hands became bloody, but this sentence is not acceptable. The result verb *break* cannot take the non-subcategorized object *his hands*, even if it is followed by the secondary predicate *bloody*. In this way, the manner/result verb distinction was considered to be correlated with the availability of a non-subcategorized object.

However, the following examples in (6) are problematic for this generalization.

(6) a. John broke a branch off a tree.
b. I cut all the branches off the tree.
c. Mary tore the leaf off a tree.
d. The sticker on the computer has been ripped off.
e. A branch split off from the tree.

(= (1))

The sentences in (6) include result verbs such as *break* and *cut*, but they can take a non-subcategorized object. In sentence (6a), for example, the object NP *a branch* is not selected by the verb *break*. The object NP is licensed by the secondary predicate *off a tree*. This is confirmed by the fact that the interpretation of the object NP is different when the secondary predicate is omitted. The examples in (7)–(11) show that the sentences in (a) and (b) are different not only in the presence or absence of a secondary predicate but also the interpretation of the object NP.

(7) a. John broke a branch off a tree.
b.=/= John broke a branch.
(8) a. I cut all the branches off the tree.
b.=/= I cut all the branches.
(9) a. Mary tore the leaf off a tree.
b.=/= Mary tore the leaf.
(10) a. The sticker on the computer has been ripped off.
b. =/= The sticker on the computer has been ripped.
(11) a. A branch split off from the tree.
b. =/= A branch split.

For example, a branch was removed from a tree in (7a), whereas it was broken in (7b). The same is also true of the cases in (8)–(11).

The question that arises here is, why can these result verbs take a non-subcategorized object? This question can be accounted for by proposing that the object and the directional phrase of the type of sentences shown in (6) form a Small Clause (SC) that further specifies the meaning of the verb. Result verbs can take a non-subcategorized object only when it is included in the SC that further specifies the meaning of the verb. I will demonstrate how this analysis works by taking the verb *break* for example.

Let us start by looking at the meaning of the

verb *break*. The definition of this verb is shown in the following in (12).

(12) *break*: if you break something, you make it separate into two or more pieces.
(LDCE, underlining is mine)

Notice that *break* entails the meaning of separation, as indicated by the underlined text.

I propose that the sentence in (6a) has the following syntactic structure.

(13) John broke [$_{SC}$ a branch off a tree].

The object and the secondary predicate form a SC. The SC means 'a branch came off a tree,' which further specifies the meaning of separation entailed in the verb *break* (i.e., the event of the SC is included in the event of the verb). The meaning of separation entailed in the verb *break* is co-extensive with the meaning of separation denoted by the SC, so we will call this type of SC a CSC, hereafter. Result verbs can take a non-subcategorized object only when it is a part of a CSC. The same analysis holds of the other examples in (6) as well. The structures of these examples are shown in the following in (14).

(14) a. John broke [$_{SC}$ a branch off a tree].
b. I cut [$_{SC}$ all the branches off the tree].
c. Mary tore [$_{SC}$ the leaf off a tree].
d. The sticker on the computer$_i$ has been ripped [$_{SC}$ t$_i$ off].
e. A branch$_i$ split [$_{SC}$ t$_i$ off from the tree].

Not only *break* but also *cut, tear, rip*, and *split* imply separation. The separation meaning entailed in the verb is further specified by the CSC in (14).

In this way, result verbs such as *break* can take a non-subcategorized object only when they take a CSC. This explains the unacceptability of sentence (5a).

(15)* The toddler broke his hands bloody.
(= (5a))

(16)* The toddler broke [$_{SC}$ his hands bloody].

This sentence includes a SC, as shown in (16). However, it is not a CC because the event of the SC does not further specify the event denoted by the verb. The SC *his hands bloody* means 'his hands became bloody.' Such a meaning is not entailed in the verb *break*, so there is no further specification relation between the SC and the verb. As a result, no CSC is involved here and the verb *break* cannot take the non-subcategorized object *his hands*.

3. A Consequence for the UPC

Our CSC analysis has a consequence for the Unique Path Constraint (hereafter the UPC) (Goldberg (1991)), which is defined as follows in (17).

(17) Unique Path Constraint: if an argument X refers to a physical object, then more than one distinct path cannot be predicated of X within a single clause.

The UPC is a constraint that prohibits the co-occurrence of a change-of-state expression and a change-of-location expression in a single clause when they denote distinct events. The UPC explains the unacceptability of sentences such as (19).

(18) a. Sam kicked Bill black and blue.
b. Sam kicked Bill out of the room.

(19) a.* Sam kicked Bill black and blue out of the room.
b.* Sam kicked Bill out of the room black and blue.

(Goldberg (1991: 368))

Either the change-of-state expression *black and blue* and the change-of-location expression *out of the room* can occur in a single clause, as in (18), but they cannot co-occur, as in (19). This co-occurrence restriction can be attributed to the violation of the UPC. The UPC applies to result verbs co-occurring with a directional phrase as well. In sentence (20), for example, the result verb *break* cannot co-occur with the directional phrase *into the garbage pail*.

(20)# I broke the mirror into the garbage pail.[1]

(Levin and Rappaport Hovav (1995: 61))

The verb denotes a change-of state and the directional phrase denotes a change-of-location, and they refer to distinct events. The unacceptability of this sentence is due to the violation of the UPC.

Since result verbs denote a change-of-state, one might expect that result verbs generally cannot co-occur with a directional phrase. Recall the examples in (6), however. These sentences include a result verb and a directional phrase, but they are acceptable. Thus, these they appear to be problematic to the UPC. See also the following examples in (21).

(21) a. Cut white meat off chicken into small pieces … (Matsumoto (2006))
b. I cut meat off the bone into smaller pieces.
c. Bill tore a page from his notebook into pieces.
d. The sticker on the computer has been ripped off into pieces.

In sentence (21a), for example, the result verb *cut* co-occurs with the directional phrase *off chicken*, and they are followed by the resultative phrase *into small pieces*, which specifies a change-of-state. The same is true of the other examples in (21).

These sentences, however, are not true counterexamples to the UPC. The UPC prohibits the co-occurrence of a change-of-state expression (i.e., a result verb or a resultative phrase) and a change-of-location expression (i.e., a directional phrase) in a single clause when they denote distinct events. In other words, they are compatible in a single clause if they denote a single event, i.e., one further specifies the other. The change-of-state expressions and the change-of-location expression in the examples in (21) have a further specification relation, and they do not violate the UPC.

Let us look at the example in (21a), repeated here as (22), for example.

(22) Cut white meat off chicken into small pieces …

The verb *cut* in this sentence denotes separation of an object. The CSC *meat off chicken* also denotes the separation of meat from chicken, so it further specifies the meaning of the verb. The resultative phrase *into small pieces* indicates that an object was made to become in pieces, so it also further specifies the meaning of the verb. As a result, these three change-of-state and change-of-location expressions refer to a single

change, and no violation of the UPC follows. The same explanation applies to the other examples in (21) as well.

In this way, this section has shown the examples in (21) (and (6)) are not true counterexamples to the UPC. I have shown that the CSC analysis makes it possible to account for these examples uniformly under the UPC.

4. The Application of the Co-extensive Small Clause Analysis to Other Verb Classes

In the previous sections, I showed that result verbs such as *break* and *cut* can take a non-subcategorized object when it has a CSC. In this way, our discussion was restricted to cutting and breaking verbs. In this section, I will show that our CSC analysis can be applied to not only cutting and breaking verbs, as shown in (23), but also several other verb classes, as shown in (24)-(26).

(23) Cutting and breaking verbs:
break, cut, tear, rip, split, …
(24) Manner of hitting verbs:
hit, pound, beat, knock, kick, slap, …
(25) Clearing verbs:
clear, clean, drain, empty, …
(26) Manner of wiping verbs:
wipe, sweep, rub, …

We will start with manners of hitting verbs in (24). We will take the verb *hit*, for example. Observe the following sentence in (27).

(27) a. John hit his head against the wall.
b.=/= John hit his head.

The sentence in (27a) denotes that his head came into contact with the wall. In this interpretation, the occurrence of a directional phrase is obligatory. If a directional phrase in omitted, as in (27b), the interpretation of the object NP becomes completely different. This sentence means that he hit something against his head. Thus, we can say that the object NP and the directional phrase form a SC.

The question is whether the SC involved in this sentence is a CSC, or not. We can reveal the status of the SC by looking at the semantic relation between the verb and the SC. The meaning of *hit* is defined as follows.

(28) hit: to <u>touch someone or something quickly and hard</u> with your hand, a stick etc.
(LDCE, underlining is mine)

The underlined text indicates that the verb entails motion. This motion meaning is further specified by the SC *his head against the wall*, which denotes that his head came into contact with the wall. Thus, there is a further specification relation between the verb and the SC. We can conclude that the type of SC involved in this sentence is a CSC, as shown in (29).

(29) John hit [$_{SC}$ his head against the wall].

The same analysis applies to the other instances of manners of hitting verbs.

Next, we will look at clearing verbs. We will take the verb *clear*, for example, as shown in (30).

(30) a. Mary cleared the dishes from the table.
b.* Mary cleared the dishes.
(Fong, Fellbaum and Lebeaux (2001: 773))

Sentence (30a) means that Mary removed the dishes from the table. The object NP is not a subcategorized object but is selected by the secondary predicate. In fact, this sentence becomes ungrammatical if the secondary predicate is omitted, as in (30b). This fact indicates that the object NP and the secondary predicate constitute a SC.

Let us look at the definition of *clear* in (31).

(31) clear: to make somewhere emptier or tidier by <u>removing</u> things from it.
(LDCE, underlining is mine)

As shown by the underlined text, this verb entails the meaning of removing. This meaning is further specified by the SC *the dishes from the table*, which designates that the dishes were removed from the table. As a result, we can conclude that the sentence in (30a) includes a CSC, as in (32).

(32) Mary cleared [$_{SC}$ the dishes from the table].

Again, the same analysis is applicable to the other verbs of this verb class.

Finally, let us consider manner of wiping verbs. We will investigate *wipe*, for example, as in (33).

(33) a. John wiped his hand across his mouth.
b.# John wiped his hand.
(Nemoto (2007: 390))

Sentence (33a) means that John wiped his mouth by moving his hand across it. The object NP is not subcategorized for by the verb but is licensed by the secondary predicate. This is confirmed by the different interpretation of the object NP in (33b), which has no secondary predicate. Thus, we can assume that sentence (33a) has a SC.

The meaning of *wipe* is shown below.

(34) wipe: to <u>rub</u> a surface with something in order to remove dirt, liquid etc.
(LDCE, underlining is mine)

The underlined text in (34) indicates that the verb *wipe* entails the meaning of rubbing. The action of rubbing inherently includes motion, so we can say that this verb entails motion. This motion meaning is further specified by the SC *his hand across his mouth*, which means that his hand moved across his mouth. Thus, we can conclude that the sentence in (33a) involves a CSC, as shown in (35).

(35) John wiped [$_{SC}$ his hand across his mouth].

The same analysis is possible for the other members of manners of wiping verbs.

To sum up, this section has shown that the CSC analysis is applicable not only to cutting and breaking verbs but also manner of hitting verbs, clearing verbs, and manner of wiping verbs.

5. Conclusion

This paper dealt with the cases in which result verbs such as cutting and breaking verbs take a non-subcategorized object. Although it was observed that result verbs do not take a non-subcategorized object, I showed that they can take a non-subcategorized object when part of a CSC. This analysis explains apparent counterexamples of the UPC as well. Further, I

showed that the CSC analysis can be applied not only to cutting and breaking verbs but also to manner of hitting verbs, clearing verbs, and manner of wiping verbs.

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NOTES

[1] Levin and Rappaport (1995) judge this sentence as ungrammatical. This sentence is in fact unacceptable in an interpretation where I broke the mirror into pieces, and then, he put all of the pieces into the garbage pail at one time. However, this sentence becomes acceptable in an interpretation where I divided the mirror into pieces little by little and put each piece into the garbage pail (see Yasuhara (2013)).

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DICTIONARY

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Adnominal Adjectives and Definiteness Marking in Old English

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1. Introduction

Just as most Germanic languages, Old English (OE) had double inflectional paradigms for an adjective to mark gender, case, and number agreement with the noun or the pronoun it modified. The weak (aka definite) declension of an adjective was adopted after an adnominal demonstrative, an adnominal possessive, a nominal genitive, or an ordinal number. Elsewhere, the strong (aka indefinite) declension was used. The morphological contrasts between those two paradigms can be confirmed in the examples below.

(1) a. mid þære **yfelan** sceonesse
with that evil:F.DAT.SG charm:F.DAT.SG
beswac þone ærestan wifmon
deceived that first woman
'(It) deceived the first woman with the evil suggestion' (BlHom 5:1)

b. ic hit mid **yfelre**
I it with evil:F.DAT.SG
bysene inc forgylde
example:F.DAT.SG to-you-two reward
'I will recompense it to both of you with an evil example' (BlHom 189:25-6)

The highlighted adjective *yfel* here carries distinct inflectional endings, even if it agrees with the nouns in the same gender, case, and number. In (1a), it follows the adnominal demonstrative *þære*, taking the weak adjective ending *-an* for agreement with the feminine dative singular noun *sceonesse*. In contrast, the adjective *yfel* in (1b), which lacks an accompanying determiner, takes the strong adjective ending *-re* as an inflectional marker for agreement with the feminine dative singular noun *bysene*.

Considering that OE had neither a definite nor an indefinite article, the dual adjective paradigms certainly involved the representation of (in)definiteness. However, the demarcation between weak and strong adjectives was not always determined by the presence of a determiner. Weak adjectives devoid of any determiner could sometimes appear in OE. This study focuses on the synchronic and the diachronic implications of the determinerless weak adjective (DWA) regarding definiteness and aims to propose its syntactic analysis.

2. Dual Adjective Paradigms and DWA

Among the Proto-Indo-European (PIE) subfamilies, it was only the Germanic languages including OE that adopted the double inflectional paradigms for adjectives. The original PIE paradigms for adjectives gave way to the paradigms for pronominal adjectives that were inflected like demonstratives in PIE. In addition, new paradigms were invented based on the n-stems of nouns (Ringe 2006:169). The older and the new paradigms for Germanic adjectives are conventionally referred to as strong and weak respectively.

2.1. Distributions of DWA

Contrary to the aforementioned syntactic generalization on the dual adjective declensions, the weak adjective could appear without a determiner as exemplified below.

(2) syððan Beowulfe **brade**
afterwards to-Beowulf broad:N.NOM.SG
rice on hand gehwearf
kingdom:N.NOM.SG onto hand passed
'afterwards the broad kingdom passed onto the hands of Beowulf' (Beo 2207-8a)

The highlighted adjective *brade* carries the weak adjective ending *-e* rather than the predicted strong adjective null ending, in a determinerless noun phrase. The frequency of the DWA in poetry can be confirmed in Table 1 from Amos (1980) and Yoon (2014), which shows the ratio of the DWA to the weak adjective with an accompanying determiner.

<Table 1> Number of Weak Adjective Tokens with and without a Determiner in Selected OE Poems

	DWA	Weak Adj with a Det
Beowulf	136 (66%)	70 (34%)
Genesis	25 (22%)	88 (78%)
Andreas	26 (31%)	58 (69%)
Maldon	2 (20%)	8 (80%)
Chronicle Poems	1 (7%)	13 (93%)

The DWA appeared in OE prose as well, even if its tokens were restricted to the vocative phrase (Mitchell 1985:§114).[1]

(3) **gōda** lareow eall
good:M.NOM.SG master:M.NOM.SG all
ðis ic geheold of minre geoguðe
this I kept from my youth
'Good master, I observed all this from my youth' (OGsp Mark 10:20)

The weak adjective *gōda* in (3) should be exceptional, in that the strong form *gōd* was predicted to appear in the determinerless context.

2.2. DWA and Definiteness

It is noticeable that the noun phrases containing the DWA in (2) and (3) involve definiteness contextually. In fact, the textual investigation of the DWA in OE texts reveals that noun phrases including the DWA are all associated with definiteness (Amos 1980, Cameron et al. 1981, Mitchell 1985, and Yoon 2014, inter alia). The vocative phrase is also relevant to definiteness, since it presupposes an object being addressed. Considering that with the absence of a determiner as well as a definite article, the weak adjective should be the sole marker to express definiteness. Subsequently, the hypothesis looks plausible that the weak adjective ending in the DWA functioned as a formal indicator to represent definiteness.

The idea of the weak adjective declension as a definiteness marker receives further support from the diachronic fact that the weak adjective paradigms of Germanic languages were cognate with the PIE individualizing particle *-*ne*-. The particle existed in many early Indo-European languages and coalesced with an adjectival or a nominal element to produce various lexical semantic contents such as individualizing, singulative, and permanent quality, all of which were more or less equated with definiteness (Colman 2014:224 and Sleeman, Van de Valde,

& Perridon 2014:3). Classical Greek, for instance, had the nickname *Αγάθων* /agátʰǫ:n/ ('the good one') originated from the combination of the adjective *αγαθός* /agatʰós/ ('good') and the individualizing suffix *-*(o)n*. The weak adjective paradigms newly adopted by Proto-Germanic were based on n-stems as well, even though not all the weak adjective endings had /n/ in early Germanic languages. Based on the aforementioned etymological as well as semantic grounds, Ringe (2006:170) suggests that the n-stem suffix of the weak adjective paradigm in Germanic languages should be originally a definite article. His argument implies that the function of the weak adjective paradigm as a definiteness marker could be redundant or pleonastic within the noun phrase including the adnominal demonstrative, due to the inherent definiteness of the demonstrative.

2.4 Strong Adjectives: Default Adjective Paradigms

Whereas the weak adjective could serve as an autonomous definiteness marker, the strong adjective could represent the default or the basic adjective paradigms irrespective of definiteness. As mentioned earlier, the morphology of the strong adjective was related to the PIE adjective inflection. Besides, morphosyntactic evidence supports the idea that the strong adjective was representative of the basic adjective paradigms of OE.

(4) he underfehð into ecere reste fram ðisum
he accepts us into eternal rest from this
andweardum geswince
present toil
'he accepts us from this present toil into eternal rest' (CHII 5:215-6)

In (4), the highlighted strong adjective *andweardum* fails to comply with the generalization on the dual adjective. After the proximal demonstrative *ðisum*, the weak adjective *andweardan* is expected to appear for agreement with the neuter dative singular noun *geswince*. Surprisingly, this sporadic deviation was not haphazard but restricted in Alfredian and Ælfric's prose to the context in which the strong adjective ending *-um* replaced the expected weak adjective ending *-an* for agreement with the masculine or neuter dative singular noun, not the other way round (Mitchell 1985: §118–22).

The unilateral confusion between *-um* and *-an* can be explicable only by the assumption that the strong adjective represented the default adjective inflectional paradigms in OE. Further evidence to support the assumption can be drawn from the predicative adjective and the inflected adnominal possessive, both of which followed the strong adjective paradigms as exemplified below.

(5) seo oþer acennednys is **gastlic**
the other birth:F.NOM.SG is
spiritual:F.NOM.SG
'the second birth is spiritual'(CHI, 22:158-9)

(6) Ne **þinre** forþfore swa neah is
not your:F.DAT.SG death:F.DAT.SG near is
'It is not so near to your death'
(Bede 348:2-3)

The highlighted strong adjective *gastlic* in (5) is not used adnominally but predicatively. In a way, a predicative adjective can be neutral with respect to the strong/weak dichotomy, standing alone without modifying a noun. The inflectional possessive *þinre* in (6) takes the strong feminine dative singular ending *-re*, in

spite of its inherent definiteness.

3. Syntax of DWA and Diachronic Change

3.1. Antiquity of DWA

The figures in Table 1 demonstrate the tendency that the frequency of the DWA was generally in proportion to the date of composition. The epic *Beowulf*, which is widely believed to preserve the linguistic features of the early stages of OE, shows the highest frequency of the DWA. In contrast, late OE poems such as *Maldon* and *Chronicle Poems* exhibit relatively low frequency. Lichtenheld (1873) indeed suggested that the ration of the DWA among the occurrences of the weak adjective should serve as the criterion for the determination of relative chronological order between OE poems.[2] Given that the DWA was an autonomous definiteness marker representative of the earlier periods of OE, they had more chance to survive in poetry, owing to its inclination towards antiquity or early Germanic linguistic traits.

In case of the vocative, its retention of the DWA is related to extragrammaticality or non-integration. Vocative phrases are separated from the grammatical structure of a clause and thus less susceptible diachronic changes. One classic example for this generalization can be found in Bulgarian and Macedonian, where the morphological case markings for nouns have completely vanished, except for the vocative case (Girvin 2013). In contrast with poetry, the demise of the DWA could not be withheld in prose, which was relatively free from the various linguistic as well as nonlinguistic requirements imposed by Germanic versification. It is therefore no wonder that the vocative phrase became the sole locus for the survival of the DWA in prose.

3.2. Syntax of DWA

With regard to the syntactic status of the DWA in OE, Yoon (2014:85) proposes the minimalist analysis under which the weak adjective ending constitutes a functional head for definiteness.

(7) $[_{AdjP}\ [_{Adj'}\ [_{nP}\ [_{n'}$ weak adjective inflection $[_{NP}$ NP $]]]]]$

The derivation (7) assumes that the weak adjective ending is first merged into the functional head *n* associated with definiteness or referentiality.[3] Next, the weak inflection undergoes encliticization into the Adj head, forming the weak declined adjective. The weak adjective depicted in (7) represents the early stages of OE when it still sustained syntactic and semantic autonomy as a definiteness marker. On the other hand, the co-occurrence of a definite determiner and a weak adjective signifies that the latter had its role as a definiteness marker bleached while the former emerged as a substitute. This process of diachronic change can be interpreted in terms of the cline of grammaticalization epitomized below.

(8) content item > grammatical word > clitic > affix

In accordance with (8) and Ringe's hypothesis, the weak adjective ending in (7) derived from a definite article, an independent grammatical word. It suffered weakening into clitichood, but still maintained both semantic and syntactic status as a definiteness marker. Definiteness in the weak adjective paradigm underwent further bleaching in OE. Then, the weak adjective ending failed to retain its syntactic status X^0 and was subject to reanalysis into the adjectival

suffix. As an alternative definiteness marker to the weak adjective, the demonstrative was usually adopted in the definite noun phrase to form the regular pattern of demonstrative – weak adjective – noun. The introduction of the demonstrative for a definiteness marker is an exemplary case for renewal in grammaticalization, a process whereby existing meaning or function takes on a new form (Hopper & Traugott 2003:122). The derivations below demonstrate how the proposal suggested here analyzes *snotra fengel* '(the) wise king' (Beo 1527), a noun phrase with the DWA and *se snotra sunu* 'that wise son' (Beo 3120), a noun phrase with the regular weak adjective.

(9) a. $[_{AdjP}\ [_{Adj'}$ snort+a_i $[_{nP}\ [_{n'}\ t_i\ [_{NP}$ fengel]]]]]
b. $[_{DP}$ se_i [D $[_{AdjP}\ [_{Adj'}$ snotra $[_{nP}\ t_i\ [_{n'}\ n\ [_{NP}$ sunu]]]]]

3.3. Definiteness Cycle Revisited

Greenberg's (1978) definiteness cycle and its minimalist reinterpretation offer a more comprehensive explanation for the diachronic changes of nominal definiteness.

(10) a. demonstrative>definite article>case/non-generic>class marker
b. specifier (XP) > head (X^0) > affix > zero (Roberts & Roussou 2003, van Gelderen 2007)

In spite of crosslinguistic variations on the division between the stages, the core idea of the cycle is the irreversible trend of unidirectional change into a simple agreement marker. The cue of the change is the initial loss of the deictic aspect in the demonstrative (Lyons 1999).

Once nominal definiteness is regarded as a universal requirement, it is reasonable to postulate that another definiteness cycle can exist anterior or posterior to the one introduced in (10). Out of the weak adjective paradigms and their presumable PIE and PGmc predecessors, the hypothesis can be made that OE initially had an unattested definiteness marker whose origin was the PIE individualizing particle **ne*. Next, it weakened to become a definiteness marker encliticized into the adjective. Evidence for this stage can be found in the DWA from *Beowulf* and some early poems. Finally, the weak adjective lost its own function as a nominal definiteness marker only to represent agreement. This stage was well represented in OE prose, except for the vocative phrase. After the weak adjective paradigms, the demonstrative was adopted for nominal definiteness through renewal and became subject to the definiteness cycle generalized in (10), a specified type of grammaticalization.

Syntactic evidence for the weakening of the demonstrative can be already found in the OE possessive-demonstrative construction.

(11) he þa onsende his þone wuldorfæstan gast
he then sent his that glorious spirit
to helle grunde
to of-hell abyss
'then he sent his glorious spirit to the abyss of hell' (BlHom 85:3-4)

As its Modern English translation shows, the demonstrative *þone* in (11) has its deictic meaning bleached completely and makes no contribution to the definiteness as well as the meaning of the phrase.

4. Summary

Bifurcation of the adjective inflections into the weak and the strong paradigm represents the

unique properties of early Germanic languages including OE. The distributions of weak adjectives in most OE texts generally accord with the rule based on the presence of a definite determiner. However, some OE poems including *Beowulf* exhibit remarkably high frequency of weak adjectives within determinerless NPs. Etymologically, the OE weak adjective paradigm originated from the individualizing particle *-*ne*- in PIE, which yielded the effects of specifying or designating an object. Although some missing links remain unattested, it is convincing to stipulate that weak adjectives could represent definiteness on their own. In tandem with diachronic changes, weak adjectives exhibit synchronic variations regarding definiteness.

According to the minimalist analysis, synchronic fluctuation of weak adjectives is interpreted as the asymmetry in their syntactic status. In case they are a sole indicator for definiteness, the weak adjective ending enjoys the status of a head. In contrast, it suffers reduction to the status of an affix if the demonstrative is introduced to mark definiteness as well as deixis. The analysis suggested here not only illuminates the involvement of the weak adjective paradigm with nominal definiteness in early OE but also paves the way to understand the definiteness cycle throughout the history of English.

NOTES

[1] Since the presence of an addressee is a prerequisite for vocatives, many prose texts in OE were devoid of vocatives. Consequently, the tokens of the DWA in prose are mainly attested in homilies and gospels (Yoon 2015).

[2] See Neidorf (2013) for the evidence that the DWA should be syntactic archaism rather than a nonlinguistic trait.

[3] The analysis comes from the idea that the functional head *n* represents referentiality in Old Norse (ON), another early Germanic language. See Lohndal (2007) and van Gelderen (2007) for the empirical and conceptual motivation of the functional head *n*.

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<Workshop Report>

Using Treebanks for Linguistic Research*

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Keywords : treebank, NPCMJ, syntax, semantics

1. Introduction

The use of corpora in theoretical linguistics is still at an early exploratory stage. One reason for the lack of interest among theoretical linguistics in the use of corpora is that corpora representing detailed grammatical information are not easily available (Ogawa et al. 2016). A new type of corpus called the NINJAL Parsed Corpus of Modern Japanese (NPCMJ) is currently being developed at the National Institute of Japanese Language and Linguistics to overcome this situation. NPCMJ is a treebank (i.e. a syntactically annotated corpus) primarily designed as a resource for linguistic research. It contains fine-grained syntactic information indispensable for serious linguistic research, and is expected to facilitate a new type of linguistic research and will ultimately bring theoretical linguistics research into a new stage as a true empirical science. This workshop introduced three case studies of linguistic research using the NPCMJ corpus, which, though preliminary, already corroborate this expectation.

2. Paper 1 (Ido): Licensing of Adverbial NPIs beyond Clause Boundaries

As a case study using the NPCMJ corpus, this presentation examined a phenomenon in which adverbial negative polarity items (NPIs) in Japanese are licensed by negation beyond clause boundaries. It is known that Japanese NPIs must normally appear in the same clause as negation unlike English NPIs such as *any*. However, it has been pointed out in the literature that adverbial NPIs can be licensed beyond clause boundaries in copular sentences with predicative nominal (Matsui 2003). This presentation demonstrated that the rich syntactic annotation of NPCMJ makes it possible to extract attested data from the corpus verifying this phenomenon. Furthermore, a qualitative analysis of the search results identified another group of adverbs that are similar to NPIs, which, together with NPI adverbs, point to a hitherto unnoticed generalization.

3. Paper 2 (Suzuki): Temporal Interpretations and Tense Forms of the *Toki*-Clause

This paper argued that observations obtained from NPCMJ contribute to clarifying the interpretive mechanism of the Japanese *toki*-clause. Previous studies on the *toki*-clause (e.g. Funahashi 2006) have focused on the combinations of tense forms in the subordinate clause (SC) and the matrix clause (MC) in their effects on the overall temporal interpretations. However, the patterns reflected in the attested data in NPCMJ suggest that a different, previously overlooked factor is relevant: whether the SC tense is in the *ru*-form (non-past) or the *ta*-form (past). By focusing on this factor and by taking the fundamental meaning of *toki* to be ‘simultaneity’, it becomes possible to provide a natural explanation for the tendency found in the corpus data while at the same time capturing the descriptive

generalization about the possible combinations of tense forms noted in the literature.

4. Paper 3 (Miyoshi): Distribution of Non-Restrictive Adnominal Clause in Different Text Genres

Adnominal clauses in Japanese are known to have both restrictive and non-restrictive uses. Some previous studies (e.g. Masuoka 1995) have discussed the discourse functions and semantic classifications of the non-restrictive use. However, the function of the non-restrictive use in actual discourses has not been studied in adequate detail in the previous literature. The present study attempted to clarify the distribution and function of the non-restrictive use by closely examining its distributions in different text genres using NPCMJ. Some preliminary results showing that the main functions of the non-restrictive adnominal clauses differed depending on the text genre were obtained, suggesting that grammatical information (such as a fine-grained classification of adnominal clauses) is relevant for stylistic studies, a possibility opened up by syntactically-annotated corpora such as NPCMJ.

5. Conclusion

The three papers at this workshop made it clear that the traditional introspection-based approach in theoretical linguistics can be fruitfully complemented in various ways with a more data-oriented type of approach based on attested data. At the same time, the use of treebanks in theoretical research raises a number of technical, conceptual and methodological issues, some of which were addressed in the three papers. It is hoped that the type of research represented at this workshop will facilitate further collaboration between theoretical linguistics and corpus linguistics.

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CORPUS

NINJAL Parsed Corpus of Modern Japanese (NPCMJ), http://npcmj.ninjal.ac.jp/

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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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論文の翻訳が本の一部として公刊されている場合

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<If you write in Japanese, refer to the Japanese guideline on the ELSJ website>

Last revised November 2018

(1)Length

The length of an oral presentation manuscript, including notes and references, must not exceed seven A4 pages; that of a 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).
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e. Write the author's name in the order "First name - Surname" and capitalize only the initial letters. (e.g. Jane Smith).
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